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SEISMOLOGICAL BULLETIN

January, 1961

COAST & GEODETIC SURVEY
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U. S. DEPARTMENT OF COMMERCE

Luther H. Hodges, Secretary

COAST AND GEODETIC SURVEY—WASHINGTON

H. Arnold Karo, Director

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National Oceanic and Atmospheric Administration

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1961

The instrumental results of the following stations are tabulated in this report.

**Balboa Heights, C. Z. (BHP)
The Panama Canal Co.
*Boulder City, Nev. (BCN)
Bureau of Reclamation
*Bozeman, Mont. BOZ)
Montana State College
*Butte, Mont. (BUT)
Montana School of Mines
*Chicago, Ill. (CHI)
University of Chicago and
U. S. Weather Bureau
College, Alaska (COL)
*Columbia, S. C. (CSC)
University of South Carolina
*Eureka, Nev. (EUR)
Eureka Corporation Limited
*Flaming Gorge, Utah (FGU)
Bureau of Reclamation
*Glen Canyon, Ariz. (GCA)
Bureau of Reclamation
Guam, M. I. (GUA)
Honolulu, Hawaii (HON)
*Hungry Horse, Mont. (HHM)
Bureau of Reclamation
Kipapa, Hawaii (KIP)
*Lincoln, Nebr. (LIN)
Nebraska Wesleyan University
**Philadelphia, Pa. (PHI)
The Franklin Institute
**Rapid City, S. D. (RCD)
South Dakota State School of Mines
*Salt Lake City, Utah (SLC)
University of Utah
San Juan, Puerto Rico (SJP)
Sitka, Alaska (SIT)
*Thule, Greenland (THU)
U. S. Army Ionosphere Station
Tucson, Ariz. (TUC)
Tucson, Ariz. Telemeter (TUT)
Ukiah, Calif. (UKI)
International Latitude Observatory
Washington, D. C. (WAS)

*Indicates a station maintained by a local institution in cooperation with the Coast and Geodetic Survey.
**Indicates a station operating on an independent basis.
Other stations are observatories of the Coast and Geodetic Survey.

All seismogram interpretations are made or revised at Washington except those for Balboa Heights. Beginning January 1, 1959 the data from the horizontal components of the seismographs at all stations except College, Honolulu, and Tucson will not be published for earthquakes occurring outside the United States. The horizontal instruments will continue in operation and the seismograms for the local and regional earthquake will be scaled and the data published.

All magnitude determinations are by Pasadena unless otherwise stated. Minor earthquakes are listed at the end of the bulletin.

All coordinates of epicenters, origin times and focal depths have been calculated with the use of an electronic computer. The epicenters quoted in this Bulletin are those previously reported on the Preliminary Determination of epicenter cards with some refinement and minor additions.

All seismograms are on file in the Coast and Geodetic Survey, except those from Balboa Heights, which may be obtained on loan by addressing the Seismograph Station Director, Meteorological and Hydrographic Office, Panama Canal Company, Balboa Heights, Canal Zone.

STATION AND INSTRUMENTAL CONSTANTS FOR 1961

Station	Position	Instrument	Foundation and Elevation	T_o	T_g	T_s	V	Σ	Paper Speed	Time Break Reference Point	Ground Motion Trace "Up"
Balboa Heights, C. Z.	Log cos 9.99467	W-A, N&E	Basalt	N 1.0			1370	14:1	60mm/min.	Beginning	N
W. H. Esslinger	Lat. 8°57'39"N	Mass 1.3g	36 m.	E 1.0			1370				E
In Charge	Long. 79°33'29"W	Spg. LP (Series H)		N 20			5000				
		Spg. LP (Series H)		E 20	20		5000				
		Spg. LP (Series D-H)		Z 1.9	1.9		3000				
Boulder City, Nev.	Log cos 9.90806	B, film	Fractured	Z 1.4	0.45		100000**	Near crit.	15mm/min.	Beginning	Up
V. B. Lehling	Lat. 35°58'51"N	ZNE, Mass	monzonite	N 1.4	0.45		50000	Crit.			N
In Charge	Long. 114°50'02"W	100 lb.	776 m.	E 1.4	0.45		50000	Crit.			E
Bozeman, Mont.	Log cos 9.84437	Spg. N&E	Alluvium	N 11.1	8.3		8000	3:1	30mm/min.	Beginning	N
A. J. M. Johnson	Lat. 45°40'01"N		glacial drift	E 10.9	7.6		8000	11:1			E
In Charge	Long. 111°02'43"W	W-L, Z	and lake de-	Z 1.1	1.7		24000	Under damped	60mm/min.	Beginning	Up
			posits 500' thick over gneiss and schist. 1490 m.								
Butte, Mont.	Log cos 9.84167	W-A, N.	Rhyolite	N 8.02			316	50:1	15mm/min.	Beginning	S
S. W. Nile	Lat. 46°00.8' N	Mass 2g	30 m. thick								
In Charge	Long. 112°33.8' W	W-L, NE	resting on	N 8.0	3.8		12000	Near crit.	30mm/min.	Beginning	N
			granite	E 8.0	3.9		12000	Near crit.			W
		B, paper, Z	1758 m.	Z 1.1	0.5		50000	Near crit.	60mm/min.		Up
		Mass 100 lb.									
Chicago, Ill.	Log cos 9.87251	McC-R, N&E	Limestone	N 10			335	15:1	15mm/min.	End	N
W. F. Schmidt	Lat. 41°47.3' N	Mass 2.5 kg	180 m.	E 10			335	15:1			W
In Charge	Long. 87°36.0' W										
College, Alaska	Log cos 9.62825	W-L, film, Z	Granite	Z 1.19	0.45		40000**	Near crit.	15mm/min.	Beginning	Up
K. Cravens	Lat. 64°51.6' N	B, film, NE	schist.	N 1.36	0.45		50000	Near crit.			N
In Charge	Long. 147°50.2' W		159 m.	E 1.40	0.45		50000	Near crit.			E
		W, N		N 9.5	12.0		1000	Near crit.			N
College Outpost	Log cos 9.62781	B,paper, Z		Z 1.5	0.53		425000	Near crit.	60mm/min.	Beginning	Up
K. Cravens	Lat. 64°53'08"N										
In Charge	Long. 147°48'04"W										
Columbia, S. C.	Log cos 9.91857	W-L, ZNE	Consolidated	Z 1.1	1.6		24000	Under damped	60mm/min.	Beginning	Up
C. F. Mercer	Lat. 34°00' N		sand 150'	N 8.0	4.1		13000		30mm/min.		N
In Charge	Long. 81°02' W		thick over granite, 94m.	E 8.0	4.1		13000				E
Eureka, Nev.	Log cos 9.86751	B, paper, Z	Dolomite	Z 1.08	0.55		420000	Near crit.	60mm/min.	Beginning	Up
W. DeFaol	Lat. 39°29'00"N	Mass 100 lb.	bedrock								
In Charge	Long. 115°58'12"W		7150 ft.								
Flaming Gorge, Utah	Log cos 9.87826	B, film ZNE	Quartzsite	Z 1.06	0.33			6:1	15mm/min.	Beginning	Up
J. Hanfelt	Lat. 40°55'36"N		6500 ft.	N 1.41	0.35			3:1	15mm/min.		N
In Charge	Long. 109°23'10"W			E 1.48	0.58			3:1	15mm/min.		E

Station	Position	Instrument	Foundation and Elevation	T_o	T_g	T_s	V	Σ	Paper Speed	Time Break Reference Point	Ground Motion Trace "Up"
Glen Canyon, Ariz.	Log cos 9.90250	B, film ZNE	Navajo Sand-	Z 1.10	0.37		25000	8:1	15mm/min.	Beginning	Up
George Atkinson	Lat. 36°58'25"N		stone. 390 ft.	N 1.40	0.43		50000	3:1			N
In Charge	Long. 111°35'35"W			E 1.37	0.45		50000	2:1			E
Guam, Mariana Islands	Log cos 9.98768	W-L, Z	147 ft.	Z 1.01	1.5		5000	Near crit.	30mm/min.	Beginning	Up
J. V. Hastings	Lat. 13°35'16"N	HTL, Z		Z 0.5	0.55		42000	Near crit.	30mm/min.	Beginning	Up
In Charge	Long. 144°51'58"E	Spg, NE		N 7.35	7.0		3000	Near crit.	30mm/min.	Beginning	N
				E 7.09	7.2		3000	Near crit.	30mm/min.	Beginning	E
*Honolulu, Hawaii	Log cos 9.96926	M-S, N&E	Coral 3m.	N 12			124	20:1	15mm/min.	Beginning	N
G. E. Haraden	Lat. 21°18'13"N	Mass 1 lb.		E 12			142	20:1			W
In Charge	Long. 158°05'44"W	HTL Z		Z 0.5	0.5		20000		60mm/min.		Up
		Lamont, ZNE		Z 15	75		8000		15mm/min.		Up
				N 15	75		8000				N
				E 15	75		8000				W
Hungry Horse, Mont.	Log cos 9.82255	B-VR, Z	Argillaceous	Z 1.05	0.5		188000	Near crit.	60mm/min.	Beginning	Up
R. D. Bush	Lat. 48°20'58"		Limestone	Z 1.05	92			Near crit.	30mm/min.	Beginning	Up
In Charge	Long. 114°01'39"W	W-L, N	(Belt series)	N 3.5	3.9		10000	Near crit.	30mm/min.	Beginning	N
		W-L, E	1100 m.	E 3.4	4.1		10000	Near crit.	30mm/min.	Beginning	E
Kipapa, Hawaii	Log cos 9.96893	B-VR, Z	Basalt	Z 1.09	0.2		30000	Near crit.	60mm/min.	Beginning	Up
G. E. Haraden	Lat. 21°35.3' N		75 m.								
In Charge	Long. 158°00.9' W										
Lincoln, Nebr.	Log cos 9.87884	Spg, N&E	Dakota sand-	N 3.95	6.2		4800	2.11:1	15mm/min.	Beginning	N
C. L. Moore	Lat. 40°50.3' N		stone. 366 m.	E 4.3	6.8		4800	2.32:1	15mm/min.	Beginning	E
In Charge	Long. 96°39.2' W										
*Philadelphia, Pa.	Log cos 9.88452	W, N&E	Cape May	N 9.0	5.4	7.8	1400	15:1	20mm/min.	End	S
I. M. Levitt	Lat. 39°57'32"N	Mass 500 g.	sand and	E 9.2	4.1	7.4	1400	15:1			E
In Charge	Long. 75°10'30"W		gravel. 5 m.								
Rapid City, S. Dak.	Log cos 9.85637	W-A, E	Shale	E 6.7			725	15:1	15mm/min.	Beginning	E
E. L. Tullis	Lat. 44°04.6' N	(Dbl. refl.)	1045 m.								
In Charge	Long. 103°12.0' W	Mass 2 g.									
		W-L, Z		Z 1.08	1.6		10000		60mm/min.		Up
Salt Lake City, Utah	Log cos 9.87932	McC-R, N&E	Bonneville	N 9.9			335	15:1	15mm/min.	Beginning	N
A. M. Anderson	Lat. 40°45'55"N	Mass 2.5 kg.	Lake beds	E 10			335	15:1			W
In Charge	Long. 111°50'54"W	W-L, Z	1425 m.	Z 1.2	1.8		24000	Near crit.	60mm/min.		Up
San Juan, P. R.	Log cos 9.97726	W, N&E	Limestone	N 9.8	15.6	10.4		20:1	30mm/min.	Beginning	N
M. Vazquez	Lat. 18°22.9' N	Mass 500 g.	80 m.	E 9.8	16.8	10.4	1280	20:1			W
In Charge	Long. 66°07.1' W	B, Z		Z 1.05	0.5	0.6	20000	Crit.	60mm/min.		Up
*Sitka, Alaska	Log cos 9.73544	W, N&E	Graywacke	N 7.5	16.5	8.2	1000	20:1	15mm/min.	Beginning	S
M. L. Cleven	Lat. 57°03'25"N	Mass 500 g.	19 m.	E 7.5	13.2	8.2	1000	5.5:1			E
In Charge	Long. 135°19'28"W	W-L, Z		Z 1.12	1.5		10000		60mm/min.		Up
Thule, Greenland	Log cos 9.36644	W-L, Z	Glacial	Z 1.3	1.55		12000	Near crit.	60mm/min.	Beginning	Up
Capt. C. R. deZafra	Lat. 76°33.4' N		material								
In Charge	Long. 68°40.5' W		275 m.								

Station	Position	Instrument	Foundation and Elevation	T_o	T_g	T_s	V	Σ	Paper Speed	Time Break Reference Point	Ground Motion Trace "Up"
*Tucson, Ariz.	Log cos 9.92725	W-A, N&E	Caliche or	N 8.0			466	Crit.	30mm/min.	Beginning	S
C. J. Beers	Lat. 32°14.8' N	Mass 2.3 g.	gravels 100-	E 8.0			457	Crit.			E
In Charge	Long. 110°50.1' W	B, Z(LP)	300m. thick	Z 1.0	77		50000	Near crit.	30mm/min.		Up
		(SP)	700 m.		0.236		50000		60mm/min.		Up
		B, E		E 1.6	0.5		25000		30mm/min.		W
[2]Tucson Telemeter	Log cos 9.92682	B, Z	Granite	Z 1.1	0.5		425000	Near crit.	60mm/min.	Beginning	Up
C. J. Beers	Lat. 32°20.1' N	Mass 100 lb.									
In Charge	Long. 110°43.4' W										
Ukiah, California	Log cos 9.88968	McC-R, N&E	Alluvium	N 11.9			75	Near crit.	30mm/min.	Beginning	N
L. F. Caouette	Lat. 39°08' N	Mass 10 kg.	180 m. deep.	E 11.6			75				E
In Charge	Long. 123°13' W	W-L, Z	199 m.	Z 1.1	1.4		24000		60mm/min.		Up
*Washington, D. C.	Log cos 9.89117	W-L, Z	Recent allu-	Z 1.5	4.0		10000		30mm/min.	Beginning	Up
	Lat. 38°53'33"N	Visible	vium on		Pen						
	Long. 77°01'59"W	recorder	Schistose		0.5						
			granite. 0 m.								

*These stations operate visible recording seismographs of Coast and Geodetic Survey design similar to the one at Washington.

**Magnifications for film records are stated as read using an 8 power viewer.

B-Benioff Moving Coil, B-VR - Benioff Variable Reluctance, W - Wenner, McC-R - McComb-Romberg, W-A - Wood-Anderson, M-S - Milne-Shaw. HTL - Houston Technical Laboratory, Spg - Sprengnether, W-L - Wilson-Lamison

[1] The Seismometer is in a vault about 2.1 miles northeast of the main station. The signal is carried by cable to the main vault where it is fed into a galvanometer and recorded on photographic paper.

[2] The Seismometer is about nine miles northeast of the main station. The signal is transmitted by FM-FM radio to the main recorder room where it is recorded photographically.

Date 1961	Origin Time G. C. T.	Lat.	Long.	Region, Remarks and Focal Depth
Jan	h m s	°	°	
1	13 09 08.5	13.1 S.	167.0 E.	New Hebrides Islands region. h about 98 km.
1	13 52 37.6	19.5 N.	121.0 E.	Near north coast of Luzon, Philippine Islands. Felt: Calayan Island. h about 77 km.
1	16 38 23.8	18.2 S.	178.1 W.	Fiji Islands region. h about 600 km.
1	18 45 49.5	87.2 N.	51.5 E.	Arctic Ocean. h about 25 km.
1	19 33 20.1	54.3 N.	7.4 E.	Bouvet Island region. h about 91 km.
1	20 22 17.9	49.6 S.	125.9 E.	South of Australia. h about 72 km.
1	22 11 17.0	29.2 S.	177.0 W.	Kermadec Islands region. h about 100 km.
2	03 16 42.2	41.5 S.	87.7 W.	Off coast of southern Chile. h about 25 km.
2	10 11 58.1	12.5 S.	166.3 E.	Santa Cruz Islands region. Mag. $6\frac{3}{4}$. h about 140 km.
2	12 49 14.6	5.1 N.	127.6 E.	Near Mindanao, Philippine Islands. h about 70 km.
2	16 21 30.0	51.2 N.	157.7 E.	Near east coast of Kamchatka. h about 40 km.
2	20 51 58.8	6.9 S.	150.4 E.	New Britain region. h about 40 km.
2	23 07 23.9	10.4 S.	160.9 E.	Solomon Islands. h about 100 km.
3	02 30 29.5	46.9 N.	152.4 E.	Kurile Islands. h about 42 km.
3	05 26 56.8	44.7 S.	75.5 W.	Off coast of southern Chile. h about 25 km.
3	06 48 59.5	17.4 N.	61.3 W.	Leeward Islands. h about 25 km.
3	08 10 45.1	1.4 N.	29.1 W.	Atlantic Ocean. h about 25 km.
3	11 40 42.5	6.8 S.	129.3 E.	Banda Sea. h about 72 km.
3	17 41 51.2	20.5 S.	68.8 W.	Southern Bolivia. h about 100 km.
3	18 02 53.6	6.2 S.	150.9 E.	New Britain. h about 113 km.
3	19 08 08.9	24.1 S.	67.0 W.	Northern Chile - Argentina border region. h about 207 km.
3	19 36 56.7	6.2 S.	130.2 E.	Banda Sea. h about 74 km.
3	20 05 33.8	7.3 S.	123.0 E.	Banda Sea. h about 154 km.
3	23 45 52.9	38.2 N.	37.0 E.	Central Turkey. h about 25 km.
4	01 50 18.0	5.5 N.	122.5 E.	Celebes Sea. h about 633 km.
4	11 29 53.1	6.9 S.	121.7 E.	Flores Sea. h about 25 km.
4	12 04 35.5	17.7 N.	101.2 W.	Near coast of Guerrero, Mexico. h about 49 km.
4	13 25 35.6	17.5 S.	178.9 W.	Fiji Islands. h about 591 km.
4	19 16 19.5	5.5 S.	128.7 E.	Banda Sea. h about 173 km.
5	05 40 02.9	20.0 S.	174.1 W.	Tonga Islands. h about 25 km.
5	14 06 25.9	51.8 N.	176.3 W.	Andreanof Islands, Aleutian Islands. Felt on Adak. Mag. $6\frac{1}{2}$. h about 37 km.
5	15 09 37.9	45.9 N.	149.3 E.	Kurile Islands. h about 19 km.
5	15 53 56.0	4.1 S.	143.0 E.	New Guinea. Felt. Mag. $6\frac{3}{4}$-7. h about 108 km.

