

SEISMOLOGICAL BULLETIN



SOUTH POLE - BYRD SUPPLEMENT

JULY - SEPTEMBER, 1960

MSI - 235A

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U. S. DEPARTMENT OF COMMERCE

Luther H. Hodges, Secretary

COAST AND GEODETIC SURVEY—WASHINGTON

H. Arnold Karo, Director

FOR OFFICIAL DISTRIBUTION

SEISMOLOGICAL BULLETIN
SOUTH POLE-BYRD SUPPLEMENT
July-September 1960

The instrumental results tabulated in this supplement are from the following seismographic stations.

Station	Latitude	Longitude	Foundation	Elevation	Instruments	Components	T_p (Sec.)	T_s (Sec.)	Time Scale
South Pole (SPA) In Charge: W.S. Jacobs	90°S.	0°	1995 meters of ice.	2800 meters.	Benloff Paper. Wilson-Lamson (120°E.-60°W.) Horizontal Film.	Z	1.6	0.5	60mm/min.
							5.6	0.48	15mm/min.
BYRD (BYR) In Charge: L.E. Davis	80°01'S.	119°31'W.	2570 meters of ice.	1515 meters.	Benloff. Wilson-Lamson with G.E. Galvo. Wilson-Lamson with G.E. Galvo.	Z N E	1.2 6.2 7.2	0.5 3.5 3.5	60mm/min. 30mm/min. 30mm/min.

These stations were first established by the Coast and Geodetic Survey for the IGY to provide additional control for locating teleseismic epicenters in regions inadequately covered by previously existing stations and to provide data for studies in regional seismicity, crustal structure and other pertinent earth science problems.

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
July 1 BYR eP	h m s 00 09 06	July 1 BYR eP	h m s 18 05 17	July 2 BYR eP ¹ eSKP	h m s 04 48 48 52 38	July 2 SPA eP	h m s 13 02 23.7
SPA eP e	00 08 37.7 08 49.7	SPA eP e	18 05 51.5 06 21.2	SPA eP ¹ eSKP	04 48 57.1 52 13.6	July 2 BYR eP ¹	13 05 19
July 1 BYR eP	01 32 40	July 1 BYR eP	20 32 05	July 2 SPA iP	05 07 12.2	SPA eP ¹	13 05 09
July 1 SPA eP	02 30 12.2	July 1 BYR eP	21 1 01	July 2 SPA eP	05 11 05.0	July 2 SPA eP	15 17 53.5
July 1 SPA eP e	04 38 10.4 38 38.4	July 1 BYR eP	21 30 42	July 2 SPA eP	05 12 48.7	July 2 SPA eP	19 26 12.3
July 1 SPA eP	05 17 59.2	July 1 SPA eP	21 11 20.1	July 2 SPA iP e e	05 28 06.2 30 39.3 39 12.8	July 2 BYR e(P)	21 14 51
July 1 BYR eP	06 17 15.2	July 1 BYR eP	22 04 01.7	July 2 SPA eP	05 45 47.6 45 57.3 46 27.3	SPA eP e	21 15 41.1 16 04.9
SPA eP	06 17 21.9	July 1 SPA eP	23 08 09.7	July 2 SPA iP	05 54 20.6	July 2 SPA eP ¹	22 12 46.3
July 1 SPA eP	07 03 36.7	SPA eP	23 09 28.9	July 2 SPA eP	07 05 49	July 2 SPA eP	23 25 34.5
July 1 BYR eP ¹	08 18 30	July 1 SPA eP e	23 20 37.2 21 06.6	July 2 BYR eP	07 06 40	July 3 SPA eP	00 03 46.7 07 38.2
SPA eP ¹ e e	08 18 35.8 18 45.3 19 17.7	July 1 BYR eP	23 31 39	SPA eP	07 09 35.0 09 52.3	July 3 SPA eP	00 13 48.3
July 1 BYR eP	08 27 19	SPA eP	23 31 31.9	July 2 SPA eP e	08 09 35.0 09 52.3	July 3 SPA eP	01 38 33
SPA eP	08 28 08.1	July 2 SPA eP	01 07 35.8	July 2 SPA eP	08 17 44.8	July 3 SPA eP	02 19 43.1
July 1 SPA e(P) e	08 48 17.2 52 18.8	July 2 BYR eP	01 10 24	July 2 BYR iP	09 05 23	July 3 SPA eP	02 28 15.7 28 25.7
July 1 BYR eP	10 22 03	SPA eP	01 11 01.8	July 2 SPA eP e	09 06 17.0 06 23.4	July 3 SPA eP	02 38 30.7
SPA eP e	10 22 12.6 22 16.8	July 2 SPA iP e	02 24 36.1 24 55.5	July 2 BYR eP	10 25 18	July 3 SPA eP ¹ e	03 38 01.6 03 39 09.6
July 1 SPA e(P)	11 02 50.2	July 2 BYR e(P)	03 35 07	July 2 SPA eP	10 26 08	July 3 SPA eP	04 28 18 28 23
July 1 SPA e(P) e	13 03 02.6 11 17.7	SPA eP	03 36 09.0	July 2 BYR eP	12 02 41 03 11 08 43	July 3 SPA eP ¹ e	05 35 34 35 49
July 1 BYR eP	13 43 29	July 2 SPA eP	03 38 19.9	July 2 SPA iP ePP e eS	12 02 29 03 46 05 33 07 37	July 3 BYR iP	07 25 45
SPA eP e	13 44 11.4 44 39.2	July 2 SPA e(P)	04 23 15.7	July 2 SPA eP	12 35 12	July 3 SPA eP	07 26 25.5
July 1 SPA eP	14 09 08.6	July 2 SPA eP	04 24 58.1	July 2 SPA eP	12 44 52.5	July 3 SPA eP ¹	07 35 50
July 1 BYR eP	16 00 05	July 2 SPA eP	04 28 31.8	July 2 SPA e(P)		July 3 SPA eP	10 30 25.3
SPA eP e	16 00 36.2 01 20.7						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
July 3 SPA eP	h m s 11 17 24.4	July 4 SPA eP	h m s 02 49 40	July 4 SPA eP'	h m s 13 29 36	July 4 SPA eP	h m s 05 54 34.8
July 3 SPA eP	11 24 47.4	July 4 BYR eP	02 55 59	July 4 BYR e(P)	13 55 10	July 4 SPA eP	55 02.6
July 3 BYR eP	13 35 40	July 4 SPA eP	02 56 52.2	July 4 BYR eP'	14 09 06	July 4 SPA eP	55 34.5
July 3 SPA eP	13 37 06.7	July 4 SPA e	57 26.7	July 4 SPA eP'	14 09 26	July 4 SPA eP	06 00 18.0
July 3 SPA ePcP	38 07.4	July 4 SPA eP'	04 02 22	July 4 BYR e(P)	15 04 51	July 5 BYR eP	08 14 50
July 3 SPA eP	18 16 13.8	July 4 BYR e(P)	04 06 06	July 4 BYR eP	15 45 51	July 5 BYR eP	14 56
July 3 SPA eP	20 23 07.3	July 4 SPA eP	04 07 00.7	July 4 SPA eP	16 56 34	July 5 SPA eP	15 22
July 3 BYR eP'	20 39 49	July 4 SPA eP	04 12 11.2	July 4 BYR eP	21 24 00	July 5 SPA eP	08 15 38.3
July 3 iSKP	43 33	July 4 SPA e	13 21.9	July 4 BYR eP	21 37 03	July 5 SPA eP	15 45.8
July 3 e	52 02	July 4 BYR eP'	04 28 22	July 4 BYR iP	37 26	July 5 BYR eP	09 03 36
July 3 e	55 58	July 4 SPA eP	04 32 30	July 4 BYR i	37 50	July 5 SPA eP	09 02 42.7
July 3 SPA eP'	20 40 08.4	July 4 SPA e	33 40	July 4 SPA eP	38 00	July 5 SPA eP	04 46.9
July 3 e	40 17.3	July 4 BYR eP	04 47 49	July 4 SPA eP	21 37 55.1	July 5 BYR eP	09 54 55.5
July 3 e	40 38.9	July 4 ePP	50 16	July 4 SPA e	37 03.8	July 5 SPA eP	11 29 31.8
July 3 eSKP	43 49.9	July 4 eSKP	51 25	July 4 SPA e	37 18.1	July 5 SPA eP	14 05 05
July 3 e	55 22.7	July 4 SPA eP	04 48 02.7	July 4 SPA eP	22 45 01.8	July 5 BYR eP	05 37
July 3 BYR eP	20 50 05	July 4 SPA e	48 09.8	July 4 SPA eP	22 49 01.2	July 5 SPA eP	14 04 50.1
July 3 SPA eP	21 50 21.8	July 4 ePP	51 17.4	July 4 BYR eP	00 16 29	July 5 SPA eP	04 55.4
July 3 e	50 33.5	July 4 BYR eP	04 59 44	July 5 BYR eP	00 15 51.9	July 5 SPA eP	07 22.7
July 3 e	50 47.5	July 4 SPA eP	06 41 37	July 5 SPA eP	00 17 23.8	July 5 BYR e(P)	14 10 59
July 3 BYR e(P)	22 05 54	July 4 BYR e(P)	07 29 56	July 5 SPA e	17 36.2	July 5 SPA eP	14 10 52.1
July 3 BYR eP'	23 11 39	July 4 BYR iP	08 12 55	July 5 BYR eP	01 14 22	July 5 BYR eP	14 55 11
July 3 SPA eP'	23 11 45.4	July 4 BYR epP	14 56	July 5 SPA eP	02 48 48	July 5 BYR eP	18 44 58
July 3 e	12 03.3	July 4 SPA eP	08 13 29.5	July 5 BYR eP	04 38 27.3	July 5 SPA eP	21 19 42.5
July 3 e	12 22.5	July 4 SPA epP	15 31.1	July 5 SPA eP	05 27 16	July 5 BYR eP	21 26 01
July 3 BYR eP	23 25 34	July 4 SPA eP	08 48 14.6	July 5 BYR eP'	05 27 21.3	July 5 SPA eP	27 54
July 3 SPA eP	23 50 18.3	July 4 BYR eP	09 31 11	July 5 SPA eP	05 27 30.2	July 5 SPA eP	21 26 33.6
July 3 e	50 29.1	July 4 SPA eP	10 57 06.9	July 5 BYR eP	05 53 45	July 5 BYR e(P)	28 27.6
July 4 SPA eP	00 05 50.7	July 4 SPA eP	11 23 56.5	July 5 eSKP	30 59.5	July 5 SPA eP	28 50.2
July 4 SPA eP	00 23 34.3	July 4 BYR eP'	13 29 36	July 5 BYR eP	05 54 22	July 5 BYR e(P)	21 39 59
July 4 SPA eP	00 45 28.5	July 4 SPA eP	13 29 36	July 5 ePcP	55 25	July 5 SPA eP	21 50 15
July 4 BYR eP	01 33 13	July 4 BYR eP'	13 29 36	July 5 SPA eP	23 28 30.5	July 5 SPA eP	21 49 02.1
July 4 SPA eP	01 33 47.6	July 4 BYR eP'	13 29 36	July 5 SPA eP	23 28 30.5	July 5 SPA eP	50 28.5
July 4 e	33 54.6	July 4 BYR eP'	13 29 36	July 5 SPA eP	23 28 30.5	July 5 SPA eP	23 28 30.5
July 4 SPA eP	02 24 51.6	July 4 BYR eP'	13 29 36	July 5 SPA eP	23 28 30.5	July 5 SPA eP	23 28 30.5

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
July 6 BYR eP	h m s 01 27 35	July 6 BYR eP	h m s 15 51 50	July 7 SPA eP	h m s 02 56 12.7	July 7 BYR e(P)	h m s 21 11 20
SPA eP	01 28 24.0	SPA eP	15 52 43.0	July 7 SPA eP	03 04 29.3	July 7 BYR iP	21 49 18
e	29 14.9	July 6 SPA eP	20 35 50.4	July 7 SPA eP	04 30 15	e	49 55
e	29 25.5	July 6 BYR e(P)	21 25 08	July 7 BYR e(P)	04 45 39	SPA eP	21 50 08
July 6 SPA eP	03 06 00	July 6 BYR e(P)	21 39 54	July 7 SPA eP	06 16 02.9	e	50 35
July 6 SPA eP	03 16 34.9	SPA eP	21 40 29	July 7 SPA eP	06 38 20.3	July 7 SPA eP	23 00 51.8
e	17 12.9	July 6 SPA eP	21 42 20.3	July 7 BYR eP	08 36 37	July 8 SPA eP	01 43 38.3
July 6 SPA eP	03 18 12.8	July 6 SPA eP	21 47 37.7	SPA eP	08 37 26.9	e	44 24.9
July 6 SPA eP	03 20 37.1	e	47 51.3	July 7 SPA eP	09 50 16.3	July 8 SPA eP	04 06 21.0
July 6 SPA eP	04 33 35.2	July 6 BYR eP	22 17 49	July 7 SPA eP	10 37 08.9	July 8 SPA eP	05 29 14
e	34 10.7	SPA eP	22 18 09.9	July 7 SPA eP	10 56 30.6	July 8 SPA eP	06 43 50.3
July 6 SPA eP	05 23 46.6	e	18 35.3	July 7 SPA eP	11 29 00	July 8 SPA eP	07 53 21.8
July 6 SPA eP	05 26 03.6	July 6 BYR eP	23 30 13	July 7 SPA eP	13 35 43.7	e	54 23.1
July 6 BYR eP	05 35 32	SPA eP	23 29 45.3	July 7 BYR iP	15 55 03	July 8 SPA e(P)	09 47 35
i	35 44	e	29 56.7	July 7 SPA eP	15 55 55.5	July 8 BYR eP'	10 28 31
iSKP	38 57	July 6 BYR iP	23 48 32	e	56 03.8	SPA eP'	10 28 36.4
SPA eP	05 35 18.2	SPA eP	23 48 34.6	July 7 SPA eP	16 21 27	e	28 45.7
e	35 22.7	e	49 08.0	July 7 BYR eP	16 53 41	July 8 BYR e(P)	12 49 45
eSKP	38 11.8	July 7 SPA eP	00 05 54	July 7 SPA eP	16 54 54.3	July 8 SPA eP	12 57 39.3
ePSK	38 50.2	e	07 06	e	54 58.0	July 8 BYR iP'	13 10 18
July 6 SPA eP	05 48 53	July 7 SPA eP	00 39 43.6	ePcP	56 01.6	ePP	12 14
July 6 BYR eP	07 16 21	July 7 SPA eP	00 43 21	ePP	57 18.0	ePKKP	20 08
July 6 SPA eP	07 15 05	July 7 BYR e(P)	00 44 15	July 7 BYR eP	17 46 13	SPA ep'	13 10 10.3
e	18 04	SPA eP	00 48 40.5	i	46 41	ePP	11 13.7
July 6 BYR eP	10 57 12	July 7 BYR e(P)	01 09 09	July 7 SPA eP	17 47 01.1	ePKKP	20 17.3
July 6 BYR e(P)	11 52 52	e	09 17	e	47 10.4	July 8 SPA eP	13 55 32.0
July 6 SPA eP	12 05 08.4	SPA eP	01 10 08.7	e	47 45.6		
July 6 SPA eP	12 40 03.1	July 7 SPA eP	01 23 16	July 7 BYR eP	18 08 10		
July 6 SPA eP	13 49 22.6	July 7 BYR e(P)	02 56 12.7	SPA eP	18 09 03.9		
July 6 SPA eP	14 55 56.8						
July 6 BYR eP	15 03 02						
July 6 SPA eP	15 02 46.0						
e	02 51.5						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
July 8 BYR eP i	h m s 14 57 30 58 07	July 9 SPA eP	h m s 00 06 33	July 9 SPA eP e e eS e	h m s 17 54 14.2 54 29.3 57 54.5 59 35.4 18 00 45.4	July 10 SPA eP	h m s 05 50 15.8
July 8 SPA eP e	14 57 08.9 57 39.9	July 9 SPA eP e	00 32 04.9 32 31.6	July 9 SPA eP	20 03 02.3	July 10 SPA e(P)	06 06 16
July 8 SPA eP	15 26 30	July 9 BYR eP'	00 44 01	July 9 SPA eP	21 33 08.6 33 42.6	July 10 SPA eP	06 52 59
July 8 BYR eP epP	15 34 51 35 40	July 9 SPA eP'	00 44 08.6	July 9 SPA eP	21 39 49.8	July 10 SPA eP	07 41 48.7
July 8 SPA iP e	15 35 06.6 35 10.1	July 9 BYR eP	01 08 16	July 9 SPA eP	22 56 34.1	July 10 BYR iP	07 55 27
July 8 BYR iP	16 14 25	July 9 SPA eP	02 07 10.7	July 9 SPA eP	23 24 46.4	July 10 SPA eP	07 56 03
July 8 SPA eP	16 15 15.9	July 9 BYR iP epP	02 16 21 17 09	July 9 SPA iP	23 25 23.0	July 10 SPA e(P')	08 18 19
July 8 SPA eP	16 57 58.5	July 9 SPA eP	02 16 58.2	July 9 SPA eP	00 03 56 04 07	July 10 BYR iP	09 16 46
July 8 BYR eP'	17 09 08	July 9 SPA eP	04 03 41.5	July 9 SPA eP	00 18 24.7 18 33.1 22 08.4 28 47.9 43 54.0	July 10 SPA e(P) e e	10 55 10.2 56 38.3 57 01
July 8 SPA eP	18 47 38.7	July 9 SPA eP	04 22 34.0	July 10 SPA eP e E(PP) E(S) EP'P'	00 19 02 19 11 23 02	July 10 SPA eP	11 16 16.1
July 8 BYR eP	19 29 39	July 9 BYR iP	06 13 40	July 10 SPA eP	01 58 32.8 58 48.3	July 10 BYR eP	13 53 01
July 8 SPA eP e e	19 30 28.9 33 59.4 34 23.7	July 9 BYR iP i	06 13 40 13 47	July 10 SPA eP	02 28 58 29 38	July 10 SPA eP'	14 08 10
July 8 BYR eP	20 24 36	July 9 SPA eP	06 14 08.9 14 36.9	July 10 SPA eP	02 34 13	July 10 BYR e(P)	14 37 36
July 8 SPA eP e	20 25 30.9 25 37.0	July 9 BYR iP	07 22 24	July 10 SPA eP	02 33 11 34 22 35 04	July 10 SPA eP	14 38 16.5
July 8 BYR eP	20 44 06	July 9 SPA iP e e	08 44 47 08 44 31.1 47 07.8 50 41.1	July 10 SPA eP	02 37 10.2	July 10 SPA eP e	18 53 34 59 43
July 8 SPA eP	20 44 58	July 9 SPA eP	09 38 52	July 10 BYR eP	03 02 25.3	July 10 BYR e(P)	19 43 58
July 8 SPA eP	21 46 38.9	July 9 SPA eP	11 03 59.0 04 23.8 05 17.1	July 10 SPA e(P) e e	03 44 11.3	July 10 BYR eP	20 23 46
July 8 SPA eP	21 48 37.5	July 9 SPA eP e e	13 55 27.9 55 30.2	July 10 SPA eP	04 23 53	July 10 SPA eP e	20 24 39.1 24 47.3
July 8 SPA eP	21 50 29.8	July 9 SPA eP	16 04 03.3	July 10 BYR eP	04 23 43	July 10 BYR eP e	20 30 34 32 43
July 8 SPA eP e	23 20 41.4 20 44.4	July 9 BYR eP e	17 54 32 56 24	July 10 SPA eP	04 23 43	July 10 SPA eP ePP	20 30 10 31 28
July 8 SPA eP e	23 30 49.0 31 28.0					July 10 SPA eP	21 03 55.6
July 8 SPA eP	23 34 39.8						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
July 10 SPA eP	h m s 22 35 49.1	July 11 BYR eP	h m s 10 36 37 36 52	July 11 SPA e(P')	h m s 23 07 09.8 13 22.0 14 34.3	July 11 SPA eP	h m s 19 24 23.2 24 50.0 24 58.9 25 14.9
July 10 SPA eP e	23 24 36.4 24 48.6	July 11 SPA eP e	10 37 30.0 37 55	July 12 SPA eP	00 37 26.9	July 12 SPA eP	20 02 28.9 02 41.0 04 11.8
July 10 BYR e(P) e	23 28 03 38 14	July 11 BYR iP e(PP) eP'P'	12 06 13 08 28 34 34	July 12 SPA eP	00 46 09.4	July 12 SPA eP	22 37 22.0
July 10 SPA eP	23 38 39	July 11 SPA eP e ePP	12 06 47.9 06 55.9 09 33.4	July 12 SPA eP	01 39 57.8	July 12 SPA eP	23 13 57.7 15 42.7
July 11 BYR eP	01 46 24	July 11 SPA eP'	12 13 50	July 12 SPA eP	02 20 27.5	July 12 SPA eP	23 22 33.1
July 11 SPA eP	01 47 15.1	July 11 SPA eP	14 24 23.4	July 12 SPA eP	04 05 31.2	July 12 SPA eP	23 22 33.1
July 11 BYR eP	01 51 14	July 11 SPA eP	14 54 22.6	July 12 SPA eP	04 44 13.0	July 13 SPA eP	00 11 53.2
July 11 BYR eP	01 58 00	July 11 SPA eP	14 58 28	July 12 SPA eP	05 08 19.6	July 13 SPA eP	00 50 57.3 52 03.5
July 11 SPA eP	01 58 54.6	July 11 BYR eP	15 06 16	July 12 SPA eP	07 25 40.7	July 13 SPA eP	02 56 06.1
July 11 SPA e(P)	02 29 20	July 11 BYR eP	15 07 07.5	July 12 SPA eP	07 37 24.6	July 13 SPA eP	03 11 06.0 11 22
July 11 SPA eP	05 20 06.6	July 11 BYR eP	16 15 16	July 12 SPA e(P)	09 37 21	July 13 SPA eP	06 26 09.8 26 57.4
July 11 SPA eP	05 51 46.6	July 11 BYR eP	16 33 06	July 12 SPA eP	11 02 44.3	July 13 BYR eP	06 57 17
July 11 BYR iP	07 06 49	July 11 SPA eP	16 31 55	July 12 SPA eP	12 02 40	July 13 BYR eP	07 13 31
July 11 SPA eP e	07 07 38.6 07 44.3	July 11 BYR eP	16 47 48	July 12 SPA eP	12 03 32.7 03 46.2	July 13 SPA eP	07 57 17.6 59 56.3 08 00 29.4
July 11 BYR iP ePcP e	07 41 00 42 28 45 00	July 11 BYR eP	17 46 01	July 12 SPA eP	12 11 45.6	July 13 BYR iP	08 03 54 05 28 10 07 35 24
July 11 SPA eP e ePP	07 40 35.1 41 13.8 41 51.5	July 11 SPA eP	17 46 24.1	July 12 SPA eP	15 12 47	July 13 SPA eP	08 03 00.6 03 41.4 04 20.6 07 17.5 08 38.8 15 27 36 16
July 11 BYR eP	08 15 15	July 11 BYR eP	17 51 50	July 12 SPA eP	15 31 57.5 32 06.5	July 13 BYR e(P)	09 22 14.5
July 11 SPA eP e	08 16 04.9 16 16.2	July 11 BYR eP	18 20 59	July 12 SPA eP	17 19 32.0 19 34.6	July 13 BYR e(P)	09 44 25
July 11 BYR eP	08 28 30	July 11 SPA eP	18 21 50.5	July 12 SPA eP	18 24 16.7 24 27.7		
July 11 BYR eP	08 38 54	July 11 BYR e(P)	20 59 22	July 12 BYR eP	19 23 59		
July 11 BYR eP	10 15 27	July 11 BYR eP	21 07 30				
July 11 BYR eP	10 29 39.5 30 09.7 30 59.3 32 21.0	July 11 SPA eP	21 08 06.1				
		July 11 SPA iP	22 21 14.3				
		July 11 SPA iP	23 01 37.6				

SEISMOLOGICAL BULLETIN

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
July 13 SPA e(P')	h m s 10 41 29.3	July 13 SPA eP e	h m s 23 17 02.2 17 20.9	July 14 SPA eP e i e e	h m s 13 46 26.7 46 50.2 48 45.0 50 13.8 51 11.7	July 15 SPA eP	h m s 07 37 52
July 13 BYR e(P')	13 20 21	July 13 SPA e(P)	23 32 30	July 14 SPA e(P')	13 56 56	July 15 BYR e(P) e	08 26 24 26 46
SPA eP' eSKP	13 20 06.9 23 35.5	July 13 SPA e(P)	23 47 40	July 14 SPA e(P)	15 34 48.1	July 15 SPA eP	08 43 34.1
July 13 BYR iP i	13 36 51 41 15	July 14 SPA e(P)	00 14 37	July 14 SPA eP	16 04 20.3	July 15 BYR eP	08 52 12
SPA eP e	13 37 44.4 42 09.3	July 14 SPA eP	00 16 46.4	July 14 SPA eP	17 24 32	SPA eP	08 53 09
July 13 BYR iP	14 40 12	July 14 SPA eP e	00 20 25.5 25 32.0	July 14 BYR eP	17 24 51.3	July 15 SPA eP	10 35 36
July 13 SPA eP	14 40 27.6	July 14 BYR eP	01 47 31	July 14 SPA e(P)	17 55 41	July 15 SPA eP	10 38 35
July 13 SPA eP	15 15 21.6	SPA eP e	01 48 21.5 48 26.4	July 14 SPA eP	18 21 27.7	July 15 SPA eP	10 52 47
July 13 SPA eP	15 31 14.6	July 14 SPA eP	02 42 07.1	July 14 SPA eP	18 28 44.7	July 15 SPA eP	10 54 22
July 13 SPA eP	16 04 30	July 14 SPA eP	04 08 51.1	July 14 BYR eP	20 32 11	July 15 BYR iP	10 59 36
July 13 BYR iP	17 13 29	July 14 BYR eP	08 33 17	SPA eP	20 31 47.5	SPA eP	11 00 27
SPA eP e e(PcP)	17 14 01.8 14 13.0 14 44.1	July 14 BYR eP	09 17 34	July 14 SPA eP	21 54 53.2	July 15 SPA eP e	12 32 10 15 35 46 36 20
July 13 BYR eP	19 55 46	SPA eP	09 17 51.1	July 14 BYR eP' e(SKIP)	22 30 19 33 43	July 15 BYR iP	19 01 57
SPA eP e	19 56 17.5 20 00 51.5	July 14 BYR eP	09 57 02	SPA eP e	22 30 02.8 30 35.7	SPA eP	19 02 47
July 13 BYR eP'	20 46 48	July 14 BYR eP ePP e	10 40 44 44 43 49 32	July 14 SPA eP	22 38 46.8	July 15 SPA eP	20 02 19
SPA eP'	20 46 46	SPA eP e e e e	10 40 22.2 40 45.2 44 53.7 51 58.0 52 14.3	July 15 BYR eP	01 19 51	July 15 BYR iP	20 35 26
July 13 BYR iP e	21 56 35 57 21	July 14 BYR iP	10 54 31	July 15 SPA eP	04 16 01	SPA eP	20 35 42
July 13 SPA eP e	21 57 11.9 57 32.4	SPA eP e	10 55 00 55 18.5	July 15 SPA eP e e	04 32 09 32 56 40 42	July 15 BYR eP e	21 40 12 40 22
July 13 SPA eP e	22 35 28.2 35 46.7	July 14 SPA eP	11 26 00.2	July 15 BYR iP	05 14 56	SPA eP e	21 41 02 41 13
July 13 SPA eP	22 42 49.2	July 14 SPA eP	13 10 11	SPA eP	05 14 05	July 15 SPA eP e	23 01 28 23 14 40 15 25
July 13 SPA eP e	23 16 26.0 16 30.9			July 15 SPA eP	06 56 50		

