

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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**The International  
Seismological Summary.  
1952 April, May, June.**

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**INTERNATIONAL GEODETIC AND GEOPHYSICAL UNION.  
ASSOCIATION OF SEISMOLOGY.  
FORMERLY THE BULLETIN OF  
THE BRITISH ASSOCIATION SEISMOLOGY COMMITTEE.**

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The Director of the I.S.S. wishes to express his thanks to U.N.E.S.C.O. and H.M. Treasury for financial support, which has covered the cost and preparation of this volume.

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The second quarter for 1952 contains 341 epicentres, 240 of which are repetitions from previously adopted epicentres, 124 have been attributed to abnormal focal depth.

Thanks are also due to the Director of the Meteorological Office and the Superintendent of Kew Observatory for hospitality extended to the staff and assistance with administration.

**KEW OBSERVATORY,  
Richmond,  
SURREY.**

March, 1960.

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1952

277

1952 APRIL, MAY, JUNE.

April 1d. 0h. 37m. 43s. Epicentre 48°·0N. 113°·8W.

Slight damage at Flathead Lake, intensity VIII. Intensity VI at Essex, Eureka, Heron, Polson, Rollins, and Swan Lake; V at Kalispell and Bigford. Epicentre as adopted. Macroseismic area 35,000 sq. m.

L. M. Murphy and W. K. Cloud.  
U.S. Earthquakes, 1952, U.S.C.G.S. Serial 773, Washington, 1954, pp. 10, 11, with macroseismic chart.

$$A = -.2710, B = -.6145, C = +.7409; \quad \delta = -2; \quad h = -5;$$

$$D = -.915, E = +.404; \quad G = -.299, H = -.678, K = -.672.$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L
	°	°	m. s.	s.	m. s.	s.	m. s.	m
Hungry Horse	0.4	336	i 0 6	- 2 <sub>g</sub>	—	—	—	—
Butte	2.1	157	i 0 35	- 2	i 1 2	- 2	—	—
Bozeman	3.0	141	e 0 47	- 3	i 1 22	- 5	—	—
Seattle	5.7	270	i 1 45 <sub>k</sub>	+ 5*	i 3 5	- 3 <sub>g</sub>	12 55	+ 2*
Saskatoon	6.2	45	e 1 47?	- 2*	i 3 2	+14	—	—
Horseshoe Bay	6.4	286	1 35	- 3	e 3 15	+ 1*	—	—
Victoria	6.4	278	1 35	- 3	e 3 12	- 2*	e 3 19	?
Alberni	7.4	284	1 44	- 8	—	—	—	—
Corvallis	z. 7.4	246	e 1 52	0	—	—	—	—
Mineral	z. 9.5	219	e 2 15 <sub>k</sub>	- 5	—	—	—	—
Reno	z. 9.5	209	e 2 32	+12	—	—	—	—
Shasta	9.6	223	i 2 22	+ 1	—	—	—	—
Tinemaha	z. 11.4	198	e 2 51	+ 4	—	—	—	—
Boulder City	12.0	184	e 3 3	+ 8	—	—	—	e 6.4
Lick	z. 12.1	211	e 3 2 <sub>k</sub>	+ 5	—	—	—	—
China Lake	z. 12.5	194	e 3 5	+ 3	—	—	—	e 6.6
Mount Wilson	z. 14.1	194	e 3 27	+ 4	—	—	—	e 7.5
Riverside	z. 14.3	192	e 3 35	+ 9	—	—	—	e 7.6
Palomar	z. 14.8	190	e 3 37	+ 5	—	—	—	e 7.9
Tucson	15.9	171	e 3 49	+ 2	—	—	—	—
Fayetteville	z. 18.8	121	i 4 17	- 6	i 5 53	?	i 9 42	PcP
Kirkland Lake	z. 22.5	76	e 4 57	- 5	—	—	—	i 11.7
Cleveland	23.7	93	—	—	i 10 34	+67	—	e 12.3
College	24.8	326	5 22	- 3	—	—	—	—
Morgantown	25.7	96	—	—	e 10 20	+19	—	i 12.7
Resolute Bay	28.0	12	e 6 17	+22	e 11 2	+24	e 12 59	?
Kiruna	59.5	18	i 10 1	- 6	—	—	i 10 9	?

April 1d. 1h. 2m. 37s. Epicentre 16°·1S. 168°·3E. (as on 1950, July 21d.).

$$A = -.9413, B = +.1949, C = -.2756; \quad \delta = -1; \quad h = +6;$$

$$D = +.203, E = +.979; \quad G = +.270, H = -.056, K = -.961.$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
	°	°	m. s.	s.	m. s.	s.	m. s.
Brisbane	18.1	229	i 4 14 <sub>a</sub>	0	i 7 29	- 6	i 4 30 PP
Berkeley	z. 84.3	49	i 12 36 <sub>a</sub>	+ 1	—	—	—
Lick	z. 84.6	49	i 12 32	- 4	—	—	—
Shasta	85.5	46	i 12 42	+ 1	—	—	—
Fresno	85.7	50	e 12 41	- 1	e 20 26	?	—
Mineral	z. 85.9	46	e 12 43 <sub>a</sub>	0	—	—	—
Pasadena	85.9	53	i 12 42 <sub>a</sub>	- 1	—	—	—
Riverside	z. 86.4	53	i 12 44 <sub>a</sub>	- 1	—	—	—
Palomar	z. 86.6	55	i 12 45	- 1	—	—	—
Reno	z. 86.8	48	e 12 49 <sub>a</sub>	+ 2	—	—	—
China Lake	z. 86.9	52	i 12 47 <sub>a</sub>	- 1	—	—	—
Tinemaha	z. 86.9	50	i 12 48	0	—	—	—
College	87.3	17	12 52	+ 2	—	—	—
Boulder City	89.1	52	i 12 58	0	—	—	—
Tucson	91.0	57	e 13 5	- 2	—	—	—

Continued on next page.

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1952

278

	$\Delta$ °	Az. °	P. m. s.	O-C, s.	S. m. s.	O-C, s.	Supp. m. s.	
Hungry Horse	93.9	41	i 13 19	- 2	—	—	e 17 10	PI*
Ottawa	118.8	46	e 18 46	[ - 5]	—	—	—	—
Harvard	122.9	49	e 18 52	[ - 6]	—	—	—	—
Ksara	133.8	301	e 19 12	[ - 7]	e 22 35	PKS	—	—
Durham	K. 140.6	350	—	—	i 42 9	SSP	i 42 43	?
Stuttgart	143.2	337	e 19 36	[ 0]	—	—	e 20 36	?
Strasbourg	143.9	339	e 19 38k	[ + 1]	—	—	—	—
Paris	145.4	334	e 19 41	[ + 1]	—	—	—	—
Tamanrasset	Z. 162.5	296	e 20 59	PKP <sub>2</sub>	—	—	—	—

April 1d. 4h. 21m. 5s. Epicentre 36°·3N. 6°·7E. (as on 1947, August 7d.).

Intensity VI at Medjez Amar and Oued Zenati; V at Ain-Abid, Gandoula, Guelma, Jemappes, La Mahouna, Morris, Randon, Roknia, and Villars. Epicentre 36°·2N. 7°·3E.

Annales de l'Institut de Physique du Globe de Strasbourg, 2e partie Séismologie, 1952, Nouvelle Série, Tome XVII, Strasbourg, 1957, p. 29.

$$A = +.8023, B = +.0943, C = +.5894; \quad \delta = -3; \quad h = 0;$$

$$D = +.117, E = -.993; \quad G = +.585, H = +.069, K = -.808.$$

	$\Delta$ °	Az. °	P. m. s.	O-C, s.	S. m. s.	O-C, s.	Supp. m. s.		L. m.
Tunis	2.8	80	e 0 43	- 4	i 1 21	- 1	0 50	P*	—
Algiers Univ.	Z. 3.0	279	i 0 54k	+ 4	e 1 30	+ 3	e 1 40	P <sub>e</sub>	e 2.3
Alcante	6.1	292	1 38	+ 4	1 47	P*	—	—	—
Tortosa	6.6	315	i 1 54	- 2*	—	—	—	—	—
Rome	7.2	37	e 2 4	- 2*	—	—	—	—	—
Messina	E. 7.3	72	—	—	e 2 55	-20	—	—	—
Florence	8.3	24	e 2 1	- 3	e 3 35	- 5	e 4 13	S*	i 4.6
Triest	10.8	27	e 3 37	?	e 4 48	+ 6	e 4 5	?	e 6.6
Stuttgart	12.6	7	e 3 13?	+10	—	—	—	—	e 7.1
Tamanrasset	Z. 13.5	185	e 3 15	0	e 5 49	+ 2	e 3 25	PP	—
Cheb	E. 14.4	15	—	—	e 5 49	-20	—	—	e 8.2
Collmberg	Z. 15.7	15	e 3 51	+ 7	—	—	—	—	—
Istanbul	Z. 18.1	67	e 4 9	- 5	—	—	e 4 28	?	—
Ksara	24.0	88	e 5 24	+ 7	—	—	—	—	e 11.4
Kiruna	32.5	10	e 6 25	- 9	e 10 7	?	—	—	e 15.9

April 1d. 12h. 16m. 57s. Epicentre 42°·7N. 145°·5E. Focus at Base of Superficial Layers. (as on 1952, March 25d.).

Intensity V at Akkeshi; IV at Shiranuka; II-III at Nemuro and Kusiuro. Epicentre 42°·4N. 145°·0E. Depth 40km. Macroscopic radius 100-200km. Seismo. Bulletin Cent. Met. Obs., Japan, March, 1952, Tokyo, 1952, p. 150, with macroseismic chart.

$$A = -.6075, B = +.4176, C = +.6757; \quad \delta = +2; \quad h = -3;$$

$$D = +.566, E = +.824; \quad G = -.557, H = +.383, K = -.737.$$

	$\Delta$ °	Az. °	P. m. s.	O-C, s.	S. m. s.	O-C, s.
Nemuro	0.6	6	e 0 19	+ 7	0 33	+12
Kusiuro	0.9	289	i 0 15	- 1	0 27	- 1
Abashiri	1.6	327	0 32	+ 6	0 56	+10
Obihiro	N. 1.7	285	e 0 25	- 3	0 45	- 4
Urakawa	2.1	255	e 0 33	0	0 58	- 1
Sapporo	3.1	278	e 0 53	+ 5	1 27	+ 3
Hatinohe	3.7	235	e 0 53	- 3	1 30	- 9
Mori	E. 3.7	262	0 57	+ 1	—	—
Aomori	4.0	243	1 1	+ 1	1 45	- 2
Miyako	4.1	222	e 0 56	- 6	1 40	- 9
Morioka	4.4	229	e 1 3	- 3	1 47	-10
Mizusawa	N. 4.9	224	e 1 11	- 2	1 59	-11
Sendai	N. 5.6	220	e 1 24	+ 1	2 16	?
Hukusima	6.3	219	e 1 35	+ 2	2 38	?
Inawasiro	6.6	220	e 1 35	- 2	—	—

Continued on next page.



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1952

279

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	°	°	m. s.	s.	m. s.	s.
Shirakawa	6.9	218	e 2 28	?	—	—
Utunomiya	7.5	217	—	—	e 3 3	-12
Macbasi	8.0	220	e 3 20	S	(e 3 20)	-7
Tokyo	8.3	214	e 3 5	?	—	—
Resolute Bay	z. 56.3	16	e 9 41	+ 1	e 9 47	pP
Collmberg	z. 77.7	331	e 11 56	+ 1	—	—

April 1d. 14h. 8m. 48s. Epicentre 14°·6S. 175°·1W. (as on 1944, May 14d.).

A = -·9646, B = -·0827, C = -·2505;  $\delta$  = +4;  $h$  = +6;  
D = -·085, E = +·996; G = +·250, H = +·021, K = -·968.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Apia	3.3	76	i 0 53	0	i 1 23?	-12	—	—
Auckland	N. 23.9	200	5 16	0	9 31	+ 1	5 51	PP e 11.7
Karapiro	N. 24.7	198	e 5 26?	+ 2	—	—	—	e 12.2
Brisbane	32.3	241	i 6 28k	- 5	i 11 50	+ 4	i 7 44	PP e 15.6
Riverview	36.0	231	e 8 37	PP	e 12 44	0	e 15 1	SS e 16.7
Manila	69.5	292	e 11 2	-10	—	—	—	—
Berkeley	72.0	42	i 11 29	+ 1	e 21 0	+11	i 11 35	? e 32.5
Lick	z. 72.1	42	e 11 29k	+ 1	—	—	—	—
Pasadena	72.6	46	i 11 33k	+ 2	e 21 24	+28	i 14 14	PP e 33.1
Fresno	z. 72.9	43	e 11 34k	+ 1	—	—	e 14 14	PP
Riverside	z. 73.1	46	i 11 35	+ 1	—	—	i 11 46	PcP
Palomar	z. 73.2	48	i 11 41k	+ 6	—	—	i 11 54	PcP
Shasta	73.5	39	i 11 37	+ 1	—	—	—	—
Mineral	z. 73.8	40	e 11 39k	+ 1	—	—	i 11 45	PcP
China Lake	z. 73.9	45	i 11 40k	+ 1	—	—	i 11 47	? e 33.1
Tinemaha	z. 74.2	44	e 11 42	+ 2	—	—	—	—
Reno	z. 74.5	41	e 11 44k	+ 2	—	—	—	—
Boulder City	75.9	46	i 11 52	+ 2	—	—	—	—
Zi-ka-wei	z. 76.0	308	e 11 50	- 1	21 37	+ 3	—	—
Tucson	77.1	51	i 11 58	+ 1	—	—	—	—
Seattle	77.8	33	i 12 2a	+ 1	—	—	i 12 30	sP e 37.2
Hong Kong	78.4	297	—	—	e 21 12	-48	—	—
Nanking	z. 78.4	307	e 12 2a	- 2	e 22 1	+ 1	—	—
College	81.9	11	i 12 21	- 2	i 22 36	0	—	e 33.7
Tacubaya	82.0	67	e 12 26	+ 3	—	—	—	—
Butte	82.4	39	i 12 26	+ 1	—	—	—	—
Hungry Horse	82.8	36	i 12 27	0	—	—	e 15 35	PP
Lubbock	84.5	53	e 12 38	+ 2	—	—	—	—
Fayetteville	z. 91.3	53	i 13 9	0	—	—	i 16 41	PP
Huancayo	96.2	104	—	—	e 24 24	{- 3}	—	e 39.5
Resolute Bay	101.4	15	—	—	e 25 34	+ 2	e 32 34	SS e 42.5
Palisades	107.8	51	—	—	e 28 22	PS	e 34 20	SSP e 50.4
Harvard	109.6	49	—	—	e 28 36	PS	—	e 53.7
Scoresby Sund	121.7	10	e 18 59	[+ 3]	30 30	PS	37 6	SS
Kiruna	z. 125.9	352	i 19 9	[+ 5]	—	—	—	—
Kimberley	z. 132.8	204	i 19 26	[+ 9]	—	—	—	—
Collmberg	z. 142.8	352	e 19 30	[- 5]	—	—	e 19 39	PKP <sub>2</sub>
Jena	z. 143.4	352	e 19 37?	[+ 1]	—	—	e 19 42	PKP <sub>2</sub>
Prague	143.8	350	e 19 39	[+ 2]	e 21 44	?	e 19 50	PKP <sub>2</sub>
Strasbourg	145.0	356	i 19 44a	[+ 5]	—	—	i 19 50	PKP <sub>2</sub>
Karlsruhe	z. 145.6	356	e 19 43	[+ 3]	e 20 16	?	e 19 49	PKP <sub>2</sub>
Stuttgart	145.7	354	e 19 41	[+ 1]	e 20 27	?	e 19 49	PKP <sub>2</sub> e 72.2
Paris	145.8	3	i 19 44	[+ 3]	—	—	i 19 50	PKP <sub>2</sub>
Ksara	146.1	310	i 19 44	[+ 3]	—	—	22 26	PKS
Istanbul	z. 146.3	327	e 19 41	[ 0]	—	—	e 19 49	PKP <sub>2</sub>
Basle	147.1	356	e 19 46	[+ 3]	—	—	e 32 35	SKSP
Zürich	147.2	355	e 19 46a	[+ 3]	—	—	e 19 53	PKP <sub>2</sub>
Triest	148.2	348	e 19 46	[+ 1]	e 29 46	{- 22}	i 19 54	PKP <sub>2</sub> 80.2
Florence	150.4	351	e 19 34	[- 14]	e 26 24	[- 30]	—	e 75.0
Helwan	z. 151.3	306	e 19 54	[+ 5]	e 22 38	PKS	e 20 15	PKP <sub>2</sub>
Alicante	155.9	10	19 50	[- 6]	—	—	—	e 79.7
Tamanrasset	z. 171.8	—	e 20 13	[+ 3]	e 25 21	PP	e 21 36	PKP <sub>2</sub>

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1952

280

April 1d. 20h. 35m. 58s. Epicentre 34°·1N. 83°·6E.

A = +·0925, B = +·8247, C = +·5580;  $\delta = +5$ ;  $h = 0$ ;  
D = +·994, E = -·111; G = +·062, H = +·555, K = -·830.

		$\Delta$ °	Az. °	P.		O-C.	S.		O-C.	Supp.		L. m.	
				m.	s.	s.	m.	s.	m.	s.			
New Delhi		7·8	227	e 2	2	+ 4	e 3	29	+ 1	2	10	PP	—
Calcutta	E.	12·2	159	e 3	36	+38	i 6	24	+68	6	52	?	—
Hyderabad	N.	17·2	197	e 4	8	+ 5	e 7	37	+23	—	—	—	8·7
Poona		17·8	212	i 4	13	+ 2	i 7	22	- 6	4	26	PP	8·3
Bombay		18·0	215	4	9	- 4	7	31	- 1	4	24	PP	8·3
Kodaikanal	E.	24·4	196	—	—	—	e 7	16	?	—	—	—	—
Colombo	E.	27·3	189	—	—	—	11	28	-61	—	—	—	15·2
Ksara		39·3	283	i 9	16	PP	e 16	42	SS	—	—	—	—
Kiruna	Z.	48·8	333	i 8	48 <sub>k</sub>	- 1	—	—	—	—	—	—	—
Upsala		49·3	323	i 8	52 <sub>a</sub>	- 1	e 18	17	SS	—	—	—	i 24·6
Collmberg		52·6	312	e 9	17	- 1	—	—	—	e 9	20	P	—
Triest		53·3	305	e 9	37	+14	e 17	48	+54	e 12	34	PPP	—
Jena		53·5	311	e 9	24	0	e 10	32	?	e 9	44	?	—
Stuttgart		55·5	310	e 9	39	0	—	—	—	e 9	43	?	e 29·0
Strasbourg		56·5	310	e 9	47	+ 1	—	—	—	—	—	—	e 29·0
Paris		59·8	312	i 10	9	0	—	—	—	i 10	12	P	—
Scoresby Sund		63·2	339	e 10	36	+ 4	—	—	—	e 11	28	?	—
Tamanrasset	Z.	68·1	283	i 11	3 <sub>a</sub>	- 1	—	—	—	—	—	—	—
Fayetteville	Z.	110·1	358	i 21	21	PPP	—	—	—	—	—	—	—

April 2d. 13h. 44m. 7s. Epicentre 39°·2N. 70°·7E. (as on 1952, March 30d.).

A = +·2568, B = +·7334, C = +·6295;  $\delta = +9$ ;  $h = -1$ ;  
D = +·944, E = -·331; G = +·208, H = +·594, K = -·777.

	$\Delta$ °	Az. °	P.		O-C.	S.		O-C.
			m.	s.	s.	m.	s.	s.
Dzhergetal	0·4	88	e 0	10	- 3	e 0	18	- 3
Garm	0·4	237	e 0	3	- 5 <sub>g</sub>	e 0	5	- 8 <sub>g</sub>
Obi-garm	0·9	237	e 0	14	- 4 <sub>g</sub>	e 0	23	- 7 <sub>g</sub>
Fergana	1·4	31	e 0	32	+ 5	e 0	53	+ 7
Kulyab	1·5	209	e 0	27	- 1	e 0	46	- 3
Stalinabad	1·6	247	i 0	29	- 1	i 0	50	- 1
Khorog	1·9	158	e 0	35	0*	e 1	2	- 1 <sub>g</sub>
Andijan	2·0	39	e 0	41	+ 1 <sub>g</sub>	i 1	13	+ 7 <sub>r</sub>
Samarkand	2·9	279	—	—	—	e 1	28	+ 4
Tchimkent	3·1	345	e 1	5	+ 3 <sub>g</sub>	e 1	42	0 <sub>g</sub>

April 2d. 15h. 39m. 9s. Epicentre 36°·7N. 70°·5E. (as on 1952, March 30d.).

A = +·2683, B = +·7576, C = +·5951;  $\delta = +9$ ;  $h = 0$ ;  
D = +·943, E = -·334; G = +·199, H = +·561, K = -·804.

	$\Delta$ °	Az. °	P.		O-C.	S.		O-C.
			m.	s.	s.	m.	s.	s.
Khorog	1·2	48	e 0	28	+ 4	e 0	56	+15
Kulyab	1·3	335	e 0	25	0	e 0	51	+ 7
Obi-garm	2·1	342	i 0	36	- 1	i 1	8	+ 4
Garm	2·3	356	i 0	41	+ 1	i 1	16	0 <sub>g</sub>
Stalinabad	2·3	323	i 0	36	- 4	i 1	9	0
Dzhergetal	2·6	12	i 0	46	+ 2	i 1	23	+ 2*
Fergana	3·8	15	e 1	2	+ 1	—	—	—
Samarkand	4·1	319	e 0	56	- 9	e 1	46	- 9
Andijan	4·3	20	i 1	10	+ 2	—	—	—
Tchimkent	5·6	354	e 1	25	- 2	i 2	34	+ 1
Frunse	6·9	26	i 1	45	0	e 3	13	+ 8
Przhevsk	8·4	44	e 2	5	- 1	—	—	—

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1952

281

April 2d. 18h. 34m. 51s. Epicentre 16°·6N. 100°·2W.

Felt in the centre and the S.E of Mexico. Damage at Acapulco.

Epicentre 16°33'N. 100°9'W.

Monthly Seismological Bulletin of Tacubaya, April, 1952, p. 1.

A = -·1698, B = -·9437, C = +·2839;  $\delta=0$ ;  $h=+6$ ;  
D = -·984, E = +·177; G = -·050, H = -·279, K = -·959.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.		
	°	°	m. s.	s.	m. s.	s.	m. s.	m.		
Tacubaya	3·0	19	i 0 46k	- 4	—	—	—	i 1·4		
Puebla	3·1	38	i 0 47	- 4	—	—	—	1·5		
Oaxaca	3·3	82	i 0 51	- 2	—	—	—	1·6		
Manzanillo	4·6	301	1 11	- 1	—	—	—	2·3		
Vera Cruz	4·6	56	1 11	- 1	—	—	—	2·3		
Guadalajara	5·0	324	1 16	- 2	—	—	—	2·5		
Mazatlan	8·8	319	e 2 30	PPP	—	—	—	—		
Merida	10·9	65	—	—	e 4 52	+ 8	—	—		
Lubbock	17·0	355	e 3 59	- 2	e 7 14	+ 4	—	—		
Tucson	18·3	331	i 4 21	+ 4	i 7 51	SS	—	e 9·2		
Fayetteville	z.	20·2	13	i 4 34	- 5	e 8 28	+ 7	i 5 15	PPP	i 10·9
Kingston		22·4	82	e 5 9	+ 7	e 9 27	+23	e 5 45	PPP	—
Palomar		22·4	322	i 5 6	+ 4	e 9 19	+15	—	—	—
Riverside	z.	23·2	322	i 5 14	+ 5	e 12 53	ScP	i 5 41	PP	e 13·1
Boulder City		23·3	330	i 5 14	+ 4	—	—	e 12 19	?	—
Pasadena		23·8	322	i 5 20	+ 5	i 9 40	+12	e 9 8	PcP	e 11·6
Columbia		24·4	40	i 5 19	- 2	i 9 40	+ 1	—	—	—
Lincoln		24·4	6	e 5 30	+ 9	e 9 37	- 2	—	—	—
China Lake	z.	24·6	326	i 5 27k	+ 4	i 6 40	?	i 5 59	PP	e 13·4
Tinemaha	z.	25·9	326	e 5 39	+ 4	i 6 51	?	e 7 19	?	—
Fresno	z.	26·5	324	e 5 45k	+ 4	—	—	e 5 53	?	e 14·3
Chicago		27·3	20	i 5 43	- 5	e 10 6	-21	—	—	—
Lick	z.	28·0	323	i 5 59k	+ 4	i 6 6	?	i 6 19	?	e 15·3
Santa Clara	F.	28·2	323	e 6 15	+19	—	—	—	—	e 14·8
Reno		28·5	329	e 6 3k	+ 4	—	—	e 6 10	?	e 15·2
Berkeley		28·7	323	e 6 6	+ 5	e 10 58	+ 8	e 6 12	?	e 13·4
Morgantown		28·9	34	i 6 0	- 3	—	—	e 9 2	PcP	—
Cleveland		29·6	28	i 6 3k	- 6	e 11 1	- 3	e 12 38	SS	—
Mineral	z.	30·1	327	e 6 19k	+ 6	—	—	—	—	16·3
Shasta		30·8	327	e 6 20	0	—	—	—	—	—
Pennsylvania		30·9	33	i 6 17	- 3	e 13 7	SS	i 6 26	?	e 14·5
Philadelphia		31·9	38	e 6 25	- 4	e 11 27	-13	—	—	—
Buffalo (Larkin)		32·0	30	e 6 33	+ 3	—	—	—	—	—
City College, N.Y.		33·1	38	i 6 36	- 4	e 11 55	- 4	—	—	—
Fordham		33·2	38	i 6 37	- 3	—	—	—	—	23·2
Palisades		33·3	38	i 6 38	- 3	i 11 55	- 7	i 6 48	pP	e 15·7
Hungry Horse		33·6	344	i 6 45	+ 1	—	—	—	—	e 17·9
Ottawa		35·3	30	i 6 55k	- 4	12 25	- 8	8 28	PP	19·0
Kirkland Lake	z.	35·5	23	e 6 55k	- 5	—	—	—	—	—
Harvard		35·6	37	i 6 58k	- 3	—	—	—	—	e 22·4
Weston		35·6	37	i 6 59k	- 2	—	—	—	—	—
Bermuda		35·7	57	i 6 59	- 3	—	—	—	—	e 16·6
Victoria		37·1	335	7 17	+ 3	—	—	—	—	—
Huancayo		37·6	138	e 7 22	+ 4	e 13 15	+ 7	—	—	e 16·2
Shawinigan Falls N.		37·6	32	e 7 22	+ 4	—	—	—	—	21·2
Fort de France		37·7	87	—	—	e 15 48	SS	—	—	e 23·1
La Paz		45·6	135	e 8 21	- 3	15 13	+ 7	i 18 37	SS	21·8
College		57·8	339	i 9 54	- 1	i 17 55	+ 1	—	—	e 24·6
Resolute Bay		58·2	3	e 9 55k	- 3	e 17 51	- 8	e 12 5	PP	e 30·2
Apia		76·9	251	—	—	i 31 3	?	—	—	—
Kiruna		85·6	20	i 12 42	+ 1	e 23 2	-11	e 15 59	PP	e 36·2
Paris		85·8	40	e 12 43	+ 1	i 13 20	?	i 12 51	PcP	—
De Bilt		86·2	37	e 12 42	- 2	e 23 19	0	—	—	e 43·2
Copenhagen		88·6	32	16 25	PP	23 42	0	29 33	SS	43·2
Stuttgart		89·9	39	e 13 1	- 1	e 16 30	?	e 16 39	PP	e 49·2
Tamanrasset	z.	97·5	64	i 13 36k	- 1	—	—	e 17 30	PP	—
Ksara		114·7	40	e 19 38	PP	e 35 24	SS	—	—	—
Kimberley	z.	128·2	113	—	—	e 28 46	{+38}	—	—	—
Poona	z.	144·6	9	i 19 39	[+ 1]	—	—	—	—	—

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1952

282

April 3d. 2h. 13m. 8s. Epicentre 50°·3N. 130°·7W. (as on 1948, July 22d.).

A = -·4182, B = -·4862, C = +·7672;  $\delta = -12$ ;  $h = -6$ ;  
D = -·758, E = +·652; G = -·500, H = -·582, K = -·641.

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.	
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.	
Alberni	4·0	103	0	58	- 6	—	—	—	—	—	—	
Horseshoe Bay	4·9	82	1	14	- 3	—	—	—	—	—	—	
Victoria	5·1	108	1	15	- 5	—	—	—	—	—	—	
Hungry Horse	11·1	94	i 2	38	- 5	—	—	—	—	—	e 5·6	
Shasta	11·3	146	i 2	48	+ 2	—	—	—	—	—	—	
Mineral	z. 11·9	144	e 2	55 <sub>a</sub>	+ 1	—	—	—	—	—	—	
Reno	z. 13·3	140	e 3	14	+ 1	—	—	—	—	—	—	
Tinemaha	z. 16·0	141	e 3	55	+ 7	—	—	—	—	—	—	
College	17·2	335	e 4	9	+ 6	—	—	—	—	—	e 9·1	
China Lake	z. 17·3	139	e 4	8	+ 4	e 4	54	?	e 4	16	PP	—
Boulder City	18·4	134	e 4	18	0	—	—	—	—	—	—	
Pasadena	z. 18·6	145	i 4	23	+ 2	—	—	—	i 4	29	PP	—
Riverside	z. 19·0	145	e 4	27	+ 1	—	—	—	e 4	32	P	—
Palomar	z. 19·8	143	e 4	34	- 1	—	—	—	—	—	—	
Tucson	23·3	132	e 5	11	+ 1	—	—	—	—	—	—	
Resolute Bay	28·6	19	e 6	22	+22	e 17	1	ScS	—	—	e 15·5	
Fayetteville	z. 29·8	103	i 6	10	- 1	—	—	—	—	—	—	

April 3d. 3h. 20m. 0s. Epicentre 38°·0N. 21°·0E. (as on 1952, March 28d.).

Felt in the Island of Cephalonia. Intensity V at Argostolion and Pharaklata; IV at Aeosos and Asprogherakas, and in the Pruvince of Elide; IV at Lechaena and Kyllini; III at Astakos in Acarnania. Epicentre 38·25°N. 20·75°E. (Strasbourg).

A. Galanopoulos.

Seismological Institute Bulletin, 1952, Athens, 1953, pp. 20-21.

A = +·7375, B = +·2831, C = +·6131;  $\delta = -6$ ;  $h = -1$ ;  
D = +·358, E = -·934; G = +·572, H = +·220, K = -·790.

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.
Athens	2·1	91	e 0	46	+ 4 <sub>g</sub>	e 1	12	+ 3 <sub>g</sub>	—	—	e 1·2
Taranto	3·8	312	1	2	+ 1	1	33	-14	—	—	—
Messina	4·3	274	i 1	8	0	i 1	50	-10	e 1	4 <sub>a</sub>	P
Sofia	5·1	21	e 1	14	- 6	2	28	- 7*	1	37	P <sub>g</sub>
Belgrade	6·8	357	e 2	16 <sub>k</sub>	0 <sub>g</sub>	e 3	2	- 1	e 3	41	S <sub>g</sub>
Istanbul	7·0	61	e 1	50	+ 4	e 3	15	+ 7	—	—	—
Bucharest	7·4	30	—	—	—	3	11	- 7	e 3	43	S*
Rome	7·6	304	—	—	—	e 3	31	+ 8	—	—	—
Timisoara	7·8	1	e 2	38	+ 2 <sub>g</sub>	i 4	36	+18 <sub>g</sub>	—	—	—
Szedged	8·3	356	—	—	—	e 4	3	- 7*	—	—	—
Triest	9·4	327	e 2	18	0	e 3	58	- 9	i 4	47	S*
Florence	9·4	311	—	—	—	e 4	55	-16 <sub>g</sub>	—	—	e 5·2
Budapest	9·6	352	e 2	26	+ 5	e 4	6	- 6	4	55	S*
Ogyalla	10·1	348	—	—	—	e 4	33	+ 8	e 6	8	Q
Skalnate Pleso	11·2	358	e 2	56	+12	e 4	19	?	—	—	e 6·3
Ksara	12·8	105	e 3	21	PPP	—	—	—	—	—	e 6·4
Prague	13·0	341	e 3	5?	- 4	e 5	25	-10	e 3	17	PP
Zürich	13·1	320	e 3	34	PPP	—	—	—	—	—	e 7·4
Stuttgart	13·7	326	e 3	15	- 3	e 3	25	PP	e 3	39	PPP
Collmberg	14·4	340	e 3	34	+ 7	—	—	—	e 4	8	?
Jena	14·5	336	e 3	27	- 1	e 6	14	+ 3	e 3	36	PP
Paris	17·2	315	e 1	4	+ 1	e 5	46	?	e 4	23	PPP
Tamanrasset	z. 20·2	226	e 4	38	- 1	e 7	18	-63	e 5	17	PPP
Upsala	22·0	356	i 4	57 <sub>a</sub>	- 1	e 8	15	-41	e 12	36	PcS
Kiruna	29·9	0	i 6	11	- 1	—	—	—	—	—	e 6·9
Resolute Bay	z. 60·0	345	e 10	9 <sub>a</sub>	- 2	—	—	—	—	—	e 9·8

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1952

283

April 3d. 4h. 37m. 13s. Epicentre 41°·8N. 48°·8E. (as on 1949, October 30d.).

A = +·4925, B = +·5626, C = +·6641;  $\delta = +10$ ;  $h = -2$ ;  
D = +·752, E = -·659; G = +·437, H = +·500, K = -·748.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	
	°	°	m. s.	s.	m. s.	s.	m. s.	s.
Shemakla	1·2	186	0 29	+ 5	i 0 48	+ 7	—	—
Makhach-Kala	1·5	320	0 34	+ 6	e 0 54	+ 4 <sub>g</sub>	0 58	?
Baku	1·6	148	e 0 30	0	—	—	—	—
Kirovobad	2·1	240	0 42	0 <sub>g</sub>	e 1 9	- 0 <sub>g</sub>	1 20	?
Grozny	2·7	305	e 0 52	- 2 <sub>g</sub>	1 27	- 2 <sub>g</sub>	i 1 33	?
Tiflis	2·9	268	—	—	1 44	+ 8 <sub>g</sub>	—	—
Lenkoran	3·0	180	—	—	1 29	+ 2 <sub>g</sub>	—	—
Gori	3·5	275	—	—	e 1 59	+ 3 <sub>g</sub>	—	—
Erevan	3·6	245	—	—	e 1 49	- 2 <sub>g</sub>	2 1	S <sub>g</sub>
Leninakan	3·9	257	—	—	2 9	0 <sub>g</sub>	—	—
Tsikhli-Dzhvari	4·0	271	e 1 8	- 3*	i 2 21	+ 9 <sub>g</sub>	—	—
Abastumanj	4·5	272	1 34	+ 4 <sub>k</sub>	2 39	+ 10 <sub>g</sub>	—	—
Kizyl-Arvat	6·3	113	—	—	2 51	+ 1	—	—
Tchimkent	15·4	82	—	—	e 6 20	- 12	—	—
Garm	16·6	93	e 3 55	- 1	—	—	—	—
Andijan	17·7	87	—	—	7 14	- 12	—	—
Kiruna	z. 30·2	338	i 6 10	- 4	i 6 44	?	i 7 0	PP
Tamanrasset	z. 40·7	256	i 7 43 <sub>k</sub>	- 1	—	—	—	—

April 3d. 15h. 43m. 34s. Epicentre 10°·0S. 107°·7E.

A = -·2995, B = +·9384, C = -·1725;  $\delta = +5$ ;  $h = +6$ ;  
D = +·953, E = +·304; G = +·052, H = -·164, K = -·985.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	I.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Djakarta	3·9	347	e 0 48	- 14	e 2 18	+ 9 <sub>g</sub>	—	—
Manila	27·7	28	e 4 21	?	—	—	—	—
Colombo	E. 32·4	300	6 35	+ 1	12 26	+ 38	—	17·8
Hong Kong	32·7	11	—	—	e 11 48	- 4	—	—
Kodaikanal	E. 36·2	304	e 6 56	- 10	—	—	—	—
Zi-ka-wei	Z. 43·0	17	e 7 58 <sub>a</sub>	- 5	14 29	0	—	—
Nanking	43·1	13	e 8 2	- 2	14 24	- 6	—	—
Poona	43·8	311	i 8 9	0	e 14 40	0	14 45	PS
Bombay	E. 44·8	310	e 8 33	+ 16	e 14 50	- 5	10 9	PP
Brisbane	Z. 46·0	119	i 8 30 <sub>a</sub>	+ 3	—	—	i 9 13	?
Pretoria	Z. 76·3	246	i 11 53	+ 1	—	—	—	—
Kimberley	Z. 79·1	243	i 12 8	0	—	—	—	—
Ksara	80·8	307	e 12 23	+ 6	—	—	e 15 59	PP
Helwan	Z. 83·3	302	e 24 32	PPS	e 28 42	SS	i 29 41	?
Kiruna	98·2	337	i 13 38	- 2	e 48 0	Q	i 13 49	P e 51·4
Tamanrasset	Z. 105·0	291	e 18 9	PP	—	—	—	—
Fayetteville	Z. 147·3	33	i 19 46	[+ 3]	—	—	—	—
Cleveland	Z. 147·6	13	i 19 47 <sub>k</sub>	[+ 3]	—	—	—	—
Harvard	147·6	357	i 19 46 <sub>a</sub>	[+ 2]	—	—	—	—
Palisades	149·1	1	i 19 50	[+ 4]	—	—	i 20 2	PKP <sub>2</sub>



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1952

284

April 3d. 22h. 52m. 49s. Epicentre 41°·7N. 144°·9E. (as on 1952, March 11d.).

Intensity II-III at Nemuro, Kuro, and Akkeshi. Epicentre 42°·1N. 144°·9E. Depth 40km. Macroseismic radius 100-200km.

Seismological Bulletin of the Cent. Met. Obs., Japan, for April, 1952, Tokyo, 1952, p. 151, with macroseismic chart.

$$A = -.6126, B = +.4306, C = +.6627; \quad \delta = -13; \quad h = -2; \\ D = +.575, E = +.818; \quad G = -.542, H = +.381, K = -.749.$$

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.
Kuro	1.3	344	i 0 27 <sub>k</sub>	+ 1 <sub>g</sub>	0 42	0*
Urakawa	1.6	286	e 0 45	+ 13 <sub>g</sub>	1 3	+ 10 <sub>g</sub>
Nemuro	1.7	17	0 27 <sub>a</sub>	- 4	0 43	- 11
Abashiri	2.4	349	0 40	- 1	1 4	- 8
Asahigawa	2.8	318	e 1 5	?	—	—
Hatinohe	2.8	245	e 0 59	+ 3 <sub>g</sub>	1 34	+ 2 <sub>g</sub>
Miyako	3.0	228	e 0 58	- 2 <sub>g</sub>	1 41	+ 2 <sub>g</sub>
Sapporo	3.0	298	e 0 58	- 2 <sub>g</sub>	1 41	+ 2 <sub>g</sub>
Aomori	3.2	254	1 5	+ 1 <sub>g</sub>	1 47	+ 1 <sub>g</sub>
Mori	E. 3.3	277	1 4	- 2 <sub>g</sub>	—	—
Morioka	3.5	236	e 1 7	- 3 <sub>g</sub>	1 51	+ 3*
Mizusawa	3.9	230	e 1 15	- 3 <sub>g</sub>	e 2 1	+ 1*
Akita	4.1	243	e 1 11?	- 2*	—	—
Sendai	4.6	223	e 1 25	+ 3*	2 21	+ 1*
Hokusima	5.2	222	e 1 32	0*	2 37	- 1*
Inawastro	5.5	223	e 1 37	0*	—	—
Onabama	5.7	214	e 1 40	0*	—	—
Shirakawa	5.8	220	e 1 44	+ 2*	—	—
Mito	6.3	215	e 1 49	- 1*	3 1	+ 11
Utunomiya	6.5	219	—	—	e 3 4	+ 9
Kumagaya	7.0	220	e 2 1	- 1*	3 20	+ 12
Maebasi	7.0	223	e 2 8	+ 6*	—	—
Matusiro	7.3	227	e 2 49	?	—	—
Oiwake	7.3	225	e 2 9	+ 1*	—	—
Resolute Bay	Z. 57.4	16	i 9 48 <sub>a</sub>	- 5	i 9 57	P
Kiruna	Z. 63.1	339	i 10 29	- 3	i 10 39	P
Mineral	Z. 66.9	55	i 10 54 <sub>k</sub>	- 2	—	—
Upsala	Z. 69.9	334	i 11 18	+ 3	—	—
Tinemaha	Z. 70.9	57	e 11 22	+ 1	—	—
China Lake	Z. 72.1	57	e 11 26	- 2	—	—
Mount Wilson	Z. 72.8	59	e 11 31	- 1	e 11 46	?
Collmberg	Z. 78.4	331	e 12 3	- 1	—	—

April 4d. 2h. 52m. 54s. Epicentre 52°·4N. 158°·7E. (as on 1946, October 2d.).

$$A = -.5708, B = +.2226, C = +.7903; \quad \delta = -6; \quad h = -6; \\ D = +.363, E = +.932; \quad G = -.736, H = +.287, K = -.613.$$

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Petropavlovsk	0.7	358	i 0 28	+ 11	i 0 40	+ 12	—	—
Klyuchi	4.1	16	i 1 15	+ 2*	2 7	+ 1*	—	—
Ulegorsk	11.0	259	i 2 51	+ 9	i 5 4	+ 17	—	—
Yuzno-Sakhlinsk	11.7	249	i 2 55	+ 4	e 5 17	+ 13	—	—
Abashiri	N. 12.7	235	e 3 24	+ 19	—	—	—	—
Obihiro	N. 14.1	234	e 3 44	+ 21	—	—	—	—
Sapporo	14.9	238	e 3 54	+ 20	e 6 47	+ 27	—	e 7.4
Urakawa	14.9	233	e 3 29	- 5	—	—	—	—
Mori	Z. 16.0	237	e 3 51	+ 3	—	—	—	—
Aomori	Z. 16.9	234	e 4 21	+ 22	—	—	—	—
Miyako	17.2	226	e 3 56	- 7	—	—	—	—
Mizusawa	18.0	229	4 15	+ 2	e 7 23	- 9	7 27	S
Sendai	18.8	227	1 4 23	0	e 8 11	+ 21	i 4 44	PP
Yamagata	19.1	229	e 4 24	- 3	—	—	—	—
Hokusima	19.4	225	e 4 30	0	e 8 3	- 1	—	—

Continued on next page.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1952

285

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	I. m.
Inawasiro	19.8	227	e 4 31	- 4	—	—	—	—
Niigata	19.9	230	e 4 39	+ 3	i 5 47	?	i 5 6 e 5 29	PP
Onahama	19.9	224	e 4 36	0	—	—	—	—
Shirakawa	20.1	226	e 4 35	- 3	e 8 23	+ 4	—	—
Mito	20.6	226	e 4 42	- 1	e 8 35	+ 6	—	—
Utunomiya	20.7	226	e 4 42	- 2	e 8 27	- 4	—	—
Kumagaya	21.2	226	4 49	0	e 9 41	+60	—	—
Maebasi	21.2	227	i 4 48	- 1	e 8 46	+ 5	—	—
Matusiro	21.4	230	+ 51	0	8 45	0	—	10.8
Nagano	21.4	230	e 4 48	- 3	e 8 47	+ 2	—	—
Wazima	21.4	233	e 4 53	+ 2	e 8 51	+ 6	—	—
Oiwake	21.5	229	e 4 53	+ 1	—	—	—	—
Titibu	21.5	226	i 4 50	- 2	—	—	—	—
Tokyo	21.5	225	e 4 52	0	e 8 53	+ 6	i 5 51	PPP
Matumoto	z.	21.8	231	e 4 55	- 1	e 8 56	+ 4	—
Toyama	21.8	226	e 4 54	- 2	e 9 9	+17	e 5 24	PP
Kohu	22.0	227	i 4 57	- 1	e 8 58	+ 2	—	—
Hunatu	22.1	227	e 4 56	- 3	—	—	e 6 22	PPP
Mera	22.1	223	i 4 51	- 8	—	—	—	—
Takayama	22.2	231	i 4 59	- 1	—	—	—	—
Misima	22.3	226	e 4 57	- 4	e 9 13	+11	i 5 13	P
Osima	22.4	225	e 5 2	0	—	—	—	—
Shizuoka	22.7	226	e 5 5	+ 1	e 9 7	- 2	—	—
Gihu	23.1	228	5 8	0	—	—	e 6 53	?
Nagoya	23.1	228	e 5 8	0	—	—	—	—
Tsuruga	23.2	231	e 5 8	- 1	—	—	—	—
Hikone	23.4	230	e 5 12	+ 1	—	—	—	—
Kameyama	23.7	229	e 5 14	0	—	—	e 6 16	PPP
Osaka	24.3	231	e 5 20	0	—	—	—	—
Kobe	24.4	231	e 5 21	0	e 5 37	?	e 6 12	PPP
Owase	24.4	229	e 5 18	- 3	—	—	—	—
Sumoto	24.8	231	i 5 24	- 1	i 9 56	+10	—	—
Siomisaki	25.1	228	e 5 8	-20	(e 10 9)	+18	—	e 10.2
Takamatu	25.3	233	5 29	- 1	e 9 53	- 1	—	—
Koti	26.1	232	e 5 35	- 2	e 10 3	- 4	—	—
Matuyama	26.3	233	e 5 40	+ 1	e 10 7	- 4	e 6 34	PP
Ooita	27.3	236	e 5 56	+ 8	—	—	—	—
Hukuoka	27.7	237	e 5 49	- 3	e 10 32	- 1	—	e 13.1
Saga	28.0	237	e 5 56	+ 1	—	—	—	—
Kumamoto	28.1	236	e 6 4	+ 9	—	—	—	—
College	29.5	43	i 6 8	0	i 10 57	- 5	—	e 12.3
Kabansk	31.3	290	6 26	+ 2	e 11 32	+ 1	e 6 46	pP
Kyakhta	32.1	288	6 32	+ 1	11 11	-32	—	—
Irkutsk	32.6	292	6 37	+ 2	—	—	e 6 55	pP
Zi-ka-wei	z.	34.4	i 6 49 <sub>a</sub>	- 2	e 12 13	- 6	—	—
Nanking	35.3	250	i 6 53 <sub>a</sub>	- 6	12 22	-11	—	—
Sitka	36.9	55	e 7 13	+ 1	i 13 5	+ 7	—	—
Resolute Bay	44.3	21	i 8 14 <sub>a</sub>	+ 1	e 14 48	0	i 10 14	PP
Hong Kong	45.4	245	e 8 21	- 1	e 14 58	- 6	—	e 20.1 21.4
Victoria	47.5	61	8 38	0	—	—	—	—
Manila	48.2	232	i 8 44	0	i 15 37	- 6	—	—
Seattle	48.6	61	i 8 48 <sub>k</sub>	+ 1	e 19 26	SS	i 9 4	pP
Kurmenty	52.2	293	e 9 16	+ 1	—	—	—	—
Sverdlovsk	52.2	315	i 9 16	+ 1	—	—	—	—
Hungry Horse	52.5	56	i 9 16	- 1	e 16 41	- 2	—	—
Przhevalsk	52.5	293	e 9 16	- 1	—	—	—	—
Almata	52.9	294	i 9 20	0	—	—	—	—
Shasta	52.9	68	i 9 19	- 1	—	—	—	—
Mineral	z.	53.6	i 9 24 <sub>a</sub>	- 1	i 10 22	PcP	i 9 36	pP
Rybach'e	53.9	294	e 9 28	+ 1	e 16 59	- 3	—	—
Frunse	54.4	295	i 9 32	+ 1	—	—	i 9 52	pP
Naryn	54.6	291	e 9 25	- 7	—	—	—	—
Berkeley	54.9	71	i 9 33 <sub>a</sub>	- 2	i 17 16	0	e 9 44	pP
Reno	55.2	67	e 9 36 <sub>a</sub>	- 1	i 17 20	0	e 9 47	pP
Santa Clara	55.4	71	e 9 40	+ 2	e 17 24	+ 2	—	—

Continued on next page.