Date 1961	Origin Time G. C. T.	Lat.	Long.	Region, Remarks and Focal Depth
Jan	h m s	°	°	
5	17 57 51.1	21.2 S.	169.5 E.	Loyalty Islands region. Mag. 6¾. h about 53 km.
5	18 14 36.7	21.1 S.	170.0 E.	Loyalty Islands region. Mag. 6¾. h about 67 km.
5	18 37 48.3	51.5 N.	176.6 W.	Andreanof Islands, Aleutian Islands. h about 30 km.
5	18 47 33.5	8.3 N.	83.1 W.	Costa Rica - Panama border region. h about 82 km.
5	20 05 12.2	11.6 N.	143.5 E.	Mariana Islands region. h about 25 km.
5	23 57 29.6	32.6 S.	178.6 W.	Kermadec Islands region. h about 166 km.
6	01 20 30.8	42.7 N.	143.4 E.	Hokkaido, Japan. h about 21 km.
6	06 21 38.2	52.0 N.	176.0 W.	Andreanof Islands, Aleutian Islands. h about 40 km.
6	07 05 47.7	53.5 N.	159.7 E.	Kamchatka. h about 24 km.
6	10 48 22.9	14.3 N.	95.8 W.	Off south coast of Mexico. h about 45 km.
6	23 10 42.3	56.6 N.	162.5 E.	Kamchatka. h about 25 km.
7	10 30 41.1	35.0 N.	27.0 E.	East of Crete. Felt. h about 20 km.
7	11 30 12.0	24.5 S.	179.5 E.	South of Fiji Islands. h about 568 km.
7	15 52 54.0	37.6 N.	20.8 E.	Near west coast of Greece. Felt. h about 25 km.
7	18 16 54.3	57.4 S.	24.7 W.	Sandwich Islands. Mag. 5½ (Pal). h about 51 km.
7	21 36 48.8	17.1 N.	119.9 E.	Near west coast of Luzon, Philippine Islands. h about 25 km.
8	01 15 25.6	4.1 N.	129.3 E.	Halmahera region. h about 106 km.
8	02 56 34.1	3.5 N.	129.6 E.	Halmahera region. h about 117 km.
8	05 21 46.7	15.9 S.	73.1 W.	Southern Peru. Felt: Arequipa. h about 135 km.
8	09 49 08.8	45.0 N.	110.7 W.	Yellowstone National Park, Wyoming. h about 25 km.
8	10 01 06.6	26.1 S.	179.6 E.	Kermadec Islands region. h about 538 km.
9	03 08 37.7	31.4 N.	41.0 W.	North Atlantic Ocean. Mag. 4¾ (Pal). h about 25 km.
9	07 54 25.0	28.4 S.	176.8 W.	Kermadec Islands region. h about 25 km.
9	10 13 17.7	21.4 S.	169.1 E.	Loyalty Islands. h about 82 km.
9	11 06 58.4	17.8 N.	61.1 W.	Leeward Islands. h about 25 km.
9	11 11 12.5	17.7 N.	61.0 W.	Leeward Islands. h about 52 km.
9	19 22 05.6	17.9 N.	61.0 W.	Leeward Islands. Mag 4½ (Pal). h about 31 km.
9	19 24 59.5	17.8 N.	61.6 W.	Leeward Islands. h about 31 km.
9	22 16 32.3	43.6 N.	103.8 E.	Outer Mongolia. h about 38 km.
10	09 12 54.2	5.9 S.	130.0 E.	Banda Sea. h about 84 km.
10	11 09 13.6	17.7 N.	60.8 W.	Leeward Islands. h about 25 km.
10	14 22 19.4	50.3 N.	155.9 E.	Kurile Islands region. Mag. 6¾. h about 25 km.
11	11 58 23.8	52.5 N.	170.7 W.	Fox Islands, Aleutian Islands. h about 42 km.
11	11 59 55.0	52.0 N.	171.0 W.	Fox Islands, Aleutian Islands. Mag. 5¾-6 (Pal). h about 47 km.

Date 1961	Origin Time G. C. T.	Lat.	Long.	Region, Remarks and Focal Depth
Jan	h m s	°	°	
11	16 31 50.6	54.9 S.	162.9 E.	Macquarie Islands. h about 27 km.
11	19 29 07.8	24.8 S.	68.5 W.	Near coast of northern Chile. h about 128 km.
11	21 37 08.0	52.3 S.	160.3 E.	Macquarie Islands region. h about 25 km.
12	05 16 06.8	20.2 S.	168.9 E.	New Hebrides Islands. h about 25 km.
12	14 13 34.1	57.8 N.	155.5 W.	Alaska Peninsula. h about 71 km.
13	19 18 44.7	46.7 S.	34.1 E.	Prince Edward Islands region. h about 60 km.
14	00 35 03.0	53.1 N.	160.8 E.	Macquarie Islands region. h about 25 km.
14	02 26 23.8	53.3 N.	172.3 E.	Near Islands, Aleutian Islands. h about 25 km.
14	05 32 42.5	5.4 S.	152.9 E.	New Ireland region. h about 81 km.
14	07 31 44.8	7.6 N.	73.3 W.	Colombia. h about 21 km.
14	16 17 26.1	6.8 N.	73.1 W.	Colombia. h about 159 km.
14	16 36 54.8	53.9 N.	163.4 W.	Unimak Island region. Mag $5\frac{3}{4}$ (Pal). h about 38 km.
15	01 02 50.2	53.8 S.	139.6 E.	South of Australia. h about 25 km.
15	04 06 00.1	29.4 N.	142.3 E.	South of Honshu, Japan. h about 107 km.
15	05 56 11.5	17.8 N.	61.2 W.	Leeward Islands. h about 17 km.
15	08 19 55.5	30.3 S.	71.1 W.	Central Chile. h about 86 km.
15	11 53 09.9	39.8 N.	142.8 E.	Near east coast of Honshu, Japan. h about 65 km.
15	16 44 44.8	20.5 S.	169.5 E.	Loyalty Islands region. h about 182 km.
15	20 34 14.3	5.2 S.	110.0 E.	Java Sea. h about 565 km.
16	03 58 52.5	18.3 N.	102.4 W.	Near coast of Michoacan, Mexico. Felt. h about 153 km.
16	04 15 17.5	20.7 S.	168.7 E.	Loyalty Islands. h about 25 km.
16	07 20 12.6	36.2 N.	141.7 E.	Near east coast of Honshu, Japan. Felt in central and northeastern Honshu. Mag. $6\frac{3}{4}$-7. h about 41 km.
16	08 48 19.6	36.1 N.	141.6 E.	Near east coast of Honshu, Japan. h about 123 km.
16	10 14 09.6	36.6 N.	141.4 E.	Near east coast of Honshu, Japan. h about 131 km.
16	11 19 46.5	35.9 N.	140.6 E.	Near east coast of Honshu, Japan. h about 157 km.
16	11 41 06.2	35.4 N.	141.0 E.	Near east coast of Honshu, Japan. h about 149 km.
16	12 12 34.4	35.4 N.	141.7 E.	Near east coast of Honshu, Japan. Mag. $6\frac{1}{2}$-$6\frac{3}{4}$. h about 105 km.
16	13 09 17.7	35.8 N.	140.8 E.	Near east coast of Honshu, Japan. h about 144 km.
16	14 04 05.3	36.5 N.	141.2 E.	Near east coast of Honshu, Japan. h about 127 km.
16	14 44 15.1	36.9 N.	141.8 E.	Near east coast of Honshu, Japan. h about 108 km.
16	15 26 19.5	36.3 N.	141.0 E.	Near east coast of Honshu, Japan. h about 113 km.
16	15 41 25.4	36.6 N.	140.7 E.	Near east coast of Honshu, Japan. Mag. $6\frac{1}{4}$. h about 132 km.
17	00 29 35.7	36.7 N.	141.8 E.	Near east coast of Honshu, Japan. h about 100 km.
17	04 23 36.3	59.0 N.	135.9 W.	Southeastern Alaska. h about 109 km.

Date 1961	Origin Time G. C. T.	Lat.	Long.	Region, Remarks and Focal Depth
Jan	h m s	°	°	
17	06 41 38.5	36.4 N.	141.4 E.	Near east coast of Honshu, Japan. h about 83 km.
17	23 05 27.6	21.7 S.	169.3 E.	Loyalty Islands. Mag. 5½ (Pal). h about 35 km.
18	04 22 24.3	32.1 S	64.3 W.	Cordoba Province, Argentina. h about 57 km.
18	07 12 46.0	36.3 N.	141.4 E.	Near east coast of Honshu, Japan. h about 100 km.
18	07 27 46.4	35.1 N.	142.2 E.	Near east coast of Honshu, Japan. h about 100 km.
18	09 05 43.8	12.3 S.	166.2 E.	New Hebrides Islands. h about 95 km.
18	15 09 47.3	24.5 S.	176.3 W.	Tonga Islands region. h about 25 km.
18	16 48 34.5	36.1 N.	141.7 E.	Near east coast of Honshu, Japan. h about 137 km.
18	19 55 12.8	61.7 N.	150.4 W.	Southern Alaska. h about 150 km.
19	04 21 16.0	14.5 S.	166.7 E.	New Hebrides Islands. Mag. 6 (Pal). h about 26 km.
19	05 54 25.5	21.6 S.	170.3 E.	Loyalty Islands. h about 100 km.
19	17 22 16.9	49.9 N.	155.8 E.	Kurile Islands. Mag. 5¼-5½ (Pal). h about 31 km.
20	00 56 59.7	56.7 N.	152.1 W.	Near Kodiak Island, Alaska. h about 55 km.
20	01 51 53.2	20.2 N.	108.8 W.	Off coast of Jalisco, Mexico. Mag. 4¾ (Pal). h about 84 km.
20	05 23 16.1	56.6 N.	152.0 W.	Near Kodiak Island, Alaska. h about 58 km.
20	08 50 50.5	61.9 N.	155.7 W.	Southern Alaska. h about 82 km.
20	13 33 12.8	56.7 N.	152.2 W.	Near Kodiak Island, Alaska. h about 44 km.
20	17 09 15.7	56.6 N.	152.3 W.	Near Kodiak Island, Alaska. Mag. 6¼-6½. h about 46 km.
20	21 31 08.7	57.0 N.	152.1 W.	Near Kodiak Island, Alaska. h about 43 km.
20	21 37 23.4	56.7 N.	153.1 W.	Near Kodiak Island, Alaska. h about 14 km.
20	22 34 51.1	38.3 N.	141.2 E.	Near east coast of Honshu, Japan. h about 52 km.
21	05 29 52.8	68.0 N.	11.7 E.	Near coast of Norway. h about 25 km.
21	13 19 28.2	56.5 N.	152.1 W.	Near Kodiak Island, Alaska. h about 63 km.
21	14 47 57.0	8.7 N.	82.8 W.	Costa Rica-Panama border region. h about 40 km.
21	17 42 56.2	36.3 N.	141.7 E.	Honshu, Japan. h about 25 km.
22	03 24 04.5	12.0 S.	166.2 E.	Santa Cruz Islands. Mag. 7. h about 25 km.
22	06 16 27.9	11.9 S.	166.3 E.	Santa Cruz Islands. h about 16 km.
22	16 09 37.3	28.7 S.	174.8 W.	Kermadec Islands. h about 68 km.
22	19 04 54.1	12.4 S.	166.1 E.	Santa Cruz Islands. h about 35 km.
22	19 22 51.0	11.0 N.	124.6 E.	Leyte, Philippine Islands. Felt. h about 185 km.
23	04 46 21.4	43.1 N.	145.3 E.	Kurile Islands. h about 46 km.
24	07 24 59.9	15.7 S.	167.7 E.	New Hebrides Islands. h about 142 km.
24	08 02 26.5	61.3 S.	154.6 E.	Antarctic Ocean, south of Australia. h about 25 km.
24	23 12 49.0	8.4 N.	82.9 W.	Panama-Costa Rica border. Felt: David, Panama. h about 78 km.

Date 1961	Origin Time G. C. T.	Lat.	Long.	Region, Remarks and Focal Depth
Jan	h m s	°	°	
24	23 44 52.9	20.4 S.	175.9 W.	Tonga Islands region. h about 201 km.
25	00 54 07.2	4.9 S.	102.9 E.	Near south coast of Sumatra. h about 90 km.
25	03 46 46.2	0.0	80.2 W.	Near coast of Ecuador. h about 22 km.
25	05 21 25.4	14.0 S.	165.9 E.	New Hebrides Islands region. Mag 5½ (Pal). h about 21 km.
25	06 06 45.8	13.9 S.	166.1 E.	New Hebrides Islands region. h about 36 km.
25	12 05 35.6	13.9 S.	165.9 E.	New Hebrides Islands region. h about 134 km.
25	17 20 33.3	1.4 N.	121.6 E.	Celebes region. h about 44 km.
25	18 24 46.7	8.5 S.	74.0 W.	Central Peru. h about 210 km.
25	18 44 44.5	13.9 S.	165.8 E.	New Hebrides Islands. h about 117 km.
25	19 04 22.8	50.0 N.	156.0 E.	Kurile Islands. h about 98 km.
26	01 47 05.0	15.3 N.	93.6 E.	Near coast of Burma. h about 74 km.
26	06 02 20.1	14.0 S.	165.7 E.	New Hebrides Islands. h about 50 km.
26	10 26 59.7	11.8 S.	165.7 E.	Santa Cruz Islands region. h about 113 km.
26	13 12 22.6	21.4 S.	169.5 E.	Loyalty Islands region. h about 77 km.
26	16 13 25.1	21.5 S.	169.5 E.	Loyalty Islands region. Mag 6½. h about 119 km.
26	17 45 42.9	12.3 S.	78.1 W.	Near coast of Peru. Felt at Lima. h about 60 km.
26	18 46 56.9	20.8 S.	169.5 E.	Loyalty Islands region. h about 106 km.
26	19 53 58.3	18.7 S.	176.3 E.	Fiji Islands. h about 32 km.
26	21 20 33.7	18.2 S.	176.5 E.	Fiji Islands region. h about 25 km.
27	00 52 20.5	6.6 S.	154.7 E.	Solomon Islands. Felt at Rabaul. h about 59 km.
27	03 11 31.2	21.8 S.	169.2 E.	Loyalty Islands region. h about 72 km.
27	13 55 13.0	5.0 S.	151.2 E.	New Ireland region. Felt at Rabaul. h about 66 km.
27	14 46 52.5	21.3 S.	169.3 E.	Loyalty Islands region. h about 72 km.
27	15 05 53.5	21.3 S.	169.4 E.	Loyalty Islands region. h about 68 km.
27	20 07 00.4	45.6 N.	149.3 E.	Kurile Islands. h about 60 km.
28	03 24 46.9	13.6 S.	76.3 W.	Near coast of Peru. Felt at Lima. Mag. 5 (Pal). h about 86 km.
28	07 18 18.6	39.5 N.	22.0 E.	Greece. Felt. h about 80 km.
28	08 12 45.3	35.7 N.	118.1 W.	Kern County, California. Felt. Mag. 5.3. h about 21 km.
28	14 06 12.6	45.1 S.	106.4 W.	About 1200 miles south of Easter Island. h about 25 km.
28	14 34 56.1	13.8 S.	165.8 E.	New Hebrides Islands region. h about 128 km.
28	17 34 20.2	21.2 S.	169.2 E.	Loyalty Islands region. h about 13 km.
28	19 43 01.4	21.4 S.	169.5 E.	Loyalty Islands region. Mag. 6¼. h about 50 km.
29	00 18 39.7	5.9 S.	131.8 E.	Aroe Islands. h about 47 km.
29	00 50 35.0	14.0 S.	165.9 E.	New Hebrides Islands region. h about 123 km.
29	13 23 54.7	52.0 N.	175.9 W.	Andreanof Islands, Aleutian Islands. h about 41 km.

Date 1961	Origin Time G. C. T.	Lat.	Long.	Region, Remarks and Focal Depth
Jan	h m s	°	°	
29	20 33 31.3	15.8 S.	177.5 W.	Tonga Islands region. h about 446 km.
30	12 12 39.7	65.3 N.	149.9 W.	Central Alaska. Felt. Mag. 5½ (Fal). h about 34 km.
31	00 48 36.5	56.0 N.	153.9 W.	Near Kodiak Island, Alaska. Mag. 6½. h about 26 km.
31	06 13 15.2	17.2 S.	166.8 E.	New Hebrides Islands. h about 60 km.
31	18 32 19.5	51.6 N.	178.4 W.	Andreanof Islands, Aleutian Islands. h about 53 km.