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
July 15 SPA eP e	h m s 23 19 34 20 59	July 16 SPA eP e	h m s 11 43 50 48 50	July 17 BYR eP	h m s 12 03 37	July 19 SPA eP	h m s 16 49 40
July 15 SPA eP e e	23 24 53 27 11 27 50	July 16 SPA eP	11 50 15	July 17 BYR e(P) e	16 58 44 59 23	July 19 SPA eP	19 54 00
July 16 SPA eP e	00 03 11 03 16	July 16 SPA eP	13 17 29	July 17 BYR eP	19 55 04	July 19 SPA eP	23 29 25
July 16 SPA eP e	00 15 58 21 56	July 16 SPA eP ePKKP e	16 33 03 33 24 17 35 47 46 42 46 52	July 17 BYR iP	20 01 29	July 19 SPA eP	23 56 22
July 16 BYR iP	01 50 34	July 16 SPA eP	19 12 37	July 18 BYR eP	01 55 48	July 20 SPA eP	02 25 32
SPA eP	01 51 07	July 16 SPA eP	19 23 01	July 18 BYR eP	07 57 46	July 20 BYR eP	02 51 30
July 16 SPA eP	02 32 35	July 16 BYR eP ¹	21 39 24	July 18 BYR eP	15 48 39	SPA eP	02 51 51 52 37 59 46
July 16 SPA eP e e	03 01 00 02 51 04 21	SPA eP ¹ e e	21 39 43 39 58 41 50	July 18 SPA eP e	23 58 58 24 00 39	July 20 SPA eP	04 24 15
July 16 BYR eP	04 19 54	July 16 BYR e(P)	21 48 06	July 19 BYR eP	02 54 55	July 20 SPA eP	05 35 09
SPA eP e e	04 19 23 19 27 20 07	SPA eP	21 48 22	SPA eP	02 55 37	July 20 SPA e(P ¹)	06 25 33 25 59
July 16 SPA eP e e e	04 34 47 37 40 39 19 40 36	July 16 BYR eP ¹	22 22 41	July 19 BYR iP e	04 30 59 31 11	July 20 BYR eP i eSKP	07 33 20 09 49 48 50 02 53 31
July 15 BYR iP	04 54 47	SPA eP ¹ e	22 22 56 23 15	SPA eP e e e	04 31 40 31 52 32 13 39 28	SPA eP e ePP eSKP	09 49 49 49 52 52 54 53 32
SPA eP epP esP	04 55 25 55 55 56 09	July 16 SPA eP	22 30 41	July 19 SPA eP e e	07 35 53 38 34 53 35	July 20 BYR e(P)	10 01 36
July 16 SPA eP e	08 30 24 34 30	July 16 BYR e(P)	23 03 20	July 19 SPA eP	11 05 43	July 20 SPA eP e	11 15 35 15 47
July 16 BYR eP	09 17 56	July 16 SPA e(P)	23 21 36	July 19 BYR iP e	11 22 21 23 04	July 20 BYR eP	14 00 25
SPA eP e	09 18 47 19 44	July 17 BYR eP	01 55 26	SPA eP i e e	11 22 54 22 57 24 55 27 20	SPA eP	14 01 22
July 16 SPA eP	10 26 35	July 17 BYR e(P ¹)	05 33 57	July 19 SPA eP e	11 33 47 34 02	July 20 BYR eP	16 29 56
July 16 SPA eP	11 03 12	July 17 BYR e(P)	06 43 39	July 19 SPA eP	14 23 54	SPA eP e	16 30 42 30 51
July 16 SPA eP e	11 33 11 35 43	July 17 BYR eP	11 36 48			July 20 BYR iP	21 10 02

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
	h m s		h m s		h m s		h m s
SPA eP	21 10 20	July 21 BYR iP	08 05 26	July 21 BYR eP'	21 10 04	July 22 SPA eP	12 10 36
ePcP	10 49					e	11 24
e(sP)	11 36	SPA iP	08 06 08	SPA eP'	21 10 01		
e	29 15	e	06 31			July 22 SPA eP	18 41 41
e	38 17	e	06 40	July 21 BYR iP	21 14 40		
July 20 BYR eP	21 46 44	July 21 BYR eP	08 11 32	July 21 SPA eP	22 22 54	July 22 SPA eP	20 58 25
e	47 18						
SPA eP	21 47 32	SPA eP	08 12 14	July 21 SPA eP	22 35 04	July 22 SPA eP	21 42 43
e	47 41	e	12 25	e	35 23		
e	47 59	July 21 BYR iP	08 18 34	July 22 SPA eP	00 32 42	July 22 SPA eP	22 20 28
e(PcP)	48 31			e	35 55	e	21 00
ePP	49 26	SPA eP	08 19 24			July 22 SPA eP	22 55 47
eP'P'	22 18 31	e	19 33	July 22 SPA eP	02 26 56	e	57 25
July 20 SPA eP	22 39 02	e	19 41			e	58 23
July 20 SPA eP	23 11 35	July 21 BYR eP	08 27 14	July 22 SPA eP	03 25 34	e	59 24
e	23 16 48					July 23 BYR eP	00 16 21
July 20 SPA eP	23 53 13	SPA eP	08 27 28	July 22 BYR eP	03 26 16	SPA eP	00 15 57
July 21 BYR eP	00 21 39	July 21 SPA eP	10 23 10	July 22 SPA e(P)	03 50 28	e	16 37
SPA eP	00 21 58	July 21 SPA eP	11 16 39	SPA eP	51 55	July 23 BYR e(P)	00 44 38
July 21 SPA eP	00 59 53	e	23 35	July 22 SPA eP	05 46 41	SPA eP	00 43 44
July 21 SPA eP	01 38 56	July 21 SPA eP	11 55 10	July 22 SPA eP	07 28 20	July 23 SPA eP	01 19 10
July 21 SPA eP	02 48 30	July 21 BYR eP	13 13 17	July 22 SPA eP	07 52 16	July 23 BYR eP	01 47 56
e	51 00	SPA eP	13 13 10	e	52 40	July 23 BYR eP	02 47 30
July 21 BYR eP	03 19 55	e	24 31	July 22 SPA eP	09 42 37	SPA eP	02 48 13
SPA eP	03 19 37	July 21 BYR eP	13 59 23	July 22 SPA eP	10 03 15	July 23 SPA eP	02 57 43
July 21 BYR eP	04 09 55	e	14 01 57	July 22 SPA eP	10 09 06	July 23 SPA eP	03 14 22
SPA eP	04 10 44	SPA eP	13 59 08	July 22 SPA eP	10 12 16	July 23 SPA eP	04 41 33
e	10 51	July 21 BYR e(P)	14 10 51	July 22 SPA eP	10 45 18	i	42 59
e	11 00	July 21 SPA eP	14 10 36	July 22 SPA eP	11 00 57	e	43 33
July 21 SPA eP	04 20 55	July 21 SPA eP	16 01 20	e	05 29	e	44 47
e	21 09	July 21 SPA eP	16 55 33	July 22 BYR eP	11 20 46	July 23 SPA eP	05 46 20
July 21 SPA eP	05 31 37	July 21 SPA eP	18 07 10	SPA eP	11 21 30	e	47 33
July 21 BYR eP	06 59 53	July 21 SPA eP	18 33 26	e	22 24	e	49 20
SPA eP	07 20 49	e	33 33	July 22 SPA eP	11 32 29	July 23 BYR iP	05 54 23
July 21 BYR e(P)	07 56 44	July 21 SPA eP	20 00 10			SPA eP	05 55 00
						e	55 42

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
July 23 BYR iP	h m s 07 41 19	July 24 BYR eP'	h m s 01 36 48	SPA eP	h m s 10 46 35	July 25 SPA eP	h m s 02 04 06
SPA iP	07 41 49	SPA eP'	01 36 23	e	46 41	July 25 SPA eP	03 23 11
e	42 00	e	36 30	e(PP)	47 08	e	23 49
e	42 08	July 24 SPA eP	02 20 10	July 24 SPA eP	11 42 14	e	25 00
July 23 SPA eP	10 35 45	e	21 53	July 24 BYR eP	13 19 02	e	25 22
July 23 SPA eP	11 13 02	e	22 29	July 24 SPA eP	17 32 37	July 25 BYR eP'	04 00 36
July 23 BYR eP	12 10 51	July 24 SPA eP	02 28 18	July 24 SPA eP	18 47 10	July 25 SPA eP'	04 00 22
SPA eP	12 11 52	July 24 BYR e(P)	02 30 39	July 24 BYR eP	18 48 08	e	01 23
July 23 SPA eP	12 51 42	SPA eP	02 30 54	SPA eP	19 48 35	July 25 BYR eP	04 12 11
e	52 09	e	31 06	July 24 SPA eP	19 48 35	SPA eP	04 13 40
July 23 BYR eP	15 33 50	July 24 BYR eP'	02 46 01	i	50 05	e	17 27
SPA eP	15 34 27	SPA eP'	02 46 18	e	50 38	July 25 BYR eP	04 24 48
e	34 48	July 24 SPA eP	03 51 32	July 24 SPA eP	19 58 19	SPA eP	04 25 15
July 23 SPA eP	16 12 31	July 24 SPA eP	04 58 29	July 24 SPA eP	20 51 32	e	25 59
July 23 BYR e(P)	18 15 43	July 24 SPA eP	05 10 03	July 24 SPA eP	21 05 35	July 25 SPA eP	04 33 38
July 23 SPA eP	18 29 09	July 24 SPA eP	06 07 38	July 24 SPA eP	21 24 02	e	37 42
July 23 BYR iP	19 08 25	July 24 SPA eP	06 27 20	July 24 BYR eP	21 51 21	July 25 BYR e(P)	05 15 52
SPA eP	19 09 06	July 24 SPA eP	06 56 21	SPA eP	21 52 14	SPA eP	05 16 07
July 23 BYR eP	19 25 13	July 24 SPA eP	07 51 54	July 24 BYR eP	22 07 05	e	16 17
July 23 SPA eP	21 09 05	July 24 BYR eP	08 07 37	SPA eP	22 07 22	July 25 BYR eP	05 44 07
July 23 SPA eP	21 20 00	SPA eP	08 07 50	July 24 SPA eP	23 13 31	SPA iP	05 44 24
e	21 53	July 24 SPA eP	09 01 46	July 24 BYR eP	23 22 27	July 25 SPA eP	06 03 22
July 23 SPA eP	22 51 54	July 24 BYR eP'	10 08 27	e	22 52	July 25 SPA eP	06 17 01
July 24 SPA eP	00 05 26	SPA eP'	10 08 40	e	24 17	July 25 BYR eP	08 41 00
July 24 SPA eP	00 17 27	e	09 09	SPA eP	23 23 18	SPA eP	08 42 01
e	19 14	e	09 33	e	23 28	July 25 BYR eP	10 18 11
July 24 BYR iP	01 18 18	July 24 BYR iP	10 39 26	July 25 SPA eP	00 54 13	SPA eP	10 18 07
e	19 01	SPA eP	10 40 21	July 25 SPA eP	00 59 29	e	18 28
SPA eP	01 19 00	e	40 27	July 25 SPA eP	01 02 00	July 25 SPA iP	10 37 40
e	19 41	July 24 BYR iP	10 45 41	e	02 33	e	39 51
						July 25 SPA eP	10 57 43

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
July 25	h m s	July 25	h m s	July 25	h m s	July 25	h m s
BYR eP ⁱ	11 31 10	SPA eP	23 10 07	SPA eP	12 55 25	SPA eP	04 03 37
i	31 21					ePP	04 24
isP ⁱ	31 58	July 26		July 26		ePcP	06 35
ePP	34 24	BYR eP	00 16 59	BYR eP	14 38 45	eL	09 41
iSKP	34 46						
e	35 54	SPA eP	00 17 02	SPA eP	14 39 37	July 27	
e	41 02	e	17 14			SPA eP	04 38 29
		e	38 18	July 26		e	39 27
SPA eP	11 31 21			BYR eP	16 46 37	e	40 09
ePP	34 31	July 26				e	42 33
ePPP	37 48	SPA eP	01 30 24	SPA eP	16 46 07		
e	42 23					July 27	
eSKKP	43 05	July 26		July 26		SPA eP	04 46 05
e	46 48	SPA eP	01 33 27	BYR eP	17 31 01		
July 25						July 27	
SPA eP	12 15 35	July 26		July 26		SPA eP	07 06 11
		BYR e(P)	02 24 32	BYR e(P)	19 36 47		
July 25				e	38 04	July 27	
BYR eP	15 20 30	July 26		July 26		BYR eP	09 09 21
		SPA eP	03 06 38	BYR eP	19 41 32	e	09 33
July 25							
BYR eP ⁱ	15 49 48	July 26		SPA eP	19 42 06	SPA eP	09 08 45
i	50 31	SPA eP	03 16 52				
e(PP)	53 17			July 26		July 27	
		SPA eP	03 27 37	BYR eP	22 02 07	SPA eP	09 13 40
SPA eP ⁱ	15 49 55						
e	50 31	July 26		SPA eP	22 03 35	July 27	
e(PP)	53 23	BYR eP ⁱ	04 08 15			BYR iP	10 12 20
e	16 01 35	e	08 54	July 26		SPA eP	10 13 14
		e	15 04	SPA eP	22 24 54	epP	13 41
July 25				e	26 13		
SPA eP	17 12 40	SPA eP ⁱ	04 08 54	i	27 31	July 27	
		e	09 22			BYR e(P)	10 44 01
July 25		e	15 03	July 26			
BYR eP	18 09 53			SPA eP	22 31 43	July 27	
		July 26				SPA eP	10 49 35
SPA eP	18 10 13	SPA eP	04 36 57	July 26		e	50 19
e	10 29	e	37 53	SPA eP	23 14 44	e	51 22
		e	38 34				
July 25		e	38 53	July 26		July 27	
SPA eP	20 07 39			SPA eP	23 17 54	SPA eP	11 05 45
		July 26					
July 25		BYR eP	04 48 41	July 27		July 27	
BYR eP	20 47 44			SPA eP	00 23 54	SPA eP	11 09 09
		SPA eP	04 48 24				
July 25				July 27		July 27	
BYR eP	21 15 47	July 26		BYR iP	01 48 02	SPA eP	11 24 13
		BYR eP	07 23 48			e	25 21
SPA eP	21 15 27			SPA eP	01 48 54		
e	15 58	SPA eP	07 24 38	e	49 01	July 27	
						BYR eP	13 38 18
July 25		July 26		July 27			
BYR eP	21 49 38	SPA eP	08 07 04	SPA eP	01 59 04	SPA eP	13 38 35
						e	38 44
SPA eP	21 49 34	July 26		July 27			
		SPA eP	10 08 16	SPA eP	02 18 55	July 27	
July 25		e	09 58			BYR e(P)	13 49 24
SPA eP	22 22 55			July 27			
		July 26		SPA eP	02 51 50	SPA eP	13 50 06
July 25		BYR eP	10 30 17	e	53 03	i	50 12
SPA eP	22 40 56			July 27			
e	41 06	July 26		SPA eP	03 31 20	July 27	
		SPA eP	11 55 41			BYR iP	14 22 26
July 25		e	55 57			e	23 14
BYR e(P)	22 53 09	e	58 52	July 27		SPA eP	14 22 21
				BYR iP	04 03 56	e	23 07
July 25		July 26		i	04 11		
SPA eP	23 06 41	BYR e(P)	12 55 28	ePcP	06 41	July 27	
						SPA e(P)	16 51 15

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
July 27 BYR eP	h m s 17 42 11	July 28 BYR eP	h m s 09 13 48	SPA eP	h m s 02 01 41 01 57	July 29 SPA eP	h m s 20 35 51
July 27 BYR eP e	18 10 45 10 55	SPA eP	09 14 16	July 29 SPA eP	02 19 37	July 29 BYR eP	21 09 55
July 27 BYR iP	18 29 02	July 28 BYR eP	10 12 48	July 29 SPA eP	03 11 02	July 29 SPA eP e	22 06 00 15 06
SPA eP	18 29 32	SPA eP	10 12 31	July 29 SPA eP	04 37 50 38 15	July 29 BYR eP	23 09 31
July 27 BYR eP	21 10 44	July 28 BYR iP	10 47 28	July 29 SPA eP e	05 20 55	July 29 SPA eP e ePP	23 15 06 16 58 17 39
SPA eP e	21 11 18 11 29	SPA iP e	10 47 43 47 47	July 29 SPA eP	06 34 18	July 30 SPA eP	00 09 41
July 27 BYR eP	21 55 15	July 28 SPA eP	11 23 44	July 29 SPA iP	07 17 42	July 30 BYR eP	02 17 06
July 27 SPA eP	22 13 59	July 28 SPA eP	14 45 35	July 29 SPA eP'	11 01 25 03 38	SPA eP	02 17 44
July 27 SPA eP	22 59 43	July 28 SPA eP e	15 00 55 01 05	July 29 SPA eP	11 42 35	July 30 SPA eP e	02 42 11 43 18
July 27 SPA eP	23 43 01	July 28 SPA eP e	16 47 09 48 22	July 29 SPA eP	14 07 34	July 30 SPA eP	04 05 10
July 28 SPA eP	00 01 25	July 28 SPA eP	18 12 21	July 29 SPA eP	14 36 47 37 01	July 30 SPA eP	05 01 48
July 28 BYR eP	01 29 33	July 28 SPA eP e	20 12 25 18 48	July 29 BYR eP	15 26 11	July 30 BYR e(P)	05 55 44
SPA eP e	01 30 00 30 08	July 28 BYR e(P)	21 05 32	SPA eP	15 25 25 27 49	July 30 SPA eP	05 56 03
July 28 SPA eP	02 35 31	July 28 SPA eP e e	21 10 33 10 41 11 48	July 29 SPA eP	15 39 20	July 30 BYR iP i	06 12 25 12 54
July 28 SPA eP e	04 01 21 03 41	July 28 SPA eP	22 37 37	July 29 BYR iP	16 01 33	SPA eP e	06 13 03 13 33
July 28 SPA eP	04 31 34	July 28 SPA eP	23 09 20	SPA eP ePcP	16 00 47 03 11	July 30 SPA eP e	06 32 53 34 09
July 28 SPA eP e	05 07 19 09 09	July 29 BYR eP	00 35 05	July 29 BYR e(P')	17 50 47 54 08	July 30 BYR eP	07 27 11 27 45
July 28 SPA eP	06 35 05	ePP eP'P'	37 37 01 03 39	eSKP e eSKKP	54 34 18 03 36	SPA eP e	07 27 48 28 22
July 28 BYR iP	06 40 58	SPA eP	00 35 23	SPA eP'	17 50 30 50 45	July 30 SPA eP	08 32 25
July 28 SPA eP e e	06 41 50 42 21 43 40	ePcP ePP ePPP eS	35 51 38 26 39 53 44 41	e e e eSKKP	54 25 54 38 18 01 11 03 41	July 30 BYR e(P)	09 18 13 09 57 18
July 28 BYR eP	06 52 28	July 29 SPA eP	00 48 18	July 29 SPA eP	19 12 23		
SPA eP	06 52 58	July 29 BYR eP	02 01 22	July 29 SPA eP e	19 58 13 58 19		
July 28 SPA eP	08 15 37						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
July 30 SPA eP e e	h m s 11 28 24 28 47 29 27	July 31 BYR eP SPA eP	h m s 03 02 29 03 03 22	July 31 SPA eP ePcP	h m s 15 03 23 04 57	Aug. 1 BYR eP' SPA eP' e e	h m s 02 39 51 02 39 29 39 52 43 05
July 30 BYR eP	12 00 19	July 31 BYR eP eS	03 08 15 18 37	July 31 SPA eP e(pP)	15 59 18 16 00 22	Aug. 1 SPA eP	04 52 51
July 30 SPA eP	13 09 01	July 31 SPA eP e e e eS e eP'P'	03 08 14 10 25 10 51 12 22 18 37 19 32 34 15	July 31 BYR e(P)	16 10 13	Aug. 1 BYR eP	05 03 41
July 30 BYR eP	13 18 26			July 31 BYR eP	16 42 28	SPA eP	05 04 15
SPA eP	13 19 20			SPA eP	16 42 26	Aug. 1 SPA eP e	06 50 19 55 39
July 30 BYR eP	13 44 15	July 31 SPA eP	03 55 04	July 31 BYR e(P)	17 45 03	Aug. 1 BYR e(P)	07 07 19
SPA eP	13 45 07	July 31 SPA eP	04 33 06	July 31 SPA eP	18 00 39	SPA eP	07 07 00
July 30 BYR eP'	14 26 13	July 31 BYR eP	04 37 03	July 31 BYR eP	18 23 07	Aug. 1 BYR eP	10 03 56
SPA eP'	14 26 08	SPA eP e	04 37 37 37 42	SPA eP	18 24 01	SPA eP e	10 03 38 04 08
July 30 BYR eP'	14 32 09	July 31 SPA eP	06 26 16	July 31 BYR eP	18 59 03	Aug. 1 SPA eP	10 22 28
SPA eP' e e e	14 32 14 32 24 32 43 33 03	July 31 BYR eP	07 17 03	SPA eP e	18 59 00 59 10	Aug. 1 SPA eP	11 01 00 01 56
July 30 BYR eP	14 48 42	July 31 SPA eP e	07 57 18 57 29	July 31 SPA eP	20 01 18	Aug. 1 BYR eP'	12 59 27
July 30 BYR eP	14 53 39	July 31 BYR eP e	09 19 07 19 18	July 31 SPA eP	21 12 51	Aug. 1 BYR eP	15 30 51
SPA eP	14 53 13	SPA eP e	09 19 05 19 17	July 31 BYR eP	22 46 01	Aug. 1 BYR eP	16 34 00
July 30 SPA eP e	15 06 25 07 39	July 31 BYR iP	09 30 38	SPA eP'	22 45 40	Aug. 1 SPA eP	16 41 28
July 30 SPA eP	17 08 51	SPA eP e	09 30 19 31 41	July 31 SPA eP	23 29 33	Aug. 1 BYR eP	16 46 05
July 30 BYR iP	19 34 44	July 31 SPA eP	10 15 00	Aug. 1 SPA eP'	00 11 17	SPA eP	16 47 00
SPA eP e	19 35 18 35 27	July 31 SPA eP	11 09 05 10 31	Aug. 1 SPA eP	00 39 23	Aug. 1 BYR eP	17 35 47
July 30 SPA iP	20 07 05	July 31 SPA eP e	11 41 33	Aug. 1 BYR iP	01 06 30	SPA eP e	17 36 26 36 33
July 30 BYR iP	23 33 31	July 31 BYR eP	13 08 18	SPA eP	01 07 11	Aug. 1 BYR iP	18 32 26
SPA eP	23 33 13	SPA eP	13 08 38	Aug. 1 SPA e(P) e	01 26 33 27 19	SPA eP	18 33 21
July 31 SPA eP	01 03 22	July 31 BYR iP ePcP	15 02 29 04 15	Aug. 1 SPA e(P) e	01 30 43 31 07	Aug. 1 BYR eP	18 57 33
July 31 SPA eP e	01 51 42 51 56					SPA eP	18 56 20

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Aug. 1 BYR eP	h m s 20 20 50	Aug. 2 SPA eP	h m s 07 29 38	Aug. 3 BYR iP	h m s 01 21 38	Aug. 3 BYR eP	h m s 15 18 23
SPA eP ePcP	20 21 40 22 53	Aug. 2 SPA eP	08 31 27	SPA eP e e	01 22 28 22 36 27 28	Aug. 3 BYR eP	17 02 58
Aug. 1 BYR eP	20 28 08	Aug. 2 BYR eP	09 40 07	Aug. 3 BYR eP e	01 56 25 02 00 50	Aug. 3 BYR eP	18 42 05
SPA eP	20 28 57	SPA eP epP eS	09 40 42 41 02 49 21	Aug. 3 SPA eP	02 30 15	Aug. 3 SPA eP	18 42 57
Aug. 1 SPA eP	21 12 27	Aug. 2 SPA eP	10 08 09	Aug. 3 SPA eP	02 42 26	Aug. 3 BYR iP i	19 16 17 16 27
Aug. 1 BYR eP	22 04 20	Aug. 2 BYR eP	10 16 05	Aug. 3 SPA eP	02 52 19	SPA eP	19 17 09
Aug. 1 SPA eP e	22 12 10 12 28	Aug. 2 SPA eP	10 16 35	Aug. 3 BYR eP e e	03 35 37 37 27 38 22	Aug. 3 BYR eP	21 12 13
Aug. 1 BYR eP ⁱ	22 15 13	Aug. 2 SPA eP e	10 48 19 48 34	Aug. 3 SPA eP	03 36 56	SPA eP	21 13 21
Aug. 1 BYR eP	22 42 37	Aug. 2 SPA eP	10 50 34	Aug. 3 SPA eP e e	05 07 31 11 41 12 04	Aug. 3 BYR e(P) e	21 44 43 44 54
SPA eP	22 43 12	Aug. 2 BYR e(P)	13 42 09	Aug. 3 SPA eP e	05 50 32 50 48	Aug. 3 SPA eP e	21 44 41 45 46
Aug. 1 SPA eP e e	23 02 14 03 24 06 23	Aug. 2 SPA eP	13 42 26	Aug. 3 BYR iP	05 53 23	Aug. 3 SPA eP	23 12 32
Aug. 2 SPA eP	00 04 47	Aug. 2 SPA eP	13 55 00	SPA eP e	05 53 52 56 07	Aug. 4 BYR iP	01 23 42
Aug. 2 SPA eP	00 39 31	Aug. 2 BYR eP	14 54 08	Aug. 3 SPA eP e	06 28 02	SPA eP	01 24 12
Aug. 2 SPA eP	03 36 42	Aug. 2 BYR e(P)	17 23 38	Aug. 3 SPA eP e	07 06 39 07 19	Aug. 4 SPA eP	02 44 50
Aug. 2 SPA eP	04 11 18	Aug. 2 SPA eP	17 38 38	Aug. 3 BYR eP	11 53 43	Aug. 4 SPA eP e e	06 13 53 06 18 04 06 18 47
Aug. 2 SPA eP	04 54 55	Aug. 2 BYR eP	18 40 50	Aug. 3 SPA eP e	10 57 19 10 58 11 58 48	Aug. 4 BYR eP	06 30 58
Aug. 2 BYR eP e eS	05 17 51 21 21 26 26	Aug. 2 BYR eP ⁱ	18 59 42	Aug. 3 BYR eP	12 21 24	Aug. 4 BYR eP ⁱ i eSKP i e	07 54 00 54 11 57 39 08 03 41 06 08
SPA iP e eS ePKKP eP ⁱ P ⁱ	05 18 13 19 35 27 02 36 32 46 31	Aug. 2 SPA eP	19 01 10	Aug. 3 BYR eP	12 22 17	SPA eP e e	07 54 11 56 00 08 06 21
Aug. 2 SPA eP	06 06 32	Aug. 2 BYR eP	22 45 13	Aug. 3 BYR iP		Aug. 4 BYR eP ⁱ eSKP	09 27 51 31 19
Aug. 2 BYR eP ⁱ e(PP)	06 34 05 37 33	SPA eP	22 46 07	SPA eP			
Aug. 2 BYR eP ⁱ e(PP)	06 34 09 34 19 37 50	Aug. 2 SPA eP	23 11 36				
		Aug. 3 SPA eP e	00 35 29 35 38				

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
	h m s		h m s		h m s		h m s
SPA eP'	09 27 53	Aug. 5 SPA eP	02 17 45	Aug. 5 SPA eP	18 58 23	SPA eP	14 58 22
epP'	28 06			e	19 00 31		
Aug. 4		Aug. 5		e	02 49	Aug. 6	
BYR eP	10 23 11	SPA eP	02 46 51	e	03 26	SPA eP	16 53 23
SPA eP	10 23 40	Aug. 5		Aug. 5		Aug. 6	
e	23 47	SPA eP	04 12 58	SPA eP	22 29 18	BYR iP	17 41 31
Aug. 4		Aug. 5		Aug. 5		SPA eP	17 42 23
SPA eP	10 46 27	SPA eP	04 23 28	BYR eP	22 46 47	Aug. 6	
		e	27 02	eSKP	50 20	SPA eP	18 05 13
Aug. 4		Aug. 5		SPA eP	22 46 58	Aug. 6	
SPA eP	11 01 39	SPA eP	04 49 30	e	47 48	BYR e(P)	18 53 53
Aug. 4		Aug. 5		Aug. 5		Aug. 6	
BYR iP	11 24 01	BYR eP	05 01 47	BYR eP	23 15 53	SPA eP	19 58 59
i	24 11	Aug. 5		SPA eP	23 15 47	Aug. 6	
SPA eP	11 24 53	BYR e(P)	06 17 37	e	16 34	SPA eP	23 18 43
e	25 01	Aug. 5		Aug. 6		Aug. 6	
Aug. 4		BYR eP	06 45 38	SPA eP	00 41 22	SPA eP	23 50 29
BYR e(P)	13 07 08	Aug. 5		Aug. 6		Aug. 7	
SPA eP	13 07 36	SPA eP	07 21 36	SPA eP	01 36 54	BYR eP	00 55 19
e	07 54	Aug. 5		Aug. 6		Aug. 7	
Aug. 4		SPA eP	07 40 46	SPA eP	02 14 40	SPA eP	02 22 09
SPA eP	13 30 46	Aug. 5		Aug. 6		Aug. 7	
Aug. 4		SPA eP	09 52 34	BYR iP'	03 23 46	SPA eP	02 38 49
SPA eP	13 48 20	e	53 01	Aug. 6		e	39 24
Aug. 4		Aug. 5		SPA eP	04 10 03	i	40 44
BYR eP	14 24 44	SPA eP	11 11 45	Aug. 6		Aug. 7	
SPA eP'	14 24 50	Aug. 5		SPA eP	04 48 38	SPA eP	03 13 41
Aug. 4		BYR eP	14 48 44	e	55 04	Aug. 7	
BYR iP	16 14 28	SPA eP	14 49 03	Aug. 6		SPA iP	03 29 10
SPA eP	16 15 00	e	49 14	SPA eP	05 23 28	e	31 34
Aug. 4		Aug. 5		Aug. 6		e	32 34
BYR eP	21 17 30	SPA eP	15 37 37	BYR e(P)	05 48 03	Aug. 7	
SPA eP	21 18 19	Aug. 5		SPA eP	05 48 17	SPA eP	04 10 06
e	18 28	SPA eP	15 49 07	Aug. 6		Aug. 7	
Aug. 4		Aug. 5		SPA eP	08 29 39	SPA eP	05 50 56
SPA eP	22 11 40	BYR eP'	16 25 44	Aug. 6		Aug. 7	
Aug. 4		i	25 58	SPA eP	08 48 34	SPA eP	06 03 22
SPA eP	23 14 39	SPA eP'	16 25 50	Aug. 6		Aug. 7	
e	14 54	e	26 05	SPA eP	11 21 50	SPA eP	06 10 07
Aug. 4		Aug. 5		e	28 13	e	14 40
SPA eP	23 46 41	BYR eP	16 39 02	Aug. 6		Aug. 7	
Aug. 5		e	39 13	SPA eP	13 07 20	BYR eP	08 49 35
SPA eP	00 04 27	SPA eP	16 38 34	e	10 50	Aug. 7	
Aug. 5		e	39 17	Aug. 6		BYR eP	09 04 35
SPA eP	00 29 50	Aug. 5		SPA eP	14 04 23	SPA eP	09 03 00
e	36 36	BYR e(P)	16 47 22	Aug. 6		Aug. 7	
Aug. 5		Aug. 5		BYR iP	14 57 29	BYR eP	09 34 25
SPA eP	01 18 58	SPA eP	17 03 34	i	57 38		
				ePP	59 15		