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1952

286

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Lick	Z.	55.6	71	i 9 38 <sub>a</sub>	- 2	i 10 50	PcP	e 9 48	pP
Kiruna		56.1	342	i 9 45 <sub>a</sub>	+ 2	e 17 31	- 1	i 10 36	PcP
Andijan		57.1	294	i 9 51	+ 1	—	—	—	e 27.1
Fresno	E.	57.1	70	i 9 44	- 6	—	—	—	—
Scoresby Sund		57.4	0	i 9 57 <sub>k</sub>	+ 4	—	—	—	—
Tehinkent		57.5	298	i 9 53	0	—	—	—	—
Fergana		57.6	294	e 9 54	0	—	—	—	—
Tinemaha		57.7	69	i 9 54	- 1	i 17 55	+ 2	—	—
Tashkent		58.4	297	i 9 58	- 2	—	—	e 10 19	pP
Dzhergetal		58.8	294	i 10 3	+ 1	e 18 2	- 5	—	—
China Lake	Z.	59.0	69	i 10 2	- 2	e 18 8	- 2	i 10 19	pP
Garm		59.4	294	e 10 7	+ 1	—	—	—	—
Khorog		59.8	293	e 10 10	+ 1	—	—	—	—
Pasadena		59.8	71	i 10 7	- 2	i 18 18	- 2	i 10 24	pP
Obi-garm		60.0	294	i 10 10	- 1	—	—	—	e 27.6
Riverside	Z.	60.4	71	e 10 11	- 2	—	—	e 10 36	?
Boulder City		60.5	68	i 10 13	- 1	e 18 30	+ 1	—	—
Kulyab		60.5	294	10 14	0	—	—	—	—
Calcutta	E.	60.6	268	i 10 42	+ 27	i 18 48	+ 18	i 20 26	?
Stalinabad		60.6	295	i 10 15	0	—	—	—	—
Pulkovo		60.7	332	—	—	e 18 17	- 15	—	—
Samarkand		60.8	297	10 14	- 2	18 26	- 7	—	—
Palomar		61.2	71	i 10 16	- 3	i 18 36	- 2	i 10 49	?
Helsinki		61.8	336	e 10 23	0	—	—	e 10 46	?
Moscow		61.8	326	i 10 24	+ 1	—	—	i 10 44	pP
New Delhi		62.9	282	e 10 29	- 1	e 19 44	PS	10 50	PcP
Upsala		63.8	339	i 10 37 <sub>a</sub>	+ 1	e 19 13	+ 2	e 19 33	PS
Tucson		65.5	68	e 10 46	- 1	e 19 32	0	—	e 30.1
Ashkabad		66.6	302	i 10 55	+ 1	—	—	—	e 30.8
Kizyl-Arvat		66.9	304	i 10 57	+ 1	—	—	—	—
Kirkland Lake	Z.	68.0	37	i 11 2 <sub>a</sub>	- 1	—	—	—	—
Grozny		68.5	313	i 11 8	+ 2	—	—	—	—
Copenhagen		68.7	340	i 11 10 <sub>a</sub>	+ 3	20 15	+ 5	21 8	PS
Baku		68.9	309	e 11 13	+ 4	—	—	—	35.1
Piatigorsk		69.1	316	11 12	+ 2	—	—	—	—
Shemakla		69.3	310	i 11 13	+ 2	—	—	—	—
Lubbock		69.4	60	e 11 11	- 1	—	—	—	—
Aberdeen		69.7	348	i 15 33	PPP	e 20 17	- 5	i 16 52	?
Tiflis		70.2	313	11 18	+ 1	—	—	—	e 38.0
Kirovobad		70.3	311	11 19	+ 2	—	—	—	—
Hyderabad		70.5	272	i 11 19	+ 1	e 20 27	- 5	21 12	PS
Lenkoran		70.7	308	11 22	+ 2	—	—	—	—
Sotchi		70.9	316	11 19	- 2	—	—	—	—
Lwow		71.1	330	i 11 25	+ 3	—	—	11 44	pP
Fayetteville	Z.	71.5	54	i 11 23	- 1	e 18 12	?	i 11 37	PcP
Potsdam		71.7	338	i 11 28 <sub>a</sub>	+ 2	i 20 50	+ 5	i 11 52	PcP
Durham		71.9	347	—	—	i 20 58	+ 10	—	e 35.1
Ottawa		72.0	37	e 11 26 <sub>a</sub>	- 2	20 46	- 3	14 8	PP
Shawinigan Falls N.		72.0	34	e 11 28	0	—	—	—	30.6
Kishinev		72.1	327	11 29	+ 1	21 20	PS	11 49	pP
Iasi		72.4	328	e 11 31	+ 1	e 21 23	PS	e 21 32	ScS
Poona		72.4	277	i 11 31	+ 1	21 29	PS	i 11 50	PcP
Raciborzu		72.6	334	i 11 34	+ 3	e 14 20	PP	e 11 51	PcP
Witteveen	Z.	72.6	342	i 11 34 <sub>a</sub>	+ 3	—	—	—	—
Collnberg		72.7	337	e 11 32	0	e 21 18?	PS	e 14 18?	PP
Uzhgorod		72.7	331	e 11 35	+ 3	e 20 48	- 9	e 11 51	pP
Bombay	E.	72.8	277	i 11 33	+ 1	e 20 58	0	11 51	PcP
Skalnate Pleso		72.8	332	11 37	+ 5	e 21 33	PS	e 11 59	pP
Buffalo (Larkin)		73.0	39	i 11 34	+ 1	—	—	—	e 40.1
Cleveland		73.0	43	i 11 32 <sub>a</sub>	- 1	e 20 56	- 4	—	—
Djakarta		73.0	234	—	—	20 18	- 42	—	—
Jena		73.4	338	i 11 37	+ 1	e 21 9	+ 4	e 12 0	pP
De Bilt		73.5	343	i 11 38 <sub>a</sub>	+ 2	e 21 10	+ 4	i 12 0	PcP
Prague		73.5	335	i 11 39	+ 3	e 21 46	PS	e 11 51	PcP
Rathfarnham Castle		73.9	350	i 11 40 <sub>a</sub>	+ 1	e 21 24	+ 14	e 11 53	PcP

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1952

287

		—	Az.	P.	O-C.	S.	O-C.	Supp.	I.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Pittsburgh	Z.	74.5	42	i 11 42	0	—	—	—	—
Ogyalla		74.6	332	i 11 48	+ 5	e 21 26	+ 8	e 14 32	PP
Budapest		74.7	332	i 11 46	+ 3	e 21 25	+ 6	12 2	PcP
Kew		75.0	346	i 11 48 <sub>a</sub>	+ 3	e 21 31	+ 8	i 12 4	PcP
Pennsylvania		75.0	40	i 11 44	- 1	e 12 23	PcP	e 12 34	?
Morgantown		75.2	43	i 11 45	- 1	—	—	i 14 35	PP
Bucharest		75.3	326	e 11 51	+ 4	e 21 27	+ 1	e 21 58	PS
Kalossa		75.6	332	e 11 52	+ 4	e 14 41	PP	e 11 59	PcP
Timisoara		75.6	330	i 11 56	+ 8	e 22 17	PS	—	—
Stuttgart		75.9	339	i 11 52 <sub>a</sub>	+ 2	e 21 36	+ 4	i 12 9	PcP
Harvard		76.0	35	i 11 50 <sub>a</sub>	- 1	—	—	—	—
Weston		76.2	35	i 11 52 <sub>a</sub>	0	—	—	—	—
Palisades		76.4	38	i 11 52	- 1	e 21 41	+ 3	i 12 7	pP
Strasbourg		76.4	340	e 11 56	+ 3	e 21 42	+ 4	i 12 12	pP
Kodaikanal	E.	76.6	269	e 11 46	- 8	—	—	—	—
City College, N.Y.		76.6	38	i 11 52	- 2	—	—	—	—
Belgrade		76.7	330	e 11 56 <sub>k</sub>	+ 1	e 21 52	+ 11	e 12 13	PcP
Philadelphia		76.8	39	—	—	e 21 32	- 10	e 26 41	SS
Paris		77.1	343	i 12 0	+ 3	e 21 49	+ 3	i 12 18	PcP
Istanbul		77.2	322	e 11 59	+ 2	e 21 45	- 2	e 22 14?	PS
Basle		77.4	340	e 12 1 <sub>a</sub>	+ 3	—	—	—	—
Zürich		77.4	339	e 12 0 <sub>a</sub>	+ 2	e 21 49	0	e 12 14	PcP
Chur		77.7	338	e 12 4 <sub>a</sub>	+ 4	—	—	—	—
Sofia		77.7	327	e 12 4	+ 4	22 2	+ 10	e 14 23	PP
Colombo	E.	77.8	265	12 0	- 1	22 27	PS	—	—
Triest		77.8	335	i 12 2	+ 1	e 21 55	+ 2	e 22 46	PS
Pavia		79.3	338	e 12 12	+ 3	—	—	e 12 28	PcP
Bologna	Z.	79.5	336	e 12 14	+ 4	—	—	—	—
Brisbane		79.7	184	i 12 22 <sub>a</sub>	+ 11	(e 22 10)	- 3	—	—
Clermont-Ferrand		80.0	342	i 12 15	+ 2	i 22 22	+ 5	i 12 39	PcP
Florence		80.2	336	i 12 15 <sub>k</sub>	+ 1	e 22 23	+ 4	e 23 18	PS
Ksara		80.7	314	i 12 19	+ 3	i 23 14	PS	12 39	pP
Rome		81.6	335	i 12 20 <sub>a</sub>	- 1	e 22 35	+ 2	i 12 48	pP
Taranto		81.6	331	—	—	22 34	+ 1	—	—
Rocca di Papa	N.	81.7	335	e 12 20	- 2	e 22 37	+ 3	—	—
Athens		81.8	325	i 12 24 <sub>a</sub>	+ 2	e 23 39	PS	e 23 56?	PPS
Tacubaya		82.0	69	e 12 25	+ 2	e 22 36	- 1	e 13 5	?
Messina		84.2	331	i 12 34 <sub>a</sub>	0	e 22 58	- 1	—	—
Helwan	Z.	86.1	315	i 12 45 <sub>a</sub>	+ 1	23 24	+ 6	e 16 27	PP
Bermuda		87.4	35	i 12 52	+ 2	e 23 30	0	—	—
Alicante		87.8	343	12 54	+ 2	23 32	- 2	16 19	PP
Granada		89.4	346	i 13 6 <sub>a</sub>	+ 6	—	—	—	—
Almeria		89.6	344	i 13 0	- 1	23 52	+ 1	16 32	PP
Malaga		90.0	346	i 13 1	- 2	i 23 19	[-14]	16 22	PP
Tamanrasset	Z.	101.6	335	i 13 57 <sub>k</sub>	+ 1	e 14 15	PcP	e 18 5	PP
Huancayo		121.1	67	—	—	e 37 13	SS	—	—
La Paz		128.7	62	e 19 36	[+26]	—	—	21 30	PP
Pretoria	Z.	134.5	286	e 19 8	[-12]	—	—	—	—
Kimberley	Z.	138.7	287	i 19 15	[-13]	—	—	—	—

April 4d. 5h. 23m. 32s. Epicentre 49°·6N. 8°·3E. (as on 1952, Feb. 24d.).

Felt at Mannheim. Epicentre as adopted.  
Stuttgart monthly bulletin for April, 1952.

$$A = +.6439, B = +.0939, C = +.7593; \quad \delta = -4; \quad h = -5; \quad *$$

	△	Az.	P.	O-C.	S.	O-C.	Supp.
	°	°	m. s.	s.	m. s.	s.	m. s.
Stuttgart	1.0	145	e 0 16	- 4 <sub>g</sub>	i 0 28	- 5 <sub>g</sub>	e 0 19
Strasbourg	1.1	199	—	—	i 0 33	- 3 <sub>g</sub>	e 0 49
Basle	2.1	193	—	—	e 1 5	+ 1	—
Zürich	2.2	175	e 0 47	+ 3 <sub>g</sub>	e 1 16	+ 3 <sub>g</sub>	—
Jena	2.5	58	e 0 44	+ 1	e 1 13	- 1	e 1 16
Collmberg	3.5	58	e 0 59	+ 2	e 1 49	+ 1*	e 1 8
Prague	4.0	81	—	—	e 2 2	- 1*	i 2 6

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1952

288

April 4d. 5h. 38m. 38s. Epicentre 36°·7N. 70°·5E. Depth of Focus 0·025.  
(as on 2d.).

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	°	°	m. s.	s.	m. s.	s.
Khorog	1·2	48	i 0 33	2	i 0 59	+ 4
Kulyab	1·3	335	i 0 31	0	i 0 56	0
Obi-garm	2·1	342	i 0 39	0	i 1 10	0
Stalinabad	2·3	323	i 0 40	- 2	e 1 12	- 2
Garm	2·3	356	i 0 41	- 1	i 1 13	- 1
Dzhergetal	2·6	12	e 0 45	0	i 1 21	+ 1
Fergana	3·8	15	e 0 52?	- 8	i 1 39?	- 7
Samarkand	4·1	319	1 0	- 3	1 46	- 7
Andijan	4·3	20	e 1 6	0	i 1 58	+ 1
Tchimkent	5·6	354	—	—	e 2 25	- 2

April 4d. 7h. 49m. 25s. Epicentre 23°·4N. 121°·6E. (as on 1949, June 11d.).

A = -·4814, B = +·7825, C = +·3949;  $\delta=0$ ;  $h=+4$ ;  
D = +·852, E = +·524; G = -·207, H = +·336, K = -·919.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Hong Kong	6·9	263	1 46	+ 1	3 20	+15	—	4·4
Zi-ka-wei	7·8	359	e 1 57	- 1	e 3 27	- 1	—	i 3·6
Manila	8·8	184	i 2 11	0	i 3 50	- 3	—	—
Nanking	9·0	345	2 12	- 1	e 3 53	- 5	—	—
Poona	44·7	273	i 8 18	+ 2	—	—	—	—
Bombay	45·6	274	e 8 25	+ 1	e 15 6	0	—	—
Brisbane	59·0	147	i 10 3 <sub>a</sub>	- 1	—	—	—	—
College	69·3	28	e 11 11	0	i 20 19	+ 2	—	—
Kiruna	72·7	337	i 11 30	- 2	—	—	—	e 34·6
Ksara	74·0	300	e 11 42	+ 3	e 22 46	?	—	—
Istanbul	76·8	309	e 11 55	0	—	—	—	—
Upsala	76·8	331	i 11 53 <sub>k</sub>	- 2	—	—	i 11 59	?
Resolute Bay	79·4	10	e 12 7 <sub>k</sub>	- 2	—	—	e 12 47	?
Prague	82·7	322	e 12 27	0	—	—	e 13 5	?
Collmberg	82·9	324	i 12 27	- 1	—	—	i 12 53	?
Witteveen	85·5	328	i 12 42 <sub>k</sub>	+ 1	—	—	—	—
Stuttgart	86·3	323	e 12 44	- 1	—	—	—	e 50·6
Florence	87·7	317	e 17 57	PPP	—	—	—	e 40·7
Victoria	87·9	38	12 53	0	—	—	—	—
Seattle	89·0	38	e 13 1	+ 3	—	—	—	—
Shasta	92·9	44	e 13 17	+ 1	—	—	—	—
Hungry Horse	93·0	34	i 13 18	+ 1	—	—	—	—
Mineral	93·6	44	e 13 20 <sub>a</sub>	+ 1	—	—	e 14 13	?
Reno	95·2	43	e 13 27 <sub>a</sub>	0	—	—	e 14 1	?
China Lake	98·8	45	e 17 28	PP	—	—	—	—
Boulder City	100·4	44	e 18 0	PP	—	—	—	—
Tamanrasset	102·8	303	e 17 29	PP	—	—	e 18 17	?
La Paz	168·6	55	20 9	[+ 1]	—	—	—	—

April 4d. 7h. 57m. 4s. (I) ; Epicentre 39°·6N. 71°·3E.  
10h. 28m. 22s. (II) ; (as on 1952, January 25d.).

A = +·2477, B = +·7318, C = +·6349;  $\delta=-2$ ;  $h=-2$ ;  
D = +·947, E = -·321; G = +·204, H = +·601, K = -·773.

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	°	°	m. s.	s.	m. s.	s.
I Dzhergetal	0·4	190	i 0 11	+ 1*	—	—
II	0·4	190	i 0 10	0*	i 0 15	- 1*
I Fergana	0·9	25	i 0 14?	- 4 <sub>x</sub>	i 0 25?	- 5 <sub>x</sub>
II	0·9	25	e 0 13?	- 5 <sub>x</sub>	i 0 26	- 4 <sub>x</sub>
I Garm	1·0	232	i 0 20	- 1	—	—
II	1·0	232	i 0 20	- 1	i 0 31	- 2 <sub>x</sub>
I Andijan	1·4	35	0 32	+ 5	i 0 52	+ 6 <sub>x</sub>
II	1·4	35	i 0 33	+ 5 <sub>x</sub>	i 0 53	+ 7 <sub>x</sub>
I Obi-garm	1·5	234	i 0 32	+ 4	i 0 52	+ 2 <sub>x</sub>
II	1·5	234	i 0 32	+ 4	—	—
I Khorog	2·1	172	e 0 41	- 1 <sub>x</sub>	i 1 14	+ 5 <sub>x</sub>
II	2·1	172	i 0 44	+ 2 <sub>x</sub>	i 1 12	+ 3 <sub>x</sub>

Continued on next page.

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1952

289

	$\Delta$	Az.	P.	O - C.	S.	O - C.
	°	°	m. s.	s.	m. s.	s.
I Kulyab	2.1	215	e 0 41	- 1 <sub>g</sub>	o 1 12	+ 3 <sub>g</sub>
I Stalinabad	2.2	242	i 0 44	0 <sub>g</sub>	i 1 14	+ 1 <sub>g</sub>
II	2.2	242	i 0 44	0 <sub>g</sub>	i 1 17	+ 4 <sub>g</sub>
I Tashkent	2.3	318	i 0 47	+ 1 <sub>g</sub>	i 1 20	+ 4 <sub>g</sub>
II	2.3	318	—	—	i 1 16	0 <sub>g</sub>
I Tchimkent	3.0	335	e 0 54	0*	e 1 39	0 <sub>g</sub>
II	3.0	335	e 0 58	- 2 <sub>g</sub>	i 1 38	- 1 <sub>g</sub>
I Samarkand	3.3	271	i 1 1	+ 2*	1 48	- 1 <sub>g</sub>
II	3.3	271	1 1	+ 2*	e 1 48	- 1 <sub>g</sub>
I Naryn	4.0	61	—	—	e 1 52	0
II	4.0	61	e 1 17	- 3 <sub>g</sub>	e 2 16	+ 4 <sub>g</sub>
II Frunse	4.1	36	e 1 12	- 1*	—	—
I Rybach'e	4.6	50	—	—	i 2 44	+ 12 <sub>g</sub>
I Ashkabad	10.2	265	—	—	e 4 23	- 4
I Kizyl-Arvat	11.7	272	—	—	e 4 55	- 9

April 4d. 11h. 36m. 18s. Epicentre 41°·4N. 44°·1E. (as on 1948, November 12d.).

A = +·5403, B = +·5236, C = +·6588;  $\delta$  = +10; h = -2;  
D = +·696, E = -·718; G = +·473, H = +·458, K = -·752.

	$\Delta$	Az.	P.	O - C.	S.	O - C.
	°	°	m. s.	s.	m. s.	s.
Akalkalaki	0.5	270	i 0 11	- 3	i 0 17	- 6
Gori	0.6	1	e 1 2?	+ 47	i 1 14?	+ 48
Leninakan	0.6	199	0 11	- 4	0 18	- 8
Tiflis	0.6	59	0 18	+ 3	0 31	+ 5
Tsikhlis-Dzhvari	0.6	302	e 0 16	+ 1	i 0 25	- 1
Borzhomei	0.7	309	e 0 17	0	i 0 29	+ 1
Abastumanj	1.0	290	e 0 25	+ 4	e 0 36	0
Erevan	1.2	166	e 0 23	- 1	—	—
Kirovobad	1.8	111	0 37	+ 5	—	—
Grozny	2.3	32	—	—	e 1 21	+ 5 <sub>g</sub>

April 4d. 17h. 20m. 45s. Epicentre 40°·2N. 142°·2E. Focus at Base of Superficial Layers. (as on 1951, June 20d.).

Intensity IV at Miyako, Hatinohe, Morioka, Noheji, Misawa, Iwaizumi, Arasawa, Sakari, Okunakayama, Odate, Sanuma, and Tukidate; II-III at Aomori. Epicentre 40°·3N. 142°·5E. Depth 40km. Macro seismic radius 200-300km. Seismo. Bulletin Cent. Met. Obs., Japan, 1952, April, Tokyo, 1952. Macro seismic chart p. 152.

A = -·6052, B = +·4694, C = +·6429;  $\delta$  = -8; h = -2;  
D = +·613, E = +·790; G = -·508, H = +·394, K = -·766.

	$\Delta$	Az.	P.	O - C.	S.	O - C.	Supp.
	°	°	m. s.	s.	m. s.	s.	m. s.
Hatinohe	0.6	303	i 0 9k	- 3	0 19	- 2	—
Miyako	0.6	196	e 0 8	- 4	0 17	- 4	—
Morioka	0.9	238	i 0 15k	- 1	0 28	0	—
Aomori	1.2	300	0 19	- 1	0 40	+ 4	—
Mizusawa	1.3	218	0 22	0	0 40	+ 2	—
Akita	1.7	253	e 0 29	+ 1	0 53	+ 4	—
Isinomaki	1.9	201	0 29	- 2	0 52	- 2	—
Urakawa	2.0	13	e 0 31	- 1	0 51	- 5	—
Mori	2.3	327	0 36	0	1 2	- 2	—
Sakata	2.3	234	0 43	+ 7	1 17	+ 13	—
Hokusima	2.8	209	e 0 42	- 1	1 13	- 3	—
Sapporo	2.9	348	e 0 42	- 3	1 12	- 7	—
Inawasiro	3.1	212	e 0 44	- 4	1 33	+ 9	—
Kusiro	3.2	31	i 0 43	- 6	1 18	- 9	—
Niigata	3.3	227	e 0 51	0	1 31	+ 2	—
Onahama	3.4	198	e 1 5	+ 13	—	—	—
Shirakawa	3.5	207	e 0 52	- 1	1 31	- 3	—
Asahigawa	3.6	2	e 0 39	- 16	—	—	—
Aikawa	3.8	236	e 0 54	- 4	1 43	+ 1	—
Mito	4.0	201	e 0 58	- 2	1 48	+ 1	—

Continued on next page.

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1952

290

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	
		°	°	m. s.	s.	m. s.	s.	m. s.	
Nemuro		4.0	38	0 53	- 7	1 33	-14	—	—
Abashiri		4.1	21	—	—	e 1 40	- 9	—	—
Utunomiya		4.1	207	e 0 59	- 3	2 8	+19	—	—
Tukubasan		4.3	204	e 1 3	- 2	1 53	- 1	—	—
Takada		4.4	226	e 1 16	+10	2 23	+26	—	—
Maebasi	Z.	4.5	214	e 1 6	- 2	2 8	+ 8	—	—
Kumagaya		4.6	210	1 9	0	2 5	+ 3	—	—
Nagano	E.	4.7	223	e 1 15	+ 5	2 30	+25	—	—
Matusiro		4.8	222	e 1 17	+ 5	—	—	—	—
Oiwake		4.8	218	e 1 11	- 1	2 15	+ 8	—	—
Titibu		4.9	211	e 1 18	+ 5	2 18	+ 8	—	—
Tokyo		4.9	205	e 1 4	- 9	2 13	+ 3	—	—
Wazima		5.0	238	e 1 16	+ 1	—	—	—	—
Matumoto	N.	5.2	221	e 1 27	+ 9	2 51	+34	—	—
Yokohama		5.2	204	e 1 33	+15	2 36	+19	—	—
Toyama		5.3	230	e 1 34	+15	—	—	—	—
Hunatu		5.4	211	1 29	+ 9	2 32	+10	—	—
Kohu		5.4	213	e 1 23	+ 3	2 29	+ 7	—	—
Mera		5.6	201	e 1 30	+ 7	—	—	—	—
Kanazawa		5.7	231	e 1 22	- 2	—	—	—	—
Misima		5.7	209	e 1 30	+ 6	2 36	+ 6	—	—
Iida		5.8	218	e 1 35	+ 9	3 0	+28	—	—
Osima		5.9	203	e 1 20	- 7	2 43	+ 8	—	—
Shizuoka		6.0	211	e 1 37	+ 8	—	—	—	—
Gihu		6.4	222	e 1 38	+ 4	3 3	+16	—	—
Omaesaki		6.4	211	e 1 21	-13	—	—	—	—
Nagoya		6.5	221	e 1 37	+ 1	3 0	+10	—	—
Kameyama		7.0	222	e 2 1	+18	—	—	—	—
Owase		7.8	330	e 1 39	-15	—	—	—	—
Takamatu		8.8	230	e 2 17	+ 9	—	—	—	—
Kiruna	Z.	63.8	339	i 10 22 <sub>a</sub>	- 9	—	—	—	—
Reno	Z.	71.0	54	e 11 35 <sub>a</sub>	+19	—	—	—	—
Lick	Z.	71.2	57	i 11 27 <sub>a</sub>	+ 9	—	—	—	—
Fresno	Z.	72.7	56	e 11 29	+ 3	—	—	—	—
Tinemaha	Z.	73.5	57	e 11 40	+ 9	—	—	—	—
China Lake	Z.	74.7	56	e 11 31	- 7	—	—	i 11 45	P
Pasadena	Z.	75.3	59	e 11 50	+ 8	—	—	—	—
Riverside	Z.	76.0	59	e 11 52	+ 6	—	—	—	—
Palomar	Z.	76.7	58	e 11 52	+ 2	—	—	e 11 59	pP
Collmberg	Z.	78.7	330	e 11 52	- 8	—	—	e 12 7	pP
Stuttgart		82.2	331	e 12 13	- 6	—	—	e 12 31	pP

April 4d. 18h. 32m. 19s. Epicentre 47°·6N. 17°·5E.

Intensity IV at Györladamer, Györzámoly, Nagybajcs, and Vamosszabadi; III-IV at Venek and Asványraro. Epicentre given by Strasbourg.

Bela Simon.

Ungarischer Erdbebenkatalog für das Jahr, 1952. Series B. Budapest, 1954, pp. 5, 7.

A = +·6455, B = +·2035, C = +·7362;  $\delta$  = +7; h = -4;  
D = +·301, E = -·954; G = +·702, H = +·221, K = -·677.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Vienna	1.0	311	0 21	0	i 0 35	- 1	e 0 38	?
Budapest	1.1	96	0 22	0	i 0 35	- 4	—	0.6
Kalossa	1.5	137	—	—	0 55	+ 6	—	—
Raciborz	2.5	11	e 0 55	+ 5 <sub>g</sub>	e 1 24	+ 1 <sub>g</sub>	e 0 59	P <sub>g</sub>
Prague	3.2	321	—	—	i 1 39	0*	1 47	S <sub>g</sub>
Collmberg	4.7	323	e 1 11	- 3	e 2 36	+ 1 <sub>g</sub>	e 1 34	P <sub>g</sub>
Jena	5.1	313	—	—	e 2 11	- 9	e 2 52	S <sub>g</sub>
Stuttgart	5.6	285	e 2 1	+ 9 <sub>g</sub>	e 2 35	+ 2	e 3 11	S <sub>g</sub>
Zürich	6.0	271	e 2 12	+12 <sub>g</sub>	e 3 26	+ 8 <sub>g</sub>	—	—
Basle	6.7	273	—	—	e 3 34	- 7 <sub>g</sub>	—	—



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1952

291

April 1d. 20h. 9m. 18s. Epicentre  $1^{\circ}08'$ ,  $29^{\circ}6'E$ . (as on 1952, January 31d.).

Felt at Kigoma. Epicentre  $4^{\circ}08'$ ,  $30^{\circ}5'E$ . (Strasbourg).

J. P. Henderson.

Some notes on earth tremors in East African Meteorological Department. Technical memorandum No. 4, 1953, p. 23.

$A = +.8674$ ,  $B = +.4928$ ,  $C = -.0693$ ;  $\delta = +4$ ;  $h = +7$ ;  
 $D = +.494$ ,  $E = -.869$ ;  $G = -.060$ ,  $H = -.034$ ,  $K = -.998$ .

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.	
Pretoria	Z.	21.7	183	i 4 50	- 5	i 10 44	SS	i 5 37	PP	—
Kimberley	Z.	25.0	189	i 5 24?	- 3	i 12 0	?	i 6 17	PP	—
Pietermaritzburg	Z.	25.5	178	i 5 31?	- 1	i 12 45	l.	—	—	(i 12.8)
Grahamstown	Z.	29.3	185	i 6 27?	+ 21	—	—	—	—	i 15.1
Helwan	Z.	33.7	2	6 44	- 1	—	—	i 6 58	?	e 15.4
Tamanrasset	Z.	35.5	320	i 7 4a	+ 4	e 13 6	+ 30	e 8 23	PP	i 18.2
Ksara		38.1	8	i 7 25	+ 3	e 14 29	?	—	—	—
Messina		44.0	344	e 8 14	+ 3	e 18 26	SSS	—	—	—
Taranto		45.7	347	—	—	e 14 24	- 44	—	—	e 22.7
Bombay	E.	48.2	60	e 7 42?	- 62	e 15 41	- 2	—	—	—
Rome		48.3	343	i 8 47k	+ 2	e 16 6	+ 21	e 19 34	SS	—
Alicante		50.5	330	e 10 27	PP	e 16 12	- 4	—	—	e 27.1
Zürich	Z.	54.4	342	e 9 32	+ 1	—	—	—	—	—
Raciborz	Z.	54.8	352	e 9 36	+ 2	—	—	e 10 6	?	—
Basle		54.9	342	e 9 36	+ 1	e 17 18	PS	—	—	—
Prague		55.4	349	e 9 38	0	e 9 50	?	e 10 46	?	—
Stuttgart		55.5	344	e 9 40k	+ 1	—	—	—	—	—
Collmberg	Z.	56.9	348	e 9 48	- 1	—	—	e 10 1	?	—
Jena		56.9	347	e 9 48	- 1	e 12 50	PPP	e 14 7	PcS	—
Paris		57.7	339	e 9 56	+ 1	e 10 6	?	e 10 10	?	—
Witteveen	Z.	59.8	345	e 10 12	+ 3	—	—	—	—	—
Upsala	Z.	64.4	354	i 10 40	0	i 11 14	PcP	i 10 49	?	—
Kiruna	Z.	72.0	357	i 11 27	- 1	i 11 39	PcP	i 12 10	?	—

April 5d. 0h. 5m. 21s. Epicentre  $43^{\circ}0'N$ ,  $0^{\circ}2'E$ . (as on 1952, February 26d.).

Intensity VII at Arras; VI-VII at Salles; VI at Lourdes, Arnex, and Luz; V-VI at Caunterets, Bao Silhen, Ossen, Beaudan, Grust, and Bordères, and as strongly in Spain at Huesca. Epicentre  $43^{\circ}0'N$ ,  $0^{\circ}0'$  (Strasbourg).

Annales de l'Institut de Physique du Globe de Strasbourg, 2e partie, Séismologie, 1952, Nouvelle série, Tome XVII, Strasbourg, 1957, p. 30.

$A = +.7336$ ,  $B = +.0026$ ,  $C = +.6795$ ;  $\delta = -10$ ;  $h = -3$ ;  
 $D = +.003$ ,  $E = -1.000$ ;  $D = +.679$ ,  $E = +.002$ ,  $K = -.734$ .

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.	
Bagnères		0.1	—	i 0 5?	+ 3 <sub>g</sub>	i 0 6?	+ 3 <sub>g</sub>	—	—	—
Barcelona		2.1	129	e 0 43	+ 1 <sub>g</sub>	1 11	+ 2 <sub>g</sub>	0 48	?	—
Tortosa		2.2	172	i 0 42	- 2 <sub>g</sub>	i 1 10	+ 1*	—	—	—
Clermont-Ferrand		3.5	36	i 1 6	+ 3*	i 1 46	- 2*	i 1 24	?	—
Toledo		4.4	227	i 1 5	- 5	i 2 15	0*	i 1 24	P <sub>g</sub>	—
Alicante		4.7	187	1 13	- 1	2 4	- 6	2 26	S*	—
Paris		6.1	16	e 1 39	+ 5	i 2 49	+ 4	i 2 1	P <sub>g</sub>	i 3.4
Jersey	E.	6.4	347	—	—	e 3 17	+ 3*	e 3 32	S <sub>g</sub>	—
Basle		6.9	46	e 2 11	- 7 <sub>g</sub>	e 3 47	- 1 <sub>g</sub>	—	—	—
Coimbra		7.1	250	2 39?	+ 17 <sub>g</sub>	3 38	+ 3*	—	—	—
Malaga		7.2	211	i 1 43	- 6	—	—	—	—	—
Zürich		7.3	51	e 2 14	+ 6*	e 3 45	+ 4*	e 2 21	P <sub>g</sub>	—
Strasbourg		7.7	41	e 3 10	?	e 3 50	- 3*	e 4 9	S <sub>g</sub>	i 4.4
Karlsruhe		8.3	41	—	—	e 3 54	+ 14	i 4 34	S <sub>g</sub>	i 4.7
Stuttgart		8.5	44	e 3 14?	?	e 3 29	- 16	e 4 43	S <sub>g</sub>	e 5.0
Witteveen	Z.	10.7	22	—	—	e 5 34	S*	—	—	—
Jena		11.1	40	—	—	e 5 31?	+ 42	—	—	e 7.1
Collmberg		12.0	42	e 3 13?	PPP	e 6 2	?	—	—	e 6.6
Messina	E.	12.6	107	e 3 52	?	—	—	—	—	—

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1952

292

April 5d. 0h. 26m. 33s. Epicentre 28°·5S. 6°·1W.

A = +·8752, B = -·0935, C = -·4747;  $\delta = +6$ ;  $h = +2$ ;  
D = -·106, E = -·994; G = -·472, H = +·050, K = -·880.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Kimberley	z.	27·1	97	i 5 46	0	—	—	—	—
Grahamstown	z.	28·4	107	i 6 11	+13	—	—	—	—
Pretoria	z.	30·6	93	i 6 17	-1	—	—	—	—
Tamanrasset	z.	52·2	14	i 9 15 <sub>a</sub>	0	—	—	e 10 27	PcP
Algiers Univ.	z.	65·5	8	e 10 47	0	—	—	i 10 52	P
Huancayo		66·2	270	e 10 52	0	e 20 1	PS	—	—
Ksara		73·6	36	e 14 17?	PP	—	—	—	e 36·1
Belgrade	z.	76·9	20	e 11 55 <sub>a</sub>	-1	—	—	e 13 39	?
Paris		77·3	6	e 11 57	-1	—	—	—	—
Strasbourg		77·7	10	e 11 53	-7	—	—	—	—
Stuttgart		78·1	11	e 12 1	-1	—	—	—	—
Prague		80·3	14	i 12 14	0	e 12 41	?	e 13 38	?
Jena	z.	80·6	12	e 12 14	-2	—	—	—	—
Collmburg		81·2	13	e 12 19	0	—	—	—	—
Witteveen	z.	81·7	8	e 12 22	0	—	—	—	—
Poona	z.	90·2	69	i 13 6	+2	—	—	—	—
Upsala	z.	90·2	12	i 13 4	0	—	—	—	—

April 5d. 3h. 4m. 31s. Epicentre 33°·0S. 180°.

A = -·8403, B = 0000, C = -·5421;  $\delta = -2$ ;  $h = +1$ ;  
D = ·000, E = +1·000; G = +·542, H = ·000, K = -·840.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Auckland	N.	5·8	226	1 32	+3	e 2 23	-15	—	—
Karapiro	N.	6·1	215	e 1 18?	-16	—	—	—	e 3·9
Tuai	N.	6·2	201	1 17	-18	2 27	-21	—	—
New Plymouth	E.	7·7	217	—	—	e 3 24	-1	—	—
Wellington		9·3	205	e 2 15	-2	7 59	PcP	e 4 40	Q
Cobb River	E.	9·9	214	e 2 16	-9	—	—	—	—
Brisbane		23·9	277	i 5 16 <sub>a</sub>	0	e 9 30	0	e 9 49	Q
Riverview		24·1	261	i 5 10	-8	i 10 17	SS	e 9 59	Q
Manila		73·5	300	e 10 23	-13	—	—	—	e 10·9
Pasadena	z.	88·5	47	e 12 58	+2	—	—	—	—
Lick	z.	88·6	43	e 12 59 <sub>a</sub>	+3	—	—	—	—
Palomar	z.	88·8	49	e 13 0	+3	—	—	i 13 6	PcP
Riverside	z.	88·9	47	e 12 59	+1	—	—	e 13 5	PcP
Fresno	z.	89·3	44	e 13 1 <sub>a</sub>	+2	—	—	—	—
China Lake	z.	90·0	46	e 13 3	0	—	—	e 13 9	PcP
Tinemaha	z.	90·4	45	e 13 7	+3	—	—	—	—
Shasta		90·6	40	e 13 7	+2	—	—	—	—
Mineral	z.	90·8	41	e 13 7 <sub>a</sub>	+1	—	—	—	—
Reno	z.	91·2	43	e 13 10 <sub>a</sub>	+2	—	—	—	—
Boulder City		91·8	48	e 13 13	+2	—	—	—	—
Tucson		92·0	52	e 13 14	+2	—	—	—	—
Fayetteville	z.	105·6	58	e 16 9	?	—	—	—	—



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1952

293

March 5d. 8h. 33m. 13s. Epicentre 15°·5S. 177°·5E.

A = -·9632, B = +·0421, C = -·2656;  $\delta = +7$ ;  $h = +6$ ;  
D = +·044, E = +·999; G = +·265, H = -·012, K = -·964.

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.
Apia	10·5	82	(e 2 42)		+ 7	e 2 42		P	—		e 4·8
Auckland	N. 21·4	186	—		—	8 51		+ 6	9 2		i 11·6
Karapiro	N. 22·4	185	e 4 55?		- 7	—		—	e 8 53		—
Tuai	N. 23·2	181	e 5 13		+ 4	—		—	—		—
New Plymouth	E. 23·7	186	e 5 25		+11	—		—	—		—
Brisbane	25·6	238	i 5 31 <sub>a</sub>		- 1	e 10 0		+ 1	i 6 15		PP
Cobb River	E. 25·8	189	e 5 33		- 1	—		—	—		e 13·8
Wellington	25·8	185	i 5 22		-12	10 27		+25	e 10 59		SS
Kaimata	N.E. 27·4	190	e 5 53		+ 4	—		—	—		e 12·6
Riverview	30·0	228	i 6 10 <sub>a</sub>		- 2	i 11 8		- 2	i 7 8		PP
Manila	63·3	296	e 10 30		- 3	—		—	e 13 45		?
Zi-ka-wei	Z. 71·1	312	11 25 <sub>a</sub>		+ 3	—		—	—		—
Nanking	73·4	311	i 11 39 <sub>a</sub>		+ 3	e 21 13		+ 8	e 21 49		ScS
Berkeley	77·5	45	e 11 57 <sub>k</sub>		- 2	—		—	—		e 37·0
Lick	Z. 77·7	45	e 11 59 <sub>k</sub>		- 1	—		—	—		—
Arcata	Z. 77·9	42	e 12 1 <sub>k</sub>		0	—		—	—		—
Pasadena	78·6	50	e 12 3		- 2	—		—	i 12 18		pP
Fresno	Z. 78·7	47	e 12 4 <sub>k</sub>		- 2	e 13 12		?	e 14 34		?
Shasta	78·9	43	i 12 6		- 1	—		—	—		—
Riverside	Z. 79·1	50	i 12 6		- 2	i 12 25		?	i 12 21		pP
Mineral	Z. 79·2	43	i 12 7 <sub>k</sub>		- 1	—		—	—		—
Palomar	Z. 79·2	51	i 12 6 <sub>k</sub>		- 2	—		—	e 12 23		pP
China Lake	Z. 79·8	48	i 12 9 <sub>k</sub>		- 3	—		—	i 12 24		pP
Tinemaha	Z. 79·9	47	e 12 11		- 1	—		—	—		—
Reno	Z. 80·0	45	e 12 11 <sub>k</sub>		- 2	—		—	—		—
Boulder City	81·8	50	i 12 23		+ 1	—		—	—		—
Victoria	82·5	36	i 12 25		- 1	—		—	—		—
Seattle	82·6	37	i 12 27 <sub>k</sub>		+ 1	e 13 13		sP	i 13 1		pP
Tucson	83·3	54	i 12 32		+ 2	—		—	i 12 56		?
College	84·3	15	i 12 34		- 1	i 23 3		+ 3	—		e 41·8
Hungry Horse	87·8	39	i 12 51		- 1	—		—	—		—
Fayetteville	Z. 97·6	54	i 13 35		- 3	—		—	e 17 31		PP
Huancayo	112·9	106	—		—	e 27 38		?	e 33 19		?
Kimberley	Z. 128·7	211	i 19 2		[- 8]	—		—	—		e 46·4
Upsala	Z. 133·3	346	i 19 13		[- 5]	—		—	—		—
Ksara	140·9	305	e 19 28		[- 4]	e 22 53		PKS	e 34 50		PPS
Witteveen	Z. 142·1	352	e 19 36		[+ 2]	—		—	—		—
Collmberg	Z. 142·2	344	e 19 27		[- 7]	—		—	—		—
Jena	E. 142·9	345	e 19 31		[- 5]	e 19 54		?	e 21 4		?
Prague	142·9	342	e 19 38		[+ 2]	e 20 2		?	e 21 4		?
Belgrade	144·9	331	e 19 40 <sub>a</sub>		[+ 1]	e 23 12		PKS	e 36 38		?
Karlsruhe	Z. 145·4	348	e 19 42		[+ 2]	—		—	—		—
Stuttgart	145·5	347	e 19 39		[- 1]	—		—	—		—
Helwan	Z. 145·8	301	i 19 43 <sub>a</sub>		[+ 2]	e 23 17		PKS	19 57		PKP <sub>2</sub>
Strasbourg	145·9	348	e 19 42		[+ 1]	e 20 56		?	e 19 54		PKP <sub>2</sub>
Paris	146·5	355	e 19 43		[+ 1]	i 20 5		?	i 19 51		PKP <sub>2</sub>
Zürich	146·9	347	e 19 43		[+ 1]	—		—	—		—
Basle	147·0	348	e 19 44		[+ 1]	—		—	e 25 12		?
Triest	147·0	340	e 19 38		[- 5]	e 20 20		?	e 19 45		PKP <sub>2</sub>
Florence	Z. 149·7	341	e 19 46		[- 1]	—		—	i 19 52		PKP <sub>2</sub>
Alicante	157·2	358	e 20 7		[+10]	26 39		[-23]	41 27		?
Granada	158·4	3	i 20 39 <sub>a</sub>		PKP <sub>2</sub>	—		—	24 29		PP
Malaga	158·8	4	e 20 0		[+ 1]	—		—	e 24 30		PP
Tamanrasset	Z. 169·5	315	i 20 9		[ 0]	i 25 18		PP	i 29 27		PPP

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1952

294

April 6d. 18h. 12m. 55s. Epicentre  $11^{\circ}08', 78^{\circ}25'W$ .

Intensity IV-V at Huarney; IV at Chimbote and Huaraz. Epicentre  $11^{\circ}08', 78^{\circ}25'W$ . (Strasbourg).

E. Silgado.

Datos Sismológicos del Perú, 1952-1955, Boletín de la Sociedad Geológica del Perú, Tome 29, Lima, 1957, p. 10.

A = +.2008, B = -.9611, C = -.1896;  $\delta = -2$ ;  $h = +6$ ;  
D = -.979, E = -.204; G = -.039, H = +.186, K = -.982.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Huancayo	3.0	111	i 1 2	+ 2 <sub>z</sub>	e 1 38	- 1 <sub>z</sub>	—	i 2.3
La Paz	11.2	120	3 8	PP	i 5 9	+ 17 <sub>z</sub>	i 5 37	6.1
Bogota	16.1	15	i 3 50	- 1	i 6 39	- 10	i 7 10	7.8
San Juan	31.5	21	e 6 23	- 3	—	—	—	—
Fayetteville	z. 49.2	343	i 8 51	- 1	—	—	i 9 4	pP
Palomar	z. 57.5	322	e 10 13	+ 20	—	—	—	—
Boulder City	58.1	326	e 10 11	+ 13	—	—	—	—
Pasadena	z. 58.8	322	e 10 17	+ 15	—	—	e 10 23	?
China Lake	z. 59.6	324	e 10 7	- 1	—	—	e 10 21	?
Hungry Horse	67.1	335	e 10 56	- 1	—	—	—	—
Tamanrasset	z. 88.5	67	e 12 58	+ 2	—	—	—	—
College	91.5	336	e 13 8	- 2	—	—	—	—

April 6d. 23h. 56m. 41s. Epicentre  $53^{\circ}5'N, 160^{\circ}0'E$ . (as on 1950, August 22d.).

A = -.5614, B = +.2043, C = +.8019;  $\delta = -5$ ;  $h = -7$ ;  
D = +.342, E = +.940; G = -.754, H = +.274, K = -.597.