Date and Station		Phase	h	m	s	
Jan. 1						
FGU		iP	00	00	58	
SLC		eP	00	00	26	
		e		01	03	
Jan. 1						
FGU		eP	00	04	24	
		iS		05	22	
SLC		eP	00	04	21	
Jan. 1						
COL		iP	01	55	46	
		ipP		56	07	
Jan. 1						
COL		iP	06	16	47	
EUR		iP	06	20	27	
Jan. 1						
TUC		eP	06	51	14	
Jan. 1						
COL		eP	08	59	02	
Jan. 1						
TUC		e(P)	10	24	42	
TUT		e(P)	10	24	42	
Jan. 1						
EUR		eP	11	08	11	
FGU		iP	11	07	58	
HHM		e(P)	11	03	49	
TUC		eP	11	06	49	
		eL		12	25	
TUT		e(P)	11	06	49	
Jan. 1						
COL		eP	13	14	34	
Jan. 1						
COL		iP	13	21	35	
		ipP		22	00	
		isP		22	11	
		i		22	43	
EUR		iP	13	21	54	
HHM		eP	13	22	12	
		epP		22	37	
TUC		eP	13	22	05	
TUT		eP	13	22	05	
Jan. 1						
EUR		eP	13	27	52	
Jan. 1						
COL		eP	14	04	04	
Jan. 1						
COL		eP	14	32	56	

Date and Station		Phase	h	m	s	
Jan. 1						
BOZ		iP	16	50	15	
BUT		eP	16	50	12	
COL		iP	16	50	05	
		i		50	25	
		i		50	42	
EUR		iP	16	49	44	
GCA		iP	16	49	55	
HHM		iP	16	50	12	
		ePP		53	50	
RCD		eP	16	50	35	
TUC		iP	16	49	46	
TUT		iP	16	49	47	
Jan. 1						
COL		iP	17	49	16	
		i		49	33	
		i		49	59	
EUR		iP	17	52	43	
HHM		eP	17	52	11	
Jan. 1						
COL		eP	17	58	05	
Jan. 1						
COL		e(P)	18	12	03	
		iP		12	06	
EUR		iP	18	15	33	
Jan. 1						
COL		iP	18	51	41	
EUR		iP	18	55	11	
HHM		eP	18	54	06	
		i		54	11	
TUC		e(P)	18	56	08	
Jan. 1						
COL		eP	19	10	21	
		iP		10	24	
Jan. 1						
BOZ		eP'	19	52	46	
EUR		eP'	19	52	35	
HHM		iP'	19	52	46	
Jan. 1						
COL		eP'	20	41	26	
HHM		eP'	20	41	41	
RCD		eP'	20	41	49	
SJP		iP'	20	41	57	

Date and Station		Phase	h	m	s	
Jan. 1						
COL		i(P)	21	59	30	
EUR		eP	21	59	07	
HHM		eP	21	59	57	
Jan. 1						
EUR		iP	22	24	04	
TUC		eP	22	23	54	
TUT		eP	22	23	54	
Jan. 2						
COL		iP	01	59	20	
Jan. 2						
COL		eP	02	13	31	
EUR		eP	02	11	38	
GCA		eP	02	11	44	
TUC		eP	02	11	58	
TUT		eP	02	11	57	
Jan. 2						
BOZ		eP	03	29	39	
BUT		eP	03	29	48	
EUR		eP	03	29	04	
FGU		eP	03	29	13	
GCA		e(P)	03	28	34	
		e		28	50	
RCD		eP	03	29	30	
TUC		eP	03	28	30	
TUT		eP	03	28	31	
Jan. 2						
COL		iP	03	48	21	
EUR		iP	03	51	17	
Jan. 2						
EUR		eP	06	35	06	
		eL		36	17	
Jan. 2						
COL		iP	08	05	25	
		eS		05	57	
Jan. 2						
BOZ		iP	10	24	58	C
		eP'P'		50	08	
BUT		eP	10	24	55	

Date and Station		Phase	h	m	s	
COL		iP	10	24	14	D
		i		24	26	
		i		24	35	
		iPP		28	04	
		eSKS		34	31	
		iPKKP		42	47	
		eP'P'		50	21	
EUR		iP	10	24	35	C
		iPP		28	24	
		ePKKP		42	49	
		i		43	25	
		eP'P'		50	14	
FGU		iP	10	24	59	C
		ipP		25	38	
		iPP		29	24	
		e		32	23	
GCA		eP	10	24	48	
		i		25	12	
		e		27	14	
		iPP		28	18	
		ePKKP		42	55	
GUA		iP	10	18	27	C
		ipP		18	43	
		isP		18	55	
HON		eP	10	21	31	D
		iS		27	24	
		eL		32	25	
HHM		iP	10	24	53	C
		i		25	17	
		ipP		25	25	
		ePP		28	41	
		ePKKP		42	05	
		eP'P'		50	20	
KIP		e(P)	10	20	47	
RCD		eP	10	25	28	
		epP		26	14	
		ePP		29	43	
SLC		iP	10	24	50	C
		epP		25	38	
		ePP		28	56	
		eS		35	16	
SJP		eP'	10	30	49	
		ipP'		31	25	
		ePP		33	18	
		eSKKP		43	56	
TUC		iP	10	24	46	C
		ipP		25	24	
		eS		35	08	
		eP'P'		50	22	
		eL		51	30	
		iSKPP'		53	46	
TUT		iP	10	24	46	C
		ePP		28	27	
		epPP		29	07	

Date and Station		Phase (GCT)
		h m s
UKI	iP	10 24 12 C
	e	27 46
Jan. 2		
COL	eP	10 37 40
CSC	eP	10 41 05
RCD	eP	10 42 04
Jan. 2		
COL	eP	13 01 37
Jan. 2		
EUR	eP	15 56 34
HHM	eP	15 56 21
	eL	57 45
Jan. 2		
COL	eP	16 14 05
Jan. 2		
HHM	eP	16 20 24
Jan. 2		
COL	iP	16 27 42
	ipP	27 56
EUR	iP	16 31 24
	ipP	31 39
GCA	iP	16 31 53
HHM	iP	16 30 50
	iPcP	31 57
RCD	iP	16 31 49
Jan. 2		
EUR	iP	18 00 25
Jan. 2		
TUT	eP	19 58 29
Jan. 2		
COL	iP	21 04 29
	ipP	04 40
	isP	04 48
EUR	iP	21 05 31
	ipP	05 42
Jan. 2		
FGU	e(P)	21 26 18
	e	27 34
	i	27 57
Jan. 2		
HHM	eP	21 52 04
Jan. 2		
EUR	iP	22 14 22
GCA	eP	22 14 29
TUC	eP	22 14 20
TUT	eP	22 14 22

Date and Station		Phase (GCT)
Jan. 2		h m s
COL	iP	23 19 43
	ipP	20 07
EUR	iP	23 20 20
	i	20 33
HHM	eP	23 20 34
Jan. 3		
EUR	eP	00 29 43
Jan. 3		
EUR	eP	00 49 44
Jan. 3		
EUR	iP	01 44 15
Jan. 3		
COL	iP	02 37 33
	ipP	37 48
	i	37 58
EUR	iP	02 40 59
	i	41 09
HHM	eP	02 40 29
Jan. 3		
EUR	eP	02 50 05
HHM	eP	02 51 04
Jan. 3		
COL	iP'	05 45 49
	ipP'	45 57
EUR	iP	05 40 02
FGU	eP	05 39 58
SJP	eP	05 37 23
TUC	iP	05 39 22
Jan. 3		
EUR	iP	05 46 17
Jan. 3		
EUR	eP	06 22 25
Jan. 3		
EUR	eP	06 37 35
Jan. 3		
COL	eP	07 00 29
EUR	eP	06 58 08
RCD	eP	06 57 07
SLC	e(P)	06 57 49
SJP	eP	06 50 11
	i	50 31
	i	50 44
	e(S)	51 28

Date and Station		Phase (GCT)
Jan. 3		h m s
BOZ	iP	08 17 10
	iS	17 28
BUT	iP	08 17 26
	iS	17 45
HHM	eP	08 18 00
	iL	19 03
RCD	e(P)	08 19 28
Jan. 3		
EUR	iP	08 23 28
HHM	eP	08 23 23
RCD	eP	08 22 42
SJP	eP	08 16 22
Jan. 3		
BOZ	e(P)	08 31 02
BUT	iP	08 31 17
	iS	31 38
EUR	iP	08 30 38
FGU	e(P)	08 32 01
	e	32 56
TUC	iP	08 30 37
Jan. 3		
COL	iP	10 35 00
	i	36 09
	i	36 26
EUR	iP	10 36 02
Jan. 3		
COL	eP	10 51 43
	i(S)	53 28
Jan. 3		
EUR	e(P)	11 50 47
Jan. 3		
COL	iP	11 53 50
	ipP	54 08
EUR	iP'	11 59 17
HHM	eP'	11 59 14
RCD	eP'	11 59 32
SJP	iP'	12 01 23
TUC	iP'	11 59 27
TUT	eP'	11 59 28
Jan. 3		
EUR	eP	12 10 05
Jan. 3		
EUR	iP	13 01 20

Date and Station		Phase (GCT)
		h m s
HHM	iP	13 01 14
	i	01 30
Jan. 3		
TUC	eP	13 31 21
	eL	32 13
TUT	eP	13 31 16
	eL	32 16
Jan. 3		
EUR	iP	14 16 24
HHM	i(P)	14 16 54
Jan. 3		
HHM	iP	14 45 21
Jan. 3		
HHM	e(P)	16 22 27
Jan. 3		
BOZ	eP	17 53 58
EUR	iP	17 53 20
	ipP	53 48
HHM	iP	17 53 49
	ipP	54 18
	isP	54 40
RCD	eP	17 53 04
SJP	iP	17 49 05
	i	49 33
	ipP	49 46
TUC	eP	17 52 30
	ipP	52 56
Jan. 3		
COL	eP	18 15 13
	iP	15 15
EUR	iP	18 14 43
Jan. 3		
EUR	iP	18 22 37
HHM	eP	18 23 37
TUT	eP	18 27 50
Jan. 3		
COL	eP	19 22 37
	e(pP)	23 13
EUR	iP	19 19 47
HHM	i(P)	19 20 17
RCD	eP	19 20 22
Jan. 3		
COL	iP	19 40 02
	ipP	40 33
	isP	40 43
	ePP	43 50
	epPP	44 15

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Date and Station		Phase	h m s (GCT)
EUR	eP'		19 45 23
GUA	iP		19 32 15
	ipP		32 44
HHM	iP'		19 45 28
SJP	eP'		19 46 43
	i		48 05
Jan. 3			
EUR	iP		19 49 38
GUA	iP		19 37 17
	iS		37 31
Jan. 3			
EUR	iP		19 56 21
HHM	e(P)		19 56 22
Jan. 3			
COL	eP		20 18 58
EUR	iP'		20 24 16
Jan. 3			
COL	iP		20 45 38
Jan. 3			
COL	iP		22 08 44
	i		09 19
EUR	iP		22 07 44
HHM	eP		22 06 52
RCD	eP		22 08 47
Jan. 3			
EUR	iP		22 30 56
Jan. 3			
EUR	iP		22 41 23
TUT	eP		22 41 25
Jan. 3			
COL	eP		23 14 35
EUR	iP		23 18 26
Jan. 4			
UKI	eP		00 31 05
Jan. 4			
COL	e(P)		01 34 03
	e		34 27
EUR	iP		01 36 21
GUA	iP		01 23 58
	iS		24 09
HHM	iP		01 36 15
Jan. 4			
FGU	eP'		02 10 30
Jan. 4			
TUC	e(P)		03 41 17
TUT	eP		03 41 14
	eS		43 02
Jan. 4			
EUR	iP		05 27 07
Jan. 4			
COL	eP		06 50 18
Jan. 4			
BOZ	e(P)		07 29 15
	i		30 18
BUT	eP		07 29 21
EUR	iP		07 28 04
HHM	eP		07 27 32
	iL		29 17
Jan. 4			
EUR	iP		08 09 14
FGU	eP		08 10 02
Jan. 4			
COL	eP		11 37 10
	i		37 21
EUR	iP		11 40 37
	i		41 05
HHM	eP		11 40 07
Jan. 4			
EUR	eP'		11 48 51
Jan. 4			
BOZ	e(P)		12 10 44
COL	iP		12 14 14
	ipP		14 24
	iPcP		15 22
CSC	e(P)		12 09 58
EUR	iP		12 10 00
FGU	iP		12 09 51
	eL		17 29
GCA	iP		12 09 21
	i		09 41
	e		10 09
	eL		15 49
HHM	eP		12 11 03
	i		11 12
	e		14 01
RCD	eP		12 10 11
SLC	eP		12 09 56
TUC	eP		12 08 33
	eL		12 58
TUT	eP		12 08 33
	e		08 55
Jan. 4			
RCD	eP		12 18 42
Jan. 4			
FGU	eP		12 41 01
Jan. 4			
COL	iP		13 37 15
	e		38 17
EUR	iP		13 36 58
GCA	eP		13 37 08
HHM	iP		13 37 45
TUC	eP		13 37 00
Jan. 4			
COL	iP		16 15 13
SJP	iP'		16 22 10
Jan. 4			
FGU	iP		17 04 17
	i		04 42
Jan. 4			
BOZ	iP		19 05 56
	iS		06 13
FGU	eP		19 05 59
	e		07 04
TUT	e(P)		19 06 50
	eS		07 24
Jan. 4			
COL	iP		19 19 54
EUR	iP		19 14 10
FGU	eP		19 14 37
Jan. 4			
COL	eP		19 29 10
EUR	eP'		19 35 27
GUA	iP		19 21 30
	i		21 34
SJP	iP'		19 36 45
Jan. 4			
FGU	e(P)		21 01 14
	e		01 36
Jan. 4			
TUT	e(P)		22 02 39
Jan. 4			
FGU	eP		22 08 19
Jan. 4			
SLC	iP		23 40 36
	eS		41 21
Jan. 5			
COL	e(P)		00 25 22
Jan. 5			
COL	e(P)		05 52 45
	iP		52 48
	i		53 25
EUR	iP		05 52 14
FGU	iP		05 52 40
TUC	eP		05 52 11
TUT	eP		05 52 11
Jan. 5			
COL	eP		06 32 31
Jan. 5			
TUT	eP		07 20 39
Jan. 5			
EUR	iP		11 11 14
HHM	eP		11 11 45
TUT	eP		11 10 31
Jan. 5			
TUT	e(P)		13 23 53
Jan. 5			
BOZ	iP		14 14 20 C
	i		14 30
	i		14 43
	ePP		16 03
	iS		20 33
BUT	iP		14 14 10 C
	eS		20 23
COL	iP		14 10 56 D
	iS		14 31
CSC	iP		14 17 20 C
	eS		26 10
EUR	iP		14 14 25 C
HON	iP		14 13 06 D
	iS		18 26
	iL		21 30
	e(T)		47 56
FGU	eP		14 14 49
	i		19 04
	i		19 50
	iS		21 30
	iL		24 42
GCA	iP		14 14 58 C
	i		15 37
	eL		23 32

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Date and Station		Phase (GCT)	
		h m s	
GUA	iP	14 15 14	D
HHM	iP	14 13 54	C
	iPP	15 27	
	iPcP	16 04	
	iS	19 43	
	iScS	24 00	
	eP'P'	45 20	
KIP	iP	14 13 05	D
	e(T)	47 55	
RCD	iP	14 15 03	C
	iPP	16 16	
SLC	iP	14 14 38	C
	e	14 52	
	i	15 07	
	i	15 39	
	e	15 58	
	eS	20 16	
	e(L)	24 30	
SJP	iP	14 19 16	C
	iS	29 53	
SIT	eP	14 11 44	
	eS	15 59	
THU	iP	14 14 38	D
	i	14 54	
	i	15 49	
	i(PcP)	16 19	
TUC	iP	14 15 25	C
	eS	22 40	
	eSS	26 20	
	eL	28 20	
TUT	iP	14 15 26	C
	ePP	16 47	
	ePcP	17 07	
UKI	eP	14 13 57	
WAS	iP	14 17 11	C
	pP	17 28	
	eL	31 12	
Jan. 5			
COL	iP	14 45 19	
EUR	eP	14 45 37	
RCD	eP	14 45 54	
SLC	iP	14 45 51	
Jan. 5			
COL	eP	14 54 42	
Jan. 5			
BOZ	e(P)	15 20 19	
	e	20 42	
COL	iP	15 17 04	
	eScP	22 52	

Date and Station		Phase (GCT)	
		h m s	
EUR	iP	15 20 25	
	i	20 33	
	i	20 50	
FGU	eP	15 20 43	
	i	20 53	
	i	21 08	
HHM	eP	15 19 57	
	i	20 06	
	i	20 22	
RCD	eP	15 20 52	
	i	21 15	
SLC	e(P)	15 20 36	
THU	iP	15 19 17	
TUT	eP	15 21 14	
Jan. 5			
COL	iP	15 19 31	
	ipP	19 52	
Jan. 5			
BOZ	eP	16 07 53	
COL	iP	16 06 23	D
	ipP	06 43	
	iPP	09 42	
	ipPP	10 03	
	eS	16 40	
	iPKKP	24 33	
	iP'P'	32 34	
CSC	eP'	16 12 55	
	e	16 06	
EUR	iP	16 07 38	C
	i	08 55	
	iPKKP	23 51	
	eP'P'	32 09	
FGU	iP	16 08 00	D
	ePP	12 12	
GUA	iP	15 58 03	D
HON	eP	16 04 19	
HHM	eP	16 07 41	D
	ePP	11 51	
	ePKKP	23 49	
KIP	eP	16 04 17	
RCD	eP'	16 12 31	
SLC	e(P')	16 11 15	
SJP	iP'	16 13 30	C
	ipP'	14 11	
TUC	eP'	16 12 23	
TUT	eP	16 07 01	

Date and Station		Phase (GCT)	
Jan. 5		h m s	
COL	iP	16 31 02	
THU	e(P)	16 23 34	
Jan. 5			
TUC	eP	17 05 28	
Jan. 5			
COL	eP	17 26 32	
EUR	iP	17 27 13	
Jan. 5			
COL	iP	17 32 46	
Jan. 5			
COL	iP	17 35 26	
EUR	iP	17 38 47	
Jan. 5			
COL	eP	17 55 33	
Jan. 5			
TUT	e(P)	18 08 07	
Jan. 5			
BOZ	e(P)	18 11 26	
BUT	eP	18 11 21	
COL	eP	18 10 54	C
	e	13 58	
EUR	iP	18 10 58	C
FGU	iP	18 11 22	C
	ePP	15 19	
	iS	21 55	
	i	27 55	
GCA	eP	18 11 10	
	ePP	14 57	
	eS	21 52	
GUA	iP	18 05 44	C
	iS	12 03	
HON	eP	18 07 04	
	eS	14 52	
	eL	21 48	
HHM	iP	18 11 21	C
	ePP	15 19	
KIP	eP	18 07 05	
RCD	eP'	18 15 59	
SLC	eP	18 11 14	
	e	11 30	
	eS	21 48	
SJP	iP'	18 16 53	D
SIT	eP	18 10 50	

Date and Station		Phase (GCT)	
		h m s	
THU	eP'	18 16 33	
	iP'	16 36	
TUC	eP	18 11 04	
UKI	eP	18 10 45	
Jan. 5			
COL	eP	18 15 46	
	i	15 50	
Jan. 5			
BOZ	eP	18 28 10	
COL	iP	18 27 39	D
	iS	38 11	
	iPS	40 04	
	e	42 40	
EUR	iP	18 27 45	C
	iPKKP	45 51	
	iP'P'	51 11	
FGU	eP	18 28 03	
	i	28 07	
GCA	eP	18 27 54	
	e	30 57	
GUA	iP	18 22 30	D
	iS	28 46	
HHM	eP	18 28 04	D
RCD	eP'	18 32 44	C
SLC	iP	18 27 59	C
	eS	38 34	
	e	40 42	
SJP	iP'	18 33 39	D
THU	eP'	18 33 19	
TUC	iP	18 27 48	C
Jan. 5			
COL	iP	18 42 22	
	eL	47 42	
HHM	eP	18 45 20	
	iPcP	47 29	
RCD	eP	18 46 30	
TUC	eP	18 46 51	
Jan. 5			
BHP	iP	18 48 27	
	iS	48 57	
COL	iP	18 58 54	
FGU	eP	18 55 07	
	i	55 10	