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
	h m s		h m s		h m s		h m s
SPA eP	09 35 16	Aug. 8 BYR eP	08 48 44	Aug. 9 BYR eP	05 03 39	Aug. 9 SPA eP	19 50 08
Aug. 7 SPA eP'	10 22 45	SPA eP	08 49 14	SPA eP	05 04 32	e	50 17
Aug. 7 SPA eP	10 43 19	Aug. 8 SPA eP	10 16 28	Aug. 9 BYR iP	06 20 26	Aug. 9 BYR eP	21 05 10
Aug. 7 BYR e(P)	12 37 20	Aug. 8 BYR e(P)	10 40 13	SPA eP	06 21 07	Aug. 9 SPA eP	22 59 05
Aug. 7 SPA eP	12 39 57	e	40 20	e	21 14	Aug. 9 BYR eP	23 01 36
Aug. 7 BYR iP	15 48 13	Aug. 8 SPA eP	11 02 13	ePcP	21 45	Aug. 9 BYR eP	23 48 34
SPA eP	15 47 57	e	03 20	Aug. 9 BYR eP'	06 41 27	SPA iP	23 48 48
e	50 30	Aug. 8 SPA eP	15 13 56	SPA eP'	06 41 28	e	49 26
Aug. 7 SPA eP	16 13 30	Aug. 8 BYR eP	15 23 59	e	41 37	eS	58 31
Aug. 7 BYR eP	16 25 48	Aug. 8 BYR eP	15 47 29	e	42 05	eSS	24 03 50
e	26 48	SPA eP	15 47 14	e	42 45	e	09 04
Aug. 7 SPA eP	16 26 37	Aug. 8 SPA eP	17 01 07	eSKP	45 13	Aug. 10 SPA eP	00 57 27
Aug. 7 SPA eP	21 15 29	Aug. 8 BYR eP	18 46 58	Aug. 9 BYR eP'	07 17 37	Aug. 10 SPA eP	01 16 26
Aug. 7 SPA eP	21 58 40	SPA eP	18 46 29	SPA eP	07 17 44	e	17 19
Aug. 7 BYR eP	22 19 25	Aug. 8 SPA eP	20 55 17	e	17 51	Aug. 10 SPA eP	02 12 14
Aug. 7 SPA eP	23 31 23	Aug. 8 SPA eP	23 40 50	e(pP)	18 36	Aug. 10 BYR eP	02 50 07
e	32 45	e	43 47	e	18 55	SPA eP	02 50 58
Aug. 8 SPA eP	00 17 05	Aug. 9 BYR eP	00 45 12	e	19 06	e	51 08
Aug. 8 SPA iP'	01 38 53	SPA eP	00 44 43	Aug. 9 SPA eP	07 58 32	Aug. 10 SPA iP	03 08 16
Aug. 8 BYR e(P)	01 45 24	e	44 54	e	58 48	e	10 39
Aug. 8 SPA eP	04 19 12	e	48 40	Aug. 9 BYR eP	08 05 21	e	11 22
e	19 50	Aug. 9 SPA eP	01 11 31	eP'P'	10 18	e	17 32
Aug. 8 BYR e(P)	04 39 28	e	11 38	SPA eP	09 24 05	Aug. 10 SPA eP	04 32 12
SPA eP	04 39 58	Aug. 9 SPA eP	03 43 02	e	24 22	Aug. 10 BYR eP	04 49 05
e	40 15	Aug. 9 BYR e(P)	03 48 27	eP'P'	11 01 53	SPA eP	04 49 56
Aug. 8 SPA eP	06 59 18	e	48 57	e	16 43 09	Aug. 10 BYR eP	05 26 07
Aug. 8 SPA eP'	07 30 42	SPA eP	03 49 37	Aug. 9 BYR eP	16 56 34	Aug. 10 BYR e(P)	05 34 19
		Aug. 9 BYR iP	04 16 43	eP'P'	17 25 57	Aug. 10 BYR e(P)	06 00 10
		e	17 24	SPA eP	16 57 06	Aug. 10 BYR iP	06 06 23
		SPA iP	04 17 22	e	57 11	SPA iP	06 06 52
		epP	17 59	e	57 56	e	07 10
		ePP	19 38	e	58 07	Aug. 10 SPA eP	07 49 56
				eP'P'	17 03 02		
				e	25 28		
				e	25 39		
				Aug. 9 BYR eP	18 15 43		
				SPA eP	18 16 14		
				Aug. 9 SPA eP'	18 38 40		
				e	39 27		

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Aug. 10 BYR iP	h m s 09 41 13	Aug. 11 BYR eP	h m s 02 14 00	SPA eP	h m s 21 53 27	SPA eP'	h m s 13 31 30
SPA eP	09 41 49	Aug. 11 SPA eP	02 48 49	e	53 43	ePP	33 28
Aug. 10 BYR eP	10 37 29	Aug. 11 BYR eP'	02 56 03	Aug. 12 SPA eP	00 04 26	eSKKP	44 49
SPA eP	10 37 00	ePP	59 26	e	09 29	Aug. 12 SPA e(P)	14 25 52
e	37 18	e	03 00 28	Aug. 12 BYR eP	00 18 58	Aug. 12 SPA eP	15 12 52
Aug. 10 SPA eP	11 13 08	SPA eP'	02 56 13	e	20 18	Aug. 12 SPA eP	15 37 32
e	17 21	epP'	56 52	SPA eP	00 19 30	Aug. 12 SPA eP	16 28 35
Aug. 10 BYR eP	11 43 57	esP'	57 12	Aug. 12 SPA eP	01 41 52	Aug. 12 SPA eP	19 05 45
SPA eP	11 43 39	ePP	59 42	Aug. 12 SPA eP	02 20 15	Aug. 12 SPA eP	19 45 32
Aug. 10 BYR e(P)	12 51 50	Aug. 11 BYR eP	03 06 39	Aug. 12 SPA eP	02 30 59	Aug. 12 BYR e(P)	23 34 59
i	52 04	e	07 38	Aug. 12 BYR eP	03 19 00	SPA iP	23 34 41
SPA eP	12 52 40	ePP	10 43	Aug. 12 SPA eP	03 19 33	epP	35 02
Aug. 10 SPA eP	14 46 58	SPA eP	03 06 15	Aug. 12 SPA eP	04 09 16	e	39 03
Aug. 10 BYR eP	14 50 20	e	06 25	Aug. 12 BYR eP	04 50 53	Aug. 13 SPA eP	00 27 12
SPA e(P)	14 49 55	e	07 11	Aug. 12 SPA eP	05 13 01	Aug. 13 SPA eP	00 36 20
e	50 00	e(PP)	10 43	Aug. 12 BYR eP	07 41 59	Aug. 13 BYR eP	04 24 24
e	50 33	Aug. 11 SPA iP	04 29 56	Aug. 12 SPA eP	07 42 50	SPA eP	04 23 18
Aug. 10 SPA eP	16 50 20	Aug. 11 SPA iP	04 50 14	Aug. 12 BYR eP	10 02 34	e(PP)	25 00
Aug. 10 SPA eP	20 10 30	e	53 09	Aug. 12 SPA eP	10 08 19	Aug. 13 SPA eP	05 43 23
Aug. 10 BYR eP	20 13 04	Aug. 11 BYR eP	05 04 29	Aug. 12 BYR eP	10 09 27	e	44 41
SPA eP	20 13 01	ePP	08 35	Aug. 12 SPA eP	11 12 59	Aug. 13 BYR eP	06 38 10
Aug. 10 SPA eP	20 28 48	ePKKP	20 24	Aug. 12 BYR eP	11 32 52	Aug. 13 SPA eP	06 40 56
e	30 48	e	20 44	Aug. 12 SPA eP	11 33 07	Aug. 13 BYR eP	06 41 49
Aug. 10 SPA eP	21 17 36	SPA eP	05 04 07	Aug. 12 BYR eP	11 42 00	e	43 54
Aug. 10 BYR e(P)	21 43 42	e	05 03	Aug. 12 BYR eP	13 31 33	Aug. 13 SPA eP	07 29 57
SPA eP	21 44 37	ePP	07 58	Aug. 12 BYR iP'	43 48	e	30 09
Aug. 10 SPA eP	22 11 45	e	08 39	eSKKP		e	30 24
Aug. 10 BYR e(P)	22 13 58	eSKS	14 39			e	30 44
Aug. 10 SPA e	22 26 21	ePKKP	21 01			e(PP)	32 35
e	28 03	e	24 54			eSKP	33 26
Aug. 11 BYR iP	00 25 20	Aug. 11 BYR e(P)	07 14 32			e	33 52
		e	14 44			e	43 11
		Aug. 11 SPA eP	09 38 08			e	46 48
		Aug. 11 SPA eP	13 10 27				
		e	14 27				
		Aug. 11 SPA eP	14 37 05				
		e	38 20				
		Aug. 11 SPA eP	16 43 38				
		e	45 41				
		Aug. 11 BYR eP	21 52 51				

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Aug. 13 SPA eP	h m s 08 15 40	Aug. 13 SPA eP	h m s 18 41 00	Aug. 14 SPA eP	h m s 11 38 26 38 47	Aug. 15 BYR e(P)	h m s 05 00 46
Aug. 13 SPA eP	10 58 17	Aug. 13 BYR e(P)	20 12 08	Aug. 14 SPA e(P)	11 44 34	SPA eP	05 01 42
Aug. 13 SPA eP	11 03 13	Aug. 13 BYR eP	20 30 36	Aug. 14 SPA eP	12 57 30	Aug. 15 BYR eP'	05 55 01
Aug. 13 SPA eP	11 24 48	SPA eP	20 31 27	Aug. 14 BYR eP	13 36 42	SPA eP'	05 55 17 55 33
Aug. 13 BYR iP iPP e	14 23 00 24 37 28 41	Aug. 13 BYR e(P) e	22 35 57 36 34	Aug. 14 SPA eP	13 36 18	Aug. 15 BYR iP' epP'	06 15 01 15 16
SPA iP ePP eS i	14 23 52 25 40 31 00 38 48	Aug. 13 SPA eP	22 37 28	Aug. 14 BYR iP	14 53 15	SPA eP'	06 15 00
Aug. 13 BYR iP	14 36 56	Aug. 13 SPA eP	23 17 15	SPA iP epP	14 53 09 53 55	Aug. 15 BYR iP	06 39 56
Aug. 13 BYR eP	14 53 13	Aug. 13 SPA eP	23 34 39	Aug. 14 BYR eP	15 01 19	SPA eP	06 40 47 40 57 48 22
SPA eP	14 54 22	Aug. 14 SPA eP	00 37 11	Aug. 14 BYR eP	15 15 09	Aug. 15 BYR eP	07 11 41
Aug. 13 SPA eP e	15 17 14 18 37	Aug. 14 BYR eP	02 13 30	SPA eP	15 15 35	SPA eP	07 10 43 11 29
Aug. 13 BYR eP	15 29 37	SPA eP	02 14 22	Aug. 14 BYR eP	20 36 14	Aug. 15 BYR e(P)	10 13 47
SPA eP	15 30 20	Aug. 14 SPA e(P)	03 09 08	SPA eP	20 35 17	SPA eP	10 13 28
Aug. 13 SPA eP	16 05 06	Aug. 14 SPA e(P) e	03 16 30 19 15	Aug. 14 SPA eP'	21 43 10	Aug. 15 SPA eP	13 52 59
Aug. 13 BYR eP	16 21 31	Aug. 14 BYR e(P) e	04 19 58 20 07 23 54	Aug. 14 BYR iP iPP	22 55 56 56 47	Aug. 15 BYR eP	14 46 23
SPA eP	16 22 23	SPA eP	04 20 08	SPA iP epP ePP	22 56 32 57 18 58 53	SPA eP	14 45 29 46 16
Aug. 13 SPA eP	16 37 05	Aug. 14 SPA eP	04 33 49	Aug. 14 BYR eP	23 25 01	Aug. 15 SPA eP	17 13 01
Aug. 13 BYR iP	17 17 53	BYR eP	04 33 02	SPA eP	23 25 05	Aug. 15 BYR eP	17 50 13
SPA eP	17 18 44	Aug. 14 SPA eP e	05 57 38 59 42	Aug. 14 SPA eP	23 49 09	SPA eP	17 51 16
Aug. 13 BYR iP	17 38 24	Aug. 14 SPA eP e	07 05 57 07 03	Aug. 15 SPA eP	02 46 52	Aug. 15 BYR eP e	17 56 45 57 42
SPA eP	17 39 16	Aug. 14 SPA eP e	08 41 42	Aug. 15 BYR eP	03 25 36	SPA eP	17 57 36 58 33
Aug. 13 BYR eP	18 03 42	SPA eP	08 42 19	SPA eP	03 26 23	Aug. 15 BYR iP	19 30 35
SPA eP e	18 04 34 10 36	Aug. 14 BYR eP	11 38 26 38 47	Aug. 15 SPA iP	04 07 08	SPA eP	19 30 16 30 31 33 05
		Aug. 14 SPA eP e		Aug. 15 SPA iP e	04 49 30 52 00	Aug. 15 BYR eP	21 28 54

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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
SPA eP	h m s 21 29 43	Aug. 16 SPA eP	h m s 09 10 51 11 43	Aug. 17 SPA eP	h m s 11 06 54 10 26	Aug. 18 SPA eP	h m s 20 07 45
Aug. 15 BYR eP	21 44 33	Aug. 16 SPA eP	10 43 43	Aug. 17 SPA eP	11 12 46 13 16	Aug. 18 BYR eP ¹ epP ¹	21 06 16 06 36
Aug. 15 BYR e(P)	22 19 47	Aug. 16 SPA eP	12 00 48 01 46	Aug. 17 BYR eP	11 35 41	SPA eP ¹ epP ¹	21 06 16 06 35
SPA eP	22 20 38	Aug. 16 SPA eP	15 00 48	SPA eP	11 35 22 37 02	Aug. 18 BYR eP	22 55 29
Aug. 15 BYR eP ¹	22 44 40	Aug. 16 SPA eP	22 18 35 19 39	Aug. 17 SPA eP	13 57 02	SPA eP e e	22 55 44 56 30 23 01 15
SPA eP ¹	22 44 57	Aug. 16 BYR eP	22 40 27	Aug. 17 SPA eP	14 04 52	Aug. 19 BYR eP	01 29 52
Aug. 15 SPA eP	00 54 17	SPA eP	22 40 11 40 42	Aug. 17 SPA eP ePP	18 21 25 24 26	Aug. 19 BYR eP	01 49 07
Aug. 16 BYR eP	00 57 09	Aug. 16 BYR eP	23 04 47	Aug. 18 SPA eP	01 01 40	SPA eP	01 49 07
SPA eP	00 58 01 58 47	Aug. 16 BYR eP	23 08 29 08 40	Aug. 18 BYR eP	01 43 15	Aug. 19 SPA eP e	02 40 45 41 14
Aug. 16 SPA eP	02 22 47	Aug. 16 SPA eP	23 16 41	SPA eP	01 42 48	Aug. 19 BYR e(P)	02 51 45
Aug. 16 BYR iP ipP isP	02 58 02 58 25 58 37	Aug. 16 SPA eP	23 49 48	Aug. 18 SPA eP	01 53 01	SPA eP e	02 52 20 57 18
SPA eP epP esP e e	02 58 14 58 36 58 40 59 04 03 04 46	Aug. 16 SPA eP	23 59 39	Aug. 18 SPA eP	03 01 29	Aug. 19 SPA eP	03 39 16
Aug. 16 SPA e(P) e	03 27 59 31 16	Aug. 17 SPA eP	01 43 39	Aug. 18 BYR eP	04 02 17	Aug. 19 BYR eP	03 45 14
Aug. 16 SPA eP	04 40 56 42 57	Aug. 17 SPA eP	02 23 28	SPA eP	04 02 44	Aug. 19 SPA eP	03 58 20
Aug. 16 SPA eP	04 57 49	Aug. 17 BYR eP	03 42 25	Aug. 18 SPA e(P)	04 12 16	Aug. 19 SPA e(P ¹)	04 26 19
Aug. 16 SPA eP	06 12 11	SPA eP e	03 42 53 46 30	Aug. 18 BYR eP	10 36 27	Aug. 19 BYR eP	04 37 34
Aug. 16 BYR eP	07 13 32	Aug. 17 SPA eP	04 35 23 40 15	SPA eP e	10 36 06 37 00	SPA eP e	04 37 53 41 42
Aug. 16 SPA eP	07 44 00	Aug. 17 SPA eP	05 25 08	Aug. 18 BYR eP	10 43 53	Aug. 19 SPA eP e	05 50 31 51 12
Aug. 16 SPA eP	08 05 44	Aug. 17 SPA iP	05 48 32	SPA eP	10 44 09	Aug. 19 BYR e(P)	05 58 06
Aug. 16 BYR eP epP	08 26 04 26 19	Aug. 17 SPA eP	09 38 33	SPA eP epP	11 16 39 16 52	SPA eP	05 57 48
SPA eP	08 26 00	Aug. 17 BYR eP e	09 45 15 46 54	Aug. 18 BYR e(P)	13 12 05	Aug. 19 BYR eP	09 03 14
Aug. 16 SPA eP	09 04 15	SPA eP	09 44 53 50 22	Aug. 18 SPA eP	17 13 32	SPA eP	09 04 05
				Aug. 18 BYR e(P)	19 45 50		

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Aug. 19 BYR eP	h m s 09 29 14	Aug. 20 SPA eP	h m s 04 03 18 06 33	SPA eP	h m s 21 29 23 29 34 30 32	SPA eP	h m s 04 39 33
SPA eP	09 28 59	Aug. 20 SPA eP	04 50 01 50 25	Aug. 20 BYR eP	22 25 28	Aug. 21 SPA eP	05 52 57
Aug. 19 SPA eP	10 59 29	Aug. 20 SPA eP'	06 58 57 59 56	Aug. 20 BYR eP	22 36 05 36 30 39 59	Aug. 21 BYR eP	07 00 40
Aug. 19 BYR eP	11 56 00	Aug. 20 BYR eP	08 19 55	SPA eP	22 35 42 36 00 39 35	SPA eP	07 00 23
SPA eP	11 56 45	SPA eP	08 20 46	Aug. 20 BYR eP	10 14 04	Aug. 21 SPA eP	07 35 40 36 22
Aug. 19 BYR eP	12 05 09	Aug. 20 BYR eP	10 14 29 14 44	SPA eP	22 35 42 36 00 39 35	Aug. 21 SPA eP	08 57 32 09 02 26
SPA iP	12 04 54 05 26 07 30	Aug. 20 SPA eP	11 57 16 51 41	Aug. 20 SPA e(P)	23 17 25 21 04	Aug. 21 BYR iP	11 09 21
Aug. 19 BYR eP	12 13 41	Aug. 20 SPA eP	12 51 05	Aug. 21 BYR eP	00 29 29	SPA eP	11 10 00 10 40
SPA eP	12 14 13	Aug. 20 SPA eP	13 51 33	Aug. 21 BYR iP	00 30 46.8 31 10.4 31 26 48 41	Aug. 21 SPA eP	11 49 06 49 33 53 10
Aug. 19 BYR eP'	12 59 46 13 10 07	Aug. 20 BYR eP	14 45 39	SPA eP	00 30 12 30 38 31 13 33 59 48 42	Aug. 21 BYR eP	13 03 00 07 02 19 23
SPA eP'	12 59 42 13 10 10	Aug. 20 SPA eP	16 02 24	Aug. 21 BYR eP	01 11 47 12 21	SPA eP	13 02 41 03 26 06 31 12 56 19 35
Aug. 19 SPA eP	14 03 26	Aug. 20 SPA eP	16 02 53	Aug. 21 BYR eP	01 11 43 12 27 12 50 14 57 20 34 21 47	Aug. 21 SPA eP	14 12 08
Aug. 19 BYR eP	17 00 17	Aug. 20 SPA eP	16 18 32	Aug. 21 SPA eP	03 12 59	Aug. 21 SPA eP	15 51 22
SPA eP	17 00 25	Aug. 20 BYR eP	18 00 35	Aug. 21 BYR eP'	03 48 06	Aug. 21 SPA eP	16 37 32 39 40
Aug. 19 BYR eP'	17 23 01 23 11 23 23 26 20	Aug. 20 BYR eP	18 01 27	Aug. 21 BYR eP	04 08 26	Aug. 21 BYR eP'	16 44 02 16 44 33
SPA eP'	17 23 08 23 26 23 53	Aug. 20 SPA eP	20 18 28 20 28 26 43 48 15	Aug. 21 BYR eP	04 09 55	Aug. 21 SPA eP	17 15 41
Aug. 19 SPA eP	20 10 53	Aug. 20 SPA eP	20 18 07 18 28 18 46 25 59 27 27	Aug. 21 BYR eP	04 38 51	Aug. 21 BYR eP	17 23 08
Aug. 19 BYR e(P)	22 46 22	Aug. 20 BYR eP	21 29 44			Aug. 21 SPA EP	17 32 07 32 32 17 32 35 32 57
Aug. 19 SPA eP	23 43 20						
Aug. 20 BYR eP	00 32 48 36 33						
SPA eP	00 33 28						
Aug. 20 SPA eP	01 23 48						
Aug. 20 SPA eP	02 04 52						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Aug. 21 BYR eP'	h m s 18 24 02	SPA eP	h m s 18 13 50	SPA eP	h m s 11 41 36	Aug. 24 BYR eP	h m s 02 10 07
Aug. 21 BYR eP	21 00 13	Aug. 22 SPA e(P)	18 34 10	Aug. 23 BYR e(P)	13 10 49	SPA eP e	02 10 58 11 06
SPA eP	21 01 05	Aug. 22 BYR eP	20 56 01	Aug. 23 SPA eP	13 12 17	Aug. 24 BYR eP	03 07 27
Aug. 21 BYR eP	21 56 32	epP ePcP	56 21 57 18	Aug. 23 BYR eP	13 18 13	SPA eP e	03 06 47 07 39
Aug. 21 BYR eP	22 22 18	SPA eP e	20 56 35 21 05 05	SPA iP	13 18 44	Aug. 24 BYR e(P)	04 07 41
SPA eP	22 23 10	Aug. 22 BYR eP	22 09 32	Aug. 23 BYR e(P)	13 44 11	SPA eP	04 07 38
Aug. 21 BYR eP'	22 39 42	SPA eP	22 08 40	Aug. 23 SPA eP	13 51 16	Aug. 24 BYR eP	04 26 56
SPA eP'	22 39 38	Aug. 22 SPA eP	23 05 07	Aug. 23 BYR eP	14 21 18	SPA eP	04 26 37
Aug. 22 SPA eP	00 34 32	Aug. 23 BYR eP	01 09 37	SPA eP e	14 21 20 21 36	Aug. 24 BYR eP	04 39 22
Aug. 22 BYR e(P)	01 37 20	SPA eP	01 10 10	Aug. 23 BYR eP	15 43 34	SPA eP	04 39 21
SPA eP	01 35 58	Aug. 23 BYR eP	01 32 03	SPA eP	15 44 04	Aug. 24 BYR eP	05 59 42
Aug. 22 SPA eP	02 16 11	SPA eP i e	01 32 41 32 46 33 01	Aug. 23 SPA eP e	19 20 41 22 14	SPA eP e(pP) e	06 00 17 00 32 01 13
Aug. 22 SPA eP	03 34 51	Aug. 23 SPA e(P)	01 42 52	Aug. 23 SPA eP e e	21 29 50 30 20 36 24	Aug. 24 SPA eP	06 59 24
Aug. 22 BYR iP e	04 48 55 49 20	Aug. 23 BYR eP epP	02 15 33 17 34	Aug. 23 BYR eP e	21 40 45 41 54	Aug. 24 SPA eP	08 45 28
SPA eP e	04 49 32 50 00	SPA eP	02 16 09	Aug. 23 BYR eP e	21 41 14 41 30	Aug. 24 SPA eP	11 11 54 15 54
Aug. 22 SPA eP	05 29 56	Aug. 23 BYR eP	03 07 14	SPA eP e	21 41 14 41 30	Aug. 24 SPA e(P)	12 06 58
Aug. 22 BYR eP	06 27 40	SPA eP e	03 08 28 11 31	Aug. 23 BYR eP	22 56 01	Aug. 24 BYR eP	13 10 50
SPA eP e	06 28 02 28 53	Aug. 23 SPA eP	05 26 53	SPA eP e ePP	22 56 33 56 54 59 27	SPA eP	13 12 01
Aug. 22 SPA eP e	09 18 50 23 49	Aug. 23 BYR eP	08 44 42	SPA eP e e	23 08 46 09 16 14 10	Aug. 24 SPA eP	18 27 56
Aug. 22 BYR eP	12 33 21	SPA eP	08 45 34	Aug. 24 BYR eP	00 20 46	Aug. 24 BYR iP'	19 46 36
Aug. 22 SPA eP	14 56 59	Aug. 23 SPA eP	09 16 53	SPA eP	00 21 32	ePKKP eSKKP	56 31 20 00 21
Aug. 22 BYR eP	17 55 05	Aug. 23 BYR iP e	09 30 23 31 06	Aug. 24 BYR eP eSKP	02 03 32 07 25	SPA eP'	19 46 20
SPA eP	17 55 42	SPA eP	09 31 01	SPA eP'	02 03 46	e	46 36
Aug. 22 BYR eP	18 14 15	Aug. 23 BYR eP	11 41 22	epP'	03 58	e	49 46
				e	04 48	e	50 49
						e	51 28
						ePKKP	57 00

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Aug. 24 SPA eP	h m s 20 04 47	Aug. 25 BYR eP	h m s 08 47 23	SPA eP ¹	h m s 18 01 21	SPA eP	h m s 11 43 37
		e	47 53	e	01 34		
Aug. 24 SPA eP ¹	20 40 35	SPA eP	08 48 13	eSKP	05 21	Aug. 26 BYR eP	11 59 55
		e	48 51	e	12 57		
Aug. 24 BYR eP	22 23 38.2	Aug. 25 BYR e(P)	08 57 23	Aug. 25 BYR eP	18 36 01	SPA eP	11 59 30
e	27 12			e	12 04 07		
SPA eP	22 25 13	Aug. 25 BYR eP	09 02 39	SPA eP	18 37 26	Aug. 26 BYR iP	14 59 40
e	27 47					e	15 00 12
e	28 46	SPA eP	09 03 41	Aug. 25 SPA eP	19 34 56	SPA eP	15 00 19
Aug. 25 BYR iP	01 07 01	e	04 16	Aug. 25 SPA eP	19 51 25	Aug. 26 BYR eP	15 07 37
		e	04 33				
SPA eP	01 07 53	Aug. 25 BYR eP	09 12 01	Aug. 25 BYR e(P)	20 33 06	SPA eP	15 06 52
e	08 19					e	06 58
Aug. 25 BYR eP	01 59 20	SPA eP	09 12 36	SPA eP	20 32 04	e	07 13
						e	08 50
SPA eP	01 59 52	Aug. 25 SPA eP	09 18 34	Aug. 25 SPA eP	22 33 49	Aug. 26 BYR eP	15 22 14
Aug. 25 BYR eP	03 49 16	Aug. 25 BYR e(P)	10 02 24	Aug. 25 BYR eP	23 10 25	SPA eP	15 23 41
e(P)	50 53	e	03 07			Aug. 26 BYR eP	16 12 13
Aug. 25 SPA eP	03 49 39	SPA eP	10 03 20	SPA eP	23 11 39	SPA eP	16 13 19
e	49 57	Aug. 25 BYR e(P)	10 14 17	e	12 07	Aug. 26 SPA eP	16 58 24
e	50 29	SPA e(P)	10 12 50	e(PcP)	13 00		
i	59 17	Aug. 25 SPA eP	11 16 01	eS	19 16	Aug. 26 BYR eP	17 35 53
Aug. 25 SPA iP	04 31 14	Aug. 25 BYR iP	12 13 53	Aug. 26 BYR eP	00 22 29	SPA eP	17 36 27
Aug. 25 BYR eP	06 07 32	SPA eP	12 14 30	SPA eP	00 23 18	e	36 37
Aug. 25 BYR e(P)	06 14 04	Aug. 25 BYR eP	13 06 33	e	23 44		
SPA eP	06 14 49	Aug. 25 BYR eP	13 33 24	e(PcP)	24 46	Aug. 26 BYR eP	18 38 51
Aug. 25 BYR eP	06 17 14	SPA eP	13 34 02	Aug. 26 SPA iP ¹	01 46 43	e	39 55
e	17 39	Aug. 25 BYR eP	15 04 26	Aug. 26 BYR eP	01 32 05	ePP	41 39
e	19 52	SPA eP	15 05 30	SPA eP	01 32 54	SPA eP	18 39 05
SPA eP	06 18 15	Aug. 25 BYR eP	17 32 08	e	34 18	e	39 13
e	18 40	SPA eP	17 32 49	Aug. 26 BYR eP ¹	09 31 40	e	40 10
e	20 46	Aug. 25 BYR iP	18 01 17	Aug. 26 SPA eP ¹	09 39 27	Aug. 26 BYR e(P)	19 00 40
Aug. 25 BYR eP	06 39 00	Aug. 25 BYR eP	18 01 52	Aug. 26 SPA iP	10 04 28	SPA eP	19 00 55
SPA eP	06 39 37	e	12 54	Aug. 26 BYR eP	11 30 10	Aug. 26 SPA eP	20 12 26
e	40 09			Aug. 26 BYR eP	11 42 50	Aug. 26 BYR eP	20 27 04
Aug. 25 BYR eP	06 57 33					ePP	28 49
SPA eP	06 58 30					SPA eP	20 27 35
Aug. 25 BYR iP	08 09 16					ePP	29 12
SPA eP	08 09 53					Aug. 26 BYR e(P)	20 55 39
e	12 38					i	55 47

