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SEISMOLOGICAL BULLETIN

July, 1957

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COAST & GEODETIC SURVEY
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U. S. DEPARTMENT OF COMMERCE

Sinclair Weeks, Secretary

COAST AND GEODETIC SURVEY—WASHINGTON

H. Arnold Karo, Director

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National Oceanic and Atmospheric Administration

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March 4, 2011

1957

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

**Balboa Heights, C. Z. (BH)
The Panama Canal Co.
*Boulder City, Nev. (BC)
Bureau of Reclamation
*Bozeman, Mont. (BOZ)
Montana State College
**Burlington, Vt. (BUR)
University of Vermont
*Butte, Mont. (BUT)
Montana School of Mines
*Chicago, Ill. (CHI)
University of Chicago and
U. S. Weather Bureau
College, Alaska (COL)
*Columbia, S. C. (COLU)
University of South Carolina
*Eureka, Nev. (EUR)
Eureka Corporation Limited
Honolulu, T. H. (HONO)
*Hungry Horse, Mont. (HH)
Bureau of Reclamation
Kipapa, T. H. (KIP)
*Lincoln, Nebr. (LIN)
Nebraska Wesleyan University
**Philadelphia, Pa. (PHIL)
The Franklin Institute
**Rapid City, S. Dak. (RC)
South Dakota State School of Mines
*Salt Lake City, Utah (SLC)
University of Utah
San Juan, Puerto (SJ)
Sitka, Alaska (SIT)
Tucson, Ariz. (TUC)
Ukiah, Calif. (UK)
International Latitude Observatory
Washington, D. C. (WASH)

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

One asterisk (*) following an origin time indicates probable error of one-tenth minute. Two asterisks (**) following an origin time indicates error of one quarter minute. All origin times and locations are determined from P data only. For Pasadena epicenters the time is given in one-tenth minute.

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

Kipapa is located in Kipapa Gulch, Oahu, T. H., and was established in April, 1957 to serve as an outpost station for Honolulu.

Date 1957	Origin Time G. C. T.	Lat.	Long.	Region, Focal Depth, and Remarks
July	h m s	°	°	
1	02 22 26*	22 S.	176 W.	Tonga Islands. h about 60 km.
1	06 23 57**			Near east coast of Sumatra.
1	13 04 48**			Atlantic Ocean foreshock.
1	13 17 45**			Mid-Atlantic Ocean, near Ascension Island.
1	19 30 16*	25 N.	94 E.	India-Burma border. Felt in India and East Pakistan.
2	00 42 23*	36 N.	53 E.	Iran. About 2000 dead, many injured, and extensive property damage throughout northern Iran. Mag. 7¼ - 7½.
2	21 52 20*	24½ S.	70½ W.	Near coast of northern Chile. Felt at Antofagasta.
3	01 47 40*	52 N.	159 E.	Near south coast of Kamchatka.
3	06 02 37*	24 S.	180	Fiji Islands region. h about 550 km.
3	09 09 14*	58 N.	137 W.	Near coast of southeastern Alaska.
3	12 24 37*	50½ N.	179 W.	Andreanof Islands, Aleutian Islands. Mag. 6 - 6¼.
3	15 11 30*	50 N.	179½ W.	Andreanof Islands, Aleutian Islands.
3	17 04 26*	54 N.	165 W.	Fox Islands, Aleutian Islands.
4	08 29 01*	4 S.	102 E.	Near south coast of Sumatra. h about 100 km.
4	12 31 20*	34 N.	137 E.	Near south coast of Honshu, Japan.
4	14 11 36*	5 S.	152 E.	New Britain. Felt at Pomio and Rabaul.
4	19 19 45*	20 N.	146 E.	Mariana Islands. h about 150 km.
4	22 25 13*	32 N.	113 W.	Arizona-Mexico foreshock. Felt at San Diego, California.
4	23 27 12*	31 N.	114 W.	Do.
5	00 58 00*	32 N.	114 W.	Arizona-Mexico border. Felt at San Diego, California.
5	12 33 56*	28½ S.	179 W.	Kermadec Islands.
5	15 32 00**			Eastern Belgian Congo.
7	05 58 48*	38½ N.	40 E.	Turkey. Seven injured and minor damage in Bingol Province.
7	16 11 15*	6½ S.	156 E.	Solomon Islands. Slight damage at Buin. Felt at Aropa, Karoola, Kieta, and Rabaul. Mag. 6-3/4.
8	15 30 33*	14½ N.	91 W.	Guatemala. Moderate damage in western Guatemala and Chiapas, Mexico. Felt in western El Salvador. h about 150 km. Mag. 6 (Berk).
9	09 58 09*	6 S.	104 E.	Near south coast of Sumatra. h about 60 km.
9	20 35 06**			About 150 miles north of Iceland.
10	04 42 48*	52½ N.	170 W.	Fox Islands, Aleutian Islands.
10	09 04 08*	8 N.	82½ W.	Near coast of Panama. Felt on board ship at Lat. 7°22'N., Long. 82°48'W., and at Balboa Heights, Canal Zone. Mag. 6½ - 6¾.
10	13 15 28*	20½ N.	123 E.	Batan Islands.
11	08 11 05*	44 N.	147 E.	Kurile Islands.
11	17 14 27*	37 N.	71½ E.	Hindu Kush.
12	20 56 18*	3 S.	148½ E.	Bismarck Sea.
12	21 58 45*	3 S.	148½ E.	Bismarck Sea aftershock.
12	22 12 52*	22½ N.	122½ E.	Off east coast of Formosa.
13	00 59 28*	52 N.	169½ W.	Fox Islands, Aleutian Islands.

Date 1957	Origin Time G. C. T.	Lat.	Long.	Region, Focal Depth, and Remarks
July	h m s	°	°	
13	01 48 18*	52½ N.	169½ W.	Fox Islands, Aleutian Islands.
13	09 32 05*	15 S.	173 W.	Samoa Islands region.
13	13 58 45*	14½ S.	173½ W.	Samoa Islands aftershock.
14	02 26 54*	46 N.	151½ E.	Kurile Islands
14	06 23 52*	27 S.	178 W.	Kermadec Islands region. h about 150 km. Mag. 7 - 7¼.
14	08 10 45*	30 S.	177 W.	Kermadec Islands. Mag. 6¾.
14	09 16 12*	12½ N.	144 E.	Mariana Islands.
14	09 42 27*	20 S.	174½ W.	Tonga Islands.
15	09 36 30*	36 N.	7½ W.	West of Gibraltar. Felt at Ayamonte, Cartaya, Huelva, and Lepe, Spain.
15	23 08 08*	29 N.	70 E.	West Pakistan.
16	16 57 03**			Near east coast of Borneo.
16	19 23 42*	54½ N.	164 W.	Unimak Island, Aleutian Islands.
17	05 12 53*	24½ S.	69 W.	Northern Chile.
17	08 54 13*	53 N.	170 W.	Fox Islands, Aleutian Islands.
17	11 10 10*	11 S.	167 E.	Santa Cruz Islands. Mag. 6¼ - 6½.
17	12 26 06*	2 S.	137 E.	New Guinea.
17	18 39 57*	1 S.	13 W.	Mid-Atlantic Ocean.
18	01 14 52*	53 N.	169 W.	Fox Islands, Aleutian Islands.
18	01 19 52*	53 N.	170 W.	Do.
18	11 10 58*	5 S.	146 E.	Near north coast of New Guinea. Felt at Karkar, Kumbug, and Madang.
18	12 06 39*	30 N.	139 E.	South of Honshu, Japan. Felt in Honshu. h about 400 km.
18	15 24 20*	40 N.	110½ W.	Northern Utah.
19	03 24 24*	36 N.	71 E.	Hindu Kush.
19	11 58 39*	54 N.	166 W.	Fox Islands, Aleutian Islands.
19	13 02 05*	25 N.	122½ E.	Near north coast of Formosa. Felt at Taipei.
19	20 26 03*	3 S.	142 E.	New Guinea foreshock. Felt at Lumi.
19	21 36 46*	3½ S.	142 E.	Northern New Guinea. Felt at Aitape and Lumi.
20	09 55 33*	22 S.	34 E.	Southern Mozambique.
20	11 12 53*	50½ N.	156 E.	Off south coast of Kamchatka. h about 60 km.
20	14 08 14*	43 N.	145 E.	Near east coast of Hokkaido, Japan.
20	15 38 47*	19½ S.	174 W.	Tonga Islands.
20	19 34 40*	52 N.	170½ W.	Fox Islands, Aleutian Islands.
21	00 23 05**			Northern Chile-Argentina border.
21	05 59 13*	62½ S.	156 E.	Balleny Islands region.
21	06 04 11*	14½ N.	92 W.	Near coast of Guatemala. Felt at San Salvador. h about 100 km. Mag. 5¾ - 6 (Berk).
21	06 36 58*	18 S.	169½ E.	New Hebrides Islands.
21	07 00 10*	4½ S.	153 E.	New Ireland. Felt at Karoola, Namatanai, Rabaul, Tol, and Warangoi.
21	17 30 02*	41½ N.	113 W.	Blast near Lakeside, Utah.

Date 1957	Origin Time G. C. T.	Lat.	Long.	Region, Focal Depth, and Remarks
July	h m s	°	°	
21	19 37 10*	28 S.	175 W.	Kermadec Islands region. h about 150 km.
22	06 16 52*	33½ S.	178 W.	Kermadec Islands region.
22	06 21 50*	34 S.	177½ W.	Kermadec Islands aftershock.
22	10 16 31*	34½ N.	136 E.	Southern Honshu, Japan. h about 350 km.
22	13 57 41*	53 N.	167 W.	Fox Islands, Aleutian Islands.
23	00 45 12*	52 N.	177 W.	Andreanof Islands, Aleutian Islands. Mag. 6¼ - 6½.
23	04 03 57**			Fox Islands, Aleutian Islands.
23	06 20 43*	20½ S.	170 E.	Loyalty Islands.
23	13 30 17**			Kermadec Islands region. h about 600 km.
24	01 57 25*	30 S.	70½ W.	Central Chile - Argentina border. Felt at Copiapo, La Serena, Santiago, and Valparaiso, Chile. Slightly deeper than normal. Mag. 6½.
24	09 56 57*	18 S.	169½ E.	New Hebrides Islands.
24	10 47 44*	27 S.	66 W.	Catamarca Province, Argentina. Felt at Antofagasta, Chile. h about 150 km.
24	11 02 30*	20 S.	169 E.	New Hebrides Islands. Mag. 6½.
24	14 40 45*	3 S.	134½ E.	Western New Guinea.
25	03 24 40*	52 N.	177 W.	Andreanof Islands, Aleutian Islands.
25	07 42 25*	51 N.	177 W.	Andreanof Islands, Aleutian Islands. Mag. 6¼ (Berk).
25	18 31 36*	42 N.	142 E.	Near south coast of Hokkaido, Japan.
26	00 40 02*	53 N.	171½ W.	Fox Islands, Aleutian Islands.
26	06 49 42*	35 S.	160	Off north coast of North Island, New Zealand.
27	06 49 00*	14½ N.	91½ W.	Guatemala.
27	14 45 28*	20 S.	174½ W.	Tonga Islands.
27	15 37 30*	5½ N.	127½ E.	Off east coast of Mindanao, Philippine Islands.
27	18 43 01*	6½ S.	151½ E.	New Britain region.
27	20 59 21*	51½ N.	180	Andreanof Islands, Aleutian Islands.
28	01 30 52*	15 S.	167½ E.	New Hebrides Islands.
28	08 40 04*	17 N.	99 W.	Guerrero, Mexico. Sixty-eight dead, many injured, and extensive property damage in Alcapulco and Mexico City. Mag. 7½.
28	09 58 30*	17 N.	99 W.	Mexico aftershock.
28	13 34 20*	17½ N.	99 W.	Do.
29	00 11 20*	17 N.	99 W.	Do.
29	09 11 49**			Fiji Islands region.
29	13 00 29*	51½ N.	178 W.	Andreanof Islands, Aleutian Islands.
29	17 15 14*	23½ S.	71½ W.	Near coast of Chile. Felt at Antofagasta. Mag. 7 - 7¼.
31	07 32 39*	6½ S.	105 E.	Sunda Strait. h about 100 km.