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.
College	28.2	45	5 54	- 2	—	—
Resolute Bay	43.0	23	e 8 1 <sub>a</sub>	- 2	e 8 12	?
Hungry Horse	51.3	58	e 9 4	- 4	i 10 23	PcP
Kiruna	z. 55.3	343	i 9 36	- 2	—	—
China Lake	z. 57.9	71	e 9 56	0	e 10 15	?
Pasadena	z. 58.8	73	e 10 2	0	e 10 21	?
Riverside	z. 59.3	73	e 10 24	?	—	—
Palomar	z. 60.1	73	e 10 11	0	—	—
Upsala	z. 63.0	341	i 10 32 <sub>a</sub>	+ 1	—	—
Fayetteville	z. 70.2	55	i 11 16	- 1	—	—
Collmberg	72.0	339	e 11 27	- 1	—	—
Jena	72.6	339	e 11 33	+ 2	e 12 2	?
Prague	72.8	338	e 11 32	0	e 12 1	?
Stuttgart	75.1	341	e 11 46	0	—	—
Strasbourg	75.6	342	e 11 50	+ 2	—	—
Paris	76.3	346	i 11 54	+ 2	—	—
Triest	z. 77.1	337	i 11 56 <sub>a</sub>	- 1	e 11 43	?

April 7d. 17h. 27m. 18s. Epicentre  $39^{\circ}9'N, 75^{\circ}9'E$ .

Epicentre suggested by U.S.S.R.

A = +.1874, B = +.7461, C = +.6389;  $\delta = -2$ ;  $h = -2$ ;  
D = +.970, E = -.244; G = +.156, H = +.620, K = -.769.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.
Naryn	1.5	3	i 0 25	- 3	i 0 45	- 4	—
Rybach'e	2.6	3	i 0 44	0	i 1 18	+ 1	i 1 29
Andijan	2.8	288	e 0 48	+ 1	i 1 28	- 1*	0 53
Frunse	3.1	342	e 0 51	0	e 1 28	- 1	i 0 58
Fergana	3.2	280	e 1 0	- 2*	i 1 38	- 1*	—
Przhevsk	3.2	35	0 53	- 1	i 1 35	+ 3	—
Krasnogorka	3.4	351	i 0 55	0	e 1 44	- 1*	—
Almata II	3.5	18	i 0 56	- 1	i 1 49	+ 1*	—
Kurmenty	3.6	29	e 0 58	0	i 1 52	+ 1*	—
Chilisk	4.1	26	i 1 5	0	e 2 5	- 1*	—

Continued on next page.

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1952

295

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	P**
Ili	4.1	12	e 1 4	- 1	i 2 6	0*	i 1 12	P**
Khorog	4.1	236	e 1 7	- 2	e 2 21	- 5 <sub>g</sub>	—	—
Garm	4.4	260	e 1 6	- 4	—	—	—	—
Obi-garm	5.0	258	e 1 11	- 7	e 2 38	- 7 <sub>g</sub>	—	—
Tchimkent	5.3	299	e 1 38	- 5*	—	—	—	—

April 7d. 20h. 44m. 2s. Epicentre 35°·6N. 139°·7E. Depth of focus 0·010.  
(as on 1937, November 15d.).

Intensity V at Ninomiya, Hambara, and Koun; IV at Titibu, Tokyo, Ajiro, Yokohama, etc.  
Epicentre 35°·5N. 139°·7E. Depth 110km. Macroscopic radius 200-300km.  
Seismo. Bull. Cent. Met. Obs., Japan, for April, 1952, Tokyo, 1952, p. 153, with macroseismic chart.

A = -·6216, B = +·5271, C = +·5795;  $\delta = +1$ ;  $h = 0$ ;  
D = +·647, E = +·763; G = -·442, H = +·375, K = -·815.

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	
Tokyo	0.1	33	i 0 17	+ 3	0 30	+ 6	
Yokohama	0.2	194	i 0 19	+ 5	0 32	+ 7	
Kumagaya	z.	0.6	335	i 0 19 <sub>a</sub>	+ 2	0 33	+ 4
Titibu	0.6	307	i 0 12	- 5	0 26	- 3	
Ajiro	0.7	222	i 0 19	+ 1	0 29	- 2	
Mera	0.7	171	i 0 18	0	0 32	+ 1	
Tukubasan	0.7	28	0 19	+ 1	0 33	+ 2	
Hunatu	0.8	263	i 0 19	+ 1	0 33	+ 1	
Misima	0.8	232	i 0 20 <sub>k</sub>	+ 2	0 33	+ 1	
Kohu	0.9	272	i 0 21	+ 2	0 35	+ 1	
Osima	0.9	197	i 0 19 <sub>k</sub>	0	0 31	- 3	
Maebasi	z.	1.0	327	i 0 21 <sub>k</sub>	+ 1	0 38	+ 2
Mito	E.	1.0	39	0 24	+ 4	0 41	+ 5
Tyosi	N.	1.0	82	e 0 25	+ 5	0 42	+ 6
Utunomiya	1.0	8	i 0 23	+ 3	0 38	+ 2	
Oiwake	1.2	308	i 0 25 <sub>a</sub>	+ 2	0 43	+ 3	
Shizuoka	1.2	239	0 24 <sub>a</sub>	+ 1	0 42	+ 2	
Iida	1.5	267	i 0 30	+ 3	0 50	+ 3	
Matumoto	E.	1.5	294	i 0 28	+ 1	0 49	+ 2
Matusiro	z.	1.5	309	0 27	0	0 47	0
Nagano	E.	1.6	312	e 0 28	0	0 51	+ 2
Omaesaki	1.6	231	i 0 33	+ 5	0 53	+ 4	
Onahama	1.6	36	e 0 37	+ 9	0 54	+ 5	
Shirakawa	1.6	15	e 0 30	+ 2	0 51	+ 2	
Hamamatu	1.8	242	e 0 26	- 4	0 49	- 4	
Takada	1.9	322	e 0 32	0	0 55	0	
Inawasiro	2.0	10	e 0 36	+ 3	1 2	+ 5	
Takayama	2.1	286	i 0 35	+ 1	1 0	0	
Hukushima	2.2	16	0 39 <sub>k</sub>	+ 3	1 8	+ 6	
Nagoya	N.	2.3	259	0 39	+ 2	1 5	0
Toyama	2.3	298	e 0 38 <sub>a</sub>	+ 1	1 5	0	
Gihu	2.4	265	0 39	+ 1	—	—	
Niigata	z.	2.4	348	0 41	+ 3	1 12	+ 5
Hatidyosima	2.5	177	0 38	- 2	1 7	- 3	
Kanazawa	2.6	291	e 0 38	- 3	1 13	+ 1	
Aikawa	2.7	335	0 43	0	1 15	+ 1	
Ibukisan	E.	2.7	265	0 38	- 5	—	—
Yamagata	2.7	11	e 0 44	+ 1	—	—	
Hikone	2.8	263	0 46	+ 2	1 20	+ 3	
Hukui	2.8	279	e 0 45	+ 1	—	—	
Kameyama	2.8	254	0 43	- 1	1 14	- 3	
Sendai	N.	2.8	19	0 28	-16	1 2	-15
Tsuruga	3.0	272	e 0 43	- 4	1 16	- 6	
Isinomaki	3.1	24	e 0 38	-10	—	—	
Kyoto	3.3	260	e 0 49	- 2	1 25	- 4	

Continued on next page.

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1952

296

		$\Delta$	Az.	P.	O-C.	S.	O-C.
		°	°	m. s.	s.	m. s.	s.
Owase		3.3	242	e 0 51	0	1 38	- 9
Osaka		3.5	256	e 1 13	+19	—	—
Mizusawa	E.	3.7	19	0 59	+ 3	1 41	+ 2
Kobe	Z.	3.8	257	i 0 58	0	—	—
Siomisaki		3.9	238	e 0 45	-14	1 30	-14
Toyooka	Z.	4.0	271	e 0 58	- 2	—	—
Wakayama		4.0	251	e 1 0	0	1 40	- 6
Akita		4.1	4	e 1 15	-13	—	—
Morioka		4.2	15	e 1 23	+20	2 12	+21
Sumoto		4.2	254	1 2	- 1	1 50	- 1
Miyako		4.4	24	e 1 1	- 5	1 50	- 6
Hatinohe		5.1	16	e 1 17	+ 1	2 13	- 1
Aomori		5.3	9	e 1 23	+ 5	2 10	- 8
Matuyama		6.0	255	e 1 29	+ 1	2 34	- 2
Urakawa		7.0	19	e 1 46	+ 4	—	—
Resolute Bay	Z.	64.3	14	e 10 25k	- 2	—	—
Kiruna	Z.	67.4	339	i 10 41a	- 6	—	—
Collmberg	Z.	81.7	329	e 12 5	- 4	—	—

April 8d. 0h. 19m. 7s. Epicentre 9°-0S. 71°-0W. Depth of focus 0.090.  
(as on 1951, December 28d.).

A = +.3216, B = -.9341, C = -.1554;  $\delta$  = +12; h = +7;  
D = -.945, E = -.326; G = -.050, H = +.147, K = -.988.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Huancayo		5.2	235	i 1 35	0	e 2 45	- 6	—	i 3.3
La Paz		8.0	160	i 2 1	+ 1	i 3 33	- 3	i 3 42	3.9
Bogota		13.9	347	i 2 56	- 1	i 4 58	-22	i 6 14	SS
Chinchina		14.6	341	i 3 18	+14	i 5 52	+20	e 4 40	?
Galerazamba		20.1	349	—	—	i 7 15	+10	—	—
San Juan		27.6	10	i 5 2	0	i 9 3	- 1	i 7 51	PcP
Fayetteville	Z.	49.9	336	i 7 59	- 2	i 9 9	PcP	i 9 48	pP
Weston		51.1	0	i 8 9k	- 1	—	—	—	—
Harvard		51.3	0	i 8 11k	- 1	—	—	i 10 3	pP
Tucson		55.9	319	e 8 42	- 2	—	—	e 9 31	PcP
Kirkland Lake	Z.	57.5	253	i 8 53k	- 2	e 12 40	ScP	e 10 49	pP
Palomar	Z.	60.6	317	e 9 52	+37	—	—	e 11 14	pP
Boulder City		60.8	320	e 13 7?	ScP	—	—	—	—
Riverside	Z.	61.3	317	e 9 18	- 2	e 9 53	PcP	e 11 18	pP
Mount Wilson	Z.	61.9	317	e 9 24	0	e 9 45	PcP	e 11 24	pP
China Lake	Z.	62.5	319	i 9 27	- 1	e 13 2	ScP	e 11 27	pP
Tinemaha	Z.	63.7	319	e 9 34	- 1	e 10 3	PcP	e 11 34	pP
Reno	Z.	66.1	321	e 9 51k	+ 1	e 12 19	?	e 11 50	pP
Lick	Z.	66.1	318	i 9 50k	0	i 10 0	P	i 11 51	pP
Berkeley	Z.	66.8	318	e 9 54k	0	e 10 7	P	e 11 55	pP
Mineral	Z.	67.7	320	e 9 59k	- 1	—	—	e 12 3	pP
Shasta		68.4	320	e 10 2	- 2	—	—	—	—
Hungry Horse		68.5	331	i 10 5	0	e 18 19	- 1	i 12 6	pP
Victoria		73.5	327	10 33	- 1	—	—	12 38	pP
Malaga		77.1	49	10 56	+ 2	—	—	13 4	pP
Toledo		78.6	46	i 11 3	+ 1	—	—	e 13 9	pP
Alicante		80.6	48	11 5	- 7	20 38	+ 8	34 23	Q
Tamanrasset	Z.	81.2	65	i 11 17a	+ 2	e 21 31	+55	e 13 26	pP
Algiers Univ.	Z.	82.8	51	e 11 23	0	—	—	e 12 1	?
Resolute Bay		84.8	354	i 11 31k	- 2	e 21 6	- 5	e 13 39	pP
Scoresby Sund		85.9	14	i 11 39k	+ 1	—	—	i 13 48	pP
Paris		86.1	39	i 11 39	0	—	—	e 14 51	sp
Strasbourg		89.3	40	e 11 53	- 1	—	—	e 12 34	?
Witteveen	Z.	89.7	36	i 11 58	+ 2	—	—	—	—
Stuttgart		90.3	40	e 11 58	- 1	—	—	e 14 11	pP
Kimberley	Z.	90.8	119	i 12 0	- 1	—	—	—	—
College		92.5	335	i 12 7	- 2	—	—	i 14 17	pP
Collmberg	Z.	93.2	39	e 12 12	0	—	—	—	—
Prague		93.9	40	e 12 17	+ 2	—	—	e 14 18	pP
Kiruna	Z.	98.2	23	i 12 36k	+ 2	—	—	—	—

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1952

297

April 8d. 2h. 54m. 52s. (I) ;  
3h. 7m. 27s. (II) ;

Epicentre 52°·6N. 160°·3E.  
Depth of focus 0·005.

(as on November 18d.).

$\Lambda = -\cdot5742$ ,  $B = +\cdot2056$ ,  $C = +\cdot7924$ ;  $\delta = -13$ ;  $h = -6$ ;  
 $D = +\cdot337$ ,  $E = +\cdot941$ ;  $G = -\cdot746$ ,  $H = +\cdot267$ ,  $K = -\cdot610$ .

		$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.	
				m.	s.		m.	s.		m.	s.		
I	College	28·7	44	i 5	49	- 4	—	—	i 6	2	pP	e 16·6	
II		28·7	44	i 5	49	- 4	i 6	30	?	i 6	0	pP	—
I	Resolute Bay	43·7	22	e 7	56 <sub>a</sub>	- 4	—	—	—	—	—	—	
II		43·7	22	e 7	57 <sub>a</sub>	- 3	—	—	—	e 8	6	pP	e 28·6
I	Victoria	46·5	63	8	35	pP	—	—	—	—	—	—	
II		46·5	63	8	21	- 2	—	—	—	—	—	—	
I	Hungry Horse	51·6	58	e 9	0	- 2	i 10	17	PcP	i 9	14	pP	—
II		51·6	58	e 9	1	- 1	i 10	17	PcP	i 9	14	pP	—
I	Shasta	51·9	70	e 9	14	pP	—	—	—	i 9	18	pP	—
II		51·9	70	e 9	4	0	—	—	—	i 9	18	pP	—
I	Mineral	z. 52·6	70	i 9	23	pP	—	—	—	—	—	—	
II		z. 52·6	70	i 9	10 <sub>a</sub>	+ 1	i 10	0	?	i 9	23	pP	—
II	Berkeley	z. 53·9	73	e 9	32 <sub>a</sub>	pP	—	—	—	—	—	—	
I	Reno	z. 54·2	69	e 9	36	pP	—	—	—	—	—	—	
II		z. 54·2	69	e 9	21 <sub>a</sub>	0	—	—	—	e 9	35	pP	—
I	Lick	z. 54·6	73	i 9	26	+ 2	—	—	—	—	—	—	
II		z. 54·6	73	i 9	30 <sub>a</sub>	+ 6	i 9	38	?	i 9	51	pP	—
I	Fresno	z. 56·1	72	e 9	48	pP	—	—	—	—	—	—	
II		z. 56·1	72	i 9	49	pP	—	—	—	—	—	—	
I	Kiruna	z. 56·2	344	i 9	32 <sub>a</sub>	- 4	—	—	—	—	—	—	
II		z. 56·2	344	i 9	32 <sub>k</sub>	- 4	—	—	—	i 9	53	sP	—
I	Tinemaha	z. 56·8	71	e 9	40	0	—	—	—	e 9	54	pP	—
II		z. 56·8	71	e 9	40	0	i 10	2	sP	i 9	54	pP	—
I	China Lake	58·0	71	e 9	49	+ 1	—	—	—	e 10	2	pP	—
II		58·0	71	e 9	48	0	e 9	57	?	i 10	2	pP	—
I	Mount Wilson	z. 58·9	73	e 10	10	pP	—	—	—	—	—	—	
II		z. 58·9	73	e 9	55	0	—	—	—	e 10	8	pP	—
I	Riverside	z. 59·4	73	e 10	11	pP	—	—	—	—	—	—	
II		z. 59·4	73	e 10	11	pP	—	—	—	—	—	—	
I	Boulder City	59·5	69	e 10	13	pP	—	—	—	—	—	—	
II		59·5	69	e 9	59 <sub>?</sub>	0	—	—	—	i 10	13	pP	—
I	Palomar	z. 60·2	73	e 10	17	pP	—	—	—	—	—	—	
II	Upsala	z. 63·9	340	i 10	28 <sub>k</sub>	0	—	—	—	i 11	15	?	—
II	Kirkland Lake	z. 67·3	39	e 10	48	- 2	—	—	—	e 11	2	pP	—
I	Fayetteville	z. 70·6	56	i 11	10	0	—	—	—	i 11	22	pP	—
II		z. 70·6	56	i 11	4	- 6	—	—	—	i 11	22	pP	—
II	Witteveen	72·7	344	e 11	24	+ 1	—	—	—	e 11	37	pP	—
I	Collmberg	72·9	339	e 11	24	0	—	—	—	e 11	40	pP	—
II		72·9	339	i 11	23	- 1	e 11	44	sP	e 11	37	pP	—
I	Prague	73·1	338	e 11	30	+ 5	e 14	44	pPP	e 11	44	pP	—
II		73·1	338	i 11	30	+ 5	e 21	39	PS	e 11	53	sP	—
II	Poona	z. 73·4	279	i 11	31	+ 4	—	—	—	—	—	—	
I	Jena	73·5	340	e 11	29	+ 1	e 12	13 <sub>?</sub>	?	e 11	43	pP	—
II		73·5	340	e 11	29	+ 1	e 16	38	?	e 11	41	pP	—
I	Harvard	75·2	37	e 11	35	- 2	—	—	—	e 11	50	pP	—
II		75·2	37	i 11	37 <sub>k</sub>	0	—	—	—	e 11	50	pP	—
I	Weston	75·4	37	e 11	38	0	—	—	—	—	—	—	
II		75·4	37	i 11	38 <sub>a</sub>	0	—	—	—	—	—	—	
II	Palisades	75·6	39	i 11	38	- 2	—	—	—	—	—	—	
II	Fordham	75·8	39	i 11	40	- 1	—	—	—	—	—	—	
I	Stuttgart	76·1	341	e 11	42	0	—	—	—	e 11	56	pP	—
II		76·1	341	e 11	43	+ 1	—	—	—	—	—	—	
I	Strasbourg	76·5	342	e 11	58	pP	—	—	—	e 12	3	sP	—
II		76·5	342	e 11	46	+ 1	e 12	25	?	e 12	10	sP	—
I	Paris	77·2	345	e 11	52	+ 3	—	—	—	i 12	7	pP	—
II		77·2	345	i 11	50	+ 1	—	—	—	i 11	59	PcP	—
II	Ksara	81·3	316	e 11	6	-65	e 22	0	-15	—	—	—	
I	La Paz	127·7	65	e 19	20	[+22]	—	—	—	—	—	—	
II	Pretoria	z. 135·3	289	e 19	9 <sub>?</sub>	[- 3]	—	—	—	—	—	—	
II	Kimberley	z. 139·6	289	i 19	23	[+ 3]	—	—	—	—	—	—	



The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1952

298

April 8d. 10h. 0m. 16s. Epicentre 8°·7N. 123°·0E. Focus at Base of Superficial Layers.

Intensity VI at Dipolog; IV at Dumaguete; III at Ilo-Ilo, Mambajao, and Cagayan; II at Zamboanga and Butuan.

Epicentre: 8°·5N. 122°·7E. (Manila).

8°N. 123°·25E. (Strasbourg).

Monthly Seismo. Bull., Manila, April, 1952, pp. 2 and 4.

A = -·5385, B = +·8291, C = +·1503; δ = -2; h = +6;  
D = +·839, E = +·545; G = -·082, H = +·126, K = -·989.

	Δ	Az.	P.		O-C.	S.		O-C.	Supp.		L.
			m.	s.	s.	m.	s.	m.	s.	m.	
Manila	6·2	342	i 1	45	+13	e 3	6	+24	—	—	—
Hong Kong	16·0	329	3	39	- 5	6	34	- 6	—	—	9·2
Guam	21·9	74	i 4	58	+ 6	e 9	4	+17	—	—	—
Djakarta	21·9	228	e 4	54	+ 2	i 9	6	-19	—	—	—
Zi-ka-wei	Z.	22·4	i 4	56 <sub>a</sub>	- 1	i 9	2	+ 6	—	—	—
Nanking	23·6	350	i 5	8 <sub>a</sub>	- 1	i 9	27	+10	—	—	—
Hukuoka	25·7	14	e 5	40	+11	e 9	46	- 7	—	—	—
Nagoya	29·3	24	e 6	32	+30	—	—	—	—	—	—
Tokyo	30·9	27	c 6	25	+ 9	e 12	51	<i>SS</i>	—	—	—
Matusiro	31·0	23	6	15	- 2	11	21	+ 3	—	—	—
Vladivostok	35·2	11	6	51	- 2	12	29?	+ 6	—	—	—
Calcutta	E.	36·0	e 6	59	- 1	i 12	39	+ 3	8 26	PP	16·9
Perth	41·0	189	—	—	—	i 13	54	+ 3	i 16 49	<i>SS</i>	—
Yuzno-Sakhlinsk	41·7	20	7	49	- 2	e 14	0	- 1	—	—	—
Colombo	E.	42·8	7	54	- 2	14	19	+ 1	—	—	25·1
Ulegorsk	43·3	19	8	2	+ 2	14	25	0	—	—	—
Kyakhta	43·8	345	e 8	1?	- 3	e 14	29?	- 3	—	—	—
Hyderabad	E.	44·2	i 8	5	- 3	i 14	37	- 1	—	—	21·8
Kodaikanal	E.	44·9	e 8	11	- 2	i 14	47	- 1	18 14	<i>SS</i>	—
Kabansk	45·3	345	e 8	15	- 1	e 14	51	- 3	—	—	—
Irkutsk	46·1	344	8	21	- 2	15	3	- 2	—	—	—
Brisbane	46·3	142	i 8	24	0	i 15	9	+ 1	i 8 38	pP	—
New Delhi	47·3	301	e 8	29	- 3	e 15	16	- 6	10 53	PPP	—
Poona	48·6	287	i 8	42	0	i 15	39	- 2	10 33	PP	22·4
Bombay	49·6	287	e 8	51	+ 1	i 15	57	+ 2	10 47	PP	22·7
Riverview	50·0	149	i 8	55 <sub>a</sub>	+ 2	i 16	10	+10	9 15	sP	—
Melbourne	50·6	158	—	—	—	16	18	+ 9	—	—	—
Przhevalsk	51·5	318	e 9	8	+ 4	—	—	—	—	—	—
Kurmenty	51·9	319	e 9	8	+ 1	—	—	—	—	—	—
Almata II	52·6	319	e 9	19	+ 6	—	—	—	—	—	—
Naryn	52·7	317	e 9	17	+ 4	i 16	43	+ 6	—	—	—
Petropavlovsk	52·8	26	i 9	15	+ 1	i 16	35	- 4	—	—	—
Almata	52·9	319	e 9	17	+ 2	i 16	43	+ 3	—	—	—
Ili	53·1	320	e 9	10	- 6	—	—	—	—	—	—
Rybach'e	53·1	318	e 9	22	+ 6	e 16	46	+ 3	—	—	—
Frunse	54·3	318	i 9	28	+ 3	i 17	1	+ 2	—	—	—
Khorog	54·4	310	i 9	26	0	i 17	3	+ 3	—	—	—
Andijan	55·0	314	e 9	29	- 1	i 17	10	+ 2	—	—	—
Fergana	55·2	314	e 9	30	- 2	i 17	14	+ 3	—	—	—
Obi-garm	56·2	311	9	38	- 1	i 17	27	+ 2	—	—	—
Stalinabad	56·9	311	9	43	- 1	i 17	35	+ 1	—	—	—
Tashkent	57·3	314	e 9	50	+ 3	i 17	41	+ 2	—	—	—
Tchimkent	57·4	315	i 9	46	- 2	i 17	44	+ 4	—	—	—
Samarkand	58·5	311	i 9	55	0	i 17	56	+ 1	—	—	—
Ashkabad	64·7	308	e 10	38	+ 1	i 19	19	+ 6	—	—	—
Auckland	N.	66·4	136	—	—	i 19	58	<i>sS</i>	e 24 44	?	—
Kizyl-Arvat	66·5	310	i 10	53	+ 5	i 19	38	+ 3	—	—	—
Kaimata	N.E.	67·4	143	e 11	12	<i>sP</i>	—	—	—	—	—
Sverdlovsk	67·8	329	i 10	55	- 2	i 19	51	0	—	—	—
Christchurch	68·7	143	i 11	2	0	e 20	19	+17	e 26 2	?	e 28·2
Wellington	68·8	140	i 11	1	- 2	e 20	5	- 2	e 24 20	<i>SS</i>	e 29·2
Baku	71·5	310	i 11	25	+ 6	i 20	41	+ 7	—	—	—
Lenkoran	72·3	308	11	28	+ 4	20	46	+ 2	—	—	—
Shemakla	72·5	310	e 11	32	+ 7	i 20	50	+ 4	—	—	—
Grozny	74·8	313	i 11	41	+ 2	21	10	- 2	—	—	—

Continued on next page.

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1952

299

	$\Delta$	Az.	P.		O-C.	S.		O C.	Supp.		L.
	$^{\circ}$	$^{\circ}$	m.	s.	s.	m.	s.	s.	m.	s.	m.
Tiflis	75.5	311	e 11	42	- 1	21	18	- 2	—	—	—
Borzhomi	76.5	311	e 11	59	pP	—	—	—	—	—	—
Piatigorsk	76.8	313	11	49	- 1	21	31	- 3	—	—	—
Zugdidi	77.6	312	11	54	0	—	—	—	—	—	—
Sotchi	79.2	313	12	8	+ 5	i 22	0	+ 1	—	—	—
Moscow	80.3	325	e 12	12	+ 3	22	9	- 2	—	—	—
College	81.8	26	12	15	- 2	—	—	—	—	—	—
Theodosia	82.2	315	12	21	+ 2	22	29	- 2	—	—	—
Ksara	82.8	303	e 12	25	+ 3	i 22	47	+10	23	34	SS
Yalta	83.2	314	e 12	24	0	e 22	38	- 3	—	—	—
Kishinev	86.5	318	12	44	+ 3	23	3	[+ 1]	—	—	—
Helsinki	86.5	331	e 12	39	- 2	e 23	12	- 1	e 12	53	pP
Kiruna	86.7	338	i 12	39	- 3	i 23	13	- 2	i 12	53	pP
Helwan	87.2	299	12	48	+ 4	23	23	+ 3	e 13	6	sP
Istanbul	87.3	311	e 12	45?	0	e 23	7?	[+ 1]	—	—	—
Bucharest	88.9	315	e 12	51	- 1	e 23	15	[- 2]	e 23	38	S
Lwow	89.2	320	e 12	54	0	i 23	37	- 1	—	—	—
Upsala	90.1	331	e 12	55	- 3	e 23	47?	0	i 13	9	pP
Uzhgorod	90.5	320	—	—	—	i 23	51	+ 1	—	—	—
Sofia	91.2	313	e 16	45	PP	e 23	29	[- 2]	e 29	51	SS
Timisoara	91.9	317	16	44?	PP	—	—	—	—	—	—
Belgrade	92.7	315	e 17	14 <sub>a</sub>	pPP	e 23	40	[+ 1]	e 25	50	PPS
Resolute Bay	93.6	9	e 13	11	- 3	e 23	44	[ 0]	e 13	24	pP
Prague	95.0	322	—	—	—	e 23	50	[- 2]	e 24	20	S
Potsdam	95.0	324	e 13	25	+ 5	e 23	53	[+ 1]	e 24	32	S
Collmberg	95.5	323	e 13	20	- 3	e 30	44	SS	e 13	33	pP
Taranto	96.2	312	e 16	59	PP	e 25	44	SP	e 22	44	?
Cheb	96.3	322	—	—	—	e 23	59	[ 0]	e 25	56	PS
Jena	96.4	323	e 13	25	- 2	e 23	3?	[- 57]	e 13	39	pP
Scoresby Sund	97.5	348	e 13	47	pP	e 24	7	[+ 2]	e 27	21	PPS
Pretoria	z. 98.0	245	e 13	31	- 3	—	—	—	—	—	—
Messina	98.1	310	e 13	55	sP	24	6	[- 2]	17	40	PP
Witteveen	z. 98.4	327	e 13	47	pP	—	—	—	—	—	—
Rome	99.1	315	e 18	6	pPP	e 24	14	[+ 1]	e 31	56	SS
Salo	n. 99.1	318	e 17	47	PP	e 24	12	[- 1]	e 26	13	SP
Florence	99.3	316	e 14	5	sP	e 24	14	[ 0]	e 31	57	SS
De Bilt	99.6	326	e 13	44	+ 3	e 24	20	[+ 4]	e 17	44	PP
Strasbourg	99.6	322	e 26	36	PS	e 25	16	+ 8	e 32	0	SS
Aberdeen	100.6	332	—	—	—	e 24	20	[- 1]	e 31	30	SS
Paris	102.7	324	e 18	3	PP	—	—	—	—	—	—
Kew	102.8	327	e 18	25	pPP	—	—	—	—	—	e 53.7
Mineral	z. 103.1	45	e 17	54	PP	—	—	—	—	—	—
Lick	z. 104.3	47	e 17	49	PP	—	—	—	—	—	—
Hungry Horse	104.3	35	e 14	40	?	—	—	—	—	—	—
Rathfarnham Castle	104.8	331	e 18	29	PP	—	—	—	—	—	e 54.7
Tinemaha	z. 106.9	47	e 19	1	pPP	—	—	—	—	—	—
Tortosa	107.8	317	—	—	—	e 24	40	[- 14]	—	—	e 53.7
China Lake	z. 107.9	47	e 18	13	PKP	—	—	—	—	—	—
Mount Wilson	z. 108.2	50	e 18	35	pPKP	—	—	—	—	—	—
Palomar	z. 109.5	50	e 18	49	sPKP	—	—	—	e 19	17	PP
Boulder City	109.8	46	e 18	11	[- 17]	—	—	—	e 19	13	PP
Tamanrasset	z. 111.3	299	e 18	21	[- 9]	i 19	11	PP	e 21	34	PPP
Granada	112.3	316	—	—	—	25	8	[- 4]	28	40	PS
Tucson	114.5	48	e 19	51	PP	—	—	—	—	—	—
Fayetteville	z. 123.4	36	e 18	54	[ 0]	e 31	47	PPS	e 20	24	PP
Ottawa	123.6	16	e 20	34	PP	e 26	14	[+ 22]	—	—	—
Harvard	127.3	13	e 19	2	[+ 1]	e 37	4	SS	e 21	5	PP
Palisades	128.1	15	i 19	4	[+ 1]	e 33	0	PPS	i 21	4	PP
Philadelphia	128.7	17	e 21	17	PP	e 38	22	SS	—	—	—
M'Bour	134.1	300	—	—	—	i 22	44	SKP	—	—	—
San Juan	151.6	18	e 19	54	[+ 10]	—	—	—	—	—	—
Bogota	158.4	52	e 19	47	[- 7]	e 30	56	SKKS	e 24	9	PP
Huancayo	161.7	102	i 20	2	[+ 5]	e 31	17	SKKS	e 24	36	PP
La Paz	166.7	126	i 20	5 <sub>a</sub>	[+ 3]	i 31	44	SKKS	i 20	24	pPKP



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1952

300

April 8d. 20h. 47m. 12s. Epicentre 15°·6S. 173°·6W. (as on 1949, August 11d.).

A = -·9576, B = -·1074, C = -·2673;  $\delta = -2$ ;  $h = +6$ ;  
D = -·111, E = +·994; G = +·266, H = +·030, K = -·964.

		$\Delta$		P.		O-C.	S.		O-C.	Supp.	
		°	'	m.	s.	s.	m.	s.	s.	m.	s.
Apia		2·5	45	i 0	49	- 1 <sub>5</sub>	i 1	20	+ 2*	—	—
Kaimata	N.E.	29·8	203	e 6	14	+ 3	—	—	—	—	—
Brisbane	Z.	33·1	245	i 6	38 <sub>a</sub>	- 2	—	—	—	—	—
Lick	Z.	71·8	42	e 11	26	0	—	—	—	—	—
Mount Wilson	Z.	72·4	46	e 11	28	- 2	—	—	—	—	—
Palomar	Z.	72·8	48	e 11	37	+ 5	—	—	—	e 11	46
Riverside	Z.	72·8	46	e 11	31	- 1	—	—	—	—	PcP
China Lake	Z.	73·6	45	e 11	35	- 2	—	—	—	—	—
Mineral	Z.	73·7	40	i 11	37	- 1	—	—	—	—	—
Tinemaha	Z.	73·9	44	e 11	38	- 1	—	—	—	—	—
Reno	Z.	74·3	42	e 11	44	+ 3	—	—	—	—	—
Collmberg	Z.	144·0	354	e 19	38	[+ 1]	—	—	—	e 19	44
Raciborzu	Z.	144·3	347	e 19	50	[+ 12]	e 20	8	?	e 20	38
Jena		144·5	355	e 19	40?	[+ 2]	—	—	—	e 20	57
Prague		145·0	352	e 19	42	[+ 3]	—	—	—	e 20	38
Paris		146·7	5	e 19	47	[+ 5]	—	—	—	—	—
Strasbourg		147·1	358	e 19	52	[+ 9]	—	—	—	e 21	3
Ksara		147·8	310	e 20	1?	PKP <sub>2</sub>	—	—	—	e 23	44
Clermont-Ferrand		149·8	5	18	48?	[- 59]	—	—	—	—	PP
Helwan	Z.	153·0	307	e 20	18	PKP <sub>2</sub>	—	—	—	e 20	35
Tamanrasset	Z.	172·8	—	e 20	12	[+ 1]	—	—	—	e 20	45

April 9d. 7h. 57m. 11s. Epicentre 4°·5S. 104°·5W. (as on 1950, May 5d.).

A = -·2496, B = -·9652, C = -·0779;  $\delta = -2$ ;  $h = +7$ ;  
D = -·968, E = +·250; G = +·020, H = +·075, K = -·997.

		$\Delta$		P.		O-C.	S.		O-C.	Supp.		L.
		°	'	m.	s.	s.	m.	s.	s.	m.	s.	m.
Vera Cruz		24·9	19	—	—	—	e 10	26	SS	—	—	e 12·3
Huancayo		29·8	105	i 6	14	+ 3	e 11	7	0	e 7	1	PP
Chinchina		30·3	70	i 7	11	PP	e 11	45	+ 30	—	—	e 12·6
Bogota		31·7	72	—	—	—	e 11	29	- 8	e 13	59	SSS
La Paz		37·6	110	i 7	17	- 1	i 13	10	+ 2	8	41	PP
Palomar	Z.	39·4	344	e 7	32	- 1	—	—	—	—	—	—
Riverside	Z.	40·2	344	e 7	39	- 1	—	—	—	—	—	—
Pasadena		40·5	344	e 7	43	+ 1	(e 16	55)	SSS	—	—	e 16·9
Boulder City		41·4	348	e 7	49	- 1	—	—	—	—	—	—
Fayetteville	Z.	41·5	12	e 7	41	- 9	—	—	—	e 4	1	?
China Lake	Z.	41·9	345	e 7	54	0	—	—	—	—	—	—
Tinemaha	Z.	43·3	345	e 8	3	- 2	—	—	—	—	—	—
Fresno	Z.	43·4	343	e 8	3	- 3	—	—	—	—	—	—
Lick	Z.	44·6	341	e 8	14	- 2	—	—	—	—	—	—
Berkeley	N.	45·3	341	—	—	—	e 15	5	+ 3	—	—	—
Reno	Z.	46·0	345	e 8	27	0	—	—	—	—	—	—
Mineral	Z.	47·3	343	e 8	39	+ 2	—	—	—	—	—	—
Shasta		47·9	342	e 8	46	+ 4	—	—	—	—	—	—
Cleveland		50·3	22	e 8	55	- 5	e 16	7	- 6	e 16	3	S
La Plata	E.	52·6	131	8	31	- 47	16	49	+ 5	22	19	SSS
Bermuda		52·7	43	—	—	—	e 16	37	- 9	—	—	e 25·3
Palisades		53·2	29	—	—	—	e 16	45	- 7	e 20	33	SS
Hungry Horse		53·3	353	i 9	21	- 2	—	—	—	—	—	—
Ottawa		55·9	24	—	—	—	e 17	29	0	21	19	SS
Resolute Bay		79·3	3	e 12	5	- 4	e 22	6	- 3	e 12	15	PcP
Rathfarnham C.	Z.	98·5	37	e 14	29	+ 47	—	—	—	e 20	59	?
Durham	E.	101·1	36	i 12	56	- 57	—	—	—	—	—	—
Cheb		110·5	39	e 18	4	[- 30]	e 27	53	PS	—	—	e 46·4

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1952

301

April 9d. 8h. 8m. 11s. Epicentre 42°·0N. 34°·0W. (as suggested by Strasbourg).

$$A = +\cdot6180, B = -\cdot4168, C = +\cdot6666; \quad \delta = 0; \quad h = -3;$$

$$D = -\cdot559, E = -\cdot829; \quad G = +\cdot553, H = -\cdot373, K = -\cdot745.$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
	°	°	m. s.	s.	m. s.	s.	m. s.	m.	
Malaga	23·4	93	i 5 22	+11	—	—	i 8 40	PcP	10·2
Granada	23·8	92	i 5 20 <sub>a</sub>	+ 5	e 7 56	?	—	—	10·6
Kew	24·8	56	e 8 49	PcP	—	—	—	—	—
Durham	N. 24·8	48	i 9 13	PcP	—	—	—	—	—
Almeria	24·8	92	e 5 21	- 4	—	—	—	—	11·0
Tortosa	25·8	81	—	—	i 9 47	-15	(10 49?)	SS	e 10·8
Paris	26·3	62	e 5 36	- 3	—	—	—	—	—
Witteveen	Z. 29·2	53	e 6 7	+ 2	—	—	—	—	—
Strasbourg	29·8	63	e 6 45	PP	—	—	—	—	12·4
Fort de France	35·9	229	e 7 2	- 2	—	—	—	—	—
Fayetteville	Z. 46·3	284	e 9 41	PP	—	—	—	—	—

April 9d. 8h. 34m. 21s. Epicentre 38°·0N. 27°·5E. (as on 1941, January 9d.).

Felt in the Island of Samos.

Intensity VI at Chora; V at Limin Vathy, Pagondo, Spatharei, and Mytilini; IV at Karlovasi, Tiganion, and Marathokampos; and III in Chios. Epicentre 37°·8N. 26°·9E

A. Galanopoulos.

Seismological Institute Bulletin, 1952, Athens, 1953, p. 21.

$$A = +\cdot7007, B = +\cdot3648, C = +\cdot6131; \quad \delta = -5; \quad h = -1;$$

$$D = +\cdot462, E = -\cdot887; \quad G = +\cdot544, H = +\cdot283, K = -\cdot790.$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
	°	°	m. s.	s.	m. s.	s.	m. s.	m.	
Athens	3·0	269	e 0 55 <sub>k</sub>	+ 1*	e 1 26	- 1	e 0 59	P <sub>g</sub>	—
Istanbul	Z. 3·3	21	i 1 10	+ 4 <sub>g</sub>	e 1 32	- 3	i 1 50	S <sub>g</sub>	—
Sofia	5·7	327	e 1 39	- 1*	e 3 5	- 3 <sub>g</sub>	i 2 4	P <sub>g</sub>	e 4·9
Bucharest	6·5	350	e 2 6	- 4 <sub>g</sub>	e 2 58	+ 3	e 3 3	S <sub>g</sub>	—
Ksara	8·0	118	—	—	e 3 29	- 4	—	—	i 5·8
Belgrade	8·6	325	—	—	e 3 50	+ 2	e 4 50	S <sub>g</sub>	e 5·0
Timisoara	9·0	331	—	—	e 4 46	+15*	e 4 50	S <sub>g</sub>	i 5·0
Collmberg	Z. 16·8	327	e 4 0?	+ 2	—	—	—	—	—
Witteveen	Z. 20·7	324	e 4 44	0	—	—	—	—	—
Tamanrasset	Z. 24·2	239	e 5 18	- 1	—	—	e 5 30	PP	—

April 9d. 14h. 8m. 31s. Epicentre 40°·6S. 177°·0E. (as on 1946, May 9d.).

Intensity V in the Epicentral region. Epicentre 40°·7S. 177°·3E. (Wellington).

R. C. Hayes.

Earthquake Origins in New Zealand during the year 1952, Seismological Observatory Bulletin S-98, 1953, p. 3.

$$A = -\cdot7605, B = +\cdot0399, C = -\cdot6482; \quad \delta = +12; \quad h = -2;$$

$$D = +\cdot052, E = +\cdot999; \quad G = +\cdot647, H = -\cdot034, K = -\cdot762.$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	°	°	m. s.	s.	m. s.	s.
Bunnythorpe	1·1	287	—	—	i 0 41	+ 2
Wellington	1·8	248	e 0 35	- 1 <sub>g</sub>	e 1 4	+ 4 <sub>g</sub>
Tuai	N. 1·8	4	e 0 33	+ 1	0 59	- 1 <sub>g</sub>
New Plymouth	E. 2·7	304	e 0 47	+ 2	1 21	+ 2
Karapiro	N. 2·9	337	e 0 46	- 2	e 1 31	+ 1*
Cobb River	E. 3·3	261	e 0 55	+ 2	e 1 32	- 3
Auckland	N. 4·1	334	1 16	+ 3*	2 7	+ 1*
Christchurch	4·4	227	e 1 17	- 1*	e 2 1	- 1
Kaimata	N.E. 4·6	243	e 1 14	+ 2	—	—

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1952

302

April 9d. 16h. 29m. 26s. Epicentre 35°·4N. 97°·8W. Focus at Base of Superficial Layers.

Slipping all along the Nemaha fault.

Intensity VII at El Reno, Oklahoma City, and Ponca City; VI at Ada, Canton, Cleveland, Enid, McAlester, Stillwater, and Tulsa. Felt over most of Oklahoma, Missouri, Kansas, Iowa, Nebraska, and Texas. Epicentre 35° 22'·7N., 97° 47'·0W. (Miller). Depth 39km. Macroseismic area 140,000 square miles.

L. M. Murphy and W. K. Cloud.

United States Earthquakes, 1952, U.S.C.G.S., Serial 773, Washington, 1954, pp. 7-9, with macroseismic chart on p. 6.

H. J. Miller.

The Oklahoma and Kansas Earthquake of April 9, 1952.  
Earthquake Notes, Vol. XXIII, No. 2, 1952, pp. 11-12.

H. J. Miller.

The Oklahoma Earthquake of April 9, 1952, B.S.S.A, Vol. 46, No. 4, pp. 269-279.

A = -·1109, B = -·8094, C = +·5767;  $\delta = +1$ ;  $h = 0$ ;  
D = -·991, E = +·136; G = -·078, H = -·571, K = -·817.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Fayetteville	z.	3·0	77	i 0 49	+ 3	e 1 22	0	—	—
Lubbock		3·8	243	1 0	+ 2	—	—	—	—
Lincoln		5·5	9	e 1 16	- 6	e 2 14	-11	—	—
St. Louis		6·9	60	i 1 42	+ 1	i 2 58	- 2	—	—
Rapid City		9·6	336	e 2 18	- 1	e 4 2	- 5	—	—
Chicago		10·2	48	e 2 25	- 2	e 5 13	?	—	—
Cincinnati		11·2	67	i 2 41	- 0	i 4 41	- 5	—	—
Tucson		11·3	257	e 2 40	- 2	i 5 47	+59	—	—
Boulder City		13·9	278	e 3 17	0	e 5 40	-11	—	—
Columbia		13·9	91	e 3 17	0	e 5 45	- 6	—	—
Cleveland		14·1	60	e 3 16 <sup>k</sup>	- 3	i 5 56	0	i 6 10	?
Bozeman		14·4	320	e 4 18	+55	e 7 8	+65	—	—
Palomar	z.	15·9	268	e 3 44	+ 1	i 7 1	<del>SS</del>	—	e 8·4
Tacubaya		16·0	185	e 3 54	PP	e 7 19	<del>SS</del>	i 8 44	PcP
China Lake	z.	16·1	277	e 3 47	+ 2	—	—	—	e 8·4
Riverside	z.	16·2	271	e 3 48	+ 1	—	—	—	e 8·5
Tinemaha		16·6	282	i 3 55	+ 3	—	—	e 8 50	PcP
Buffalo (Larkin)		16·6	58	i 3 50	- 2	—	—	—	—
Pennsylvania		16·6	65	i 3 49	- 3	e 6 46	- 8	e 7 7	SS
Pasadena		16·8	272	e 3 55	+ 1	—	—	—	e 8·5
Washington		16·9	72	e 3 48?	- 7	—	—	e 4 8	PP
Hungry Horse		17·7	322	i 4 5	- 1	—	—	i 5 19	?
Fresno		17·8	282	i 4 10 <sup>a</sup>	+ 3	—	—	—	e 9·3
Saskatoon		17·9	342	e 4 46?	+38	—	—	—	—
Reno	z.	17·9	291	e 4 13	+ 5	e 8 28	SSS	e 4 24	PP
Kirkland Lake	z.	18·3	40	e 4 10	- 3	e 7 22	-11	—	—
Philadelphia		18·5	68	e 4 17	+ 2	e 8 3	SS	—	—
Lick	z.	19·3	284	e 4 26	+ 1	—	—	e 4 38	PP
Mineral	z.	19·4	292	e 4 28	+ 2	—	—	—	e 10·1
City College, N.Y.		19·5	66	e 4 28	+ 1	e 7 52	- 8	—	e 10·5
Ottawa		19·5	51	—	—	e 7 53	- 7	—	—
Palisades		19·6	66	i 4 28	0	i 8 14	+12	i 9 0	SSS
Fordham		19·6	66	i 4 28	0	e 7 56	- 6	—	—
Berkeley	z.	19·8	284	e 4 32	+ 2	e 7 32	-34	e 4 51	PP
Shasta		20·1	293	e 4 32	- 2	—	—	—	—
Harvard		21·6	62	i 4 50 <sup>k</sup>	+ 1	e 8 44	+ 3	—	—
Weston		21·7	62	i 4 52 <sup>a</sup>	+ 2	e 8 47	+ 4	—	—
Shawinigan Falls N.		21·8	50	e 4 54	+ 3	8 58	+13	5 40	PPP
Victoria		23·0	313	5 3	0	—	—	—	—
Bermuda		27·6	86	—	—	e 11 54	SSS	—	—
Resolute Bay		39·4	2	e 7 28	0	e 16 21	SS	—	—
College		41·8	331	i 7 50	+ 2	—	—	—	—
Kiruna	z.	67·2	21	e 10 55	+ 2	—	—	i 11 1	PP
Upsala	z.	71·3	29	e 11 24	+ 6	—	—	—	—

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1952

303

April 9d. 22h. 52m. 54s. Epicentre 44°·8N. 79°·6E. (as on 1940, August 30d.).