SEISMOLOGICAL BULLETIN

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
SPA eP	h m s 20 55 54	Aug. 27 BYR eP	h m s 22 06 02	Aug. 30 SPA eP	h m s 00 20 15	Aug. 30 SPA eP	h m s 20 47 35
Aug. 26 SPA eP	23 02 15	SPA eP	22 07 17	Aug. 30 SPA eP	00 34 30	Aug. 30 SPA eP	22 45 47
Aug. 27 SPA eP	00 32 22	Aug. 28 BYR iP	00 33 59	Aug. 30 BYR iP	03 22 35	Aug. 30 SPA eP	23 03 59
Aug. 27 BYR e(P)	01 14 42	Aug. 28 BYR e(P)	06 17 52	SPA eP	03 22 20 24 53	Aug. 30 SPA eP	23 29 42
SPA eP	01 15 09	Aug. 28 BYR e(P)	19 14 03	Aug. 30 SPA eP	04 05 24 07 58	Aug. 31 SPA eP	03 36 22
Aug. 27 SPA eP	02 32 23	Aug. 29 BYR e(P)	05 05 41	Aug. 30 SPA eP	06 41 13 43 38	Aug. 31 BYR iP	05 44 02 46 39
Aug. 27 SPA eP	08 55 55	SPA eP	05 06 22 09 30 11 38	Aug. 30 SPA eP	06 55 16	SPA eP	05 43 04 43 14 46 03 49 49
Aug. 27 BYR eP	10 11 13	Aug. 29 BYR eP	06 28 10	Aug. 30 BYR eP	06 56 23 56 47	Aug. 31 SPA eP	06 07 54
SPA eP	10 10 48	Aug. 29 SPA eP	06 30 47	Aug. 30 SPA eP	07 24 25	Aug. 31 SPA eP	06 39 48
Aug. 27 BYR eP	10 32 16	Aug. 29 SPA eP	06 52 28 53 36	Aug. 30 SPA eP	08 26 34	Aug. 31 SPA eP	07 17 30 19 56
SPA eP	10 32 19	Aug. 29 SPA eP	07 44 03	Aug. 30 SPA eP	08 42 31	Aug. 31 BYR eP	07 26 13
Aug. 27 BYRe(P')	10 36 29	Aug. 29 BYR eP	11 59 42	Aug. 30 SPA eP	08 54 37	SPA eP	07 27 17
e	39 22	SPA eP	11 59 42	Aug. 30 SPA eP	09 08 00 09 01	Aug. 31 SPA eP	07 46 00
e(SKIP)	39 56	Aug. 29 BYR eP	13 45 16	Aug. 30 BYR eP	10 24 23	Aug. 31 SPA eP	10 03 14
e	42 35	SPA eP	13 45 31	SPA eP	10 24 08	Aug. 31 BYR iP	11 35 33
SPA eP'	10 36 14	Aug. 29 SPA eP	18 19 30	Aug. 30 SPA eP	10 48 56	SPA eP	11 36 23 36 32 38 14
eSKIP	38 48	Aug. 29 BYR eP	18 27 42	Aug. 30 SPA eP	12 10 15	Aug. 31 SPA eP	12 03 57
Aug. 27 BYR eP	11 47 48	SPA eP	18 28 33	Aug. 30 BYR e(P)	14 56 51	Aug. 31 SPA eP	13 22 16 23 26
Aug. 27 BYR eP	11 59 56	Aug. 29 SPA eP	20 49 06	Aug. 30 SPA eP	16 11 37 11 45 12 07	Aug. 31 SPA eP	13 53 07
Aug. 27 SPA eP	12 09 26	Aug. 29 SPA eP	23 01 39 02 28 05 52	Aug. 30 SPA eP	16 35 56 36 04	Aug. 31 SPA eP	15 23 02
Aug. 27 BYR iP	13 01 03	Aug. 29 SPA eP	23 35 22	Aug. 30 BYR e(P)	19 15 58 20 49	Aug. 31 BYR eP	15 40 46
SPA iP	13 01 34	Aug. 30 SPA eP	00 20 15	SPA eP	19 16 54 18 45		
e	01 51						
ePcP	02 11						
Aug. 27 BYR eP'	18 35 09						
i	35 17						
epP	36 02						
iSKIP	38 33						
e	46 26						
SPA eP'	18 35 12						
e	35 21						
eSKIP	38 38						
e	46 05						
e	47 23						
Aug. 27 SPA eP	19 37 38						
e	38 22						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
SPA eP	h m s 15 41 08	Sept. 1 BYR eP	h m s 07 58 49	SPA eP ¹	h m s 15 56 51	Sept. 2 BYR e(P)	h m s 15 14 19
Aug. 31 BYR e(P)	16 28 00	SPA eP	07 58 31	e	57 14	SPA eP	15 14 41
SPA eP	16 27 56	Sept. 1 BYR e(P)	08 14 06	e	59 13	Sept. 2 SPA eP	17 55 13
e	28 32	SPA eP	08 14 02	ePP	16 00 16	e	57 01
Aug. 31 BYR eP	17 14 19	Sept. 1 SPA eP	08 28 13	e	01 09	Sept. 2 BYR iP	18 41 34
Aug. 31 BYR eP ¹	17 40 38	Sept. 1 BYR eP	09 39 34	e	48 06	i	42 02
SPA eP	17 37 10	SPA eP	09 39 50	Sept. 1 BYR e(P)	17 03 35	e	42 16
e	39 07	Sept. 1 SPA eP	10 20 04	SPA eP	17 43 00	ePP	43 56
Aug. 31 SPA eP	18 05 55	Sept. 1 SPA eP	10 40 45	Sept. 1 BYR eP	18 52 22	SPA eP	18 42 16
Aug. 31 SPA eP ¹	22 30 59	Sept. 1 BYR eP	10 46 20	SPA eP	18 52 51	e	42 44
Aug. 31 SPA eP	22 59 15	Sept. 1 SPA eP	11 26 16	e	53 02	e	44 09
e	23 00 52	Sept. 1 BYR eP	11 26 32	Sept. 1 BYR eP	20 13 06	Sept. 2 BYR e(P ¹)	18 59 33
Aug. 31 BYR eP	23 09 44	e	26 45	SPA eP	20 13 34	SPA eP ¹	18 59 24
Sept. 1 SPA eP	00 01 12	ePP	29 16	e	13 44	Sept. 2 SPA eP	19 12 00
e	07 52	Sept. 1 BYR eP	11 53 23	Sept. 1 SPA eP	22 15 54	e	12 32
Sept. 1 SPA eP	03 01 23	Sept. 1 BYR eP	11 53 14	Sept. 1 SPA eP	23 10 15	e	18 51
e	01 52	Sept. 1 BYR eP	12 07 45	e	12 30	Sept. 2 SPA eP ¹	22 22 05
Sept. 1 SPA eP	04 02 39	Sept. 1 BYR eP	12 08 20	e	14 52	e(SKP)	25 44
Sept. 1 BYR eP	04 22 38	Sept. 1 SPA eP	12 19 23	e	19 22	eSKKP	34 22
SPA eP	04 23 08	Sept. 1 BYR eP	12 41 00	Sept. 2 BYR eP	03 59 24	SPA eP ¹	22 22 10
e	23 20	Sept. 1 BYR eP	14 33 14	SPA eP	03 59 38	e(SKP)	25 51
Sept. 1 BYR eP	05 03 40	Sept. 1 BYR eP	15 56 32	Sept. 2 BYR eP	07 45 59	e	30 09
Sept. 1 BYR eP	06 12 50	Sept. 1 BYR eP	16 00 10	e	46 06	e	32 52
Sept. 1 SPA eP	06 13 22	Sept. 1 BYR eP	02 47	Sept. 2 BYR iP	07 46 49	eSKKP	34 25
Sept. 1 BYR eP	07 07 34	Sept. 1 BYR eP		e	47 05	Sept. 2 SPA eP	23 11 56
i	07 45	Sept. 1 BYR eP		Sept. 2 BYR epP	11 03 50	e	12 53
SPA eP	07 08 14	Sept. 1 BYR eP		SPA iP	11 03 45	Sept. 2 BYR iP	23 33 55
Sept. 1 BYR eP	07 44 28	Sept. 1 BYR eP		epP	04 27	SPA eP	23 34 46
epP	46 05	Sept. 1 BYR eP		ePP	06 45	Sept. 3 SPA eP ¹	00 19 27
SPA eP	07 45 03	Sept. 1 BYR eP		e	11 06	Sept. 3 BYR eP ¹	00 38 34
epP	46 40	Sept. 1 BYR eP		Sept. 2 SPA eP	12 42 43	SPA eP ¹	00 38 33
		Sept. 1 BYR eP		Sept. 2 BYR eP ¹	14 05 12	Sept. 3 BYR eP	02 28 37
		Sept. 1 BYR eP		e	05 53	SPA eP	02 28 05
		Sept. 1 BYR eP		SPA eP ¹	14 04 52	Sept. 3 SPA eP	03 00 42
		Sept. 1 BYR eP		e	05 03		

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Sept. 3 SPA eP	h m s 04 14 44	Sept. 3 SPA iP	h m s 15 17 28	Sept. 4 BYR eP	h m s 07 11 01	Sept. 4 SPA eP	h m s 12 14 18 15 13
Sept. 3 BYR eP	05 52 26	Sept. 3 BYR eP	15 27 12	Sept. 4 SPA eP	07 11 30	Sept. 5 BYR eP	12 25 43
Sept. 3 SPA eP e	05 52 42 53 04	Sept. 3 SPA iP epP	15 27 41 29 49	Sept. 4 SPA eP	10 55 24	Sept. 5 SPA eP	12 27 04
Sept. 3 SPA eP	06 20 51	Sept. 3 BYR eP	15 56 09	Sept. 4 BYR e(P)	15 25 52	Sept. 5 SPA eP	13 20 34
Sept. 3 BYR e(P)	06 41 19	Sept. 3 SPA eP e	16 55 39 55 49	Sept. 4 BYR e(P)	15 35 13	Sept. 5 BYR eP	14 19 42
Sept. 3 SPA eP	06 41 24	Sept. 3 BYR eP	19 22 56	Sept. 4 BYR eP	20 20 58	Sept. 5 SPA eP	15 51 40
Sept. 3 BYR eP e	07 57 34 58 12	Sept. 3 BYR eP e	20 49 37 51 11	Sept. 4 BYR e(P)	21 15 18	Sept. 5 BYR eP	17 07 02
Sept. 3 SPA eP e	07 57 51 58 30	Sept. 3 SPA eP	20 48 57	Sept. 5 BYR eP	00 06 36	Sept. 5 SPA eP	17 06 48
Sept. 3 SPA eP	08 34 33	Sept. 3 SPA eP e	22 44 30 52 21	Sept. 5 BYR eP	03 48 55	Sept. 5 SPA eP	17 39 06
Sept. 3 BYR eP	08 49 32	Sept. 3 SPA eP	23 23 41	Sept. 5 SPA eP	03 48 49	Sept. 5 SPA eP	17 50 33
Sept. 3 SPA eP	08 50 24	Sept. 4 BYR eP ⁱ i e(SKP) e	00 05 40 06 06 09 07 17 24	Sept. 5 SPA eP	04 04 36	Sept. 5 BYR e(P)	18 17 21
Sept. 3 BYR iP epP esP e eSKS ePKKP eP ⁱ P ⁱ eSKPP ⁱ	12 53 17 54 52 54 36 57 56 13 03 07 11 34 19 30 22 18	Sept. 4 BYR e(P)	01 13 26	Sept. 5 SPA eP e	04 12 40 04 54 38 58 03	Sept. 5 SPA eP	18 17 02 18 48 54
Sept. 3 SPA eP e(pP) e e eSKS e ePKKP eP ⁱ P ⁱ eSKPP ⁱ	12 53 23 54 52 56 45 58 02 13 03 07 08 14 11 33 19 30 22 19	Sept. 4 BYR eP	02 49 47	Sept. 5 BYR eP	06 02 16	Sept. 5 BYR e(P)	21 24 19
Sept. 3 SPA eP e	13 38 29 41 58	Sept. 4 SPA eP e	02 50 04 50 33	Sept. 5 SPA eP	06 02 40	Sept. 6 BYR e(P)	00 28 30
Sept. 3 SPA eP	13 48 19	Sept. 4 BYR e(P)	04 56 34	Sept. 5 BYR eP	07 37 21 38 21	Sept. 6 BYR eP	02 07 17
Sept. 3 BYR eP e	14 03 39 04 08	Sept. 4 SPA eP e	05 08 13 09 43	Sept. 5 SPA eP e	07 37 53 38 53	Sept. 6 SPA eP e	02 07 47 02 51 46 52 38
Sept. 3 SPA eP	14 04 17	Sept. 4 BYR eP ⁱ	05 40 42	Sept. 5 SPA eP	08 02 02	Sept. 6 SPA eP	03 16 09
Sept. 3 BYR eP	15 16 53	Sept. 4 SPA eP ⁱ e e	05 40 57 41 03 41 37	Sept. 5 BYR eP ePP e	09 50 17 51 52 09 49 32 49 39	Sept. 6 SPA eP	04 03 24 04 12 38
				Sept. 5 SPA eP	11 54 10	Sept. 6 SPA eP	06 16 33
				Sept. 5 BYR eP e	12 13 27 13 52	Sept. 6 BYR eP	09 23 22
						Sept. 6 SPA eP e	09 22 10 25 55

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Sept. 6 SPA eP	h m s 09 52 41	Sept. 6 SPA eP	h m s 21 08 19	Sept. 7 SPA eP	h m s 19 38 50	Sept. 7 SPA eP	h m s 14 51 26
Sept. 6 BYR eP	10 07 26	Sept. 6 BYR e(P)	21 38 09	Sept. 7 SPA eP	19 52 12	Sept. 7 eSKP	53 14
Sept. 6 ePcP	08 59	Sept. 6 SPA eP	21 38 37	Sept. 7 SPA eP	20 29 22	Sept. 8 SPA eP	17 15 31
Sept. 6 SPA eP	10 08 01	Sept. 6 BYR eP'	21 44 16	Sept. 7 SPA eP	20 44 09	Sept. 8 BYR iP	17 27 32
Sept. 6 e	08 17	Sept. 6 BYR eP	23 09 52	Sept. 8 SPA eP	00 24 29	Sept. 8 SPA eP	17 27 12
Sept. 6 BYR eP	11 24 14	Sept. 6 SPA eP	23 09 56	Sept. 8 SPA eP	01 28 12	Sept. 8 BYR eP	22 59 42
Sept. 6 e	24 35	Sept. 7 BYR eP	01 27 21	Sept. 8 SPA eP	02 42 19	Sept. 8 BYR eP'	23 31 51
Sept. 6 SPA eP	11 24 39	Sept. 7 ePP	29 14	Sept. 8 BYR eP	05 25 54	Sept. 8 SPA eP'	23 31 52
Sept. 6 e	24 55	Sept. 7 SPA eP	01 26 58	Sept. 8 SPA eP	05 26 44	Sept. 9 SPA eP	01 40 07
Sept. 6 BYR eP	12 06 51	Sept. 7 ePcP	27 51	Sept. 8 BYR eP	05 53 32	Sept. 9 SPA eP	03 49 53
Sept. 6 BYR eP	12 47 56	Sept. 7 e	28 07	Sept. 8 SPA eP	05 53 37	Sept. 9 e	50 40
Sept. 6 SPA eP	12 47 50	Sept. 7 e	30 38	Sept. 8 BYR eP	06 11 26	Sept. 9 BYR eP	03 54 06
Sept. 6 e	48 14	Sept. 7 e	31 35	Sept. 8 SPA eP	06 11 04	Sept. 9 SPA eP	03 52 57
Sept. 6 BYR eP	13 02 53	Sept. 7 SPA eP	01 50 51	Sept. 8 BYR eP	07 10 07	Sept. 9 e	56 19
Sept. 6 BYR iP	14 13 46	Sept. 7 SPA eP	02 04 23	Sept. 8 SPA eP	06 38 01	Sept. 9 SPA eP	04 05 09
Sept. 6 ePKKP	32 08	Sept. 7 BYR eP	02 38 33	Sept. 8 BYR eP	07 10 45	Sept. 9 SPA eP	04 57 39
Sept. 6 eP'P'	42 07	Sept. 7 SPA eP	02 38 11	Sept. 8 SPA eP	11 07 14	Sept. 9 BYR eP	08 28 23
Sept. 6 SPA eP	14 14 06	Sept. 7 BYR eP	04 03 19	Sept. 8 BYR eP	11 21 26	Sept. 9 SPA eP	08 28 14
Sept. 6 e	15 01	Sept. 7 e	03 45	Sept. 8 eP'	25 32	Sept. 9 e	28 44
Sept. 6 e	17 32	Sept. 7 SPA eP	04 02 58	Sept. 8 ePKKP	37 45	Sept. 9 BYR eP'	10 24 20
Sept. 6 eS	23 08	Sept. 7 e	03 50	Sept. 8 eP'P'	44 32	Sept. 9 eSKP	27 34
Sept. 6 ePKKP	32 28	Sept. 7 BYR e(P)	08 27 21	Sept. 8 SPA eP	11 21 07	Sept. 9 e	31 23
Sept. 6 eL	34 22	Sept. 7 SPA eP	08 27 42	Sept. 8 eP'	25 07	Sept. 9 SPA eP'	10 24 02
Sept. 6 eP'P'	42 07	Sept. 7 e(PP)	30 35	Sept. 8 e	27 28	Sept. 9 e	31 55
Sept. 6 BYR eP'	15 43 56	Sept. 7 BYR eP'	12 04 10	Sept. 8 e	34 31	Sept. 9 BYR eP	11 10 06
Sept. 6 eSKP	47 18	Sept. 7 SPA eP'	12 04 12	Sept. 8 ePKKP	37 54	Sept. 9 BYR eP	14 18 01
Sept. 6 SPA eP'	15 43 47	Sept. 7 SPA eP	14 29 37	Sept. 8 eP'P'	45 52	Sept. 9 SPA eP	14 18 50
Sept. 6 eSKP	47 07	Sept. 7 BYR eP	16 54 21	Sept. 8 BYR eP	12 43 16	Sept. 9 SPA eP'	16 40 05
Sept. 6 BYR eP	16 42 12	Sept. 7 SPA eP	18 03 20	Sept. 8 SPA eP	12 43 43		
Sept. 6 SPA eP	16 41 53	Sept. 7 BYR eP	18 55 48	Sept. 8 BYR eP'	14 51 18		
Sept. 6 BYR eP	17 13 40			Sept. 8 i	51 29		
Sept. 6 SPA eP	17 14 31			Sept. 8 e	51 54		
Sept. 6 SPA eP	19 00 59			Sept. 8 eSKP	54 56		
Sept. 6 BYR eP	20 45 15						
Sept. 6 SPA eP	20 45 59						
Sept. 6 BYR eP	21 07 50						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Sept. 9 SPA eP e	h m s 17 39 06 39 51	Sept. 9 SPA eP e	h m s 14 12 02	Sept. 9 SPA eP e	h m s 14 36 59	Sept. 12 BYR e(P)	h m s 13 10 40
Sept. 9 BYR iP ePcP	17 54 53 56 54	Sept. 10 BYR eP e	14 16 18 16 30	Sept. 11 BYR eP	18 05 36	Sept. 12 BYR eP	13 47 23
Sept. 9 SPA iP ePcP	17 55 47 57 18	Sept. 10 SPA eP	14 16 34	Sept. 11 SPA eP	18 06 14	Sept. 12 SPA eP	13 48 04
Sept. 9 SPA eP'	20 24 31 25 22	Sept. 10 BYR e(P)	14 21 58	Sept. 11 SPA eP	18 21 40	Sept. 12 BYR eP	14 08 38
Sept. 9 BYR e(P)	22 24 51	Sept. 10 SPA eP	14 31 34	Sept. 11 BYR eP	22 02 30	Sept. 12 SPA eP	14 09 20
Sept. 9 SPA eP e	22 25 03 25 54	Sept. 10 SPA eP	15 28 18	Sept. 11 SPA eP e e e	22 02 09 03 02 04 04 05 11	Sept. 12 BYR iP epP	16 14 00 16 16
Sept. 10 SPA eP'	00 38 10	Sept. 10 BYR eP	17 30 59	Sept. 11 BYR eP	22 18 47	Sept. 12 SPA eP epP eS	16 13 32 15 37 22 57
Sept. 10 SPA eP	01 05 02	Sept. 10 SPA eP	17 31 48	Sept. 11 SPA eP e	22 18 47 19 20	Sept. 12 SPA eP e	19 50 06 52 35
Sept. 10 SPA eP	02 00 07	Sept. 10 SPA eP	23 13 02	Sept. 11 BYR eP	22 40 19	Sept. 12 BYR e(P)	21 58 21
Sept. 10 SPA eP	04 45 53	Sept. 11 BYR eP	01 19 37	Sept. 11 SPA eP	22 40 50	Sept. 12 BYR e(P)	22 02 09
Sept. 10 BYR eP	05 29 50	Sept. 11 SPA eP	01 18 49	Sept. 11 BYR eP	23 27 41	Sept. 12 SPA eP	22 19 18
Sept. 10 SPA eP	05 30 26	Sept. 11 SPA eP	01 48 10	Sept. 12 BYR eP'	03 03 45	Sept. 12 BYR eP	22 47 11
Sept. 10 SPA eP	07 21 28	Sept. 11 SPA eP	04 48 46	Sept. 12 SPA eP'	03 04 02 04 10	Sept. 12 SPA eP e	22 46 53 47 22
Sept. 10 SPA eP'	10 14 23 15 46	Sept. 11 BYR eP	04 58 55	Sept. 12 BYR eP	04 07 23	Sept. 12 SPA eP	23 08 32
Sept. 10 BYR eP epP ePKKP	10 57 35 59 44 11 13 56	Sept. 11 BYR iP	08 04 11	Sept. 12 SPA eP e	04 03 05 08 33	Sept. 12 BYR e(P)	23 21 09
Sept. 10 SPA eP epP esP ePP e eSKS e(S) e e ePKKP eP'P' e	10 57 09 59 17 11 00 27 00 56 01 59 06 49 07 48 08 48 12 37 14 33 22 14 43 30	Sept. 11 SPA eP ePcP	08 05 02 06 15	Sept. 12 SPA eP	06 20 15	Sept. 12 SPA eP	23 22 32
Sept. 10 SPA eP	12 23 35	Sept. 11 BYR eP	09 54 43	Sept. 12 BYR eP	07 54 20	Sept. 13 BYR eP e e	00 51 18 51 26 51 48
Sept. 10 SPA eP e	12 52 55 54 18	Sept. 11 SPA eP e	09 53 30 54 15	Sept. 12 SPA eP	07 55 11	Sept. 13 SPA eP e e(P)	00 52 06 52 15 53 47
Sept. 10 BYR iP i	14 11 11 11 20	Sept. 11 BYR e(P)	11 00 52	Sept. 12 SPA eP	08 35 57	Sept. 13 BYR eP	01 02 46
		Sept. 11 SPA eP	11 01 26 01 37	Sept. 12 BYR iP'	12 35 59	Sept. 13 SPA eP	01 29 23
		Sept. 11 SPA eP	13 06 00	Sept. 12 BYR iP'	36 12	Sept. 13 BYR eP	03 26 56
		Sept. 11 SPA eP	14 09 24	Sept. 12 BYR iP'	37 27	Sept. 13 ePKKP	37 17
		Sept. 11 BYR eP	14 36 50	Sept. 12 ePKKP e	46 05 48 33		
				Sept. 12 SPA eP'	12 35 52		
				Sept. 12 ePPP e	37 03 41 42		
				Sept. 12 ePKKP e	46 20 49 38		