Correction: Page 3 of MSI-196, April, 1957 - April 14, 07:59:23**, Andreanof Islands, Aleutian Islands should be April 14, 07:11:50*, 31 N., 84½E., Southern Tibet. Mag. 6¼.

Date and Station		Phase (GCT) h m s
July 1		
EUR	iP	00 08 18
July 1		
EUR	iP	00 56 25
RC	eP	00 59 10
UK	e(P)	01 00 53
July 1		
COL	eP	02 20 58
	i	21 29
	i	21 32
July 1		
COL	iP	02 35 21
	i	35 38
EUR	iP	02 34 52
	i	35 15
	i	35 41
HH	eP	02 35 22
RC	eP	02 36 06
TUC	eP	02 34 49
July 1		
COL	eP	04 51 05
July 1		
EUR	iP	05 43 10
HH	e(P)	05 43 32
	i	44 46
SIT	eP	05 40 53
July 1		
COL	eP'	06 42 32
EUR	iP'	06 42 42
HH	eP'	06 42 59
SIT	iP'	06 40 49
TUC	ePP	06 46 46
July 1		
COL	eP	09 11 47
	e	13 01
July 1		
COL	iP	10 49 43
TUC	e(P)	10 54 14
July 1		
COL	iP	11 53 45
July 1		
SJ	eP	13 02 46
July 1		
SJ	eP	13 14 47
	e	16 40

Date and Station		Phase (GCT) h m s
July 1		
SJ	e(P)	13 27 23
July 1		
COL	iP	14 53 50
July 1		
COL	iP	15 16 25
July 1		
COL	iP	16 22 51
	e	23 05
EUR	iP	16 26 37
	i	27 01
RC	eP	16 27 09
July 1		
HH	e(P)	17 40 32
	e	40 59
July 1		
TUC	e(P)	19 17 32
	e	18 39
July 1		
BC	e(P)	19 45 53
	eP'	48 58
	ePP	49 51
BOZ	e(P)	19 44 57
	ePP	48 40
BUT	eP	19 44 33
	iPP	49 06
	eSKS	55 15
	iSKKS	55 50
	eS	56 30
	ePS	58 04
	ePPS	59 24
	eSS	20 04 07
	eSSS	08 09
	eL	13 09
COL	iP	19 42 23
	i	43 42
	ePP	45 39
	iPP	45 46
	i	46 06
	ePPP	47 27
	iS	52 15
	iScS	52 51
	eSS	57 17
	eSSS	20 00 32
	eL	02 08
	iP'P'	09 34
	eSKPP'	12 30
COLU	eP'	19 49 16
EUR	e(P)	19 45 10
	iPP	49 29
	i	49 54
	i	55 50
	iS	56 31
	iPPS	59 31
	iPKKP	59 59

Date and Station		Phase (GCT) h m s
HH	eP	19 44 26
	ePP	48 50
	ePKKP	20 00 12
PHIL	eSKS	19 56 19
	ePPS	20 00 04
	eL	33 37
RC	e(P)	19 45 21
	eP'	48 26
SLC	e(PP)	19 49 13
	e	49 52
SJ	eP'	19 49 32
	iPP	52 20
	iPKS	53 10
SIT	i(P)	19 43 23
	iP	43 31
	iPP	47 09
	ePPP	49 09
	e	53 20
	eSKS	53 53
	iSKS	53 55
	iS	54 29
	iPS	55 35
	ePPS	56 03
	e	56 30
	e(SS)	59 39
	eL	20 13 07
TUC	eP'	19 49 10
	e(PP)	51 03
	ePS	20 00 46
	eL	28 40
WASH	ePP	19 50 26
	ePS	59 45
July 1		
EUR	iP	20 45 20
	i	45 23
	eS	48 47
TUC	eP	20 44 11
	eL	45 06
July 1		
COL	eP	23 49 06
EUR	eP	23 52 46
	i	52 52
	i	53 25
	i	53 37
RC	e(P)	23 53 20
July 2		
EUR	iP	00 07 23
July 2		—
BH	iP	01 01 06
	eS	11 56
BC	eP	00 56 43C
	ePP	01 01 03
	ePPP	03 00
	ePPS	11 25
	ePKKP	12 06

Date and Station		Phase (GCT) h m s
BOZ	eP	00 56 00C
	e	56 18
	ePP	59 53
	eS	01 06 34
	ePS	08 50
BUT	iP	00 55 57C
	i	59 28
	iPP	59 53
	iPPP	01 03 40
	iSKS	06 37
	iS	07 22
	i(PS)	08 46
	i(PPS)	09 53
	iPKKP	12 38
	ePSPS	14 14
	eSSS	17 04
	e	18 44
	eL	25 54
CHI	eP	00 55 45N,W
	ePPP	01 01 29
	eS	08 11
	eL	20 13
COL	iP	00 54 23C
	iPP	57 23
	iPPP	59 10
	iS	01 04 20
	iScS	04 58
	i	05 41
	iSS	09 03
	iL	13 15
	iPKKP	13 20
	iSKKP	18 08
	iP'P'	21 21
COLU	iP	00 56 02C
	iPP	59 55
	iPPP	01 02 10
	iSKS	06 36
	iS	07 25
	iPS	08 27
	ePPS	09 16
	eSS	13 30
	iSS	14 10
	eSSS	18 16
	eL	20 31
	iL	23 18
EUR	iP	00 56 30C
	i	59 10
	i	59 24
	iPP	01 00 30
	i	00 47
	iPPS	09 52
	iPKKP	12 15
	iP'P'	20 32
HONO	ePP	01 02 14
	eSKS	08 02
	ePS	11 50
	eL	48 50

T_S = 02.0 sec. A = 00.5 mm.
T_L = 18.0 sec. A = 01.0 mm.

B 42974.

Date and Station		Phase (GCT)
		h m s
HH	iP	00 55 47C
	eP'P'	01 20 51
PHIL	eP	00 55 24
	iPP	59 00
	eS	01 05 54
	iPPS	07 31
	iSS	12 23
	eL	18 08
RC	iP	00 55 57D
	eP'P'	01 20 40
SLC	eP	00 56 20C
	ePP	01 00 34
	eSKS	07 06
	e(PS)	09 38
	eSSS	19 22
	eL	22 34
SJ	eP	00 56 12
	iPP	01 00 20
	iSKS	06 56
	iPS	09 20
	iPPS	10 34
	eSS	14 38
	eSSS	18 48
	eL	24 30
SIT	iP	00 55 09D
	e	56 18
	ePP	58 25
	iPP	58 36
	iS	01 05 36
	ePPS	06 53
	iPPS	06 59
	e	08 12
	eSS	10 40
	eL	17 48
TUC	e(P)	00 57 28
	e(P')	01 00 20
	e	00 35
	iPP	01 26
	e(PPP)	03 51
	ePS	11 00
	ePPS	11 58
	iPPS	12 06
	eL	34 26
WASH	iP	00 55 34C
	e	58 39
	iPP	59 18
	e(PPP)	01 01 20
	i	02 42
	eS	06 08
	iPS	07 49
	eSS	13 30
	eL	22 51
July 2		
COL	eP	02 14 04
July 2		
COL	eP	03 09 02
July 2		
HONO	iP	03 59 39

Date and Station		Phase (GCT)
		h m s
July 2		
COL	iP	05 08 06
July 2		
COL	iP	05 21 18
July 2		
BC	e	06 57 32
	iP	57 38
EUR	eP	06 58 16
	iP	58 22
	i	58 39
	eS	59 20
	iL	07 00 01
July 2		
BC	eP	07 51 32
TUC	eP	07 51 42
July 2		
EUR	iP	13 54 31
RC	eP	13 54 58
July 2		
COL	iP	14 34 39
July 2		
COL	iP	15 08 44
RC	eP	15 14 38
July 2		
BH	iP	15 33 29
July 2		
COL	iP	19 58 04
July 2		
COL	iP	20 35 49
EUR	iP	20 39 07
HH	eP	20 38 39
July 2		
EUR	iP	21 36 17
HH	eP	21 37 19
RC	eP	21 36 44
July 2		
BOZ	eP	22 04 27
BUT	eP	22 04 32
EUR	iP	22 04 13
HH	eP	22 04 44
RC	eP	22 04 02
	e	04 11
TUC	eP	22 03 25

Date and Station		Phase (GCT)
		h m s
July 2		
COL	iP	22 31 38
EUR	iP	22 35 10
HH	eP	22 34 31
	e	36 55
TUC	eP	22 36 03
July 2		
HH	iP	23 55 00
	iS	55 26
	eL	55 29
July 3		
BC	eP	01 57 49
BOZ	eP	01 57 30
COL	iP	01 53 56
EUR	iP	01 57 29
HH	eP	01 57 04
TUC	e(P)	01 58 36
July 3		
RC	eP	02 57 56
July 3		
EUR	eP	05 07 37
	i	07 41
July 3		
BC	iP	06 14 24
	epP	16 20
BUT	e(pP)	06 16 53
	epPP	19 44
COL	iP	06 14 51
	ipP	16 49
EUR	iP	06 14 29
	ipP	16 26
	iPP	18 01
HH	ePP	06 18 46
	iSKS	24 40
RC	ePP	06 19 16
TUC	iP	06 14 29
	epP	16 25
July 3		
EUR	eP	07 07 03
	eS	08 24
	iS	08 34
July 3		
COL	iP	08 06 38
July 3		
EUR	iP	08 36 17

Date and Station		Phase (GCT)
		h m s
TUC	eP	08 36 17
July 3		
BOZ	eP	09 13 53
	eL	20 10
BUT	eP	09 13 41
	eL	17 44
COL	iP	09 11 15
	iS	13 27
	eL	13 37
	iL	13 43
EUR	eP	09 14 20
	i	14 31
HH	eP	09 13 15
	eL	18 08
	iL	18 15
RC	eP	09 14 36
SLC	eP	09 14 28
SIT	iP	09 09 34
	iS	09 52
	iL	10 02
July 3		
BOZ	eP	09 27 59
BUT	eP	09 27 58
EUR	iP	09 27 11
HH	eP	09 28 14
RC	eP	09 27 50
TUC	e(P)	09 26 19
WASH	iP	09 31 34
	i	34 54
July 3		
EUR	e(P)	09 33 34
July 3		
BC	eP	12 33 15
	iP	33 18
	ePP	34 47
BOZ	iP	12 32 55
	i	33 20
	e(PP)	34 19
BUT	eP	12 32 43
	iPcP	34 32
	eS	38 50
	eL	42 36
COL	iP	12 29 32
	iS	33 32
	iL	33 48
	i(PcS)	37 10

8-4207-4

Date and Station		Phase (GCT)
		h m s
COLU	iP	12 35 50
	iS	44 58
	eL	53 08
EUR	iP	12 32 53
	i	32 55
HONO	iP	12 31 20
	eL	38 30
T_S = 12.0 sec.A=2.5mm.		
TL = 6.0 sec. A=1.0mm.		
HH	iP	12 32 25
	iPcP	34 26
PHIL	iS	12 44 50
	eL	58 15
RC	iP	12 33 30
	ePcP	34 52
SLC	iP	12 33 11
	i	33 57
	iPcP	34 45
SJ	eP	12 37 38
	iP	37 40
SIT	eP	12 30 18
	iP	30 19
	iPcP	33 42
	eS	34 53
	eL	36 21
TUC	eP	12 33 52
	i	33 55
	eL	51 20
UK	eP	12 32 20
WASH	eP	12 35 41
	e	36 39
July 3		
WASH	eP	13 03 59
July 3		
BOZ	eP	15 19 48
COL	iP	15 16 29
EUR	eP	15 19 49
HH	eP	15 19 21
RC	eP	15 20 24
July 3		
BC	eP	17 11 53
COL	iP	17 07 46
EUR	iP	17 11 27
RC	eP	17 12 01
SJ	iP	17 16 38