A = +·1285, B = +·7002, C = +·7023;  $\delta = +2$ ;  $h = -3$ ;  
D = +·984, E = -·181; G = +·127, H = +·691, K = -·712.

	$\Delta$ °	Az. °	P.		O-C.		S.		O-C.	
			m.	s.	s.	m.	s.	s.		
Chilisk	1·5	214	i 0	27	- 1	-	-	-	-	-
Kurmenty	2·0	208	e 0	34	- 1	i 1	0	- 2	-	-
Ili	2·0	251	i 0	35	0	i 0	59	- 3	-	-
Almata II	2·2	226	i 0	38	0	e 1	6	0	-	-
Almata	2·4	231	i 0	41	0	i 1	14	+ 2	-	-
Przhevalsk	2·5	200	0	42	- 1	1	12	- 2	-	-
Rybach'e	3·5	228	i 0	56	- 1	1	38	- 2	-	-
Frunse	4·1	243	i 1	14	+ 1*	-	-	-	-	-
Naryn	4·3	219	e 1	16	0*	2	16	+ 4*	-	-
Fergana	7·3	235	-	-	-	3	52	- 9*	-	-
Tchimkent	7·7	254	-	-	-	3	42	- 11*	-	-

April 10d. 1h. 7m. 58s. Epicentre 39°·5N. 71°·1E. (as on January 9d.).

A = +·2506, B = +·7320, C = +·6335;  $\delta = -5$ ;  $h = -1$ ;  
D = +·946, E = -·324; G = +·205, H = +·599, K = -·774.

	$\Delta$ °	Az. °	P.		O-C.		S.		O-C.		Supp.	
			m.	s.	s.	m.	s.	s.	m.	s.		
Garm	0·8	231	i 0	16	0 <sub>g</sub>	i 0	27	+ 1 <sub>g</sub>	-	-	-	-
Fergana	1·0	31	i 0	16	- 4 <sub>g</sub>	e 0	29	- 4 <sub>g</sub>	-	-	-	-
Obi-garm	1·4	234	i 0	27	0	i 0	49	+ 3	-	-	-	-
Andijan	1·6	38	i 0	28	- 2	0	48	- 3	-	-	-	-
Stalinabad	2·0	243	i 0	39	- 1 <sub>g</sub>	i 1	8	+ 2 <sub>g</sub>	-	-	-	-
Khorog	2·1	169	e 0	39	0*	1	8	- 1 <sub>g</sub>	-	-	-	-
Murgab	2·5	117	e 0	47	+ 2*	e 1	21	- 2 <sub>g</sub>	-	-	-	-
Tchimkent	3·0	335	0	56	+ 2*	1	26	- 1	i 1	36	S <sub>g</sub>	-
Samarkand	3·2	273	0	57	- 1*	1	41	+ 2*	-	-	-	-
Naryn	4·2	62	e 1	15	0*	-	-	-	-	-	-	-
Frunse	4·3	37	e 1	7	- 1	i 2	15	+ 3*	-	-	-	-
Rybach'e	4·6	51	e 1	26	+ 4*	-	-	-	-	-	-	-
Almata II	6·0	49	e 1	31	- 1	-	-	-	-	-	-	-
Ili	6·3	43	i 1	32	- 4	-	-	-	-	-	-	-

April 10d. 5h. 57m. 17s. Epicentre 24°·2N. 124°·6E.

A = -·5185, B = +·7517, C = +·4076;  $\delta = +3$ ;  $h = +4$ ;  
D = +·823, E = +·568; G = -·231, H = +·336, K = -·913.

	z.	$\Delta$ °	Az. °	P.		O-C.		S.		O-C.		Supp.		L. m.
				m.	s.	s.	m.	s.	s.	m.	s.			
Zi-ka-wei	7·5	339	1	55 <sub>a</sub>	+ 2	i 3	27	+ 7	-	-	-	-	-	
Yakusima	8·1	39	e 2	7	- 5	3	45	SS	-	-	-	-	-	
Kagosima	9·1	34	i 2	14	0	e 4	19	SS	i 3	13	?	-	e 4·6	
Tomie	9·2	23	e 2	8	- 8	-	-	-	-	-	-	-	e 4·8	
Nanking	9·4	328	e 2	19 <sub>a</sub>	+ 1	e 4	9	+ 2	i 2	23	PP	-	-	
Miyazaki	9·8	37	e 2	57	+ 33	e 4	38	+ 21	-	-	-	-	e 5·4	
Kumamoto	10·1	31	e 2	34	+ 5	-	-	-	-	-	-	-	e 6·2	
Manila	10·2	200	i 2	28	- 3	e 4	21	- 6	-	-	-	-	-	
Saga	10·3	28	2	41	PP	-	-	-	-	-	-	-	-	
Hukuoka	10·6	27	e 2	43	+ 7	e 4	41	+ 4	e 5	21	Q	-	e 5·9	
Matuyama	12·0	35	e 3	16	PPP	e 6	7	L	-	-	-	-	(e 6·1)	
Hirosima	12·2	32	3	8	PP	-	-	-	-	-	-	-	-	
Hamada	12·5	30	e 3	2	0	e 5	30	- 7	-	-	-	-	e 6·6	
Sumoto	13·5	39	e 3	15	0	-	-	-	-	-	-	-	7·4	
Toyooka	14·3	36	e 3	33	PP	-	-	-	-	-	-	-	-	
Kameyama	14·8	41	e 3	50	PP	6	27	+ 9	-	-	-	-	e 7·8	
Nagoya	15·3	42	e 3	49	PP	-	-	-	-	-	-	-	-	
Gihu	15·4	41	e 3	37	- 3	6	35	+ 3	-	-	-	-	e 8·6	
Shizuoka	16·1	45	e 3	53	+ 4	-	-	-	-	-	-	-	e 9·6	
Toyama	16·5	38	3	59	+ 5	e 6	50	- 8	e 7	33	SSS	-	e 9·3	

Continued on next page.

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1952

304

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	m.	s.	m. s.	s.	m. s.	s.	m. s.	m.
Misima	16.5	16	e 4 9	PP	—	—	—	—
Kohu	16.6	43	e 3 54	- 2	e 7 4	+ 4	—	—
Matumoto	16.6	41	e 4 5	PP	e 7 7	+ 7	—	—
Osima	16.6	47	e 3 57	+ 1	e 7 2	+ 2	—	—
Hunatu	16.7	44	e 3 55	- 2	e 7 4	+ 1	—	—
Matusiro	17.0	40	i 3 55	- 6	i 7 13	+ 3	—	8.7
Mera	17.0	48	e 4 16	PP	—	—	—	—
Nagano	17.1	40	e 4 12	+10	—	—	—	e 8.0
Oiwake	17.1	41	4 5	+ 3	7 14	+ 2	—	—
Titibu	17.2	42	e 4 6	+ 3	e 7 23	+ 9	—	—
Kumagaya	17.4	41	e 4 5	- 1	7 18	- 1	—	—
Maebasi	17.4	41	i 4 2	- 4	e 7 18	- 1	—	—
Tokyo	17.4	43	e 4 5	- 1	i 7 17	- 2	—	—
Mito	18.3	43	e 4 13	- 4	e 7 30	- 9	—	—
Shirakawa	18.6	41	e 4 10	-11	—	—	—	—
Inawasiro	18.8	40	e 4 2	-21	—	—	—	—
Hokusima	19.1	41	e 4 10	-17	e 7 43	-14	—	—
Sendai	19.7	40	e 4 25	- 9	7 53	-17	e 5 32	?
Mizusawa	20.4	38	e 4 41	0	8 16	- 9	—	—
Guam	21.8	115	4 59	+ 3	8 50	- 2	—	—
Sapporo	23.3	30	e 5 14	+ 4	9 14	- 6	—	—
Urakawa	23.4	33	e 5 13	+ 2	—	—	—	—
Yuzno-Sakhlinsk	26.9	26	5 38	- 7	—	—	—	—
Uglegorsk	28.4	24	e 5 56	- 2	—	—	—	—
Kyakhta	29.7	335	e 6 5	- 5	—	—	—	—
Kabansk	31.0	337	6 18	- 3	—	—	—	—
Irkutsk	32.0	336	e 6 25	- 5	e 11 38	- 4	—	—
Djakarta	34.8	212	e 6 49	- 5	e 12 16	- 9	e 7 55	PP
Petropavlovsk	38.6	32	i 7 20	- 6	e 13 3	-20	—	—
Klyuchi	41.5	29	e 7 43	- 7	—	—	—	—
New Delhi	42.5	287	i 8 3k	+ 4	i 14 24	+ 2	—	—
Almata II	43.0	309	i 8 5	+ 2	—	—	—	—
Almata	43.3	309	i 8 6	+ 1	—	—	—	—
Rybach'e	43.8	306	i 8 9	0	—	—	—	—
Frunse	44.9	307	i 8 19	+ 1	e 15 2	+ 6	—	—
Colombo	46.1	256	8 31	+ 3	15 21	+ 7	—	27.0
Andijan	46.4	304	i 8 31	+ 1	—	—	—	—
Fergana	46.8	304	i 8 34	+ 1	e 15 28	+ 4	—	—
Khorog	46.8	299	i 8 35	+ 2	e 15 31	+ 7	—	—
Kodaikanal	46.9	262	i 8 37	+ 3	e 15 30	+ 5	i 10 5	PcP
Poona	47.4	273	i 8 42	+ 4	i 15 37	+ 5	15 59	PPS i 23.7
Garm	47.9	302	i 8 42	0	—	—	—	—
Bombay	48.2	274	e 8 48	+ 4	e 15 46	+ 3	16 2	PPS
Obi-garm	48.3	302	i 8 46	+ 1	e 15 52	+ 7	—	—
Tchimkent	48.6	306	i 8 48	+ 1	—	—	—	—
Tashkent	48.7	305	i 8 50	+ 2	e 15 56	+ 6	—	—
Stalinabad	49.1	302	i 8 51	0	e 15 57	+ 1	—	—
Samarkand	50.4	302	i 9 3	+ 2	16 19	+ 5	—	—
Sverdlovsk	55.9	323	i 9 40	- 2	17 25	- 4	—	—
Ashkabad	57.3	301	i 9 53	+ 1	—	—	—	—
Brisbane	58.2	150	e 10 0	+ 2	e 17 53	- 6	e 17 50	S
Kizyl-Arvat	58.8	303	10 6	+ 4	—	—	—	—
Riverview	63.0	155	i 10 35k	+ 4	i 19 2	+ 1	i 11 13	PcP e 32.1
Baku	63.4	305	i 10 35	+ 1	—	—	—	—
Shemakla	64.3	305	i 10 40	+ 1	—	—	—	—
Kirovobad	66.0	305	10 50	0	—	—	—	—
Tifis	67.0	307	10 57	0	—	—	—	—
College	67.4	27	e 10 53	- 6	i 19 46	- 9	—	e 30.9
Piatigorsk	67.7	310	11 0	- 1	19 58	0	—	—
Tsikhlis-Dzhvari	68.0	307	11 5	+ 2	—	—	—	—
Abastumanj	68.4	307	e 11 7?	+ 1	—	—	—	—
Moscow	68.7	323	i 11 5	- 2	e 20 7	- 3	—	—
Sotchi	70.2	310	11 16	- 1	20 28	0	—	—
Pulkovo	71.5	328	11 33?	+ 9	—	—	—	—
Theodosia	72.8	312	i 11 29	- 3	—	—	—	—

Continued on next page.



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1952

305

		$\Delta$ °	Az. °	P.		O - C. s.	S.		O - C. s.	Supp.		L. in.
				m.	s.		m.	s.		m.	s.	
Kiruna		73.0	337	i 11	30	- 3	20	57	- 3	i 21	50	PPS e 37.7
Yalta		73.8	312	e 11	27	- 11	—	—	—	—	—	—
Helsinki		73.9	330	i 11	34	- 5	e 22	39	PPPS	i 11	46	PcP
Ksara		75.9	301	i 11	50 <sub>a</sub>	0	e 22	29	PPS	—	—	—
Kishinev		76.4	316	11	51	- 2	—	—	—	—	—	—
Upsala		77.4	331	i 11	58 <sub>k</sub>	0	e 21	56	+ 7	i 12	5	PcP e 37.2
Resolute Bay		78.2	10	e 11	57 <sub>a</sub>	- 6	e 21	48	- 9	i 12	8	PcP e 32.7
Lwow		78.3	320	i 12	2	- 1	—	—	—	—	—	—
Skalnate Pleso		80.8	320	e 21	33	?	e 22	15	- 10	e 29	1	? e 45.2
Helwan	z.	81.0	298	i 12	17 <sub>a</sub>	- 1	e 22	28	+ 1	e 23	28	PPS
Sofia		81.7	313	e 12	12	- 10	i 23	42	PPS	e 15	41	PP e 46.2
Copenhagen		81.9	328	e 12	22 <sub>a</sub>	- 1	22	43	+ 7	i 12	32	PcP e 40.7
Budapest		82.3	319	e 12	27	+ 2	e 23	53	PPS	12	34	PcP
Bergen		82.4	334	—	—	—	e 25	17	?	—	—	e 43.5
Belgrade		82.7	316	e 12	26 <sub>a</sub>	- 1	e 22	49	+ 5	e 16	55	? e 48.0
Ogyalla		82.7	320	e 14	0	?	e 24	29	?	—	—	—
Scoresby Sund		82.7	350	i 12	25 <sub>k</sub>	- 2	—	—	—	—	—	41.7
Potsdam		83.3	325	e 12	31	+ 1	22	56	+ 6	e 22	43	S e 40.7
Prague		83.8	323	e 12	19	- 13	e 22	31	- 24	e 23	34	PS e 44.2
Collnberg		83.9	324	12	43?	+ 10	e 13	55?	?	12	52?	PcP e 48.7
Cheb		84.9	324	e 12	37	- 1	—	—	—	e 18	23	? —
Jena		84.9	325	e 12	36	- 2	e 23	18	+ 12	e 22	34	? —
Victoria		85.6	38	12	38	- 3	—	—	—	—	—	—
Witteveen	z.	86.3	328	i 12	45 <sub>k</sub>	0	—	—	—	i 12	54	PcP —
Seattle		86.7	38	i 12	46 <sub>k</sub>	- 1	e 23	23?	- 1	i 14	0	? —
Stuttgart		87.3	323	e 12	59?	+ 9	—	—	—	—	—	—
De Bilt		87.5	328	e 12	43	- 8	e 23	31	0	e 33	43?	SSS e 41.7
Karlsruhe		87.6	324	e 12	50	- 1	—	—	—	i 13	2	PcP e 45.7
Chur		88.2	321	e 12	52 <sub>a</sub>	- 2	—	—	—	—	—	—
Strasbourg		88.2	324	e 12	54	0	e 23	28	[+ 6]	e 20	48	? e 43.7
Zürich		88.5	323	e 12	54	- 2	—	—	—	i 13	4	PcP —
Florence		88.9	318	e 12	55	- 3	e 23	21	[- 5]	e 16	47	PP e 43.7
Messina		89.1	312	e 12	57	- 1	e 23	43	- 3	16	22	PP —
Rome		89.2	316	e 13	7	+ 8	e 23	31	[+ 3]	e 30	1	SS e 45.5
Pavia		89.4	320	35	46	?	—	—	—	e 37	37	Q e 48.3
Shasta Dam		90.4	44	e 13	0	- 4	—	—	—	—	—	—
Kew		90.5	329	i 13	15	+ 10	e 23	36	[ 0]	e 34	45	? e 42.7
Hungry Horse		90.8	35	e 13	3	- 3	e 23	58	- 4	e 23	32	SKS —
Paris		90.9	326	e 13	5?	- 2	e 23	45	[+ 7]	e 16	51	PP e 49.7
Mineral	z.	91.1	45	e 13	4	- 4	e 13	11	P	e 16	33	PP —
Rathfarnham Castle		91.9	333	i 13	6	- 5	e 24	18	+ 7	—	—	e 42.7
Berkeley		92.0	47	e 13	8 <sub>k</sub>	- 4	e 24	8	- 4	e 16	43	PP —
Lick	z.	92.7	47	e 13	12 <sub>k</sub>	- 3	e 13	19	P	e 16	59	PP —
Reno	z.	92.7	44	e 13	12	- 3	—	—	—	—	—	—
Fresno	z.	94.3	47	e 13	17	- 6	—	—	—	—	—	—
Tinemaha	z.	95.1	46	e 13	25	- 1	—	—	—	e 17	29	PP —
China Lake	z.	96.2	46	e 13	28	- 3	—	—	—	e 17	22	PP —
Pasadena		96.8	48	e 13	32	- 2	e 13	55	?	e 17	33	PP e 45.3
Riverside	z.	97.5	48	e 13	32	- 5	—	—	—	e 17	44	PP —
Boulder City		98.0	45	e 13	37	- 2	—	—	—	—	—	—
Palomar	z.	98.2	48	e 13	29	- 11	e 17	43	PP	e 13	39	P —
Alicante		99.3	320	e 13	51	+ 6	25	33	+ 19	32	37	SSP e 48.4
Toledo		100.3	322	e 13	49	- 1	e 16	55	?	e 19	59	PPP 57.2
Almeria		101.4	320	13	52	- 3	25	28	- 4	18	0	PP 58.7
Malaga		102.7	321	i 18	9	PP	—	—	—	—	—	61.1
Tucson		102.9	46	e 13	59	- 2	—	—	—	e 18	19	PP —
Tamanrasset	z.	104.6	304	e 17	32	?	—	—	—	e 18	21	PP —
Ottawa		108.3	15	—	—	—	e 28	3	PS	e 32	53	? —
Fayetteville	z.	109.7	33	e 16	57	?	—	—	—	—	—	—
Cleveland	e.	110.3	21	—	—	—	i 26	43	S	—	—	—
Harvard		112.0	12	e 19	19	PP	—	—	—	—	—	e 56.1
Weston		112.1	12	e 19	17	PP	—	—	—	—	—	e 58.6
Palisades		112.9	15	e 19	24	PP	e 28	43	PS	—	—	e 51.9
Huancayo		157.6	61	—	—	—	e 43	52	SS	—	—	—

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1952

306

April 10d. 22h. 14m. 54s. - Epicentre 37° 8N. 72° 4E. Depth of focus 0.020.  
(as on 1952, March 29d.).

A = +.2395, B = +.7551, C = +.6103;  $\delta = 0$ ;  $h = -1$ ;  
D = +.953, E = -.302; G = +.185, H = +.582, K = -.792.

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.
Khorog	0.7	242	i 0 24	0	i 0 44	+ 2
Murgab	1.3	65	i 0 32	+ 3	i 0 56	+ 5
Garm	2.0	306	i 0 36	0	i 1 4	0
Obi-garm	2.3	293	i 0 39	- 1	i 1 9	- 1
Fergana	2.6	350	—	—	i 1 20	+ 3
Andijan	3.0	0	—	—	i 1 29	+ 3
Stalinabad	3.0	285	i 0 45	- 4	i 1 20	- 6
Naryn	4.6	37	—	—	e 2 3	+ 1
Samarkand	4.6	295	—	—	1 57	- 5
Tchimkent	5.0	335	i 1 13	- 1	i 2 11	- 1

April 10d. 22h. 33m. 9s. Epicentre 38° 5N. 74° 8E. (as on 1944, September 30d.).

A = +.2057, B = +.7572, C = +.6199;  $\delta = -6$ ;  $h = -1$ ;  
D = +.965, E = -.262; G = +.163, H = -.598, K = -.785.

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	
Murgab	0.7	259	i 0 22	+ 5	i 0 37	+ 9	—	—
Khorog	2.7	248	i 0 47	+ 2	i 1 20	+ 1	—	—
Andijan	2.9	321	0 50	+ 2	i 1 27	+ 3	—	—
Fergana	3.0	310	e 0 49	- 1	e 1 27	0	—	—
Naryn	3.1	17	0 52	+ 1	i 1 33	+ 4	—	—
Garm	3.6	280	i 0 56	- 2	i 1 35	- 7	—	—
Obi-garm	4.0	275	i 1 1	- 3	e 1 49	- 3	—	—
Rybach'e	4.1	13	e 1 5	0	—	—	—	—
Frunse	4.4	358	i 1 10	0	—	—	—	—
Stalinabad	4.7	273	1 13	- 1	—	—	—	—
Przhevalsk	4.8	33	1 17	+ 2	—	—	—	—
Almata II	5.2	21	i 1 18	- 3	—	—	—	—
Kurmenty	5.3	29	e 1 22	0	—	—	—	—
Tchimkent	5.5	315	e 1 23	- 2	—	—	—	—
Ili	5.7	17	e 1 25	- 3	—	—	—	—
New Delhi	E. 10.1	167	e 2 18	-11	e 3 59	-26	4 11	<i>S</i>
Poona	Z. 19.9	183	—	—	i 8 10	- 5	i 8 41	<i>SS</i>

April 11d. 7h. 40m. 24s. Epicentre 38° 9N. 20° 9E.

Felt in the province of Vonitsa; intensity IV at Astakos, Mytikas, and Katouna in the island of Leucade; III at Leukas and Preveza. Epicentre as adopted (Strasbourg).

A. Galanopoulos.

Seismological Institute Bulletin, 1952, Athens, 1953, p. 22.

A = +.7290, B = +.2784, C = +.6254;  $\delta = +7$ ;  $h = -1$ ;  
D = +.357, E = -.934; G = +.584, H = +.223, K = -.780.

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Athens	2.4	113	e 0 42	+ 1	e 1 18	- 1 <sub>g</sub>	i 0 46	P <sub>r</sub> e 1.4
Taranto	3.2	300	e 1 1	- 3 <sub>g</sub>	—	—	—	—
Sofia	4.2	25	e 1 31	+ 7 <sub>g</sub>	i 1 56	- 1	e 2 6	<i>S</i> * e 2.5
Messina	Z. 4.3	262	e 1 11	+ 3	e 2 2	+ 2	—	—
Belgrade	5.9	357	—	—	e 2 49	+ 9	—	e 3.5
Bucharest	6.7	33	—	—	e 3 24	+ 1*	e 3 42	<i>S</i> <sub>r</sub> e 4.0
Rome	7.1	298	e 2 24	+ 2 <sub>g</sub>	—	—	—	e 4.3
Stuttgart	13.0	323	e 3 8?	- 1	—	—	—	—
Tamanrasset	Z. 20.7	224	e 4 50	+ 6	—	—	—	—
Upsala	Z. 21.1	355	i 4 45	- 3	—	—	—	—
Kiruna	Z. 29.0	0	e 6 4	0	—	—	—	—



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1952

307

April 12d. 1h. 27m. 9s. Epicentre 11°18. 66°08E.

$\Delta = +.3822$ ,  $B = +.8918$ ,  $C = -.2421$ ;  $\delta = 0$ ;  $h = +6$ ;  
 $D = +.919$ ,  $E = -.394$ ;  $G = -.095$ ,  $H = -.223$ ,  $K = -.970$ .

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.	
Tananarive	19.1	253	e 4 25	- 2	e 8 4	+ 7	e 8 19	SS	9.6
Colombo	24.6	32	5 23	0	10 9	+27	—	—	15.4
Kodaikanal	26.4	23	e 6 1	+21	e 10 16	+ 4	—	—	10.9
Poona	33.2	12	i 6 38	- 2	i 11 57	- 3	8 15	PPP	16.2
Bombay	33.3	10	e 6 31	-10	e 12 5	+ 3	7 58	PP	16.2
Pretoria	38.0	247	i 7 19	- 2	—	—	—	—	—
Djakarta	40.1	82	e 7 54	+15	—	—	e 10 43	?	—
Grahamstown	41.2	236	—	—	e 18 9	ScS	—	—	—
Kimberley	41.5	243	i 7 49	- 1	—	—	—	—	—
New Delhi	43.6	13	e 8 6	- 2	14 35	- 3	—	—	—
Khorog	51.5	5	e 9 7	- 2	e 16 26	- 3	—	—	—
Kulyab	51.8	3	e 9 7	- 5	—	—	—	—	—
Stalinabad	52.4	2	e 9 15	- 1	—	—	—	—	—
Murgab	52.6	7	e 8 17?	-61	e 15 39?	-65	—	—	—
Obi-garm	52.6	3	i 9 15	- 3	—	—	—	—	—
Dzhergetal	53.2	4	e 9 21	- 1	—	—	—	—	—
Samarkand	53.5	0	—	—	16 51	- 6	—	—	—
Fergana	54.4	5	e 9 27	- 4	—	—	—	—	—
Andijan	54.8	5	e 9 36	+ 2	—	—	—	—	—
Tashkent	55.2	3	e 9 36	- 1	—	—	—	—	—
Helwan	55.5	322	e 9 39	0	—	—	e 10 59	PcP	—
Ksara	56.0	329	e 9 54	+11	e 17 9	-21	—	—	—
Tchimkent	56.0	3	e 9 40	- 3	e 17 26	- 4	—	—	—
Goris	56.6	342	e 9 46	- 1	i 17 31	- 7	—	—	—
Rybach'e	56.9	9	e 9 50	+ 1	e 17 42	0	—	—	—
Frunse	57.2	8	e 9 52	+ 1	e 17 43	- 3	—	—	—
Przhevsk	57.3	11	e 9 49	- 3	—	—	—	—	—
Almata	57.8	9	e 9 52?	- 3	—	—	—	—	—
Kirovobad	57.8	342	e 9 51	- 4	—	—	—	—	—
Kurmenty	57.8	11	e 9 53	- 2	—	—	—	—	—
Almata II	57.9	9	e 9 53	- 3	—	—	—	—	—
Erevan	57.9	340	e 9 57	+ 1	17 51	- 4	—	—	—
Tiflis	59.1	341	e 10 4	0	e 18 3	- 8	—	—	—
Tsikhlis-Dzhvari	59.5	340	—	—	i 18 16	0	—	—	—
Borzhomí	59.7	340	e 10 11	+ 2	—	—	—	—	—
Grozny	60.3	343	e 10 14	+ 1	—	—	—	—	—
Manila	60.7	64	e 10 15	0	—	—	—	—	—
Piatigorsk	61.8	341	10 20	- 3	18 38	- 8	—	—	—
Istanbul	65.0	330	e 10 39	- 5	e 19 15	-11	—	—	—
Semipalatinsk	65.3	10	e 10 42	- 4	—	—	—	—	—
Tamanrasset	70.3	301	i 11 15 <sub>a</sub>	- 2	—	—	i 11 23	PcP	—
Messina	70.8	320	e 14 59	?	e 20 32	- 3	—	—	e 29.2
Kyakhta	73.0	25	e 11 41?	+ 8	—	—	—	—	—
Irkutsk	73.6	23	—	—	e 21 4	- 3	—	—	—
Kabansk	74.4	24	—	—	e 21 17	+ 1	—	—	—
Rome	74.8	321	e 11 42	- 2	e 21 16	- 4	e 26 14	SS	—
Triest	76.3	325	—	—	e 21 29	- 8	e 21 58	ScS	—
Florence	76.7	323	e 11 41	-14	e 21 17	-24	—	—	—
Riverview	77.7	122	—	—	e 22 21	ScS	e 26 45	SS	e 34.2
Pavia	78.7	323	—	—	e 22 3	0	—	—	e 39.6
Prague	78.7	329	e 12 6	0	e 13 6	?	e 14 8	?	—
Collmberg	80.1	329	e 12 11	- 2	—	—	e 12 18	P	—
Jena	80.6	328	e 12 18?	+ 2	e 14 34	?	e 12 21	P	—
Stuttgart	80.7	326	e 12 16	0	e 22 21	- 3	e 12 21	P	e 42.8
Strasbourg	81.3	326	—	—	e 22 31	+ 1	e 22 46	ScS	e 33.8
Alicante	81.6	313	12 36	+15	e 23 44	PPS	38 34	Q	e 43.5
Copenhagen	83.1	333	—	—	22 51	+ 3	—	—	—
Granada	83.4	311	—	—	23 47	PS	41 33	Q	47.4
Upsala	83.6	337	i 12 33	+ 2	—	—	—	—	—
Malaga	83.9	310	i 12 31	- 2	e 22 56	0	19 1	?	41.9

Continued on next page.

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1952

308

	$\Delta$ °	Az. °	P. m. s.	O - C. s.	S. m. s.	O - C. s.	Supp. m. s.	L. m.
Paris	84.5	323	e 12 40	+ 4	—	—	—	—
Toledo	84.8	313	e 12 38	+ 1	e 27 17	?	e 21 55	?
Kew	87.3	325	e 12 53	+ 3	e 23 32	+ 3	e 29 21	SS
Kiruna	88.3	344	e 12 55	0	e 23 39	0	e 24 50	PS
Resolute Bay	118.6	354	e 18 51	[+ 1]	e 29 56	PS	e 36 27	SS
Victoria	144.7	11	i 19 43	[+ 4]	—	—	—	—
Seattle	145.7	10	i 19 47 <sub>a</sub>	[+ 7]	i 20 11	?	i 21 5	?
Fayetteville	z. 152.8	327	i 19 58	[+ 6]	—	—	i 20 13	PKP <sub>2</sub>
China Lake	z. 158.0	10	e 20 11	[+ 12]	e 20 37	PKP <sub>2</sub>	e 24 8	PP

April 12d. 2h. 51m. 15s. Epicentre 51°·9N. 179°·4E. Depth of focus 0·005.  
(as on 1951, February 12d.).

A = -·6195, B = +·0065, C = +·7849;  $\delta$  = -11;  $h$  = -6;  
D = +·010, E = +1·000; G = -·785, H = +·008, K = -·620.

	$\Delta$ °	Az. °	P. m. s.	O - C. s.	S. m. s.	O - C. s.	Supp. m. s.	L. m.
Adak	2.5	91	i 0 39	0	i 1 6	- 3	—	—
Mitchell Field	2.5	89	i 0 40	+ 1	i 1 7	- 2	—	—
College	21.2	40	4 45?	+ 3	—	—	—	—
Victoria	35.9	72	6 56	0	—	—	—	—
Resolute Bay	z. 39.7	24	e 7 29	+ 1	—	—	—	—
Mineral	z. 41.4	82	i 7 42 <sub>a</sub>	+ 1	—	—	e 7 58	pP
Hungry Horse	41.5	66	i 7 40	- 2	—	—	—	—
Berkeley	z. 42.5	86	e 7 51 <sub>a</sub>	0	—	—	e 8 7	pP
Reno	z. 43.0	81	e 7 55 <sub>a</sub>	0	—	—	e 8 11	pP
Lick	z. 43.2	86	i 7 57	+ 1	—	—	i 8 13	pP
Fresno	z. 44.8	85	e 8 9	0	—	—	e 8 25	pP
Tinemaha	z. 45.5	83	i 8 16	+ 1	—	—	i 8 33	pP
China Lake	z. 46.7	83	i 8 24 <sub>k</sub>	0	—	—	—	—
Pasadena	47.4	86	i 8 30	0	(e 14 45)	-33	i 8 46	pP
Riverside	z. 48.0	86	e 8 33	- 1	—	—	e 8 49	pP
Boulder City	48.3	82	i 8 37	0	—	—	i 8 54	pP
Palomar	z. 48.8	86	i 8 39 <sub>k</sub>	- 2	—	—	i 8 56	pP
Tucson	53.2	83	i 9 14	0	—	—	i 9 31	pP
Kiruna	z. 59.5	351	i 9 59	0	—	—	—	—
Fayetteville	z. 60.6	68	i 10 5	- 1	—	—	—	—
Upsala	z. 67.6	351	i 10 52	0	—	—	—	—
Weston	67.9	49	i 10 53 <sub>a</sub>	- 1	—	—	—	—
Pretoria	z. 146.0	309	i 19 35	[+ 3]	—	—	—	—
Kimberley	z. 150.1	309	i 19 40	[+ 2]	—	—	i 19 46	PKP <sub>2</sub>

April 13d. 0h. 18m. 19s. Epicentre 37°·1N. 71°·2E. Depth of focus 0·025.  
(as on 1951, December 11d.).

A = +·2577, B = +·7569, C = +·6006;  $\delta$  = +3;  $h$  = -1;  
D = +·947, E = -·322; G = +·194, H = +·569, K = -·800.

	$\Delta$ °	Az. °	P. m. s.	O - C. s.	S. m. s.	O - C. s.
Khorog	0.5	41	i 0 24	- 2	i 0 43	- 4
Kulyab	1.4	305	i 0 30	- 2	i 0 56	- 2
Garm	2.0	340	i 0 38	0	i 1 9	+ 1
Obi-garm	2.0	324	i 0 38	0	i 1 10	+ 2
Dzhergetal	2.1	0	0 40	+ 1	i 1 11	- 1
Stalinabad	2.4	307	0 42	- 1	i 1 17	- 1
Murgab	2.5	60	e 0 45	- 1	e 1 18	0
Fergana	3.3	7	e 0 54	+ 1	e 1 36	+ 1
Andijan	3.8	13	e 1 1	+ 1	e 1 48	+ 2
Samarkand	4.2	309	1 8	+ 3	—	—
Tashkent	4.5	341	—	—	e 2 2	0
Rybach'e	6.5	34	—	—	e 2 45	- 3

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1952

809

April 13d. 10h. 45m. 8s. Epicentre 39°·9N. 142°·4E. (as on 1951, June 17d.).

Intensity IV at Matuzaki, Okunakayama, Tono, and Iwaizumi; II-III at Miyako, Morioka, Hatinohe, Kamaishi, and Todosaki. Epicentre 39°·7N. 142°·2E. Macroseismic radius 100-200km.

Seismo. Bull. Cent. Met. Obs., Japan, for April, 1952, Tokyo, 1952, p. 155, with macroseismic chart.

$$A = -0.6095, B = +0.4694, C = +0.6389; \quad \delta = +2; \quad h = -2; \\ D = +0.610, E = +0.792; \quad G = -0.506, H = +0.390, K = -0.769.$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	°	°	m. s.	s.	m. s.	s.
Miyako	0.4	230	e 0 10	0*	0 15	- 1*
Hatinohe	0.9	314	e 0 20	0	0 32	- 2
Morioka	1.0	258	i 0 17	- 3 <sub>x</sub>	0 27	- 6 <sub>x</sub>
Mizusawa	1.2	232	0 19	- 5	0 30	-11
Aomori	1.5	307	e 0 39	+ 9 <sub>x</sub>	0 51	+ 1 <sub>x</sub>
Isinomaki	1.7	210	e 0 30	- 1	—	—
Akita	1.8	264	e 0 31	- 1	0 47	- 9
Sendai	2.0	215	e 0 39	- 1 <sub>x</sub>	0 50	-12
Hukushima	2.6	215	e 0 42	- 2	1 5	-12
Inawasiro	2.9	217	e 1 1	+ 3 <sub>x</sub>	—	—
Shirakawa	3.3	212	e 1 1	+ 2*	—	—
Kusiro	3.4	26	—	—	e 1 28	- 9
Utunomiya	3.9	212	e 0 58	- 4	—	—
Kumagaya	4.4	213	e 1 9	- 1	1 57	- 5

April 13d. 15h. 49m. 44s. Epicentre 27°·2S. 113°·8W. (as on 1951, December 30d.).

$$A = -0.3594, B = -0.8149, C = -0.4546; \quad \delta = -11; \quad h = +3; \\ D = -0.915, E = +0.404; \quad G = +0.183, H = +0.416, K = -0.891.$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Huancayo	39.1	74	e 7 28	- 3	e 13 21	-10	—	e 18.5
La Paz	43.5	85	i 8 12	+ 5	14 40	+ 4	12 58	18.1
Tucson	59.2	3	e 10 3	- 2	—	—	—	—
Palomar	z. 60.3	357	e 10 13	0	—	—	e 10 18	P
Riverside	z. 61.0	356	e 10 17	- 1	—	—	e 10 21	P
Pasadena	z. 61.2	356	e 10 19	0	—	—	e 10 23	P
China Lake	z. 62.8	357	e 10 29	- 1	—	—	e 10 34	P
Boulder City	62.8	359	e 10 30	0	—	—	—	—
Fresno	z. 63.8	355	e 10 34	- 2	—	—	e 10 42	P
Tinemaha	z. 64.0	357	e 10 39	+ 1	—	—	—	—
Lick	z. 64.6	353	e 10 42 <sub>a</sub>	+ 1	—	—	i 10 47	P
Fayetteville	z. 65.6	17	e 10 46	- 2	—	—	—	—
Reno	z. 66.6	355	e 10 56	+ 2	—	—	—	—
Mineral	z. 67.6	354	e 11 8	+ 7	—	—	—	—
Hungry Horse	75.2	0	i 11 44	- 2	—	—	—	—
Weston	79.5	30	e 13 7	+57	—	—	—	—
Kirkland Lake	z. 80.9	22	e 12 16	- 1	—	—	—	—

April 13d. 16h. 35m. 54s. Epicentre 38°·7N. 22°·5E.

Felt in the Island of Euboea.

Intensity V at Vasilika and Aedipsos; IV at Oreoe; IV at Skiathos; V at Livanates; IV at Amphissa; III at Pagasae.

A. Galanopoulos.

Seismological Institute Bulletin, 1952, Athens, 1953, p. 22.

$$A = +0.7229, B = +0.2994, C = +0.6227; \quad \delta = -2; \quad h = -1; \\ D = +0.383, E = -0.924; \quad G = +0.575, H = +0.238, K = -0.782.$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Athens	1.2	128	i 0 21	- 3	10 36	- 5	10 24	P
Sofia	4.0	9	e 1 5	+ 1	e 1 54	+ 2	e 1 19	P <sub>x</sub>
Istanbul	5.6	63	e 1 16	-11	e 2 47	- 3*	e 1 38	P*
Bucharest	6.3	24	e 2 0	- 6 <sub>x</sub>	e 2 57	+ 7	e 2 30	?
Upsala	z. 21.4	353	e 4 51	0	—	—	—	—
Tamanrasset	z. 21.5	227	e 5 0	+ 8	—	—	e 5 18	PP
Kiruna	z. 29.2	358	i 8 10	?	—	—	1 8 13	?

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1952

310

April 14d. 1h. 5m. 17s. Epicentre 21°·0S. 178°·0W. Depth of focus 0·080.  
(as on 1951, November 7d.).

A = -·9338, B = -·0326, C = -·3563;  $\delta = -1$ ;  $h = +4$ ;  
D = -·035, E = +·999; G = +·356, H = +·012, K = -·934.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.
Apia		9·3	41	2 9	- 2	i 3 47	- 9	—
Karapiro	N.	17·8	199	2 43?	-53	—	—	—
New Plymouth	E.	19·3	199	3 43?	- 8	—	—	—
Wellington		21·1	196	3 9	-58	—	—	—
Cobb River	E.	21·5	200	e 4 14	+ 3	e 7 35	+ 2	—
Kaimata	N.E.	23·2	200	4 43?	+17	—	—	—
Brisbane		27·2	251	i 5 1	- 1	i 8 56	- 8	i 5 32 PP
Riverview		30·1	239	i 5 27k	0	i 9 48	- 1	i 15 2 ScS
Mount Wilson	Z.	79·2	48	e 11 9	- 1	—	—	—
Palomar	Z.	79·5	49	e 11 19	+ 7	—	—	—
Riverside	Z.	79·5	48	e 11 11	- 1	—	—	—
China Lake	Z.	80·4	47	e 11 16	0	—	—	—
Tinemaha	Z.	80·6	46	e 11 17	0	—	—	—
Kiruna	Z.	131·8	350	i 18 8	[- 4]	—	—	i 20 42 PP
Upsala	Z.	139·6	347	i 18 15	[-11]	—	—	i 21 7a PP
Copenhagen		144·5	350	i 18 32	[- 3]	—	—	i 21 21 PP
Ratbarnham C.	Z.	147·1	9	e 18 39a	[ 0]	—	—	e 18 46 ?
Witteveen	Z.	148·0	354	i 18 43	[+ 2]	—	—	i 20 55 pPKP
Collberg		148·5	347	i 18 43	[+ 2]	—	—	i 20 55 pPKP
Stuttgart		151·7	349	e 18 44	[- 2]	—	—	e 21 3 pPKP
Strasbourg		152·1	352	i 18 53	[+ 7]	—	—	e 21 4 pPKP
Paris		152·2	359	e 18 53	[+ 6]	—	—	e 21 5 pPKP
Tamanrasset	Z.	176·3	—	e 20 51	PKP <sub>2</sub>	e 24 45	PP	i 21 25 pPKP

April 14d. 2h. 53m. 5s. Epicentre 42°·0N. 142°·8E. (as on 1952, March 23d.).

Intensity V at Yatiyo; IV at Urakawa, Biroo, Memuro, Mukawa, and Tomakomai; II-III at Sapporo, Hatinohe, Maruyama, Hayakita, Simamata, and Kotoni. Epicentre 42°·2N. 142°·9E. Depth of focus 40km. Macro seismic radius 200-300km. Seismo. Bull. Cent. Met. Obs., Japan, for April, 1952, Tokyo, 1952, p. 155, with macro seismic chart.

A = -·5937, B = +·4507, C = +·6666;  $\delta = -3$ ;  $h = -2$ ;  
D = +·605, E = +·797; G = -·531, H = +·403, K = -·745.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.
Urakawa		0·2	355	i 0 11a	+ 1	0 17	+ 1	—
Obihiro		1·0	18	e 0 15	- 6	0 30	- 6	—
Kusiro		1·5	51	e 0 27	- 1	0 45	- 4	—
Sapporo		1·5	315	e 0 27k	- 1	0 45	- 4	—
Hatinohe		1·7	213	1 35	+64	1 58	+64	—
Mori	E.	1·7	273	0 32	+ 1	0 53	- 1	—
Asahigawa		1·8	350	e 0 29	- 3	0 47	- 9	—
Aomori		1·9	232	e 0 40	+ 2 <sub>g</sub>	1 25?	?	—
Abashiri		2·3	29	e 0 39	- 1	0 58	-11	—
Miyako		2·4	195	e 0 37	- 4	1 9	- 3	—
Nemuro		2·4	57	e 0 52	+ 4 <sub>g</sub>	—	—	—
Morioka		2·6	208	e 0 45	+ 1	1 16	- 1	—
Mizusawa	E.	3·1	204	e 1 1	- 1 <sub>g</sub>	1 29	0	—
Isinomaki		3·7	198	e 1 13	- 1 <sub>g</sub>	—	—	—
Sendai	E.	4·0	201	e 1 7	+ 3 <sub>g</sub>	1 50	- 2	—
Yamagata		4·2	207	—	—	e 1 53	- 4	—
Hukusima		4·6	204	e 1 14	+ 2	2 5	- 2	—
Inawasiro		4·9	206	e 1 3	-14	—	—	—
Onahama		5·2	196	e 2 20	S	(e 2 20)	- 2	—
Shirakawa		5·3	203	1 40	- 6 <sub>g</sub>	—	—	—

Continued on next page.

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1952

311

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.
Mito	5.9	198	e 2 37	S	(e 2 37)	- 3	—
Utunomiya	5.9	203	e 1 31	0	e 2 37	- 3	—
Maebasi	6.3	208	e 2 54	S	(e 2 54)	+ 4	3 49 ?
Kumagaya	6.4	205	—	—	e 2 50	- 3	—
Matusiro	6.5	215	e 2 48	S	(e 2 48)	- 7	—
Oiwake	6.6	211	e 2 30	?	—	—	—
Tokyo	6.7	202	—	—	e 2 59	- 1	—
Kohu	7.2	208	—	—	e 3 11	- 2	—
Misima	7.5	205	—	—	e 3 13	- 7	—
Collmberg	77.3	330	e 11 49	- 9	—	—	e 12 10 P
Stuttgart	80.8	331	e 12 9	- 8	—	—	—

April 14d. 23h. 20m. 42s. Epicentre 37°·6N. 71°·6E. Depth of focus 0·020.  
(as on 1952, March 30d.).

A = +·2507, B = +·7537, C = +·6076;  $\delta = +9$ ;  $h = -1$ ;

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.
Khorog	0.1	180	i 0 20	- 2	i 0 35	- 3
Kulyab	1.5	282	e 0 32	+ 1	e 0 55	+ 1
Dzhergetal	1.6	349	e 0 33	+ 1	i 0 57	+ 1
Garm	1.7	324	i 0 34	+ 1	i 0 59	+ 1
Obi-garm	1.9	306	e 0 37	+ 2	i 1 3	+ 1
Murgab	2.0	67	0 33?	- 3	e 0 58?	- 6
Stalinabad	2.4	293	—	—	e 1 16	+ 4
Fergana	2.8	3	—	—	e 1 21	0
Andijan	3.2	11	e 0 52	+ 1	—	—

April 14d. 23h. 37m. 21s. Epicentre 24°·7S. 69°·5W. Depth of focus 0·010.

A = +·3185, B = -·8520, C = -·4155;  $\delta = -1$ ;  $h = +3$ ;  
D = -·937, E = -·350; G = -·146, H = +·389, K = -·910.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Antofagasta	E. 1.3	321	i 0 21	- 3	i 0 28	?	—	—
Copiapo	N. 2.8	196	i 0 42	- 2	—	—	i 0 48	? 10.9
La Paz	8.3	9	i 1 55 <sup>a</sup>	- 4	i 3 35	+ 3	i 2 9	? —
Santa Lucia	N. 8.8	187	e 2 13	+ 7	3 20	?	i 2 30	? 4.0
Concepción	N. 12.5	193	3 5	+ 9	—	—	3 42	? —
Buenos Aires	13.7	138	e 3 16	+ 5	5 55	+ 14	—	—
Huancayo	13.7	335	e 3 12	+ 1	e 6 4	+ 23	e 3 48	? e 6.8
La Plata	E. 14.3	138	i 3 22	+ 3	6 9	+ 14	3 51	? 7.6
Bogota	N. 14.3	138	i 3 27	+ 8	6 15	+ 20	6 51	SS 7.1
	29.5	351	i 5 58	+ 1	i 11 14	+ 31	i 6 45	PP —
Galerazamba	35.7	351	i 7 35	+ 44	e 12 4	- 16	e 13 0	SS —
Fort de France	40.0	14	e 7 27	0	—	—	e 15 51	SS —
Kingston	43.0	351	e 8 12	pP	—	—	—	—
San Juan	43.0	5	i 7 46	- 5	i 9 32	PP	i 8 5	pP —
Tacubaya	52.5	324	i 9 4	- 1	—	—	—	—
Bermuda	56.9	5	i 9 35	- 2	i 17 23	+ 1	i 9 55	pP —
Washington	63.7	354	i 10 21	- 2	—	—	—	—
Philadelphia	64.5	356	—	—	e 19 0	+ 2	—	—
Fayetteville	z. 64.8	338	i 10 29	- 2	i 12 19	PP	i 10 50	pP —
Fordham	65.3	357	e 10 32	- 2	e 19 7	- 1	—	—
Palisades	65.5	357	e 10 34	- 1	i 19 10	- 1	e 18 56	? —
Pittsburgh	65.5	352	i 10 34	- 1	i 19 14	+ 3	—	—
Lubbock	65.6	331	e 10 36	0	—	—	e 10 57	pP —
Pennsylvania	65.6	353	e 10 55	pP	e 19 11	- 1	e 11 5	sP —
Cleveland	66.8	350	i 10 40 <sup>k</sup>	- 3	e 19 20	- 6	i 11 0	pP —
Weston	66.8	359	i 10 43 <sup>a</sup>	0	—	—	i 11 4	pP —
Harvard	66.9	359	i 10 43 <sup>k</sup>	- 1	i 11 24	?	i 11 7	pP —
Buffalo (Larkin)	67.8	353	i 10 49	- 1	—	—	—	—
Vermont	68.9	357	—	—	e 19 58	+ 6	—	—
Tucson	69.0	323	i 10 58	+ 1	e 14 25	?	i 11 19	pP —

Continued on next page.