Date and Station		Phase	h m s
HHM		eP	18 56 07
RCD		eP	18 55 16
SJP		iP	18 51 56
Jan. 5			
COL		i(P)	19 11 25
Jan. 5			
EUR		eP	20 00 22
Jan. 5			
COL		iP	20 16 26
EUR		iP	20 18 19
GUA		iP	20 05 52
		iS	06 24
Jan. 5			
COL		i(P)	21 45 31
Jan. 5			
EUR		iP	23 03 45
Jan. 6			
BHP		iP	00 03 14
		iS	04 02
COL		eP	00 11 03
EUR		iP	00 10 22
FGU		eP	00 10 55
HHM		e(P)	00 10 57
SJP		iP	00 06 43
TUC		eP	00 10 20
Jan. 6			
COL		eP	00 13 42
Jan. 6			
FGU		iP	00 20 42
Jan. 6			
BOZ		eP	01 31 49
		e	32 00
BUT		eP	01 31 34
COL		iP	01 28 37
EUR		iP	01 31 52
		i	32 08
FGU		eP	01 32 08
		i	32 25
GCA		e(P)	01 32 16
		i	32 33
HHM		eP	01 31 23
		i	31 39
RCD		eP	01 32 18
SLC		e(P)	01 32 00
		e	32 16
THU		eP	01 30 35
TUC		eP	01 32 38
		i	32 54
Jan. 6			
COL		iP	01 48 19
		i	48 41
		i	48 51
EUR		iP	01 51 42
HHM		iP	01 51 13
Jan. 6			
FGU		eP	02 10 10
		i	11 53
Jan. 6			
COL		eP	05 31 22
Jan. 6			
BOZ		eP	06 29 29
		i	29 46
BUT		eP	06 29 16
COL		eP	06 26 06
		iP	26 07
		eS	29 45
CSC		eP	06 32 30
EUR		iP	06 29 35
		iPcP	31 26
FGU		iP	06 30 59
		i	30 12
		i	32 56
GCA		iP	06 30 08
HHM		iP	06 29 04
		ipP	29 21
		iPcP	31 14
RCD		iP	06 30 13
		i(pP)	30 29
SLC		eP	06 29 48
SJP		iP	06 34 25
THU		iP	06 29 47
TUC		iP	06 30 35
Jan. 6			
COL		eP	06 33 57
		e	37 38
Jan. 6			
BOZ		e(P)	07 15 19
COL		iP	07 11 43
		i	11 56
EUR		iP	07 15 32
		ipP	15 52
FGU		eP	07 16 49
HHM		eP	07 14 55
RCD		iP	07 15 56
SLC		eP	07 15 40
THU		eP	07 14 20
TUC		iP	07 16 30
Jan. 6			
COL		iP	07 54 06
Jan. 6			
EUR		eP	10 28 06
Jan. 6			
BOZ		e(P)	10 55 08
COL		iP	10 58 43
		i	58 50
		i	58 57
CSC		eP	10 53 47
EUR		iP	10 54 40
FGU		eP	10 54 24
		e	54 37
GCA		eP	10 54 03
HHM		iP	10 55 35
SLC		e(P)	10 54 31
SJP		i(P)	10 54 40
THU		eP	10 58 59
TUC		iP	10 53 23
		eS	57 19
		eL	59 41
Jan. 6			
COL		eP	11 17 51
EUR		eP	11 21 28
		i	21 39
Jan. 6			
EUR		eP	11 37 02
HHM		eP	11 36 27
TUC		eP	11 37 10
Jan. 6			
RCD		eP	11 54 36
Jan. 6			
EUR		eP	15 19 07
HHM		e(P)	15 18 29
Jan. 6			
COL		e(P)	15 34 02
Jan. 6			
HHM		eP	19 34 35
Jan. 6			
TUT		e(P)	21 52 26
Jan. 6			
COL		eP	22 07 30
Jan. 6			
COL		e(P)	23 11 15
Jan. 6			
COL		eP	23 16 12
EUR		iP	23 20 08
FGU		iP	23 20 24
Jan. 6			
EUR		iP	23 25 48
Jan. 7			
COL		eP	01 04 47
		e	05 28
Jan. 7			
COL		iP	01 30 26
Jan. 7			
TUT		e(P)	01 52 09
Jan. 7			
COL		iP	02 22 01
Jan. 7			
COL		eP	07 00 20
Jan. 7			
EUR		eP	08 42 50
Jan. 7			
EUR		iP	09 27 52
FGU		eP	09 27 41
HHM		iP	09 28 24
Jan. 7			
EUR		iP	10 35 23
FGU		iP	10 35 11
Jan. 7			
BOZ		iP	10 43 49
COL		iP	10 42 54
		ipP	43 15
EUR		iP	10 44 22
FGU		eP	10 43 03

Date and Station		Phase (GCT)
		h m s
HHM	iP	10 43 43
	ipP	44 12
RCD	iP	10 43 39
SJP	iP	10 43 22
THU	iP	10 40 30
Jan. 7		
EUR	iP	11 16 08
	i	16 18
Jan. 7		
TUT	eP	11 27 05
Jan. 7		
COL	iP	11 42 27
	ipP	44 28
EUR	iP	11 42 05
FGU	eP	11 42 27
HHM	e(P)	11 42 33
TUC	iP	11 42 04
Jan. 7		
COL	iP	12 15 08
	i	15 16
Jan. 7		
COL	iP	13 20 53
Jan. 7		
COL	eP	13 36 57
	i	37 09
HHM	eP	13 35 58
Jan. 7		
FGU	eP	13 40 26
HHM	iP	13 39 45
Jan. 7		
FGU	eP	14 14 29
Jan. 7		
COL	iP	16 04 49
HHM	iP	16 05 32
SJP	eP	16 04 51
THU	e(P)	16 02 14
Jan. 7		
BOZ	iP'	18 35 52
COL	iP	18 31 25
	i	31 34
	iP'	36 36
	i	36 45
EUR	iP'	18 35 47

Date and Station		Phase (GCT)
		h m s
FGU	e(P)	18 31 21
	iP'	35 43
GCA	e(P)	18 30 56
	e	31 04
	eP'	35 40
HHM	iP'	18 35 57
	i	36 14
	eSKP	39 12
RCD	eP'	18 35 43
SLC	iP'	18 35 45
SJP	iP	18 29 15
THU	iP'	18 36 14
TUC	iP'	18 35 32
TUT	eP	18 30 52
	eP'	35 26
Jan. 7		
EUR	iP	18 45 43
FGU	iP	18 46 50
	i	47 04
TUT	eP	18 46 15
Jan. 7		
COL	eP	21 48 35
Jan. 7		
HHM	eP	22 16 07
Jan. 7		
FGU	eP	22 54 32
Jan. 7		
FGU	iP	23 03 47
Jan. 7		
FGU	eP	23 19 56
	e	23 28
Jan. 7		
COL	iP	23 57 48
EUR	iP	23 57 16
GCA	eP	23 57 25
HHM	eP	23 57 47
Jan. 8		
HHM	iP	00 58 49
Jan. 8		
COL	iP	01 25 56
Jan. 8		
COL	iP	01 27 46
	i	28 05
	ePP	31 04

Date and Station		Phase (GCT)
Jan. 8		h m s
COL	eP	03 08 55
	eS	19 04
Jan. 8		
EUR	iP	03 18 06
Jan. 8		
COL	iP	03 26 03
FGU	eP	03 26 55
GCA	e(P)	03 25 27
	e	25 41
Jan. 8		
COL	iP	04 36 06
Jan. 8		
COL	eP	05 19 27
Jan. 8		
COL	iP	05 35 10
EUR	iP	05 32 37
FGU	iP	05 32 22
	e	33 50
GCA	eP	05 31 11
HHM	eP	05 33 10
RCD	iP	05 32 21
SJP	i(P)	05 28 26
TUC	eP	05 31 43
TUT	eP	05 31 43
Jan. 8		
COL	eP	07 42 16
EUR	iP	07 44 38
GCA	e(P)	07 44 28
Jan. 8		
COL	eP	07 44 41
Jan. 8		
BOZ	iP	09 49 22
	iS	49 41
BUT	iP	09 49 36
	iL	50 10
EUR	eP	09 50 50
GCA	eP	09 51 07
HHM	iP	09 50 12
	i	50 22
	iL	51 15
RCD	eP	09 50 52
	eS	52 14

Date and Station		Phase (GCT)
		h m s
SLC	eP	09 50 12
	i	50 18
	eL	51 21
Jan. 8		
COL	iP	10 13 30
	ipP	15 22
EUR	iP	10 13 07
GCA	eP	10 13 15
TUC	iP	10 13 05
	epP	14 56
TUT	iP	10 13 06
	ipP	14 57
Jan. 8		
HHM	iP	10 30 30
Jan. 8		
HHM	eP	10 57 20
Jan. 8		
EUR	iP	11 46 05
HHM	iP	11 47 22
	iL	48 32
Jan. 8		
HHM	e(P)	14 59 23
	i	59 45
Jan. 8		
COL	iP	15 05 12
Jan. 8		
COL	eP	15 08 50
	i	11 07
	i	14 03
HHM	eP	15 07 50
Jan. 8		
HHM	e(P)	15 47 18
Jan. 8		
FGU	e(P)	15 59 30
	e	16 01 02
Jan. 8		
SLC	eP	17 25 12
	e	26 05
Jan. 8		
TUT	eP	17 41 13
Jan. 8		
COL	iP	20 29 41
	i	29 54
Jan. 8		
COL	iP	21 34 37
	eL	36 36
EUR	eP	21 39 29

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Date and Station		Phase	(GCT) h m s
FGU	eP		21 40 06
HHM	eP		21 38 50
Jan. 8			
COL	iP		21 51 06
Jan. 8			
FGU	eP		22 47 39
Jan. 8			
GCA	eP		23 11 08
Jan. 8			
BOZ	eP		24 00 05
BUT	eP		24 00 11
COL	iP		24 03 34
	epP		04 12
	iPP		05 45
EUR	eP		23 59 10
	i		59 42
FGU	eP		23 59 23
GCA	e(P)		23 58 27
	e		59 05
HHM	eP		24 00 31
RCD	e(P)		23 59 29
TUC	eP		23 58 31
	e		59 30
TUT	eP		23 58 30
Jan. 9			
EUR	iP		00 52 33
Jan. 9			
BOZ	eP		03 18 07
BUT	eP		03 18 15
COL	iP		03 18 23
	e		19 40
EUR	iP		03 18 44
FGU	eP		03 18 07
	ePP		20 10
GCA	eP		03 18 28
HHM	eP		03 18 19
RCD	eP		03 17 31
SLC	iP		03 18 20
SJP	iP		03 14 13
THU	eP		03 17 07
TUC	eP		03 18 33
TUT	e(P)		03 18 11
Jan. 9			
COL	eP		04 29 36
Jan. 9			
COL	eP		08 07 49
	e		08 06
GCA	e(P)		08 06 56
	e		07 23
TUC	eP		08 07 04
TUT	e(P)		08 07 10
Jan. 9			
COL	eP		10 26 19
EUR	iP		10 26 24
	i		26 35
FGU	eP		10 27 47
GCA	eP		10 26 35
TUC	eP		10 26 27
TUT	eP		10 26 28
Jan. 9			
EUR	i(P)		10 48 54
Jan. 9			
BUT	eP		11 16 00
COL	iP		11 18 26
	i		18 38
CSC	eP		11 12 15
EUR	iP		11 16 08
FGU	eP		11 15 32
	e		16 35
	e		17 54
	e		20 44
GCA	eP		11 15 40
	e		20 52
HHM	iP		11 16 12
RCD	iP		11 15 07
	ePP		16 59
SLC	i(P)		11 15 46
	i		19 58
SJP	iP		11 08 10
	i(S)		09 04
TUC	iP		11 15 30
TUT	iP		11 15 30
Jan. 9			
COL	iP		11 22 37
	i		22 50
EUR	iP		11 20 20
HHM	iP		11 20 23
RCD	iP		11 19 15
SJP	iP		11 12 21
	i(S)		13 15
TUC	iP		11 19 41
TUT	iP		11 19 41
Jan. 9			
SJP	e(P)		11 23 16
	i(S)		24 12
Jan. 9			
COL	iP		11 35 35
	i		35 47
SJP	e(P)		11 25 18
	i(S)		26 12
Jan. 9			
GUA	iP		12 24 48
	iS		25 08
Jan. 9			
COL	iP		12 44 01
Jan. 9			
COL	iP		13 44 00
EUR	iP		13 43 41
HHM	e(P)		13 44 08
TUC	eP		13 43 43
Jan. 9			
TUC	eP		18 22 03
Jan. 9			
BOZ	iP		19 30 56
BUT	eP		19 31 02
COL	iP		19 33 31
	ipP		33 46
	isP		33 54
	i		34 06
CSC	eP		19 27 20
EUR	iP		19 31 15
FGU	eP		19 30 39
GCA	eP		19 30 47
HHM	iP		19 31 18
RCD	iP		19 30 40
	ePP		32 59
SLC	i(P)		19 30 52
	i		33 44
SJP	iP		19 23 14
	i(S)		24 10
THU	eP		19 32 04
TUC	iP		19 30 31
TUT	iP		19 30 35
Jan. 9			
COL	iP		19 36 24
	i		36 32
	i		36 38
EUR	iP		19 34 07
HHM	iP		19 34 10
SJP	i(P)		19 26 16
	i(S)		27 09
TUC	iP		19 33 28
TUT	iP		19 33 28
Jan. 9			
TUC	eP		19 41 33
TUT	e(P)		19 41 21
Jan. 9			
SJP	e(P)		19 50 28
	i(S)		51 22
Jan. 9			
SJP	e(P)		20 06 25
	i(S)		07 16
Jan. 9			
TUT	eP		20 45 57
Jan. 9			
COL	iP		21 17 18
	i		17 44
	i		18 01
EUR	iP		21 21 12
FGU	eP		21 21 30
HHM	eP		21 20 35
RCD	eP		21 21 41
Jan. 9			
GUA	eP		21 56 09
Jan. 9			
COL	iP		22 26 27
	i		27 07
EUR	iP		22 29 30
FGU	eP		22 29 34
HHM	iP		22 28 54

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Date and Station		Phase (GCT)	
		h m s	
Jan. 9			
TUC	eP	22 58 41	
Jan. 9			
FGU	eP	23 09 33	
Jan. 10			
FGU	eP	01 57 01	
Jan. 10			
COL	eP	02 28 12	
EUR	iP	02 31 30	
Jan. 10			
FGU	eP	03 06 06	
Jan. 10			
COL	eP	07 32 44	
EUR	eP	07 35 37	
FGU	eP	07 36 59	
HHM	eP	07 35 21	
TUT	e(P)	07 33 06	
Jan. 10			
TUT	e(P)	08 30 07	
Jan. 10			
COL	iP	09 24 24	
Jan. 10			
COL	iP	09 25 55	
FGU	iP'	09 31 33	
HHM	iP'	09 31 22	
Jan. 10			
EUR	eP	09 42 13	
HHM	e(P)	09 42 17	
Jan. 10			
TUC	eP	10 23 03	
Jan. 10			
EUR	eP	11 07 48	
TUC	eP	11 06 08	
Jan. 10			
COL	e(P)	11 20 42	
	iP	20 56	
	i	21 11	
		h m s	
EUR	eP	11 18 25	
RCD	eP	11 17 23	
TUC	eP	11 17 46	
TUT	eP	11 17 45	
Jan. 10			
TUT	iP	11 33 17	
Jan. 10			
HHM	e(P)	11 43 59	
Jan. 10			
BOZ	iP	14 32 14	C
	e	32 29	
	e(S)	40 29	
	eP'P'	15 02 00	
BUT	eP	14 32 08	
	eS	40 09	
COL	iP	14 28 48	D
	iPcP	31 41	
	iS	33 41	
	eL	36 00	
CSC	eP	14 34 40	
	eS	44 52	
EUR	iP	14 32 25	C
	i	37 20	
	i(S)	43 17	
	iP'P'	15 00 57	
FGU	iP	14 33 43	C
	i	35 44	
	ePP	36 41	
	e	41 10	
	e(S)	43 26	
	eP'P'	15 01 49	
GCA	eP	14 32 52	
	i	33 17	
	ePP	35 04	
	e	37 29	
HON	eP	14 30 45	
	iS	37 28	
	eL	43 04	
HHM	iP	14 31 52	C
	iPcP	32 59	
	eS	38 49	
	e	15 01 06	
	eP'P'	02 01	
		h m s	
KIP	eP	14 30 42	
RCD	iP	14 32 50	C
	ePP	35 29	
	eS	41 26	
	eP'P'	15 01 37	
SLC	iP	14 32 34	C
	i	32 54	
	iS	40 53	
	iL	55 55	
	eP'P'	15 01 54	
SJP	ePP	14 40 29	
SIT	eP	14 29 52	
THU	iP	14 31 18	D
	i(PP)	32 38	
TUC	iP	14 33 17	C
	e(PP)	36 14	
	eS	42 19	
	eL	50 16	
UKI	eP	14 31 56	
WAS	iP	14 34 26	D
	ePP	37 30	
	eS	44 34	
	eL	15 04 33	
Jan. 10			
COL	iP	14 40 22	
Jan. 10			
COL	eP	14 57 48	
Jan. 10			
COL	eP	15 00 17	
Jan. 10			
SJP	iP	15 10 25	
	i(S)	11 20	
	iL	11 34	
Jan. 10			
BOZ	iP	15 35 08	
	iS	35 21	
BUT	iP	15 35 21	
	iS	35 41	
		h m s	
FGU	eP	15 36 55	
	i	37 05	
	iS	37 57	
HHM	iP	15 35 57	
	iL	37 02	
SLC	e(P)	15 36 05	
Jan. 10			
GCA	eP	18 56 29	
	i	56 42	
	i	57 49	
TUC	eP	18 56 50	
	e	58 00	
TUT	e(P)	18 56 26	
	eS	57 58	
Jan. 10			
FGU	eP	19 16 31	
Jan. 10			
BUT	iP	19 25 12	
	iS	25 33	
Jan. 10			
BOZ	iP	20 00 20	
	iS	00 32	
FGU	eP	20 01 08	
	i	01 20	
	iS	02 10	
HHM	iP	20 01 09	
	iL	02 16	
Jan. 10			
FGU	eP	20 09 50	
Jan. 10			
SJP	iP	23 03 55	
	iL	04 17	