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
	h m s		h m s		h m s		h m s
SPA eP	03 27 07	Sept. 14		Sept. 15		Sept. 17	
e(SKS)	33 47	iP	05 05 29	BYR eP	13 02 13	BYR eP	07 24 02
ePKKP	37 33	e(PP)	07 29				
eP'P'	45 52	SPA ip	05 06 43	SPA eP	13 03 04	SPA eP	07 24 19
		e	07 15				
Sept. 13		Sept. 14		Sept. 15		Sept. 17	
SPA eP	05 57 15	SPA eP	05 38 46	SPA eP	15 16 35	BYR eP'	08 12 02
						i	12 15
Sept. 13		Sept. 14		Sept. 15		e	16 07
SPA eP	09 59 19	BYR iP'	15 44 39	SPA eP	16 29 40		
		SPA eP'	15 45 18	Sept. 15		Sept. 17	
Sept. 13				BYR eP'	18 15 41	BYR eP'	08 24 40
SPA eP	11 47 00	Sept. 14				e	24 53
		BYR eP	16 11 29	SPA eP'	18 15 38	e	29 46
Sept. 13		e	11 38				
BYR e(P)	11 58 38	SPA eP	16 11 33			Sept. 17	
		Sept. 14		Sept. 15		BYR eP	11 44 34
SPA eP	11 59 07	SPA eP	16 34 48	SPA eP	20 07 12		
						Sept. 17	
Sept. 13		Sept. 14		Sept. 15		BYR iP	13 11 12
SPA eP	16 44 10	BYR eP	17 09 47	SPA eP	21 59 09	e	11 25
		SPA eP	17 09 51				
Sept. 13		Sept. 14		Sept. 15		SPA eP	13 11 13
BYR eP	17 01 51	BYR eP	23 29 09	SPA eP	22 59 33	epP	11 42
SPA eP	17 00 44	SPA eP	23 29 45				
		Sept. 15		Sept. 16		Sept. 17	
Sept. 13		BYR eP	01 36 45	SPA eP	00 15 44	BYR e(P)	15 24 47
BYR eP	18 04 23	Sept. 15		Sept. 16			
		BYR eP	02 42 14	SPA eP	03 20 40	Sept. 17	
Sept. 13		SPA eP	02 43 07			BYR eP	16 07 04
SPA eP	19 57 55			Sept. 16		SPA eP	16 07 02
		Sept. 15		BYR eP	06 21 00		
Sept. 13		BYR eP	03 42 32			Sept. 17	
BYR eP	20 12 34	SPA eP	03 42 48	Sept. 16		BYR e(P)	19 19 38
SPA eP	20 12 20	e	43 17	SPA eP	10 38 49	SPA eP	19 20 28
		Sept. 15					
Sept. 13		BYR eP	05 22 27	Sept. 16		Sept. 17	
SPA eP	21 01 39	SPA eP'	05 22 14	BYR e(P)	11 11 15	BYR eP	20 06 42
						SPA eP	20 07 18
Sept. 13		Sept. 15		Sept. 16		e	07 43
BYR eP	22 06 27	BYR eP	10 49 54				
e	06 34	Sept. 15		Sept. 17		Sept. 17	
		SPA eP	11 52 30	SPA eP	19 20 16	BYR e(P)	20 35 22
SPA eP	22 07 08					SPA eP	20 35 18
		Sept. 14		Sept. 16			
Sept. 14		BYR eP	02 00 52	BYR e(P)	19 40 53	Sept. 17	
BYR eP	00 18 58					BYR eP	21 55 14
SPA eP	00 19 39	Sept. 15		Sept. 16			
		BYR eP	12 07 39	BYR e(P)	21 41 33	Sept. 17	
Sept. 14		SPA eP	12 07 39			BYR e(P)	23 10 37
BYRe(P')	00 53 04			SPA eP	21 42 09		
				epP	42 34	Sept. 17	
SPA e(P)	00 48 40					SPA eP	23 11 25
eP'	53 01			Sept. 17			
		Sept. 15		SPA eP	00 16 13	Sept. 17	
Sept. 14		SPA eP	10 49 54			BYR eP	23 26 22
SPA eP	02 00 52			Sept. 17			
		Sept. 15		BYR eP	03 16 22	SPA eP	23 27 12
Sept. 14		BYR eP	12 07 39				
BYR iP	04 07 50			Sept. 17		Sept. 18	
		SPA eP	12 07 39	SPA eP	03 16 39	SPA eP	02 28 34
SPA eP	04 07 46						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Sept. 18 BYR eP	h m s 04 13 37	Sept. 19 SPA eP	h m s 17 24 41	Sept. 20 BYR eP	h m s 05 35 20	Sept. 20 SPA eP'	h m s 16 26 36
SPA eP	04 14 29	Sept. 19 BYR e(P)	19 04 52	Sept. 20 SPA eP	05 56 41	Sept. 21 BYR eP	16 36 52
Sept. 18 BYR eP	08 28 45	Sept. 19 BYR eP	19 11 25	Sept. 20 SPA eP	06 13 10	Sept. 21 SPA eP	16 37 10
SPA eP	08 28 35	Sept. 19 BYR eP	19 14 20	Sept. 20 BYR eP	06 19 48	Sept. 21 BYR eP	23 24 16
Sept. 18 BYR eP	09 53 07	Sept. 19 BYR e	14 59	Sept. 20 BYR e(P')	10 03 27	Sept. 21 SPA eP	23 23 55
e	53 45	SPA eP	19 14 12	Sept. 20 BYR eP	11 55 06	Sept. 21 BYR eP	23 28 40
eS	10 03 33	e	14 55	SPA eP	11 56 00	Sept. 22 BYR eP'	02 27 39
SPA iP	09 52 48	e	16 59	Sept. 20 SPA eP	14 03 01	Sept. 22 SPA eP'	02 27 39
e	53 30	e	26 06	Sept. 20 BYR eP	16 48 04	e	27 50
e	55 38	ePKKP	31 38	Sept. 20 BYR eP	18 24 29	Sept. 22 BYR eP	05 51 38
e(S)	10 02 50	Sept. 19 BYR iP	20 29 10	SPA eP	18 24 51	e(PP)	55 33
Sept. 18 SPA eP	15 52 30	Sept. 19 BYR e(P)	22 07 02	Sept. 20 SPA eP	20 29 03	Sept. 22 SPA eP	08 58 48
Sept. 18 SPA eP	17 31 26	Sept. 20 BYR eP	00 51 11	Sept. 21 BYR eP	03 00 57	Sept. 22 BYR eP	09 28 19
Sept. 18 BYR eP'	19 45 37	Sept. 20 BYR e	51 21	Sept. 21 BYR eP	03 58 34	e(PP)	32 16
SPA eP'	19 45 47	SPA eP	00 51 45	Sept. 21 BYR eP	07 34 51	Sept. 22 SPA eP	09 27 32
Sept. 19 SPA eP	01 04 15	e	51 56	Sept. 21 BYR eP	07 35 23	ePP	30 53
Sept. 19 BYR iP	02 12 17	Sept. 20 SPA eP	02 49 55	Sept. 21 BYR eP	07 36 25	Sept. 22 BYR eP	09 19 02
SPA iP	02 12 53	Sept. 20 BYR iP	03 13 35	Sept. 21 BYR eP	08 03 02	e	21 27
Sept. 19 BYR eP	02 39 22	SPA iP	03 14 05	Sept. 21 BYR eP	08 03 36	Sept. 22 SPA eP	09 18 18
SPA eP	02 40 13	epP	14 50	Sept. 21 BYR eP	09 43 10	e	20 45
Sept. 13 BYR eP'	03 58 10	esP	15 09	Sept. 21 BYR eP	10 57 49	Sept. 22 SPA eP	11 13 01
e	04 01 13	eScP	18 43	Sept. 21 BYR eP	12 54 01	e	17 11
SPA eP'	03 57 58	eScS	23 28	Sept. 21 BYR eP	12 54 39	Sept. 22 BYR iP	12 10 24
e	04 05 02	Sept. 20 BYR eP	03 33 00	Sept. 21 BYR eP'	16 26 44	Sept. 22 SPA eP	12 11 45
Sept. 19 BYR eP	08 12 08	Sept. 20 BYR eP	03 45 17	Sept. 22 BYR eP	13 10 39		
Sept. 19 BYR eP	12 49 56	SPA eP	03 45 51				
SPA eP	12 50 23	e	46 10				
Sept. 19 BYR eP	15 44 55	Sept. 20 BYR eP	04 19 53				
SPA eP	15 45 11	SPA eP	04 19 40				
Sept. 19 BYR eP	16 57 29	e	20 51				
SPA eP	16 57 44	Sept. 20 BYR eP'	04 25 42				
		Sept. 20 SPA eP'	04 25 11				

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Sept. 22 BYR eP	h m s 15 11 29	Sept. 23 BYR iP	h m s 16 05 22	Sept. 24 BYR iP	h m s 14 10 28 11 03	Sept. 25 SPA eP	h m s 19 54 03
SPA eP	15 11 45	SPA iP	16 05 51	SPA eP	14 11 06 11 35	Sept. 25 SPA iP	23 03 47 11 04
Sept. 22 BYR eP	15 24 40	Sept. 23 SPA eP	16 49 46 51 07	Sept. 24 BYR eP	14 27 58	Sept. 26 BYR iP	00 41 51 42 21 42 33
SPA e(P) i	15 25 29 26 47	Sept. 23 SPA eP	17 02 29	SPA eP	14 28 27	SPA iP	00 42 31 43 02 43 15
Sept. 22 BYR eP'	15 52 11	Sept. 23 SPA eP	17 25 31	Sept. 24 BYR e(P)	16 43 04	Sept. 26 SPA eP	03 42 06
Sept. 22 BYR eP	22 14 31	Sept. 23 BYR e(P)	17 51 39	Sept. 24 BYR e(P)	16 55 35	Sept. 26 SPA eP	06 26 52
SPA eP	22 14 18	Sept. 23 SPA eP	18 54 56	Sept. 24 BYR e(P)	23 11 52	Sept. 26 SPA eP	09 09 14
Sept. 22 BYR eP	22 32 00	Sept. 23 BYR eP	21 32 31	Sept. 25 BYR eP	02 48 42	Sept. 26 SPA eP'	09 48 38
SPA eP	22 32 22	SPA eP	21 32 28	SPA eP	02 49 10	Sept. 26 SPA eP	11 55 23 55 44
Sept. 22 BYR eP'	23 06 16	Sept. 23 BYR eP	23 12 48	Sept. 25 BYR eP'	03 16 26	Sept. 26 BYR eP'	15 32 39
SPA eP'	23 06 24	SPA eP	23 13 23 19 55	SPA eP'	03 16 10	SPA eP'	15 32 48 32 59
Sept. 23 BYR eP	01 30 03	Sept. 23 BYR iP	23 26 06 26 33 26 45	Sept. 25 SPA eP	03 42 24	Sept. 26 BYR eP'	17 09 03 09 45
Sept. 23 BYR iP	01 47 45	Sept. 23 BYR iP	23 26 06 26 33 26 45	Sept. 25 BYR eP	03 52 32	SPA eP'	17 09 42 10 49
SPA eP	01 48 35	SPA eP	23 26 48 27 23	Sept. 25 BYR eP	09 16 04	Sept. 26 SPA eP	17 14 42
Sept. 23 BYR eP	02 57 39	Sept. 24 BYR eP	04 02 04	Sept. 25 BYR eP	09 44 52	Sept. 26 BYR eP	17 37 20
SPA eP	02 57 39	Sept. 24 BYR eP	08 56 31	Sept. 25 SPA eP	14 17 58	Sept. 26 SPA eP	17 43 27
Sept. 23 BYR iP	03 09 35	Sept. 24 BYR eP	09 27 04	Sept. 25 BYR eP	15 50 12	Sept. 26 SPA eP	19 51 29
SPA eP	03 10 26 14 27	Sept. 24 BYR eP	09 27 15	SPA eP	15 50 44 51 34	Sept. 26 BYR eP	21 21 18
Sept. 23 BYR eP	06 22 20	Sept. 24 BYR eP	09 42 07	Sept. 25 BYR e(P)	17 17 11	Sept. 26 SPA eP	21 21 54 22 24
SPA eP	06 22 54	SPA eP	09 41 48	SPA eP	17 17 13	Sept. 26 SPA eP	22 55 04
Sept. 23 SPA eP	11 12 31	Sept. 24 BYR iP	11 14 45	Sept. 25 BYR eP'	17 48 36		
Sept. 23 BYR eP	11 15 38	SPA eP	11 15 21	SPA eP'	17 48 34		
Sept. 23 BYR eP	13 06 18	Sept. 24 SPA eP	13 16 35	Sept. 25 SPA eP	17 58 44		
SPA eP	13 07 13	Sept. 24 BYR iP	14 03 12	Sept. 25 BYR iP'	18 51 56 52 26		
Sept. 23 SPA eP	14 30 21	SPA eP	14 03 27 03 55	SPA eP'	18 52 36		
Sept. 23 SPA eP	15 54 29						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Sept. 26 SPA eP	h m s 23 51 27	Sept. 26 SPA eP	h m s 02 25 54 27 24	Sept. 26 SPA eP	h m s 23 07 24 08 18	Sept. 26 SPA eP	h m s 14 40 19 41 56
Sept. 27 SPA eP	00 09 32	Sept. 27 BYR eP	04 12 32	Sept. 27 BYR eP	03 18 11	Sept. 27 SPA eP	16 36 01 37 53
Sept. 27 BYR iP	02 21 16	Sept. 27 BYR eP'	05 48 44 52 08	Sept. 27 SPA eP	03 19 18	Sept. 27 SPA eP	20 58 22
Sept. 27 SPA eP	02 22 08	Sept. 27 SPA eP'	05 48 29	Sept. 27 BYR iP	06 38 40	Sept. 27 SPA eP	21 34 56
Sept. 27 BYR eP	03 47 07 49 24	Sept. 27 BYR e(P)	07 39 42	Sept. 27 SPA iP	06 39 18 39 50	Sept. 27 SPA eP	21 50 19
Sept. 27 SPA eP	03 47 16 49 30	Sept. 27 BYR eP	08 12 45	Sept. 27 SPA eP	06 59 52	Sept. 27 BYR eP	21 51 03
Sept. 27 BYR eP	05 43 55	Sept. 27 SPA eP	08 13 34	Sept. 27 BYR e(P)	07 07 01	Sept. 27 SPA eP	22 21 14.8 21 42
Sept. 27 BYR eP	06 10 42 14 06	Sept. 27 BYR iP	09 09 52	Sept. 27 SPA eP	07 06 49	Sept. 27 BYR iP	22 21 06 21 11
Sept. 27 BYR ePP	14 06	Sept. 27 SPA iP	09 09 34 12 26	Sept. 27 SPA eP	08 17 56	Sept. 27 SPA eP	22 52 02
Sept. 27 SPA eP	06 10 46 11 48	Sept. 27 SPA eP	16 33 11	Sept. 27 BYR e(P)	09 37 16	Sept. 27 SPA eP	23 11 24
Sept. 27 SPA e	11 48	Sept. 27 SPA eP	17 19 09	Sept. 27 SPA eP	09 37 44 39 17	Sept. 27 BYR eP	23 12 18
Sept. 27 SPA ePP	14 20	Sept. 27 SPA eP	17 45 21 47 22	Sept. 27 BYR eP	10 37 23 37 54	Sept. 27 SPA eP	01 37 16
Sept. 27 SPA eSKKP	22 44	Sept. 27 SPA eP	19 23 18	Sept. 27 BYR eP	11 32 41 36 37	Sept. 27 BYR eP	01 48 15
Sept. 27 SPA e	23 28	Sept. 27 SPA eP	19 23 00	Sept. 27 BYR eP'	39 34 42 34	Sept. 27 SPA e(P)	01 48 49
Sept. 27 BYR iP	07 30 58 31 08	Sept. 27 BYR iP	20 04 06	Sept. 27 eSKS	47 45	Sept. 27 BYR eP	03 29 49
Sept. 27 SPA eP	07 30 43	Sept. 27 SPA eP	20 24 37 24 48	Sept. 27 ePKKP	47 41 51 52 55 33	Sept. 27 SPA eP	05 53 33
Sept. 27 SPA eP	08 30 38	Sept. 27 SPA eP	20 59 49	Sept. 27 e		Sept. 27 SPA eP'	06 54 41
Sept. 27 SPA eP	11 19 35	Sept. 27 SPA eP	21 00 30 00 39	Sept. 27 BYR eP	12 14 55	Sept. 27 BYR eP	07 44 56
Sept. 27 SPA eP	11 24 47	Sept. 27 SPA eP	21 42 35	Sept. 27 BYR eP	12 29 58	Sept. 27 SPA eP	07 45 47 46 16
Sept. 27 BYR eP'	16 25 03	Sept. 27 SPA eP	21 43 26	Sept. 27 BYR eP	12 38 16	Sept. 27 BYR eP	08 33 42
Sept. 27 BYR iP	18 09 31	Sept. 27 BYR eP	22 32 41	Sept. 27 SPA eP	12 49 13	Sept. 27 SPA eP	09 33 57
Sept. 27 SPA eP	18 10 11	Sept. 27 SPA eP	22 33 37	Sept. 27 BYR e(P)	12 48 57	Sept. 27 BYR eP	12 29 26
Sept. 27 BYR eP'	18 54 08	Sept. 27 BYR eP	22 51 53	Sept. 27 SPA eP	13 24 59	Sept. 27 SPA eP	12 30 33
Sept. 27 SPA eP'	18 54 00 54 33						
Sept. 27 SPA epP'	54 33						
Sept. 28 BYR iP	00 16 13 16 27						
Sept. 28 SPA eP	00 16 54						
Sept. 28 BYR iP	02 25 02						

SEISMOLOGICAL BULLETIN



SOUTH POLE - BYRD SUPPLEMENT

OCTOBER - DECEMBER, 1960

MSI - 238A

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U. S. DEPARTMENT OF COMMERCE

John T. Connor, Secretary

ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION

Robert M. White, Administrator

COAST AND GEODETIC SURVEY—WASHINGTON

James C. Tison Jr., Director

FOR OFFICIAL DISTRIBUTION

SEISMOLOGICAL BULLETIN
SOUTH POLE-BYRD SUPPLEMENT

October-December 1960



The instrumental results tabulated in this supplement are from the following seismographic stations.

Station	Latitude	Longitude	Foundation	Elevation	Instruments	Components	To (Sec.)	Tg (Sec.)	Time Scale
South Pole (SPA) In Charge: W. S. Jacobs	90°S.	0°	1995 meters of ice	2800 meters	Benioff Paper Wilson-Lamison (120°E. 60°W.) Horizontal Film.	Z	1.6	0.5	60mm/min.
							5.6	0.48	15mm/min.
Byrd (BYR) In Charge: L.E. Davis	80°01'S.	119°31'W.	2570 meters of ice	1515 meters	Benioff Wilson-Lamison with G. E. Galvo. Wilson-Lamison with G. E. Galvo.	Z	1.2	0.5	60mm/min.
						N	6.2	3.5	30mm/min.
						E	7.2	3.5	30mm/min.

These stations were first established by the Coast and Geodetic Survey for the IGY to provide additional control for locating teleseismic epicenters in regions inadequately covered by previously existing stations and to provide data for studies in regional seismicity, crustal structure and other pertinent earth science problems.

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Oct. 1 BYR e(P)	h m s 02 44 41	Oct. 1 BYR e(P)	h m s 22 00 39	Oct. 2 BYR eP' ePKKP	h m s 18 26 48 37 16	SPA eP	h m s 19 29 38
Oct. 2 BYR eP	02 58 28	Oct. 1 SPA eP	22 25 57	Oct. 2 SPA eP' e ePKKP	18 26 06 27 25 37 57	Oct. 3 BYR eP i	20 03 29 03 40
SPA eP	02 57 47	Oct. 1 BYR eP e	24 08 17 08 44	Oct. 2 BYR e(P)	19 43 37	SPA eP e e eP'P'	20 03 18 03 29 04 04 29 21
Oct. 1 BYR iP' e ePKKP	03 19 39 20 11 29 41	Oct. 2 BYR eP	00 53 38	Oct. 2 BYR eP	19 48 30	Oct. 3 BYR eP	22 13 29
SPA iP ESKS	03 19 21 25 51	Oct. 2 SPA eP	02 12 31	Oct. 2 BYR eP	20 22 06	SPA eP	22 13 39
Oct. 1 BYR e(P')	05 50 04	Oct. 2 BYR eP	02 20 10	Oct. 2 SPA eP	20 22 39	Oct. 3 BYR eP	22 21 02
SPA eP' e	05 49 35 49 53	Oct. 2 SPA eP	02 21 25	Oct. 2 BYR eP	22 31 15	SPA eP	22 21 25
Oct. 1 SPA eP	06 50 03	Oct. 2 BYR eP'	02 57 21	Oct. 2 SPA eP	22 32 05	Oct. 3 BYR eP	22 44 05
Oct. 1 BYR eP	08 30 07	Oct. 2 BYR iP iPP iPcP	04 44 08 45 05 46 58	Oct. 2 BYR iP	22 45 12	Oct. 4 BYR eP	01 00 32
Oct. 1 BYR eP	08 36 18	SPA eP e eL	04 43 47 44 26 49 44	Oct. 3 BYR eP'	01 08 26	SPA eP	01 00 48
SPA eP	08 36 36	Oct. 2 SPA eP	06 12 35	Oct. 3 BYR eP'	02 52 28	Oct. 4 BYR eP	02 49 55
Oct. 1 BYR iP	09 39 18	Oct. 2 BYR eP	07 16 07	Oct. 3 SPA eP	05 17 15	Oct. 4 BYR eP	03 12 50
SPA eP	09 39 56	SPA eP	07 17 16	Oct. 3 BYR iP iP i	05 18 49 19 02 19 43	Oct. 4 SPA eP	03 18 20
Oct. 1 SPA eP	10 51 49	Oct. 2 BYR eP	07 40 18	Oct. 3 BYR eP eP eP'P'	05 19 41 20 55 50 18	Oct. 4 BYR eP	03 23 49
Oct. 1 BYR iP epP	11 56 33 56 51	Oct. 2 BYR eP	10 30 33	Oct. 3 BYR eP	10 25 02	SPA eP	03 24 38
SPA eP epP	11 56 34 56 53	Oct. 2 SPA eP	10 30 50	Oct. 3 SPA eP	11 58 42	Oct. 4 BYR eP	05 03 15
Oct. 1 SPA eP	16 11 37	Oct. 2 BYR eP ePP e e e	12 01 34 03 20 04 38 08 47 14 08	Oct. 3 SPA eP	10 24 51 26 22 27 08	Oct. 4 SPA eP	05 03 45
Oct. 1 BYR eP' e e(SKKP)	16 29 43 33 29 42 17	Oct. 2 SPA eP e	12 02 44 06 31	Oct. 3 BYR eP	17 23 10	Oct. 4 BYR e(P)	06 20 43
SPA eP' e ePP e e(SKKP)	16 30 15 30 29 33 20 38 33 41 52	Oct. 2 SPA eP	16 06 49	Oct. 3 SPA eP	17 23 09	Oct. 4 BYR eP e	08 30 04 30 14
Oct. 1 BYR e(P)	18 58 58	Oct. 2 BYR eP	16 45 41	Oct. 3 SPA eP	19 04 46	Oct. 4 BYR eP	09 11 46
Oct. 1 BYR e(P)	19 28 49	SPA eP	16 45 22	Oct. 3 BYR eP	19 29 14	SPA eP	09 12 09

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Oct. 4 BYR	eP e h m s 10 03 26 11 45	Oct. 6 SPA	eP h m s 08 32 27	Oct. 6 BYR	eP h m s 20 47 32	Oct. 7 BYR	eP h m s 16 17 56
SPA	eP e e 10 03 29 03 53 11 13	Oct. 6 BYR	eP 13 35 31	Oct. 6 BYR	eP e 21 04 17 05 39	Oct. 7 SPA	eP 16 47 42
Oct. 4 BYR	eP 10 46 58	Oct. 6 BYR	eP 13 48 36	Oct. 6 SPA	eP 21 14 10	Oct. 7 BYR	e(P) 19 20 30
Oct. 4 BYR	e(P) 12 17 50	SPA	eP e e 13 49 56 50 39 53 10	Oct. 6 BYR	eP 21 20 37	Oct. 7 BYR	eP 19 56 54
Oct. 4 BYR	eP 13 47 49	Oct. 6 BYR	eP 14 28 18	Oct. 6 SPA	eP 22 06 33	SPA	eP 19 55 48
Oct. 4 BYR	eP 18 13 24	Oct. 6 BYR	eP ePcP 16 24 51 26 32	Oct. 6 BYR	eP 22 16 50	Oct. 7 BYR	eP 20 11 19
SPA	eP 18 13 50	SPA	eP 16 25 43	Oct. 6 BYR	eP 23 22 02	SPA	eP 20 12 24
Oct. 5 BYR	eP 00 54 07	Oct. 6 BYR	eP' 16 38 56	Oct. 6 BYR	eP 23 27 39	Oct. 7 BYR	eP e 20 57 10 57 24
Oct. 5 BYR	eP 01 37 57	SPA	eP' 16 38 45	Oct. 7 BYR	eP 03 27 58	Oct. 7 BYR	eP 22 50 52
SPA	eP 01 38 32	Oct. 6 SPA	eP 16 56 17	Oct. 7 BYR	eP 03 33 11	Oct. 7 BYR	eP 23 56 37
Oct. 5 BYR	eP 04 19 13	Oct. 6 BYR	eP 16 58 03	Oct. 7 SPA	eP 03 33 15	Oct. 8 BYR	eP 02 05 22
Oct. 5 SPA	eP 06 58 53	SPA	eP 16 57 28	Oct. 7 BYR	eP' 03 35 10	Oct. 8 BYR	iP e 03 48 32 48 57
Oct. 5 BYR	eP 10 11 17	Oct. 6 BYR	e(P) 17 24 18	SPA	eP' 03 35 16	SPA	eP 03 49 12
Oct. 5 SPA	eP 10 36 05	SPA	eP 17 24 03	Oct. 7 BYR	eP 04 25 34	Oct. 8 SPA	eP' 06 10 49
Oct. 5 SPA	eP 15 51 58	Oct. 6 BYR	eP 17 41 50	Oct. 7 SPA	eP 07 17 25	Oct. 8 BYR	eP' eP' 06 10 55 13 40
Oct. 5 BYR	eP 16 17 44	SPA	eP 17 41 40	Oct. 7 BYR	eP 11 18 55	Oct. 8 BYR	eP e e 08 49 00 51 31 52 04
Oct. 5 SPA	eP 17 38 34	Oct. 6 BYR	eP e 18 51 47 26 22 34 29	SPA	eP 11 19 26	Oct. 8 BYR	eP 09 27 06
Oct. 5 BYR	eP 21 18 05	SPA	eP 19 36 45	Oct. 7 BYR	eP 13 25 18	SPA	eP 09 27 40
Oct. 6 SPA	eP 04 50 26	Oct. 6 BYR	eP i e 20 15 17 18 05 26 22	SPA	eP 13 26 10	Oct. 8 BYR	eP 09 30 57
Oct. 6 BYR	iP 06 17 27	e(P'P')	34 29	Oct. 7 BYR	eP ePP eS 15 31 18 34 29 41 30	SPA	eP 11 24 39
SPA	iP 06 17 58	SPA	eP e eSKKP 20 15 21 18 09 27 15	SPA	eP es ePKKP 15 30 51 41 01 48 51	Oct. 8 SPA	eP e 12 03 10 07 28
Oct. 6 SPA	eP 07 23 58	Oct. 6 BYR	eP 20 44 50			Oct. 8 SPA	eP 15 09 36
Oct. 6 BYR	eP 08 12 57						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Oct. 8 BYR eP	h m s 16 14 40	Oct. 9 SPA eP	h m s 18 01 19	Oct. 11 BYR eP	h m s 09 40 48	Oct. 12 SPA eP	h m s 10 08 56
SPA eP	16 15 58	Oct. 10 BYR eP	00 44 19	e 41 44		Oct. 12 SPA eP	11 24 33
Oct. 8 BYR eP	17 42 40	Oct. 10 BYR eP	01 35 46	e 43 34		Oct. 12 SPA eP	12 05 28
SPA eP	17 43 10	Oct. 10 BYR eP	04 52 17	Oct. 11 BYR eP	10 01 00	Oct. 12 BYR e(P)	17 25 11
Oct. 8 SPA eP	18 10 47	Oct. 10 SPA eP	07 29 21	e 01 59		SPA eP	17 24 49
Oct. 8 BYR eP	19 31 07	Oct. 10 SPA eP	10 26 19	Oct. 11 SPA eP	11 04 58	Oct. 12 BYR eP	17 51 44
SPA eP	19 31 37	Oct. 10 BYR eP	11 03 13	Oct. 11 BYR eP	11 26 13	SPA eP	17 51 23
Oct. 8 BYR eP	20 54 21	SPA eP	11 02 54	Oct. 11 BYR eP	12 45 48	Oct. 12 BYR iP	18 42 00
SPA eP	20 53 41	Oct. 10 BYR eP	14 27 08	e 46 50		epP	42 17
Oct. 9 BYR eP	03 53 35	Oct. 10 BYR eP	15 05 53	SPA eP	12 45 29	SPA eP	18 41 57
SPA eP	03 54 05	Oct. 10 SPA eP	15 05 53	e 46 14		epP	42 11
Oct. 9 BYR eP	04 56 18	Oct. 10 SPA eP	15 48 45	Oct. 11 BYR iP	16 19 30	Oct. 12 BYR eP	19 34 56
SPA eP	04 56 54	Oct. 10 BYR eP	16 35 13	Oct. 11 SPA eP	16 19 13	Oct. 12 BYR eP	21 12 02
Oct. 9 BYR eP	09 19 22	Oct. 10 BYR e	35 38	Oct. 11 BYR eP	16 41 36	SPA eP	21 10 49
i 19 43		SPA eP	16 35 18	Oct. 11 SPA eP	16 41 18	Oct. 12 BYR eP	23 02 51
e 20 07		Oct. 10 SPA eP	18 51 29	Oct. 11 BYR eP	18 39 00	SPA eP	23 02 54
iSKP 22 58		Oct. 10 SPA eP	20 28 45	SPA eP	18 38 04	Oct. 13 BYR eP	00 28 23
SPA eP	09 19 22	Oct. 10 BYR eP	21 57 36	Oct. 11 BYR eP	20 59 05	SPA eP	00 29 38
e 19 38		Oct. 10 SPA eP	23 37 04	Oct. 11 BYR eP	21 59 37	Oct. 13 BYR eP	01 11 31
eSKP 22 54		Oct. 11 BYR eP	04 57 43	Oct. 12 BYR eP	00 41 07	SPA eP	01 11 21
e 28 28		Oct. 11 SPA eP	07 44 59	Oct. 12 BYR eP	02 18 51	Oct. 13 BYR eP	06 09 30
Oct. 9 SPA eP	09 54 37	Oct. 11 BYR eP	07 44 41	Oct. 12 BYR eP	02 18 23	e 13 12	
Oct. 9 BYR iP	10 02 17	Oct. 11 SPA eP	08 24 35	Oct. 12 BYR eP	02 34 11	Oct. 13 SPA eP	06 08 17
ipP 02 46		Oct. 12 BYR eP	09 22 23	Oct. 12 SPA eP	02 33 23	eS 13 41	
SPA iP	10 02 52	Oct. 12 BYR eP	09 22 59	Oct. 12 BYR eP	07 28 16	Oct. 13 BYR eP	06 34 11
ePP 05 36		Oct. 12 SPA eP	09 57 37	Oct. 13 BYR eP	09 30 00	SPA eP	06 34 41
e 13 27				Oct. 13 BYR eP	10 48 23		
Oct. 9 BYR eP	12 58 13						
Oct. 9 BYR eP	13 28 02						
SPA eP	13 27 50						
Oct. 9 BYR eP	15 21 46						
SPA eP	15 22 39						
Oct. 9 SPA eP	17 28 57						