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1952

312

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
		°	°	m. s.	s.	m. s.	s.	m. s.	m.	
Ottawa		70.0	356	e 11 3	0	20 3	- 1	20 39	PS	28.8
Shawinigan Falls	N.	71.0	358	e 11 9	0	20 17	+ 1	—	—	—
Kirkland Lake	Z.	73.1	353	i 11 21 <sub>a</sub>	- 1	e 11 50	sP	i 11 42	pP	—
Palomar	Z.	73.2	320	i 11 25	+ 3	i 12 25	pPcP	i 11 55	pP	i 42.3
Boulder City		74.0	323	e 11 29	+ 2	e 20 58	+ 8	—	—	—
Riverside		74.0	320	i 11 28	+ 1	i 11 50	PcP	i 11 58	pP	—
Pasadena		74.6	320	i 11 33	+ 3	i 11 47	PcP	i 12 3	pP	—
China Lake		75.4	322	i 11 36	+ 1	i 11 49	PcP	i 12 6	pP	—
Tinemaha		76.7	322	i 11 44	+ 2	i 12 26	sP	i 12 15	pP	—
Fresno	Z.	77.3	321	e 11 47 <sub>k</sub>	+ 1	—	—	e 12 15	pP	—
Lick	Z.	78.8	320	i 11 56 <sub>k</sub>	+ 2	—	—	i 12 26	pP	—
Reno	Z.	79.3	323	e 11 59 <sub>k</sub>	+ 3	—	—	—	—	—
Berkeley		79.5	320	i 11 59	+ 1	e 22 51	PS	i 12 30	pP	—
Butte		80.5	331	i 12 4	+ 1	—	—	i 12 26	pP	—
Mineral	Z.	80.8	322	i 12 6 <sub>k</sub>	+ 2	—	—	e 12 39	pP	—
Shasta		81.5	322	i 12 9	+ 1	—	—	—	—	—
Grahamstown	Z.	81.6	123	e 12 8	- 1	—	—	—	—	—
Kimberley	Z.	82.0	117	i 12 13	+ 2	—	—	—	—	—
Arcata	Z.	82.6	321	e 12 14	0	—	—	—	—	—
Hungry Horse		82.9	332	i 12 17	+ 2	e 22 29	+ 5	—	—	—
Pretoria	Z.	86.0	116	i 12 35	+ 4	—	—	—	—	—
Malaga		86.5	47	i 12 34	+ 1	(23 12)	+12	—	—	23.2
Tamanrasset	Z.	86.7	63	i 12 37 <sub>k</sub>	+ 3	e 22 53	- 9	i 13 2	pP	—
Victoria		87.4	327	i 12 41	+ 4	—	—	—	—	—
Toledo		88.5	44	e 12 46	+ 3	e 23 8	-10	i 13 28	pP	—
Alicante		90.0	47	e 13 9	pP	e 23 56	sS	17 6	PP	44.7
Algiers Univ.	Z.	91.6	50	i 13 21 <sub>k</sub>	pP	—	—	—	—	—
Rathfarnham Castle		95.0	32	e 13 23	+10	e 26 59	sPS	i 13 34	pP	—
Florence		100.4	46	—	—	e 24 12	[+ 6]	—	—	—
Resolute Bay		100.5	353	e 13 39	+ 1	—	—	e 17 27	PP	—
Rome		100.5	48	17 50	PP	24 12	[+ 6]	32 10	SS	—
Messina		101.2	53	—	—	e 24 9	[- 1]	e 25 41	?	e 43.0
Jena		103.5	40	e 15 25	?	—	—	e 18 23	PP	—
Collnberg	Z.	104.4	40	e 15 43?	?	e 18 29	PP	—	—	—
College		107.3	334	e 14 7	P	—	—	—	—	—
Ksara		115.5	63	e 14 7	P	i 19 56	PP	—	—	—
Poona		145.5	93	i 19 33	[+ 6]	—	—	—	—	—
New Delhi		150.0	76	e 19 45	[+11]	—	—	—	—	—

April 14d. 23h. 49m. 49s. Epicentre 3°·8N. 126°·2E. (as on 1952 March 23d.).

Intensity VI-VII at Lirung and Taland, Sangi Islands.

Epicentres : 3°·5N. 126°·5E. (U.S.C.G.S.).

5°·0N. 126°·5E. (Djakarta).

Earthquakes in Indonesia for years 1948-1955. Meteorological and Geophysical Institute, Djakarta, Series A, No. 45, p. 34.

$$A = -.5893, B = +.8052, C = +.0659; \quad \delta = -4; \quad h = +7;$$

$$D = +.807, E = +.591; \quad G = -.039, H = +.053, K = -.998.$$

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Manila		11.9	335	i 3 1	+ 7	—	—	—	e 5.5
Guam		20.7	60	i 4 40	- 4	—	—	i 4 49	?
Djakarta		21.7	243	e 4 39	-16	e 8 36	-15	—	—
Hong Kong		21.8	327	e 4 56	0	8 39	-13	9 38	SS
Yakusima		26.8	8	e 5 49	+ 5	—	—	—	—
Zi-ka-wei	Z.	27.6	351	i 5 51 <sub>a</sub>	0	i 9 49	-43	—	—
Miyazaki		28.4	10	6 7	+ 9	10 45	0	—	e 14.9
Nanking		28.9	346	i 6 4 <sub>a</sub>	+ 1	i 10 10	-43	—	i 10.9
Kumamoto		29.2	8	e 6 11	+ 6	—	—	—	—
Saga		29.5	7	e 6 12	+ 4	—	—	—	—
Kōti		30.4	12	e 5 41	-35	e 11 15	- 1	e 6 15	P
Matuyama		30.5	10	e 6 16	- 1	i 11 12	- 6	e 7 13	PP
Hirosima		31.0	10	6 29	+ 8	11 29	+ 3	—	—
Takamatu		31.2	13	e 6 9	-14	e 7 22	PP	e 8 7	PPP
Sumoto		31.4	14	i 6 19	- 6	i 11 27	- 5	—	—

Continued on next page.



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1952

313

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.	
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.	
Kobe	31.9	14	e 6	28	- 1	e 9	35	PcP	e 7	52	PPP	e 14.6
Gihu	32.9	17	e 6	32	- 6	—	—	—	e 7	53	PPP	—
Shizuoka	33.0	19	e 6	50	+11	—	—	—	—	—	—	—
Kohu	33.7	19	e 6	43	- 2	—	—	—	—	—	—	—
Tokyo	34.1	20	e 7	57	PP	e 13	49	SS	—	—	—	e 17.2
Oiwake	34.3	18	6	52	+ 2	—	—	—	e 8	45	PPP	—
Toyama	34.3	16	e 6	34	-16	—	—	—	—	—	—	—
Kumagaya	34.4	19	e 7	36	+45	—	—	—	e 8	51	PPP	—
Matusiro	34.4	17	e 6	43	- 8	e 12	59	+40	8	14	PP	e 17.0
Maebasi	34.5	18	e 7	42	+50	—	—	—	e 8	6	PP	—
Nagano	E. 34.5	17	e 6	48	- 4	—	—	—	—	—	—	—
Shirakawa	35.6	19	e 6	59	- 2	e 12	31	- 7	—	—	—	—
Inawasiro	35.9	18	e 6	59	- 5	—	—	—	—	—	—	—
Hukusima	36.2	18	e 7	6	0	—	—	—	—	—	—	—
Sendai	N. 36.8	18	e 7	43	+32	—	—	—	—	—	—	—
Perth	36.9	195	i 8	51	PP	i 13	1	+ 3	i 15	46	SS	—
Mizusawa	E. 37.7	19	e 7	23	+ 4	12	25	-45	—	—	—	—
	N. 37.7	19	e 7	26	- 7	12	29	-41	—	—	—	—
Brisbane	40.5	142	i 7	37 <sub>a</sub>	- 5	i 13	40	-12	i 9	19	PP	i 18.4
Calcutta	E. 41.1	300	i 7	51 <sub>a</sub>	+ 4	i 14	6	+ 5	9	29	PP	—
Riverview	44.2	149	i 8	16 <sub>k</sub>	+ 4	i 14	37	- 9	i 17	41	SS	e 18.2
Yuzno-Sakhlinsk	45.3	15	i 8	19	- 2	e 14	59	- 3	—	—	—	—
Colombo	E. 46.2	276	7	39	-49	15	26	+11	—	—	—	30.2
Uglegorsk	47.1	14	i 8	35	0	i 15	26	- 2	—	—	—	—
Hyderabad	48.7	290	i 8	50	+ 2	i 15	52	+ 2	10	48	PP	22.4
Kodaikanal	E. 48.7	281	e 7	29	?	i 16	8	+18	—	—	—	—
Kyakhta	49.3	343	i 8	52	- 1	e 15	51	- 8	—	—	—	—
Kabansk	50.8	343	i 9	5	+ 1	e 16	15	- 5	—	—	—	—
Irkutsk	51.6	342	i 9	11	+ 1	16	30	- 1	—	—	—	—
New Delhi	52.6	303	e 9	17	- 1	i 16	40	- 4	21	36	SSS	—
Poona	53.2	290	i 9	23	+ 1	i 16	51	- 1	12	57	PPP	24.0
Bombay	E. 54.2	290	e 9	30	+ 1	i 17	9	+ 3	11	33	PP	e 21.9
Petropavlovsk	55.9	22	i 9	39	- 3	i 17	26	- 3	—	—	—	—
Przhevsk	57.3	319	9	54	+ 2	—	—	—	—	—	—	—
Naryn	58.4	318	i 10	0	0	—	—	—	—	—	—	—
Almata	58.6	320	i 10	2	+ 1	e 18	4	0	—	—	—	—
Ili	58.8	322	i 10	4	+ 2	—	—	—	—	—	—	—
Rybach'e	58.8	318	i 10	3	+ 1	i 18	8	+ 1	—	—	—	—
Klyuchi	59.2	22	e 10	3	- 2	18	12	0	—	—	—	—
Frunse	60.0	318	i 10	11	0	i 18	24	+ 1	—	—	—	—
Khorog	60.0	311	e 10	12	+ 1	e 18	21	- 2	—	—	—	—
Semipalatinsk	60.4	328	e 10	8?	- 5	—	—	—	—	—	—	—
Andijan	60.6	315	i 10	16	+ 1	i 18	32	+ 2	—	—	—	—
Dzhergetal	60.9	314	i 10	22	+ 5	i 18	36	+ 2	—	—	—	—
Fergana	60.9	315	i 10	15	- 2	i 18	34	0	—	—	—	—
Garm	61.5	312	e 10	21	0	—	—	—	—	—	—	—
Kaimata	N.E. 61.6	143	e 10	21	- 1	—	—	—	—	—	—	—
Obi-garm	61.8	312	e 10	26	+ 3	i 18	49	+ 3	—	—	—	—
Stalinabad	62.5	312	e 10	27	- 1	—	—	—	—	—	—	—
Christchurch	62.9	143	—	—	—	e 26	11?	?	e 27	11?	?	e 37.2
Tashkent	63.0	315	e 10	33	+ 2	e 19	0	- 1	—	—	—	—
Wellington	63.0	140	i 10	24	- 7	e 18	11	-50	—	—	—	e 23.2
Tehimkent	63.1	316	i 10	33	+ 1	i 19	4	+ 2	—	—	—	—
Apia	64.0	107	(e 10	33)	- 5	e 10	33	P	—	—	—	—
Samarkand	64.1	313	—	—	—	19	14	0	—	—	—	—
Sverdlovsk	73.6	328	i 11	37	0	i 21	3	- 4	—	—	—	—
Baku	77.1	311	e 11	58	+ 1	e 21	49	+ 3	—	—	—	—
Goris	79.8	309	i 12	18	+ 6	i 22	14	0	—	—	—	—
Kirovobad	79.8	311	i 12	11	- 1	—	—	—	—	—	—	—
Grozny	80.5	313	i 12	15	0	i 22	17	- 5	—	—	—	—
Tiflis	81.1	312	i 12	19	+ 1	—	—	—	e 17	23	PPP	—
Leninakan	81.7	311	12	14	- 8	—	—	—	—	—	—	—
Borzhomi	82.1	312	12	26	+ 2	—	—	—	—	—	—	—
Tsikhlis-Dzhuvari	82.1	312	12	27	+ 3	—	—	—	—	—	—	—
Piatigorsk	82.4	314	12	26	+ 1	22	39	- 2	i 12	46	pP	—

Continued on next page.

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1952

314

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
	$^{\circ}$	$^{\circ}$	m.	s.	s.	m.	s.	s.	m.	s.	m.
Abastumanj	82.5	312	e	12 28	+ 2	—	—	—	—	—	—
Zugdidi	83.3	312	e	12 28	- 2	—	—	—	—	—	—
College	84.9	25	i	12 34	- 4	e	22 54	-12	e	28 31	SS e 34.4
Sotchi	84.9	314	—	12 43	+ 5	23	6	0	—	—	—
Moscow	86.1	325	i	12 44	0	23	8	[ 0]	—	—	—
Theodosia	87.9	315	—	12 54	+ 1	23	30	- 5	—	—	—
Ksara	88.2	303	i	12 56 <sub>a</sub>	+ 2	i	24 47	PS	—	—	—
Yalta	88.8	314	e	12 56	- 1	23	26	[+ 1]	e	13 16	pP
Helsinki	92.3	331	e	13 11	- 2	—	—	—	—	—	—
Helwan	92.3	300	i	13 14 <sub>a</sub>	+ 1	24	17	+ 2	16	56	PP
Kishinev	92.3	318	e	13 16	+ 3	e	24 12	- 3	—	—	—
Kiruna	92.4	338	i	13 12	- 2	e	24 17	+ 1	e	17 15	PP e 41.6
Istanbul	92.9	311	e	13 16	0	e	24 8?	-12	e	16 54	PP e 43.6
Bucharest	94.6	315	—	—	—	e	24 1	[+ 2]	—	—	33.2
Lwow	94.9	320	e	13 30	+ 5	e	23 50	[-11]	—	—	—
Upsala	95.9	331	i	13 31	+ 1	e	24 43	- 3	e	17 21	PP e 46.2
Uzhgorod	96.3	320	i	13 35	+ 3	—	—	—	e	13 54	pP
Sofia	96.8	313	e	13 35	+ 1	e	24 13	[+ 2]	e	17 24	PP
Skalnate Pleso	97.5	320	e	13 37	PPP	e	24 35	[- 1]	e	24 40	SKKS
Resolute Bay	97.8	10	i	13 36 <sub>a</sub>	- 2	e	24 15	[- 1]	e	26 31	PS e 38.5
Belgrade	98.4	316	e	17 37	PP	e	24 21	[+ 2]	e	30 29	SS e 57.2
Raciborz	z. 98.5	322	—	13 42	0	—	—	—	e	13 48	PcP
Pretoria	z. 98.9	245	e	13 44	+ 1	—	—	—	—	—	—
Ogyalla	99.1	319	e	17 26	PP	e	24 25	[+ 2]	e	25 18	S
Copenhagen	100.0	328	e	13 35	-13	24	43	[+16]	—	—	—
Grahamstown	z. 100.1	237	e	13 51	+ 2	—	—	—	—	—	e 49.4
Victoria	100.5	39	—	12 18	?	—	—	—	—	—	—
Potsdam	100.8	325	e	13 54	+ 2	e	25 31	+ 4	e	18 2	PP e 47.2
Prague	100.8	323	e	14 55	+63	e	24 33	[+ 2]	e	25 30	S e 53.2
Collnberg	101.3	323	e	13 11	-43	e	25 34?	+ 3	e	18 14	PP
Seattle	101.5	40	—	—	—	e	25 1?	-32	—	—	e 47.2
Cheb	102.1	324	e	15 13	?	e	25 41	+ 3	e	32 35	SS
Jena	102.2	324	e	13 58	0	e	24 20	[-18]	e	18 19	PP
Kimberley	z. 102.3	242	e	13 52	- 7	—	—	—	—	—	—
Triest	102.7	319	—	18 13?	PP	e	24 34	[- 6]	i	25 40	S 56.2
Scoresby Sund	102.9	350	e	14 1	0	e	25 48	+ 3	33	11	SS 48.2
Messina	103.7	311	—	—	—	24	42	[- 3]	33	21	SS
Mineral	z. 104.2	47	e	14 19	+12	—	—	—	e	18 44	PP
Witteveen	z. 104.3	328	e	14 9	+ 1	—	—	—	—	—	—
Stuttgart	104.5	323	e	14 16?	+ 8	e	26 2	+ 4	e	18 31	PP e 54.2
Bologna	104.7	318	e	19 27	PP	e	25 12	[+23]	—	—	—
Rome	104.8	315	e	14 6	- 4	26	2	+ 2	18	37	PP
Salo	104.9	319	e	18 48	PP	e	25 8	[+18]	e	26 5	S
Florence	105.0	317	—	18 36	PP	24	58	[+ 7]	e	33 46	SS
Lick	z. 105.1	49	e	14 11	0	—	—	—	—	—	—
Do Bilt	105.4	327	e	14 11	- 1	e	26 1	- 4	e	18 11	PP e 52.2
Strasbourg	105.4	323	e	14 11	- 1	e	26 11	+ 6	e	18 49	PP e 49.2
Zürich	105.4	322	e	14 9	- 3	e	24 57	[+ 5]	e	18 9	PP
Reno	z. 105.8	47	e	14 57	?	—	—	—	e	18 33	PP
Pavia	105.9	320	e	14 29	+14	e	26 10	0	e	18 38	PP
Hungry Horse	106.3	37	e	14 15	- 1	—	—	—	e	17 46	?
Aberdeen	106.4	334	e	19 1	PP	i	26 16	+ 2	e	28 29	PS e 51.3
Durham	107.5	331	—	—	—	e	25 0	[- 2]	—	—	—
Tinemaha	z. 107.8	49	e	14 25	- 3	—	—	—	e	18 45	PP
Paris	108.5	325	e	14 29	- 1	e	25 15	[+ 9]	e	19 8	PP 56.2
China Lake	z. 108.6	50	e	14 30	0	e	19 42	PP	e	18 32	PKP
Kew	108.7	328	i	19 6	PP	e	28 18	PS	e	29 21	PPS e 55.2
Mount Wilson	z. 108.8	52	e	14 57	P	—	—	—	e	18 29	PKP
Riverside	z. 109.4	52	i	19 16	PP	—	—	—	—	—	—
Clermont-Ferrand	109.5	321	—	—	—	e	28 35	PS	e	29 35	PPS e 58.5
Palomar	z. 110.0	53	e	19 14	PP	—	—	—	—	—	—
Rathfarnham Castle	110.6	332	e	19 11?	PP	e	30 41	?	—	—	—
Boulder City	110.7	49	e	18 34	[- 1]	—	—	—	e	18 37	?
Algiers Univ.	z. 113.5	313	e	18 2	[-38]	—	—	—	e	18 14	PKP
Tucson	115.2	51	e	18 44	[+ 1]	e	26 36	[- 5]	—	—	—

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1952

315

	$\Delta$ °	Az. °	P. m. s.		O-C. s.	S. m. s.		O-C. s.	Supp. m. s.		L. m.	
Alicante	115.3	316	14	56	P	27	2	{+20}	18	34	PP	53.3
Tamanrasset	z. 116.5	298	18	33	[-13]	29	44	PS	19	55	PP	48.2
Toledo	117.0	319	e 20	0	PP	—	—	—	—	—	—	65.7
Kirkland Lake	z. 123.4	20	e 18	59	[ 0]	—	—	—	e 20	31	PP	—
Fayetteville	z. 125.2	40	i 19	2	[- 1]	e 26	19	[+13]	i 20	49	PP	—
Ottawa	127.3	19	e 22	25	PKS	e 26	53	?	—	—	—	64.7
Pennsylvania	130.5	24	e 19	14	[+ 1]	e 22	54	PKS	e 22	36	PKS	—
Harvard	131.2	17	i 19	15	[+ 1]	c 32	24	PS	i 21	29	PP	e 65.5
Weston	131.4	17	e 19	17	[+ 2]	—	—	—	c 21	32	PP	—
Palisades	131.8	20	i 19	16	[ 0]	i 22	42	PKS	i 21	32	PP	c 64.2
City College, N.Y.	131.9	20	—	—	—	i 22	43	PKS	e 32	32	PS	—
Philadelphia	132.2	22	—	—	—	e 22	46	PKS	e 33	59	PPS	—
Washington	132.4	24	i 19	18	[+ 1]	—	—	—	e 21	38	PP	—
Bermuda	142.6	15	i 19	32	[- 3]	i 22	43	PKS	—	—	—	e 66.9
Kingston	148.7	45	e 19	44	[- 1]	—	—	—	—	—	—	—
San Juan	154.8	28	e 19	56	[+ 2]	—	—	—	i 20	18	PKP <sub>2</sub>	—
Huancayo	157.2	113	e 20	1	[+ 4]	e 34	37	PS	e 23	41	PP	e 65.9
Bogota	158.1	68	e 19	44	[-15]	e 23	41	PKS	e 20	27	PKP <sub>2</sub>	—
Fort de France	160.2	21	e 19	58	[- 3]	e 34	38	PS	—	—	—	—
La Paz	161.1	134	i 20	7	[+ 5]	38	11	PPS	i 20	33	PKP <sub>2</sub>	78.5

April 15d. 5h. 59m. 55s. Epicentre 42°·0N. 142°·8E. Depth of focus 0·005.  
(as on 14d.).

Intensity V at Urakawa, Obihiro, Aomori, Biroo, Kuttari, Otsu, Mukawa, Tomakomai, Shimamatu, Ono, Oshamambe, and Noheji; IV at Kusiro. Epicentre as adopted. Depth 30-35km. Macro seismic radius >300km. Seismo. Bull. Cent. Met. Obs., Japan, for April, 1952, Tokyo, 1952, p. 156, with macro seismic chart.

	$\Delta$ °	Az. °	P. m. s.		O-C. s.	S. m. s.		O-C. s.	Supp. m. s.		L. m.
Urakawa	0.2	355	i 0	10 <sub>a</sub>	- 1	0	15	- 4	—	—	—
Obihiro	E. 1.0	18	i 0	19 <sub>k</sub>	0	0	28	- 5	—	—	—
Sapporo	1.5	315	i 0	26 <sub>k</sub>	0	0	45	0	—	—	—
Kusiro	1.5	51	i 0	24	- 2	0	43	- 2	—	—	—
Mori	E. 1.7	273	i 0	30 <sub>k</sub>	+ 2	0	52	+ 2	—	—	—
Hatinohe	1.7	213	i 0	39 <sub>a</sub>	+11	1	0	+10	—	—	—
Asahigawa	1.8	350	e 0	34	+ 4	0	58	+ 6	—	—	—
Aomori	1.9	232	i 0	32	+ 1	0	56	+ 2	—	—	—
Suttsu	2.1	293	i 0	33 <sub>k</sub>	- 1	0	58	- 1	—	—	—
Abashiri	2.3	29	e 0	37	0	0	56	- 8	—	—	—
Nemuro	2.4	57	0	38 <sub>k</sub>	0	1	5	- 2	—	—	—
Miyako	2.4	195	e 0	38	0	1	6	- 1	—	—	—
Morioka	2.6	208	i 0	39 <sub>a</sub>	- 2	1	10	- 2	—	—	—
Mizusawa	3.1	204	i 0	52	+ 4	i 1	26	+ 2	—	—	—
Akita	3.1	221	e 0	49	+ 1	1	27	+ 3	—	—	—
Wakkanai	3.5	347	e 0	28	-26	1	10	-24	—	—	—
Isinomaki	3.7	198	0	54	- 2	1	36	- 3	—	—	—
Sakata	3.8	217	1	7	+ 9	1	55	+13	—	—	—
Sendai	N. 4.0	201	e 1	0	- 1	1	57	+10	—	—	—
Yamagata	4.2	207	e 1	3	0	1	50	- 2	—	—	—
Hokusima	4.6	204	1	6	- 3	2	4	+ 2	—	—	—
Inawasiro	4.9	206	i 1	13	0	2	19	+10	—	—	—
Niigata	z. 4.9	216	i 1	17	+ 4	2	20	+11	—	—	—
Yuzno-Sakhlinsk	5.0	359	i 1	16	+ 2	2	12	0	—	—	—
Onahama	5.2	196	e 1	19	+ 2	2	14	- 3	—	—	—
Shirakawa	5.3	203	e 1	17	- 2	2	13	- 6	—	—	—
Aikawa	5.3	222	i 1	18	- 1	2	17	- 2	—	—	—
Utsunomiya	5.9	203	e 1	25	- 2	2	29	- 5	—	—	—
Mito	5.9	198	e 1	27	0	2	26	- 8	—	—	—
Takada	6.0	217	e 1	29	+ 1	2	43	+ 6	—	—	—

Continued on next page.

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1952		316									
	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.
Tukubasan	6.1	200	e 1	26	- 4	2	34	- 5	—	—	—
Maebasi	6.3	208	i 1	36	+ 4	2	43	- 1	—	—	—
Kunagaya	6.4	205	e 1	36	+ 2	2	44	- 2	—	—	—
Nagano	6.4	215	e 1	33	- 1	2	55	+ 9	—	—	—
Tyosi	E. 6.4	194	1	31	- 3	2	42	- 4	—	—	—
Wazima	6.4	226	i 1	34 <sup>k</sup>	0	2	56	+10	—	—	—
Matusiro	6.5	215	i 1	35	0	2	50	+ 1	—	—	—
Oiwake	6.6	211	e 1	31	- 6	2	51	0	—	—	—
Tokyo	6.7	202	e 1	36	- 2	2	48	- 6	—	—	—
Titibu	6.7	207	i 1	44	+ 6	2	51	- 3	—	—	—
Matumoto	E. 6.8	214	e 1	41	+ 2	3	14	+18	—	—	—
Toyama	6.9	221	1	40 <sup>a</sup>	- 1	3	20	+21	—	—	—
Yokohama	7.0	201	1	42	0	2	57	- 4	—	—	—
Ulegorsk	7.1	356	1	44	0	3	6	+ 2	—	—	—
Kanazawa	7.2	223	e 1	48	+ 3	3	42	+36	—	—	—
Kohu	7.2	208	e 1	47	+ 2	3	2	- 4	—	—	—
Hunatu	7.2	207	e 1	47	+ 2	3	5	- 1	—	—	—
Takayama	7.3	218	e 1	45	- 1	3	18	+ 9	—	—	—
Mera	7.4	199	e 1	45	- 3	3	24	+13	—	—	—
Ajiro	7.5	204	e 1	48	- 1	3	11	- 3	—	—	—
Iida	7.5	212	e 1	45	- 4	3	31	+17	—	—	—
Misima	Z. 7.5	205	e 1	49	0	3	28	+14	—	—	—
Osima	7.7	201	e 1	47	- 5	3	8	-11	—	—	—
Hukui	7.8	223	e 1	58	+ 5	—	—	—	—	—	—
Shizuoka	7.8	207	e 1	54	+ 1	3	20	- 1	—	—	—
Gihu	8.1	217	e 1	56	- 1	3	30	+ 2	—	—	—
Nagoya	E. 8.2	215	1	59	0	3	35	+ 4	—	—	—
Tsuruga	8.2	222	e 2	0	+ 1	3	35	+ 4	—	—	—
Hamamatu	8.3	210	e 2	19	+19	4	0	+27	—	—	—
Ibukisan	8.3	219	e 1	58	- 2	3	28	- 5	—	—	—
Hikone	8.4	219	e 2	3	+ 1	—	—	—	—	—	—
Maizuru	8.7	224	e 2	5	- 1	—	—	—	—	—	—
Kameyama	8.7	217	2	14	+ 8	4	1	+18	—	—	—
Kyoto	8.9	220	e 2	6	- 2	3	48	0	—	—	—
Toyooka	Z. 9.0	227	i 2	9 <sup>a</sup>	- 1	3	48	- 3	—	—	—
Hatidyozima	9.2	196	3	44	—	(3	44)	-11	—	—	—
Osaka	9.3	220	e 2	12	- 2	4	2	+ 4	—	—	—
Kobe	9.4	222	e 2	20	+ 5	—	—	—	—	—	—
Sumoto	9.8	222	2	20	- 1	4	19	+ 9	—	—	—
Wakayama	9.8	220	e 2	18	- 3	3	41	-29	—	—	—
Takamatu	10.3	225	i 2	28	+ 1	4	23	+ 1	—	—	—
Hamada	11.0	233	2	40 <sup>k</sup>	+ 3	4	36	- 3	—	—	—
Muroto	11.1	221	e 2	39	+ 1	—	—	—	—	—	—
Hirosima	11.2	230	2	39	- 1	4	56	+12	—	—	—
Koti	11.2	224	e 2	38	- 2	—	—	—	—	—	—
Matuyama	11.4	227	e 2	41	- 1	4	37	-12	—	—	—
Torisima	11.7	191	—	—	—	e 1	43	-13	—	—	—
Ooita	12.4	229	e 3	5	+ 9	—	—	—	—	—	—
Hukuoka	12.9	233	e 3	3	+ 1	5	35	+10	—	—	—
Saga	13.2	233	e 3	25	+19	—	—	—	—	—	—
Kumamoto	13.3	230	e 3	10	+ 2	—	—	—	—	—	—
Miyazaki	13.5	226	e 3	11	+ 1	—	—	—	—	—	—
Petropavlovsk	15.4	38	i 3	39	+ 4	i 6	31	+ 7	—	—	—
Klyuchi	18.5	32	e 4	12	- 1	e 7	38	+ 4	—	—	—
Zi-ka-wei	Z. 20.2	246	i 4	29 <sup>a</sup>	- 3	i 8	24	+14	—	—	—
Nanking	21.5	252	i 4	43	- 2	i 8	34	- 1	i 8	47	pCP
Kyakhta	26.3	303	i 5	32	+ 1	—	—	—	—	—	—
Kabansk	26.4	305	i 5	31	- 1	e 9	59	0	—	—	—
Irkutsk	27.8	306	i 5	45	0	10	26	+ 4	i 6	1	pP
Hong Kong	31.0	240	e 6	13	- 1	e 11	12	0	—	—	—
Manila	33.2	222	e 6	32	- 1	e 11	47	0	—	—	—
Semipalatinsk	42.9	305	7	52	- 2	—	—	—	i 8	10	pP
College	44.4	35	i 8	5	- 1	i 14	33	- 2	i 17	54	ScS e 19.0
Kurmenty	46.5	295	i 8	23	0	—	—	—	—	—	—
Przhevalsk	46.6	294	8	25	+ 2	—	—	—	—	—	—

Continued on next page.

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1952

317

	Δ °	Az. °	P.		O - C. s.	S.		O - C. s.	Supp.		L. m.
			m.	s.		m.	s.		m.	s.	
Ili	47.0	297	i 8	27	0	—	—	—	—	—	—
Almata n	47.0	296	i 8	27	0	—	—	—	—	—	—
Almata	47.3	296	i 8	30	+ 1	—	—	—	—	—	—
Rybach'e	48.2	295	i 8	36	+ 0	i 15	31	+ 2	—	—	—
Naryn	48.7	294	i 8	39	- 1	i 15	36	0	—	—	—
Frunse	49.0	296	i 8	43	+ 1	i 15	46	+ 6	—	—	—
Murgab	51.4	291	i 9	1	+ 1	e 16	19	+ 5	—	—	—
Andijan	51.5	294	i 9	0	- 1	—	—	—	—	—	—
Fergana	52.0	294	i 9	5	0	e 11	3	PP	i 9	27	pP
Sverdlovsk	52.2	317	i 9	6	0	16	28	+ 3	i 9	26	pP
Tchimkent	52.6	298	i 9	10	+ 1	—	—	—	e 11	11	PP
Dzhergetal	52.9	294	i 9	12?	0	e 16	36?	+ 2	—	—	—
Tashkent	53.3	297	i 9	15	0	e 16	40	0	e 9	33	pP
Khorog	53.5	292	i 9	17	+ 1	e 16	44	+ 2	—	—	—
Garm	53.7	294	i 9	17	- 1	—	—	—	—	—	—
New Delhi	54.0	279	i 9	19	- 1	e 16	50	+ 1	i 9	33	pP
Obi-garm	54.2	294	i 9	21	0	e 16	53	+ 1	e 9	40	pP
Kulyab	54.6	293	9	21	- 3	16	56	- 1	—	—	—
Stalinabad	54.9	294	i 9	26	0	i 17	1	0	e 9	47	pP
Samarkand	55.6	295	9	32	+ 1	17	34	PS	—	—	—
Resolute Bay	57.5	15	i 9	43 <sub>a</sub>	- 2	i 17	35	- 1	i 10	4	pP
Victoria	62.3	49	10	18	0	—	—	—	—	—	—
Kiruna	62.3	339	i 10	15 <sub>a</sub>	- 3	e 18	37	0	i 10	31	pP
Poona	62.3	271	i 10	18	0	i 18	39	+ 2	10	37	pP
Bombay	62.9	273	e 10	21	- 1	—	—	—	12	41	PP
Seattle	63.4	49	e 10	28	+ 3	e 12	39	PP	e 11	3	PcP
Moscow	63.5	323	10	27	+ 1	e 18	57	+ 5	e 10	49	pP
Helsinki	66.2	333	i 10	41 <sub>a</sub>	- 2	—	—	—	—	—	—
Baku	66.3	305	e 10	42	- 2	—	—	—	—	—	—
Shemakla	67.0	305	i 10	45	- 3	i 20	2	SS	—	—	—
Grozny	67.1	309	i 10	49	0	i 20	3	SS	i 11	10	pP
Shasta	67.3	55	i 10	51	+ 1	—	—	—	—	—	—
Scoresby Sund	67.3	355	e 10	49 <sub>a</sub>	- 1	e 19	41	+ 2	e 20	6	SS
Hungry Horse	67.5	45	i 10	50	- 1	—	—	—	—	—	—
Mineral	z. 68.0	55	e 10	55 <sub>a</sub>	+ 1	—	—	—	—	—	—
Piatigorsk	68.2	311	10	55	- 1	20	17	SS	i 11	17	pP
Kirovobad	68.3	306	i 10	57	+ 1	e 19	52	+ 1	—	—	—
Upsala	69.0	334	i 10	59 <sub>a</sub>	- 2	e 20	5	+ 6	i 11	17	pP
Berkeley	z. 69.1	58	e 11	2	+ 1	—	—	—	—	—	—
Goris	69.1	305	i 11	2	+ 1	i 20	20	+ 20	—	—	—
Borzhom	69.4	309	i 11	1	+ 1	—	—	—	—	—	—
Tsikhlis-Dzhvari	69.4	309	11	5	+ 2	—	—	—	—	—	—
Butte	69.7	46	i 11	5	0	—	—	—	—	—	—
Erevan	69.8	307	e 11	5	0	20	11	+ 3	—	—	—
Abastumanj	69.8	309	e 11	7	- 2	—	—	—	—	—	—
Zugdidi	69.8	311	e 11	6	+ 1	—	—	—	—	—	—
Leninakan	69.8	308	11	5	0	—	—	—	—	—	—
Lick	z. 69.8	58	e 11	7	+ 2	—	—	—	—	—	—
Fresno	z. 71.4	57	e 11	15	0	—	—	—	—	—	—
Theodosia	71.8	315	11	17	- 1	20	57	SS	—	—	—
Tinemaha	z. 72.1	57	e 11	21	+ 2	—	—	—	—	—	—
Yalta	72.8	315	11	24	+ 1	e 21	8	SS	11	44	pP
China Lake	z. 73.3	56	e 11	27	+ 1	i 11	50	SP	i 11	42	pP
Kishinev	73.8	321	11	29	0	—	—	—	—	—	—
Lwow	74.0	324	11	31	+ 1	20	53?	- 3	i 11	51	pP
Copenhagen	74.0	333	i 11	30	0	21	20	SS	—	—	39.1
Pasadena	74.0	58	e 11	33	+ 3	e 12	1	SP	i 11	46	pP
Riverside	z. 74.6	58	e 11	34	0	—	—	—	i 11	48	pP
Boulder City	74.9	55	e 11	37	+ 1	—	—	—	—	—	—
Raciborz	76.3	328	i 11	44	0	e 21	25	+ 3	e 11	59	PcP
Potsdam	76.4	331	i 11	46 <sub>k</sub>	+ 2	e 21	52	SS	—	—	e 39.1
Collmberg	77.3	330	i 11	48 <sub>a</sub>	- 1	—	—	—	—	—	—
Istanbul	77.9	316	e 11	53	+ 1	—	—	—	e 14	48	PP
Jena	78.1	330	e 11	54	0	e 12	9	PcP	e 12	13	pP
Witteveen	z. 78.3	336	i 11	45 <sub>a</sub>	- 10	—	—	—	—	—	—

Continued on next page.



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1952

318

		$\Delta$ °	Az. °	P.		O-C. s.	S.		O-C. s.	Supp.		L. m.
				m.	s.		m.	s.		m.	s.	
Ksara		79.1	306	i 12	4	+ 5	e 22	16	+24	—	—	—
De Bilt		79.3	336	i 12	0 <sub>a</sub>	0	e 22	21	sS	i 12	21	pP e 37.1
Belgrade		79.4	322	e 12	0 <sub>a</sub>	- 1	e 22	22	sS	e 12	24	pP e 50.6
Tucson		79.9	55	e 12	3	0	—	—	—	—	—	e 37.6
Stuttgart		80.8	331	e 12	9	+ 1	e 22	33	pS	e 12	28	pP 42.1
Karlsruhe	z.	80.9	332	e 12	9 <sub>a</sub>	0	—	—	—	e 12	23	pP
Rathfarnham Castle		81.4	343	i 12	11	0	e 22	19	+ 3	—	—	e 45.1
Kew		81.5	338	i 12	12	0	e 22	20	+ 3	e 22	39	pS e 45.1
Strasbourg		81.5	332	i 12	12 <sub>a</sub>	0	e 22	20	+ 3	e 12	27	pP e 38.1
Triest		81.6	327	12	7?	- 5	e 22	4	-14	—	—	—
Zürich		82.2	332	e 12	15 <sub>a</sub>	0	e 22	25	+ 1	e 12	35	pP
Chur		82.3	330	e 12	6 <sub>a</sub>	-10	—	—	—	—	—	—
Basle		82.4	332	e 12	16	0	e 22	54	sS	—	—	—
Kirkland Lake	z.	82.6	28	e 12	16	- 1	—	—	—	—	—	—
Paris		83.0	335	i 12	20	0	e 22	53	pS	i 12	35	pP 43.1
Salo		83.0	329	e 12	20	0	e 22	34	+ 2	e 12	37	pP
Bologna		83.6	328	e 12	24	+ 1	e 23	8	sS	—	—	—
Pavia		83.8	330	e 12	23	- 1	e 23	8	sS	e 27	58	sS
Prato		84.2	327	e 12	23	- 3	e 23	12	sS	—	—	—
Lubbock		84.2	50	12	27	+ 1	—	—	—	—	—	—
Florence		84.2	327	e 12	27	+ 1	e 22	44	0	e 12	48	pP
Helwan	z.	84.6	306	i 12	29 <sub>a</sub>	+ 1	e 22	29	-19	i 12	49	pP
Rocca di Papa		85.2	325	e 12	32	+ 1	—	—	—	—	—	—
Rome		85.2	325	i 12	30 <sub>a</sub>	- 1	e 22	57	+ 3	12	44	pP
Clermont-Ferrand		85.5	333	i 12	33	+ 1	—	—	—	i 13	4	sP e 45.1
Ottawa		86.4	27	—	—	—	e 23	5	0	—	—	—
Fayetteville	z.	86.4	44	i 12	38	+ 2	—	—	—	i 12	50	PcP
Messina	E.	86.8	322	e 12	38	0	e 23	34	sS	e 16	28	PP
Buffalo (Larkin)		87.6	30	e 12	43	+ 1	—	—	—	—	—	—
Cleveland		87.7	33	i 12	41 <sub>k</sub>	- 2	i 23	16	- 2	—	—	—
Pittsburgh		89.3	32	—	—	—	i 23	34	+ 1	—	—	—
Pennsylvania	z.	89.7	31	i 12	55	+ 3	—	—	—	e 13	21	sP
Harvard		90.4	25	e 12	56	+ 1	—	—	—	—	—	e 53.3
Weston		90.5	25	i 12	57 <sub>a</sub>	+ 1	—	—	—	—	—	—
Palisades		91.0	27	i 12	59 <sub>a</sub>	+ 1	e 23	48	0	i 24	57	pS e 44.0
Toledo		93.1	336	i 13	9	+ 1	—	—	—	e 18	44	PPP 51.8
Alicante		93.3	332	13	10	+ 1	e 24	14	+ 6	30	32	sS 45.3
Almeria		95.3	334	i 13	24	+ 6	23	52	[+ 5]	17	8	PP 50.5
Malaga		96.1	335	i 16	19	?	—	—	—	—	—	54.1
Tamanrasset	z.	104.4	321	e 19	21	?	—	—	—	—	—	—
Kimberley	z.	128.2	265	i 19	2	[- 3]	—	—	—	—	—	—
Huancayo		135.4	60	e 19	17	[+ 4]	—	—	—	—	—	e 64.0
La Paz		143.3	55	i 19	30	[+ 3]	—	—	—	22	38	PP 71.1

April 15d. 9h. 15m. 15s. Epicentre 18°4S. 177°7W. Depth of focus 0.010.  
(as on 1946, October 24d.).

A = -0.9487, B = -0.0381, C = -0.3137;  $\delta$  = -11;  $h$  = +5;  
D = -0.040, E = +0.999; G = +0.313, H = +0.013, K = -0.950.

		$\Delta$ °	Az. °	P.		O-C. s.	S.		O-C. s.	Supp.		
				m.	s.		m.	s.		m.	s.	
Apia		7.3	52	i 2	15	+29	i 3	42	+34	—	—	
Karapiro	N.	20.3	196	e 5	22?	PP	e 7	48	-19	—	—	
Wellington	z.	23.7	195	e 5	0	- 4	e 8	47	-21	—	—	
Katmata	N.E.	25.8	199	e 5	28	+ 4	—	—	—	—	—	
Brisbane		28.4	246	i 5	50 <sub>a</sub>	+ 3	i 10	14	-12	i 6	27	PP
Riverview		31.8	234	i 6	14	- 3	i 10	57	-22	i 7	42	PP
Manila		68.7	295	e 10	58	+ 3	e 19	33	-16	—	—	—
Berkeley	z.	76.4	43	i 11	42 <sub>k</sub>	+ 2	—	—	—	—	—	—
Zi-ka-wei	z.	76.4	310	i 11	43	+ 3	—	—	—	—	—	—
Lick	z.	76.5	43	i 11	43 <sub>k</sub>	+ 2	—	—	—	—	—	—
Pasadena		77.1	47	i 11	45 <sub>k</sub>	+ 1	—	—	—	i 12	3	PcP
Arcata	z.	77.1	39	e 11	44 <sub>k</sub>	0	—	—	—	—	—	—
Fresno	z.	77.4	44	i 11	46 <sub>k</sub>	0	—	—	—	—	—	—
Riverside		77.5	47	i 11	47 <sub>k</sub>	0	i 11	51	?	i 11	55	PcP
Shasta		78.0	40	i 11	50	+ 1	—	—	—	—	—	—

Continued on next page.



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1952

319

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.
Mineral	z. 78.3	41	i 11 51k	0	—	—	—
China Lake	z. 78.4	46	i 11 51k	- 1	i 11 56	?	i 12 1 PcP
Tinemaha	78.6	45	i 11 53k	0	i 12 0	PcP	i 12 19 pP
Nanking	78.8	309	i 11 57	+ 3	—	—	—
Corvallis	z. 79.9	37	i 12 1	+ 1	—	—	—
Boulder City	80.4	47	i 12 3	+ 1	i 21 44	-15	—
Tucson	81.4	52	i 12 8	0	e 21 54	-15	—
Seattle	82.3	35	i 12 14k	+ 2	—	—	i 12 44 pP
Victoria	82.3	34	12 12k	0	—	—	—
College	86.1	13	12 29	- 2	—	—	—
Butte	86.9	39	i 12 34	- 1	—	—	—
Hungry Horse	87.3	37	i 12 36	- 1	—	—	—
Lubbock	88.8	54	e 12 42	- 2	—	—	—
Fayetteville	z. 95.6	54	i 13 13	- 3	—	—	—
La Paz	N. 102.5	112	e 14 5	pP	—	—	—
Resolute Bay	z. 105.7	16	e 17 9	?	—	—	e 18 9 PP
Scoresby Sund	125.9	11	i 18 47a	[- 4]	—	—	e 20 47 PP
Kiruna	z. 129.2	351	i 18 49	[- 8]	i 21 40	PP	i 19 14 pPKP
Upsala	z. 137.1	350	e 18 59	[- 13]	—	—	i 21 59 PP
Copenhagen	142.0	352	i 19 24	[+ 3]	—	—	—
Rathfarnham C.	z. 144.5	9	i 19 21	[- 4]	—	—	e 19 29 PKP
Potsdam	z. 145.0	350	e 19 25	[- 1]	—	—	—
Witteveen	z. 145.5	357	i 19 25k	[- 2]	i 20 59	?	i 19 48 pPKP
Raciborzu	145.9	343	i 19 28	[+ 1]	e 19 33	PKP <sub>2</sub>	e 19 51 pPKP
Collmberg	146.1	349	e 19 23	[- 5]	e 22 29	SKP <sub>2</sub>	e 19 29 PKP <sub>2</sub>
Ksara	146.3	303	i 19 26	[- 2]	e 37 7	SKKKS	i 21 2 ?
De Bilt	146.3	358	e 19 25	[- 3]	—	—	e 20 51 ?
Jena	146.7	350	e 19 25	[- 4]	e 22 50	PP	e 19 43 pPKP
Prague	E. 146.9	347	e 19 30	[+ 1]	e 20 54	?	e 19 55 pPKP
Istanbul	z. 147.8	322	e 19 25	[- 6]	e 23 1?	PP	e 19 37 PKP <sub>2</sub>
Stuttgart	149.2	352	e 19 29	[- 4]	e 21 9	?	e 19 44 PKP <sub>2</sub>
Strasbourg	149.6	353	e 19 30	[- 3]	—	—	e 21 7 ?
Paris	149.7	1	i 19 30	[- 3]	i 19 36	PKP	i 19 56 pPKP
Basle	150.6	353	e 19 39k	[+ 4]	e 20 44	?	e 21 45 ?
Zürich	150.6	352	e 19 31a	[- 4]	—	—	i 19 37 PKP <sub>2</sub>
Chur	151.0	350	e 19 33	[- 3]	—	—	e 19 40 PKP <sub>2</sub>
Helwan	z. 151.2	298	19 31	[- 5]	i 19 36	PKP	i 19 51 PKP <sub>2</sub>
Tamanrasset	z. 174.7	—	i 19 54a	[- 4]	e 31 39	SKKS	e 25 24 PP

April 15d. 17h. 29m. 24s. Epicentre 39°·1N. 75°·0E. (as on 1952, March 19d.).