Date and Station		Phase	(GCT) h m s
Jan. 11			
COL		eP	01 23 41
EUR		iP	01 23 48
TUC		eP	01 23 53
Jan. 11			
EUR		e(P)	04 31 50
Jan. 11			
EUR		e(P)	07 02 37
Jan. 11			
EUR		iP	12 05 48
		i	06 00
FGU		eP	12 06 11
HHM		eP	12 05 19
Jan. 11			
BOZ		iP	12 07 21
		i	13 17
		e(S)	16 14
BUT		eP	12 07 13
		e	09 27
		e	13 12
COL		iP	12 02 21
CSC		eP	12 10 28
		e(S)	19 00
EUR		iP	12 07 24
		i	07 51
		ePP	11 26
		i	13 19
FGU		iP	12 07 50
		i	08 29
		i	10 10
		eL	18 40
HON		eP	12 06 21
		eS	11 32
		eL	14 42
HHM		iP	12 06 55
		iPcP	09 12
		i	13 07
KIP		eP	12 06 20
SLC		eP	12 07 38
		e(S)	13 55
		eL	23 01
SJP		iP	12 12 27
		i	12 52
THU		iP	12 07 53
		i	08 18
		i	08 31
TUC		eP	12 06 55
		e	07 03
TUT		e(P)	12 06 52
UKI		eP	12 06 47
WAS		eP	12 10 20
		eS	19 46
		eL	35 26
Jan. 11			
COL		iP	12 03 58
		eS	07 12
		eL	07 53
GUA		iP	12 09 02
SIT		eP	12 04 26
		e	04 42
TUC		iP	12 08 27
		ePP	10 10
		eS	15 26
		eL	19 34
TUT		iP	12 08 27
Jan. 11			
COL		iP	12 12 11
Jan. 11			
EUR		eP	12 39 01
Jan. 11			
GCA		eP	13 06 33
Jan. 11			
COL		iP	13 38 00
EUR		eP	13 40 47
HHM		e(P)	13 40 26
		e	40 43
Jan. 11			
COL		eP	16 39 16
Jan. 11			
COL		iP	16 49 24
Jan. 11			
RCD		eP	17 08 07
Jan. 11			
FGU		eP	19 20 31
Jan. 11			
BUT		eP	19 41 10
EUR		iP	19 40 53
HHM		iP	19 41 22
		ipP	41 56
RCD		eP	19 40 43
SLC		e(P)	19 40 45
SJP		iP	19 36 54
		ipP	37 24
		iPP	38 38
TUC		iP	19 40 05
		epP	40 31
TUT		iP	19 40 05
		epP	40 38
Jan. 11			
FGU		eP	20 05 42
Jan. 11			
FGU		e(P)	21 03 58
Jan. 11			
COL		eP'	21 56 12
Jan. 11			
FGU		iP	22 06 06
Jan. 11			
COL		eP	22 46 43
Jan. 12			
COL		iP	01 24 59
		i	25 26
Jan. 12			
EUR		eP	03 25 52
Jan. 12			
COL		iP	05 29 10
EUR		iP	05 29 15
TUC		eP	05 29 20
TUT		eP	05 29 21
Jan. 12			
GCA		eP	06 01 53
Jan. 12			
FGU		eP	06 11 47
Jan. 12			
EUR		eP	06 55 25
Jan. 12			
FGU		eP	07 58 51
Jan. 12			
BOZ		e(P)	14 19 33
COL		iP	14 15 29
		e(S)	16 56
		eL	17 40
		i(ScP)	25 24
EUR		iP	14 19 49
		ipP	20 08
		iScP	26 16
HHM		iP	14 19 03
		i(ScP)	26 01
SLC		iP	14 19 59
THU		iP	14 20 15
TUC		iP	14 20 59
TUT		eP	14 21 02
Jan. 12			
COL		iP	15 20 54
Jan. 12			
COL		iP	16 01 22
HHM		eP	16 06 25
Jan. 12			
COL		eP	19 11 46
EUR		iP	19 09 23
HHM		eP	19 09 49
Jan. 12			
EUR		iP	19 20 43
HHM		eP	19 21 12
TUT		eP	19 19 58
Jan. 12			
COL		iP	19 50 10
		e	50 29
EUR		iP	19 46 36
HHM		iP	19 47 18
Jan. 12			
HHM		iP	19 49 04
Jan. 12			
EUR		eP	23 04 36
Jan. 12			
COL		iP	23 11 21
Jan. 13			
COL		eP	00 16 39
Jan. 13			
BOZ		e(P)	02 48 53
Jan. 13			
EUR		iP	04 21 29
HHM		e(P)	04 20 55
Jan. 13			
COL		iP	06 06 45
		eL	07 16
Jan. 13			
COL		eP	07 55 48
EUR		iP	07 58 31
HHM		eP	07 58 12
		i	58 25

Date and Station		Phase (GCT) h m s
Jan. 13		
COL	iP	07 57 33
	i(pP)	57 43
Jan. 13		
COL	iP	09 09 09
GUA	iP	08 58 22
	iS	58 32
Jan. 13		
HHM	e(P)	10 38 55
Jan. 13		
TUC	eP	12 09 56
Jan. 13		
COL	iP	14 36 26
Jan. 13		
COL	iP	15 10 08
EUR	iP	15 13 12
HHM	iP	15 12 36
Jan. 13		
COL	iP'	19 39 27
	ePP	43 12
	iP'P'	58 28
	e	20 01 53
EUR	eP'	19 38 41
FGU	eP'	19 39 40
GCA	eP'	19 38 40
HHM	eP'	19 38 41
	i	39 25
SLC	eP'	19 38 50
TUT	eP'	19 38 27
Jan. 13		
EUR	iP	20 02 01
HHM	iP	20 01 28
TUT	eP	20 03 03
Jan. 13		
EUR	iP	20 14 54
HHM	e(P)	20 16 22
TUT	eP	20 13 07
Jan. 13		
HHM	e(P)	22 14 33
Jan. 13		
GCA	iP	22 53 18
	i	53 46
	i	54 46
FGU	eP	23 01 58

Date and Station		Phase (GCT) h m s
Jan. 13		
FGU	iP	23 45 40
Jan. 14		
COL	iP	02 11 46
Jan. 14		
COL	iP	02 31 28
	eS	35 38
EUR	iP	02 35 12
	i	35 20
FGU	eP	02 35 32
	e	37 48
HHM	iP	02 34 37
THU	eP	02 34 39
TUC	eP	02 36 11
TUT	eP	02 36 11
Jan. 14		
GCA	eP	02 52 51
	i	53 18
Jan. 14		
COL	iP	05 44 56
	i	45 11
EUR	eP	05 45 57
Jan. 14		
COL	eP	05 49 38
Jan. 14		
HHM	i(P)	06 42 24
Jan. 14		
FGU	eP	07 40 08
GCA	eP	07 40 02
SJP	iP	07 34 55
	i	35 11
TUT	eP	07 39 39
Jan. 14		
SJP	iP	07 37 12
Jan. 14		
HHM	iP	08 05 57
Jan. 14		
COL	iP	09 07 11
	i	07 21
Jan. 14		
COL	eP	10 17 09
Jan. 14		
FGU	eP	11 03 27
Jan. 14		
COL	iP	13 20 28

Date and Station		Phase (GCT) h m s
Jan. 14		
HHM	eP	14 39 13
Jan. 14		
COL	iP	15 20 54
Jan. 14		
COL	eP	15 50 45
Jan. 14		
BHP	iP	16 19 02
	iS	20 14
BOZ	iP	16 26 13
COL	iP	16 29 05
CSC	eP	16 23 03
EUR	iP	16 26 10
GCA	iP	16 25 38
	i	25 58
	e	26 46
HHM	iP	16 26 35
	i	27 39
RCD	iP	16 25 31
SLC	eP	16 25 54
SJP	iP	16 20 28
	i	21 45
	i	21 57
	i	22 07
THU	eP	16 28 19
TUC	iP	16 25 15
Jan. 14		
COL	iP	16 32 00
SJP	iP	16 22 48
TUT	eP	16 30 38
Jan. 14		
BOZ	eP	16 45 40
COL	eP	16 42 05
	iP	42 07
	eS	44 48
	iL	46 06
EUR	iP	16 45 46
	i	45 55
GCA	eP	16 46 22
	i	46 37
	e	48 13
HON	eP	16 46 26
	e(S)	53 54
HHM	iP	16 45 12
	iPcP	48 07

Date and Station		Phase (GCT) h m s
KIP	eP	16 46 25
RCD	eP	16 46 26
SLC	iP	16 46 00
	eS	54 25
SJP	iP	16 51 01
	ipP	51 15
THU	iP	16 46 27
TUC	eP	16 46 54
TUT	eP	16 46 52
Jan. 14		
EUR	iP	16 52 04
HHM	iP	16 51 50
Jan. 14		
TUC	iP	19 06 19
Jan. 14		
TUT	e(P)	19 50 36
Jan. 14		
GCA	eP	20 47 00
	e	47 58
TUC	iP	20 46 07
	eL	46 29
Jan. 14		
TUT	e(P)	21 14 31
Jan. 14		
COL	iP	23 31 15
Jan. 14		
FGU	iP	23 42 48
GCA	e(P)	23 42 59
	e	43 07
SLC	e(P)	23 42 16
TUT	eP	23 42 55
Jan. 14		
COL	eP	23 50 13
EUR	iP	23 53 47
Jan. 15		
HHM	e(P)	00 27 15
Jan. 15		
EUR	eP	01 22 01
Jan. 15		
COL	iP	03 47 49
	i	47 59
Jan. 15		
GCA	e(P)	04 08 48

Date and Station		Phase	(GCT) h m s
TUC		e(P)	04 07 23
TUT		eP	04 07 50
Jan. 15			
COL		eP	04 15 12
EUR		iP	04 17 58
FGU		eP	04 18 18
HHM		eP	04 17 43
Jan. 15			
BOZ		e(P)	05 05 15
FGU		eP	05 05 39
		e	05 58
HHM		eP	05 06 15
Jan. 15			
COL		eP	06 07 41
		i	07 54
EUR		iP	06 05 23
FGU		e(P)	06 05 42
GCA		e(P)	06 04 57
HHM		eP	06 05 27
RCD		eP	06 04 21
SJP		iP	05 57 25
		i(S)	58 21
TUC		eP	06 04 44
TUT		eP	06 04 44
Jan. 15			
COL		eP	08 05 42
SJP		i(P)	08 13 16
Jan. 15			
EUR		iP	08 32 02
		i	32 14
FGU		iP	08 31 54
		e	32 05
GCA		eP	08 31 41
		i	31 53
HHM		eP	08 32 34
RCD		eP	08 32 06
SJP		iP	08 28 31
		i	28 42
TUC		eP	08 31 16
TUT		eP	08 31 17

Date and Station		Phase	(GCT) h m s
Jan. 15			
COL		eP	11 45 02
EUR		eP	11 48 37
Jan. 15			
COL		iP	12 01 30
		ipP	01 43
		isP	01 48
EUR		iP	12 04 36
FGU		eP	12 04 53
		e	05 53
GCA		eP	12 05 00
GUA		e(P)	11 58 33
		eP	58 50
HHM		iP	12 04 10
RCD		eP	12 04 59
THU		eP	12 03 27
TUC		iP	12 05 20
TUT		eP	12 05 20
Jan. 15			
EUR		eP	14 23 14
FGU		e(P)	14 23 27
TUC		e(P)	14 21 10
TUT		eP	14 20 59
Jan. 15			
HHM		iP	16 15 41
Jan. 15			
FGU		iP	16 46 10
		i	46 36
Jan. 15			
BOZ		eP	16 58 15
BUT		eP	16 57 59
COL		eP	16 57 30
		iP	57 32
		ipP	58 04
		iPP	17 01 11
EUR		iP	16 57 35
		ipP	58 09
		i	58 52
		ePP	17 01 17
		e(PPP)	02 17
FGU		eP	16 57 58
		e	58 22
		ePP	17 01 39
GCA		iP	16 57 47
		ipP	58 19
		ePP	17 01 32

Date and Station		Phase	(GCT) h m s
HHM		eP	16 57 58
RCD		eP	16 58 19
SLC		eP	16 57 50
SJP		iP'	17 03 33
		ePP	05 21
THU		eP'	17 03 12
TUC		iP	16 57 41
		epP	58 13
TUT		iP	16 57 41
		ipP	58 12
Jan. 15			
FGU		e(P)	17 14 39
		e	14 43
HHM		i(P)	17 14 43
Jan. 15			
COL		iP	17 52 25
Jan. 15			
COL		eP	19 41 43
EUR		iP	19 45 18
Jan. 15			
COL		iP	20 12 52
		i	13 00
		i(pP)	13 22
		i	13 43
HHM		iP	20 12 05
Jan. 15			
TUT		e(P)	20 35 38
		eS	36 30
Jan. 15			
BOZ		iP'	20 52 20
		iPP	54 30
COL		eP	20 47 02
		e	50 21
		e	51 06
EUR		eP'	20 52 06
		iP'	52 21
		ePP	54 23
FGU		iP'	20 52 27
		ePP	54 37
		iPP	54 59
		e	55 56
GCA		eP'	20 52 28
		iPP	55 01
HHM		iP'	20 52 13
RCD		eP'	20 52 21
		ePP	54 54

Date and Station		Phase	(GCT) h m s
SLC		iP'	20 52 24
		iPP	54 34
TUC		eP'	20 52 35
		e	55 11
TUT		eP'	20 52 17
Jan. 15			
COL		iP	23 56 33
GCA		eP	23 56 11
Jan. 16			
COL		iP	01 59 13
EUR		iP	01 54 58
FGU		eP	01 54 49
GCA		eP	01 54 20
RCD		eP	01 55 03
TUC		eP	01 53 30
		e	53 39
TUT		eP	01 53 31
Jan. 16			
BOZ		iP	04 04 37
BUT		iP	04 04 47
		e	07 58
		e	08 09
COL		iP	04 08 17
		i	08 32
		iPcP	09 29
CSC		eP	04 04 32
EUR		iP	04 04 00
		i	04 22
		e	11 53
FGU		iP	04 03 51
		i	04 06
		eL	11 17
GCA		iP	04 03 21
		e	03 35
		e	04 14
		eL	09 26
HHM		iP	04 05 04
		i	05 16
RCD		eP	04 04 34
		e	05 27
SLC		eP	04 03 56
		eL	11 41
SJP		eP	04 05 29
		i	05 39
		i	05 51

Date and Station		Phase (GCT)
		h m s
TUC	iP	04 02 29
	i	02 38
	ipP	03 00
	eS	06 06
	eL	07 13
TUT	iP	04 02 30
Jan. 16		
HHM	iP	04 08 09
Jan. 16		
COL	eP	04 28 24
	e	29 16
EUR	iP	04 28 28
	e	37 16
GCA	eP	04 28 40
TUC	iP	04 28 32
TUT	eP	04 28 33
Jan. 16		
BUT	iP	05 42 22
	eL	42 51
FGU	e(P)	05 42 40
	i	42 49
RCD	e(P)	05 43 04
Jan. 16		
BHP	iP'	07 40 38
	i(PP)	45 55
BOZ	iP	07 31 55 C
	e(S)	41 36
BUT	iP	07 31 49 C
	eS	41 02
COL	iP	07 29 03 D
	iPcP	30 18
	i	33 08
	iS	36 12
	eL	43 12
	eP'P'	59 50
EUR	iP	07 31 59 C
	i	32 09
	i	32 54
	e	35 13
	iS	41 46
	e(PKKP)	49 06
FGU	iP	07 32 16 D
	i	32 48
	iPP	35 08
	iL	42 20
GCA	eP	07 32 22
	iP	32 23
	i	33 15
	e	34 43
	eL	42 31

Date and Station		Phase (GCT)
		h m s
GUA	iP	07 25 11 C
	iS	29 22
HON	eP	07 29 36
	eS	37 00
	eL	44 28
HHM	iP	07 31 36 C
	i	32 09
	ePP	34 17
	iS	40 58
KIP	iP	07 29 37 C
RCD	eP	07 32 24
	ePP	35 35
	eS	42 33
SLC	iP	07 32 09 C
	e	32 55
	iS	42 03
	eL	08 01 59
SJP	e(P')	07 38 59
	e	39 24
	e	40 05
	ePP	40 20
TUC	iP	07 32 39 D
	e	33 11
	ePP	36 01
	eL	58 44
TUT	eP	07 32 40 D
	i	33 05
	e	33 12
Jan. 16		
COL	iP	07 57 30
HHM	iP	07 53 56
Jan. 16		
HHM	iP	07 56 24
TUC	eP	07 55 30
Jan. 16		
FGU	eP	08 00 46
	e	01 58
Jan. 16		
COL	iP	08 09 29
Jan. 16		
COL	iP	08 16 43
	ipP	17 03
FGU	e(P)	08 17 44
Jan. 16		
BOZ	iP	08 59 53
BUT	eP	08 59 47
COL	iP	08 57 01
	i	57 15
	i(pP)	57 30
	i(sP)	57 38
	iPcP	58 10

Date and Station		Phase (GCT)
		h m s
EUR	iP	08 59 57
HHM	iP	08 59 34
FGU	iP	09 00 14
GCA	eP	09 00 21
RCD	eP	09 00 22
SLC	iP	09 00 07
TUC	eP	09 00 39
TUT	eP	09 00 37
Jan. 16		
COL	eP	09 09 37
Jan. 16		
COL	eP	09 31 55
Jan. 16		
COL	eP	10 18 30
Jan. 16		
COL	iP	10 22 52
EUR	eP	10 25 49
FGU	eP	10 26 38
HHM	eP	10 25 26
Jan. 16		
COL	eP	10 31 32
Jan. 16		
HHM	iP	10 38 47
Jan. 16		
BOZ	eP	11 31 22
BUT	eP	11 31 15
COL	iP	11 28 30
	ePP	30 47
	iS	35 40
	eP'P'	59 11
EUR	iP	11 31 26
FGU	iP	11 31 43
	e	33 50
	e	38 36
GCA	eP	11 31 49
	i	32 00
	e	32 08
GUA	iP	11 24 40
	iS	28 49
HHM	iP	11 31 03
	i	31 14
RCD	eP	11 31 50
	e	34 10