Date and Station		Phase (GCT)
		h m s
TUC	eP	17 12 33
July 3		
COL	iP	17 25 49
July 3		
COL	eP	21 41 53
HH	eP	21 44 44
July 3		
COL	iP	21 50 57
July 4		
COL	eP	01 56 30
July 4		
SJ	iP	05 41 07
	e	41 31
July 4		
COL	eP	08 11 38
July 4		
BC	eP'	08 48 11
	ePP	50 30
	iSKP	51 34
BOZ	eP'	08 48 04
	e	48 22
BUT	iP'	08 48 01
	i	48 19
	ePP	50 12
COL	eP	08 42 46
COLU	iP'	08 48 39
	i	48 44
	i	49 59
	i	50 11
EUR	iP'	08 48 05
	i	48 15
	i	48 21
HH	iP'	08 47 55
RC	eP'	08 48 06
	e	48 13
	e(PP)	50 36
	iSKP	51 38
SLC	eP'	08 48 08
	eSKP	51 29
	epPKS	51 53
SJ	eP'	08 48 54
TUC	eP'	08 48 10
	iPKS	51 50
	epPKS	52 18
WASH	iP'	08 48 31
	i	48 47
July 4		
COL	iP	08 49 29

Date and Station		Phase (GCT)
		h m s
July 4		
EUR	iP	09 18 25
	iS	18 49
July 4		
BC	eP	09 58 25
EUR	eP	09 58 33
	iP	58 41
TUC	eP	09 58 27
	e	58 35
July 4		
TUC	e(P)	11 01 51
July 4		
BC	eP	12 43 48
BUT	eP	12 43 26
COL	iP	12 40 45
EUR	iP	12 43 34
RC	eP	12 44 02
July 4		
COL	iP	14 24 02
RC	eP	14 25 50
July 4		
COL	iP	14 47 08
EUR	iP	14 48 10
July 4		
EUR	eP	15 25 13
July 4		
COL	iP	16 05 55
EUR	eP	16 06 55
July 4		
COL	eP	16 30 05
July 4		
COL	iP	17 01 23
July 4		
BC	iP	19 32 17
	e	32 21
BOZ	eP	19 32 12
BUT	iP	19 32 08
COL	iP	19 29 59
EUR	eP	19 31 43
	i	32 06
HH	eP	19 31 58
RC	iP	19 32 42
SLC	iP	19 32 18

Date and Station		Phase (GCT)
		h m s
SJ	ePKS	19 41 56
TUC	eP	19 32 38
July 4		
EUR	eP	21 56 46
July 4		
BC	eP	22 26 16
	e	26 35
BOZ	eP	22 28 38
	eS	31 13
	eL	33 15
BUT	eS	22 31 09
	eL	33 30
COL	eP	22 32 36
	ePcP	35 06
EUR	eP	22 27 08
	iP	27 12
	iL	29 06
HH	eP	22 29 09
	e	29 16
	eS	31 53
	eL	34 24
RC	eP	22 28 48
	e	28 56
	eS	31 26
	eL	33 33
SLC	eP	22 27 28
	e	28 08
	e(S)	30 18
	eL	30 37
TUC	eP	22 25 52
	i	26 03
	i	26 09
	eS	26 24
	eL	26 27
SJ	eP	22 33 27
	e(PPP)	35 53
July 4		
EUR	eP	22 56 54
	e(S)	58 55
	eL	59 25
July 4		
BC	eP	23 28 23
BOZ	eP	23 30 48
BUT	eP	23 30 46
	e(S)	33 58
	eL	34 48
COL	iP	23 34 43
EUR	eP	23 29 16
	eL	31 12

Date and Station		Phase (GCT)
		h m s
HH	eP	23 31 13
	eL	34 16
RC	e(P)	23 30 56
	e	31 02
	eL	35 38
SLC	eP	23 29 35
	e	30 18
	eL	32 41
SJ	eP	23 35 45
TUC	eP	23 27 58
	i	28 04
	iS	28 13
	eL	28 39
July 5		
BOZ	eP	00 03 02
BUT	eP	00 03 04
	eL	07 40
EUR	eP	00 01 28
	eS	03 26
	eL	03 48
HH	e(P)	00 03 30
	e	08 51
RC	eP	00 03 17
July 5		
BC	eP	00 58 59
	i	59 23
BOZ	eP	01 01 23
	e	01 38
	eL	04 33
BUT	eP	01 01 25
	eS	04 34
	eL	05 26
COL	iP	01 05 20
EUR	eP	00 59 52
	eL	01 01 43
HH	e(P)	01 01 53
	eL	05 26
RC	eP	01 01 37
	e	01 46
	eL	06 14
SLC	eP	01 00 12
	eL	02 41
SJ	iP	01 06 06
TUC	eP	00 58 47
	i	58 51
July 5		
COL	eP	02 57 33

Date and Station		Phase (GCT)
		h m s
July 5		
EUR	eP	04 15 25
	eL	03 00
July 5		
BUT	e(P)	06 38 22
COL	iP	06 38 07
July 5		
EUR	eP	09 22 58
	eL	25 27
July 5		
EUR	iP	10 07 20
July 5		
COL	iP	10 47 16
	epP	49 26
EUR	iP	10 46 56
TUC	eP	10 46 57
July 5		
BC	iP	11 40 28
	i	40 48
BOZ	eP	11 42 36
BUT	eP	11 42 21
EUR	iP	11 40 41
HH	eP	11 42 28
	e	45 49
RC	eP	11 42 05
SLC	eP	11 41 18
	i	41 38
	i	42 31
	i	43 28
TUC	e(P)	11 41 43
	e	42 02
	e	43 34
July 5		
SLC	eP	12 11 35
	e	13 38
UK	iP	12 16 55
July 5		
BOZ	iP	12 23 54
BUT	eP	12 23 47
COL	iP	12 20 29
EUR	iP	12 23 59
HH	iP	12 23 29
RC	iP	12 24 40
SLC	eP	12 24 13

Date and Station		Phase (GCT)
		h m s
SJ	eP	12 28 44
July 5		
BC	eP	12 46 47
	e	46 57
EUR	iP	12 46 54
TUC	iP	12 46 49
	i	47 06
July 5		
COL	eP	14 35 53
EUR	eP	14 39 25
July 5		
COL	eP'	15 51 24
EUR	eP'	15 51 20
	ePP	54 43
July 5		
EUR	eP	16 20 41
July 5		
EUR	eP	18 01 04
July 5		
EUR	eP	18 20 06
July 6		
EUR	eP	00 12 43
July 5		
COL	eP	00 33 37
	epP	34 23
SJ	eP	00 32 56
July 6		
COL	eP	00 40 17
	epP	40 35
EUR	eP	00 40 00
July 6		
EUR	eP	01 14 17
July 6		
COL	eP	02 17 16
July 6		
EUR	eP	04 07 18
July 6		
EUR	eP	04 09 59
July 6		
TUC	e(P)	05 39 33
July 6		
COL	eP	06 08 11
	i	08 15
EUR	eP	06 11 35
TUC	eP	06 12 39

Date and Station		Phase (GCT)
		h m s
July 6		
RC	eP	06 12 18
July 6		
RC	eP	06 28 25
July 6		
EUR	eP	07 10 45
July 6		
EUR	eP	12 42 49
July 6		
COL	eP	13 51 25
EUR	eP	13 55 03
July 6		
EUR	eP	14 03 10
TUC	eP	14 01 51
	e	07 55
	e	07 49
July 6		
EUR	eP	17 28 38
HH	eP	17 28 09
July 6		
EUR	eP	17 44 57
July 6		
EUR	eP	17 45 56
July 6		
EUR	eP	20 33 09
	e	33 26
July 7		
COL	eP	00 07 48
July 7		
EUR	eP	01 35 13
	ePP	39 17
HH	eP	01 36 36
TUC	eP	01 33 21
	e	33 33
	e	33 47
	e(S)	34 53
	eL	35 02
July 7		
COL	eP	02 01 09
	iP	01 10
SIT	iP	02 01 16
	i	01 58
July 7		
COL	iP	03 31 40
EUR	eP	03 29 20
July 7		
EUR	eP	04 25 16

Date and Station		Phase	(GCT) h m s
July 7			
COL	iP		06 10 39
EUR	eP		06 12 32
HH	iP		06 11 51
RC	iP		06 11 57
July 7			
COL	eP		06 24 10
EUR	eP		06 27 55
July 7			
EUR	eP		10 58 40
July 7			
COL	eP		15 00 25
July 7			
EUR	eP		15 26 27
July 7			
COL	iP		15 48 47
	i		49 10
EUR	eP		15 49 11
	i		49 29
July 7			
BOZ	eP		16 24 52
	e		25 29
BUT	eP		16 24 48
	ePP		28 47
COL	iP		16 23 41
	i		24 30
	eS		33 52
	ePPS		34 55
	eL		45 58
EUR	iP		16 24 31
	i(PP)		27 54
	iPKKP		42 18
	iP'P'		50 50
HONO	iP		16 20 40
HH	iP		16 24 42
	ePP		28 45
	ePKKP		41 36
	eP'P'		49 48
RC	eP		16 25 14
	ePP		29 27
SLC	eP		16 24 48
SJ	eP		16 30 32
	i		30 43
	ePKS		34 16
SIT	iP		16 23 51
TUC	eP		16 24 51
	ePP		28 44
	ePKKP		41 33
TUC	eL		16 55 34
July 7			
RC	eP		16 41 13
July 7			
RC	eP		16 49 32
July 7			
COL	eP		18 24 50
July 7			
COL	eP		21 19 38
July 7			
COL	eP		22 35 44
July 7			
COL	iP		22 39 44
July 8			
COL	iP		00 45 16
	i		45 31
July 8			
BUT	e(P)		03 52 13
EUR	iP		03 51 07
	ipP		51 42
RC	eP		03 51 42
TUC	eP		03 50 31
July 8			
COL	eP		08 47 56
July 8			
COL	iP		09 50 52
July 8			
COL	iP		10 04 24
July 8			
COL	eP		13 50 52
July 8			
COL	eP		14 50 17
	eS		53 44
	eL		54 29
EUR	eP		14 53 54
July 8			
BOZ	eP		15 37 20
	ipP		37 49
	isP		38 11
	iPP		38 33
BUT	eP		15 37 28
	ipP		37 54
	iPcP		39 56
	eS		43 07
	isS		43 37
	eL		46 03
COL	iP		15 40 50
EUR	iP		15 37 01
EUR	ipP		15 37 43
COLU	iP		15 35 16
	iS		39 10
	iL		39 26
HH	eP		15 37 47
	eS		43 40
PHIL	iP		15 36 27
	epP		36 56
	eS		41 14
	eL		42 15
RC	e(P)		15 36 53
	ipP		37 16
SLC	eP		15 36 49
	epP		37 09
	esP		37 32
	ePP		38 01
	ePcP		39 39
	eL		43 37
SJ	e(P)		15 36 14
	i		36 30
TUC	iP		15 35 50
	e(S)		39 44
	eL		41 08
UK	iP		15 37 40
	epP		38 09
WASH	iP		15 36 12
	ipP		36 43
	eS		40 49
	esS		41 43
	eL		43 04
July 8			
COL	iP		19 30 06
July 8			
COL	iP		19 48 44
July 8			
COL	eP		21 59 48
EUR	eP		22 00 52
	i		00 31
July 8			
SLC	e		23 06 33
	eP		06 48
July 9			
EUR	eP		02 47 21
July 9			
COL	eP		02 50 31
EUR	iP		02 54 08
July 9			
COL	iP		03 40 51
	e		41 21
July 9			
COL	iP		06 00 07
EUR	iP		06 03 35
RC	eP		06 04 12
July 9			
BC	eP		07 07 01
BOZ	eP		07 07 41
BUT	eP		07 07 45
COL	iP		07 10 19
	ipP		10 48
EUR	iP		07 07 22
HH	iP		07 07 58
	i		08 26
RC	iP		07 06 59
	i		07 26
	i		07 34
	i		07 46
SLC	eP		07 05 13
	e		05 36
SJ	iP		07 03 05
	ipP		03 33
TUC	iP		07 06 24
July 9			
COL	iP		09 36 11
July 9			
EUR	eP		09 46 46
July 9			
BC	eP'		10 17 25
	epP'		17 39
BOZ	iP'		10 17 25
	ipP		17 39
BUT	eP'		10 17 20
	ipP'		17 36
	iSKP		20 39
	iPKS		21 07
	eL		11 13 36
COL	eP		10 12 08
	eP'		15 42
	iPP		16 17
COLU	iP'		10 17 56
EUR	iP'		10 17 19
	ipP'		17 34
	iPP		19 36
	iSKP		20 43
	iPKS		21 13
	e		29 15