A = +·2014, B = +·7516, C = +·6281;  $\delta$  = -3;  $h$  = -1;  
D = +·966, E = -·259; G = +·163, H = +·607, K = -·778.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.
Murgab	1.1	229	i 0 26	+ 4	e 0 43	+ 4	—
Naryn	2.4	18	e 0 43	- 1*	i 1 17	- 2 <sub>g</sub>	—
Andijan	2.6	309	i 0 49	+ 2*	1 19	- 2*	—
Fergana	2.8	297	e 0 52	+ 1*	—	—	—
Dzhergetal	2.9	272	e 0 55	- 3 <sub>g</sub>	e 1 46	+ 10 <sub>g</sub>	—
Khorog	3.1	239	i 1 0	- 2 <sub>g</sub>	e 1 47	+ 5 <sub>g</sub>	—
Rybach'e	3.4	14	e 0 58	+ 3	1 56	+ 4 <sub>g</sub>	—
Garm	3.7	270	i 1 4	- 2*	—	—	—
Frunse	3.8	256	e 1 4	+ 3	1 45	- 2	e 1 13 P <sub>g</sub>
Obi-garm	4.2	266	e 1 15	0*	e 2 33	+ 14 <sub>g</sub>	i 1 24 P <sub>g</sub>
Przhevalsk	4.3	37	1 4	- 4	e 1 58	- 2	—
Kulyab	4.3	255	e 1 16	0*	—	—	—
Almata	4.4	19	e 1 13	+ 3	i 2 18	+ 3*	—
Almata II	4.5	23	i 1 10	- 1	e 2 20	+ 2*	—
Kurmenty	4.7	31	—	—	i 2 21	- 3*	—
Stalinabad	4.9	265	e 1 24	- 3*	i 2 54	+ 12 <sub>g</sub>	e 1 38 P <sub>g</sub>
Tashkent	4.9	299	—	—	2 15	0	e 2 44 S <sub>g</sub>
Hi	5.1	17	—	—	i 2 43	- 5 <sub>g</sub>	—
Tchimkent	5.2	310	e 1 25	+ 4	e 2 41	+ 3*	—
Samarkand	6.2	277	2 1	- 3 <sub>g</sub>	2 58	+ 10	3 33 S <sub>g</sub>
Kiruna	z. 41.2	332	i 7 48	0	—	—	—

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1952

320

April 15d. 19h. 2m. 15s. Epicentre 56°3S. 35°1W.

A = +.5048, B = -.2365, C = -.8302;  $\delta = -1$ ;  $h = -8$ ;  
D = -.424, E = -.906; G = -.752, H = +.352, K = -.557.

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.	
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.	
La Plata	30.9	300	6	15	-5	11	21	-3	7	9	PP	12.8
Buenos Aires	31.4	300	e 6	25	0	11	28	-4				
Concepción	N. 37.3	282	e 8	0	+44							e 15.0
Santa Lucía	N. 38.6	287	e 7	24	-2				e 9	41	PP	e 15.8
Grahamstown	Z. 42.0	79	i 7	52	-2							
Copiapo	N. 43.2	292	e 10	4	PP	e 18	17	SSS				e 19.8
Kimberley	Z. 44.6	73	i 8	11	-5							
Pietermaritzburg	Z. 46.9	79	i 8	3?	-31							
Pretoria	Z. 48.8	74	i 8	46	-3							
La Paz	51.3	303	i 9	8 <sub>a</sub>	0	i 16	27	+1	i 11	10	PP	25.0
Huancayo	58.6	298	i 10	1	0	e 18	3	-1	e 13	30	PPP	e 24.6
Tananarive	64.9	85	e 10	47	+4	e 19	32	+8	e 19	42	PS	29.0
Bogota	72.6	308	i 11	32	+1	i 20	54	-2	i 14	32	PP	34.8
Fort de France	76.9	324	i 11	57	+1	i 21	42	-1				e 36.6
Galerazamba	78.7	310	i 12	26	+20	i 22	6	+3	i 13	16	?	35.8
Christchurch	79.4	192	e 12	11	+2	22	6	-4	e 33	45	Q	e 36.8
Kaimata	N.E. 80.6	191	e 12	20	+4				e 12	59	?	
Wellington	81.3	194	i 12	16	-4	i 22	19	-11	e 23	55	PPS	e 36.8
Cobb River	E. 81.8	193	e 12	21	-1	e 22	27	-8				
Tamanrasset	Z. 82.9	28	i 12	29 <sub>a</sub>	-1	i 15	44	PP	e 17	34	PPP	
Karapiro	N. 84.5	195	e 12	31?	-5							
Kingston	85.7	311	e 12	48	+6	e 23	23	+9				e 43.6
Auckland	N. 85.7	195	e 13	17	+35							e 43.8
Riverview	90.2	177	e 13	8	+4	i 23	46	-10	e 16	41	PP	e 43.0
Malaga	94.3	16	i 13	28	+5	i 23	44	[-13]	18	40	PPP	38.4
Bermuda	94.5	327	e 19	30	?	e 24	32	-2				e 44.4
Almeria	94.8	18	i 13	22	-3	24	22	-14	17	3	PP	51.1
Granada	94.9	16	i 13	32 <sub>a</sub>	+7	i 25	2	+25	17	38	PP	39.8
Brisbane	96.5	178	i 13	31 <sub>a</sub>	-1	i 24	11	[+2]	e 17	35	PP	
Alicante	96.6	19	13	23	-10	e 24	36	{+6}	17	17	PP	45.7
Toledo	97.5	16	e 13	19	-18				e 14	25	?	39.4
Helwan	98.3	47	e 13	48	+7	e 24	33	{-9}	e 17	42	PP	
Tortosa	99.2	19	e 14	34	+49	i 24	15	[-8]				
Messina	100.3	31	e 27	51	PPS	e 24	43	[+15]	e 31	3	?	e 42.4
Taranto	102.9	32	e 22	9	?	24	59	[+18]	e 31	10	?	
Rome	102.9	27	e 13	59	-2	e 24	37	[-4]	e 18	13	PP	e 46.8
Ksara	103.6	48	e 14	14	+10	28	29	PPS	i 18	26	PP	
Florence	104.3	26	e 14	11	+3	e 24	38	[-9]	e 17	58	PP	e 47.0
Clermont-Ferrand	104.4	20				e 33	45?	SS				e 42.8
Philadelphia	104.8	322	e 18	39	PP	e 24	37	[-13]				
Pavia	105.1	24	e 18	24	PP	e 24	30	[-21]	e 33	54	SS	e 48.0
Fordham	105.2	324	e 18	50	PP	e 33	54	SS				
City College, N.Y.	105.2	324				e 25	5	[+14]	e 27	45	PS	
Palisades	105.3	324	e 18	20	PKP	e 24	49	[-3]	e 21	1	PPP	e 49.0
Kodaikanal	E. 105.4	94	e 18	58	PP							
Harvard	106.0	326	e 18	52	PP	e 25	44	{+7}	e 27	49	PS	e 46.2
Pennsylvania	106.5	320	e 18	56	PP	e 24	53	[-4]	e 27	56	PS	
Triest	106.7	27	e 18	18	[-8]	e 24	55	[-3]	e 18	45	PP	47.8
Pittsburgh	107.0	319				i 25	6	[+7]				
Paris	107.2	18	e 28	10	PS	e 34	15	SS				e 50.8
Istanbul	107.3	40	e 18	45?	PP	e 24	58?	[-3]	e 27	45?	PS	
Strasbourg	108.0	22	e 18	4	[-25]	e 25	0	[-4]	e 19	10	PP	e 45.8
Vermont	108.2	325	e 18	54	PP	e 25	36	[-16]				
Cleveland	N. 108.4	318	e 28	27	PS	e 25	55	{+1}	e 25	0	SKS	
Stuttgart	108.5	23	e 19	10	PP	e 25	5	[-1]	e 28	6	PS	53.8
Karlsruhe	Z. 108.6	22	e 19	8	PP							
Fayetteville	Z. 109.0	307	e 14	55	P	e 18	12	?	i 18	57	PP	
Kew	109.3	16	e 18	3	[-29]	e 28	36	PS	e 21	1	PPP	e 49.8
Ottawa	109.9	324	e 18	47	[+14]	25	9	[-3]	19	9	PP	48.8
Bombay	109.9	85	e 19	7	PP	e 28	36	PS				

Continued on next page.

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1952

321

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	J. m.
Poona	E.	110.2	87	e 21 41	PPP	—	—	—	—
Rathfarnham Castle		110.3	12	e 19 35	PP	—	—	e 51 45	Q
Cheb		110.5	24	e 28 57	PS	e 27 16	S	e 34 51	SS
De Bilt		110.9	19	e 19 17	PP	e 29 0	PS	e 35 3	SSP
Prague		111.0	26	e 19 53	?	e 25 59	{-13}	e 34 57	SS
Jena		111.1	24	e 18 55?	[+20]	e 19 2?	?	e 19 26	PP
Hyderabad	N.	111.8	91	e 19 23	PP	e 28 58	PS	—	—
Goris		112.9	53	e 19 32	PP	—	—	—	—
Lenkoran		113.4	55	19 7	PP	—	—	—	—
Borzhom		113.5	49	e 19 44	PP	e 25 22	{-4}	—	—
Sotchi		113.5	46	—	—	e 25 35	{+11}	—	—
Kirkland Lake	Z.	113.7	323	e 19 37	PP	—	—	—	—
Kirovobad		113.9	52	e 19 25	PP	—	—	—	—
Tucson		113.9	293	e 18 40	{-1}	e 28 58	PS	e 19 56	PP
Tiflis		114.0	50	e 19 26	PP	—	—	—	e 53.6
Aberdeen		114.6	13	i 27 55	?	i 29 29	PS	e 35 30	SS
Piatigorsk		115.2	47	e 19 45	PP	i 26 40	{-1}	—	i 52.5
Grozny		115.7	50	e 19 36	PP	—	—	—	—
Palomar	Z.	118.1	289	i 18 49	{0}	—	—	i 19 4	?
Riverside	Z.	118.7	289	i 18 49	{-1}	—	—	i 19 7	?
Boulder City		118.9	293	e 18 51	{0}	—	—	i 19 8	?
Pasadena		119.2	289	i 18 50	{-1}	e 20 9	PP	i 19 8	?
China Lake	Z.	120.2	291	e 18 53	{0}	e 33 10	SKKP	e 29 0	PKKP
Upsala		120.7	23	e 18 57	{+3}	i 28 57	PKKP	e 46 15	Q
Calcutta	E.	121.4	96	e 20 44	PP	e 30 34	PS	—	—
Tinemaha	Z.	121.5	291	i 18 55	{-1}	e 32 11	PPS	i 19 12	?
Fresno	Z.	122.1	290	e 18 56	{-1}	—	—	e 19 14	pPKP
Moscow		122.7	37	e 20 45	PP	—	—	—	—
Samarkand		122.9	67	19 15?	{+17}	27 45?	{+12}	20 45?	PP
Stalinabad		123.0	69	e 18 59	{0}	—	—	—	—
Kulyab		123.1	70	e 19 4	{+5}	—	—	—	—
Lick	Z.	123.5	288	i 19 0	{0}	e 21 17	PP	i 19 17	pPKP
Obi-garm		123.6	69	e 18 59	{-1}	—	—	—	—
Garm		124.1	69	e 18 59	{-2}	—	—	—	—
Berkeley	Z.	124.2	288	i 19 5	{+4}	—	—	i 19 18	pPKP
Tashkent		125.3	67	e 19 6	{+3}	e 26 0	{-7}	e 21 0	PP
Murgab		125.6	72	e 19 7	{+3}	—	—	—	—
Mineral	Z.	125.7	291	e 19 3k	{-1}	e 21 17	PP	i 19 19	pPKP
Fergana		125.9	70	e 19 3	{-1}	—	—	i 21 4	PP
Tchimkent		126.2	66	e 19 7	{+2}	e 21 7	PP	e 23 47	PPP
Shasta		126.4	291	i 19 4	{-1}	—	—	i 19 21	?
Andijan		126.5	70	e 19 10	{+5}	e 38 21	SS	i 21 6	PP
Scoresby Sund		126.5	1	e 19 11	{+6}	e 37 30	SS	e 29 26	PKKP
Hungry Horse		127.7	303	i 19 6	{-2}	e 22 36	PKS	e 20 31	?
Kiruna	Z.	128.3	20	i 19 6	{-3}	—	—	i 19 25	?
Naryn		128.9	72	e 19 15	{+5}	—	—	i 21 5	PP
Frunse		129.2	69	e 19 4	{-6}	i 31 20	PS	i 21 26	PP
Rybach'e		129.7	70	—	—	i 22 41	PKS	—	—
Almata		130.7	70	e 19 18	{+5}	—	—	e 21 25	PP
Almata II		130.9	70	e 19 11	{-3}	—	—	—	—
Przhevsk		130.9	72	e 19 12	{-2}	e 22 46	PKS	—	—
Manila		131.0	134	e 21 45	PP	—	—	—	—
Ili		131.2	69	e 19 15	{+1}	e 22 45	PKS	—	—
Seattle		131.2	297	e 19 13	{-1}	e 22 40	PKS	e 23 30	?
Sverdlovsk		132.1	47	e 19 16	{0}	e 22 48	PKS	i 21 40	PP
Victoria		132.4	297	19 15	{-2}	—	—	—	—
Hong Kong		134.8	121	—	—	e 39 45	SS	—	—
Resolute Bay		138.5	338	e 19 16	{-12}	e 29 1	{-11}	e 22 57	PKS
Nanking	N.	145.2	118	e 19 39	{-1}	—	—	—	—
Zi-ka-wei	Z.	145.7	122	19 42	{+2}	—	—	19 53	PKP <sub>2</sub>
Irkutsk		150.7	75	e 19 53	{+5}	—	—	—	—
Kyakhta		151.0	78	e 19 50	{+1}	—	—	23 33	PP
College		151.6	312	i 19 52	{+2}	e 42 49	SS	e 23 15	PP
Kabansk		151.9	78	e 19 51	{+1}	—	—	—	e 59.8
Yuzno-Sakhlinsk		168.0	136	e 20 9	{+1}	—	—	—	—
Ulegorsk		169.4	128	e 20 11	{+2}	—	—	—	—
Petropavlovsk		176.2	—	e 20 10	{-2}	i 32 7	{-26}	21 51	PKP <sub>2</sub>

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1952

322

April 16d. 3h. 40m. 20s. Epicentre 17°·5N. 153°·9E. (see on 1951, Nov. 16d.).

A = -·6090, B = +·2983, C = +·7350;  $\delta = +9$ ;  $h = -4$ ;  
D = +·440, E = +·898; G = -·660, H = +·323, K = -·678.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Kurilsk	4·7	244	1 11	- 3	2 11	+ 1	—	—
Petropavlovsk	6·4	27	i 1 48	- 4*	i 3 15	+ 1*	—	—
Yuzno-Sakhlinsk	7·6	270	1 59	+ 4	3 33	+10	—	—
Ulegorsk	8·0	286	2 17	- 3*	3 46	+13	—	—
Klyuchi	9·8	23	c 2 41	+17	—	—	—	—
Mizusawa	E. 12·5	232	3 53	+51	e 5 3	-20	—	—
Kabansk	30·4	295	e 6 14	- 2	—	—	—	—
Kyakhta	30·9	293	e 6 16	- 4	—	—	—	—
College	35·2	39	i 7 0	+ 2	e 12 33	+ 2	(e 14 30)	SS e 14·5
Semipalatinsk	46·6	302	i 8 30	- 2	—	—	—	—
Resolute Bay	50·0	19	i 9 0 <sub>a</sub>	+ 2	e 16 19	+10	e 19 51	SS e 22·2
Kurmenty	51·4	294	e 9 8	- 1	—	—	—	—
Ili	51·7	296	i 9 10	- 1	—	—	—	—
Przhevalsk	51·7	294	9 9	- 2	—	—	—	—
Almata II	51·9	296	i 9 12	0	—	—	—	—
Almata	52·1	296	e 9 12	- 2	—	—	—	—
Victoria	52·7	57	9 18	0	—	—	—	—
Rybach'e	53·1	296	i 9 20	- 1	—	—	—	—
Naryn	53·7	295	e 9 25	- 1	—	—	—	—
Sverdlovsk	53·7	317	9 25	- 1	—	—	—	—
Andijan	56·4	296	e 9 44	- 1	—	—	—	—
Murgab	56·8	292	e 9 49	+ 1	—	—	—	—
Shasta	57·7	64	9 55	0	—	—	—	—
Hungry Horse	57·9	53	i 9 56	0	—	—	—	—
Dzhergetal	58·0	295	i 9 55	- 2	—	—	—	—
Mineral	Z. 58·4	63	i 10 0	0	—	—	i 10 15	pP
Garm	58·7	296	e 9 19?	-43	—	—	—	—
Khorog	58·8	293	e 10 2	0	—	—	—	—
Obi-garm	59·3	296	i 10 4	- 2	e 18 12	- 2	—	—
Kulyab	59·7	294	e 10 6	- 3	—	—	—	—
Kiruna	Z. 59·8	342	i 10 10 <sub>a</sub>	+ 1	—	—	—	—
Stalinabad	59·9	296	e 10 8	- 2	—	—	—	—
Reno	Z. 60·0	63	e 10 13	+ 2	—	—	—	—
Lick	Z. 60·3	66	e 10 2	-11	—	—	—	—
Samarkand	60·3	298	10 12	- 1	—	—	—	—
Fresno	Z. 61·8	66	e 10 22	- 1	—	—	—	—
Scoresby Sund	62·3	359	i 10 28 <sub>a</sub>	+ 2	e 19 3	+11	e 20 23	ScS 33·7
Tinemaha	Z. 62·5	65	e 10 28	0	—	—	e 10 44	?
China Lake	Z. 63·7	65	e 10 34	- 2	i 10 50	?	i 10 57	?
Pasadena	64·5	67	i 10 42	+ 1	—	—	e 11 1	?
Riverside	Z. 65·1	67	e 10 43	- 2	—	—	e 10 46	P
Boulder City	65·3	63	e 10 46	0	—	—	—	—
Palomar	Z. 65·8	67	e 10 49	0	—	—	—	—
Upsala	Z. 67·2	338	i 10 58 <sub>a</sub>	0	i 11 15	?	i 11 29	PcP
Poona	Z. 69·9	276	i 11 14	- 1	i 11 23	?	i 11 40	PcP
Tucson	70·3	63	e 11 16	- 1	—	—	—	—
Bombay	70·4	277	e 11 15	- 3	i 20 29	- 1	—	—
Platigorsk	70·4	315	11 18	0	i 20 46	PS	—	—
Kirovobad	71·2	311	11 23	0	—	—	—	—
Lenkoran	71·3	308	11 19	- 4	20 40	- 1	—	—
Tiflis	71·3	312	e 11 24	+ 1	—	—	—	—
Borzhom	71·9	313	e 11 25	- 2	—	—	—	—
Goris	72·1	308	—	—	e 20 53	+ 3	—	—
Copenhagen	72·2	339	i 11 30	+ 1	—	—	—	—
Akhalkalaki	72·3	313	e 11 31	+ 2	—	—	—	—
Sotchi	72·4	316	e 11 30	0	—	—	—	—
Yalta	74·2	320	e 11 40	0	—	—	—	—
Potsdam	75·0	337	e 11 47	+ 2	—	—	—	e 43·7
Collmberg	76·0	336	i 11 50	- 1	e 12 2	PcP	e 12 27	?
Witteveen	Z. 76·2	341	i 11 54	+ 2	—	—	—	—

Continued on next page.

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1952

323

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Jena		76.7	337	e 11 56	+ 1	e 12 10	PcP	e 12 56	?
Prague	N.	76.7	335	e 11 56	+ 1	e 15 18	PP	e 16 16	PPP
Fayetteville	Z.	76.9	50	i 11 52	- 4	—	—	i 12 12	PcP
De Bilt		77.2	341	e 12 4	+ 7	—	—	—	—
Rathfarnham Castle		78.2	349	i 12 4	+ 1	e 21 59	+ 2	—	—
Cleveland	Z.	78.7	39	i 12 7k	+ 1	—	—	—	—
Kew		79.0	344	i 12 38	+ 31	e 22 11	+ 5	—	—
Istanbul		79.2	321	e 12 8	0	e 21 40?	- 28	—	—
Karlsruhe	Z.	79.3	338	e 12 10	+ 1	—	—	—	—
Stuttgart		79.3	337	e 12 10	+ 1	—	—	—	e 42.7
Belgrade	Z.	79.4	328	e 12 10a	+ 1	e 13 9	?	e 15 28	?
Strasbourg		79.9	338	i 12 14k	+ 2	e 13 13	?	e 13 55	?
Pittsburgh	Z.	80.2	39	i 12 10	- 4	—	—	—	—
Zürich		80.8	338	e 12 17a	0	e 22 23	- 2	—	—
Basle		80.9	338	e 12 18	+ 1	e 22 15	- 11	—	—
Paris		80.9	342	i 12 19	+ 2	—	—	i 12 27	PcP
Triest	Z.	80.9	334	e 12 17	0	—	—	e 12 36	?
Chur		81.0	336	e 12 19a	+ 1	—	—	—	—
Harvard		81.8	32	i 12 22a	0	—	—	—	—
Ksara		81.8	312	i 12 24k	+ 2	e 23 29	PS	—	—
Weston		82.0	32	i 12 24a	+ 1	—	—	—	—
Pavia	Z.	82.6	336	—	—	e 24 45	?	—	—
Florence		83.3	334	i 12 30k	0	e 22 52	+ 2	—	—
Rome		84.7	332	e 12 36	- 1	e 23 47	PS	—	e 49.7
Helwan		87.3	313	e 12 51	+ 1	e 23 31	+ 2	e 13 45	?
Almeria		93.4	341	e 13 22	+ 4	24 30	+ 6	30 54	SSP
Malaga		93.9	343	i 13 20	- 1	—	—	—	—
Tamanrasset	Z.	104.5	330	17 30	?	—	—	e 18 5	PKP

April 16d. 11h. 26m. 28s. Epicentre 42°·2N. 145°·2E. Depth of focus 0·005.

Intensity V at Onnebira; IV at Kusiro, Nosappu, Attoko, Tanai, Tesikaga, Turui, and Shiranuka; II-III at Nemuro, Akkesi, Tambetu, and Toro. Macroseismic radius 100-200km. Epicentre as adopted. Depth ca. 40km. Seismo. Bull. Cent. Met. Obs., Japan, for April, 1952, Tokyo, 1952, p.158, with macroseismic chart.

A = -·6101, B = +·4240, C = +·6693;  $\delta = -4$ ;  $h = -4$ ;  
D = +·571, E = +·821; G = -·550, H = +·382, K = -·743.

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Kusiro		1.0	323	i 0 11	- 8	0 22	- 11	—	—
Nemuro		1.2	14	i 0 12a	- 10	0 25	- 13	—	—
Obihiro	N.	1.6	296	i 0 31k	+ 4	0 55	+ 8	—	—
Urakawa		1.8	268	e 0 32	+ 2	0 56	+ 4	—	—
Abashiri		1.9	340	0 26	- 5	0 48	- 6	—	—
Asahigawa		2.6	308	e 0 43	+ 2	—	—	—	—
Sapporo		3.0	288	e 0 46	- 1	1 26	+ 4	—	—
Hatinohe		3.2	240	e 0 51	+ 2	1 29	+ 2	—	—
Mori	E.	3.4	270	e 0 54	+ 2	1 41	+ 9	—	—
Miyako		3.5	224	e 0 53	- 1	1 35	+ 1	—	—
Aomori		3.6	248	e 1 2	+ 7	1 45	+ 8	—	—
Morioka		4.0	232	e 1 0	- 1	1 44	- 3	—	—
Wakkanai		4.1	323	e 1 26	+ 24	2 19	+ 30	—	—
Mizusawa		4.4	227	e 1 8	+ 2	1 55	- 2	—	—
Sendai	Z.	5.1	221	e 1 18	+ 2	2 18	+ 4	—	—
Hokusima		5.7	221	e 1 24	0	2 30	+ 1	—	—
Inawasiro		6.1	222	e 1 23	- 7	2 40	+ 1	—	—
Onahama		6.2	214	e 2 32	S	(e 2 32)	- 9	—	—
Shirakawa		6.4	219	e 1 31	- 3	—	—	—	—
Mito		6.9	214	e 1 42	+ 1	2 56	- 3	—	—

Continued on next page.



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1952

324

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Utunomiya		7.0	218	e 1 43	+ 1	3 0	- 1	—	—
Kumagaya		7.5	219	e 1 54	+ 5	3 16	+ 2	—	—
Maebasi	Z.	7.5	221	e 1 51	+ 2	3 19	+ 5	—	—
Nagano	E.	7.7	227	e 1 53	+ 1	—	—	—	—
Matusiro		7.8	226	e 3 16	S	(e 3 16)	- 5	—	—
Oiwake		7.8	223	e 2 11	+18	—	—	—	—
Matumoto		8.2	226	e 2 19	+20	—	—	—	—
Hunatu		8.4	219	e 2 8	+ 6	3 42	+ 6	—	—
Kohu		8.4	220	e 2 2	0	3 32	- 4	—	—
Misima		8.6	217	e 2 13	+ 9	—	—	—	—
Iida		8.8	213	e 2 49	?	—	—	—	—
Nanking		23.3	253	e 5 29	sP	9 27	sS	—	—
Resolute Bay	Z.	56.9	16	e 9 38k	- 3	—	—	e 9 56	pP
Kiruna	Z.	62.7	339	i 10 6	-14	—	—	—	—
Mineral	Z.	66.4	56	e 10 45	+ 1	—	—	—	—
Reno	Z.	68.0	56	e 10 58	+ 4	—	—	—	—
Upsala	Z.	69.6	335	i 11 3	- 1	—	—	i 11 15	pP
China Lake	Z.	71.7	58	e 11 19	+ 2	—	—	e 11 27	?
Pasadena	Z.	72.4	60	e 11 30	+ 9	—	—	—	—
Palomar	Z.	73.7	60	e 11 38	+ 9	—	—	—	—
Collmberg	Z.	78.0	332	e 11 52	- 1	—	—	—	—
Jena	Z.	78.8	332	e 11 57	0	—	—	e 12 14	pP
De Bilt		79.9	337	—	—	e 31 32?	SSS	—	—
Ksara		80.4	308	e 4 17	?	—	—	e 16 50	PPP
Stuttgart		81.5	332	e 12 43?	+31	—	—	—	e 43.5
Fayetteville	Z.	85.1	45	i 12 32	+ 2	—	—	—	—

April 16d. 14h. 16m. 48s. (I) } Epicentre 56°·3S. 25°·1W. (as on 15d.).  
 16h. 45m. 44s. (II) }  
 21h. 2m. 19s. (III) }

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
I La Plata	N.	30.9	300	6 18	- 2	—	—	9 18	PcP
II Grahamstown	Z.	42.0	79	i 7 53	- 1	—	—	—	—
I Kimberley	Z.	44.6	73	i 8 15	- 1	—	—	—	—
II	Z.	44.6	73	i 8 15	- 1	—	—	—	—
III	Z.	44.6	73	i 8 14	- 2	—	—	—	—
II Pietermaritzburg	Z.	46.9	79	i 8 35	+ 1	—	—	—	—
I Pretoria	Z.	48.8	74	i 8 48	- 1	—	—	—	—
II	Z.	48.8	74	i 8 48	- 1	—	—	—	—
III	Z.	48.8	74	e 8 48	- 1	—	—	—	—
I La Paz		51.3	303	i 9 8 <sub>a</sub>	0	i 16 26	0	i 19 46	SS
II		51.3	303	i 9 8 <sub>a</sub>	0	i 16 25	- 1	16 46	PPS
III		51.3	303	i 9 8	0	i 16 17	- 9	—	—
I Huancayo		58.6	298	e 10 0	- 1	e 18 37	PPS	—	e 28.0
II		58.6	298	e 10 0	- 1	e 24 39	SSS	—	—
II Fort de France		76.9	324	—	—	e 20 46	-57	—	—
I San Juan		82.0	321	i 12 22	- 1	—	—	—	—
II		82.0	321	i 12 22	- 1	—	—	—	—
III		82.0	321	i 12 22	- 1	—	—	—	—
I Tamanrasset	Z.	82.9	28	e 12 31	- 3	—	—	—	—
II	Z.	82.9	28	e 12 29	+ 1	—	—	—	—
III	Z.	82.9	28	e 12 30	+ 2	—	—	e 12 45	PcP
II Rome	Z.	102.9	27	—	—	e 27 59	PS	—	—
III	N.	102.9	27	—	—	e 33 20	SSP	—	—
I Ksara		103.6	48	e 14 17	+13	e 26 16	+25	—	—
II		103.6	48	e 13 33	-31	e 27 14	PS	—	—
I Palomar	Z.	118.1	289	e 18 43	[ - 6]	—	—	—	—
II	Z.	118.1	289	e 18 49	[ - 0]	—	—	e 20 7	PI'
I Riverside	Z.	118.7	289	e 18 49	[ - 1]	—	—	—	—
II	Z.	118.7	289	e 18 49	[ - 1]	—	—	—	—
I Pasadena	Z.	119.2	289	i 18 51	[ - 0]	—	—	e 20 21	PP
II	Z.	119.2	289	e 18 50	[ - 1]	—	—	—	—
I China Lake	Z.	120.2	291	e 18 52	[ - 1]	—	—	—	—
II	Z.	120.2	291	e 18 53	[ - 0]	—	—	—	—
III Upsala		120.7	23	i 14 22	P	—	—	—	—

Continued on next page.



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1952

325

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	I.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
I Lick	Z.	123.5	288	e 19 0	[ 0]	—	—	e 19 19	?
II	Z.	123.5	288	i 19 0k	[ 0]	—	—	—	—
III	Z.	123.5	288	i 19 0	[ 0]	—	—	—	—
I Berkeley	Z.	124.2	288	e 19 2	[+ 1]	—	—	e 19 20	?
II	Z.	124.2	288	i 19 1	[ 0]	—	—	—	—
I Reno	Z.	124.2	291	e 19 0	[- 1]	—	—	e 19 16	?
II	Z.	124.2	291	e 19 1k	[ 0]	—	—	—	—
I Mineral	Z.	125.7	291	e 19 2	[- 2]	—	—	e 19 18	?
II	Z.	125.7	291	i 19 3	[- 1]	—	—	—	—
II Kiruna	Z.	128.3	20	e 19 15	[+ 6]	—	—	i 19 19	?
I Resolute Bay	Z.	138.5	338	e 19 27	[- 1]	—	—	—	—
II	Z.	138.5	338	e 19 27	[- 1]	—	—	—	—

April 17d. 3h. 55m. 14s. Epicentre  $11^{\circ}4'N$ ,  $141^{\circ}6'E$ . Focus at Base of Superficial Layers. (Foreshock of 18d. 15h.).

A = -0.7684, B = +0.6091, C = +0.1964;  $\delta = +1$ ;  $h = +6$ ;  
D = +0.621, E = +0.784; G = -0.154, H = +0.122, K = -0.981.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.
Manila		20.3	281	e 4 40	+ 4	e 8 21	+ 5	—
Hong Kong		28.3	296	5 16?	- 37	—	—	—
Brisbane	Z.	40.2	165	i 7 36a	+ 1	i 8 20	?	i 7 39 P
Poona	Z.	65.5	285	10 41	- 1	i 11 11	?	—
Resolute Bay	Z.	87.4	13	e 12 44k	- 1	—	—	e 12 54 pP
Mineral	Z.	87.8	49	e 12 46	- 1	—	—	—
Lick	Z.	88.5	52	e 12 55	+ 5	—	—	—
Reno	Z.	89.4	50	e 12 54	- 1	—	—	—
Fresno	Z.	90.1	52	e 12 58	0	—	—	—
Tinemaha	Z.	91.2	52	e 13 11	PcP	—	—	—
China Lake	Z.	92.0	52	e 13 7	0	—	—	e 13 18 pP
Pasadena	Z.	92.0	54	e 13 7	0	—	—	—
Riverside	Z.	92.7	54	e 13 9	- 1	—	—	e 13 23 sP
Palomar	Z.	93.2	55	e 13 8	- 4	—	—	e 13 32 pP
Ksara		96.4	306	e 13 54	+ 27	e 27 16	SPP	—
Fayetteville	Z.	109.4	45	e 19 54	?	—	—	—
Tamanrasset	Z.	125.2	308	e 19 0	[+ 3]	—	—	18 51 ?
Huancayo		143.8	95	e 19 36	[+ 4]	—	—	—
La Paz		150.7	103	20 3	PKP <sub>2</sub>	—	—	—

April 17d. 8h. 37m. 19s. Epicentre  $36^{\circ}2'N$ ,  $69^{\circ}7'E$ . Depth of focus 0.010.

Epicentre as given by U.S.S.R.

A = +0.2806, B = +0.7586, C = +0.5880;  $\delta = -5$ ;  $h = 0$ ;  
D = +0.938, E = -0.347; G = +0.204, H = +0.551, K = -0.809.

		$\Delta$	Az.	P.	O-C.	S.	O-C.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.
Kulyab		1.7	2	i 0 23?	- 6	e 0 49?	- 2
Khorog		2.0	50	i 0 33	0	i 1 2	+ 5
Obi-garm		2.5	0	i 0 41	+ 1	e 1 15	+ 5
Stalinabad		2.5	343	i 0 40	0	i 1 14	+ 4
Garm		2.8	9	i 0 46	+ 2	i 1 23	+ 6
Dzhergetal		3.2	21	i 0 51	+ 1	i 1 32	+ 5
Samarkand		4.1	329	i 1 2	0	—	—
Fergana		4.5	21	e 1 7	0	i 2 2	+ 3
Andijan		5.0	24	e 1 15	+ 1	i 2 13	+ 2
Naryn		7.2	41	e 1 47	+ 3	—	—
Frunse		7.7	28	e 1 48	- 3	i 3 15	- 2
Rybach'e		8.0	36	e 1 54	- 1	e 3 26	+ 1
Almata II		9.2	38	i 2 11	0	—	—
Przhevalsk		9.2	44	e 2 10	- 1	—	—
New Delhi		9.9	138	2 5	- 16	4 6	- 5

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1952

326

April 17d. 9h. 22m. 4s. Epicentre 51°5N. 99°0E.

Epicentre as given by U.S.S.R.

$$A = -0.0978, B = +0.6174, C = +0.7806; \quad \delta = +8; \quad h = -6;$$

$$D = +0.988, E = +0.156; \quad G = -0.122, H = +0.771, K = -0.625.$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Irkutsk	3.4	75	0 53	- 2	1 58	+ 6 <sub>g</sub>	1 5	—
Kyakhta	4.8	101	1 24	- 1*	2 23	- 3*	2 38	—
Semipalatinsk	11.9	272	e 2 42	-12	e 4 46	-23	—	—
Kurmenty	16.3	247	i 3 49	- 3	—	—	—	—
Ili	16.5	251	i 3 49	- 5	—	—	—	—
Przhevalsk	16.6	245	3 52	- 4	—	—	—	—
Almata II	16.7	249	i 3 53	- 4	—	—	—	—
Almata	17.0	250	i 3 55	- 6	e 6 57	-13	—	—
Rybach'e	18.0	248	i 4 9	- 4	i 7 23	- 9	—	—
Frunse	18.6	251	i 4 14	- 7	i 7 34	-12	—	—
Naryn	18.7	245	e 4 18	- 4	—	—	—	—
Andijan	21.2	249	e 4 49	0	e 8 34	- 7	—	—
Fergana	21.8	249	e 4 55	- 1	e 8 45	- 7	—	—
Tashkent	22.7	255	e 5 7†	+ 3	—	—	—	—
Sverdlovsk	22.9	298	e 5 2	- 4	e 8 54	-19	—	—
Dzhergetal	22.9	249	i 5 6	0	—	—	—	—
Garm	23.6	249	e 5 12	- 1	e 9 18	- 7	—	—
Khorog	23.9	244	e 5 18	+ 2	e 9 24	- 6	—	—
Obl-garm	24.1	250	i 5 19	+ 1	i 9 28	- 6	—	—
Kulyab	24.6	247	e 5 24	+ 1	—	—	—	—
Stalinabad	24.8	250	i 5 24	- 1	i 9 35	-11	—	—
Samarkand	25.1	254	5 34	+ 6	—	—	—	—
Shemakla	35.9	272	e 7 11	+ 7	—	—	—	—
Kirovobad	37.3	273	7 22	+ 6	—	—	—	—
Tiflis	37.7	277	e 7 24	+ 5	—	—	—	—
Poona	z. 38.4	220	i 7 32	+ 7	—	—	—	—
Tsikhlis-Dzhvari	38.5	278	7 27	+ 1	—	—	—	—
Leninakan	38.8	276	e 7 46	+18	—	—	—	—
Kiruna	z. 39.7	324	i 7 40	+ 4	i 7 47	?	i 7 53	?
Upsala	43.9	313	i 8 13	+ 3	i 8 17	P	i 10 5	PP e 23.6
Collnberg	50.6	305	e 9 2	0	i 9 8	P	e 9 46	?
Prague	50.6	303	e 9 11	+ 9	e 12 22	?	e 11 2	PP
Scoresby Sund	51.2	338	i 9 19 <sub>a</sub>	+12	—	—	—	—
Jena	51.5	305	e 9 6	- 3	e 9 14	P	e 9 23	?
Triest	53.7	300	e 9 33	+ 7	e 16 8	?	—	— 28.2
Stuttgart	54.1	305	e 9 30	+ 1	e 9 36	P	e 13 56	?
Paris	57.4	309	i 9 57	+ 4	i 10 1	P	e 10 47	P <sub>c</sub> P e 26.9
Tamanrasset	z. 74.6	287	e 11 46	+ 3	e 12 17	?	i 11 56	P <sub>c</sub> P

April 17d. 11h. 43m. 23s. Epicentre 30°8S. 71°5W. Focus at Base of Superficial Layers. (as on 1950, February 26d.).

Intensity V between 29° and 30°S. in Chile. Epicentre 30°75S. 70°75W.

F. Greve.

Boletín del año, 1952, Instituto Sismológico, Universidad de Chile, Santiago, p. 9.

$$A = +0.2730, B = -0.8160, C = -0.5095; \quad \delta = -2; \quad h = +2;$$

$$D = -0.948, E = -0.317; \quad G = -0.162, H = +0.183, K = -0.861.$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Santa Lucía	N. 2.7	166	i 0 57	+15	1 7	- 7	—	i 1.6
Copiapo	N. 3.6	17	i 0 50	- 5	1 28	- 9	1 6	PP
Concepción	N. 6.2	193	—	—	e 2 43	+ 1	i 3 1	SS
Antofagasta	E. 7.2	8	—	—	e 3 12	+ 5	—	—
Buenos Aires	11.6	112	e 2 53	PP	5 44	L	—	(5.7)

Continued on next page.

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1952

327

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
La Plata		12.1	114	3 19	PPP	5 7	- 1	—	5.8
La Paz		14.6	13	i 3 25	- 1	i 6 3	- 5	3 41	7.2
Huancayo		19.0	349	i 4 21	- 1	i 8 1	+13	e 5 47	e 9.4
San Juan		49.2	7	i 8 43	- 4	—	—	i 9 1	—
Fayetteville	z.	69.9	341	i 11 9	- 1	—	—	i 11 27	pP
Weston		72.8	1	i 11 26 <sub>a</sub>	- 1	—	—	—	—
Harvard		72.9	1	i 11 28 <sub>a</sub>	0	—	—	—	—
Tucson		72.9	326	e 11 28	0	—	—	—	—
Palomar	z.	76.9	323	e 11 52	+ 1	e 12 7	PcP	e 12 30	?
Riverside	z.	77.6	323	e 11 57	+ 3	e 12 11	PcP	e 12 27	?
Boulder City		77.9	326	e 11 58	+ 2	—	—	—	—
Mount Wilson	z.	78.2	323	i 11 59	+ 1	e 12 13	PcP	—	—
Kirkland Lake	z.	79.0	355	e 11 1	-61	—	—	e 11 29	?
China Lake	z.	79.2	325	e 12 4	+ 1	—	—	e 12 24	sP
Tinemaha	z.	80.5	324	e 12 12	+ 2	—	—	e 12 31	sP
Kimberley	z.	80.7	118	i 12 15	+ 4	—	—	—	—
Pretoria	z.	84.9	117	i 12 36	+ 3	—	—	—	—
Hungry Horse		87.5	334	e 12 26	-20	—	—	—	—
Tamanrasset	z.	91.0	64	i 13 3k	+ 1	e 23 50	- 5	23 20	SKS

April 18d. 3h. 35m. 32s. Epicentre 21°4S. 176°2W. Depth of focus 0.015.

A = -0.9298, B = -0.0618, C = -0.3628;  $\delta = -3$ ;  $h = +4$ ;  
D = -0.066, E = +0.998; G = +0.362, H = +0.024, K = -0.932.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	
Apia		8.6	30	e 2 0	- 3	3 25	-14	—	—
Auckland	N.	17.3	205	—	—	i 6 5	-56	—	—
Karapiro	N.	17.9	204	4 0?	- 2	e 7 12	- 2	—	—
Tuai	N.	18.3	198	—	—	e 7 8	-15	—	—
Wellington	z.	21.2	200	4 35	- 2	8 13	- 7	—	—
Cobb River	E.	21.8	204	e 4 40	- 3	e 8 27	- 3	—	—
Kaimata	N.E.	23.5	204	e 5 0	+ 1	e 9 1	+ 1	—	—
Christchurch		24.0	201	—	—	9 14	+ 6	—	—
Brisbane	z.	28.6	252	i 5 47 <sub>a</sub>	+ 1	—	—	i 5 57	pP
Lick	z.	77.8	42	e 11 46	+ 2	—	—	—	—
Mount Wilson	z.	78.2	46	i 11 48	+ 1	—	—	—	—
Palomar	z.	78.5	47	e 11 49	+ 1	—	—	e 12 24	pP
Riverside	z.	78.5	46	e 11 45	- 3	—	—	e 11 49	?
Fresno	z.	78.6	43	e 11 54	+ 5	—	—	—	—
China Lake	z.	79.4	45	i 11 53	0	—	—	e 12 28	pP
Mineral	z.	79.7	39	e 11 56	+ 1	—	—	—	—
Tinemaha	z.	79.8	44	e 11 56	+ 1	—	—	e 12 32	pP
Reno	z.	80.3	41	e 11 59	+ 1	—	—	—	—
Boulder City		81.4	46	e 12 4	0	—	—	—	—
Tucson		82.2	51	e 12 9	+ 1	—	—	e 12 45	pP
College		88.7	12	12 39	- 1	—	—	—	—
Fayetteville	z.	96.2	53	e 13 14	- 1	—	—	—	—
Copenhagen		145.2	352	i 19 23	[+ 1]	—	—	—	—
Witteveen	z.	148.6	357	i 19 33	[+ 5]	—	—	—	—
Collmberg	z.	149.3	349	i 19 33k	[+ 4]	—	—	e 20 9	pPKP
Jena		149.9	350	e 19 31	[+ 1]	e 19 36	?	e 19 47	?
Prague		150.2	348	e 19 36	[+ 6]	e 20 57	?	e 20 3	pPKP
Stuttgart		152.4	354	e 19 35	[+ 1]	—	—	e 19 42	PKP
Tamanrasset	z.	177.9	—	19 57	[+ 2]	e 25 44	PP	e 21 47	PKP <sub>2</sub>

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1952

328

April 18d. 5h. 26m. 3s. Epicentre 38°·5N. 45°·0E. (as on 1950, May 1d.).

A = +·5548, B = +·5548, C = +·6199;  $\delta = -12$ ;  $h = -1$ ;  
D = +·707, E = -·707; G = +·438, H = +·438, K = -·785.

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	°	°	m. s.	s.	m. s.	s.
Nakichevan	0·8	24	0 12	- 6	0 18	-13
Goris	1·4	46	i 0 27	- 0	i 0 43	- 3
Erevan	1·7	347	i 0 29	- 2	0 46	- 8
Leninakan	2·4	339	0 42	+ 1	1 9	- 3
Kirovobad	2·5	25	0 41	- 2	1 7	- 7
Lenkoran	3·0	85	1 35	S*	(1 35)	+ 2*
Akahalkalaki	3·1	336	—	—	1 32	+ 3
Tiflis	3·1	357	0 54	+ 3	e 1 22	- 7
Tsikhlis-Dzhvari	3·4	340	i 1 0	+ 5	e 1 40	+ 3
Shemakla	3·5	52	—	—	1 36	- 4

April 18d. 10h. 55m. 3s. Epicentre 36°·8N. 69°·9E. Depth of focus 0·030.

As given by stations of U.S.S.R.

A = +·2758, B = +·7538, C = +·5964;  $\delta = -3$ ;  $h = 0$ ;  
D = +·939, E = -·344; G = +·205, H = +·560, K = -·803.

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	°	°	m. s.	s.	m. s.	s.
Kulyab	1·1	355	i 0 31	- 2	—	—
Khorog	1·5	64	i 0 37?	+ 1	i 1 3?	- 1
Obi-garm	1·9	355	i 0 39	- 1	i 1 8	- 2
Stalinabad	2·0	333	i 0 36?	- 5	i 1 6?	- 6
Garm	2·2	8	i 0 42	- 1	i 1 13	- 3
Murgab	3·6	63	—	—	e 1 46	+ 2
Samarkand	3·7	323	0 59	- 1	—	—
Fergana	3·9	22	i 1 4	+ 2	i 1 51	+ 1
Andijan	4·4	25	i 1 9	+ 1	i 2 1	0
Tchimkent	5·5	358	e 1 24	+ 2	i 2 27	+ 1
Naryn	6·6	44	—	—	i 2 52	+ 1
Frunse	7·1	29	—	—	e 3 7	+ 5
Rybach'e	7·4	38	—	—	3 12	+ 3
Almata II	8·6	39	e 2 5	+ 3	—	—

April 18d. 11h. 39m. 9s. Epicentre 31°·0S. 178°·5W. (as on 1949, May 23d.).