Date and Station		Phase (GCT)
		h m s
SLC	iP	11 31 36
TUC	eP	11 32 08
	epP	32 49
Jan. 16		
COL	eP	11 41 44
Jan. 16		
COL	iP	11 49 53
	i	50 23
EUR	iP	11 52 51
GCA	eP	11 53 17
	e	53 23
HHM	eP	11 52 28
	i	52 39
RCD	e(P)	11 53 11
TUC	e(P)	11 53 30
	e	53 39
Jan. 16		
COL	iP	12 08 56
EUR	eP	12 11 50
FGU	eP	12 11 39
Jan. 16		
BOZ	iP	12 24 11
	i	24 21
	eS	33 52
BUT	eP	12 24 05
COL	iP	12 21 18
	iS	28 26
	iScS	31 11
	eSS	31 56
	eL	35 34
EUR	iP	12 24 15
FGU	iP	12 24 31
	ipP	25 06
	ePP	27 36
GCA	eP	12 24 38
	i	24 50
	i	25 39
GUA	iP	12 17 33
	iS	21 43
HON	eP	12 21 53
	iS	29 40
	iL	37 00
HHM	iP	12 23 52
	i	24 03
	ipP	24 19
	iS	33 13
KIP	iP	12 21 52

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Date and Station		Phase	(GCT) h m s
RCD		iP	12 25 40
SLC		iP	12 24 25
		iS	34 15
		eL	54 27
TUC		iP	12 24 56
		ipP	25 24
		e(S)	35 26
		eL	51 00
TUT		eP	12 24 56
		epP	25 30
		ePP	27 06
Jan. 16			
COL		eP	12 40 11
Jan. 16			
COL		iP	12 43 46
Jan. 16			
COL		eP	12 45 37
EUR		eP	12 48 34
HHM		eP	12 48 12
TUT		eP	12 50 22
Jan. 16			
COL		eP	12 53 44
Jan. 16			
BOZ		eP	13 20 54
BUT		eP	13 20 51
COL		iP	13 18 02
		i	18 09
		i	19 03
EUR		iP	13 20 59
		i	21 10
FGU		eP	13 21 16
		i	21 28
GCA		eP	12 21 21
		i	21 33
GUA		eP	13 14 18
HHM		eP	13 20 36
		i	20 47
RCD		eP	13 21 23
SLC		eP	13 21 08
TUC		eP	13 21 41
		i	21 50
TUT		e(P)	13 21 37
Jan. 16			
COL		iP	13 31 33

Date and Station		Phase	(GCT) h m s
Jan. 16			
COL		iP	14 09 12
Jan. 16			
BOZ		iP	14 15 39
BUT		eP	14 15 34
COL		iP	14 12 46
		i	12 57
		iPcP	13 58
		iS	19 54
EUR		iP	14 15 44
		i	15 54
		i(PP)	19 12
FGU		iP	14 16 01
		e	18 02
GCA		eP	14 16 07
GUA		iP	14 09 02
		iS	13 09
HHM		iP	14 15 21
		i	15 31
RCD		eP	14 16 09
SLC		iP	14 15 54
TUC		eP	14 16 24
TUT		eP	14 16 25
Jan. 16			
COL		eP	14 21 21
Jan. 16			
COL		iP	14 25 43
Jan. 16			
COL		iP	14 46 09
Jan. 16			
COL		iP	14 52 57
		i	53 45
EUR		iP	14 55 54
FGU		eP	14 55 41
HHM		eP	14 55 30
		i	55 41
Jan. 16			
COL		eP	15 00 22
Jan. 16			
FGU		e(P)	15 09 39
		e	09 45
TUT		eP	15 10 01
Jan. 16			
COL		iP	15 18 44

Date and Station		Phase	(GCT) h m s
Jan. 16			
COL		eP	15 31 36
		iP	31 50
Jan. 16			
COL		iP	15 35 03
		i	35 14
EUR		iP	15 37 59
HHM		iP	15 37 36
Jan. 16			
BOZ		iP	15 52 56
		iS	16 02 32
BUT		eP	15 52 49
COL		iP	15 50 03
		ipP	50 36
		iPcP	51 07
		i(ScP)	55 31
		iS	57 11
FGU		iP	15 52 17
		i	52 18
		i	54 08
		eL	16 02 16
GCA		iP	15 53 22
		i	53 24
		ipP	53 56
GUA		iP	15 46 18
		iS	50 25
HHM		iP	15 52 37
		i	52 47
		iS	16 01 57
KIP		eP	15 50 36
RCD		iP	15 53 26
SLC		iP	15 53 11
		iS	16 03 03
		iL	31 21
TUC		eP	15 53 42
		epP	54 11
		eL	16 19 48
Jan. 16			
COL		eP	16 13 31
Jan. 16			
COL		iP	16 30 44
		i	30 55
TUT		eP	16 38 40
Jan. 16			
COL		iP	19 05 00
		i(pP)	05 51
Jan. 16			
HHM		e(P)	19 34 34

Date and Station		Phase	(GCT) h m s
Jan. 16			
GUA		iP	21 10 06
		iS	10 24
Jan. 16			
COL		iP	21 56 35
Jan. 16			
GCA		eP	23 18 50
Jan. 16			
GCA		eP	23 24 49
		e	24 55
		e	25 45
Jan. 17			
COL		i(P)	00 10 04
FGU		eP	00 14 34
Jan. 17			
COL		iP	00 38 20
FGU		eP	00 41 34
		i	41 45
TUT		e(P)	00 41 58
Jan. 17			
COL		e(P)	04 18 20
		iP	18 26
Jan. 17			
BOZ		e(P)	04 28 07
		eL	33 56
COL		eP	04 25 26
		eS	27 42
HHM		eP	04 27 28
TUC		eP	04 29 55
TUT		e(P)	04 29 51
Jan. 17			
BUT		eP	04 33 36
Jan. 17			
COL		iP	05 57 09
		e	58 08
TUT		eP	05 54 21
Jan. 17			
TUT		e(P)	06 44 26
Jan. 17			
BOZ		eP	06 50 32
FGU		e(P)	06 51 17
		e	51 22
		i	53 38
HHM		iP	06 51 21
		i	51 30
		iL	52 25

Date and Station		Phase (GCT) h m s
Jan. 17		
COL	iP	06 50 23
	ipP	50 59
	iPcP	51 31
GCA	e(P)	06 53 36
	i	53 43
HHM	iP	06 52 57
RCD	e(P)	06 52 49
SLC	i(P)	06 53 30
TUC	iP	06 54 02
TUT	eP	06 54 02
Jan. 17		
FGU	eP	09 16 35
Jan. 17		
TUT	e(P)	11 41 43
Jan. 17		
COL	iP	13 30 18
Jan. 17		
COL	iP	13 41 09
Jan. 17		
FGU	eP	14 04 07
Jan. 17		
COL	iP	14 29 59
Jan. 17		
HHM	eP	16 01 03
Jan. 17		
FGU	e(P)	16 54 50
Jan. 17		
EUR	eP	22 20 03
Jan. 17		
TUC	e(P)	22 53 02
Jan. 17		
FGU	e(P)	23 01 15
	i	02 13
Jan. 17		
FGU	iP	23 13 35
Jan. 17		
COL	iP	23 18 35
EUR	iP	23 18 38
FGU	eP	23 19 01
TUT	eP	23 18 43
Jan. 17		
BUT	eP	23 25 49
COL	eP	23 27 41

Date and Station		Phase (GCT) h m s
EUR	iP	23 25 05
FGU	eP	23 25 14
	eL	29 39
HHM	eP	23 25 59
RCD	eP	23 25 43
SLC	iP	23 25 16
TUC	e(P)	23 24 15
	e	24 22
TUT	eP	23 24 16
Jan. 17		
RCD	eP	23 36 11
Jan. 17		
HHM	iP	23 46 59
RCD	eP	23 46 35
TUT	eP	23 45 10
Jan. 17		
COL	iP	23 53 34
	i	53 48
FGU	eP	23 55 39
Jan. 18		
TUT	eP	00 33 40
Jan. 18		
EUR	iP	01 46 11
FGU	e(P)	01 46 03
RCD	eP	01 46 54
Jan. 18		
EUR	iP	04 35 03
FGU	iP	04 34 52
HHM	iP	04 35 30
SJP	iP	04 31 17
TUC	iP	04 34 19
Jan. 18		
TUC	eP	05 08 52
Jan. 18		
FGU	e(P)	07 14 08
	e	14 47
	e	15 37
Jan. 18		
COL	iP	07 21 31
EUR	eP	07 24 27
FGU	e(P)	07 24 45
	i	24 53

Date and Station		Phase (GCT) h m s
HHM	eP	07 24 07
	i	24 13
Jan. 18		
COL	eP	07 36 38
EUR	eP	07 39 31
FGU	eP	07 39 48
HHM	eP	07 39 09
Jan. 18		
COL	eP	09 18 04
	i	22 09
EUR	e(P)	09 18 30
Jan. 18		
COL	eP	09 55 03
Jan. 18		
COL	iP	10 32 43
Jan. 18		
COL	iP	12 06 31
Jan. 18		
COL	eP	13 11 03
EUR	i(P)	13 14 02
Jan. 18		
TUT	eP	14 09 39
	eS	10 57
Jan. 18		
COL	eP	15 22 55
EUR	iP	15 22 10
Jan. 18		
COL	iP	16 57 18
EUR	eP	17 00 15
HHM	eP	16 59 52
THU	eP	16 59 11
Jan. 18		
COL	iP	19 43 20
Jan. 18		
COL	iP	19 56 01
	eS	56 29
EUR	eP	20 00 39
	i	01 20
HHM	iP	20 00 23
	i	00 42
	i	01 13
TUT	eP	20 02 31
Jan. 18		
HHM	e(P)	20 07 32

Date and Station		Phase (GCT) h m s
Jan. 18		
EUR	eP	21 03 09
TUT	e(P)	21 03 11
Jan. 18		
COL	iP	22 59 11
Jan. 19		
COL	iP	00 54 46
Jan. 19		
COL	iP	04 33 58
	i	34 41
EUR	iP	04 34 16
	i	34 42
	i	35 14
	iPP	37 50
SJP	eP'	04 40 25
TUC	eP	04 34 24
TUT	eP	04 34 25
Jan. 19		
COL	eP	06 07 30
EUR	eP	06 07 34
	ePP	11 09
TUC	eP	06 07 38
TUT	eP	06 07 38
Jan. 19		
EUR	eP	09 31 23
GCA	e(P)	09 30 26
	e	30 54
TUC	eP	09 30 28
Jan. 19		
COL	iP	10 29 15
Jan. 19		
EUR	iP	11 02 49
HHM	eP	11 03 16
Jan. 19		
BOZ	eP	17 32 17
BUT	eP	17 32 09
COL	iP	17 28 50
	iPcP	31 03
CSC	eP	17 34 40
FGU	iP	17 32 43
	i	32 57
	i	34 01
	e	36 02
GCA	eP	17 32 52
	e	33 06

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Date and Station	Phase	(GCT) h m s
HHM	iP	17 31 52
	i	32 05
	iPcP	32 54
SLC	iP	17 32 35
THU	iP	17 31 19
TUC	eP	17 33 17
TUT	eP	17 33 17
Jan. 19		
FGU	e(P)	17 50 40
	e	52 03
Jan. 19		
EUR	iP	18 10 39
Jan. 19		
EUR	iP	18 32 25
	i	32 40
Jan. 19		
FGU	eP	20 00 24
Jan. 19		
FGU	e(P)	20 08 34
	i	10 50
Jan. 19		
COL	iP	20 56 21
HHM	eP	20 59 39
Jan. 19		
EUR	iP	21 00 21
Jan. 19		
EUR	iP	21 41 32
FGU	iP	21 41 08
Jan. 19		
TUT	e(P)	22 41 41
Jan. 19		
COL	eP	23 10 46
HHM	eP	23 13 51
Jan. 19		
FGU	e(P)	23 34 05
	e	34 47
Jan. 19		
FGU	eP	23 46 33
Jan. 20		
FGU	eP	00 03 50
Jan. 20		
COL	iP	00 53 41
EUR	iP	00 56 38
HHM	eP	00 56 14

Date and Station	Phase	(GCT) h m s
Jan. 20		
COL	iP	00 59 02
	i(L)	01 02 01
FGU	eP	01 03 21
HHM	eP	01 02 16
TUC	eP	01 04 12
TUT	eP	01 04 10
Jan. 20		
COL	iP	01 03 33
EUR	iP	01 07 31
HHM	eP	01 06 43
Jan. 20		
COL	iP	01 48 25
	i	48 34
Jan. 20		
COL	eP	02 00 55
EUR	iP	01 56 25
FGU	iP	01 56 30
	e	57 48
	e	58 50
	eL	02 04 25
GCA	eP	01 55 49
	e	56 20
HHM	e(P)	01 57 46
SLC	eP	01 56 31
	eS	02 03 01
SJP	eP	01 59 24
TUC	iP	01 54 45
	eL	59 07
TUT	iP	01 54 46
Jan. 20		
COL	eP	02 41 28
Jan. 20		
FGU	eP	03 04 24
Jan. 20		
EUR	iP	03 15 04
TUC	eP	03 13 23
Jan. 20		
COL	eP	03 33 38
Jan. 20		
COL	eP	04 18 19
Jan. 20		
COL	iP	05 25 19
	eL	28 12

Date and Station	Phase	(GCT) h m s
EUR	iP	05 29 16
FGU	eP	05 29 37
HHM	eP	05 28 33
TUC	eP	05 30 27
TUT	eP	05 30 27
Jan. 20		
FGU	e(P)	06 02 28
Jan. 20		
BUT	eP	06 14 15
FGU	eP	06 14 31
	i	14 41
	e	15 27
HHM	eP	06 14 59
Jan. 20		
FGU	e(P)	06 54 34
	e	54 57
Jan. 20		
COL	eP	08 29 19
Jan. 20		
EUR	iP	08 56 53
FGU	eP	08 57 09
GCA	eP	08 57 28
HHM	eP	08 56 02
TUC	eP	08 58 04
TUT	eP	08 58 04
Jan. 20		
BUT	eP	08 56 47
COL	iP	08 52 03
	eS	52 49
EUR	iP	08 57 19
	iPcP	59 45
	iScP	09 03 16
FGU	iP	08 57 36
	iPcP	59 49
	iScP	09 53 22
GCA	eP	08 57 54
	i	58 08
HHM	iP	08 56 27
	iPcP	59 30
	iScP	09 02 57
TUC	eP	08 58 32
Jan. 20		
BHP	iP	11 22 10
	iS	22 26

Date and Station	Phase	(GCT) h m s
EUR	iP	11 29 58
FGU	eP	11 29 33
HHM	eP	11 30 30
TUC	e(P)	11 29 00
Jan. 20		
COL	iP	13 35 16
	eL	37 20
EUR	iP	13 39 14
FGU	eP	13 39 35
HHM	eP	13 38 30
TUC	eP	13 40 26
Jan. 20		
EUR	eP	13 54 47
Jan. 20		
COL	eP	14 32 16
Jan. 20		
EUR	iP	17 11 39
HHM	e(P)	17 12 10
Jan. 20		
BOZ	eP	17 15 03
BUT	eP	17 14 53
	e(S)	19 43
COL	iP	17 11 18
	iS	13 33
EUR	iP	17 15 17
	ePcP	18 29
	iS	20 16
	iScP	22 04
	iScS	25 58
FGU	iP	17 15 38
	i	16 38
	iPcP	18 36
	i	19 33
	iScP	22 12
GCA	iP	17 15 55
HHM	iP	17 14 34
	iPcP	18 15
	iS	19 07
	iScP	21 51
RCD	iP	17 15 54
SLC	iP	17 15 29
	iL	22 10
SJP	eP	17 20 42
SIT	eP	17 11 30

Date and Station		Phase (GCT)
		h m s
TUC	iP	17 16 30
	eS	22 34
	eL	25 36
TUT	eP	17 16 29
UKI	eP	17 14 49
Jan. 20		
COL	eP	18 52 23
	i	53 10
Jan. 20		
COL	eP	19 08 43
EUR	eP	19 12 39
Jan. 20		
COL	iP	19 45 31
	eL	47 50
EUR	eP	19 49 30
FGU	eP	19 49 52
HHM	e(P)	19 48 48
Jan. 20		
COL	iP	20 28 27
Jan. 20		
COL	eP	21 10 51
	i	11 09
Jan. 20		
COL	iP	21 33 10
	eL	35 40
EUR	iP	21 37 10
FGU	eP	21 37 30
HHM	eP	21 36 26
Jan. 20		
COL	iP	21 39 31
EUR	iP	21 43 31
HHM	eP	21 42 48
Jan. 20		
COL	eP	21 55 53
HHM	e(P)	21 57 49
Jan. 20		
COL	eP	22 14 16
Jan. 20		
COL	iP	22 43 31
	ipP	43 44
EUR	iP	22 46 32
FGU	e(P)	22 46 46
	e	46 49

Date and Station		Phase (GCT)
		h m s
HHM	iP	22 46 07
RCD	eP	22 46 56
TUT	e(P)	22 47 12
Jan. 20		
FGU	eP	23 46 21
SLC	iP	23 45 49
	iS	46 20
Jan. 20		
FGU	e(P)	23 51 39
	i	53 03
Jan. 21		
COL	iP	05 38 23
	i	38 37
HHM	eP	05 41 10
Jan. 21		
COL	eP	06 22 03
EUR	eP	06 25 59
HHM	e(P)	06 25 11
Jan. 21		
EUR	iP	11 47 12
HHM	e(P)	11 47 51
Jan. 21		
COL	iP	13 21 30
EUR	iP	13 25 27
HHM	eP	13 24 43
Jan. 21		
EUR	eP	13 53 55
TUT	e(P)	13 51 57
	eS	53 44
Jan. 21		
BHP	iP	14 48 46
	iS	49 33
COL	iP	14 59 19
EUR	iP	14 55 55
HHM	iP	14 56 33
	i	56 41
RCD	eP	14 55 28
SJP	iP	14 52 21
THU	iP	14 58 56
	i	59 13
TUT	eP	14 54 51
Jan. 21		
HHM	i(P)	16 03 18