SEISMOLOGICAL BULLETIN

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Oct. 13 BYR	eP h m s 14 26 11	Oct. 14 BYR	eP h m s 17 56 50	Oct. 15 BYR	eP h m s 12 23 44	Oct. 16 BYR	eP h m s 21 54 37
Oct. 13 BYR	eP ⁱ 15 11 57	SPA	eP 17 57 39	SPA	eP 12 23 50 e(pP) 25 18	Oct. 16 SPA	eP 23 14 32
SPA	eP ⁱ 15 12 05 eSKP 15 40 e 18 09 eSKKP 23 49	Oct. 14 SPA	e 19 45 24	Oct. 15 SPA	eP 14 20 24	Oct. 17 SPA	eP 04 08 40
Oct. 13 BYR	e(P) 16 03 05	Oct. 14 BYR	eP 19 45 12	Oct. 15 SPA	eP 14 28 10	Oct. 17 SPA	eP 05 44 48
Oct. 13 BYR	eP 17 31 23	SPA	eP 19 45 24	Oct. 15 BYR	eP 14 40 49	Oct. 17 BYR	eP 06 22 49
Oct. 13 BYR	eP 18 52 48 epP 53 33	Oct. 14 BYR	e 21 38 12 e 38 30 ePP 41 01 eSKP 42 00 e 50 44	Oct. 15 BYR	eP 16 47 21	SPA	eP 06 22 32
SPA	eP 18 52 51 epP 53 34	SPA	eP 21 38 32 e 39 41 eSKP 42 16 e 50 06	Oct. 15 SPA	eP 22 38 54	Oct. 17 SPA	eP 07 28 05
Oct. 13 BYR	eP 21 03 56	Oct. 14 BYR	eP ⁱ 23 15 11	Oct. 16 BYR	iP 05 03 33	Oct. 17 BYR	eP 07 31 37
Oct. 14 BYR	eP 01 05 16	SPA	eP ⁱ 23 15 16	SPA	eP 05 03 46 i 04 02	Oct. 17 SPA	eP 08 12 11
SPA	eP 01 06 30	Oct. 14 BYR	eP 23 22 45 e 23 10	Oct. 16 BYR	eP 06 26 30	Oct. 17 BYR	eP 08 59 20
Oct. 14 SPA	eP 01 11 53	SPA	eP 23 23 12	SPA	eP 06 26 28	SPA	eP 08 59 03
Oct. 14 BYR	eP 01 37 31	Oct. 15 BYR	eP 00 22 35	Oct. 16 SPA	eP 07 25 21	Oct. 17 SPA	iP 10 14 02
SPA	eP 01 38 02	Oct. 15 BYR	eP ⁱ 02 13 39	Oct. 16 BYR	eP 09 47 51	Oct. 17 BYR	eP 13 44 25 e 44 57 e(PcP) 46 19
Oct. 14 BYR	eP 01 50 15	SPA	eP ⁱ 02 13 44	Oct. 16 BYR	eP 10 10 17	SPA	eP 13 45 31 ePcP 46 49
Oct. 14 BYR	eP ⁱ 11 52 27 eSKS 59 16	Oct. 15 SPA	eP 02 47 55	Oct. 16 SPA	eP 12 30 17	Oct. 17 BYR	eP 13 55 40
SPA	eP ⁱ 11 52 35	Oct. 15 BYR	eP 03 05 25	Oct. 16 BYR	iP 13 25 52 e 26 20 e 31 19	SPA	eP 13 56 21
Oct. 14 BYR	eP 12 29 21	SPA	eP 03 05 38	SPA	eP 13 26 29	Oct. 17 BYR	eP 15 58 20
SPA	eP 12 28 53	Oct. 15 BYR	eP 05 56 32	Oct. 16 BYR	eP 13 36 40	SPA	eP 15 58 55 ePKKP 16 15 48
Oct. 14 BYR	eP ⁱ 13 31 28	SPA	eP 05 57 17	SPA	eP 13 37 09 ePP 38 24	Oct. 17 BYR	eP 16 08 57
SPA	eP ⁱ 13 31 48 e 31 56	Oct. 15 BYR	e(P) 06 55 26	Oct. 16 BYR	eP 18 09 35 e 12 35	SPA	eP 16 09 32
Oct. 14 SPA	eP 14 22 00	SPA	eP 06 55 33	SPA	eP 18 10 15 e 13 12	Oct. 17 BYR	eP 19 15 49
Oct. 14 BYR	eP 15 42 12 ePP 46 12	Oct. 15 SPA	eP 08 12 04	Oct. 16 SPA	eP 19 23 35	Oct. 17 BYR	eP ⁱ 19 30 38
SPA	eP 15 41 59 eScS 52 17	Oct. 15 BYR	eP ⁱ 11 48 41	Oct. 16 SPA	eP 19 23 35	Oct. 17 BYR	eP 22 28 53 e 30 00
		SPA	eP ⁱ 11 48 35				

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
SPA eP	h m s 22 29 57	Oct. 19 SPA eP	h m s 00 02 23	Oct. 20 BYR eP	h m s 14 33 14	Oct. 22 BYR iP	h m s 08 33 54
Oct. 17 BYR eP	22 43 35	Oct. 19 BYR eP	02 11 31	SPA eP	14 34 07	ipP	34 09
SPA eP	22 44 06	SPA eP	02 11 46	Oct. 20 SPA eP	14 51 48	ePP	36 53
Oct. 17 BYR eP	23 00 02	Oct. 19 BYR eP	06 48 25	Oct. 20 BYR eP	15 18 29	e	39 03
Oct. 18 BYR eP	00 10 10	SPA eP	06 48 19	SPA eP	15 18 43	ePKKP	51 56
SPA eP	00 10 37	Oct. 19 BYR eP	07 18 48	Oct. 20 BYR eP	17 12 45	eP'P'	09 01 19
Oct. 18 BYR eP' eSKP	00 41 06 44 46	SPA eP epP	07 19 19 21 22	SPA eP	17 13 23	SPA iP	08 34 03
SPA eP' eSKP	00 41 12 44 52	Oct. 19 BYR eP	10 37 23	Oct. 20 BYR eP' eSKP	23 59 27 24 02 41	e(PP)	36 47
Oct. 18 BYR eP	03 43 22	SPA eP	10 38 47	Oct. 21 BYR eP	05 21 26	eScS	44 01
SPA eP	03 44 15	Oct. 19 BYR eP	11 13 13	Oct. 21 BYR eP	06 11 11	e	53 00
Oct. 18 SPA eP	05 03 10	SPA eP	11 12 54	Oct. 21 BYR eP	06 37 55	eP'P'	09 00 53
Oct. 18 BYR eP	05 53 21	Oct. 19 SPA eP	11 47 24	Oct. 21 BYR eP	08 09 36	Oct. 22 BYR eP	22 34 50
Oct. 18 BYR eP	06 23 19	Oct. 19 SPA eP	12 33 08	Oct. 21 BYR eP	08 20 03	SPA eP	22 34 43
Oct. 18 BYR eP	09 29 28	Oct. 19 SPA eP	14 28 15	Oct. 21 BYR eP	10 10 50	Oct. 23 SPA eP	01 38 37
SPA eP	09 30 08	SPA eP e	14 29 31 35 26	SPA eP	10 11 43	Oct. 23 BYR iP	07 01 28
Oct. 18 BYR eP'	10 46 13	Oct. 19 SPA eP	17 04 39	Oct. 21 BYR iP	13 53 30 53 40	Oct. 23 BYR i	15 39 37 40 37
Oct. 18 BYR eP	11 03 12	Oct. 19 SPA eP	19 09 56	SPA eP	13 54 12	SPA eP	15 39 16
Oct. 18 BYR eP	12 20 40	Oct. 20 BYR eP	23 54 03	Oct. 22 BYR eP	00 17 51 18 40	e	40 04
Oct. 18 BYR eP	12 45 57	Oct. 20 SPA eP	00 53 18	Oct. 22 BYR eP	03 31 46 31 59	e	45 29
Oct. 18 BYR eP	14 14 05	Oct. 20 BYR eP	04 43 13	Oct. 22 BYR iP	07 32 13	Oct. 23 SPA eP	17 35 10
SPA eP	14 14 29	SPA eP	04 43 55	SPA iP	07 31 55 34 45 38 15	Oct. 23 BYR eP	19 26 02
Oct. 18 BYR eP	20 34 02	Oct. 20 BYR iP e e	11 17 48 19 56 23 05	Oct. 22 SPA eP	08 16 04	Oct. 24 SPA eP	00 23 38
Oct. 18 BYR eP	23 06 41	SPA eP	11 18 02	Oct. 22 SPA eP	08 16 04	Oct. 24 SPA eP	04 11 08
Oct. 18 BYR eP	23 15 30	Oct. 20 BYR eP	13 21 50	Oct. 22 SPA eP	08 16 04	Oct. 24 BYR eP	05 23 18
SPA eP	23 15 40	SPA eP	13 22 21	Oct. 22 SPA eP	08 16 04	ePP	25 59
						e	29 31
						SPA eP	05 23 35
						e	24 24
						Oct. 24 BYR eP	10 24 23
						SPA eP	10 24 26
						Oct. 24 BYR eP	17 21 37
						SPA eP	17 21 24

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Oct. 25 BYR eP	h m s 01 16 55	Oct. 26 SPA eP	h m s 05 00 47	SPA eP	h m s 00 37 01	SPA eP	h m s 02 40 02
Oct. 25 BYR eP	01 30 12	Oct. 26 BYR eP	05 56 34	Oct. 27 BYR eP	03 29 36	Oct. 28 BYR eP ⁱ	04 38 54
Oct. 25 BYR eP	04 35 17	SPA eP	05 56 09	Oct. 27 BYR eP	05 37 31	e ePP	39 34 43 23
Oct. 25 SPA eP	06 58 17	Oct. 26 BYR eP	07 10 03	SPA eP	05 38 08	SPA eP ⁱ e(PP)	04 39 26 43 16
Oct. 25 SPA eP	07 25 19	SPA eP	07 09 35	Oct. 27 BYR eP	07 53 19	Oct. 28 BYR eP	04 59 41
Oct. 25 BYR eP	09 49 05	Oct. 26 BYR eP	09 50 25	Oct. 27 BYR eP	11 30 07	Oct. 28 BYR e(P ⁱ)	08 07 35
SPA eP	09 49 08	Oct. 26 BYR eP	11 38 35	SPA eP	11 30 22	SPA eP ⁱ	08 07 20
Oct. 25 SPA eP	10 42 52	SPA eP	11 38 09	Oct. 27 BYR eP	11 43 24	Oct. 28 BYR eP	10 09 16
Oct. 25 SPA eP	11 06 40	Oct. 26 BYR eP	12 08 56	SPA eP	11 43 53	SPA eP	10 10 06
Oct. 25 BYR eP	12 22 24	Oct. 26 BYR eP	14 15 34	Oct. 27 BYR iP	13 47 55	Oct. 28 BYR eP	10 38 26
e 25 22		SPA eP	14 16 02	SPA eP	13 48 32	Oct. 28 BYR eP	11 26 30
SPA eP	12 23 17	Oct. 26 BYR iP epP	14 56 43 57 15	Oct. 27 BYR eP	14 59 52	SPA eP	11 26 27
Oct. 25 BYR eP	16 08 21	SPA eP eScP	14 57 24 15 02 23	SPA eP	14 59 14	Oct. 28 BYR eP	12 34 38
Oct. 25 BYR eP	18 37 28	Oct. 26 BYR eP	16 46 23	Oct. 27 SPA eP	15 54 37	SPA eP	12 34 40
SPA eP	18 37 46	SPA eP	16 47 04	Oct. 27 SPA e(P ⁱ) e	16 00 12 06 20	Oct. 28 BYR eP	13 09 48
Oct. 25 BYR iP e i e	19 24 16 24 35 24 45 27 21	Oct. 26 BYR iP	17 44 32	Oct. 27 BYR eP	18 28 35	SPA eP	13 09 42
SPA eP e e	19 24 56 25 16 27 47	SPA eP	17 45 00	Oct. 27 BYR eP	19 55 15	Oct. 28 BYR eP ⁱ e iP ⁱ isP ⁱ eSKP e	13 37 24 37 35 38 02 38 20 40 59 49 21
Oct. 25 BYR eP	22 11 54	Oct. 26 BYR eP	18 22 11	SPA eP	19 55 18	SPA eP	13 37 30
SPA eP	22 12 26	Oct. 26 BYR eP	18 27 20	Oct. 27 BYR iP epP e eP ⁱ P ⁱ	22 38 40 39 41 44 56 23 06 44	Oct. 28 BYR eP ⁱ e eSKP e e e	13 37 30 41 04 48 57 49 27 50 15 52 37 14 21 55
Oct. 26 BYR eP	01 39 40	SPA eP	18 28 00	SPA eP	22 39 12	Oct. 28 SPA eP	17 46 37
Oct. 26 BYR eP	01 56 28	Oct. 26 SPA eP	20 01 17	e eP ⁱ P ⁱ	43 04 23 06 14	Oct. 28 SPA eP	20 44 03
Oct. 26 BYR eP ⁱ	02 07 29	Oct. 26 BYR iP	20 05 05	Oct. 27 SPA eP	23 58 43	Oct. 28 BYR eP ⁱ	22 48 23
Oct. 26 BYR eP	02 31 47	SPA eP	20 04 43	Oct. 28 BYR eP	00 14 02	SPA eP ⁱ e	22 48 20 54 24
Oct. 26 BYR iP	03 00 42	Oct. 27 BYR eP	00 26 54	Oct. 28 BYR eP	02 40 35		

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Oct. 29 SPA	eP h m s 07 21 33	Oct. 30 BYR	iP h m s 18 46 45	SPA	eP h m s 06 27 33	Nov. 1 BYR	eP h m s 15 58 58
Oct. 29 SPA	e(P) 07 58 44	SPA	eP 18 47 26	Nov. 1 BYR	e(P) 08 27 10	SPA	eP 15 59 49
Oct. 29 BYR	eP 09 48 39	Oct. 30 SPA	eP 20 39 24	SPA	eP 08 27 11	Nov. 1 BYR	e(P) 16 16 12
SPA	eP 09 49 14 e 50 41	Oct. 30 BYR	iP 21 43 00 i 43 25 e 22 05 09 eP'P' 11 28	Nov. 1 BYR	eP 08 54 13 eS 09 00 52 e 06 26 eP'P' 24 35 e 29 37	SPA	eP 16 17 03
Oct. 29 BYR	eP 11 35 28	SPA	iP 21 43 39 e(PP) 46 28 eP'P' 22 12 07 eSKPP' 15 55	SPA	eP 08 55 04 eS 09 02 27 eL 12 13 eP'P' 24 40 e 25 27	Nov. 1 BYR	eP 16 35 04
Oct. 29 BYR	iP 13 32 22 e 32 49	Oct. 31 SPA	eP 00 51 31	Nov. 1 BYR	eP 09 46 09	SPA	eP 16 35 33
SPA	eP 13 33 00	Oct. 31 BYR	eP 02 56 07	Nov. 1 BYR	iP 10 00 24	Nov. 1 BYR	eP 17 04 49
Oct. 30 BYR	eP 09 01 38	Oct. 31 BYR	eP' 07 23 33	SPA	eP 10 01 16	SPA	eP 17 05 40
Oct. 30 BYR	eP 09 14 07	Oct. 31 BYR	eP 11 21 59	Nov. 1 BYR	eP 10 37 08	Nov. 1 BYR	eP 18 02 37
Oct. 30 BYR	iP 10 33 28	SPA	eP 11 22 49	SPA	eP 10 36 32	SPA	eP 18 03 28
Oct. 30 BYR	eP 12 24 42 eS 32 21 e 41 18 e 44 01 eP'P' 54 01	Oct. 31 SPA	eP 13 05 40	Nov. 1 SPA	eP 10 57 27	Nov. 1 BYR	eP' 19 25 22 eSKP 28 46
SPA	eP 12 25 24 e 32 14 e 41 59 e 44 40 eP'P' 53 52	Oct. 31 BYR	iP 14 50 50	Nov. 1 BYR	eP 11 13 47	SPA	eP 19 25 26 eSKP 28 50
Oct. 30 BYR	iP 13 22 03 i 22 11	SPA	eP 14 51 40	Nov. 1 BYR	eP 11 14 39	Nov. 1 BYR	eP 20 36 23
SPA	eP 13 22 44	Oct. 31 BYR	eP 15 55 22	Nov. 1 BYR	eP 11 47 31	SPA	eP 20 37 15
Oct. 30 BYR	eP 16 04 04	SPA	eP 15 55 59	Nov. 1 BYR	eP 11 58 21	Nov. 1 BYR	eP 20 51 29
SPA	eP 16 03 44	Oct. 31 SPA	eP 22 26 13	SPA	eP 11 57 31	SPA	iP 20 51 59
Oct. 30 BYR	eP' 16 35 37 iP' 35 48	Nov. 1 BYR	eP 00 03 48	Nov. 1 BYR	eP 12 37 44 epP 37 58 ePP 39 36	Nov. 1 BYR	eP 22 13 54
SPA	eP 16 35 43	Nov. 1 SPA	eP 00 33 49	SPA	eP 12 38 35 e 44 23 eP'P' 13 09 17	Nov. 1 BYR	eP 23 28 04
Oct. 30 BYR	eP 17 28 25	Nov. 1 BYR	eP 00 49 06	Nov. 1 BYR	eP 14 11 59	Nov. 1 BYR	eP 24 07 40
SPA	eP 17 29 07	SPA	eP 00 49 07	SPA	eP 14 12 50	Nov. 2 BYR	eP 00 37 23
Oct. 30 SPA	eP 17 51 37	Nov. 1 BYR	eP 05 35 33 e 36 04	Nov. 1 BYR	eP 14 18 03	Nov. 2 BYR	eP 03 21 09
		SPA	eP 05 36 11	SPA	eP 14 18 54	Nov. 2 BYR	eP 03 34 50
		Nov. 1 BYR	eP 06 27 50			Nov. 2 BYR	eP 04 38 43

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Nov. 2 BYR	eP 05 43 40	Nov. 3 BYR	eP 22 13 24	SPA	eP 15 03 50	Nov. 6 BYR	eP 10 26 53
Nov. 2 BYR	eP 06 45 56	SPA	eP 22 14 02	Nov. 5 BYR	eP 16 10 11	Nov. 6 BYR	e(P) 15 17 06
Nov. 2 SPA	eP 15 49 24	Nov. 3 BYR	eP 23 18 46	SPA	eP 16 11 00	SPA	eP 15 17 50
Nov. 2 BYR	eP 16 37 14	SPA	eP 23 19 38	Nov. 5 BYR	eP 16 16 46	Nov. 6 BYR	eP 17 41 09
Nov. 2 BYR	eP 16 50 38	Nov. 4 SPA	eP 00 18 09	Nov. 5 BYR	eP 17 02 54 ePcP 03 54	Nov. 6 BYR	eP 22 10 06
Nov. 2 BYR	eP 17 26 29	Nov. 4 SPA	eP 01 51 13	SPA	eP 17 03 24	Nov. 6 BYR	eP 22 29 23 eSKP 32 51 e 40 34
Nov. 2 BYR	eP 18 19 20 ePcP 20 23	Nov. 4 BYR	eP 05 03 49	Nov. 5 BYR	eP 17 30 36 e 31 49	SPA	eP 22 29 31 eSKP 33 27
Nov. 2 BYR	eP 19 31 44 e 36 31	SPA	eP 05 04 41	SPA	eP 17 29 52	Nov. 7 BYR	eP 01 25 06
Nov. 2 BYR	eP 20 04 05	Nov. 4 BYR	eP 08 00 08	Nov. 5 BYR	eP 18 15 51	Nov. 7 BYR	eP 05 57 43
Nov. 3 BYR	eP 02 14 39	Nov. 4 BYR	eP 11 49 54	Nov. 5 BYR	eP 18 38 07	Nov. 7 BYR	eP 07 35 50
SPA	eP 02 14 22	Nov. 4 BYR	iP 11 54 53	SPA	eP 18 38 57	Nov. 7 BYR	eP 13 41 42 ePP 43 43
Nov. 3 BYR	eP 02 53 21	Nov. 4 BYR	eP 12 13 12	Nov. 5 BYR	eP 20 40 05 ePP 42 59	SPA	eP 13 42 01
Nov. 3 BYR	e(P) 05 04 05	Nov. 4 SPA	eP 14 31 24	Nov. 5 BYR	eP 20 39 52 ePP 42 02	Nov. 7 BYR	eP 14 31 01
Nov. 3 BYR	eP 07 44 04	Nov. 4 SPA	e(P) 18 24 56 e(PP) 26 30	Nov. 5 BYR	e(P) 22 45 40	Nov. 7 BYR	eP 14 34 14
Nov. 3 BYR	eP 07 53 05	Nov. 4 BYR	eP 20 29 40	SPA	eP 22 45 37	SPA	eP 14 33 56
Nov. 3 BYR	eP 16 18 01	Nov. 5 BYR	eP* 01 10 28	Nov. 6 BYR	eP 04 57 36 iSKP 05 01 17 e 09 21	Nov. 7 BYR	eP 16 38 38
Nov. 3 BYR	eP 16 45 33	Nov. 5 BYR	eP 04 30 06	SPA	eP 04 57 44 eSKP 05 01 05 e 07 04	Nov. 7 BYR	eP 16 49 04 e 49 45
SPA	eP 16 46 25	Nov. 5 BYR	eP 05 37 44	Nov. 6 BYR	eP 06 24 15 ePP 26 15 e 31 08 eS 32 04 e 38 34 eP 54 16	Nov. 7 SPA	eP 19 19 53
Nov. 3 BYR	eP 17 41 33	Nov. 5 BYR	eP 11 42 24 e 42 42	Nov. 6 BYR	eP 06 24 49 eS 32 10 eP 54 19	Nov. 7 BYR	iP 22 26 28
SPA	eP 17 42 03	Nov. 5 BYR	eP 12 50 37	Nov. 6 SPA	eP 07 32 07	SPA	eP 22 27 19
Nov. 3 BYR	eP 20 53 55	SPA	eP 12 51 29	Nov. 6 SPA	eP 08 47 29	Nov. 7 SPA	eP 23 18 49
Nov. 3 BYR	eP 21 40 19	Nov. 5 BYR	iP 13 14 14			Nov. 7 BYR	eP 23 35 14
SPA	eP 21 41 21	Nov. 5 BYR	eP 15 04 30			Nov. 8 BYR	eP 24 06 34

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
	h m s		h m s		h m s		h m s
SPA eP	24 06 35	Nov. 8 BYR eP	13 54 38	Nov. 9 BYR eP ¹	11 02 39	Nov. 10 BYR eP	05 57 05
Nov. 8 BYR eP	00 00 50	SPA iP	13 55 51	e	02 55	SPA eP	05 57 46
SPA eP	00 01 06	Nov. 8 SPA eP ¹	14 04 17	eSKP	06 16	Nov. 10 SPA eP	06 55 40
Nov. 8 BYR eP	00 13 12	Nov. 8 BYR eP	14 34 20	eSKKP	15 48	Nov. 10 BYR iP	14 57 44
SPA eP	00 13 48	Nov. 8 BYR eP	19 24 01	Nov. 9 BYR eP	11 38 34	e(PP)	15 00 49
Nov. 8 BYR eP	00 42 43	Nov. 8 BYR eP	19 58 52	SPA eP	11 38 17	e(PPP)	03 41
SPA eP	00 43 20	SPA eP	19 59 11	Nov. 9 BYR eP	12 02 44	eS	08 29
Nov. 8 BYR iP	01 25 54	Nov. 8 BYR eP	20 41 03	SPA eP	12 02 22	e	09 55
SPA eP	01 26 46	SPA eP	20 40 54	Nov. 9 BYR eP	13 32 53	e	14 57
Nov. 8 BYR eP	02 53 12	Nov. 8 BYR eP	20 48 43	Nov. 9 BYR eP	17 44 00	SPA eP	14 57 33
SPA eP	02 53 47	SPA eP	20 49 21	SPA eP	17 44 33	ePP	15 00 56
Nov. 8 SPA eP	05 33 48	Nov. 8 BYR e(P)	22 01 15	Nov. 9 BYR eP	18 40 24	e(S)	08 56
Nov. 8 BYR eP ¹	05 41 27	Nov. 8 BYR eP	22 04 20	SPA eP	18 40 18	e	10 19
eSKP	44 52	Nov. 9 BYR iP	01 27 52	Nov. 9 BYR eP	19 42 02	e	15 27
SPA eP	05 41 29	epP	28 23	SPA eP	19 42 37	Nov. 10 BYR eP	16 40 39
Nov. 8 BYR eP ¹	05 46 39	eP ¹ P ¹	57 02	Nov. 9 BYR eP	20 16 26	SPA eP	16 41 01
eSKP	50 04	SPA eP	01 28 30	e	17 56	Nov. 10 BYR iP	20 00 30
SPA eP	05 46 42	eP ¹ P ¹	57 20	e	19 42	SPA eP	20 01 21
Nov. 8 BYR e(P)	07 39 34	Nov. 9 BYR iP	03 24 22	eP ¹ P ¹	45 16	Nov. 10 BYR e(P)	23 59 58
Nov. 8 BYR eP	08 34 57	iS	29 35	Nov. 9 SPA eP	23 03 00	Nov. 11 SPA eP	00 59 47
SPA eP	08 35 48	e	43 41	Nov. 10 SPA eP	00 58 10	Nov. 11 BYR eP	01 20 53
e	42 16	e	53 06	Nov. 10 SPA eP	01 21 31	Nov. 11 SPA eP	01 20 25
Nov. 8 BYR e(P)	09 43 52	eP ¹ P ¹	56 00	Nov. 10 BYR eP ¹	02 14 02	Nov. 11 BYR eP	02 09 41
Nov. 8 SPA eP	09 48 19	Nov. 9 BYR eP	04 53 17	SPA eP ¹	02 13 40	Nov. 11 BYR eP	04 17 16
SPA eP	10 29 27	SPA eP	04 52 59	Nov. 10 BYR eP	03 39 22	Nov. 11 BYR eP ¹	05 50 52
e	33 42	Nov. 9 BYR eP	07 13 30	SPA eP	03 39 05		
e	37 28	Nov. 9 BYR e(P)	08 59 05	Nov. 10 BYR eP	04 43 37		
Nov. 8 BYR eP	11 09 11						
SPA eP	11 09 46						
Nov. 8 SPA eP	13 52 22						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Nov. 11 BYR	eP 06 10 13	Nov. 12 SPA	eP 06 04 23	Nov. 13 BYR	eP 03 56 30	Nov. 13 BYR	iP 17 17 38
SPA	eP 06 11 22	Nov. 12 SPA	eP 06 32 10	SPA	eP 03 56 12	SPA	iP 17 18 07
Nov. 11 BYR	eP 06 24 24	Nov. 12 BYR	eP 07 02 55	Nov. 13 BYR	eP 04 45 13	Nov. 13 SPA	eP' 17 38 33
Nov. 11 BYR	eP 06 41 03	e	03 21	Nov. 13 SPA	eP 05 21 08	Nov. 13 BYR	eP 19 32 19
Nov. 11 BYR	eP 07 04 12	Nov. 12 BYR	iP 08 03 57	Nov. 13 BYR	eP 06 39 55	e	32 41
e	04 43	SPA	eP 08 04 50	Nov. 13 BYR	eP 06 50 27	SPA	eP 19 32 50
Nov. 11 BYR	eP 08 00 51	Nov. 12 BYR	eP 08 37 58	ePP	54 18	e	33 11
SPA	eP 08 01 33	SPA	eP 08 38 48	eSKS	07 00 51	Nov. 13 BYR	eP 20 08 35
Nov. 11 BYR	eP 09 04 20	Nov. 12 BYR	eP 08 45 55	eS	01 30	SPA	eP 20 09 27
Nov. 11 SPA	eP 10 33 53	SPA	eP 08 46 44	ePKKP	07 20	Nov. 13 BYR	eP 20 24 25
Nov. 11 BYR	eP 11 00 12	Nov. 12 BYR	eP 10 52 04	SPA	eP 06 50 08	Nov. 13 SPA	eP' 21 04 22
Nov. 11 BYR	eP 13 42 51	Nov. 12 BYR	eP 11 05 43	ePP	53 46	Nov. 13 BYR	eP 21 31 17
SPA	eP 13 43 26	ePP	08 50	eSKS	07 00 30	SPA	eP 21 31 49
Nov. 11 BYR	eP 14 04 40	SPA	eP 11 05 48	eS	00 57	Nov. 13 BYR	eP 21 42 51
SPA	eP 14 04 47	Nov. 12 BYR	eP 11 31 39	ePKKP	07 14	SPA	eP 21 43 27
Nov. 11 BYR	iP 15 30 53	Nov. 12 BYR	eP 12 25 38	Nov. 13 BYR	eP 07 20 52	Nov. 14 BYR	eP 01 27 51
SPA	eP 15 31 35	Nov. 12 BYR	eP 14 01 57	e	21 22	Nov. 14 BYR	eP 02 15 35
Nov. 11 BYR	eP 18 40 00	Nov. 12 BYR	eP 14 27 56	SPA	eP 07 21 53	Nov. 14 SPA	eP 03 36 50
Nov. 11 BYR	eP 21 24 13	Nov. 12 BYR	eP 17 02 31	Nov. 13 SPA	eP 09 24 26	Nov. 14 SPA	eP 04 08 51
e	25 04	e	02 57	e	25 31	Nov 14 BYR	eP 04 24 38
SPA	eP 21 23 51	SPA	eP 17 03 09	Nov. 13 BYR	eP' 09 39 40	SPA	eP 04 24 13
e	24 31	Nov. 12 BYR	eP 18 56 15	ePP	43 19	Nov. 14 SPA	eP 05 12 29
Nov. 11 BYR	eP 22 33 56	Nov. 12 BYR	eP 18 59 30	eSKKP	52 31	Nov. 14 SPA	eP 05 50 39
SPA	eP 22 34 37	Nov. 12 BYR	eP 22 00 33	SPA	eP' 09 39 54	Nov. 14 BYR	eP 08 02 45
Nov. 11 BYR	eP 23 01 03	SPA	eP 22 00 19	eSKP	44 39	Nov. 14 BYR	eP 08 43 25
e	02 04	Nov. 12 BYR	eP 23 15 38	e	47 34	SPA	eP 08 43 55
Nov. 12 BYR	eP 00 45 00	Nov. 13 BYR	eP 03 38 24	eSKKP	51 11		
Nov. 12 BYR	e(P) 00 57 51			e	55 02		
				eP'P'	10 00 20		
				Nov. 13 SPA	eP 10 51 28		
				Nov. 13 BYR	eP' 12 44 49		
				SPA	eP' 12 44 59		
				Nov. 13 BYR	eP' 13 43 43		
				SPA	eP' 13 43 48		
				Nov. 13 BYR	eP' 14 11 41		
				Nov. 13 BYR	eP' 14 48 30		