A = -·8584, B = -·0225, C = -·5125;  $\delta = +1$ ;  $h = +2$ ;  
D = -·026, E = +1·000; G = +·512, H = +·013, K = -·859.

Approximate.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
	°	°	m. s.	s.	m. s.	s.	m. s.	m.	
Auckland	N. 8·1	222	i 2 0	- 2	(3 38)	+ 3	2 59	?	3·6
Karapiro	N. 8·5	214	e 1 54	-13	—	—	—	—	—
Tuai	N. 8·6	203	e 2 0	- 9	e 3 27	-21	—	—	—
Brisbane	25·1	271	i 5 27	- 1	i 9 56	+ 5	—	—	—
Riverview	25·7	255	i 5 43 <sub>a</sub>	+10	i 10 9	+ 8	i 10 24	SS	e 12·2
Pasadena	Z. 86·2	46	e 12 46	+ 2	—	—	—	—	—
Lick	Z. 86·3	41	i 12 47	+ 2	—	—	—	—	—
Palomar	Z. 86·5	47	e 12 47	+ 1	—	—	i 12 51	?	—
Riverside	Z. 86·6	46	e 12 48	+ 2	—	—	e 12 56	?	—
Fresno	Z. 87·0	43	e 12 54	+ 6	—	—	—	—	—
China Lake	Z. 87·7	45	i 12 54	+ 2	—	—	i 12 58	?	—
Tinemaha	Z. 88·1	44	e 12 55	+ 1	—	—	e 13 1	?	—
Mineral	Z. 88·4	39	e 12 55	0	—	—	—	—	—
Reno	Z. 88·8	41	e 12 57	0	—	—	—	—	—
Boulder City	89·5	46	e 13 2	+ 2	—	—	—	—	—
Tucson	89·9	50	e 13 4	+ 2	—	—	—	—	—
College	98·5	12	e 13 39	- 3	—	—	—	—	—
Upsala	Z. 149·2	344	e 19 48	[+ 2]	—	—	—	—	—
Ksara	150·9	282	i 19 59	[+10]	—	—	23 42	PP	—
Prague	158·6	336	e 20 49	PKP <sub>2</sub>	—	—	e 21 14	pPKP <sub>2</sub>	—
Stuttgart	161·3	334	e 20 47	PKP <sub>2</sub>	—	—	—	—	—
Triest	Z. 162·5	330	e 20 14	[+11]	—	—	e 20 54	?	—

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1952

329

April 18d. 14h. 53m. 33s. I }  
15h. 46m. 25s. II } Epicentre 42°·6N. 45°·0E.

Given by stations of U.S.S.R.

A = +·5221, B = +·5221, C = +·6744;  $\delta = -1$ ;  $h = -3$ ;  
D = +·707, E = -·707; G = +·477, H = -·477, K = -·738.

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	°	°	m. s.	s.	m. s.	s.
II Gori	0·9	227	e 0 20?	0	e 0 32?	- 2
I Grozny	0·9	37	e 0 22	+ 2	e 0 36	+ 2
II	0·9	37	0 21	+ 1	e 0 35	+ 1
I Tiflis	0·9	190	e 0 15	- 5	e 0 28	- 6
II	0·9	190	i 0 16	- 4	i 0 28	- 6
I Borzhomi	1·4	237	e 0 25	- 2	i 0 44	- 2
II	1·4	237	i 0 26	- 1	i 0 45	- 1
I Tskhlis-Dzhvari	1·5	233	i 0 26	- 2	i 0 46	- 3
II	1·5	233	i 0 27	- 1	i 0 47	- 2
I Akhalkalaki	1·7	223	e 0 31	0	e 0 53	- 1
II	1·7	223	i 0 31	0	i 0 53	- 1
I Abastumanj	1·8	242	e 0 33	+ 1	e 0 56	0
II	1·8	242	e 0 34	+ 2	e 0 57	+ 1
I Leninakan	2·0	205	e 0 41	+ 1 <sub>g</sub>		
II	2·0	205	0 35	0	1 4	+ 2
II Piatigorsk	2·0	316	0 34	- 1	1 5	+ 3
I Kirovobad	2·1	151	0 39	+ 2		
II	2·1	151	0 36	- 1	1 4	0
II Zugdidi	2·3	268	e 0 45	+ 5		
II Erevan	2·4	189	i 0 42	+ 1	1 15	+ 3
II Goris	3·3	162	i 0 54	+ 1	i 1 40	+ 5
II Sochi	4·0	286			e 2 15	+ 3 <sub>g</sub>
II Lenkoran	4·8	142	2 18?	+ 63	3 11?	+ 59

April 18d. 15h. 59m. 21s. Epicentre 11°·4N. 141°·6E. Focus at Base of Superficial Layers.  
(as on 17d.).

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Yakusima	21·6	333	e 4 51	+ 2				
Muroto	22·8	343	e 4 57	- 4	e 9 3	0		e 10·0
Owase	23·1	349	e 5 11	+ 7				
Misima	23·7	356	e 5 13	+ 3	e 9 12	- 7	e 5 14	PP
Sumoto	23·7	347	i 5 10	0				12·1
Kameyama	23·8	351	e 5 10	- 1	e 9 35	+ 14		
Matuyama	23·8	342	e 5 10	- 1	e 9 41	+ 20	e 5 53	PP
Osaka	23·8	348	e 5 16	+ 5			e 6 31	?
Takamatu	23·8	345	e 5 17	+ 6				
Kobe	23·9	348	e 5 11	- 1			e 7 22	? e 11·7
Tokyo	24·2	356	e 5 19	+ 5	e 10 38	+ 70	e 6 5	PPP e 11·1
Gihu	24·3	352	e 5 13	- 2				
Hukuoka	24·3	337	e 5 7	- 8	e 9 53	+ 24		e 12·5
Kohu	24·3	353	e 5 16	+ 1				
Kumagaya	24·7	356	e 5 17	- 2				
Hamada	24·9	340	e 5 3	- 18	e 9 48	+ 8	e 5 53	PP e 12·0
Matumoto	E. 24·9	353	e 5 13	- 8				
Mito	24·9	358	e 5 24	+ 3				
Maebasi	25·0	356	e 5 24	+ 2			e 6 3	PP
Oiwake	25·0	356	e 5 25	+ 3				
Utunomiya	25·1	357	e 5 19	- 4				
Matusiro	25·2	355	i 5 19	- 5	i 9 52	+ 7	i 6 9	PP e 11·4
Nagano	N. 25·3	355	e 5 28	+ 3				
Hukushima	26·3	358	e 5 33	- 1				
Sendai	N. 26·8	359	e 5 50	+ 11				

Continued on next page.

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1952

330

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Zi-ka-wei	z.	27.1	320	5 41	- 1	e 10 12	- 4	—	—
Hong Kong		28.3	296	e 5 51	- 2	(10 51)	-16	—	10.8
Nanking		29.4	327	e 6 1	- 1	10 47	- 6	—	—
Bandong		38.4	244	7 21	+ 1	e 13 12	0	—	—
Djakarta		38.7	245	i 7 13	- 9	e 13 10	- 7	—	—
Brisbane		40.2	165	i 7 35 <sub>a</sub>	0	i 13 41	+ 2	—	e 20.3
Petropavlovsk		43.8	14	i 8 1	- 3	—	—	—	—
Riverview		45.9	169	i 8 29 <sub>a</sub>	+ 8	i 15 17	+14	e 15 29	PS e 19.6
Kyakhta		48.4	330	8 41	0	15 40	+ 2	—	—
Kabansk		49.4	331	e 8 32	-16	—	—	—	—
Irkutsk		50.6	331	e 8 56	- 2	16 15 <sub>?</sub>	+ 6	—	—
Calcutta	E.	51.9	290	e 9 22	+15	i 16 54	+28	—	—
Auckland	N.	57.3	148	—	—	e 18 4	+25	—	e 31.6
Przhevsk		62.7	313	10 23	- 1	—	—	—	—
Kurmenty		62.8	313	e 10 14 <sub>?</sub>	-10	—	—	—	—
Kodaikanal	E.	62.9	277	e 9 49	-36	—	—	—	—
Semipalatinsk		63.1	322	e 10 24	- 2	—	—	—	—
Almata		63.9	313	i 10 28	- 4	e 19 4	0	—	—
Ili		63.9	314	e 10 28	- 4	—	—	—	—
Naryn		64.3	311	e 10 41	+ 7	—	—	—	—
Rybach'e		64.4	312	e 10 35	0	e 19 13	+ 3	—	—
Frunse		65.5	312	e 10 40	- 2	—	—	—	—
Murgab		65.5	307	e 10 45	+ 3	e 19 28	+ 5	—	—
Bombay		66.5	286	e 9 39 <sub>?</sub>	?	e 19 40	+ 5	—	—
Andijan		66.9	310	e 10 51	0	—	—	—	—
Fergana		67.3	309	e 10 58	+ 5	—	—	—	—
Khorog		67.3	306	e 10 56	+ 3	e 19 50	+ 5	—	—
Kulyab		68.8	307	e 11 2	- 1	e 20 8	+ 5	—	—
Obi-garm		68.9	308	e 11 2	- 1	e 20 7	+ 3	—	—
Tchimkent		69.1	312	e 11 2	- 3	e 20 10	+ 4	—	—
Tashkent		69.3	310	e 11 5	- 1	e 20 9	0	—	—
Stalinabad		69.6	308	11 7	- 1	e 20 18	+ 6	—	—
Samarkand		71.0	308	11 18	+ 2	20 18	-11	—	—
College		71.5	25	e 11 14	- 5	e 20 27	- 7	—	e 28.8
Sverdlovsk		75.6	326	i 11 41	- 2	e 21 21	0	—	—
Ashkabad		77.8	307	11 55	- 1	—	—	—	—
Baku		84.0	310	e 12 28	0	—	—	—	—
Victoria		84.8	42	12 31	- 1	—	—	—	—
Lenkoran		85.1	309	e 12 27	- 7	—	—	—	—
Seattle		85.7	43	e 12 39	+ 2	e 13 16	?	i 12 52	pP
Kirovobad		86.6	311	e 12 41	0	—	—	—	—
Goris		86.9	309	i 12 44	+ 1	23 11	- 6	—	—
Shasta		87.2	49	e 12 13	-31	—	—	—	—
Resolute Bay		87.4	13	e 12 42 <sub>a</sub>	- 3	e 23 4	[- 3]	e 29 17	SS e 34.6
Tiflis		87.5	312	e 12 43	- 3	—	—	—	—
Mineral	z.	87.8	49	e 12 47	0	—	—	—	—
Berkeley		87.9	52	i 12 55	+ 8	e 23 33	+ 6	—	e 48.6
Piatigorsk		88.2	315	e 12 46	- 3	—	—	—	—
Moscow		88.4	327	e 12 59 <sub>?</sub>	+ 9	e 23 14 <sub>?</sub>	[ 0]	—	—
Lick	z.	88.5	52	e 12 50	0	—	—	—	—
Reno	z.	89.4	50	e 12 55	0	—	—	e 16 18	pP
Fresno	z.	90.1	52	e 12 59	+ 1	—	—	—	—
Kiruna		90.6	340	i 12 59	- 1	e 23 16	[- 11]	e 16 16	PP e 45.6
Hungry Horse		90.9	40	e 13 1	- 1	—	—	e 16 38	PP
Tinemaha	z.	91.2	52	e 13 3	0	—	—	e 13 17	pP
China Lake	z.	92.0	52	e 13 6	- 1	e 29 12	?	i 13 20	pP
Pasadena	z.	92.0	54	e 13 7	0	e 13 36	sP	i 13 21	pP e 44.8
Butte		92.6	41	i 13 9	- 1	—	—	—	—
Riverside	z.	92.7	54	e 13 9	- 1	e 29 7	?	e 13 24	pP
Palomar	z.	93.2	55	e 13 14	+ 2	e 29 5	?	—	—
Boulder City		94.1	52	e 13 16	0	—	—	i 13 32	pP
Upsala		96.1	335	e 13 49	+24	e 23 54	[- 4]	e 31 12	SS e 49.6
Ksara		96.4	306	e 13 34	+ 7	27 13	PPS	17 32	SS
Scoresby Sund		97.5	354	—	—	e 24 15	[ +10]	e 31 39	SS 48.6
Istanbul		98.9	315	e 13 27	-11	e 24 45	-17	e 17 39	PP

Continued on next page.



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1952

331

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Copenhagen	100.9	333	—	—	24 26	[+ 4]	e 27 8	PS 52.6
Ogyalla	102.6	325	e 18 9	PP	e 28 15	PPS	e 18 59	PP e 37.2
Potsdam	102.7	331	e 18 9?	PP	e 24 40	[+ 9]	—	e 53.6
Collmborg	103.4	329	e 18 21?	PP	—	—	—	e 54.6
Prague	103.4	328	e 18 13	PP	e 24 39	[+ 5]	e 28 10	PPS e 44.0
Jena	104.3	329	e 17 53?	?	e 18 16	PP	—	—
Cheb	E. 104.4	329	—	—	e 27 45	PS	e 38 57	SSS
Witteveen	Z. 105.3	333	e 18 27	PP	—	—	—	—
Triest	106.4	325	e 19 14	?	e 24 49	[+ 2]	e 26 8	S
De Bilt	106.5	333	e 18 25	PP	e 27 30	PS	e 32 54	SS e 52.6
Stuttgart	106.9	329	e 18 37	PP	e 24 39	[-10]	e 27 57	PS e 39.6
Taranto	107.2	319	—	—	e 28 39?	PS	—	67.6
Strasbourg	107.7	330	e 29 6	PPS	e 34 9	SS	e 37 57	SSS e 52.0
Florence	108.9	324	e 18 59	PP	e 28 57	PPS	—	e 56.8
Kew	109.2	336	e 18 55	PP	e 29 12	PPS	—	e 55.6
Pavia	109.2	326	—	—	e 43 11	?	e 44 49	?
Rome	109.3	322	e 18 42	PP	e 28 19	PS	e 38 8	SSS e 54.6
Fayetteville	Z. 109.4	45	i 18 54	PP	—	—	—	—
Messina	109.5	317	e 22 33	PKS	e 28 27	PS	—	—
Algiers Univ.	Z. 118.2	322	e 18 49	[+ 5]	—	—	e 19 59	PP
Tamanrasset	Z. 125.2	308	e 18 58	[+ 1]	e 22 13	PKS	e 20 50	PP 75.6
Bermuda	129.7	29	e 21 20	PP	e 22 35	PKS	—	e 61.8
Huancayo	143.8	95	e 19 35	[+ 3]	e 35 48	PPS	e 41 21	SS e 70.1
Fort de France	145.6	41	e 19 36	[+ 1]	—	—	—	—
La Paz	150.7	103	i 20 2	PKP <sub>2</sub>	—	—	—	76.6

April 19d. 9h. 58m. 59s. Epicentre 7°·2N. 72°·1W. Depth of focus 0·005.

Destructive in several places in the Departments of Santander in Columbia, and Tachira in Venezuela. Epicentre 7°·0N. 71°·5W. Depth about 60km.  
Monthly Seismo Bull., Bogota, Avril, 1952.

A = +·3050, B = -·9442, C = +·1245;  $\delta = +4$ ;  $h = +7$ ;  
D = -·952, E = -·307; G = +·038, H = -·118, K = -·992.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Bogota	3.2	218	i 0 47	- 2	i 1 27?	0	—	—
Galerazamba	4.7	320	i 1 13	+ 3	i 2 11	+ 7	i 1 23	?
Balboa Heights	7.6	285	1 46	- 4	3 13	- 3	—	—
Port-au-Prince	11.3	359	e 2 41	0	i 4 21	-25	—	i 5.2
Kingston	11.6	338	i 2 56	+11	i 4 39	-15	i 5 21	SS
San Juan	12.5	27	i 2 50	- 7	—	—	—	—
Fort de France	13.1	54	i 2 55	-10	i 5 57	SS	6 5	SSS e 7.3
Huancayo	19.4	189	i 4 20	- 3	i 7 57	+ 4	—	i 9.1
Miami	20.2	340	i 4 25	- 7	e 8 37	SS	—	—
Merida	21.8	311	i 4 49 <sub>a</sub>	+ 1	i 8 54	+14	—	—
La Paz	23.9	169	i 5 8 <sub>a</sub>	- 1	i 9 9	- 8	i 5 37	PP
Bermuda (Navy)	25.8	13	i 4 7?	-80	e 8 49?	-60	—	—
Bermuda	26.0	13	i 5 28	- 1	i 10 17	+25	i 5 45	pP e 12.5
Oaxaca	26.0	296	e 5 31	+ 2	e 16 11	ScS	e 6 4	gP
Vera Cruz	26.2	300	e 5 40	+10	e 10 19	+23	e 11 3	SS
Mobile	27.8	329	i 5 47	+ 2	i 10 33	+11	—	—
Columbia	27.9	344	i 5 46	0	i 10 33	+10	—	—
Puebla	28.0	298	e 5 50	+ 3	e 11 47	SS	e 11 39	?
Tacubaya	29.0	298	e 5 59	+ 3	e 10 51	+10	e 6 24	pP
Antofagasta	E. 30.7	176	e 5 22	-49	e 11 1	- 7	e 12 52	SS
Washington, N.R.L.	31.8	353	i 6 20	- 1	i 11 30	+ 5	—	—
Washington	31.9	353	i 6 20	- 1	e 12 24	+57	—	—
Guadalajara	33.1	297	e 6 37	+ 5	e 12 1	+16	e 15 28	?
Morgantown	33.1	349	i 6 32	0	e 11 51	+ 6	—	—
Fordham	33.5	358	i 7 36	PP	i 13 58	SS	—	—

Continued on next page.

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1952

332

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	I.	
	°	°	m. s.	s.	m. s.	s.	m. s.	m.	
City College, N.Y.	33.5	358	i 6 35	0	—	—	i 7 39	PP	—
Palisades	33.7	358	i 6 35 <sub>a</sub>	- 2	i 12 1	+ 7	i 7 33	PP	e 15.7
Pennsylvania	33.8	352	i 6 39	+ 1	e 12 2	+ 6	e 7 39	PP	—
Copiapo N.	34.4	177	e 6 37	- 6	e 12 3	- 2	e 7 48	PP	16.8
Weston	35.0	2	i 6 48	0	i 12 20	+ 5	—	—	—
Fayetteville Z.	35.1	328	i 6 47	- 2	i 12 9	- 7	i 7 8	pP	—
Cleveland	35.2	347	i 6 49 <sub>a</sub>	- 1	i 12 23	+ 5	i 6 59	pP	—
Harvard	35.2	2	i 6 49 <sub>a</sub>	- 1	i 12 23	+ 5	e 8 6	PP	—
Buffalo (Larkin)	36.0	352	i 6 55	- 2	i 12 35	+ 5	—	—	—
Vermont	37.1	359	e 7 6	0	i 12 51	+ 4	—	—	—
Lubbock	38.0	318	7 14	+ 1	13 15	+14	—	—	—
Ottawa	38.2	356	i 7 14	- 1	13 12	+ 8	8 42	PP	—
Shawinigan Falls N.	39.2	0	e 7 23	0	13 32	+13	e 7 33	pP	—
Santa Lucia N.	40.4	177	e 7 57	pP	i 13 53	+16	i 17 51	ScS	—
Kirkland Lake Z.	41.4	352	i 7 41 <sub>a</sub>	0	i 13 27	-24	i 7 50	pP	23.0
Buenos Aires	43.5	162	e 8 1	+ 5	14 22	0	—	—	—
Tucson	43.8	310	i 8 0	- 1	e 14 13	-14	i 8 25	pP	e 17.6
Concepcion N.	43.8	179	e 7 38	-23	e 13 40	-47	—	—	e 23.0
La Plata	44.0	162	8 7	+ 4	17 37	SS	10 1	PP	23.9
Boulder City	48.4	313	i 8 37	0	—	—	i 8 46	pP	—
Palomar	48.9	308	i 8 39	- 2	i 10 36	PP	i 9 5	pP	—
Riverside	49.5	309	i 8 46	0	i 8 49	P	i 9 11	pP	—
Pasadena	50.3	309	i 8 50 <sub>a</sub>	- 2	i 16 9	+11	i 9 0	pP	e 21.0
China Lake Z.	50.4	311	i 8 51 <sub>a</sub>	- 2	i 10 2	PcP	i 9 8	pP	—
Bozeman	51.0	325	e 8 56	+ 1	e 16 14	+ 6	—	—	—
Angra do HeroismoOE.	51.1	45	i 9 3	+ 5	i 16 23	+14	i 17 5	PPS	i 25.6
Tinemaha	51.3	312	9 0	0	i 11 1	PP	i 9 15	pP	—
Fresno Z.	52.4	312	e 9 5 <sub>a</sub>	- 3	e 16 47	+20	e 9 15	pP	—
Saskatoon	53.0	334	9 13?	+ 1	e 16 55?	PPS	—	—	—
Reno	53.5	315	i 9 15 <sub>a</sub>	- 1	e 16 31	-11	i 9 42	sP	—
Lick Z.	54.0	312	e 9 19 <sub>a</sub>	- 1	i 9 23	P	i 9 41	pP	—
Santa Clara	54.2	312	i 9 21	0	i 16 55	+ 3	—	—	e 31.9
Hungry Horse	54.2	327	i 9 20	- 1	—	—	—	—	—
M'Bour	54.5	76	i 9 22	- 1	e 17 1	+ 5	i 12 30	PPP	e 24.0
Berkeley	54.6	312	e 9 20 <sub>a</sub>	- 4	i 17 9	+12	i 9 32	pP	—
Mineral Z.	55.0	315	i 9 26 <sub>a</sub>	- 1	i 11 35	PP	i 9 33	pP	—
Shasta	55.7	316	i 9 29	- 3	—	—	i 9 45	pP	—
Arcata Z.	57.0	314	e 9 40	- 1	—	—	e 9 49	pP	—
Victoria	59.6	323	9 58	- 1	18 2	- 1	—	—	—
Lisbon	64.5	49	10 31 <sub>k</sub>	- 1	19 9	+ 4	10 54	pP	30.1
Coimbra	65.3	48	i 10 46 <sub>a</sub>	+ 9	19 21	+ 7	—	—	35.4
Reykjavik Z.	67.0	21	i 10 49 <sub>k</sub>	+ 1	—	—	i 10 59	pP	—
Malaga	67.9	52	i 10 51	- 3	i 19 55	+ 9	i 13 21	PP	30.4
Toledo	68.6	50	i 10 57	- 1	i 19 56	+ 2	11 23	PcP	33.7
Granada	68.6	52	i 10 55 <sub>k</sub>	- 3	i 19 59	+ 5	11 3	pP	i 34.7
Resolute Bay	68.7	353	i 10 55 <sub>a</sub>	- 4	i 19 57	+ 2	i 11 21	sP	e 32.0
Almeria	69.4	53	i 11 4	+ 1	i 20 8	+ 4	i 11 26	pP	32.5
Sitka	69.8	329	e 10 45	-20	i 20 14	+ 6	—	—	—
Rathfarnham Castle	69.9	35	i 11 2	- 4	e 20 4	- 6	i 12 27	?	e 30.0
Scoresby Sund	70.7	15	i 11 9	- 2	i 20 23	+ 4	i 13 44	PP	—
Alicante	71.2	51	11 14	0	e 20 29	+ 4	15 34	PPP	33.2
Jersey E.	71.5	40	e 11 23	+ 7	e 20 31	+ 3	e 13 51	PP	29.0
Tortosa	72.2	49	i 11 23	+ 3	i 20 38	+ 2	—	—	—
Edinburgh N.	72.3	33	11 26	+ 6	20 39	+ 2	—	—	—
Durham	72.9	35	i 11 29	+ 5	i 20 51	+ 7	i 15 52	PPP	—
Kew	73.1	38	i 11 23	- 2	i 20 48	+ 2	i 11 42	pP	e 30.0
Aberdeen	73.2	32	i 11 31	+ 5	i 20 48	+ 1	i 14 7	PP	e 29.5
Algiers Univ. Z.	73.8	54	e 11 28	- 1	e 20 59	+ 5	e 14 15	PP	e 30.2
Paris	74.5	40	i 11 33	0	i 21 2	0	i 11 52	pP	e 37.0
Clermont-Ferrand	74.6	44	i 11 32	- 2	e 21 3	0	e 21 37	sS	e 33.0
Tamanrasset Z.	75.9	68	i 11 42 <sub>k</sub>	+ 1	i 21 29	+12	e 14 16	PP	35.0
De Bilt	76.5	37	i 11 43 <sub>a</sub>	- 2	i 21 29	+ 5	e 26 31	SS	e 32.7
Neuchatel	77.3	43	e 11 48	- 1	e 21 35	+ 2	—	—	—
College	77.5	335	i 11 42	- 8	i 21 35	0	i 26 4	SS	e 31.2
Witteveen Z.	77.5	36	i 11 51	+ 1	i 11 58	P	e 12 48	?	—

Continued on next page.

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1952

333

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Bergen	77.6	29	e 11 40	-11	e 21 37	+ 1	—	e 32.3
Basle	77.8	43	e 11 51	- 1	e 21 20	-18	e 13 40	?
Strasbourg	77.9	41	i 11 52 <sup>k</sup>	0	i 21 40	+ 1	e 11 59	PcP e 35.0
Karlsruhe	78.4	40	i 11 55 <sup>k</sup>	0	i 21 49	+ 5	i 12 2	PcP e 34.0
Zürich	78.4	43	e 11 54 <sup>a</sup>	- 1	e 21 47	+ 3	e 15 1	PP
Pavia	78.8	45	e 11 45 <sup>a</sup>	-12	i 21 52	+ 3	e 22 0	PS
Stuttgart	78.9	41	i 11 57 <sup>a</sup>	- 1	e 21 50	0	i 12 3	PcP e 33.0
Chur	79.1	44	e 11 59 <sup>a</sup>	0	e 21 53	+ 1	—	—
Salo	79.7	44	e 12 1 <sup>a</sup>	- 1	e 21 58	0	e 15 8	PP
Prato	80.2	46	e 12 3	- 2	e 22 5	+ 2	—	—
Florence	80.3	46	i 12 4 <sup>a</sup>	- 1	i 22 6	+ 2	i 12 12	PcP e 38.0
Bologna	80.3	45	e 12 12 <sup>a</sup>	+ 7	e 22 7	+ 3	—	—
Jena	80.5	39	e 12 4	- 3	e 22 5	- 2	e 12 10	PcP e 34.0
Padova	80.7	45	e 12 15	+ 7	e 22 24	+15	—	—
Copenhagen	81.0	34	i 12 9 <sup>a</sup>	0	i 22 18	+ 6	15 11	PP 33.0
Cheb	81.0	40	i 12 8	- 1	i 22 14	+ 2	e 15 14	PP e 33.5
Rome	81.2	48	i 12 10 <sup>a</sup>	0	i 22 18	+ 4	i 12 16	PcP e 39.4
Rocca di Papa	81.4	49	e 12 10	- 1	e 22 23	+ 7	—	—
Potsdam	81.4	37	i 12 12 <sup>k</sup>	+ 1	i 22 22	+ 6	i 15 21	PP e 33.0
Collnberg	81.4	39	i 12 9	- 2	e 22 20	+ 4	e 15 21	PP e 35.0
Triest	82.0	44	i 12 12 <sup>a</sup>	- 2	e 22 16	- 6	e 15 24	PP
Prague	82.3	40	12 15 <sup>a</sup>	- 1	22 29	+ 4	e 15 27	PP e 35.2
Upsala	83.7	30	i 12 21 <sup>a</sup>	- 2	i 22 37	- 2	i 12 37	pP e 34.8
Messina	83.8	52	e 12 25	+ 1	e 22 43	+ 3	i 23 38	PS
Kiruna	84.3	22	i 12 25	- 1	i 22 46	+ 1	i 15 43	PP e 35.2
Raciborzu	84.7	40	i 12 30	+ 2	e 22 48	- 1	e 12 56	pP e 45.0
Taranto	84.9	50	12 24	- 5	22 46	- 5	—	— e 39.9
Ogyalla	84.9	42	e 12 40	pP	e 22 41	-10	e 28 12	SS e 36.0
Budapest	85.5	43	12 29	- 3	22 54	- 3	e 12 45	pP e 44.0
Skalnate Pleso	86.1	40	e 12 19	-16	e 22 53	[+ 1]	e 24 28	PPS e 35.5
Szeged	86.4	44	e 12 34	- 2	23 4	- 1	e 24 11	PS
Belgrade	86.8	45	e 12 49	+11	e 23 4	- 5	e 24 23	PS e 37.4
Timisoara	87.2	44	i 12 47	+ 7	e 23 11	- 2	i 12 50	pP
Helsinki	87.3	29	i 12 40 <sup>a</sup>	- 1	e 23 14	0	i 12 56	pP
Uzhgorod	87.6	41	i 12 41	- 1	23 8	[+ 6]	16 12	PP
Lwow	88.5	40	i 12 47	0	23 5	[- 3]	16 7	PP
Sofia	89.1	47	e 12 48	- 1	e 23 15	[+ 4]	e 16 27	PP e 48.0
Bucharest	90.8	45	e 12 59	+ 2	e 23 27	[+ 5]	e 16 37	PP 37.0
Kishinev	92.2	42	13 4	0	23 31	[+ 1]	16 45	PP
Istanbul	93.7	48	e 13 9	- 2	e 24 12	+ 1	e 16 59	PP 44.0
Moscow	95.0	32	e 13 16	- 1	e 24 26	+ 3	i 23 48	SKS
Yalta	96.4	44	13 23	0	23 57	[+ 4]	e 17 21	PP
Theodosia	97.1	43	i 13 28	+ 2	24 2	[+ 6]	—	—
Helwan	98.0	59	e 13 31	+ 1	24 7	[+ 6]	17 34	PP
Kimberley	99.4	118	i 13 39	+ 2	—	—	—	—
Sotchi	100.5	43	e 13 43	+ 1	i 24 19	[+ 6]	—	—
Ksara	100.7	56	i 13 49	+ 7	26 47	PS	17 49	PP
Zugdidi	102.4	43	—	—	e 24 28	[+ 6]	—	—
Piatigorsk	102.6	42	e 13 50	- 1	—	—	—	—
Klyuchi	103.3	333	e 18 7	PP	—	—	—	—
Tsikhli-Dzhvari	103.7	44	—	—	i 24 37	[+ 8]	—	—
Leninakan	104.4	45	e 18 25	PP	—	—	—	—
Tiflis	104.7	43	14 2	P	24 39	[+ 6]	18 21	PP
Grozny	104.7	42	e 14 4	P	—	—	—	—
Erevan	105.1	45	14 5	P	24 44	[+ 9]	18 28	PP
Sverdlovsk	105.4	25	14 5	P	24 41	[+ 5]	i 18 29	PP
Petropavlovsk	106.2	332	i 18 33	PP	i 37 43	SSS	i 27 43	PS
Goris	106.7	44	14 17	P	i 24 49	[+ 7]	e 27 53	PS
Lenkoran	108.7	45	—	—	25 2	[+11]	—	—
Baku	108.7	43	e 18 53 <sup>!</sup>	PP	—	—	—	—
Ashkabad	115.6	41	i 19 40	PP	26 39	SKKS	—	—
Semipalatinsk	117.8	19	e 18 49	[+11]	—	—	—	—
Yuzno-Sakhlinsk	117.9	336	e 19 94	PP	—	—	—	—
Tchimkent	119.6	32	e 20 11	PP	e 27 4	SKKS	—	—
Samarkand	120.0	36	i 20 11	PP	25 43	[+ 9]	30 7	PS

Continued on next page.

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1952

334

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Tashkent	120.1	33	e 18 45	[+ 2]	i 27 4	SKKS	i 20 9	PP
Tananarive	120.3	107	e 20 21	PP	e 25 48	[+13]	e 27 17	SKKS
Irkutsk	120.7	3	e 20 4	PP	—	—	—	—
Kabansk	121.0	1	e 20 12	PP	—	—	—	—
Frunse	121.7	28	e 18 51	[+ 4]	e 25 59	[+19]	i 20 27	PP
Stalinabad	121.7	35	e 20 23	PP	—	—	—	—
Fergana	122.1	32	e 18 49	[+ 2]	e 27 21	SKKS	i 20 29	PP
Andijan	122.2	32	e 18 49	[+ 1]	—	—	i 20 29	PP
Obi-garm	122.2	35	e 20 27	PP	—	—	—	—
Almata	122.4	26	i 18 51	[+ 3]	—	—	i 20 28	PP
Kyakhita	122.7	1	e 20 16	PP	—	—	—	—
Dzhergetal	122.7	33	e 19 3	pPKP	—	—	—	—
Rybach'e	122.7	27	e 18 51	[+ 2]	e 25 50	[+ 7]	e 22 31	PKS
Kulyab	122.8	35	e 20 23	PP	27 23	SKKS	—	—
Naryn	123.5	28	e 18 52	[+ 2]	e 25 48	[+ 3]	e 20 39	PP
Khorog	124.1	35	e 20 34	PP	—	—	—	—
Murgab	124.7	32	e 20 41	PP	27 36	SKKS	—	—
Riverview	132.1	230	i 19 8 <sub>a</sub>	[+ 1]	i 28 32	SKKS	i 21 31	PP
Brisbane	132.8	239	i 19 11	[+ 3]	i 22 37	PKS	i 21 39	PP
Bombay	136.8	53	e 19 21	[+ 6]	i 22 59	PKS	e 22 2	PP
Poona	E. 137.8	52	i 19 29	[+12]	i 22 57	PKS	i 22 5	PP
Nanking	139.6	346	e 19 22 <sub>k</sub>	[+ 2]	22 18	PP	25 28	PPP
Zi-ka-wei	Z. 139.7	342	e 19 11	[-10]	e 19 18	PKP	22 11	PP
Hyderabad	N. 142.0	49	e 19 24	[- 1]	22 57	PKS	—	—
Calcutta	E. 144.8	32	i 19 34	[+ 5]	—	—	i 22 59	PP
Kodaikanal	E. 145.1	60	e 19 33	[+ 3]	—	—	—	—
Colombo	E. 148.7	64	e 21 1?	?	—	—	—	—
Manila	154.8	330	i 19 46	[+ 1]	—	—	e 21 51	?

April 19d. 11h. 11m. 52s. Epicentre 2°·9S. 150°·0E.

$\Delta = -0.8649$ ,  $B = +0.4994$ ,  $C = -0.0503$ ;  $\delta = -2$ ;  $h = +7$ ;  
 $D = +0.500$ ,  $E = +0.866$ ;  $G = +0.044$ ,  $H = -0.025$ ,  $K = -0.999$ .

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Brisbane	24.6	173	e 5 16 <sub>k</sub>	- 7	i 9 45	+ 3	i 6 7	PPP
Riverview	30.8	177	i 6 18 <sub>k</sub>	- 2	i 11 22	- 1	i 7 19	PP
Manila	33.6	302	i 6 30	-14	—	—	—	—
Kôti	39.5	338	e 7 28	- 6	e 13 23	-14	—	—
Tokyo	39.6	347	e 7 28	- 7	e 13 28	-10	—	—
Osaka	39.8	342	e 11 38	?	e 13 44	+ 2	—	—
Matsuro	40.8	346	e 7 41	- 4	—	—	—	e 19.6
Auckland	N. 40.8	148	e 7 42	- 3	e 14 6	+10	e 9 43	PcP
New Plymouth	E. 42.1	151	e 9 2	PP	—	—	—	e 21.1
Djakarta	43.1	264	e 8 9	+ 5	e 14 51	+21	—	—
Cobb River	E. 43.2	154	e 8 9	+ 5	e 14 38	+ 6	—	—
Perth	43.2	223	9 48	PP	14 16	-16	17 8	SS
Tuai	N. 43.5	149	e 8 10	+ 3	—	—	—	—
Kaimata	N.E. 43.9	157	e 8 38?	+28	—	—	—	—
Wellington	44.2	153	8 13	+ 1	14 46	0	e 10 5	PP
Christchurch	45.2	157	8 21	+ 1	15 2	+ 1	18 34	SS
Nanking	45.7	322	8 17	- 7	—	—	e 12 42	?
Calcutta	E. 65.2	297	e 10 58	+13	i 19 28	0	—	—
Colombo	E. 70.7	278	11 38	PcP	—	—	—	—
Poona	E. 77.8	290	i 11 56	- 5	i 22 52?	PPS	i 14 28	PP
Bombay	78.8	290	11 8	-58	—	—	—	—
College	81.2	22	12 16	- 3	—	—	—	—
Mineral	Z. 90.6	49	e 13 10	+ 5	—	—	i 13 22	?
Reno	Z. 92.0	50	e 13 20	+ 8	—	—	—	—
Pasadena	93.1	56	e 13 18	+ 1	—	—	e 13 33	?

Continued on next page.

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1952

335

		$\Delta$	Az.	P.	O - C.	S.	O - C.	Supp.	L.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Tinemaha	z.	93.1	53	e 13 37	+20	—	—	—	—
China Lake	z.	93.6	54	e 13 23	+ 4	e 13 36	?	e 16 18	?
Riverside	z.	93.8	56	e 13 21	+ 1	—	—	e 13 27	?
Palomar	z.	94.2	57	e 13 21	- 1	—	—	—	—
Boulder City		95.9	54	e 13 34	+ 4	—	—	—	—
Hungry Horse		96.1	41	e 13 37	+ 6	—	—	—	—
Resolute Bay		99.3	13	e 14 38	+53	—	—	—	—
Tucson		99.3	57	e 17 58	PP	—	—	—	—
Fayetteville	z.	112.4	52	e 18 57	[+19]	—	—	—	—
Skalnate Pleso		117.2	325	e 16 30	?	e 26 21	{-34}	e 30 28	PS
Collmberg		119.8	330	e 18 51	[- 1]	—	—	—	—
Prague		119.9	329	e 19 36	[+43]	e 25 32	[-18]	e 20 15	PP
Jena		120.8	330	e 18 41	[-13]	—	—	e 20 15	PP
Cheb		120.9	330	e 19 19	[+24]	e 27 12	{- 7}	e 36 15	SS
Triest		122.8	325	e 19 5	[+ 7]	e 26 8	[+ 9]	e 20 44	PP
Stuttgart		123.4	330	e 18 58	[- 1]	e 30 44	PS	e 20 28	PP
Florence	z.	125.3	324	e 20 50	PP	—	—	—	—
Rome	z.	125.7	322	e 20 47	PP	—	—	—	—
Harvard		125.9	37	e 19 6	[+ 2]	—	—	—	e 61.2
Weston		126.1	37	e 20 9	[+65]	—	—	—	—
Huancayo		132.6	109	e 19 21	[+ 4]	e 22 56	PKS	—	—
Algiers Univ.	z.	134.6	322	e 19 28	[+ 7]	e 20 26	?	e 22 6	PP
Granada		138.1	328	19 2k	[-25]	—	—	e 21 10	?
San Juan		141.4	63	e 19 28	[- 5]	—	—	—	—
Fort de France		147.1	67	e 19 47	[+ 4]	—	—	—	—

April 19d. 19h. 26m. 1s. Epicentre 56°-38. 25°-1W. (as on 16d.).

		$\Delta$	Az.	P.	O - C.	S.	O - C.	Supp.	L.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Kimberley	z.	44.6	73	i 8 16	0	—	—	—	—
Pietermaritzburg	z.	46.9	79	e 8 27?	- 7	—	—	—	—
Pretoria	z.	48.8	74	i 8 49	0	—	—	—	—
La Paz		51.3	303	i 9 9a	+ 1	i 16 22	- 4	i 16 39	PS
Huancayo		58.6	298	i 10 1	0	(e 23 51)	SSS	—	e 23.8
Bogota		72.6	308	(i 11 32)	+ 1	i 11 32	P	—	—
Fort de France		76.9	325	e 11 36	-20	e 21 50	+ 7	—	—
Tamanrasset	z.	82.9	28	e 12 30	+ 2	e 22 59	+13	e 21 44	?
Bermuda		94.5	327	e 13 26	+ 3	e 24 40	+ 6	e 17 15	PP
Helwan	n.	98.3	47	—	—	e 24 17	[- 2]	e 25 23	S
Messina		100.3	31	—	—	e 32 31	SS	—	e 51.5
Rome	n.	102.9	27	—	—	e 24 40	[- 1]	e 27 29	PS
Ksara		103.6	48	i 19 11	?	e 29 16	?	—	—
Florence		104.3	26	e 15 15	+67	e 24 39	[- 8]	—	—
Harvard		106.0	326	e 18 40	PP	—	—	—	e 53.9
Morgantown		106.2	319	e 18 34	PP	—	—	—	—
Istanbul		107.3	40	e 17 59?	PP	e 24 53	[- 8]	e 27 59	PS
Fayetteville	z.	109.0	307	e 18 29	[- 2]	i 18 58	PP	e 16 31	?
Kew		109.3	16	e 28 57	PS	e 34 44	SS	e 46 10	Q
Ottawa		109.9	324	e 19 9	PP	28 49	PS	—	—
De Bilt		110.9	19	e 28 47	PS	—	—	—	e 56.0
Kirkland Lake	z.	113.7	323	e 19 26	PP	—	—	—	—
Tucson		113.9	293	e 18 41	[ 0]	—	—	—	—
Palomar	z.	118.1	289	e 18 50	[+ 1]	—	—	e 20 15	PP
China Lake	z.	120.2	291	e 18 53	[ 0]	—	—	e 20 10	PP
Upsala	z.	120.7	23	i 28 55a	PKKP	—	—	—	—
Tinemaha	z.	121.5	291	e 18 56	[ 0]	e 19 3	?	e 20 36	PP
Lick	z.	123.5	288	i 19 0a	[ 0]	—	—	—	—
Berkeley	z.	124.2	288	i 19 2a	[+ 1]	—	—	—	—
Butte		125.3	302	i 19 3	[ 0]	—	—	—	—
Mineral	z.	125.7	291	i 19 1a	[- 3]	—	—	—	—
Hungry Horse		127.7	303	i 19 7	[- 1]	—	—	—	—
Kiruna		128.3	20	i 19 8k	[- 1]	e 28 11	{+ 2}	e 23 1	PKS
Victoria		132.4	297	22 42	PKS	—	—	—	—
Resolute Bay		138.5	338	e 19 18	[-10]	e 22 59	PKS	e 19 27	PKP
Nanking	z.	145.2	118	i 19 37	[- 3]	—	—	—	—



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1952

336

April 19d. 20h. 34m. 8s. Epicentre 39°·3N. 74°·7E. (as suggested by U.S.S.R.).

A = +·2048, B = +·7484, C = +·6308;  $\delta = -5$ ;  $h = -2$ ;  
D = +·965, E = -·264; G = +·166, H = +·608, K = -·776.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	
	°	°	m. s.	s.	m. s.	s.	m. s.	
Murgab	1·1	212	i 0 20	- 2	—	—	—	—
Andijan	2·3	307	i 0 45	- 1 <sub>g</sub>	i 1 22	+ 6 <sub>g</sub>	—	—
Naryn	2·4	25	e 0 44	0*	i 1 22	+ 3 <sub>g</sub>	—	—
Fergana	2·5	296	e 0 46	+ 1*	e 1 18	0*	—	—
Dzhergetal	2·7	268	i 0 50	+ 1*	e 1 26	+ 2*	—	—
Khorog	3·0	233	e 0 55	+ 1*	e 1 36	- 3 <sub>g</sub>	—	—
Rybach'e	3·3	17	0 59	0*	e 1 42	0*	e 1 5	P <sub>r</sub>
Garm	3·4	267	i 1 0	- 1*	—	—	i 1 5	P <sub>r</sub>
Frunse	3·6	359	i 1 2	- 2*	i 1 52	+ 1*	i 2 0	S <sub>r</sub>
Obi-garm	3·9	263	e 1 17	- 1 <sub>g</sub>	—	—	—	—
Przhevalsk	4·2	40	i 1 10	+ 3	e 2 18	- 1 <sub>g</sub>	—	—
Almata	4·3	22	i 1 14	- 2*	i 2 20	- 2 <sub>r</sub>	i 1 22	P <sub>r</sub>
Almata II	4·4	25	e 1 14	+ 4	e 1 25	P*	e 1 34	P <sub>r</sub>
Kurmenty	4·6	34	i 1 15	+ 3	i 2 30	- 2 <sub>c</sub>	—	—
Tashkent	4·6	298	e 1 29	- 3 <sub>r</sub>	e 2 19	- 1*	e 2 37	S <sub>r</sub>
Stalinabad	4·7	262	1 18	+ 4	i 2 38	+ 3 <sub>g</sub>	i 1 28	P*
Tchimbkent	4·9	310	e 1 18	+ 1	2 32	+ 3*	i 1 37	P <sub>g</sub>
Ili	5·0	20	e 1 21	+ 3	i 2 40	- 5 <sub>r</sub>	i 1 33	P*
Chilisk	5·1	32	i 1 22	+ 2	—	—	—	—
Samarkand	6·0	276	1 33	+ 1	e 2 36	- 7	e 3 4	S*
Kiruna	z. 40·9	332	i 7 45	- 1	—	—	—	—

April 19d. 21h. 3m. 51s. Epicentre 7°·2N. 72°·1W. Depth of focus 0·005.  
(as at 9h.).

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Bogota	3·2	218	i 0 49	0	i 1 34	+ 7	—	—
Chinchina	4·1	238	(i 1 14?)	+12	i 1 14?	P	i 0 9?	?
Galerazamba	4·7	320	i 1 33	+23	i 2 28	+24	—	—
San Juan	12·5	27	i 2 52	- 5	—	—	—	—
Huancayo	19·4	189	e 4 24	+ 1	—	—	—	e 10·6
La Paz	23·9	169	—	—	11 13	SSS	—	i 12·8
Fayetteville	z. 35·1	328	i 6 49	0	—	—	—	—
Harvard	35·2	2	i 6 50	0	—	—	—	—
Kiruna	z. 84·3	22	i 12 27	+ 1	—	—	—	—

April 20d. 6h. 12m. 30s. Epicentre 42°·1N. 143°·5E. Depth of focus 0·010.  
(as on 1943, December 3d.).

Intensity V at Biroo, Yatiyo, Otu, and Oda; IV at Kusiro, Urakawa, Onnebira, Nuibetu, Nisiasoro, and Hombetu. Macro seismic radius 100-200km. Epicentre 42°·2N. 143°·3E. Depth 60km.  
Seismo. Bull. Cent. Met. Obs., Japan, for April, 1952, Tokyo, 1952, p. 159, with macro seismic chart.

A = -·5982, B = +·4427, C = +·6679;  $\delta = -8$ ;  $h = -2$ ;  
D = +·595, E = +·804; G = -·537, H = +·397, K = -·744.