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Date and Station		Phase (GCT)
		h m s
HH	iP'	10 17 11
	eSKKS	26 03
RC	eP'	10 17 25
	eSKP	20 53
SLC	eP'	10 17 24
	e	17 37
SJ	iP'	10 18 24
	ipP'	19 07
TUC	eP'	10 17 28
	epP'	17 50
	ePKS	21 31
WASH	iP'	10 17 51
July 9		
COL	eP	10 28 13
	i	28 33
July 9		
COL	eP	11 15 14
July 9		
EUR	eP	11 32 25
	i	32 31
HH	eP	11 32 47
SJ	eP	11 27 12
July 9		
EUR	eP	11 44 26
July 9		
COL	iP	14 29 22
July 9		
COL	eP	14 45 19
EUR	eP	14 48 45
July 9		
COL	eP	18 04 07
	i	04 13
	i	04 39
	eS	06 41
	eL	07 08
EUR	iP	18 07 49
	i	08 05
	i	08 13
HH	eP	18 07 12
	e	10 01
RC	eP	18 08 21
	e	08 37
July 9		
COL	iP	20 43 03
EUR	eP	20 44 54
July 9		
COL	eP	21 28 22

Date and Station		Phase (GCT)
		h m s
July 9		
EUR	eP	22 43 57
July 10		
EUR	eP	00 39 46
	e	44 55
July 10		
BC	eP	04 50 40
COL	iP	04 46 55
	i	47 10
	eS	49 50
	eL	50 12
EUR	iP	04 50 16
	i	50 33
HH	eP	04 49 45
	e	52 31
	eS	55 19
RC	eP	04 50 50
	e	52 43
SLC	e(P)	04 50 29
SIT	eP	04 47 37
	iP	47 45
	e	51 22
	eS	51 45
	eL	52 06
TUC	eP	04 51 19
July 10		
BH	iP	09 05 05
	iS	05 47
BC	iP	09 11 54C
	e	12 08
	eS	18 10
	eL	21 59
BOZ	iP	09 12 29C
	i	12 35
	i	13 09
	ePP	14 19
	eS	19 07
	eL	26 19
BUT	iP	09 12 39C
	i	13 43
	iPP	14 24
	i	18 14
	iS	19 27
	i	20 28
	eScS	22 38
	eL	23 30
CHI	eP	09 10 59
	ePP	12 19
	eS	16 11
	eL	19 07
COL	iP	09 15 38
	i	17 23
	ePP	18 29
	iS	25 05

Date and Station		Phase (GCT)
		h m s
COL	eScS	09 25 49
	eSS	29 33
	eL	33 51
COLU	iP	09 09 49D
	i	11 24
	iPcP	13 03
	iS	13 59
	iL	14 35
EUR	iP	09 12 16C
HONO	eP	09 15 50
HH	iP	09 12 53
	ePP	14 27
	eS	20 02
	eScS	22 42
	eL	32 16
KIPAPA	eP	09 15 47
PHIL	eP	09 10 47
	ePP	12 00
	eS	16 04
	iS	16 09
	eL	18 23
RC	iP	09 11 38
	ePP	13 23
SLC	iP	09 12 03C
	i	12 43
	i(PP)	14 08
	eS	18 24
	eL	22 12
SJ	iP	09 08 38
	iS	12 18
	iL	12 32
SIT	iP	09 14 45
	ePPP	18 48
	eS	23 25
	eScS	24 40
	eSS	27 40
	eL	31 43
TUC	iP	09 11 13
	e(pP)	12 42
	eS	16 56
	eL	20 02
UK	eP	09 12 51
	e	13 07
	eL	31 24
WASH	iP	09 11 36
July 10		
EUR	eP	09 25 49
HH	iP	09 26 19
RC	eP	09 25 25
SJ	eP	09 21 47
TUC	eP	09 25 01

Date and Station		Phase (GCT)
		h m s
July 10		
EUR	eP	10 00 38
July 10		
EUR	eP	11 28 16
July 10		
COL	iP	12 49 21
July 10		
COL	eP	13 26 54
July 10		
EUR	eP	13 45 57
July 10		
EUR	eP	15 35 10
July 10		
EUR	eP	18 08 43
July 10		
SJ	iP	20 14 11
July 10		
EUR	eP	22 52 27
July 10		
COL	eP	23 25 04
EUR	eP	23 28 25
HH	e(P)	23 50 10
July 11		
EUR	eP	00 33 29
July 11		
COL	iP	02 57 01
July 11		
COL	eP	06 56 37
July 11		
BC	eP	08 22 27
COL	iP	08 18 53
	i	18 58
EUR	eP	08 22 09
HH	eP	08 21 41
RC	eP	08 22 36
July 11		
EUR	eP	10 08 59
July 11		
COL	iP	12 02 00
July 11		
COL	iP	15 45 21
July 11		
COL	eP	16 01 34
	e	03 45

Date and Station		Phase	(GCT) h m s
July 11			
EUR		eP	16 09 19
July 11			
COL		iP	17 26 05
July 11			
EUR		eP	23 52 09
July 12			
COL		iP	01 43 36
July 12			
EUR		eP	02 22 48
July 12			
EUR		eP	02 48 19
July 12			
COL		iP	03 22 59
EUR		eP	03 26 23
July 12			
EUR		eP	04 16 27
July 12			
COL		iP	05 11 54
		e	13 42
July 12			
COL		eP	06 28 18
July 12			
COL		eP	06 35 08
July 12			
COL		iP	08 47 46
EUR		iP	08 51 07
RC		eP	08 51 57
July 12			
EUR		eP	15 12 30
July 12			
EUR		iP	16 12 48
RC		eP	16 13 43
SJ		eP	16 10 12
July 12			
COL		iP	21 08 42
HH		eP	21 09 59
July 12			
COL		iP	22 11 07
July 12			
COL		iP	22 24 08
HH		eP	22 26 12
July 13			
COL		iP	00 59 04
EUR		eP	00 59 25
July 13			
BC		eP	01 07 19
		i	07 34
BOZ		eP	01 06 50
		e	07 40
BUT		eP	01 06 43
		eS	12 29
		eL	16 27
COL		iP	01 03 28
		e	06 09
		eS	06 28
		eL	06 45
COLU		iP	01 10 03
EUR		iP	01 06 55
		eS	12 53
HH		eP	01 06 26
		i	06 37
		eS	11 57
PHIL		eS	01 18 20
		eL	31 06
RC		eP	01 07 42
SLC		e(P)	01 07 11
SJ		iP	01 12 01
		i	12 13
TUC		iP	01 08 00
		i	08 11
		ePP	09 48
UK		e(P)	01 06 20
		e	06 27
WASH		iP	01 09 55
		eL	36 43
July 13			
BC		eP	01 56 07
		e	56 12
		e	56 47
BOZ		eP	01 55 37
COL		iP	01 52 17
EUR		iP	01 55 43
		i	56 12
HH		eP	01 55 12
RC		eP	01 56 24
SIT		eP	01 53 03
TUC		iP	01 56 46
July 13			
BOZ		eP	02 32 30
		e	32 50
July 13			
EUR		iP	09 19 31
HH		eP	09 20 34
July 13			
BC		iP	09 43 51
		e	44 22
BOZ		iP	09 44 33
		i	44 39
BUT		iP	09 44 28
COL		iP	09 44 29
EUR		iP	09 43 58
HH		iP	09 44 29
		e	44 43
RC		eP	09 44 56
SLC		eP	09 44 16
		e	44 50
TUC		iP	09 43 56
UK		e(P)	09 43 31
July 13			
EUR		eP	11 48 03
July 13			
EUR		eP	13 24 47
July 13			
BC		eP	14 10 27
BOZ		eP	14 11 09
BUT		eP	14 11 04
COL		iP	14 11 04
EUR		eP	14 10 33
HH		eP	14 11 05
SLC		eP	14 10 52
TUC		eP	14 10 33
July 13			
BUT		eP	14 36 42
COL		iP	14 36 43
		i	37 03
EUR		eP	14 36 12
July 13			
COLU		iP	16 32 13
EUR		eP	16 27 21
July 13			
EUR		eP	18 33 13
July 13			
EUR		eP	18 57 49
July 13			
RC		eP	21 43 59
July 13			
RC		eP	22 04 46
July 13			
EUR		eP	23 38 55
July 14			
COL		iP	00 36 29
July 14			
BC		iP	02 37 53
		i	38 03
		i	38 24
BUT		eP	02 38 19
COL		iP	02 34 09
		i	35 04
EUR		iP	02 37 34
		i	37 44
HH		iP	02 37 04
RC		iP	02 38 04
SLC		eP	02 37 44
		e	38 02
TUC		iP	02 38 22
		i	38 33
UK		eP	02 37 06
		e	37 17
July 14			
COL		iP	04 07 04
July 14			
EUR		eP	04 56 35
July 14			
BH		eP	06 37 28
		iSKS	47 50
BC		iP	06 36 23D
		i	37 11
		iSKS	46 34
		ePKKP	54 20
BOZ		iP	06 37 00D
		e	37 27
		iPP	40 45
		eSKS	47 20
		eS	48 00
		eSS	54 20
		eL	07 00 32

Date and Station		Phase (GCT)
		h m s
BUT	iP	06 36 56D
	i	37 43
	iPP	40 42
	iSKS	47 13
	iSKKS	47 53
	iPS	49 22
	isPS	50 34
	iSS	54 15
	ePKKP	54 38
	esSS	55 37
	iSSS	57 52
	eP'P'	07 02 04
	eL	02 26
CHI	ePP	06 42 24
	e	43 28
	eS	49 56
	eSS	57 12
	eSSS	07 01 20
	eL	08 28
COL	iP	06 36 58D
	iPP	40 46
	i	42 20
	iSKS	47 13
	e	47 34
	iSKKS	47 52
	iPPS	48 35
	eSSS	58 36
	eP'P'	07 02 03
COLU	eP	06 38 14
	eP'	41 44
	iPP	42 43
	e	43 37
	iSKS	48 28
	iSKKS	48 40
	i	49 25
	i	49 26
	iS	50 00
	ePS	51 49
	iSS	57 58
	eL	07 09 42
EUR	iP	06 36 30D
	iPP	39 43
	iS	47 08
	i	47 40
	e	53 13
	iPKKP	54 16
	e	07 01 59
	iP'P'	02 18
	eP'P'P'	22 45
HONO	iP	06 32 49D
	i	33 12
	eS	40 00
	eL	45 00
T_S = 14 sec. A = 3.5 mm.		
T_L = 12 sec. $A_{max.}$=3.5mm		
HH	iP	06 36 58D
	iPP	40 46
	iSKS	47 14
	eSKKS	47 57
	ePS	49 11
	ePKKP	54 01
	eP'P'	07 02 07