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Nov. 14 BYR	eP 09 02 27	Nov. 15 SPA	eP 06 43 40	Nov. 16 BYR	eP 03 21 08	Nov. 17 BYR	e(P) 09 46 47
SPA	eP 09 02 57	Nov. 15 SPA	eP 08 03 26	Nov. 16 BYR	eP 04 14 45	SPA	eP 09 45 32
Nov. 14 BYR	eP 09 06 59	Nov. 15 BYR	eP 09 18 22	Nov. 16 BYR	eP 06 00 13	Nov. 17 SPA	eP 10 12 32
SPA	eP 09 07 29	Nov. 15 BYR	iP' 09 24 55 e(SK) 27 58	SPA	eP 05 59 51	Nov. 17 SPA	eP 13 57 24 e 58 22
Nov. 14 BYR	eP 09 43 18	SPA	eP 09 24 29 eSKS 31 05	Nov. 16 BYR	eP 07 13 43	Nov. 17 BYR	eP 14 09 02
SPA	eP 09 43 48	Nov. 15 BYR	eP 11 22 44	Nov. 16 SPA	eP 13 34 16	SPA	eP 14 09 05
Nov. 14 BYR	eP 09 51 21	SPA	eP 11 22 05	Nov. 16 BYR	eP 15 51 34	Nov. 17 SPA	eP 18 09 04
SPA	eP 09 51 52	Nov. 15 BYR	eP 13 07 28	SPA	eP 15 52 11	Nov. 17 BYR	eP 19 06 54
Nov. 14 BYR	eP 12 20 26	Nov. 15 BYR	eP 14 42 28	Nov. 16 SPA	eP 16 03 45	Nov. 17 BYR	eP 20 06 05
SPA	eP 12 20 19	Nov. 15 BYR	eP 14 54 45	Nov. 16 BYR	eP 16 21 28 e 24 03	SPA	eP 20 06 14
Nov. 14 BYR	e(P) 16 15 20	SPA	eP 14 55 34	SPA	eP 16 20 44 e 23 20	Nov. 17 BYR	eP 20 23 34
Nov. 14 BYR	eP 18 03 16 epP 05 02	Nov. 15 BYR	eP 15 18 30	Nov. 16 SPA	eP 19 11 14	Nov. 17 BYR	eP 20 27 02
SPA	eP 18 03 46 epP 05 38	Nov. 15 BYR	eP 15 20 35	Nov. 16 SPA	e(P) 19 56 42	Nov. 17 BYR	e(P) 20 46 08
Nov. 15 BYR	eP 01 07 33	SPA	eP 15 21 26	Nov. 16 SPA	eP 20 47 43	Nov. 17 BYR	eP 21 27 59 e 29 20 eS 32 26 eL 34 26 e 37 16 eP'P' 22 00 45
Nov. 15 BYR	eP 01 58 51	Nov. 15 BYR	eP 17 02 56	Nov. 16 BYR	e(P) 23 30 36	SPA	eP 21 29 28
Nov. 15 BYR	eP 02 23 07	Nov. 15 BYR	eP 18 09 34	Nov. 17 BYR	eP 01 37 00	Nov. 17 BYR	eP 22 34 20
Nov. 15 BYR	eP 02 40 54	Nov. 15 BYR	eP 21 49 08	SPA	eP 01 37 50	Nov. 18 BYR	e(P) 00 35 04
Nov. 15 BYR	eP 05 18 23	Nov. 15 SPA	eP 21 49 39	Nov. 17 BYR	eP 04 17 23	Nov. 18 BYR	eP 04 20 45
Nov. 15 BYR	eP 05 41 04	Nov. 15 BYR	eP 22 47 10	SPA	eP 04 17 58	Nov. 18 BYR	eP 05 12 03
Nov. 15 BYR	eP 05 43 36	Nov. 16 BYR	eP 00 14 23	Nov. 17 BYR	iP 05 23 36	SPA	eP 05 10 57
Nov. 15 BYR	eP 05 45 10	Nov. 16 BYR	eP 01 32 41 e(pP) 34 40	SPA	eP 05 24 31	Nov. 18 SPA	eP 06 14 30
Nov. 15 BYR	eP 05 48 55	Nov. 16 BYR	eP 01 51 19	Nov. 17 BYR	eP 05 39 34 e 39 55	Nov. 18 SPA	eP 06 22 35
Nov. 15 BYR	eP 06 28 11 eS 32 22	Nov. 16 SPA	eP 02 43 34	Nov. 17 BYR	e(P) 06 15 14	Nov. 18 SPA	eP 06 22 35
SPA	eP 06 29 15 e 31 07			Nov. 17 BYR	eP 09 12 36		
				SPA	eP 09 12 42		

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Nov. 18 BYR	eP e 08 17 57 18 22	Nov. 19 BYR	eP 19 46 43	SPA	eP 08 51 43	SPA	eP e ePP 07 28 43 29 48 31 54
SPA	eP 08 18 31	Nov. 20 SPA	eP 04 17 01	Nov. 21 BYR	eP 11 11 09	Nov. 22 SPA	eP 09 27 31
Nov. 18 SPA	eP 10 00 19	Nov. 20 BYR	eP 11 00 49	Nov. 21 SPA	eP 15 49 39	Nov. 22 SPA	iP 09 43 48
Nov. 18 BYR	iP 12 52 50	SPA	eP 11 01 27	Nov. 21 SPA	eP 16 30 22	Nov. 22 BYR	iP 12 36 55 eP'P' 13 08 25
SPA	iP 12 53 28	Nov. 20 BYR	eP 11 30 51	Nov. 21 BYR	e(P) 18 43 00	SPA	eP eS eP'P' 12 37 46 45 04 13 08 19
Nov. 18 SPA	eP 15 35 19	SPA	eP 11 30 50	Nov. 21 BYR	eP' epP' ePP 19 03 31 03 55 -06 56	Nov. 22 SPA	e(P) 13 50 02
Nov. 18 SPA	eP 20 24 52	Nov. 20 BYR	eP 13 35 10	Nov. 21 BYR	eP 20 09 21	Nov. 22 SPA	eP 13 54 20
Nov. 18 SPA	eP 21 55 07	SPA	eP 13 36 17	SPA	eP 20 10 03	Nov. 22 SPA	eP 21 42 15
Nov. 19 BYR	e(P) 02 00 51	Nov. 20 BYR	eP 13 50 03	Nov. 22 SPA	eP 02 12 10	Nov. 23 BYR	iP 01 37 00
Nov. 19 BYR	iP 04 59 37	Nov. 20 BYR	eP 13 55 50	Nov. 22 BYR	eP 02 44 01	Nov. 23 BYR	iP 04 23 18 epP 24 56 ePKKP 50 55
SPA	eP 05 00 14	SPA	eP 13 56 59	SPA	eP 02 44 43	SPA	eP eS 04 23 21 33 03
Nov. 19 BYR	iP 06 26 26	Nov. 20 BYR	eP 20 00 31	Nov. 22 BYR	eP 03 42 37	Nov. 23 BYR	eP 09 54 55
SPA	eP 06 26 55 e 33 24	Nov. 20 BYR	eP 22 00 43	SPA	eP 03 43 13	SPA	eP 09 54 55
Nov. 19 BYR	eP 06 40 51	Nov. 20 BYR	eP 22 13 37 eS 23 22	Nov. 22 BYR	eP 04 13 39	Nov. 23 BYR	e(P) 13 39 22
Nov. 19 BYR	eP 07 15 01	SPA	eP 22 14 19 e 21 03 eSKS 26 18 eL 40 11 eP'P' 40 50 eSKPP' 44 27	Nov. 22 BYR	eP 04 14 12	Nov. 23 BYR	eP 14 22 14 i 22 20 ePP 24 14 ePPP 25 44 eS 30 40 e 33 13 eP'P' 51 27
SPA	iP 07 15 30	Nov. 21 BYR	eP 02 45 30	Nov. 22 BYR	eP 06 32 07 ePP 34 05 ePPP 36 01 e 37 18 eP'P' 07 01 06	Nov. 23 SPA	eP 14 23 06 ePP 25 22 e(S) 32 01 e 34 06 e 46 59 eP'P' 51 22
Nov. 19 BYR	eP 09 11 01	SPA	eP 02 46 00	SPA	eP 06 31 10 ePcP 32 19 e 36 27 eS 38 51 eP'P' 07 01 29	Nov. 23 SPA	eP 15 45 35
Nov. 19 BYR	eP 09 12 08	Nov. 21 BYR	eP 04 33 28	Nov. 22 BYR	eP 07 28 34 i 28 45 ePP 32 15 eSKP 32 41		
Nov. 19 BYR	eP 12 30 30 ePP 34 40	SPA	eP 04 34 10				
SPA	eP 12 30 24	Nov. 21 BYR	iP 04 41 00 epP 42 24				
Nov. 19 SPA	eP 13 31 41	SPA	eP 04 41 11 e 49 05				
Nov. 19 SPA	eP 18 57 29	Nov. 21 BYR	e(P) 05 05 23				
Nov. 19 BYR	eP' 19 44 20	Nov. 21 BYR	eP 08 50 51				
SPA	eP' 19 44 00						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Nov. 23	h m s	Nov. 24	h m s	Nov. 24	h m s	Nov. 25	h m s
SPA eP	15 54 10	BYR iP	03 03 46	SPA eP	09 35 37	SPA eP	18 02 35
e	16 06 51	SPA eP	03 03 31	Nov. 24		Nov. 25	
Nov. 23		e	06 07	BYR eP	09 38 23	SPA e(P)	18 11 25
BYR eP	17 05 42	Nov. 24		SPA eP	09 38 59	Nov. 25	
e	08 13	BYR eP	05 02 44	Nov. 24		BYR eP	20 28 30
ePP	09 28	eS	12 41	SPA eP	11 27 15	Nov. 25	
SPA eP	17 05 23	SPA eP	05 02 47	e	35 34	BYR eP	20 41 02
e(PP)	08 48	e	03 54	Nov. 24		e	41 43
eS	15 36	eS	13 16	SPA eP	13 26 51	Nov. 25	
Nov. 23		ePKKP	20 52	e	31 15	BYR eP'	22 13 09
BYR eP	17 39 03	Nov. 24		Nov. 24		SPA eP'	22 13 06
e	39 49	BYR iP	07 02 54	BYR eP'	14 31 07	eSKKP	26 21
SPA eP	17 39 39	eS	11 13	SPA eP'	14 31 06	Nov. 26	
Nov. 23		eP'P'	31 31	Nov. 24		BYR eP	02 44 15
BYR iP	18 06 47	SPA eP	07 03 29	SPA eP	15 36 12	e	45 51
eP'P'	36 19	e	10 34	Nov. 24		SPA iP	02 43 49
SPA iP	18 07 23	eS	12 18	SPA eP	18 45 43	Nov. 26	
e	10 07	eL	23 41	Nov. 24		BYR eP	04 13 15
eP'P'	35 42	e	25 20	SPA eP'	20 15 24	SPA eP	04 14 21
Nov. 23		eP'P'	32 03	Nov. 24		Nov. 26	
BYR eP	18 43 51	Nov. 24		BYR eP	22 38 59	BYR eP'	07 56 01
SPA eP	18 44 27	BYR e(P)	07 40 41	SPA eP	22 39 53	e	56 16
Nov. 23		SPA eP	07 41 14	Nov. 24		SPA eP'	07 55 59
SPA eP	18 53 45	Nov. 24		BYR eP	22 54 51	Nov. 26	
Nov. 23		BYR eP	07 42 58	e	55 02	SPA eP	10 05 43
SPA eP	19 25 08	SPA eP	07 43 35	Nov. 25		Nov. 26	
Nov. 23		Nov. 24		BYR e(P)	01 29 32	BYR iP	12 21 39
BYR eP	20 21 17	SPA eP	08 01 34	Nov. 25		e	22 16
SPA eP	20 21 52	Nov. 24		SPA eP	02 45 45	Nov. 26	
Nov. 23		BYR iP	08 03 44	Nov. 25		SPA eP	12 22 20
SPA eP	20 29 25	SPA eP	08 04 23	BYR eP	03 39 40	Nov. 26	
Nov. 23		Nov. 24		SPA eP	03 40 24	BYR eP	12 30 53
BYR eP	21 18 17	BYR eP	08 26 56	Nov. 25		e	31 11
SPA eP	21 18 58	SPA eP	08 27 33	BYR eP	04 06 04	SPA iP	12 31 05
Nov. 23		Nov. 24		Nov. 25		Nov. 26	
BYR eP	21 24 03	BYR eP	08 36 25	BYR eP	05 42 50	BYR eP	14 45 09
SPA eP	21 24 33	SPA eP	08 37 02	Nov. 25		SPA iP	14 45 45
epP	26 29	Nov. 24		SPA eP	13 45 27	Nov. 26	
Nov. 24		BYR eP	08 47 36	Nov. 25		BYR iP	15 39 47
SPA eP	01 22 26	SPA eP	08 48 13	SPA e(P)	14 12 14	SPA iP	15 39 32
e	23 37	Nov. 24		Nov. 25		Nov. 26	
Nov. 24		SPA eP	09 15 35	SPA eP	17 35 10	BYR eP	15 45 53
BYR eP	01 43 35	Nov. 24		Nov. 25		Nov. 26	
Nov. 24		BYR eP	09 26 38	BYR e(P)	17 55 13	SPA eP	16 23 06
BYR eP	02 35 52	SPA eP	09 27 14				

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Nov. 26 BYR	eP 17 04 48	Nov. 27 BYR	eP 15 13 36	Nov. 28 SPA	iP' 15 31 04	Nov. 29 BYR	eP 14 51 37
SPA	eP 17 04 55	SPA	iP 15 14 26 i 14 32	Nov. 28 BYR	eP 16 31 49	SPA	eP 14 52 43
Nov. 26 BYR	eP 18 27 50	Nov. 27 BYR	eP' 15 36 24 epP' 36 52 eSKP 39 42	Nov. 28 SPA	iP 20 06 42	Nov. 29 BYR	eP 18 02 38
SPA	iP 18 27 27 ePP 28 48	SPA	iP 15 36 21	Nov. 28 SPA	eP 20 46 42	SPA	iP 18 03 24
Nov. 26 BYR	eP 21 45 49	Nov. 27 SPA	iP 19 06 40	Nov. 28 BYR	e(P) 20 51 45	Nov. 29 BYR	eP 19 27 56 e 28 16 iPcP 28 24
SPA	iP 21 46 24	Nov. 27 SPA	iP 20 50 07	Nov. 28 SPA	iP 20 53 56	SPA	iP 19 28 36 iPcP 28 57
Nov. 27 BYR	eP 01 23 58	Nov. 27 SPA	iP 20 57 19	Nov. 28 SPA	iP 21 13 56	Nov. 29 BYR	eP 22 01 32
SPA	eP 01 24 59	Nov. 27 SPA	eP 21 23 35	Nov. 28 SPA	iP 21 14 28	Nov. 30 BYR	eP 00 19 57
Nov. 27 BYR	eP 01 52 05 e 54 16 e 58 54	Nov. 27 SPA	iP 21 33 44	Nov. 29 BYR	eP 04 41 33	SPA	iP 00 21 19
SPA	iP 01 52 26 i 54 58 e 59 04	Nov. 27 SPA	eP 22 17 11	Nov. 29 SPA	eP 04 52 59	Nov. 30 SPA	eP 02 06 45
Nov. 27 SPA	iP 02 09 20	Nov. 27 SPA	eP 22 47 40	Nov. 29 BYR	eP 07 23 42	Nov. 30 SPA	e(P) 07 04 24
Nov. 27 BYR	eP 07 13 33	Nov. 28 BYR	eP 02 51 41	Nov. 29 SPA	eP 07 32 16	Nov. 30 SPA	eP 07 25 40 e 33 28
SPA	eP 07 14 00	SPA	iP 02 52 26	Nov. 29 SPA	eP 07 32 16	Nov. 30 BYR	e(P) 07 48 48
Nov. 27 BYR	eP 07 28 32	Nov. 28 BYR	eP 03 29 48	Nov. 29 SPA	eP 07 32 16	SPA	iP 07 50 13
SPA	iP 07 29 02	Nov. 28 BYR	eP 05 51 30	Nov. 29 SPA	08 06 24	Nov. 30 BYR	eP 12 51 12
Nov. 27 SPA	eP 08 29 39	SPA	iP 05 52 44 e 52 52	Nov. 29 BYR	eP 09 39 27	SPA	iP 12 51 59
Nov. 27 BYR	eP 11 09 01	Nov. 28 BYR	eP 06 28 43	Nov. 29 SPA	iP 09 40 21 i 40 59	Nov. 30 BYR	e(P') 13 33 04
SPA	eP 11 08 28	Nov. 28 BYR	e(P) 09 11 17	Nov. 29 SPA	eP 11 34 36	SPA	eP' 13 33 55
Nov. 27 BYR	eP' 12 19 44 epP' 20 17 ePP 23 04	SPA	iP 09 12 52	Nov. 29 BYR	e(P) 10 57 45	Nov. 30 BYR	eP 14 09 13 e 09 27
SPA	iP' 12 20 02	Nov. 28 SPA	eP 09 31 05	Nov. 29 SPA	eP 14 25 41 ePP 27 06	Nov. 30 SPA	eP 15 28 17
Nov. 27 BYR	eP 13 22 42	Nov. 28 SPA	eP 13 15 08	Nov. 29 BYR	eP 14 35 50	Nov. 30 SPA	eP 16 14 27
SPA	iP 13 22 37	Nov. 28 SPA	eP 14 04 35	Nov. 29 SPA	iP 14 25 33	Nov. 30 BYR	eP 19 12 48
Nov. 27 BYR	eP 13 39 43	Nov. 28 SPA	eP 14 34 41	Nov. 29 BYR	eP 14 36 00 i 36 06	Nov. 30 BYR	eP 22 08 28
SPA	eP 13 39 57					Nov. 30 BYR	e(P) 22 15 33

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	
Dec. 1 BYR	eP 00 42 20	Dec. 1 SPA	eP 11 48 03	Dec. 2 BYR	e(P) 10 14 28	Dec. 3 SPA	eP 03 17 03	
SPA	eP 00 42 51	Dec. 1 BYR	eP 13 53 55		e 16 47	Dec. 3 BYR	eP 04 26 18	
Dec. 1 BYR	eP 00 57 26	SPA	eP 13 54 27	SPA	iP 10 15 08	Dec. 3 BYR	eP' 04 43 35	
Dec. 1 BYR	eP 01 01 30	Dec. 1 BYR	eP 13 59 51		i 16 50		eSKP 46 33	
SPA	eP 01 02 23	SPA	iP 14 00 52		iS 21 56		e 47 28	
Dec. 1 SPA	e(P) 01 13 40	Dec. 1 SPA	eP 14 51 25	Dec. 2 BYR	eP 12 19 37		e 55 34	
Dec. 1 BYR	eP' 03 09 17	Dec. 1 SPA	eP 16 11 51			SPA	iP' 04 43 32	
SPA	iP' 03 09 51	Dec. 1 SPA	iP 17 56 24	Dec. 2 BYR	eP 13 51 34		iSKS 50 11	
Dec. 1 BYR	e(P) 03 21 23		i 56 35		e 51 43	Dec. 3 BYR	eP 07 09 42	
SPA	iP 03 22 06	Dec. 1 SPA	eP 19 28 17	SPA	iP 13 52 16		SPA	iP 07 10 24
Dec. 1 BYR	eP 03 25 35	Dec. 1 SPA	eP 20 40 37	Dec. 2 BYR	eP 13 56 54	Dec. 3 BYR	eP' 07 26 43	
SPA	eP 03 24 51	Dec. 1 SPA	eP 21 02 20	SPA	iP 13 57 11		e 26 54	
Dec. 1 SPA	eP' 04 21 37	Dec. 1 BYR	eP' 21 08 54	Dec. 2 SPA	iP 14 40 37		iSKP 30 09	
Dec. 1 BYR	eP 07 25 09	SPA	eP' 21 09 09				e 39 11	
SPA	eP 07 24 53		i 09 17	Dec. 2 BYR	eP 16 36 57	SPA	iP' 07 27 03	
Dec. 1 BYR	eP 08 51 06	Dec. 1 SPA	eP 21 23 19	SPA	iP 16 37 01		ipP' 27 47	
SPA	e(P) 09' 05 09	Dec. 1 BYR	eP' 22 08 44	Dec. 2 BYR	e(P') 18 03 24		iSKP 30 25	
Dec. 1 SPA	iP 08 52 20	SPA	iP' 22 08 58				i 38 44	
Dec. 1 BYR	eP 09 51 05	Dec. 1 SPA	e(P') 22 20 27	Dec. 2 BYR	eP 18 22 26	Dec. 3 BYR	eP 08 10 32	
	i 51 37	Dec. 1 SPA	eP' 22 25 02	SPA	iP 18 23 08		SPA	iP 08 11 15
SPA	iP 09 50 42	Dec. 2 SPA	eP 00 31 25				i 11 35	
	i 51 17			Dec. 2 SPA	eP 19 36 43	Dec. 3 SPA	eP 09 22 02	
Dec. 1 BYR	iP 10 24 18	Dec. 2 SPA	iP 04 49 55			Dec. 3 BYR	eP 12 29 59	
	i 24 45	Dec. 2 SPA	iP 06 34 09	Dec. 2 BYR	iP 19 50 56		SPA	iP 12 30 40
SPA	iP 10 24 14	Dec. 2 SPA	iP 09 21 25		ePP 53 06	Dec. 3 SPA	eP 14 11 43	
	i 24 42		iS 30 06	SPA	iP 19 49 48		SPA	iP 14 12 19
Dec. 1 BYR	eP 10 50 36		i 33 10		i 51 15		i 12 34	
SPA	iP 10 51 14	Dec. 2 SPA	iP 09 48 20	Dec. 2 SPA	eP 21 32 35	Dec. 3 BYR	eP 14 26 12	
Dec. 1 SPA	eP 10 55 45		i 10 12 46				SPA	iP 14 26 54
				Dec. 2 BYR	eP 22 40 04	Dec. 3 SPA	eP 14 59 20	
				SPA	iP 22 40 46	Dec. 3 BYR	eP 16 15 25	
				Dec. 3 SPA	iP 02 42 12		SPA	iP 16 16 07
						Dec. 3 BYR	e(P') 18 15 45	
							SPA	iP' 18 15 40

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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Dec. 3 BYR	h m s eP ¹ 20 41 57 e 45 40	Dec. 4 BYR	h m s eP 16 00 49 e 03 49 ePP 04 39	SPA	h m s iP ¹ 18 27 03 ipP ¹ 27 13	Dec. 6 SPA	h m s iP 20 26 49
SPA	iP ¹ 20 41 02	SPA	iP 16 00 27	Dec. 5 BYR	eP ¹ 21 40 54 epP ¹ 41 14	Dec. 6 BYR	eP 21 47 30
Dec. 3 BYR	eP 21 11 02 e 12 45 e 15 22	Dec. 4 BYR	eP ¹ 16 39 28	SPA	iP ¹ 21 40 46 ipP ¹ 41 02	Dec. 7 BYR	e(P) 01 52 14
SPA	iP 21 10 04 e 14 24	SPA	iP ¹ 16 39 27	Dec. 5 BYR	e(P) 22 19 18 e 19 45	Dec. 7 BYR	eP 03 08 23
Dec. 3 BYR	eP 21 30 55 e 32 38	Dec. 4 BYR	eP 18 43 35	Dec. 5 BYR	eP 23 33 46	Dec. 7 BYR	eP ¹ 08 02 09
SPA	iP 21 30 00	Dec. 4 BYR	iP 24 05 16 epP 07 21	Dec. 6 SPA	eP 03 11 51	Dec. 7 BYR	eP 10 13 30
Dec. 3 SPA	iP 21 59 48 ipP 22 00 26	SPA	iP 24 05 51 e 06 33 ipP 07 53	Dec. 6 BYR	eP 03 44 25 e 46 18	Dec. 7 BYR	eP 16 32 32 epP 32 48 ePP 36 22 e 39 55
Dec. 3 BYR	eP 22 30 17	Dec. 5 SPA	eP ¹ 01 33 41	SPA	iP 03 45 04	Dec. 8 BYR	eP 00 45 06
SPA	iP 22 29 19	Dec. 5 BYR	eP 07 42 39	Dec. 6 BYR	eP ¹ 03 54 46 e 55 36 eSKP 58 30	Dec. 8 BYR	eP 01 10 03
Dec. 4 BYR	eP 00 45 48	Dec. 5 SPA	iP 08 35 48	SPA	eP ¹ 03 54 42	Dec. 8 BYR	iP 01 33 50 epP 35 52 esP 36 35 eScP 37 26 eP ¹ P ¹ 02 02 26
SPA	iP 00 46 38	Dec. 5 BYR	eP ¹ 08 58 04 eSKP 09 01 31	Dec. 6 BYR	iP 09 06 35 ePP 08 47 iS 15 02 e 22 11 e 24 24 eP ¹ P ¹ 35 31	SPA	iP 01 34 20 epP 36 22 iS 42 35
Dec. 4 BYR	eP 03 53 02 e 53 10	SPA	iP ¹ 08 58 00	Dec. 6 SPA	iP 09 07 15 iPcP 07 28 i(PP) 09 16 iS 15 45 iP ¹ P ¹ 35 28	Dec. 8 SPA	eP 02 02 20
SPA	iP 03 53 44	Dec. 5 BYR	eP 12 08 07	Dec. 6 BYR	eP 10 15 22	Dec. 8 BYR	eP 05 26 06
Dec. 4 BYR	eP 04 06 43	Dec. 5 SPA	eP 14 36 29	SPA	iP 10 16 15	Dec. 8 BYR	e(P) 07 38 54
Dec. 4 SPA	eP 05 34 08	Dec. 5 BYR	eP 16 43 33 e 45 59	Dec. 6 BYR	iP 12 27 23	Dec. 8 BYR	eP 08 04 20
Dec. 4 SPA	e(P) 05 53 32	SPA	eP 16 43 47	SPA	iP 12 27 53	Dec. 8 SPA	iP 08 04 55
Dec. 4 BYR	e(P) 10 36 43	Dec. 5 BYR	eP ¹ 18 09 08	Dec. 6 SPA	eP 14 22 47	Dec. 8 BYR	eP 08 55 43
Dec. 4 SPA	eP 12 30 23	SPA	iP ¹ 18 09 17 i 09 27	Dec. 6 SPA	eP 16 10 03	SPA	eP 08 55 46
Dec. 4 BYR	eP 13 40 21	Dec. 5 BYR	eP ¹ 18 26 53 ipP ¹ 27 03 eSKP 30 34	Dec. 6 SPA	iP 17 21 06	Dec. 8 BYR	e(P) 09 58 32
SPA	iP 13 40 19			Dec. 6 BYR	eP 20 26 19	SPA	eP 09 58 37