Date and Station		Phase (GCT)
		h m s
Jan. 21		
COL	eP	17 51 49
EUR	eP	17 54 46
HHM	eP	17 54 23
Jan. 21		
COL	iP	18 06 00
HHM	eP	18 05 12
Jan. 21		
COL	iP	21 42 45
Jan. 21		
COL	iP	22 15 23
EUR	iP	22 11 35
FGU	e(P)	22 09 06
	i	11 14
GCA	eP	22 10 58
HHM	eP	22 12 22
TUC	eP	22 10 14
TUT	eP	22 10 24
Jan. 22		
FGU	e(P)	00 05 43
	e	06 27
Jan. 22		
FGU	iP	00 11 24
Jan. 22		
COL	eP	01 57 11
Jan. 22		
COL	iP	02 25 48
Jan. 22		
BUT	eP	03 07 17
Jan. 22		
COL	iP	03 13 37
EUR	eP	03 13 08
FGU	eP	03 13 35
GCA	eP	03 13 18
TUC	eP	03 13 09
TUT	eP	03 13 09
Jan. 22		
BHP	e(P')	03 46 58
	i	49 50
	e	52 39
	i	53 43
	i	55 04
	i	04 00 33
	i	04 46

Date and Station		Phase (GCT)
		h m s
COL	eP	03 36 33
	iP	36 36
	i	37 44
	e	44 11
	iS	47 16
	eSS	52 28
	i(PKKP)	54 36
	eL	59 12
EUR	eP	03 36 56
	e	44 44
	ePKKP	54 56
	eP'P'	04 02 51
FGU	eP	03 37 29
	i	37 53
	e	38 48
	ePKKP	54 28
GCA	eP	03 37 21
	e	37 34
	e	39 11
GUA	eP	03 30 50
	iP	30 59
	iS	36 10
HHM	e(P)	03 37 17
	i(S)	48 04
KIP	eP	03 32 51
RCD	e(P)	03 38 21
SJP	eP'	03 43 17
	i	43 49
	ePP	45 45
	e	46 44
	e	47 06
TUC	eP	03 37 17
	ePP	40 50
	e	44 16
	eS	48 06
	eSS	54 00
	eL	04 00 32
TUT	e(P)	03 37 08
	e	37 17
	e	44 17
Jan. 22		
COL	i(P)	03 52 42
Jan. 22		
COL	iP	04 16 53
Jan. 22		
COL	iP	04 29 08
Jan. 22		
COL	eP	04 53 10
Jan. 22		
COL	eP	05 54 21
Jan. 22		
COL	iP	06 05 26

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Date and Station		Phase	(GCT) h m s
Jan. 22			
COL		eP	06 19 03
Jan. 22			
COL		iP	06 29 01
EUR		eP	06 29 20
Jan. 22			
COL		iP	08 11 02
SJP		eP	08 12 30
Jan. 22			
COL		eP	09 42 13
Jan. 22			
COL		iP	10 46 22
Jan. 22			
COL		eP	11 01 17
EUR		eP	11 04 20
HHM		eP	11 03 44
Jan. 22			
COL		eP	12 26 10
Jan. 22			
COL		eP	13 20 31
Jan. 22			
COL		eP	13 53 07
EUR		eP	13 53 21
Jan. 22			
BCN		iP	16 22 11
BUT		eP	16 22 46
COL		iP	16 22 57
		i	23 07
EUR		eP	16 22 20
FGU		iP	16 22 40
GCA		iP	16 22 25
		i	22 36
HHM		eP	16 22 48
TUC		iP	16 22 12
TUT		iP	16 22 13
Jan. 22			
COL		iP	17 01 56
Jan. 22			
COL		eP	17 14 21
Jan. 22			
EUR		eP	18 19 48
Jan. 22			
COL		eP	19 17 24
EUR		eP	19 17 46
Jan. 22			
COL		eP	19 26 03
Jan. 22			
COL		iP	19 34 37
SJP		eP'	19 42 23
Jan. 22			
COL		eP	20 26 52
		iS	27 22
Jan. 22			
COL		iP	21 18 06
Jan. 22			
COL		iP	23 26 38
Jan. 22			
COL		eP	23 35 49
Jan. 23			
COL		eP	00 14 28
Jan. 23			
COL		eP	01 39 37
		i	40 57
Jan. 23			
COL		iP	01 57 19
Jan. 23			
COL		eP	03 04 07
Jan. 23			
BCN		eP	03 21 43
EUR		eP	03 21 49
		iP	22 06
		eL	23 17
Jan. 23			
COL		i(P)	04 05 49
Jan. 23			
EUR		iP	04 23 12
GCA		eP	04 22 50
HHM		iP	04 23 41
Jan. 23			
EUR		iP	04 40 43
Jan. 23			
BCN		iP	04 59 49
BOZ		eP	04 59 24
BUT		eP	04 59 17
COL		iP	04 56 15
		ipP	56 37
		isP	56 47
EUR		iP	04 59 31
GCA		eP	04 59 57
		e	05 01 04
HHM		iP	04 59 03
		i	59 18
		i	59 37
RCD		iP	04 59 56
TUC		iP	05 00 17
TUT		iP	05 00 18
Jan. 23			
BCN		eP	07 23 05
GCA		e(P)	07 22 14
		e	24 15
TUC		e(P)	07 21 13
TUT		eP	07 21 08
		eS	21 56
Jan. 23			
COL		iP	09 10 36
		i	11 21
HHM		iP	09 12 56
Jan. 23			
EUR		iP	09 21 14
HHM		eP	09 21 41
Jan. 23			
EUR		e(P)	09 33 09
HHM		eP	09 32 57
Jan. 23			
EUR		e(P)	10 03 38
RCD		eP	10 03 27
TUT		e(P)	10 03 48
Jan. 23			
EUR		eP	10 58 28
Jan. 23			
COL		iP	11 05 20
		i	05 27
BCN		eP	11 17 19
EUR		iP	11 51 46
Jan. 23			
BOZ		eP	12 45 28
		eS	45 55
BUT		eP	12 45 48
EUR		eP	12 46 49
		e(L)	48 35
HHM		e(P)	12 46 17
		i	46 31
		iL	47 25
RCD		eP	12 46 36
Jan. 23			
COL		e(P)	13 57 43
EUR		eP	13 54 49
Jan. 23			
COL		iP	14 26 40
		eL	29 40
EUR		iP	14 30 39
HHM		eP	14 29 55
Jan. 23			
FGU		iP	17 11 59
Jan. 23			
EUR		e(P)	17 26 23
Jan. 23			
COL		eP	20 26 01
Jan. 23			
EUR		eP	22 06 59
Jan. 23			
COL		iP	23 45 09
Jan. 24			
EUR		eP	00 14 49
HHM		eP	00 14 29
Jan. 24			
BUT		e(P)	05 46 59
Jan. 24			
HHM		eP	07 32 25
Jan. 24			
BCN		eP	07 37 43
		epP	38 15
		ePP	41 15
COL		iP	07 37 28
		ipP	38 09
		isP	38 26
		eS	48 37
		i(P'P')	08 03 16
EUR		iP	07 37 43
		ipP	38 17
		isP	38 31
		iPP	41 16
		e	42 41
		ePKKP	55 15
		iP'P'	08 03 21
FGU		eP	07 38 08
		epP	38 41
		i	39 30
		ePKKP	55 03
		i	55 39

Date and Station		Phase (GCT) h m s
GCA	e(P)	07 38 04
	e	38 17
	epP	38 35
	ePP	41 35
HHM	e(P)	07 38 05
	epP	38 43
	ePKKP	55 06
	eP'P'	08 03 20
SJP	iP'	07 43 51
TUC	eP	07 37 52
	epP	38 24
	e	38 43
	e	39 06
	ePP	41 31
TUT	eP	07 37 52
	e(pP)	38 42
	ePP	41 30
Jan. 24		
COL	eP'	08 22 54
EUR	eP'	08 21 28
FGU	eP'	08 21 36
HHM	e(P')	08 21 42
Jan. 24		
EUR	eP	09 04 06
Jan. 24		
EUR	eP	14 01 38
HHM	eP	14 01 46
Jan. 24		
TUT	eP	17 46 25
Jan. 24		
COL	iP	20 32 02
EUR	iP	20 35 32
HHM	e(P)	20 34 42
Jan. 24		
HHM	eP	21 52 39
Jan. 24		
EUR	iP	21 57 33
Jan. 24		
SJP	iP	22 43 01
Jan. 24		
BHP	iP	23 13 34
	iS	14 21
BOZ	eP	23 20 56
COL	iP	23 24 08
	ipP	24 27
CSC	eP	23 18 15
EUR	iP	23 20 43

Date and Station		Phase (GCT) h m s
FGU	iP	23 20 21
GCA	iP	23 20 11
HHM	iP	23 21 21
SJP	iP	23 17 08
	i	17 17
THU	iP	23 23 44
TUT	eP	23 19 41
	e	20 49
Jan. 24		
SJP	iP	23 26 01
Jan. 24		
SLC	iP	23 47 33
	iS	48 02
Jan. 24		
COL	eP	23 57 19
EUR	iP	23 56 51
Jan. 25		
SLC	i(P)	00 02 45
Jan. 25		
FGU	eP	00 12 30
	e	12 51
Jan. 25		
EUR	iP	00 21 29
Jan. 25		
COL	eP'	01 12 02
CSC	eP'	01 13 52
EUR	iP'	01 13 11
FGU	eP'	01 13 11
	e	13 17
	i	16 43
HHM	eP'	01 13 02
TUC	eP'	01 13 30
	epP'	14 03
	e	17 33
	e(SKS)	20 17
TUT	e(P')	01 13 17
	eP'	13 30
Jan. 25		
EUR	iP	01 16 33
TUT	eP	01 16 57
Jan. 25		
FGU	eP	01 21 10
	e	22 02
TUT	eP	01 20 17
Jan. 25		
TUT	eP	01 31 27

Date and Station		Phase (GCT) h m s
Jan. 25		
GCA	e(P)	02 19 17
	e	19 42
	i	21 39
Jan. 25		
COL	iP	03 31 09
EUR	iP	03 31 30
Jan: 25		
BUT	eP	03 55 04
EUR	eP	03 55 51
FGU	eP	03 55 30
	e	55 31
	e	55 42
HHM	eP	03 56 28
SJP	iP	03 51 49
	i	52 01
	e	53 51
TUC	eP	03 54 49
TUT	eP	03 54 49
Jan. 25		
COL	iP	04 41 07
EUR	eP	04 41 25
Jan. 25		
COL	iP	05 34 05
	iS	44 36
EUR	eP	05 34 23
	iP	34 25
	e	36 44
	i	38 55
FGU	eP	05 34 47
GCA	e(P)	05 34 38
HHM	eP	05 34 45
SJP	iP'	05 40 37
TUC	eP	05 34 35
	e	34 42
TUT	eP	05 34 35
Jan. 25		
COL	iP	05 38 35
	i	40 11
Jan. 25		
COL	iP	06 19 25
EUR	iP	06 19 44
TUC	e(P)	06 19 42
	e	19 54
Jan. 25		
COL	iP	07 14 58

Date and Station		Phase (GCT) h m s
EUR	iP	07 14 40
Jan. 25		
EUR	iP	07 19 55
	i	19 58
	e(S)	21 32
	eL	22 03
FGU	eP	07 20 42
	e	23 55
TUC	eP	07 19 11
Jan. 25		
COL	eP	07 24 52
EUR	eP	07 25 07
	e	26 44
Jan. 25		
COL	eP	07 34 21
	iP	34 36
FGU	e(P)	07 37 15
	e	37 26
Jan. 25		
COL	iP	07 40 13
EUR	eP	07 40 34
Jan. 25		
COL	iP	07 44 05
EUR	iP	07 44 25
Jan. 25		
EUR	eP	07 48 30
Jan. 25		
BOZ	eP	08 43 50
COL	eP	08 45 03
EUR	eP	08 45 13
FGU	eP	08 44 34
	e	44 40
HHM	e(P)	08 44 38
	e	44 49
	eL	45 43
Jan. 25		
COL	iP	09 27 17
Jan. 25		
EUR	e(P)	11 22 27
FGU	eP	11 21 41
	e	22 38
HHM	iP	11 21 42
	i	21 51
	iL	22 44
Jan. 25		
COL	eP	11 56 33

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Date and Station		Phase	(GCT) h m s
EUR		eP	11 59 59
Jan. 25 COL		iP	12 18 05
EUR		eP	12 18 23
Jan. 25 COL		iP	12 20 46
Jan. 25 FGU		eP	12 42 27
		e	42 37
Jan. 25 EUR		eP	13 01 09
TUT		e(P)	13 02 34
Jan. 25 TUT		eP	15 46 45
		eS	48 06
Jan. 25 TUT		e(P)	16 29 06
		eS	30 09
Jan. 25 COL		eP	16 57 44
TUT		eP	16 57 22
Jan. 25 FGU		eP	17 10 20
		i	10 50
		i	11 26
Jan. 25 COL		eP	17 33 26
		iP	33 29
EUR		eP'	17 39 10
Jan. 25 HHM		iP	17 46 53
Jan. 25 COL		eP	18 37 39
		e	38 17
FGU		eP	18 34 29
		e	35 11
HHM		e(P)	18 36 02
Jan. 25 COL		eP	18 57 15
Jan. 25 COL		iP	18 58 23
Jan. 25 BOZ		eP	19 14 15
COL		iP	19 10 48
		ipP	11 14
		i	12 22
EUR		iP	19 14 24
FGU		iP	19 14 42
		i	15 21
GCA		eP	19 14 52
HHM		iP	19 13 51
		iPcP	14 51
RCD		iP	19 14 49
SLC		iP	19 14 34
THU		iP	19 13 17
TUC		iP	19 15 15
		epP	15 29
TUT		eP	19 15 17
Jan. 25 EUR		iP	19 20 19
Jan. 25 BUT		eP	19 29 07
		e(S)	30 06
Jan. 25 TUT		eP	19 43 33
Jan. 25 COL		iP	20 57 37
EUR		iP	20 57 57
Jan. 25 TUT		e(P)	21 23 48
		eS	24 21
Jan. 25 FGU		e(P)	22 50 40
Jan. 25 FGU		eP	23 47 36
		i	47 38
		i	49 09
SLC		iP	23 47 36
		iS	48 05
Jan. 26 COL		eP	01 59 46
FGU		eP'	02 05 45
TUT		eP'	02 06 05
Jan. 26 GUA		iP	03 19 35
Jan. 26 COL		iP	03 29 53
Jan. 26 EUR		eP	05 46 53
TUT		e(P)	05 44 54
		eS	46 40
Jan. 26 COL		iP	06 03 24
EUR		eP	06 03 44
Jan. 26 COL		eP	06 13 58
		i	14 56
EUR		eP	06 14 07
Jan. 26 COL		iP	06 16 51
EUR		iP	06 17 11
Jan. 26 TUT		eP	06 26 28
Jan. 26 COL		eP	08 07 20
Jan. 26 COL		eP	09 12 21
Jan. 26 COL		eP	10 39 19
EUR		iP	10 39 47
HHM		eP	10 40 02
TUT		eP	10 39 58
Jan. 26 BUT		eP	10 55 02
		eS	55 30
COL		iP	10 59 55
		i	11 00 08
RCD		eP	10 55 46
		e	56 03
		i	57 10
Jan. 26 EUR		iP	11 03 20
Jan. 26 COL		iP	12 47 14
Jan. 26 COL		eP	13 25 24
EUR		iP	13 25 26
FGU		eP	13 25 53
TUC		eP	13 25 33
TUT		eP	13 25 33
Jan. 26 COL		iP	16 26 22
		ipP	26 48
		eS	36 59
		eL	58 32
EUR		iP	16 26 24
FGU		eP	16 26 49
		eL	37 27
GCA		eP	16 26 35
GUA		eP	16 21 15
		iS	27 37
HON		eP	16 22 32
		eS	30 24
		eL	37 40
HHM		e(P)	16 26 47
		i	27 55
SLC		e(P)	16 26 43
		iS	37 29
		eL	59 45
SJP		eP'	16 32 27
TUC		eP	16 26 27
		eS	36 50
		eSS	42 57
		eL	56 03
Jan. 26 COL		eP	17 11 28
CSC		eP	17 15 57
Jan. 26 COL		iP	17 58 46
EUR		eP	17 55 00
HHM		e(P)	17 56 37
		i	56 48
TUT		eP	17 55 02
Jan. 26 COL		iP	19 01 53
EUR		iP	19 01 57
FGU		eP	19 02 21
		i	02 26
GCA		eP	19 02 08
HHM		e(P)	19 02 22
		ePP	06 16
SJP		iP'	19 07 54
TUC		iP	19 02 02
		epP	02 30
TUT		eP	19 02 02
Jan. 26 FGU		e(P)	19 18 37
		e	19 04

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Date and Station		Phase (GCT) h m s
Jan. 26		
EUR	e(P)	19 27 25
Jan. 26		
COL	iP	20 06 42
EUR	e(P)	20 06 36
FGU	eP	20 05 40
	i	07 00
HHM	e(P)	20 07 00
TUT	eP	20 06 39
Jan. 26		
COL	iP	21 33 22
EUR	e(P)	21 33 11
FGU	iP	21 33 46
	i	33 52
HHM	e(P)	21 33 35
TUT	eP	21 33 20
Jan. 27		
SLC	eP	00 02 14
	e(S)	02 43
Jan. 27		
COL	iP	01 04 38
	ipP	04 53
	ePP	07 36
EUR	iP	01 05 32
	i	05 43
FGU	iP	01 05 54
	i	06 04
	e	06 29
HHM	eP	01 05 40
SJP	iP'	01 11 32
	i	11 42
Jan. 27		
TUT	e(P)	03 15 17
Jan. 27		
COL	eP	03 24 33
EUR	eP	03 24 36
TUC	eP	03 24 42
	e	24 56
Jan. 27		
GCA	e(P)	03 50 20
	e	50 35
	e	51 59
TUC	e(P)	03 47 33
	iL	49 30
TUT	e(P)	03 47 37
	eL	49 33