Date and Station		Phase (GCT)
		h m s
PHIL	ePP	06 43 30
	e	44 38
	eSKS	48 54
	iSKKS	50 09
	ePS	53 12
	iPPS	54 24
	iSS	59 21
	iP'P'	07 01 03
	eL	13 42
RC	iP	06 37 30C
	e	38 22
	iPP	41 30
	iSKS	47 50
	iS	49 17
	iPKKP	53 57
	eSS	55 31
	eL	07 05 00
SLC	iP	06 36 45D
	iSKS	47 00
	eS	47 04
	iS	47 32
	eL	07 03 04
SJ	iP'	06 42 22
	i	42 42
SIT	iP	06 36 44
	e	37 52
	i	38 27
	iPP	40 22
	i	41 21
	eSPP	43 33
	iSKS	46 58
	iS	47 28
	ePS	48 23
	iPS	48 26
	eSS	53 07
	iSS	53 33
	eL	07 04 28
	iL	04 30
TUC	iP	06 36 26D
	i	37 08
	i	38 40
	iS	46 34
	iSS	53 02
	i(SSS)	56 15
	eL	59 38
UK	iP	06 36 09D
	eS	46 15
	eL	57 22
WASH	e(P)	06 39 10
	eP'	42 17
	iPP	43 18
	i	44 18
	i	52 22
	iPS	52 54
	iPPS	53 54
	iSS	59 02
	i	07 01 42
	eL	05 38
July 14		
COL	iP	06 44 00
	ipP	44 29

Date and Station		Phase (GCT)
		h m s
July 14		
BC	iP	08 23 41C
	i	23 54
	eS	34 14
BOZ	eP	08 24 20C
	e	24 40
	eL	43 24
BUT	eP	08 24 15C
	i	24 36
	ePP	28 04
	eSKS	34 49
	iS	35 40
	e(PS)	36 59
	eSS	41 50
	eSSS	45 42
	eL	49 43
COL	iP	08 24 20C
	iPP	28 12
	iSKS	34 55
	iS	35 44
	eSSS	46 16
	eL	50 21
COLU	eP'	08 29 06
	ePP	30 05
	eSKS	36 01
	e(SKKS)	37 07
	ePS	39 41
	eL	54 06
EUR	iP	08 23 48C
	i	24 07
	ePKKP	41 13
	eP'P'	49 19
	iP'P'	49 34
HONO	iP	08 20 15D
	eS	27 54
	eL	34 08
T_S = 12 sec. A = 2 mm.		
T_L = 20 sec. $A_{max.}$=1 mm		
HH	eP	08 24 18
	ePKKP	41 04
	eP'P'	49 18
PHIL	ePP	08 31 09
	e(S)	37 45
	ePS	40 33
	eSS	47 21
	eL	09 07 15
RC	iP	08 24 50
	ePKKP	41 07
SLC	iP	08 24 03C
	eSKS	34 36
	eS	35 16
	eL	49 12
SIT	eSKS	08 34 40
	iS	35 20
	ePS	36 30
	eSS	41 27
	eL	50 20

Date and Station		Phase (GCT)
		h m s
TUC	iP	08 23 43C
	eS	34 36
	eL	47 16
UK	iP	08 23 28
	i	23 48
	eL	50 28
WASH	iP'	08 29 26
	iPP	30 34
	ePS	40 26
	eL	09 04 50
July 14		
BUT	e(P)	09 29 13
EUR	iP	09 29 13
HH	eP	09 29 13
July 14		
BC	eP	09 54 36
	i	55 18
BOZ	eP	09 55 17
BUT	eP	09 55 12
	i	55 27
COL	iP	09 55 15
	eS	06 55
	eL	15 42
EUR	iP	09 54 43
HH	eP	09 55 14
RC	eP	09 55 46
SLC	eP	09 55 24
	e	55 40
TUC	eP	09 54 40
	iP	54 42
	e	55 42
July 14		
EUR	eP	10 13 26
July 14		
EUR	eP	10 21 44
July 14		
EUR	eP	12 30 15
July 14		
COL	eP	13 44 13
July 14		
COL	iP	16 31 11
EUR	eP	16 35 09
	e	35 18
July 14		
COL	eP	19 03 38

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Date and Station		Phase	(GCT) h m s
July 15			
EUR		eP	08 22 36
July 15			
COL		eP	09 23 29
		i	24 32
July 15			
BOZ		eP	09 48 16
BUT		eP	09 48 11
COL		eP	09 48 10
EUR		eP	09 48 46
HH		eP	09 48 09
RC		eP	09 47 42
TUC		eP	09 48 57
July 15			
EUR		eP	10 18 09
July 15			
BC		iP	11 30 29
		iS	30 45
		iL	30 58
EUR		iP	11 30 40
		iS	31 10
		iL	31 16
July 15			
COL		iP	12 30 27
EUR		iP	12 34 06
July 15			
COL		eP	12 50 03
July 15			
COL		eP	13 45 39
July 15			
EUR		eP	14 43 30
July 15			
COL		eP	15 19 07
July 15			
COL		eP	17 13 15
EUR		eP	17 11 42
RC		eP	17 10 50
July 15			
EUR		iP	19 09 47
TUC		eP	19 09 07
July 15			
COL		iP	22 51 54
EUR		iP	22 55 35
		e	56 23
HH		eP	22 55 01
July 15			
BC		eP'	23 26 22
BUT		e(P')	23 27 18
COL		iP	23 20 28
HH		ePP	23 26 23
		e	29 44
RC		i(PP)	23 27 43
TUC		eP'	23 27 23
July 16			
EUR		iP	03 03 03
		i	03 29
July 16			
COL		eP	04 08 47
EUR		eP	04 12 03
July 16			
EUR		eP	04 34 48
July 16			
SJ		eP	08 46 24
July 16			
COL		eP	11 59 05
July 16			
COL		eP	16 14 31
July 16			
COL		iP	16 49 05
July 16			
BOZ		eP'	17 15 57
COL		eP	17 10 23
COLU		iP'	17 16 41
EUR		iP'	17 15 57
RC		eP'	17 16 01
July 16			
EUR		eP	18 14 46
July 16			
COL		iP	19 16 13
EUR		eP	19 20 05
July 16			
BOZ		eP	19 30 52
COL		iP	19 26 54
		eS	29 29
		eL	30 34
EUR		iP	19 30 49
		i	31 02
HH		eP	19 30 13
RC		eP	19 31 09
		i	31 24
SJ		iP	19 35 51
TUC		iP	19 31 45
		i	31 57
July 16			
HONO		iP	20 04 40
July 16			
COL		iP	20 23 16
		e	24 29
EUR		eP	20 26 39
		i	26 51
July 17			
COL		iP	01 18 46
		eS	22 03
		eL	22 33
EUR		iP	01 22 18
TUC		eP	01 23 21
July 17			
COL		iP	01 33 37
July 17			
EUR		eP	03 56 23
July 17			
COLU		eP	04 41 05
EUR		eP	04 40 22
July 17			
SJ		eP	05 15 22
July 17			
BC		iP	05 24 48
		ipP	24 56
BOZ		eP	05 25 06
		ipP	25 21
BUT		iP	05 25 10
		ipP	25 26
COL		eP	05 27 30
COLU		iP	05 23 00
		ipP	23 15
EUR		iP	05 24 52
		ipP	25 07
HH		iP	05 25 22
		ipP	25 38
RC		iP	05 24 48
		ipP	25 04
SLC		e(P)	05 25 01
SJ		iP	05 20 59
		ipP	21 11
		i	23 04
TUC		iP	05 24 04
		ipP	24 18
		e	24 24
WASH		e(P)	05 23 44
July 17			
COL		iP	06 46 21
EUR		eP	06 45 24
HH		eP	06 44 59
July 17			
BC		eP	09 02 05
BOZ		e(P)	09 01 31
COL		iP	08 58 08
		eL	09 02 19
EUR		eP	09 01 40
HH		eP	09 01 05
RC		eP	09 02 37
TUC		eP	09 02 45
July 17			
COL		iP	10 04 25
July 17			
BC		iP	11 23 00
		ipP	23 29
		i	24 40
BOZ		iP	11 23 26
		ipP	23 56
		e	24 27
		eP'	27 30
BUT		iP	11 23 20
		ipP	23 51
CHI		ePP	11 29 10
		e(pPP)	29 42
		eS	36 02
		e(PS)	38 34
COL		iP	11 22 38
		ipP	23 08
		iS	32 47
		ePKKP	40 28
		eL	43 18
		eP'P'	48 38
COLU		iPP	11 29 50
		ipPP	30 20
		iSKKS	36 28
		iSP	39 28
		eSPP	40 39
		e	41 36
		eL	56 20

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Date and Station		Phase (GCT)
		h m s
EUR	iP	11 23 01
	ipP	23 32
	i	26 28
	ePKKP	40 45
	i	44 35
	eP'P'	48 48
	iP'P'	48 57
HONO	iP	11 18 49
	ipP	19 19
	eS	25 44
	esS	26 24
	eL	30 10
HH	iP	11 23 18
	ipP	23 49
	e(PP)	27 34
	ePKKP	40 36
	eP'P'	48 46
RC	eP	11 23 55
	epP	24 25
	ePP	28 22
	ePKKP	40 26
	ipPKKP	40 54
	eP'P'	48 41
SIT	iP	11 22 37
	ipP	23 08
	eS	32 48
	eL	44 16
SJ	iP'	11 29 18
	ipP'	29 50
	iPKS	32 34
TUC	iP	11 23 12
	ipP	23 43
	ePP	26 46
	eSKKS	33 42
	iSP	35 04
	iPKKP	40 43
	eL	46 52
UK	eP	11 22 34
	ipP	23 05
WASH	iPP	11 30 08
	i	30 40
	ePPP	32 44
	eSP	39 54
	eL	12 05 38
July 17		
COL	iP	12 38 45
EUR	eP	12 40 26
HH	eP	12 40 35
July 17		
COL	iP	15 30 39
July 17		
TUC	e(P)	15 49 51
July 17		
COL	iP	16 36 59

Date and Station		Phase (GCT)
		h m s
July 17		
COL	eP	16 58 38
July 17		
COL	iP	17 32 03
	i	32 37
EUR	iP	17 35 23
July 17		
EUR	eP	18 37 16
TUC	eP	18 35 56
July 17		
SJ	eP	18 49 45
July 17		
HH	e(P)	19 46 16
RC	eP	19 45 21
July 17		
COL	eP	19 57 14
July 17		
EUR	eP	21 38 30
TUC	e(P)	21 40 10
	e	41 05
July 17		
COL	eP	23 05 29
	i	05 51
July 18		
BC	e(P)	01 22 38
BOZ	e(P)	01 22 16
	e	22 24
	e	27 12
COL	iP	01 18 46
HH	eP	01 21 45
	i	21 56
RC	eP	01 22 59
	i	23 09
	e	24 57
SJ	eP	01 27 20
SIT	iP	01 19 40
	eS	23 03
July 18		
BC	eP	01 27 43
COL	iP	01 23 48
	i	24 01
EUR	iP	01 27 22
HH	eP	01 26 44
RC	eP	01 28 01
	i	28 09

Date and Station		Phase (GCT)
		h m s
SJ	eP	01 32 20
SIT	iP	01 24 40
TUC	eP	01 28 22
	eL	41 56
July 18		
COL	eP	03 23 21
July 18		
BC	eP	03 53 48
COL	iP	03 58 33
EUR	iP	03 54 19
HH	eP	03 55 20
RC	eP	03 54 30
TUC	eP	03 52 51
	e	57 52
	e	58 21
July 18		
TUC	eP	05 13 06
July 18		
COL	eP	08 39 27
	i	40 16
July 18		
COL	eP	08 46 13
July 18		
EUR	iP	09 26 12
HH	eP	09 27 14
July 18		
EUR	eP	11 20 45
July 18		
COL	iP	11 23 32
EUR	eP	11 24 51
SJ	eP'	11 30 48
July 18		
BC	iP	12 18 36
BOZ	iP	12 18 21
BUT	iP	12 18 18
	i	18 50
	ipP	19 48
COL	iP	12 15 44
	eS	23 03
	iScS	24 51
EUR	iP	12 18 23
	ipP	19 56
	iPP	21 36
HH	iP	12 18 03
	eS	27 24