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Dec. 8 BYR	iP 11 29 09 epP 29 40 esP 29 53 eP'P' 59 19	Dec. 8 SPA	iP 11 29 52 i 30 08 iP'P' 59 40	Dec. 8 SPA	iP 12 58 31	Dec. 8 BYR	eP 14 42 10 epP 42 26 e 43 43
Dec. 8 SPA	iP 14 42 45 i 42 51	Dec. 8 SPA	eP 15 39 42	Dec. 8 BYR	eP 18 44 16	Dec. 8 SPA	eP 18 44 14
Dec. 8 SPA	eP 19 25 50	Dec. 8 SPA	eP 21 40 18	Dec. 8 BYR	eP 21 49 09	Dec. 8 SPA	iP 21 48 57
Dec. 9 BYR	eP 00 46 45 epP 47 35 e 48 36	Dec. 9 SPA	iP 00 47 19	Dec. 9 SPA	eP 02 25 21	Dec. 9 BYR	eP 07 00 31
Dec. 9 SPA	eP 07 00 20	Dec. 9 BYR	eP 09 27 42	Dec. 9 SPA	iP 09 27 27	Dec. 9 BYR	eP 10 59 49
Dec. 9 SPA	eP 11 13 51	Dec. 9 BYR	e(P) 12 10 57	Dec. 9 SPA	iP 12 11 49	Dec. 9 SPA	iP 13 47 18
Dec. 9 SPA	iP 14 12 47	Dec. 9 SPA	iP 15 20 18	Dec. 9 SPA	iP 16 00 13	Dec. 9 BYR	iP 17 15 14 e 15 44 e 15 58
Dec. 9 SPA	iP 17 15 57	Dec. 9 SPA	iP 19 41 41	Dec. 9 BYR	eP 20 27 16	Dec. 9 SPA	eP 20 27 58
Dec. 9 BYR	e(P) 21 01 02	Dec. 9 BYR	eP' 21 45 51	Dec. 9 SPA	iP' 21 45 39	Dec. 9 BYR	e(P) 21 54 55
Dec. 10 BYR	eP 00 28 31	Dec. 10 BYR	eP 05 36 58 e 37 04 e 37 17	Dec. 10 SPA	iP 05 37 48	Dec. 10 BYR	eP 06 18 27
Dec. 10 BYR	eP' 06 48 19	Dec. 10 BYR	eP 09 06 14	Dec. 10 SPA	eP 09 07 05	Dec. 10 BYR	eP 11 51 44
Dec. 10 SPA	iP 11 51 58	Dec. 10 SPA	iP 12 02 23	Dec. 10 BYR	eP 12 32 24	Dec. 10 SPA	iP 12 32 41 e 32 57
Dec. 10 BYR	eP 13 43 25 ipP 43 37	Dec. 10 SPA	iP 13 44 02 ipP 44 14	Dec. 10 BYR	eP 14 08 15 epP 09 05 esP 09 37	Dec. 10 SPA	iP 14 07 54 i 09 04
Dec. 10 SPA	iP 14 17 59	Dec. 10 SPA	eP 15 31 03	Dec. 10 BYR	eP 17 10 44	Dec. 10 SPA	iP 17 11 11 iPP 11 17 iS 18 42
Dec. 10 SPA	eP 18 33 17	Dec. 10 BYR	eP 18 38 39 e 39 29	Dec. 10 SPA	iP 18 37 35	Dec. 10 SPA	eP 20 28 05
Dec. 10 BYR	eP 22 17 37	Dec. 10 SPA	iP 22 17 38	Dec. 10 BYR	iP 22 39 41 e 40 36	Dec. 10 SPA	iP 22 40 17
Dec. 10 SPA	eP 23 08 55	Dec. 11 BYR	eP 00 11 35 epP 11 57 eS 21 21 eP'P' 40 24	Dec. 11 SPA	iP 00 11 57 ipP 12 18 isP 12 30 iS 20 39 eP'P' 40 14	Dec. 11 SPA	iP' 01 26 42
Dec. 11 BYR	e(P) 01 50 24	Dec. 11 SPA	eP 01 49 54	Dec. 11 BYR	eP 03 31 35 e 34 47	Dec. 11 SPA	iP 03 31 16
Dec. 11 SPA	eP 04 22 23	Dec. 11 BYR	eP 04 47 46	Dec. 11 SPA	iP 04 48 20	Dec. 11 BYR	e(P) 05 02 36
Dec. 11 SPA	eP 05 03 08	Dec. 11 BYR	e(P) 06 14 26	Dec. 11 BYR	eP 08 32 11	Dec. 11 SPA	eP 08 34 28
Dec. 11 BYR	e(P) 08 54 31	Dec. 11 SPA	eP 08 53 28	Dec. 11 SPA	iP 10 04 34	Dec. 11 BYR	eP 13 39 01
Dec. 11 SPA	eP 13 38 37	Dec. 11 BYR	eP 14 30 49 e 31 50	Dec. 11 SPA	iP 14 31 22 i 31 26	Dec. 11 BYR	eP 17 47 40
Dec. 11 BYR	eP 18 35 57	Dec. 11 SPA	iP 18 36 12				

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Dec. 11 BYR	eP 19 04 22 e 17 21 ePKKP 24 22 eP ⁺ P ⁺ 32 16	Dec. 13 BYR	iP 09 13 27	Dec. 15 BYR	eP 00 04 56 i(pP) 05 25 e(P ⁺) 08 12 e 08 53 eS 16 10 e 19 34	Dec. 16 SPA	eP 14 36 08
SPA	iP 19 04 38 ipP 04 55 isP 05 40 i 17 38 iP ⁺ P ⁺ 31 49	Dec. 13 BYR	eP ⁺ 10 24 12	SPA	iP 00 04 39 ipP 05 11 i SKS 14 57 iP ⁺ P ⁺ 29 58	Dec. 16 SPA	iP 15 42 03
Dec. 11 SPA	iP 19 56 18	Dec. 13 BYR	e(P) 10 34 42	Dec. 16 SPA	eP 16 14 03	Dec. 16 SPA	iP ⁺ 18 40 47
Dec. 11 BYR	eP 22 02 00	Dec. 13 BYR	eP 10 55 11	Dec. 16 SPA	eP 19 44 25	Dec. 16 SPA	eP 21 13 48
Dec. 12 BYR	eP 02 24 17	Dec. 13 BYR	e(P) 17 50 40	Dec. 15 BYR	eP 04 35 46	Dec. 16 SPA	eP 22 48 19
Dec. 12 BYR	eP 03 59 12	Dec. 14 BYR	e(P) 06 26 56	Dec. 15 SPA	eP 07 55 22	Dec. 17 SPA	eP 00 44 55
Dec. 12 BYR	eP 04 30 14	Dec. 14 BYR	eP 06 29 49	Dec. 15 BYR	eP 09 08 33	Dec. 17 SPA	e(P) 01 00 45
Dec. 12 BYR	eP 06 51 04	Dec. 14 SPA	iP 07 17 01	Dec. 15 SPA	iP 10 13 56	Dec. 17 SPA	eP 01 10 58
Dec. 12 BYR	iP 07 17 32	Dec. 14 BYR	eP 08 22 36 eP ⁺ P ⁺ 23 44	Dec. 15 SPA	eP 14 09 53	Dec. 17 SPA	iP 01 15 13
Dec. 12 BYR	eP 09 41 12	Dec. 14 SPA	iP 08 23 10 iP ⁺ P ⁺ 24 06 i 25 37 eP ⁺ P ⁺ 52 57	Dec. 15 BYR	eP 15 24 34	Dec. 17 BYR	eP 02 14 27
Dec. 12 BYR	e(P) 10 05 03	Dec. 14 BYR	e(P) 09 26 55	Dec. 15 SPA	eP 15 24 06	Dec. 17 SPA	iP 02 20 28
Dec. 12 BYR	eP 10 13 58	Dec. 14 SPA	eP 09 43 49	Dec. 15 BYR	eP 16 27 20 e 27 48	Dec. 17 BYR	eP 02 23 35
Dec. 12 BYR	e(P) 11 32 45 e 33 23	Dec. 14 SPA	eP 10 47 47	Dec. 15 SPA	eP 16 27 54	Dec. 17 SPA	iP 02 23 44 i 23 52
Dec. 12 BYR	eP 11 44 07 e 44 46 ePP 47 37	Dec. 14 SPA	eP 11 19 32	Dec. 15 BYR	eP 18 43 38 ePP 45 38	Dec. 17 BYR	eP 05 29 43
Dec. 12 BYR	eP 12 25 37	Dec. 14 SPA	eP 12 14 43	Dec. 15 SPA	eP 18 44 07	Dec. 17 SPA	iP 06 44 12
Dec. 12 BYR	eP 19 20 09	Dec. 14 SPA	iP 13 24 00	Dec. 16 SPA	eP 03 45 25	Dec. 17 SPA	eP 07 32 29
Dec. 13 BYR	eP 00 08 48	Dec. 14 BYR	e(P) 13 29 02	Dec. 16 SPA	eP 04 31 11	Dec. 17 BYR	iP 07 49 24 i 49 42 iP ⁺ P ⁺ 49 53
Dec. 13 BYR	eP 04 42 32	Dec. 14 SPA	iP 14 30 41 iPP 32 21	Dec. 16 SPA	iP 06 56 19	Dec. 17 SPA	iP 07 50 05 i 50 25 iP ⁺ P ⁺ 50 31
Dec. 13 BYR	eP 07 43 26 e 08 13 59 eP ⁺ P ⁺ 15 57	Dec. 14 BYR	e(P) 21 57 06	Dec. 16 SPA	iP 09 03 50		
Dec. 13 BYR	eP 09 08 16	Dec. 14 BYR	e(P) 22 10 44	Dec. 16 SPA	iP 10 24 53		

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Dec. 17 SPA	h m s eP 09 37 25	Dec. 17 SPA	h m s iP 17 04 18	Dec. 18 BYR	h m s e(P) 10 16 40	Dec. 19 BYR	h m s eP 13 11 55
Dec. 17 SPA	e(P) 09 53 34	Dec. 17 SPA	iP 18 01 24	Dec. 18 SPA	eP 10 38 10	Dec. 19 SPA	iP 13 12 11
Dec. 17 BYR	iP 10 49 45 ipP 50 51 ePP 53 22 ePKKP 11 06 52	Dec. 17 BYR	eP 18 19 09	Dec. 18 BYR	eP 11 11 32	Dec. 19 BYR	eP 13 32 08 i 32 17
SPA	iP 10 49 13 i 49 40 ipP 50 15 iS 59 06 i 11 00 18 isS 01 12 iPKKP 07 30 eP'P' 15 27 iSKPP' 18 31	Dec. 17 SPA	iP 18 24 48	Dec. 18 SPA	eP 13 01 53	Dec. 19 BYR	eP 13 48 26
Dec. 17 BYR	eP 11 51 28	Dec. 17 BYR	eP 18 54 34	Dec. 18 BYR	eP 15 00 30	Dec. 19 SPA	iP 13 48 25
SPA	iP 11 52 18	SPA	iP 18 53 49	SPA	eP 15 01 24	Dec. 19 SPA	eP 14 51 09
Dec. 17 BYR	eP 12 10 13	Dec. 17 BYR	eP 21 00 10 e 00 28	Dec. 18 SPA	eP 18 03 37	Dec. 19 SPA	iP 15 01 54
SPA	iP 12 10 43	SPA	iP 21 00 44	Dec. 18 BYR	e(P) 18 34 51 eP' 38 00 ePP 38 48	Dec. 19 SPA	iP 16 04 42
Dec. 17 BYR	eP 12 20 12	Dec. 17 SPA	eP 23 16 12	SPA	iP 18 34 26	Dec. 19 SPA	eP' 19 17 31
SPA	iP 12 20 48	Dec. 17 SPA	eP 23 37 11	Dec. 18 BYR	iP 19 38 55 epP 39 38	Dec. 19 BYR	e(P) 19 38 14
Dec. 17 BYR	e(P) 12 57 17	Dec. 17 SPA	eP 23 47 39	SPA	iP 19 39 34	Dec. 19 SPA	eP 20 44 23
Dec. 17 SPA	eP 13 23 18	Dec. 18 BYR	eP 03 27 39	Dec. 18 BYR	eP 21 07 07	Dec. 19 SPA	eP 21 15 45
Dec. 17 SPA	iP' 13 33 35	SPA	iP 03 28 05	SPA	iP 21 07 05	Dec. 19 BYR	eP 22 25 36 e 29 04
Dec. 17 SPA	eP 14 57 47	Dec. 18 SPA	eP 03 49 37	Dec. 18 BYR	eP 23 15 46	SPA	iP 22 25 51 i 25 57 i 29 18
Dec. 17 BYR	eP 16 12 44	Dec. 18 BYR	eP 05 22 37 epP 23 08 esP 23 22	Dec. 18 SPA	eP 03 05 31	Dec. 19 BYR	eP 22 58 05
SPA	iP 16 12 51 ipP 13 25	SPA	iP 05 23 00	Dec. 19 SPA	iP 05 59 59	SPA	iP 22 58 20
Dec. 17 BYR	e(P) 16 16 16	Dec. 18 SPA	iP 05 43 21	Dec. 19 SPA	eP 06 36 19	Dec. 20 BYR	e(P) 01 10 55
SPA	iP 16 16 38 i 16 48	Dec. 18 BYR	eP 07 00 22	Dec. 19 SPA	iP 07 10 59 i 11 12	SPA	eP 01 10 09
Dec. 17 BYR	eP 16 25 36	SPA	iP 07 00 49	Dec. 19 SPA	iP 09 51 51 i 51 58	Dec. 20 SPA	iP 02 06 46
SPA	iP 16 26 28	Dec. 18 BYR	eP 07 54 47	Dec. 19 SPA	eP 10 14 16	Dec. 20 SPA	eP 03 40 42
Dec. 17 BYR	eP' 17 04 01 e 04 14	Dec. 18 BYR	eP 09 21 04 e 21 16	Dec. 19 SPA	eP 12 14 40	Dec. 20 BYR	eP 04 48 09
				Dec. 19 SPA	eP 12 50 52	Dec. 20 SPA	eP 05 22 00

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Dec. 20 SPA	eP 06 45 23	Dec. 21 BYR	eP 05 03 53	Dec. 22 SPA	iP 01 12 18	SPA	iP 14 22 37 ipP 22 48
Dec. 20 SPA	eP 08 05 55	Dec. 21 BYR	eP 06 13 46	Dec. 22 BYR	iP 01 31 21	Dec. 22 BYR	eP 14 46 54
Dec. 20 BYR	eP 11 51 42 e 57 20	SPA	iP 06 14 12	SPA	iP 01 31 36 i 31 43	SPA	iP 14 47 11 i 47 39
SPA	iP 11 52 12 i 52 30 ipP 54 19	Dec. 21 SPA	eP 07 34 47	Dec. 22 BYR	iP 02 34 30 epP 35 41	Dec. 22 BYR	eP 14 50 22
Dec. 20 SPA	e(P) 12 08 12	Dec. 21 BYR	e(P) 10 00 59	SPA	iP 02 35 03 ipP 36 16 iS 42 50	SPA	iP 14 50 42
Dec. 20 BYR	eP 12 28 18	SPA	iP 10 01 10	Dec. 22 BYR	eP 03 21 03	Dec. 22 BYR	eP 16 28 40
Dec. 20 SPA	iP 14 08 52	Dec. 21 SPA	eP 13 12 14	SPA	eP 03 19 59	SPA	iP 16 29 32
Dec. 20 SPA	eP 16 41 04	Dec. 21 BYR	iP 14 59 14 epP 59 55 iPP 15 02 43 e 08 46	Dec. 22 BYR	iP 03 58 07 ipP 58 42 eP'P' 04 26 24	Dec. 22 BYR	iP 21 14 18 i 15 49 ipP 15 55 e 16 33 eS 24 00 ePKKP 33 26 eSKPP' 43 20
Dec. 20 SPA	iP 17 27 23	SPA	iP 14 59 30 i 59 39 i 59 45 ipP' 15 00 13 i 05 21	SPA	eP 03 59 22	SPA	iP 21 14 22 i 14 53 i 15 13 ipP 16 08 iS 24 09 i 32 40 iSKPP' 43 23
Dec. 20 BYR	eP 18 48 50	Dec. 21 SPA	eP 16 18 24	Dec. 22 BYR	iP 06 40 44 i 40 53 eP'P' 07 10 50	Dec. 23 SPA	eP 04 14 06
SPA	iP 18 50 18	Dec. 21 SPA	eP 16 58 53	SPA	iP 06 41 21 i 41 52 iPcP 42 10 iP'P' 07 10 34	Dec. 23 SPA	eP 06 07 58
Dec. 20 SPA	eP 20 15 06	Dec. 21 BYR	eP 18 43 56	Dec. 22 SPA	iP 10 16 04	Dec. 23 SPA	eP 06 47 36
Dec. 20 BYR	eP 20 48 54	SPA	iP 18 44 18	Dec. 22 BYR	eP 10 58 29	Dec. 23 BYR	eP 09 54 57 epP 55 19 ePKKP 10 11 52
SPA	iP 20 47 38	Dec. 21 SPA	eP 21 07 50	Dec. 22 BYR	eP 11 32 38	SPA	iP 09 54 20 ipP 54 40 iPKKP 10 10 58 iP'P' 20 15
Dec. 20 BYR	eP 21 03 37	Dec. 21 SPA	eP 21 50 50	Dec. 22 BYR	eP 12 12 38	Dec. 23 SPA	iP 11 01 36
SPA	iP 21 03 51	Dec. 21 BYR	iP 22 35 29 ePcP 38 55 eL 41 05 e 48 18	SPA	iP 12 12 32	BYR	eP' 11 05 58
Dec. 20 SPA	eP 21 22 54	SPA	iP 22 35 42 i 36 15 iPP 36 31 iPcP 39 13	Dec. 22 BYR	iP 12 30 42 ipP 30 54 ePcP 32 00	Dec. 23 BYR	eP 12 13 37
Dec. 20 BYR	e(P) 21 39 57	Dec. 21 BYR	iP 22 52 40	SPA	iP 12 31 27 ipP 31 40 iS 31 50 iP'P' 13 01 05	SPA	iP 12 14 09
Dec. 20 BYR	eP 22 15 06	SPA	iP 22 53 01	Dec. 22 BYR	eP 14 22 00		
Dec. 21 BYR	eP 00 08 06	Dec. 21 SPA	iP 23 11 08				
Dec. 21 SPA	iP 01 10 33						
Dec. 21 SPA	iP 02 09 37						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Dec. 23 BYR	eP e h m s 13 16 18 16 33	Dec. 24 SPA	iP h m s 15 39 23	Dec. 24 SPA	iP h m s 17 44 07 44 23	Dec. 26 SPA	eP h m s 18 57 15
Dec. 23 BYR	eP 13 21 56	Dec. 24 BYR	eP 16 43 14	Dec. 25 BYR	eP 18 34 18	Dec. 26 SPA	eP ¹ 21 02 12
Dec. 23 BYR	eP 13 39 46	Dec. 24 BYR	eP 16 51 32	Dec. 25 SPA	iP 18 34 48	Dec. 26 SPA	iP 21 37 27
Dec. 23 SPA	iP 13 39 55	Dec. 24 SPA	iP 16 51 16 ipP 51 27	Dec. 25 BYR	eP ¹ 20 47 17	Dec. 26 BYR	eP 22 24 50
Dec. 23 BYR	eP 14 46 32 epP 46 47	Dec. 24 SPA	iP 18 45 26	Dec. 25 SPA	iP 20 47 06	Dec. 26 BYR	eP 23 54 47 e 54 56
Dec. 23 SPA	iP 14 47 25	Dec. 24 BYR	eP 21 16 23	Dec. 25 BYR	iP 22 19 09	Dec. 26 SPA	eP 23 55 26
Dec. 23 BYR	eP 16 26 09	Dec. 24 SPA	iP 21 16 57	Dec. 26 SPA	eP 00 57 15	Dec. 27 SPA	iP 00 28 10
Dec. 23 SPA	iP 16 26 24	Dec. 24 BYR	eP 21 43 51	Dec. 26 BYR	eP 01 06 26 ePcP 06 56	Dec. 27 BYR	eP 03 31 34 e 32 10
Dec. 23 BYR	eP 19 16 26	Dec. 24 SPA	iP 21 44 48	Dec. 26 SPA	iP 01 07 00 iP ¹ P ¹ 35 31	Dec. 27 SPA	eP 03 31 54
Dec. 23 SPA	iP 19 17 03 iPcP 17 28 ipP 17 43 iP ¹ P ¹ 46 09	Dec. 24 SPA	eP 22 45 06	Dec. 26 BYR	iP ¹ 02 03 44 epP ¹ 04 06	Dec. 27 SPA	iP 04 22 17
Dec. 23 BYR	eP 19 49 16	Dec. 24 BYR	eP 23 30 32	Dec. 26 SPA	iP ¹ 02 03 02	Dec. 27 SPA	eP 05 46 48
Dec. 23 BYR	eP 20 16 40	Dec. 24 SPA	iP 23 31 12	Dec. 26 BYR	iP 04 39 21 e 40 46 eS 44 36 eScS 49 32	Dec. 27 BYR	eP 06 49 44
Dec. 23 SPA	iP 20 17 17	Dec. 25 SPA	iP 02 45 48	Dec. 26 BYR	eP 05 21 44	Dec. 27 BYR	eP 07 43 29
Dec. 24 BYR	eP 00 14 12	Dec. 25 BYR	eP 05 10 56	Dec. 26 BYR	eP 05 49 37	Dec. 27 SPA	iP 08 23 44
Dec. 24 BYR	eP 04 07 51	Dec. 25 BYR	eP ¹ 05 39 45	Dec. 26 BYR	eP 05 49 37	Dec. 27 SPA	iP 08 23 25
Dec. 24 SPA	iP 04 06 55	Dec. 25 SPA	eP ¹ 05 39 43	Dec. 26 BYR	eP 06 16 16	Dec. 27 BYR	eP 10 14 33
Dec. 24 BYR	eP 05 12 51	Dec. 25 BYR	eP 06 01 44	Dec. 26 SPA	iP 06 15 10	Dec. 27 SPA	eP 10 15 32
Dec. 24 SPA	iP 05 13 27	Dec. 25 SPA	iP 06 01 58	Dec. 26 BYR	eP 07 21 47	Dec. 27 BYR	eP ¹ 10 54 18
Dec. 24 SPA	iP 05 40 32	Dec. 25 SPA	iP 09 02 38	Dec. 26 BYR	eP 07 22 24	Dec. 27 SPA	iP ¹ 10 54 40 ipP ¹ 54 49 iSKP 58 10
Dec. 24 SPA	eP 09 13 41	Dec. 25 BYR	eP 11 23 24	Dec. 26 BYR	eP 09 21 45	Dec. 27 SPA	iP ¹ 11 15 55 iSKS 22 49
Dec. 24 BYR	eP 10 46 33 e 46 42	Dec. 25 SPA	iP 11 24 06	Dec. 26 BYR	eP 13 50 43	Dec. 27 SPA	iP ¹ 11 28 18
Dec. 24 SPA	iP 10 47 09	Dec. 25 SPA	eP 11 34 48	Dec. 26 SPA	iP 13 50 55 i 51 08 iPcP 52 58	Dec. 27 BYR	e(P ¹) 12 04 56
Dec. 24 BYR	e(P) 12 40 06	Dec. 25 SPA	eP 15 31 22	Dec. 26 SPA	eP 14 42 05	Dec. 27 SPA	eP 12 00 43
Dec. 24 SPA	iP 12 40 56	Dec. 25 BYR	iP 17 43 21 e 43 33	Dec. 26 BYR	eP 17 27 58		

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Dec. 27	h m s	Dec. 27	h m s	Dec. 29	h m s	Dec. 29	h m s
BYR eP	15 18 12	SPA iP	14 57 44	BYR eP	10 44 03	SPA iP	20 52 40
SPA eP	15 19 29	i	57 51	eL	53 11		
		i	15 06 10	e	58 22	Dec. 29	
Dec. 27		Dec. 28		SPA iP	10 44 58	BYR e(P)	21 24 18
BYR iP	15 44 52	BYR eP	16 14 30	i	45 27	Dec. 29	
SPA iP	15 45 26	SPA eP	16 15 24	i	45 51	BYR eP	21 39 36
				i(S)	52 04	SPA iP	21 40 31
Dec. 27		Dec. 28		i	59 18		
BYR eP	18 20 55	BYR eP	16 35 11	Dec. 29		Dec. 29	
eP iP	48 54	SPA eP	17 17 32	BYR eP	11 15 49	BYR e(P)	22 16 30
SPA iP	18 21 36	Dec. 28		SPA eP	11 16 29	Dec. 30	
i	22 10	SPA eP	18 16 52	Dec. 29		BYR eP	00 30 21
Dec. 27		Dec. 28		BYR eP	11 51 43	Dec. 30	
BYR eP	19 30 13	BYR eP	18 18 37	SPA eP	11 52 12	BYR eP	00 36 42
SPA iP	19 30 48	SPA iP	18 18 59	Dec. 29		Dec. 30	
Dec. 27		Dec. 28		SPA iP	13 35 47	BYR eP	01 54 14
SPA eP	19 53 39	SPA iP	20 05 05	Dec. 29		Dec. 30	
Dec. 27		Dec. 28		BYR eP	13 55 09	BYR eP	04 07 29
BYR eP	20 17 25	SPA iP	21 02 25	e	14 00 19	e	09 48
SPA eP	20 17 12	Dec. 28		i	01 48	Dec. 30	
Dec. 27		SPA iP	22 07 36	SPA iP	13 55 04	BYR iP	05 26 50
BYR e(P)	22 03 28	Dec. 28		ipP	55 20	Dec. 30	
Dec. 28		BYR iP	22 29 47	isP	55 27	BYR e(P)	05 41 51
BYR iP	02 07 38	SPA iP	22 30 21	i	14 02 43	Dec. 30	
Dec. 28		Dec. 29		Dec. 29		BYR eP	08 07 36
BYR e(P)	02 52 12	BYR iP	00 53 52	SPA eP	16 04 08	SPA eP	08 08 10
Dec. 28		SPA iP	00 53 16	Dec. 29		Dec. 30	
BYR eP	05 01 56	Dec. 29		BYR eP	17 30 47	BYR eP	08 39 46
Dec. 28		SPA eP	01 15 57	Dec. 29		SPA eP	08 39 45
BYR e(P)	07 04 55	Dec. 29		BYR eP	18 37 07	Dec. 30	
SPA eP	07 04 31	SPA eP	03 05 43	SPA eP	18 37 41	BYR eP	09 10 11
Dec. 28		Dec. 29		Dec. 29		SPA iP	09 11 09
BYR eP	07 44 58	BYR eP	06 07 34	BYR iP	19 12 17	Dec. 30	
Dec. 28		SPA eP	06 07 43	ipP	12 33	BYR e(P)	10 59 17
SPA iP	09 34 24	Dec. 29		SPA iP	19 12 55	Dec. 30	
Dec. 28		BYR eP	06 12 53	i	14 10	BYR iP	11 14 29
BYR eP	12 58 17	SPA iP	06 13 28	i	14 21	i	14 54
e	59 26	Dec. 29		Dec. 29		SPA iP	11 15 08
Dec. 28		BYR e(P)	06 24 46	SPA iP	20 03 54	i	15 33
SPA eP	13 16 09	e	26 11	Dec. 29		Dec. 30	
Dec. 28		Dec. 29		BYR e(P)	20 33 33	BYR eP	11 38 10
BYR eP	13 27 17	BYR eP	10 01 01	Dec. 29		SPA iP	11 39 00
Dec. 28		SPA eP	10 01 01	BYR iP	20 39 45	Dec. 30	
BYR eP	14 44 12	Dec. 29		e	41 20	BYR eP	13 23 43
Dec. 28		Dec. 29		SPA iP	20 40 40	SPA eP	13 24 36
BYR eP	14 57 50	BYR eP	10 01 01	i	43 16		

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Dec. 30 BYR	eP 14 47 39	Dec. 31 SPA	iP 16 29 01				
SPA	iP 14 47 54	Dec. 31 BYR	eP 16 38 47				
Dec. 30 SPA	eP 16 08 47	Dec. 31 BYR	iP 18 15 37				
Dec. 30 BYR	eP 17 15 11		ePcP 17 45				
SPA	iP 17 15 46	SPA	iP 18 16 31				
Dec. 31 BYR	eP 00 17 40		ipP 16 40				
	epP 17 56		isP 16 46				
Dec. 31 SPA	iP 04 35 59		iPcP 18 09				
Dec. 31 BYR	eP 07 16 51	Dec. 31 BYR	eP 19 15 12				
SPA	eP 07 17 43	Dec. 31 BYR	eP 20 11 46				
Dec. 31 BYR	eP 07 34 45	SPA	iP 20 11 27				
SPA	iP 07 35 50	Dec. 31 BYR	iP 21 18 25				
Dec. 31 BYR	eP 07 48 47		epP 18 52				
SPA	eP 07 49 55	SPA	iP 21 18 26				
Dec. 31 BYR	eP 07 56 01						
SPA	eP 07 57 03						
Dec. 31 BYR	eP 08 31 04						
SPA	iP 08 31 13						
Dec. 31 BYR	iP 08 56 28						
	e 57 00						
SPA	iP 08 57 07						
Dec. 31 BYR	eP 11 25 05						
SPA	iP 11 25 58						
Dec. 31 BYR	eP 13 39 12						
SPA	iP 13 39 58						
Dec. 31 SPA	eP 14 55 15						
Dec. 31 BYR	iP 16 18 12						
SPA	iP 16 17 45						