Date and Station		Phase (GCT) h m s
Jan. 27		
TUT	e(P)	03 58 54
Jan. 27		
FGU	e(P)	04 55 29
Jan. 27		
COL	e(P)	06 30 35
TUT	eP	06 30 09
Jan. 27		
COL	eP	09 42 38
Jan. 27		
BOZ	eP	10 54 48
EUR	eP	10 56 05
FGU	eP	10 55 22
	i	55 30
	iS	56 17
HHM	eP	10 55 36
	i	55 49
Jan. 27		
SLC	eP	11 10 35
Jan. 27		
COL	iP	14 07 30
	ipP	07 48
EUR	iP	14 08 32
Jan. 27		
GCA	iP	14 18 33
	e	19 03
Jan. 27		
COL	iP	14 31 07
Jan. 27		
COL	iP	14 43 47
Jan. 27		
COL	e(P)	15 00 19
EUR	iP	14 59 59
TUT	eP	15 00 04
Jan. 27		
COL	eP	15 18 56
EUR	iP	15 18 59
TUT	eP	15 19 04
Jan. 27		
COL	eP	15 24 10
EUR	iP	15 23 50
TUT	eP	15 23 49
Jan. 27		
TUT	e(P)	15 53 05
	eL	54 54

Date and Station		Phase (GCT) h m s
Jan. 27		
COL	eP	16 03 08
Jan. 27		
GUA	iP	18 57 04
	iS	57 10
Jan. 27		
COL	iP	20 14 23
EUR	iP	20 17 44
FGU	eP	20 17 51
HHM	iP	20 17 15
RCD	eP	20 18 14
TUC	e(P)	20 18 37
	e	18 45
Jan. 27		
COL	iP	20 30 55
Jan. 27		
SLC	eP	23 44 55
	eL	46 25
Jan. 28		
SJP	iP	01 15 13
HHM	eP	01 42 32
Jan. 28		
HHM	e(P)	02 04 56
Jan. 28		
EUR	iP	02 16 56
Jan. 28		
BHP	iP	03 29 44
	iS	33 52
BOZ	eP	03 35 34
BUT	eP	03 35 38
	e	36 11
COL	eP	03 37 59
	i(pP)	38 13
CSC	eP	03 33 15
EUR	iP	03 35 18
	i	35 34
FGU	iP	03 35 03
	i(pP)	35 16
GCA	eP	03 34 51
	i	35 13
HHM	iP	03 35 53
	i(pP)	36 09
	i	36 49
RCD	eP	03 35 03
	ePP	37 08
	e	38 30

Date and Station		Phase (GCT) h m s
SLC	eP	03 35 09
SJP	iP	03 31 18
	i	31 37
TUC	iP	03 34 21
	e(pP)	34 37
	e	35 09
	ePP	36 22
TUT	iP	03 34 22
	i	35 16
Jan. 28		
EUR	eP	04 03 57
FGU	e(P)	04 04 04
HHM	e(P)	04 03 50
RCD	e(P)	04 04 17
Jan. 28		
EUR	eP	04 42 16
Jan. 28		
FGU	eP	05 15 24
	e	16 50
Jan. 28		
COL	eP	05 22 04
EUR	eP	05 25 35
	e	26 02
	e	29 22
FGU	e(P)	05 26 23
GCA	e(P)	05 25 38
	e	26 14
SJP	eP'	05 31 30
	e	31 54
TUT	e(P)	05 25 39
Jan. 28		
COL	eP	05 25 32
Jan. 28		
COL	eP	06 20 37
Jan. 28		
EUR	e(P)	06 36 11
FGU	e(P)	06 35 29
	i	37 14
GCA	eP	06 34 58
	i	35 58
TUC	eP	06 34 26
	i'	34 36
	iL	35 25
TUT	eP	06 34 26
	iS	35 20

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Date and Station		Phase (GCT) h m s
Jan. 28		
COL	eP	07 29 56
FGU	eP	07 31 03
HHM	iP	07 30 43
RCD	eP	07 30 38
SJP	e(P)	07 29 59
Jan. 28		
BOZ	eP	08 15 35
	eL	18 44
BUT	eP	08 15 28
	eL	18 46
COL	iP	08 19 32
EUR	iP	08 13 49
	i	14 04
FGU	iP	08 14 54
	i	16 02
	eL	17 13
GCA	iP	08 14 08
HHM	eP	08 15 55
	i	16 14
	e(S)	18 54
	iL	19 39
RCD	eP	08 16 09
	eS	18 24
SLC	eP	08 14 32
	e	15 02
	eL	16 25
SJP	eP	08 21 37
TUC	iP	08 14 26
	i	14 34
	eL	15 40
TUT	iP	08 14 27
	iS	15 29
UKI	eP	08 14 03
	eL	15 23
Jan. 28		
COL	eP	08 22 07
EUR	e(P)	08 23 57
Jan. 28		
HHM	eP	09 23 00
Jan. 28		
COL	iP	10 10 27
Jan. 28		
EUR	iP	10 23 39
Jan. 28		
GCA	eP	10 29 11

Date and Station		Phase (GCT) h m s
HHM	iP	10 28 45
Jan. 28		
TUT	eP	10 46 37
Jan. 28		
COL	iP	11 30 42
	i	31 31
Jan. 28		
COL	eP	11 39 22
Jan. 28		
COL	iP	11 50 03
EUR	iP	11 50 22
Jan. 28		
EUR	eP	14 02 12
	i	02 22
	eL	03 13
FGU	e(P)	14 03 50
GCA	eP	14 02 31
	eL	03 53
TUT	eP	14 02 49
Jan. 28		
BOZ	eP	14 19 15
BUT	eP	14 19 16
COL	eP	14 24 49
CSC	eP	14 18 30
EUR	iP	14 18 46
FGU	iP	14 18 50
	i	19 39
HHM	iP	14 19 26
RCD	iP	14 19 05
SLC	eP	14 18 49
SJP	eP	14 17 38
TUC	iP	14 18 05
	i	18 12
	i	18 40
TUT	iP	14 18 06
Jan. 28		
HHM	eP	14 27 31
Jan. 28		
COL	iP	14 34 26
	i	34 39
EUR	iP	14 34 59
FGU	eP	14 35 21

Date and Station		Phase (GCT) h m s
HHM	eP	14 35 18
SJP	eP'	14 41 10
Jan. 28		
COL	eP	14 47 25
EUR	iP	14 47 48
Jan. 28		
COL	iP	15 06 32
	i	06 52
EUR	eP	15 07 12
Jan. 28		
COL	eP	15 48 04
Jan. 28		
EUR	iP	17 01 31
	i	02 40
	i	03 28
	iL	04 20
GCA	iP	17 03 34
TUT	eP	17 03 53
Jan. 28		
EUR	eP	17 47 32
TUT	eP	17 47 35
Jan. 28		
COL	iP	18 32 13
EUR	eP	18 32 33
Jan. 28		
COL	eP	18 35 26
Jan. 28		
COL	iP	18 37 36
EUR	eP	18 37 56
HHM	iP	18 37 40
Jan. 28		
COL	iP	19 56 05
	e(S)	20 07 08
EUR	iP	19 56 09
	i	56 23
	i	57 38
FGU	e(P)	19 56 36
GCA	eP	19 55 42
	e	56 22
SJP	eP'	20 02 04
TUC	iP	19 56 13
	i	56 26
	i	56 47
	e(S)	20 07 29
	eL	25 00

Date and Station		Phase (GCT) h m s
TUT	eP	19 56 14
Jan. 28		
COL	i(P)	20 43 29
Jan. 28		
BUT	eP	21 15 13
EUR	e(P)	21 16 19
FGU	eP	21 15 38
	e	15 49
HHM	e(P)	21 15 48
	eL	16 52
RCD	eP	21 16 20
Jan. 28		
TUT	e(P)	22 54 20
Jan. 29		
COL	eP	00 23 40
Jan. 29		
EUR	eP	00 24 33
GCA	eP	00 25 53
	e	26 42
	i	27 00
Jan. 29		
COL	iP	01 03 03
EUR	iP	01 03 23
FGU	eP	01 03 47
TUC	eP	01 03 33
	e	03 42
	epP	04 03
TUT	eP	01 03 34
Jan. 29		
COL	iP	03 28 38
EUR	eP	03 28 58
Jan. 29		
COL	iP	03 29 37
EUR	eP	03 29 57
Jan. 29		
FGU	e(P)	05 21 45
Jan. 29		
FGU	e(P)	06 26 04
Jan. 29		
COL	iP	11 08 46
Jan. 29		
BOZ	eP	13 31 47
BUT	eP	13 31 36
	ePcP	33 30

Date and Station		Phase (GCT) h m s
COL	iP	13 28 22
	e(S)	31 24
CSC	eP	13 34 45
EUR	iP	13 31 51
	eScP	37 28
	eS	38 18
FGU	iP	13 32 15
	ipP	32 27
	i	33 52
	e	35 13
	iL	37 39
GCA	iP	13 32 25
	ipP	32 38
HHM	iP	13 31 20
	iPcP	33 30
	eScP	37 13
	eScS	41 26
RCD	iP	13 32 28
	ePP	34 12
SLC	eP	13 32 05
	epP	32 18
SJP	iP	13 36 41
	i	36 55
TUC	iP	13 32 52
	ipP	33 06
	isP	33 16
	e(PP)	34 49
TUT	iP	13 32 52
Jan. 29		
COL	eP	13 36 10
	i	36 36
Jan. 29		
COL	e	16 46 26
Jan. 29		
COL	iP	17 12 47
Jan. 29		
COL	i	17 32 51
Jan. 29		
FGU	eP	18 13 39
	e	14 10
Jan. 29		
COL	iP	18 51 44
HHM	iP	18 52 05
Jan. 29		
EUR	iP	18 55 14
	i	56 59
Jan. 29		
COL	iP	20 45 14
	ipP	46 51

Date and Station		Phase (GCT) h m s
EUR	iP	20 44 55
TUC	eP	20 44 57
TUT	eP	20 44 58
Jan. 29		
EUR	iP	22 33 32
Jan. 30		
EUR	iP	00 20 52
TUT	eP	00 20 49
Jan. 30		
EUR	eP	00 57 12
Jan. 30		
BOZ	eP	05 00 57
EUR	eP	05 02 27
FGU	eP	05 01 32
	i	01 39
	iS	02 29
HHM	e(P)	05 01 45
	i	01 57
	iL	03 03
RCD	eP	05 01 54
Jan. 30		
COL	iP	05 30 57
	eS	32 32
EUR	iP	05 35 19
	i	35 50
FGU	iP	05 35 38
HHM	iP	05 34 34
	i	35 05
Jan. 30		
EUR	iP	05 41 37
HHM	iP	05 41 19
Jan. 30		
GUA	iP	05 48 40
	eS	49 03
Jan. 30		
FGU	e(P)	06 30 32
	i	30 35
Jan. 30		
COL	iP	09 35 42
Jan. 30		
EUR	iP	10 51 09
Jan. 30		
COL	iP	11 48 36
	iS	48 56

Date and Station		Phase (GCT) h m s
Jan. 30		
COL	i	11 55 21
Jan. 30		
BOZ	eP	12 18 39
	eL	27 56
BUT	eP	12 18 31
	eL	27 02
COL	iP	12 12 58
	i(S)	13 06
EUR	iP	12 19 11
	i	19 35
	eL	30 06
FGU	iP	12 19 20
	i	22 39
	eL	30 22
GCA	eP	12 19 43
	e	23 00
	eL	32 11
HHM	iP	12 18 08
	eL	26 09
RCD	iP	12 19 17
SLC	eP	12 19 14
SJP	iP	12 24 00
SIT	eP	12 15 14
TUC	iP	12 20 21
	e	20 35
	eS	26 12
	eL	30 56
TUT	eP	12 20 21
Jan. 30		
COL	iP	13 39 29
Jan. 30		
COL	iP	14 13 05
Jan. 30		
COL	iP	14 54 35
EUR	eP	14 56 12
Jan. 30		
FGU	eP	16 49 06
	e	49 17
Jan. 30		
COL	iP	17 13 29
THU	e	17 20 46
Jan. 30		
COL	iP	17 34 13
Jan. 30		
COL	i	18 20 17

Date and Station		Phase (GCT) h m s
Jan. 30		
FGU	e(P)	20 13 51
	i	13 54
	i	14 19
Jan. 30		
FGU	eP	20 58 46
Jan. 30		
COL	eP	22 28 12
Jan. 31		
SLC	eP	00 06 46
	eL	08 03
Jan. 31		
BOZ	eP	00 54 32
BUT	eP	00 54 24
	e(S)	58 54
COL	e(P)	00 50 48
	iP	50 50
	i	51 12
	iS	53 21
CSC	eP	00 58 00
EUR	iP	00 54 45
	i	55 01
	i	58 45
FGU	iP	00 55 06
	i	56 18
	e(S)	01 00 37
	eL	05 38
GCA	eP	00 55 22
HHM	iP	00 54 03
	iPcP	57 37
	iS	58 38
	eScP	01 01 17
RCD	eP	00 55 20
SLC	e(P)	00 54 50
SJP	eP	01 00 12
SIT	eP	00 50 59
	e	51 27
THU	iP	00 55 33
TUC	iP	00 55 56
	e	56 07
	e	56 27
	ePP	57 14
	e(S)	01 01 30
	eL	03 51
TUT	eP	00 55 56
WAS	eP	00 57 46
	eS	01 05 03
	eL	09 26

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Date and Station		Phase (GCT)
		h m s
Jan. 31		
EUR	eP	01 26 44
Jan. 31		
COL	iP	02 05 51
Jan. 31		
TUT	e(P)	04 30 32
	e	32 23
Jan. 31		
EUR	e(P)	04 35 22
Jan. 31		
COL	iP	06 26 06
	e	26 30
EUR	iP	06 26 32
TUC	eP	06 26 36
	e	26 46
TUT	eP	06 26 37
Jan. 31		
EUR	eP	08 58 49
Jan. 31		
COL	eP	10 52 34
Jan. 31		
EUR	eP	11 45 02
Jan. 31		
COL	iP	13 35 48
Jan. 31		
COL	eP	13 45 24
	i	45 35
EUR	eP	13 48 41
Jan. 31		
COL	eP	14 11 15
Jan. 31		
EUR	iP	14 26 22
Jan. 31		
EUR	eP	14 36 41
Jan. 31		
EUR	eP	15 06 00
Jan. 31		
HHM	i(P)	16 25 54
Jan. 31		
COL	iP	18 37 00
EUR	iP	18 40 28
	ipP	40 46
FGU	iP	18 40 51
HHM	iP	18 39 57
	iPcP	42 00
SJP	iP	18 45 13
	i	45 24
		h m s
TUC	eP	18 41 25
TUT	eP	18 41 27
Jan. 31		
COL	eP	21 46 50
EUR	eP	21 41 55
	e	46 14
FGU	eP	21 42 01
	e	46 17
GCA	iP	21 41 11
	e	44 19
	e	46 51
HHM	eP	21 43 28
TUC	eP	21 40 04
	eL	41 49
TUT	eP	21 40 01
Jan. 31		
FGU	eP	22 35 35
	i	36 33
	e	39 47
HHM	eP	22 35 40
	i	35 50
	iL	36 45
Jan. 31		
COL	eP	22 37 37
EUR	iP	22 39 28
GUA	iP	22 26 45
	eS	26 53
	iS	27 00
HHM	eP	22 39 22
Jan. 31		
GUA	eP	23 56 48
	iS	57 11
		h m s
		h m s

Date and Station	Phase (GCT)
	h m s
Local and Minor Earthquakes	
Jan	
BUT	
17	06.8
22	16.4
	21.6
23	13.5
25	08.7
	11.3
30	05.0
31	22.6
COL	
1	06.0
	16.4
2	08.1
	09.4
	23.0
3	03.6
	10.3
4	09.8
	11.0
5	12.1
6	22.3
7	05.0
8	08.4
	19.8
9	04.7
10	01.6
11	16.8
EUR	
3	14.5
	17.2
6	00.7
	20.8
7	18.4
8	16.4
	16.5
10	18.9
13	08.6
	22.2
14	03.9
	04.5
16	07.2
18	00.4
20	23.1
23	05.3
	07.7
28	10.5
	10.7
29	08.9
30	02.0
	08.7
FGU	
5	21.4
7	01.3
	20.2
8	09.8
	12.4
	17.7
11	23.6
12	00.2
14	02.8
18	00.4
	01.9

Date and Station	Phase (GCT)
	h m s
20	04.4
26	17.2
27	00.2
	22.1
	22.8
GCA	
2	18.5
7	20.2
8	17.4
	17.8
10	23.5
14	12.3
20	04.4
	23.1
23	11.3
27	22.0
28	12.4
HHM	
1	21.5
3	08.5
4	01.9
	19.1
7	08.2
10	07.5
	19.3
14	03.9
	11.1
18	08.6
	13.2
19	22.1
22	22.5
23	13.2
25	12.7
28	11.9
	21.3
29	18.2
30	16.8
SJP	
1	05.8
	06.7
3	08.8
	13.7
	13.8
4	11.2
10	08.0
11	01.1
15	18.8
17	07.8
20	00.0
24	08.0
28	12.1
29	00.2
30	11.7
TUC	
1	21.5
	22.0
2	01.4
	04.7
	06.2
	16.8
	18.5
	20.0
	21.4
	22.4
	22.6

Date and Station	Phase (GCT)
	h m s
3	06.9
4	08.2
	10.8
	13.4
5	00.9
	12.3
	13.4
6	02.5
7	00.6
	04.6
	12.5
8	20.0
12	05.9
	06.0
13	11.4
	13.7
14	22.0
15	20.6
18	14.2
20	22.0
	22.7
21	07.2
	13.9
	14.5
	15.5
	16.1
	16.8
	21.8
22	11.2
23	02.4
	03.4
	06.6
	11.0
24	09.5
25	01.5
	05.5
	13.0
26	01.1
	06.3
27	03.5
	04.3
	15.0
28	05.4
	05.9
	10.5
	10.8
	12.4
29	12.3
30	05.6
	12.4
	13.5
	13.7
31	03.2
	04.5
	08.8
UKI	
3	03.7
10	22.4 (2)
30	08.7

Date and Station	Phase (GCT)
	h m s

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