Date and Station		Phase (GCT)
		h m s
RC	iP	12 19 01
	ePP	22 29
	eS	29 23
SLC	iP	12 18 32
TUC	eP	12 18 59
	ePP	22 37
July 18		
COL	eP	13 35 02
	e	35 33
July 18		
COL	iP	15 07 52
EUR	eP	15 11 20
RC	eP	15 11 54
July 18		
EUR	iP	15 24 30
SLC	eP	15 23 38
July 18		
BOZ	iP	15 25 52
	i	26 16
	i	26 23
BUT	eP	15 26 01
	iL	27 59
COL	eP	15 30 57
EUR	iP	15 25 25
	i	25 38
	iS	26 19
	iL	26 30
HH	iP	15 26 33
	eL	29 15
RC	e(P)	15 26 03
	e	26 25
SLC	iP	15 24 44
TUC	i(P)	15 26 40
July 18		
BUT	eP	16 40 48
COL	eP	16 44 06
July 18		
EUR	eP	20 45 46
July 19		
COL	iP	03 36 04
July 19		
HH	eP	05 04 32
July 19		
COL	iP	08 39 06

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Date and Station		Phase	(GCT) h m s
July 19			
BC	eP		12 06 10
COL	iP		12 02 03
	e		02 49
	e(S)		04 46
	eL		05 28
EUR	eP		12 05 44
HH	eP		12 05 11
RC	eP		12 06 23
TUC	eP		12 06 50
	e		07 02
July 19			
COL	iP		12 33 37
July 19			
BUT	eP		13 16 23
	ipP		16 51
COL	iP		13 13 02
EUR	eP		13 15 36
	i		16 02
	ePKKP		32 54
HH	iP		13 15 12
	i		15 39
	eS		25 36
	iScS		26 06
SIT	iP		13 13 52
	iS		23 28
	eScS		24 03
	e		24 22
TUC	eP'		13 20 29
July 19			
COL	eP		13 41 18
	e		41 48
July 19			
BC	eP		14 01 03
EUR	iP		14 00 58
July 19			
EUR	eP		14 13 31
July 19			
COL	eP		14 22 39
July 19			
BOZ	eP		15 44 23
July 19			
COL	eP		16 03 02
	i		03 08
July 19			
COL	iP		17 37 44
	i		37 55

Date and Station		Phase	(GCT) h m s
July 19			
COL	eP		18 48 46
July 19			
COL	eP		20 38 37
	iP		38 41
July 19			
SJ	iP		21 45 56
July 19			
COL	iP		21 49 21
HH	e(PP)		21 56 52
July 19			
SJ	iP		22 56 34
July 20			
COL	iP		04 29 54
EUR	eP		04 33 27
July 20			
BC	eP'		10 15 30
	e		15 52
EUR	eP'		10 15 25
HH	eP'		10 15 14
RC	eP'		10 15 16
SLC	iP'		10 15 20
TUC	eP'		10 15 23
July 20			
COL	eP		10 42 13
EUR	iP		10 46 01
HH	iP		10 45 01
SIT	eP		10 41 36
	i		42 26
July 20			
EUR	iP		10 49 46
July 20			
BC	iP		11 23 14
	ipP		23 30
BOZ	eP		11 22 44
BUT	iP		11 22 37
COL	iP		11 19 14
	ipP		19 26
EUR	iP		11 22 54
	ipP		23 10
HH	eP		11 22 20
RC	iP		11 23 27
	eS		31 59

Date and Station		Phase	(GCT) h m s
SLC	iP		11 23 04
	ipP		23 19
TUC	iP		11 23 47
	e(pP)		24 08
July 20			
COL	iP		11 25 40
July 20			
COL	iP		11 35 19
July 20			
BC	iP		14 19 45
BOZ	eP		14 19 22
	e		19 44
BUT	iP		14 19 14
COL	iP		14 16 11
EUR	iP		14 19 28
HH	iP		14 19 00
RC	eP		14 19 56
SLC	eP		14 19 37
	i		20 12
TUC	eP		14 20 14
July 20			
BC	iP		15 50 56
	i		51 05
BOZ	iP		15 51 36
	e		52 11
BUT	iP		15 51 31
	ePP		54 49
COL	iP		15 51 33
EUR	iP		15 51 03
HONO	iP		15 45 59
HH	iP		15 51 31
RC	eP		15 52 00
	ePP		55 33
SLC	iP		15 51 19
	e		51 37
TUC	iP		15 51 01
UK	iP		15 50 36
July 20			
COL	eP		17 24 21
July 20			
EUR	eP		18 04 31

Date and Station		Phase	(GCT) h m s
July 20			
COL	iP		19 38 43
EUR	eP		19 42 12
HH	eP		19 41 44
TUC	eP		19 43 15
	e		43 26
July 20			
EUR	eP		21 03 46
	i		03 54
July 20			
EUR	eP		22 24 18
July 21			
BC	eP		00 35 01
BOZ	iP		00 35 36
BUT	iP		00 35 39
COLU	iP		00 33 36
EUR	iP		00 35 21
HH	eP		00 35 52
RC	iP		00 35 11
SLC	eP		00 35 14
	e		35 31
TUC	eP		00 34 37
July 21			
COL	iP		00 56 56
July 21			
EUR	eP		04 28 18
TUC	eP		04 28 28
July 21			
EUR	eP		05 32 07
July 21			
BH	iP		06 07 17
	eL		12 24
BC	iP		06 10 13
	i(pP)		10 24
	i		10 45
	eS		15 17
	eL		18 07
BOZ	iP		06 11 02
	epP		11 28
	ePP		12 22
	esS		17 23
	eL		21 29
CHI	e(P)		06 10 30
	e(S)		15 06
	eL		17 06

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Date and Station		Phase (GCT) h m s
COL	iP	06 14 30
	ipP	15 08
COLU	iP	06 09 03
	ipP	09 21
	iPP	09 49
	i	11 00
	iS	13 06
	iL	13 46
EUR	iP	06 10 41
	isP	12 18
HH	iP	06 11 29
	e	16 45
	eS	17 27
	eScS	21 37
PHIL	eP	06 10 14
	eS	15 31
	eL	20 03
RC	eP	06 10 26
	ePP	11 32
SLC	iP	06 10 29
	ipP	10 48
SJ	eP	06 09 49
SIT	eP	06 13 28
	eS	21 03
	eL	33 20
TUC	eP	06 09 30
	i	09 40
	eS	14 05
	eL	17 12
WASH	iP	06 09 57
	ipP	10 13
	i	10 37
	i(pPP)	11 37
	e(S)	15 05
	eL	16 45
July 21		
COL	iP	06 19 14
July 21		
COL	e(P)	06 50 05
EUR	eP	06 50 02
July 21		
BC	eP	07 13 33
COL	iP	07 12 26
	ipP	12 55
EUR	iP	07 13 30
	i	13 54
HH	eP	07 13 34
July 21		
HH	eP	09 06 18
	e	09 48

Date and Station		Phase (GCT) h m s
RC	e(P)	09 05 28
	e	09 52
July 21		
TUC	eP	13 29 18
July 21		
COL	eP	14 08 51
July 21		
COL	eP	14 44 46
July 21		
EUR	eP	16 57 26
July 21		
BC	eP	17 31 27
BOZ	eP	17 31 16
	iP	31 19
	e	31 39
	iL	32 29
EUR	iP	17 30 52
	eL	31 43
HH	eP	17 31 48
	e	32 14
RC	e(P)	17 31 56
	e	32 23
	e	32 40
	iL	34 01
TUC	e(P)	17 32 50
July 21		
EUR	eP	18 26 01
July 21		
COL	iP	18 45 03
July 21		
BC	iP	19 49 37
	e	49 56
BOZ	eP	19 50 17
COL	iP	19 50 19
	i	50 30
	ipP	50 55
EUR	iP	19 49 44
HH	eP	19 50 15
RC	eP	19 50 37
July 22		
COL	iP	00 51 16
EUR	iP	00 52 04
July 22		
COL	eP	01 14 07
	iP	14 10
July 22		
SIT	iP	02 11 52

Date and Station		Phase (GCT) h m s
July 22		
COL	iP	03 59 51
July 22		
BC	iP	06 30 06
	eScS	40 37
	ePS	41 08
BOZ	eP	06 30 44
BUT	eP	06 30 41
COL	iP	06 30 46
	i	30 48
	eSKS	41 20
	eSKKS	41 53
	eS	42 21
	ePS	43 45
	eL	07 00 39
COLU	eP'	06 36 27
EUR	iP	06 30 12
	i	30 32
HONO	iP	06 27 00
	i	27 10
HH	eP	06 30 42
	ePP	34 40
RC	eP	06 31 00
TUC	iP	06 30 07
	i	30 25
	eL	58 40
UK	iP	06 29 52
July 22		
EUR	iP	06 35 09
	i	35 30
TUC	eP	06 35 03
	i	35 25
July 22		
HH	eP	06 47 30
RC	eP	06 46 54
TUC	eP	06 47 30
July 22		
BC	iP	10 28 27
BOZ	eP	10 28 07
BUT	iP	10 28 02
COL	iP	10 25 20
	ipP	26 36
	i	26 46
EUR	iP	10 28 11
HH	iP	10 27 50
	epP	29 10

Date and Station		Phase (GCT) h m s
RC	iP	10 28 33
SIT	iP	10 26 15
TUC	eP	10 28 51
July 22		
COL	iP	10 56 56
July 22		
BC	iP	14 05 18
BOZ	eP	14 04 47
COL	iP	14 01 21
	i	02 07
	e(S)	04 23
	eL	04 59
EUR	iP	14 04 53
HH	iP	14 04 21
	epP	07 03
RC	eP	14 05 34
SJ	eP	14 10 02
SIT	iP	14 02 02
	i	02 30
	eS	05 31
	eL	09 32
TUC	eP	14 05 58
July 22		
COL	eP	14 12 36
EUR	iP	14 16 14
July 22		
EUR	iP	17 24 33
July 22		
COL	iP	19 36 08
July 22		
TUC	iP	19 49 39
	i	49 51
July 23		
BH	eP	00 58 04
	iSKS	01 08 29
BC	iP	00 53 39
	i	54 09
	eS	01 00 25
	eL	03 48
BOZ	iP	00 53 12
	i	53 22
	iPcP	54 41
	eS	59 35
	eL	01 02 51
BUT	eP	00 53 03
	i	53 27
	i	55 56

Date and Station		Phase (GCT) h m s
BUT	iS	00 59 17
	i	59 37
	iL	01 01 51
CHI	eP	00 55 11
	eS	01 03 11
	eL	08 15
COL	iP	00 49 48
	eS	53 13
	iL	53 41
	iScS	01 01 30
	i	02 10
	iP'P'	26 10
COLU	iP	00 56 11
	iPcP	56 30
	i	56 46
	iS	01 05 08
	eScS	06 55
	esS	09 55
	eL	17 40
EUR	iP	00 53 17
HONO	iP	00 52 00
	eS	57 16
	eL	59 04
T_S = 10 sec. A = 01.5mm.		
T_L = 18 sec. $A_{max.}$=04.5mm.		
HH	iP	00 52 47
	i	53 23
	eS	58 57
	eScS	01 02 52
PHIL	eP	00 56 06
	iS	01 04 54
	eSS	09 48
	eL	16 06
RC	iP	00 53 57
	i	54 11
	eS	01 00 54
	eL	04 42
SLC	eP	00 53 31
	eScS	01 03 27
	eL	03 43
SJ	iP	00 58 05
	ePP	01 01 51
SIT	iP	00 50 38
	i	51 25
	iPP	51 40
	iS	55 02
	eL	55 53
TUC	iP	00 54 17
	ePP	01 01 40
	eS	05 28
	eL	11 13
WASH	iP	00 56 00
	iS	01 04 48
	e(SS)	09 58
	eL	20 24

Date and Station		Phase (GCT) h m s
July 23 EUR	eP	01 29 34
July 23 COL	e(P)	03 02 36
July 23 BUT	eP	03 58 13
COLU	eP	04 01 17
EUR	eP	03 57 58
HH	eP	03 57 48
RC	eP	03 59 02
TUC	e(P)	03 59 09
July 23 BC	eP	04 11 41
BOZ	eP	04 11 14
COL	iP	04 07 54
COLU	eP	04 15 19
EUR	eP	04 11 18
HH	eP	04 10 48
RC	eP	04 11 58
TUC	eP	04 12 21
	e	12 33
July 23 COL	iP	05 04 14
EUR	eP	05 07 39
HH	eP	05 07 09
July 23 BC	eP	06 33 52
COL	eP	06 33 54
EUR	iP	06 33 53
	ePP	37 35
RC	e(P')	06 38 54
TUC	eP	06 33 58
UK	eP	06 33 31
July 23 EUR	eP	08 43 10
July 23 COL	iP	08 53 44
EUR	eP	08 47 23
July 23 EUR	eP	10 05 41

Date and Station		Phase (GCT) h m s
July 23 TUC	eP	12 11 23
July 23 COL	iP	12 24 09
July 23 TUC	eP	12 49 37
July 23 COL	iP	13 42 37
	ipP	44 31
EUR	eP	13 42 16
TUC	iP	13 42 15
	ipP	44 06
July 23 COL	iP	17 41 59
July 23 EUR	eP	19 22 23
July 23 COL	iP	19 46 45
July 23 COL	iP	22 07 25
EUR	eP	22 10 53
HH	eP	22 10 21
	e	12 28
July 23 HH	eP	23 21 44
	e	22 09
July 23 COL	eP	23 41 06
July 24 BH	iP	02 05 05
	iS	10 59
BC	eP	02 09 26
	eS	19 17
	e(SS)	23 45
BOZ	eP	02 10 00
BUT	eP	02 09 51
	i	10 06
	e(S)	20 25
	eSS	26 35
	eL	36 07
CHI	eP	02 09 00
	eS	18 16
COL	eP	02 12 07
	eP'	16 04
COLU	iP	02 08 10
	iS	16 38
EUR	iP	02 09 45

Date and Station		Phase (GCT) h m s
EUR	ePKKP	02 27 58
	i	28 27
	eP'P'	36 32
	iSKPP'	39 55
	e	41 17
HH	iP	02 10 16
	iSKS	20 40
RC	eP	02 09 35
	e	09 52
SJ	eP	02 06 09
	i	06 28
TUC	eP	02 08 58
	eS	18 16
	eL	27 02
UK	eP	02 10 05
	e	10 15
WASH	iP	02 08 33
	iPcP	09 27
	eS	17 35
	eSS	21 39
	eL	30 47
July 24 WASH	iP	02 36 51
July 24 COL	iP	05 52 26
July 24 TUC	eP	06 18 46
July 24 COL	iP	08 14 56
EUR	eP	08 17 37
HH	eP	08 17 16
July 24 TUC	eP	08 38 06
July 24 BC	eP	10 10 02
COL	iP	10 09 57
EUR	iP	10 10 01
	i	10 13
TUC	eP	10 10 11
UK	eP	10 09 45
July 24 TUC	eP	10 38 27
July 24 BC	eP	10 59 30
BOZ	iP	10 59 58

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Date and Station		Phase (GCT)
		h m s
BUT	iP	11 00 03
	i	00 56
	eSKS	10 07
	e	10 17
	e	10 35
	eL	24 17
COL	iP	11 02 04
	iP'	06 41
COLU	iP	10 57 56
	iS	11 06 06
	i	07 24
EUR	iP	10 59 47
HH	iP	11 00 14
	eSKS	10 22
RC	iP	10 59 34
	e	11 00 24
SJ	iP	10 55 48
	iPP	57 41
TUC	iP	10 59 02
July 24		
BC	eP	11 15 31
BOZ	eP	11 16 06
BUT	eP	11 16 00
	ePP	19 45
	eS	27 13
	eL	42 01
COL	eP	11 15 26
	eS	26 11
	ePPS	27 25
	eL	34 01
EUR	iP	11 15 33
	i	16 04
HH	e(P)	11 16 01
SLC	eS	11 27 07
SJ	eP'	11 20 40
SIT	eS	11 26 06
	eL	38 46
TUC	eP	11 15 40
	ePP	19 16
	eL	44 14
UK	eP	11 15 11
WASH	iPP	11 22 47
	eSKS	28 51
	eL	12 00 43
July 24		
BC	eP	11 50 28
	i	50 47
	i	51 05

Date and Station		Phase (GCT)
		h m s
EUR	iP	11 50 41
	i	51 19
TUC	e(P)	11 52 05
July 24		
EUR	eP	12 02 49
July 24		
COL	iP	12 21 53
EUR	eP	12 22 46
July 24		
COL	iP	14 53 37
EUR	eP	14 55 08
July 24		
EUR	eP	15 08 38
July 24		
COL	iP	17 01 48
July 24		
COL	eP	19 50 43
EUR	eP	19 44 13
July 24		
BOZ	e(P)	20 53 28
July 25		
COL	iP	00 09 19
July 25		
EUR	iP	00 43 00
July 25		
BC	iP	01 09 41
BOZ	eP	01 09 08
COL	iP	01 05 37
EUR	iP	01 09 20
	ipP	09 46
HH	eP	01 08 46
July 25		
COL	eP	02 40 01
July 25		
BC	eP	03 33 08
BOZ	eP	03 32 39
COL	iP	03 29 17
	eS	33 18
	eL	34 30
EUR	iP	03 32 45
HH	eP	03 32 14
RC	eP	03 33 24

Date and Station		Phase (GCT)
		h m s
TUC	eP	03 33 45
	i	33 55
July 25		
BC	eP	07 50 54
	i	51 08
	e	55 32
	eS	57 58
BOZ	iP	07 50 26
	i	50 46
	i	51 25
	eS	56 53
	eL	08 00 41
BUT	eP	07 50 17
	i	50 56
	iPP	52 18
	iS	56 42
	iL	08 00 07
COL	iP	07 47 05
	e	48 03
	iS	50 58
	iL	51 49
	e	54 44
	eScS	58 44
COLU	iP	07 53 25
	iS	08 02 22
	eL	09 55
EUR	iP	07 50 30
HH	iP	07 50 01
	eS	56 07
	eL	08 00 21
RC	iP	07 51 06
	i	51 25
SLC	eP	07 50 59
	eS	57 23
	eL	08 00 59
SJ	iP	07 55 19
SIT	iP	07 47 51
	iPP	48 42
	e(S)	52 20
	eL	53 17
TUC	iP	07 51 30
	eL	08 08 30
July 25		
EUR	iP	08 15 15
TUC	eP	08 15 13
July 25		
BUT	eP	10 04 29
July 25		
COL	i(P)	11 17 42
	i	17 54
	i	18 26

Date and Station		Phase (GCT)
		h m s
July 25		
COL	iP	11 20 36
EUR	iP	11 18 08
TUC	eP	11 18 10
July 25		
BUT	eP	12 13 30
July 25		
COL	eP	12 25 19
July 25		
EUR	eP	12 34 41
TUC	e(P)	12 33 48
	e	33 54
	i	34 04
	eS	34 52
	eL	34 57
July 25		
BUT	eP	13 03 32
July 25		
BC	iP	13 30 28
	i	30 48
EUR	iP	13 30 40
	iS	31 13
	iL	31 22
TUC	eP	13 32 06
	e	33 46
July 25		
COL	iP	14 24 04
SJ	iP	14 31 03
July 25		
COL	iP	18 05 23
July 25		
BOZ	eP	18 43 16
COL	iP	18 39 52
EUR	iP	18 43 04
	ipP	43 24
HH	eP	18 42 37
	epP	42 57
RC	eP	18 43 25
	ipP	43 43
July 25		
COL	iP	22 17 21
July 25'		
COL	iP	23 06 02
July 26		
COL	eP	00 44 07
	eS	47 42
	eL	48 40

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Date and Station		Phase (GCT) h m s
EUR	iP	00 47 37
RC	iP	00 48 16
TUC	iP	00 48 45
July 26		
EUR	eP	00 53 26
July 26		
COL	eP	03 59 38
July 26		
BUT	eP	04 52 57
	eS	55 00
	eL	55 31
EUR	iP	04 52 18
	i	52 55
HH	eP	04 52 54
RC	eP	04 54 11
TUC	iP	04 54 08
UK	e(P)	04 51 20
	e	51 52
July 26		
COL	iP	05 14 57
EUR	iP	05 15 53
July 26		
COL	iP	06 27 57
	e	29 56
July 26		
EUR	eP	07 03 07
TUC	eP	07 03 09
July 26		
EUR	eP	07 20 37
July 26		
TUC	e(P)	09 44 22
	e	45 21
July 26		
COL	iP	13 45 23
July 26		
COL	eP	14 04 57
July 26		
EUR	eP	17 13 45
July 26		
HH	eP	18 56 47
July 27		
BUT	eP	02 21 47
July 27		
BUT	eP	04 03 13

Date and Station		Phase (GCT) h m s
July 27		
COL	iP	04 26 29
July 27		
BC	iP	06 55 11
BOZ	eP	06 56 16
EUR	eP	06 55 38
	i	55 55
	ePcP	58 18
RC	eP	06 56 18
SLC	eP	06 55 26
	e	56 04
TUC	iP	06 54 27
	e	07 11 57
July 27		
COL	eP	07 07 30
EUR	eP	07 10 54
July 27		
EUR	eP	07 17 02
July 27		
COL	iP	08 55 39
EUR	eP	08 59 17
July 27		
EUR	iP	09 06 14
	e	09 25
TUC	eP	09 07 55
	e	08 17
	e	12 27
July 27		
BC	eP	14 57 36
BUT	eP	14 58 20
COL	iP	14 58 16
EUR	iP	14 57 42
HH	eP	14 58 16
SLC	eP	14 58 00
	e	58 08
TUC	eP	14 57 40
July 27		
COL	iP	15 49 57
July 27		
EUR	eP	18 22 10
July 27		
COL	iP	18 55 40
	i	55 51
EUR	iP	18 56 41

Date and Station		Phase (GCT) h m s
HH	eP	18 56 47
	ePP	19 00 51
SJ	eP	19 02 39
July 27		
BC	iP	21 08 06
	i	08 25
BOZ	iP	21 07 38
	e	08 26
BUT	eP	21 07 30
	eS	14 16
	eL	20 11
COL	iP	21 04 16
	eL	08 01
COLU	iP	21 10 34
EUR	iP	21 07 44
HH	iP	21 07 13
RC	iP	21 08 20
SLC	iP	21 07 57
	e	08 17
	e	08 31
SJ	iP	21 12 24
	i	12 34
TUC	eP	21 08 42
July 28		
COL	i(P)	01 43 34
	i	43 39
EUR	iP	01 43 53
TUC	eP	01 44 03
	e	44 22
July 28		
COL	iP	03 09 08
EUR	iP	03 04 25
TUC	eP	03 03 49
July 28		
EUR	iP	03 40 00
TUC	e(P)	03 38 50
July 28		
BH	eP	03 39 10
	iS	39 48
July 28		
COL	iP	05 46 47
EUR	eP	05 46 18
July 28		
BH	iP	08 44 46
	eS	48 58

Date and Station		Phase (GCT) h m s
BC	iP	08 45 18C
	eS	49 41
	iL	52 25
BOZ	iP	08 46 19C
	eS	51 10
	eL	53 22
BUT	iP	08 46 26C
	i(PP)	47 54
	iPcP	48 15
	iS	51 45
	i	52 19
	iL	53 43
CHI	iP	08 45 45N,E
	i	46 37
	iS	50 21
	iL	53 33
COL	iP	08 49 56C
	i(PPP)	53 55
	iS	58 03
	i	58 14
	i(ScS)	59 16
	iSS	09 01 58
	iL	06 24
COLU	iP	08 45 17C
	iS	49 38
	iL	50 40
EUR	iP	08 45 48
HONO	iP	08 49 42C
	i	49 55
	iPcP	50 27
	iS	57 44
	eL	09 03 14

T_P = 05.0 sec. A = 3 mm.
T_S = 10.0 sec. A = 7 mm.
T_L = 20.0 sec. $A_{max.}$=16 mm.

HH	iP	08 46 48C
	eS	52 26
	eL	57 50
	iL	58 18
	eP'P'	09 18 05
KIPAPA	iP	08 49 41
	i	49 55
	i	50 51
PHIL	iP	08 46 27
	iS	51 36
	eL	55 21
RC	iP	08 45 52D
	i	46 08
	e	47 44
	iS	50 45
	eL	53 09
SLC	iP	08 45 39C
	iS	50 23
	iL	53 03

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Date and Station		Phase (GCT)
		h m s
SJ	eP	08 46 25
	i	46 29
	iPP	47 36
	iS	51 52
	i	52 24
	iL	53 06
SIT	eP	08 48 45
	iP	48 48D
	i	49 04
	iPP	51 02
	iPPP	52 05
	iS	56 03
	iScS	59 04
	iL	09 00 00
TUC	iP	08 44 24C
	ePcP	47 27
	eS	48 06
	iL	49 26
UK	eP	08 46 20
	iP	26 24
	eS	51 35
	i	51 44
	eL	54 36
WASH	iP	08 46 07
July 28		
RC	eP	09 23 53
TUC	eP	09 22 25
	eL	28 09
July 28		
BOZ	eP	10 04 46
BUT	eP	10 04 53
COL	iP	10 08 24
	iPcP	09 15
	i	09 19
COLU	iP	10 03 42
EUR	eP	10 04 15
HH	eP	10 05 15
RC	eP	10 04 19
SJ	eP	10 04 51
TUC	eP	10 02 52
	eL	08 25
July 28		
BC	eP	10 24 27
BUT	eP	10 25 39
	i	25 44
COL	iP	10 26 19
EUR	eP	10 24 57
HH	eP	10 25 57
	e	29 16

Date and Station		Phase (GCT)
		h m s
RC	eP	10 25 03
TUC	eP	10 23 34
	eL	29 16
July 28		
EUR	eP	10 29 45
RC	eP	10 30 24
TUC	e(P)	10 33 38
July 28		
BC	eP	11 40 42
EUR	eP	11 41 12
TUC	eP	11 39 50
	e	42 58
	eL	45 30
July 28		
EUR	eP	12 06 15
SJ	eP	12 05 16
TUC	eP	12 04 51
	eL	10 33
July 28		
COL	iP	12 13 06
EUR	eP	12 09 58
RC	eP	12 09 25
July 28		
COL	eP	13 25 22
	e	25 54
	ipP	27 22
July 28		
BH	iP	13 39 05
	iS	43 05
BC	iP	13 39 30
	eScS	40 20
	eL	45 59
BOZ	iP	13 40 32
BUT	iP	13 40 39
	eS	45 51
	eL	48 17
COL	iP	13 44 11
COLU	iP	13 44 31
EUR	eP	13 40 01
	e(S)	45 23
	eL	48 03
HONO	e(P)	13 43 54
HH	iP	13 41 01
	eL	51 37
PHIL	eP	13 40 41
	eL	54 26

Date and Station		Phase (GCT)
		h m s
RC	iP	13 40 05
	i	40 15
	eL	48 53
SLC	iP	13 39 54
	i	40 03
	i	40 30
SJ	eP	13 40 43
TUC	iP	13 38 36
	eS	42 18
	iL	43 56
July 28		
BC	eP	14 39 17
COL	iP	14 43 59
	ipP	44 51
EUR	eP	14 39 48
HH	eP	14 40 48
RC	e(P)	14 40 03
TUC	eP	14 38 24
	eL	43 55
July 28		
EUR	e(P)	16 01 51
July 28		
TUC	e(P)	16 43 46
	eL	49 17
July 28		
COL	iP	20 34 53
July 28		
COL	iP	21 43 23
	ipP	44 37
EUR	eP	21 42 48
July 28		
COL	eP	21 49 04
July 28		
COL	eP	22 28 27
SLC	e(P)	22 23 26
	e	23 51
	eL	25 11
July 28		
COL	iP	22 43 57
	e	44 47
TUC	eP	22 38 25
	eL	44 13
July 28		
COL	eP	23 17 00
July 28		
EUR	eP	23 42 04

Date and Station		Phase (GCT)
		h m s
July 29		
BH	eP	00 16 05
	eS	19 56
BC	eP	00 16 37
BUT	eP	00 17 45
COL	iP	00 21 17
COLU	iP	00 16 34
EUR	eP	00 17 07
RC	eP	00 17 11
SLC	eP	00 17 01
TUC	eP	00 15 45
	eL	21 28
July 29		
EUR	eP	00 27 31
July 29		
EUR	eP	01 48 27
July 29		
EUR	eP	03 29 59
July 29		
EUR	eP	03 45 01
July 29		
COL	iP	06 26 46
July 29		
COL	eP	09 24 41
EUR	eP	09 24 36
TUC	eP	09 24 40
July 29		
BC	eP	11 43 43
EUR	eP	11 44 13
TUC	eP	11 42 51
	eL	48 24
July 29		
BOZ	eP	13 08 33
	e	08 43
COL	iP	13 05 12
EUR	eP	13 08 39
HH	eP	13 08 09
	i	08 18
	ePcP	10 24
RC	iP	13 09 17
	i	09 27
SJ	iP	13 13 24
	i	13 35

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Date and Station	Phase	Phase (GCT) h m s
TUC	eP	13 09 40
July 29		
EUR	eP	13 42 59
TUC	eP	13 43 02
July 29		
COL	iP	14 31 08
EUR	eP	14 35 02
July 29		
COL	iP	16 20 15
HH	e(P)	16 24 22
July 29		
EUR	eP	16 47 36
HH	eP	16 48 43
July 29		
COLU	iP	17 01 33
July 29		
BH	iP	17 21 58
	eS	27 18
BC	iP	17 26 43C
	i	27 24
	eS	36 09
	e(ScS)	36 54
	eSS	41 02
BOZ	iP	17 27 16C
	i	27 29
	i	28 21
	iS	37 10
	eL	48 06
BUT	iP	17 27 20
	i	28 14
	iS	37 17
	iScS	38 11
	eSS	42 58
	eSSS	46 17
	eL	47 57
CHI	iP	17 26 10
	iS	34 54
	i(ScS)	36 02
	eSS	39 42
	eL	42 30
COL	iP	17 29 26
	ePP	33 38
	eSKS	40 19
	eS	41 08
	eL	48 03
COLU	iP	17 25 10
	iPPP	28 44
	eS	32 52
	iS	33 04
	iScS	34 53
	eSS	37 00
	eL	38 58
EUR	iP	17 27 03
	ePKKP	46 26
	eP'P'	54 09
	iP'P'	54 27
HH	iP	17 27 34C
	iS	37 42
	ePKKP	46 14
	eP'P'	54 19
PHIL	iP	17 25 46
	e(PPP)	30 20
	iS	34 14
	eScS	35 31
	eSS	38 59
	eL	41 11
RC	iP	17 26 51
SLC	iP	17 26 57
	iS	36 31
	eSS	41 23
	eL	47 59
SJ	iP	17 23 07
	i	23 23
	iPP	24 46
	iS	29 18
	iL	32 28
TUC	iP	17 26 13
	iS	35 08
	i	35 36
	e(ScS)	36 08
	eSS	39 14
	eL	43 05
	eP'P'	54 45
UK	iP	17 27 24
July 29		
RC	e(P)	22 39 26
	e	39 57
	e	42 33
July 30		
EUR	eP	00 25 07
	e	26 11
TUC	eP	00 23 45
	eL	29 41
July 30		
COL	iP	00 29 14
	epP	30 11
July 30		
COL	iP	01 55 32
July 30		
COL	iP	07 29 55
EUR	eP	07 30 28
July 30		
COL	iP	10 45 32
July 30		
BC	eP	11 28 03
BUT	eP	11 27 50
EUR	eP	11 27 51
HH	eP	11 27 41
RC	eP	11 28 24
TUC	e(P)	11 28 25
July 30		
EUR	iP	17 52 16
	i	53 31
HH	eP	17 53 19
July 30		
BOZ	eP	18 36 06
	i	36 58
July 30		
COL	iP	18 55 19
July 30		
EUR	eP	20 58 16
July 30		
EUR	eP	23 27 53
July 31		
EUR	iP	04 36 02
July 31		
EUR	eP	07 32 15
	i	32 23
HH	eP	07 32 10
July 31		
BOZ	eP	07 51 45
COLU	eP	07 52 30
EUR	eP	07 51 46
HH	eP	07 51 39
July 31		
EUR	eP	07 55 08
TUC	e(P)	07 55 33
July 31		
EUR	eP	09 03 26
July 31		
HH	eP	09 16 46
July 31		
HH	eP	09 37 56
July 31		
BUT	eP	17 58 46
July 31		
BOZ	eP	19 10 27
HH	iP	19 08 57
July 31		
EUR	eP	19 16 42
HH	iP	19 16 25
	i	18 30
	i	18 46
RC	eP	19 17 34
July 31		
EUR	eP	22 02 57
July 31		
HH	eP	23 14 17
July 31		
RC	eP	23 38 59
July 31		
EUR	eP	23 46 11
RC	eP	23 48 27
	e	49 34

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LOCAL AND MINOR EARTHQUAKES

Date and Station	Hour (G.C.T.)
COL	
July	
1	20.0
2	21.0
3	05.9
4	08.4
5	11.2
6	17.7
7	00.8
	02.0
	07.6
	17.3
8	03.9
	05.0
	13.0
	17.0
9	12.8
	13.5
11	10.2
12	14.3
13	04.0
	06.5
	18.7
15	02.5
	19.8
16	00.6
	02.8
	06.8
	17.9
	19.3
17	00.5
	05.6
	07.0
	09.6
19	22.8
	02.6
	05.6
20	21.5
21	00.1
	10.8
22	21.0
23	05.4
	06.1
	15.8
24	07.6
25	12.3
26	07.1
	20.8
27	15.1
	20.2
28	01.7
29	12.3
30	00.8
	06.5
	10.6
EUR	
July	
5	11.5
	22.1
7	01.0
9	22.0
12	12.1
13	19.0
	19.0
15	05.3
	09.6
	13.2
21	01.5

Date and Station	Hour (G.C.T.)
EUR	
July	
23	00.5
	00.6
26	08.7
HONO	
July	
1	21.8
4	10.9
5	22.9
6	01.1
8	17.3
14	02.3
17	01.6
23	01.4
26	11.7(Felt)
SLC	
July	
2	18.8
5	22.9
	23.3
6	21.0
8	08.8
9	22.8
	23.0
10	23.0
12	23.0
14	22.5
16	22.9
17	23.1
18	23.4
19	23.0
20	23.0
26	23.0
27	23.0
29	23.2
30	23.5
31	23.1
SJ	
July	
6	02.6
7	16.8
8	00.9
	11.5
	13.1
	14.0
	18.2
	18.6
9	00.0
	15.9
12	17.8
	20.9
14	17.7
15	12.5
	14.5
SIT	
July	
3	04.2
12	00.4
22	21.5

Date and Station	Hour (G.C.T.)
TUC	
July	
1	02.2
2	07.0
4	15.4
	21.7
	21.8
	21.9
	22.9
	22.9
	23.1
	23.9
5	00.0
	00.7
	01.2
	04.0
	04.2
	07.6
	08.3
	08.5
	09.3
	09.5
	09.6
	09.8
	09.9
	12.4
	13.4
	13.6
	18.6
	19.4
	20.5
	22.8
6	03.7
	04.6
	07.1
	12.7
	12.9
	20.4
7	09.4
	13.2
	20.5
8	07.9
	10.3
	11.8
9	00.3
	02.6
	05.5
	07.9
10	01.9
	08.7
	08.9
13	10.7
15	05.8
	11.5
	12.2
	23.6
19	06.7
21	05.6
22	08.9
23	04.3
	10.5
	12.9
25	08.0
	11.1
26	11.7
	13.0
	18.5
27	08.5
28	16.0

Date and Station	Hour (G.C.T.)
TUC	
July	
28	17.7
	21.7
29	08.0
31	08.7