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	°	°	m. s.	s.	m. s.	s.
Urakawa		0·5	276	i 0 3 <sub>a</sub>	-13	0 11 - 5
Obihiro	N.	0·8	345	e 0 15	- 3	0 25 - 7
Kusiro		1·1	37	i 0 20	- 2	0 35 - 3
Sapporo	z.	1·9	301	i 0 25 <sub>k</sub>	- 7	0 44 -11
Abashiri		2·0	16	e 0 34	+ 1	—
Nemuro		2·0	51	e 0 34	+ 1	0 56 - 1
Hatinohe		2·2	223	e 0 34	- 2	0 58 - 4
Mori	E.	2·2	270	0 32	- 4	0 55 - 7
Aomori		2·4	238	e 0 41	+ 3	1 8 + 1
Miyako		2·7	205	e 0 41	- 2	1 12 - 2

Continued on next page.

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1952

337

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.
Morioka	3.0	217	e 0 46	- 1	1 18	- 4
Akita	3.5	229	e 1 15	?	—	—
Mizusawa	3.5	213	e 0 54	0	1 34	0
Sendai	N. 4.3	209	e 1 5	0	1 50	- 4
Hukusima	4.9	210	e 1 13	0	—	—
Inawasio	5.2	211	e 1 9	- 8	2 17	+ 1
Shirakawa	5.6	208	e 1 20	- 2	—	—
Mito	6.2	204	e 2 28	+58	—	—
Maebasi	6.6	213	e 2 56	S	(e 2 56)	+ 6
Kumagaya	6.7	210	e 1 43	+ 6	2 53	0
Oiwake	6.9	215	e 1 42	+ 2	—	—
Tokyo	7.0	206	e 2 45	+63	—	—
Kohu	7.5	212	e 2 2	+14	—	—
Misima	7.8	209	—	—	e 4 26	?
Resolute Bay	Z. 57.3	16	e 9 39 <sub>a</sub>	- 1	—	—
Kiruna	Z. 62.4	339	e 10 15?	0	—	—
Upsala	Z. 69.1	334	i 10 56	- 2	—	—
Collmberg	Z. 77.5	331	e 11 45	- 2	—	—
Fayetteville	Z. 86.0	43	i 12 34	+ 3	—	—

April 20d. 7h. 7m. 37s. Epicentre 22°·3S. 174°·2W. Depth of focus 0·010.  
(as on 1949, August 24d.).

A = -·9214, B = -·0936, C = -·3773;  $\delta = +9$ ;  $h = +4$ ;  
D = -·101, E = +·995; G = +·375, H = +·038, K = -·926.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Apia	8.7	15	e 2 5	0	i 3 16	-26	—	e 4.7
Kaimata	N.E. 23.5	207	e 5 40	PP	—	—	—	—
Brisbane	Z. 30.1	253	i 6 0 <sub>k</sub>	- 2	—	—	—	—
Lick	Z. 77.2	41	i 11 47	+ 2	—	—	—	—
Pasadena	Z. 77.4	45	i 11 47	+ 1	—	—	—	—
Palomar	Z. 77.8	47	i 11 49	+ 1	—	—	—	—
Fresno	Z. 78.0	42	e 11 50	+ 1	—	—	—	—
China Lake	Z. 78.8	48	i 11 55	+ 1	—	—	—	—
Shasta	79.0	38	i 11 26	-29	—	—	—	—
Tinemaha	Z. 79.2	44	e 11 57	+ 1	—	—	e 12 6	?
Reno	Z. 79.8	41	e 12 0	+ 1	—	—	—	—
Tucson	81.3	50	e 12 9	+ 2	—	—	—	—
Victoria	83.8	32	12 21	+ 1	—	—	—	—
Hungry Horse	88.5	36	e 12 44	+ 1	—	—	—	—
College	89.2	11	e 12 44	- 2	—	—	—	—
Fayetteville	Z. 95.2	53	i 13 15	+ 1	—	—	—	—
La Paz	98.0	111	e 13 53	pP	—	—	—	—
Bogota	101.1	90	i 14 45	+65	—	—	—	—
Copenhagen	146.3	353	e 19 30	[+ 2]	—	—	—	—
Witteveen	Z. 149.5	359	i 19 42	[+ 8]	—	—	—	—
Collmberg	Z. 150.5	351	e 19 40	[+ 5]	e 24 10	?	e 19 57	PKP <sub>2</sub>
Jena	151.1	350	e 19 44	[+ 8]	e 19 50	PKP <sub>2</sub>	e 20 18	pPKP <sub>2</sub>
Ksara	151.2	299	19 23?	[-13]	e 29 41	SKKS	—	—
Stuttgart	153.5	354	e 19 43?	[+ 4]	e 19 50	?	e 20 41	?
Triest	Z. 155.8	346	e 19 46	[+ 4]	e 20 10	?	e 20 55	?

April 20d. 9h. 37m. 3s. Epicentre 69°·9S. 157°·7E.

A = -·3199, B = +·1312, C = -·9383;  $\delta = -4$ ;  $h = -12$ ;  
D = +·379, E = +·925; G = +·868, H = -·356, K = -·346.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Christchurch	27.5	24	—	—	(e 9 57?)	-33	—	e 10.0
Wellington	30.0	26	e 6 51	PP	(e 10 3)	-67	—	e 10.0
Riverview	36.3	352	i 7 7 <sub>k</sub>	0	i 12 44	- 4	e 15 3	SS
Brisbane	42.5	355	e 7 42	-17	e 14 17	- 5	—	—
Grahamstown	Z. 71.2	222	i 11 24	+ 1	—	—	—	—

Continued on next page.

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1952

338

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Kimberley	z.	76.0	222	i 11 51?	0	—	—	—	—
Pretoria	z.	78.0	226	i 12 1	- 1	—	—	—	—
La Paz		88.1	136	e 12 54	0	—	—	—	51.4
Fayetteville	z.	129.6	92	i 18 57	[-14]	—	—	—	—
Helwan		130.0	248	—	—	e 22 29	PKS	—	—
Tamanrasset	z.	130.1	215	i 19 8 <sub>a</sub>	[- 4]	i 22 32	PKS	e 21 33	PP
Ksara		132.2	253	e 19 15	[- 1]	e 22 45	PKS	—	—
Algiers Univ.	z.	144.1	217	e 19 29	[- 9]	i 19 33	PKP	i 19 40	?
Kirkland Lake	z.	145.1	98	e 19 26	[-13]	—	—	—	—
Almeria		145.2	210	i 19 34	[- 6]	23 19	PKS	42 35	SSP
Granada		145.7	208	19 38 <sub>a</sub>	[- 2]	26 41	[- 7]	23 8	PP
Toledo		148.4	209	i 19 45	[ 0]	e 30 47	?	i 19 51	PKP <sub>2</sub>
Florence	z.	148.8	232	e 19 36?	[- 9]	e 20 27	?	e 19 51	PKP <sub>2</sub>
Triest	z.	149.8	237	e 19 41	[- 6]	e 23 40	PP	i 19 48	PKP <sub>2</sub>
Zürich	z.	152.8	231	—	—	e 23 9	PKS	—	—
Prague		153.6	242	e 20 2	[+ 9]	e 21 21	?	e 20 37	PKP <sub>2</sub>
Stuttgart		154.0	234	e 19 45	[- 8]	e 20 22	PKP <sub>2</sub>	e 24 0	PP
Strasbourg		154.2	232	e 19 47	[- 6]	—	—	e 20 15	PKP <sub>2</sub>
Collmburg	z.	155.1	241	e 19 46	[- 9]	e 20 37	?	e 20 18	PKP <sub>2</sub>
Jena		155.2	240	e 19 47?	[- 8]	e 20 33	?	e 20 20	PKP <sub>2</sub>
Resolute Bay		158.8	317	e 19 45	[-14]	—	—	—	e 79.0
Upsala	z.	160.7	260	i 20 41	PKP <sub>2</sub>	—	—	—	—
Kiruna	z.	164.7	283	i 20 57	PKP <sub>2</sub>	—	—	i 21 0	PKP <sub>2</sub>

April 20d. 13h. 18m. 12s. Epicentre 42°·7N. 145°·5E. Depth of focus 0·005 (as on 1d.).

Intensity V at Otiisi; IV at Kusiro, Nemuro, Attoko, and Sibeta; II-III at Tesikaga. Epicentre 42°·6N. 145°·5E. Depth 10km. Macroseismic radius 100-200km. Seismo. Bull. Cent. Met. Obs., Japan, for April, 1952, Tokyo, 1952, p.160, with macroseismic chart.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	
Nemuro		0.6	6	e 0 12	- 2	0 21	- 4	—	
Kusiro		0.9	289	i 0 16	- 2	0 29	- 2	—	
Abashiri		1.6	327	0 27	0	0 44	- 3	—	
Obihiro	E.	1.7	285	e 0 30	+ 2	0 55	+ 5	—	
Urakawa		2.1	255	e 0 39	+ 5	1 9	+10	—	
Asahigawa		2.5	296	e 0 45	+ 6	—	—	—	
Sapporo		3.1	278	e 0 51	+ 3	1 26	+ 2	—	
Hatinohe		3.7	235	e 0 56	0	1 37	- 2	—	
Mori	N.	3.7	262	1 0	+ 4	1 48	+ 9	—	
Aomori		4.0	243	e 1 4	+ 3	1 54	+ 7	—	
Miyako		4.1	222	e 0 58	- 4	1 43	- 6	—	
Morioka		4.4	229	e 1 5	- 1	1 53	- 4	—	
Mizusawa	E.	4.9	224	1 29	+16	2 5	- 4	—	
Akita		5.0	236	e 1 17	+ 3	—	—	—	
Sendai	E.	5.6	220	e 1 22	- 1	2 22	- 5	—	
Hokusima		6.3	219	e 1 33	+ 1	2 38	- 6	—	
Inawasiro		6.6	220	e 1 29	- 8	2 47	- 4	—	
Shirakawa		6.9	218	e 1 38	- 3	—	—	—	
Aikawa		7.3	232	e 1 44	- 2	—	—	—	
Mito	E.	7.4	213	e 1 47	- 1	3 5	- 6	—	
Utunomiya		7.5	217	e 1 53	+ 4	—	—	—	
Maebasi		8.0	220	e 2 27	+31	—	—	—	
Kumagaya		8.1	218	e 2 14	+17	3 26	- 2	—	
Oiwake		8.3	222	e 2 9	+ 9	—	—	—	
Tokyo		8.3	214	e 2 27	+27	—	—	—	
Kohu		8.9	220	e 2 22	+14	—	—	—	
Misima		9.1	216	e 2 48	?	—	—	—	
Resolute Bay	z.	56.3	16	i 9 35 <sub>k</sub>	- 1	—	—	e 9 43	P
Upsala	z.	69.2	334	i 11 2	0	—	—	—	—
Collmburg	z.	77.7	331	e 11 51	0	—	—	—	—
Jena	z.	78.5	331	e 11 56	0	—	—	e 12 21	?

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1952

339

April 20d. 20h. 53m. 29s. Epicentre 60°·5S. 160°·0E. (as on 1940, Oct. 1d.).

A = -·4651, B = +·1693, C = -·8689;  $\delta$  = -3;  $h$  = -9;  
D = +·342, E = +·940; G = +·816, H = -·297, K = -·495.

		$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.	
		°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.	
Christchurch		18·6	30	i 4	21k	0	e 7	38	- 8	e 4	57	PPP	e 8·5
Kaimata	N.E.	19·3	25	e 4	27	- 2	—	—	—	—	—	—	e 9·0
Cobb River	E.	21·0	26	e 4	53	+ 6	e 8	37	0	—	—	—	e 11·0
Wellington		21·3	32	i 4	54	+ 4	i 8	46	+ 3	5	21	PPP	e 9·5
Auckland	N.	25·5	28	—	—	—	i 10	16	+19	i 11	35	SSS	e 13·0
Riverview		27·3	345	i 5	47 <sub>a</sub>	- 1	i 10	21	- 6	i 5	57	pP	i 10·8
Brisbane		33·4	349	i 7	37	PP	i 11	49	-14	(i 13	42)	SS	i 13·7
Fayetteville	Z.	128·2	83	e 15	59	P	—	—	—	e 19	22	PKP	—
Ksara		135·4	259	e 24	59	PPP	e 37	59	?	—	—	—	—
Tamanrasset	Z.	138·3	218	e 19	36	[+ 9]	e 23	22	SKP	e 19	44	?	79·5
Kirkland Lake	Z.	144·2	83	e 19	51	[+13]	—	—	—	—	—	—	—
Istanbul		144·5	260	e 19	49	[+11]	e 26	31?	PPP	e 27	31?	?	—
Resolute Bay		150·7	30	e 20	2k	[+14]	—	—	—	e 20	15	PKP <sub>2</sub>	e 76·5
Granada		154·4	211	(20	31)	PKP <sub>2</sub>	—	—	—	—	—	—	20·5
Collmberg	Z.	159·5	258	e 20	51?	PKP <sub>2</sub>	—	—	—	e 20	59	?	—
Kiruna	Z.	161·2	310	e 20	53	PKP <sub>2</sub>	—	—	—	—	—	—	—

April 21d. 0h. 18m. 1s. Epicentre 38°·8N. 142°·0E. Focus at base of Superficial Layers. (as on 1946, June 2d.).

Intensity V at Sakari and Semmaya; IV at Miyako, Morioka, Kawatabi, Tsuya, Ogawara etc. Epicentre 39°·0N. 142°·1E. Depth 50km. Macroseismic radius 100-200km. Seismo. Bull. Cent. Met. Obs., Japan, for April, 1952, Tokyo, 1952, p.161, with macroseismic chart.

A = -·6157, B = +·4811, C = +·6240;  $\delta$  = -8;  $h$  = -1;  
D = +·616, E = +·788; G = -·492, H = +·384, K = -·781.

		$\Delta$	Az.	P.		O-C.	S.		O-C.
		°	°	m.	s.	s.	m.	s.	s.
Isinomaki		0·7	236	0	13	0	0	23	0
Miyako		0·8	0	e 0	10 <sub>a</sub>	- 5	0	19	- 7
Mizusawa		0·8	296	0	13	- 2	0	23	- 3
Sendai	Z.	1·0	238	e 0	17	- 1	0	32	+ 1
Yamagata		1·4	247	e 0	24	+ 1	0	43	+ 2
Hukushima		1·6	229	i 0	26	0	0	46	0
Akita	Z.	1·7	301	i 0	25k	- 3	0	45	- 4
Sakata		1·7	273	0	30	+ 2	0	48	- 1
Hatinohe		1·8	348	i 0	23 <sub>a</sub>	- 6	0	41	-10
Inawashiro		1·9	230	e 0	28	- 3	0	56	+ 2
Onahama		2·1	205	e 0	40 <sub>a</sub>	+ 7	—	—	—
Aomori		2·2	335	0	34	- 1	0	59	- 2
Shirakawa		2·2	220	e 0	37	+ 2	1	3	+ 2
Niigata		2·5	249	e 0	53	PP	—	—	—
Mito		2·7	207	0	43	+ 1	1	12	- 2
Utsunomiya		2·8	217	e 0	45	+ 2	1	18	+ 2
Tukubasan		3·0	210	0	44	- 2	1	23	+ 1
Aikawa		3·1	255	e 0	45	- 3	1	32	+ 8
Kumagaya	Z.	3·4	220	0	53	+ 1	1	40	+ 8
Maebasi	Z.	3·4	224	i 0	53k	+ 1	1	33	+ 1
Takada		3·4	240	e 1	8	PP	—	—	—
Urakawa		3·4	11	e 0	48	- 4	1	26	- 6
Mori	N.	3·5	342	e 0	53	0	1	33	- 1
Titibu		3·6	220	e 0	58	+ 3	1	38	+ 1
Tokyo		3·6	210	0	55	0	—	—	—

Continued on next page.

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1952

340

		$\Delta$	Az.	P.	O-C.	S.	O-C.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.
Matsuro	z.	3.7	234	e 1 1	+ 5	1 44	+ 5
Nagano	N.	3.7	236	e 1 1	+ 5	—	—
Oiwake		3.7	229	e 0 53	- 3	—	—
Yokohama		3.9	210	1 3	+ 4	1 55	+ 11
Matumoto	K.	4.1	232	e 1 2	0	—	—
Hunatu		4.2	218	e 1 10	- 7	1 59	+ 7
Kohu		4.2	221	e 1 5	1 2	—	—
Mera		4.2	204	e 1 3	0	—	—
Sapporo		4.3	353	e 1 3	- 2	1 48	- 6
Toyama		4.3	242	e 1 30	+ 25	2 22	+ 28
Misima		4.4	214	e 1 7	+ 1	2 13	SS
Osima		4.5	207	e 1 7	- 1	2 0	0
Kusiro		4.6	23	e 0 46	- 23	1 32	- 30
Shizuoka		4.8	218	e 1 11	- 1	—	—
Nemuro		5.3	31	e 1 9	- 10	—	—
Kiruna	z.	65.0	339	i 10 30	- 9	—	—
Fayetteville	z.	89.2	42	i 12 47	7	—	—

April 21d. 2h. 10m. 32s. Epicentre  $40^{\circ}2'N$ ,  $24^{\circ}5'E$ . (as on 1947, Nov. 6d.).

Felt strongly in the island of Lemnos ; Intensity V at Kastrou.

A. Galanopoulos.

Seismological Institute Bulletin, 1952, Athens, 1953, p.22.

$$A = +.6970, B = +.3176, C = +.6429; \quad \delta = 0; \quad h = -2;$$

$$D = +.415, E = -.910; \quad G = +.585, H = +.267, K = -.766.$$

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	I.	
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.	
Athens		2.3	195	e 0 39 <sub>a</sub>	- 1	i 1 15	- 1 <sub>g</sub>	i 0 45	P <sub>g</sub>	—
Sofia		2.6	337	e 0 56	+ 4 <sub>g</sub>	i 1 24	+ 3*	i 1 36	S <sub>g</sub>	—
Istanbul		3.6	74	e 0 59	+ 1	1 47	+ 5	1 5	P <sub>g</sub> *	—
Bucharest		4.4	15	e 1 22	+ 4*	e 2 15	0*	e 2 0	S <sub>g</sub> *	3.3
Timisoara	N.	6.0	338	—	—	e 3 17	- 1 <sub>c</sub>	e 3 6	S <sub>g</sub> *	e 3.5
Messina		7.2	257	e 2 22	- 2 <sub>g</sub>	—	—	—	—	e 5.3
Budapest		8.3	333	—	—	e 4 28	- 6 <sub>g</sub>	—	—	—
Rome	N.	9.3	285	—	—	e 5 28	+ 21 <sub>c</sub>	—	—	—
Triest		9.6	309	e 3 13	+ 1 <sub>c</sub>	e 4 51	+ 2*	e 5 22	S <sub>g</sub>	i 6.0

April 21d. 3h. 41m. 58s. Epicentre  $36^{\circ}9'N$ ,  $70^{\circ}8'E$ . (as on 1952, March 21d.).

$$A = +.2636, B = +.7570, C = +.5978; \quad \delta = -10; \quad h = -1;$$

$$D = +.944, E = -.329; \quad G = +.197, H = +.565, K = -.802.$$

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	I.	
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.	
Khorog		0.9	48	i 0 20	0	i 0 34	0	—	—	—
Garm		2.1	350	i 0 42	0 <sub>g</sub>	1 16	+ 7 <sub>g</sub>	—	—	—
Obi-garm		2.2	335	i 0 36	- 2	1 8	+ 9 <sub>g</sub>	—	—	—
Dzhergetal		2.3	8	i 0 45	- 1 <sub>g</sub>	i 1 23	+ 7 <sub>g</sub>	—	—	—
Stalinabad		2.3	316	e 0 43	+ 1*	e 1 18	+ 2 <sub>c</sub>	—	—	—
Murgab		2.9	59	e 0 48	0	e 1 22	- 2	—	—	—
Fergana		3.6	12	e 0 54	- 4	e 1 58	- 1 <sub>g</sub>	i 1 48	S <sub>g</sub> *	—
Andijan		4.0	17	e 1 8	+ 4	1 56	- 4	2 7	S <sub>g</sub> *	—
Tashkent		4.6	346	—	—	2 9	+ 2	—	—	—
Tchimkent		5.5	351	e 1 40	+ 3*	2 31	- 1	i 3 5	S <sub>g</sub>	—
Frunse		6.6	25	—	—	e 2 58	0	e 3 48	S <sub>g</sub>	—
Rybach'e		6.9	35	i 1 43	- 2	e 3 53	- 5 <sub>g</sub>	e 3 24	S <sub>g</sub> *	—
Przhevalsk		8.1	44	e 1 57	- 5	—	—	—	—	—
Kurmenty		8.4	41	i 2 0	- 6	—	—	—	—	—
Ili		8.6	32	2 6	- 3	—	—	—	—	—
Poona	z.	18.5	171	i 7 33	?	i 7 42	- 2	i 7 53	?	?



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1952

341

April 21d. 4h. 12m. 42s. Epicentre  $0^{\circ}8S$ ,  $92^{\circ}0W$ . (as on 1952, January 18d.).

A =  $-0.0349$ , B =  $-0.9993$ , C =  $-0.0138$ ;  $\delta = +1$ ;  $h = +7$ ;  
D =  $-0.999$ , E =  $+0.035$ ; G =  $0.000$ , H =  $+0.014$ , K =  $-1.000$ .

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Bogota	18.7	71	i 4 19	- 3	i 7 48	0	—	—
Huancayo	20.0	124	e 4 36	- 1	e 8 26	+ 9	e 9 6	SS e 10.6
La Paz	28.2	123	e 6 36	PP	i 13 8	PcS	—	i 13.8
Fayetteville	z. 36.8	357	i 7 9	- 2	—	—	—	—
Palomar	z. 41.3	328	i 7 49 <sub>a</sub>	0	—	—	—	—
Riverside	z. 42.0	327	e 7 56	+ 2	—	—	—	—
Mount Wilson	z. 42.6	327	e 8 0	+ 1	—	—	—	—
China Lake	z. 43.5	330	i 8 7 <sub>a</sub>	0	—	—	—	—
Tinemaha	z. 44.8	330	i 8 18	+ 1	—	—	—	—
Lick	z. 46.8	327	i 8 34	+ 1	—	—	—	—
Reno	z. 47.5	331	e 8 40	+ 2	—	—	—	—
Mineral	z. 49.1	330	e 8 52	+ 1	—	—	—	—
Tamanrasset	z. 97.1	67	e 13 35	0	—	—	—	—
Messina	z. 104.6	51	—	—	e 35 45	?	—	—

April 21d. 23h. 15m. 7s. Epicentre  $7^{\circ}6N$ ,  $82^{\circ}4W$ . (as on 1940, July 13d.).

A =  $+0.1311$ , B =  $-0.9826$ , C =  $+0.1314$ ;  $\delta = -4$ ;  $h = +7$ ;  
D =  $-0.991$ , E =  $-0.132$ ; G =  $+0.017$ , H =  $-0.130$ , K =  $-0.991$ .

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Balboa Heights	3.0	64	0 59	+ 9	1 41	+ 2 <sub>g</sub>	—	—
Chinchina	7.2	111	i 1 47	- 2	i 3 17	+ 4	—	—
Galerazamba	7.7	65	—	—	e 3 37	SS	—	4.4
Bogota	8.8	109	i 3 21	?	—	—	—	—
San Juan	19.1	54	i 4 30	+ 3	—	—	i 4 46	PP
Huancayo	20.7	160	e 4 44	0	e 8 53	PcP	—	e 10.0
Fort de France	22.0	70	—	—	e 9 3	+ 7	—	—
La Paz	27.8	148	e 6 33	PP	e 10 26	- 9	i 11 33	SS 13.9
Fayetteville	z. 30.3	341	i 6 13	- 2	—	—	—	—
Morgantown	z. 32.0	4	i 6 31	+ 1	—	—	i 7 44	PP
Ottawa	38.1	9	e 8 56	PP	13 17	+ 1	16 53	SSS 19.9
Boulder City	40.9	319	e 7 49	+ 3	—	—	—	—
Palomar	z. 40.9	314	e 7 45	- 1	—	—	e 7 52	?
Mount Wilson	z. 42.2	314	e 8 7	+11	—	—	—	—
China Lake	z. 42.7	317	i 8 1	+ 1	—	—	e 8 8	?
Tinemaha	z. 43.8	318	i 8 21	+12	—	—	e 8 30	?
Fresno	z. 44.7	316	e 8 52	+36	—	—	—	—
Reno	z. 46.2	320	e 8 37	+ 9	—	—	—	—
Lick	z. 46.3	316	e 8 25	- 4	—	—	—	—
Mineral	z. 47.8	320	e 8 40	- 1	—	—	—	—
Hungry Horse	z. 48.6	333	e 8 45	- 2	—	—	—	—
Tamanrasset	z. 85.2	68	e 12 41	+ 2	—	—	—	—

April 22d. 4h. 25m. 44s. Epicentre  $27^{\circ}0S$ ,  $177^{\circ}0W$ . (as on 1951, November 22d.).

A =  $-0.8910$ , B =  $-0.0467$ , C =  $-0.4516$ ;  $\delta = 0$ ;  $h = +3$ ;  
D =  $-0.052$ , E =  $+0.999$ ; G =  $+0.451$ , H =  $+0.024$ , K =  $-0.892$ .

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Auckland	N. 12.1	213	i 5 52	SS	—	—	—	e 6.3
Wellington	15.8	203	—	—	e 6 13	-29	e 17 21	ScS e 9.5
Cobb River	E. 16.4	208	—	—	e 6 44	-12	—	e 10.0
Kaimata	N.E. 18.2	208	e 4 18	+ 2	e 7 24	-13	—	—
Brisbane	26.6	261	i 5 44 <sub>k</sub>	+ 2	e 10 25	+ 9	i 6 10	PP

Continued on next page.

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1952

342

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Riverview		28.2	247	—	—	e 12 26	SSS	—	e 13.8
Lick	z.	82.4	41	i 12 25	0	—	—	e 12 34	PcP
Pasadena	z.	82.5	46	i 12 23	- 3	—	—	i 13 3	PcP
Palomar	z.	82.8	47	e 12 25	- 2	—	—	i 12 34	PcP
Riverside	z.	82.9	46	i 12 26	- 2	—	—	—	—
Fresno	z.	83.2	43	e 12 28	- 1	—	—	e 12 39	PcP
China Lake	z.	83.9	44	i 12 31 <sub>a</sub>	- 2	—	—	e 12 41	PcP
Shasta		84.3	38	i 12 32	- 3	—	—	—	—
Tinemaha	z.	84.3	43	i 12 33	- 2	—	—	e 12 44	PcP
Mineral	z.	84.5	39	i 12 34	- 2	—	—	i 12 42	PcP
Reno		85.0	40	e 12 36	- 2	—	—	e 12 50	PcP
Boulder City		85.8	45	i 12 41	- 1	—	—	—	—
Tucson		86.2	50	e 12 43	- 1	—	—	—	—
Hungry Horse		93.8	36	e 13 19	- 1	—	—	—	—
College		94.3	11	i 13 21	- 2	—	—	—	—
Kimberley	z.	120.8	202	i 18 52	[- 2]	—	—	—	—
Kiruna	z.	137.8	350	i 19 20	[- 7]	—	—	—	—
Upsala	z.	145.6	347	i 19 39 <sub>a</sub>	[- 1]	i 22 58	PKS	i 20 49	?
Copenhagen		150.5	349	i 19 52	[+ 4]	—	—	i 20 16	PKP <sub>2</sub>
Ksara		150.9	291	e 19 52	[+ 3]	33 46	PSKS	i 20 4	?
Collmberg	z.	154.6	345	e 20 1	[+ 7]	e 20 29	?	e 20 13	PKP <sub>2</sub>
Jena	z.	155.2	346	e 20 3	[+ 8]	—	—	e 20 32	PKP <sub>2</sub>
Prague		155.4	342	e 20 8	[+ 13]	e 21 39	?	e 20 42	PKP <sub>2</sub>
Stuttgart		157.7	349	e 19 55	[- 3]	—	—	e 20 30	PKP <sub>2</sub>
Triest	z.	159.5	340	e 19 51	[- 9]	e 24 39	PP	i 20 38	PKP <sub>2</sub>
Messina	z.	164.6	321	e 21 10	PKP <sub>2</sub>	—	—	—	—
Tamanrasset	z.	175.2	209	i 20 12	[ 0]	e 25 34	PP	i 21 47	PKP <sub>2</sub>

April 22d. 16m. 54m. 43s. Epicentre 46°·2N. 111°·4W.

Intensity VI at Daniels Ranch, Daniels Cow Camp, Dry Creek, Six Mile Creek, and Townsend Valley; V at Greyson Creek, Toston, Townsend, and White Sulphur Springs. Epicentre as adopted. Macro seismic area 1500 sq. m.

L. M. Murphy and W. K. Cloud.

United States Earthquakes, 1952, U.S.C.G.S. Serial No. 773, Washington, 1954, pp. 11, 12

A = -·2534, B = -·6467, C = +·7194;  $\delta$  = -3;  $h$  = -4;  
D = -·931, E = +·365; G = -·262, H = -·670, K = -·695.

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Bozeman		0.6	154	i 0 11	- 4	i 0 20	- 6	—	—
Butte		0.8	257	i 0 16	- 2	i 0 29	- 2	—	—
Hungry Horse		2.8	320	i 0 45	- 2	—	—	i 3 8	?
Saskatoon		6.7	26	1 53	- 4*	3 29?	+ 6*	—	—
Seattle		7.6	285	e 2 17	+ 4*	e 3 43	- 7*	e 3 6	? e 4.0
Corvallis	z.	8.5	263	e 2 8	+ 1	—	—	—	—
Victoria		8.5	290	2 5	- 2	e 4 19	+ 3*	—	—
Reno		9.1	226	e 2 44	P*	e 4 33	- 1*	e 4 45	?
Mineral	z.	9.5	236	e 2 19	- 1	e 5 11	- 3 <sub>r</sub>	e 3 6	P <sub>r</sub>
Shasta		9.7	239	e 3 13	P <sub>r</sub>	—	—	—	—
Tinemaha		10.5	211	i 2 37	+ 2	—	—	i 3 8	P*
Boulder City		10.6	195	e 2 36	0	—	—	e 2 42	?
Fresno	z.	11.3	217	e 2 55	+ 9	e 6 1	L	—	(e 6.0)
Lick	z.	11.7	224	i 2 55	+ 4	e 6 21	L	—	(e 6.4)
Riverside	z.	13.0	203	i 3 13	+ 4	—	—	—	i 7.0
Palomar		13.5	200	i 3 19	+ 4	e 6 16	+ 29	—	—
Fayetteville	z.	16.4	122	i 3 54	+ 1	e 7 21	+ 25	i 4 57	? i 8.5
Kirkland Lake	z.	21.3	71	e 3 50	?	i 11 59	L	e 5 35	PP (i 12.0)
Cleveland		22.0	89	e 9 27	SS	i 9 56	SSS	—	11.5
Buffalo (Larkin)		23.3	83	—	—	e 10 26	SSS	—	i 12.4
Morgantown		23.9	93	e 5 14	- 2	e 10 43	SSS	—	—
Shawinigan Falls N.		26.5	75	—	—	e 11 2	SS	—	e 13.5
College		27.2	326	5 45	- 2	—	—	—	—
Resolute Bay		29.5	9	e 6 5	- 3	e 11 47	+ 45	e 13 5	SSS e 15.1

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1952

343

April 23d. 15h. 56m. 28s. Epicentre 37°·6N. 125°·3E.

A = -·4590, B = +·6482, C = +·6076;  $\delta = +2$ ;  $h = -1$ ;  
D = +·816, E = +·578; G = -·351, H = +·496, K = -·794.

		$\Delta$	Az.	P.		O-C.		S.		O-C.		Supp.		L. m.
				m.	s.	s.	m.	s.	m.	s.	m.	s.		
Zi-ka-wei	z.	7·1	207	e 2	33	+11 <sub>g</sub>	3	57	+ 2 <sub>g</sub>	—	—	—	—	
Nanking		7·7	226	e 2	50	+16 <sub>g</sub>	e 4	17	+ 3 <sub>g</sub>	—	—	—	i 4·5	
Hong Kong		18·0	215	—	—	—	e 8	20	SSS	—	—	—	10·6	
Manila		23·2	190	e 4	32?	-37	—	—	—	—	—	—	—	
Kiruna		61·0	335	e 10	18	0	—	—	—	i 10	29	?	e 33·1	
Resolute Bay		64·9	10	e 10	41	- 2	—	—	—	—	—	—	e 32·5	
Upsala		66·2	328	e 10	53	+ 1	—	—	—	i 11	6	?	e 34·5	
Ksara		69·9	297	—	—	—	e 19	39	-45	—	—	—	—	
Collmberg	z.	73·5	322	e 11	40	+ 4	—	—	—	e 11	47	PcP	—	
Prague		73·6	321	e 27	57	?	e 28	44	SSS	e 29	15	Q	e 30·8	
Triest		76·8	318	e 12	22	PcP	e 13	21	?	e 36	53	Q	42·2	
Tinemaha	z.	85·3	46	e 13	1	+21	—	—	—	—	—	—	—	
China Lake	z.	86·6	46	e 12	49	+ 3	e 13	25	?	e 12	53	PcP	—	
Fayetteville	z.	98·1	32	e 13	35	- 5	—	—	—	—	—	—	—	
Fort de France		127·6	8	e 33	42	PPS	—	—	—	—	—	—	—	

April 23d. 23h. 19m. 22s. Epicentre 37°·3N. 141°·3E. Depth of focus 0·005.  
(as on 1952, January 2d.).

Intensity V at Mito, Kituregawa, Asino, and Ogawara; II-III at Onahama, Shirakawa, and Hukusima. Epicentre 37°·1N. 141°·4E. Depth 60km. Macro seismic radius 100-200km.  
Seismo. Bull. Cent. Met. Obs., Japan, for April, 1952, Tokyo, 1952, p. 162, with macro seismic chart.

A = -·6223, B = +·4986, C = +·6034;  $\delta = -5$ ;  $h = -1$ ;  
D = +·625, E = +·780; G = -·471, H = +·377, K = -·797.

		$\Delta$	Az.	P.		O-C.		S.		O-C.	
				m.	s.	s.	m.	s.	s.		
Onahama		0·5	221	i 0	11	- 2	0	19	- 4	—	—
Hukusima		0·8	304	i 0	18	+ 1	0	31	+ 2	—	—
Shirakawa		0·9	258	e 0	16	- 2	0	26	- 5	—	—
Inawasio		1·0	286	e 0	17	- 2	0	30	- 3	—	—
Sendai	N.	1·0	342	e 0	23	+ 4	0	37	+ 4	—	—
Isinomaki		1·1	1	e 0	29	+ 9	0	43	+ 7	—	—
Mito		1·1	216	0	17k	- 3	0	29	- 7	—	—
Yamagata		1·2	322	—	—	—	e 0	42	+ 4	—	—
Tukubasan		1·4	222	0	20	- 4	0	34	- 9	—	—
Mizusawa	E.	1·8	356	0	43	+13	1	0	+ 8	—	—
Kumagaya		1·9	233	e 0	30	- 1	0	48	- 6	—	—
Niigata		1·9	290	—	—	—	e 0	47	- 7	—	—
Tokyo		2·0	218	e 0	30	- 2	0	49	- 8	—	—
Maebasi	z.	2·0	243	i 0	30k	- 2	0	47	-10	—	—
Yokohama		2·3	215	e 0	42	+ 5	—	—	—	—	—
Morioka		2·4	358	e 0	41	+ 3	1	12	+ 5	—	—
Miyako		2·4	13	e 0	34	- 4	1	8	+ 1	—	—
Oiwake		2·4	246	e 0	42	+ 4	—	—	—	—	—
Mera		2·6	206	e 1	6	S	(e 1	6)	- 6	—	—
Kohu		2·8	233	e 0	44	0	1	11	- 6	—	—
Misima		2·9	321	—	—	—	e 1	5	-14	—	—
Ajiro		2·9	232	e 1	8	S	(e 1	8)	-11	—	—
Osima		3·0	211	e 0	35	-12	1	9	-13	—	—
Nagoya		4·1	240	e 1	28	+26	—	—	—	—	—

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1952

344

April 24d. 12h. 11m. 51s. Epicentre 21°·08. 174°·0W. (as on 1948, Sept. 30d.).

A = -·9293, B = -·0977, C = -·3563;  $\delta = +9$ ;  $h = +4$ ;  
D = -·105, E = +·995; G = +·354, H = +·037, K = -·934.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Apia		7·4	16	1 51	- 1	i 3 7	-11	—	e 3·6
Auckland	N.	18·6	209	e 9 1	PcP	—	—	e 10 17	c 11·4
Berkeley	Z.	76·1	40	i 11 52	+ 1	—	—	—	—
Lick	Z.	76·1	40	i 11 51	0	—	—	—	—
Pasadena	Z.	76·3	45	e 11 52	0	—	—	—	—
Palomar	Z.	76·7	46	e 11 54	- 1	—	—	e 12 5	PcP
Riverside	Z.	76·8	45	e 11 55	0	—	—	e 12 7	PcP
Fresno	Z.	76·9	42	e 11 56	0	—	—	—	—
China Lake	Z.	77·7	44	e 12 0k	0	—	—	—	—
Tinemaha	Z.	78·1	43	e 12 5	+ 3	—	—	—	—
Mineral	Z.	78·1	38	e 12 2	0	—	—	—	—
Reno	Z.	78·6	40	e 12 6	+ 1	—	—	—	—
Victoria		82·6	32	12 26	0	—	—	—	—
Seattle		82·6	33	e 12 27	+ 1	—	—	e 12 59	?
Fayetteville	Z.	94·3	53	e 13 21	- 2	—	—	—	—
Copenhagen		145·0	355	i 19 38k	[- 1]	—	—	—	—
Witteveen	Z.	148·2	359	e 19 45	[+ 1]	—	—	—	—
Collmberg	Z.	149·3	352	e 19 50	[+ 4]	—	—	e 20 12	PKP <sub>2</sub>
Raciborz		149·4	346	e 19 52	[+ 6]	—	—	e 19 57	PKP <sub>2</sub>
Jena		149·8	354	e 19 52	[+ 5]	—	—	e 21 20	?
Prague		150·2	351	e 19 57	[+ 9]	e 22 34	?	e 20 2	PKP <sub>2</sub>
Ksara		150·7	302	i 21 49?	?	e 24 53	?	e 37 31	?
Istanbul		152·0	323	e 19 55?	[+ 5]	—	—	e 23 33	PP
Stuttgart		152·2	356	e 19 50	[- 1]	e 20 23	?	e 20 6	PKP <sub>2</sub>
Triest		154·6	350	e 19 52	[- 2]	e 27 19	[+20]	e 20 18	PKP <sub>2</sub> 87·4
Helwan	Z.	155·5	296	e 20 21	PKP <sub>2</sub>	—	—	—	—
Tamanrasset	Z.	178·2	—	e 20 11	[- 1]	e 28 57	PcPPKP	e 26 1	PP

April 24d. 16h. 14m. 46s. Epicentre 4°·6N. 32°·5W. (as on 1937, Feb. 11d.).

A = +·8407, B = -·5356, C = +·0796;  $\delta = -2$ ;  $h = +7$ ;  
D = -·537, E = -·843; G = +·067, H = -·043, K = -·997.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Tamanrasset	Z.	40·9	59	i 7 45	- 1	e 15 55	?	e 9 39	PcP 18·2
La Paz		41·0	238	3 16	?	i 9 22	?	—	—
Huancayo		45·7	248	e 8 27	+ 3	e 14 1	-67	—	e 21·8
Triest		57·3	37	e 10 44	PcP	e 12 7	PP	e 14 0	?
Fayetteville	Z.	64·6	308	i 10 39	- 2	—	—	—	—
Upsala	Z.	67·0	25	i 10 55	- 2	—	—	—	—
Ksara		69·5	57	e 11 14	+ 2	—	—	—	—
Kiruna	Z.	72·4	19	e 11 29	- 1	—	—	—	—
Resolute Bay		78·5	347	e 12 3k	- 1	—	—	—	—
Palomar	Z.	82·8	303	e 12 30	+ 3	—	—	—	—
Riverside	Z.	83·2	304	e 12 30	+ 1	—	—	—	—
China Lake	Z.	83·4	306	e 12 32	+ 2	—	—	—	—
Mount Wilson	Z.	83·8	304	e 12 34	+ 2	—	—	—	—
Tinemaha	Z.	83·9	306	i 12 24	- 9	—	—	—	—
Reno	Z.	85·0	309	e 12 18	-20	—	—	—	—
Mineral	Z.	86·4	310	e 13 8	+23	—	—	—	—
Lick	Z.	86·6	307	e 12 47	+ 1	—	—	—	—

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1952

345

April 25d. 6h. 2m. 0s. Epicentre 8°·1N. 83°·2W. (as on 1949, Nov. 28d.).

A = +·1172, B = -·9832, C = +·1400 ;  $\delta = +2$  ;  $h = +7$  ;  
D = -·993, E = -·118 ; G = +·017, H = -·139, K = -·990.

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
			m.	s.	s.	m.	s.	s.	m.	s.	m.
Balboa Heights	3·7	78	1	16	+ 2 <sub>c</sub>	2	4	+ 2 <sub>g</sub>	—	—	—
Chinchina	8·2	112	i 1	58	- 5	e 3	30	- 8	e 4	20	P <sub>c</sub>
Galerazamba	8·3	71	i 2	23	- 3*	i 3	45	+ 5	—	—	—
Bogota	9·7	110	i 1	21	-61	e 3	5	-70	—	—	—
Kingston	12·1	31	e 2	59	+ 2	e 5	42	SSS	—	—	—
Tacubaya	19·1	309	e 4	40	+13	—	—	—	—	—	—
San Juan	19·5	56	i 4	29	- 2	—	—	—	—	—	—
Huancayo	21·5	159	i 4	50	- 2	e 8	53	+ 6	e 5	17	PP
Fort de France	22·6	71	e 5	0	- 3	i 9	13	+ 6	—	—	e 10·1
Columbia	25·9	3	i 5	37	+ 2	—	—	—	—	—	—
La Paz	28·6	148	e 5	56	- 4	10	34	-14	6	59	PP
Fayetteville	z. 29·6	342	i 6	9	0	i 9	23	PcP	i 6	19	?
Morgantown	31·5	6	i 6	26	0	8	16	?	—	—	—
Cleveland	33·3	3	e 6	40	- 1	e 12	1	- 1	—	—	—
Palisades	33·8	14	e 6	46	0	e 12	12	+ 2	—	—	e 16·0
Tucson	35·1	317	i 7	1	+ 4	—	—	—	—	—	—
Weston	35·7	16	e 7	2 <sub>a</sub>	0	—	—	—	—	—	—
Harvard	35·8	16	e 7	7	+ 4	—	—	—	—	—	e 22·6
Ottawa	37·7	9	i 7	19	0	13	16	+ 6	—	—	20·3
Shawinigan Falls N.	39·3	12	e 7	29	- 3	—	—	—	—	—	—
Rapid City	39·9	338	e 7	42	+ 5	—	—	—	—	—	—
Kirkland Lake	z. 40·0	4	e 7	38	0	—	—	—	—	—	—
Palomar	z. 40·0	314	i 7	42 <sub>a</sub>	+ 4	—	—	—	i 7	46	?
Riverside	z. 40·7	315	e 7	48 <sub>a</sub>	+ 4	—	—	—	—	—	—
Pasadena	z. 41·3	315	i 7	53	+ 4	—	—	—	i 8	1	pP
China Lake	z. 41·8	318	i 7	57 <sub>a</sub>	+ 4	—	—	—	i 8	7	pP
Tinemaha	z. 42·9	318	e 8	6	+ 4	—	—	—	e 8	14	pP
Fresno	z. 43·8	317	e 8	11 <sub>a</sub>	+ 2	—	—	—	—	—	—
Reno	z. 45·3	320	e 8	25 <sub>a</sub>	+ 4	—	—	—	e 8	35	pP
Lick	z. 45·4	316	i 8	25 <sub>a</sub>	+ 3	—	—	—	i 8	35	pP
Berkeley	z. 46·1	316	e 8	31 <sub>a</sub>	+ 3	—	—	—	i 8	40	pP
Mineral	z. 46·9	320	e 8	36 <sub>a</sub>	+ 2	—	—	—	i 8	46	pP
Hungry Horse	47·8	333	i 8	42	+ 1	—	—	—	—	—	—
Resolute Bay	66·9	357	i 10	52 <sub>a</sub>	- 4	e 19	45	- 4	i 11	3	pP
College	72·1	337	e 11	27	- 1	—	—	—	—	—	e 35·5
Scoresby Sund	73·0	18	i 11	30 <sub>a</sub>	- 3	—	—	—	—	—	39·0
Malaga	76·2	54	i 11	49	- 3	e 21	40	+ 4	—	—	—
Granada	76·9	54	i 11	51 <sub>a</sub>	- 5	i 21	45	+ 2	—	—	—
Almeria	77·8	54	e 12	5	+ 4	—	—	—	—	—	44·1
Alicante	79·3	53	12	9	0	—	—	—	33	9	Q
Karlsruhe	z. 85·0	41	e 12	34	- 4	—	—	—	e 12	37	P
Zürich	z. 85·3	43	e 12	47	+ 7	—	—	—	—	—	—
Stuttgart	85·6	41	e 12	39	- 2	—	—	—	e 12	50	PcP
Tamanrassot	z. 85·7	68	i 12	41 <sub>k</sub>	- 1	—	—	—	e 16	4	PP
Copenhagen	86·5	34	i 12	45	- 1	23	24	+ 2	—	—	—
Jena	86·8	39	e 12	45	- 2	e 13	51	PcS	e 13	9	?
Collmborg	z. 87·6	39	e 12	49	- 2	—	—	—	e 12	59	pP
Kiruna	87·7	23	i 12	50 <sub>a</sub>	- 2	e 23	30	- 3	e 23	10?	SKS
Upsala	z. 88·5	30	i 12	53 <sub>a</sub>	- 3	—	—	—	i 13	4	pP
Triest	89·1	44	e 12	57	- 1	e 23	42	- 4	e 16	35	PP
Manila	147·1	313	e 19	47	(+ 4)	—	—	—	—	—	42·2





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1952

347

April 25d. 19h. 32m. 20s. Epicentre 42°·3N. 142°·4E. (as on 1951, August 13d.).

Intensity V at Misono ; IV at Urakawa, Erimomisaki, and Mukawa ; II-III at Nukibetu and Yatiyo. Epicentre 42°·0N. 142°·5E. Macroseismic radius 100-200km. Seismo. Bull. Cent. Met. Obs., Japan, April, 1952, Tokyo, 1952, p. 164, with macroseismic chart.

$$A = -.5878, B = +.4527, C = +.6706; \quad \delta = +15; \quad h = -3; \\ D = +.610, E = +.792; \quad G = -.531, H = +.409, K = -.742.$$

		$\Delta$	Az.	P.	O-C.	S.	O-C.
		°	°	m. s.	s.	m. s.	s.
Urakawa		0·3	118	i 0 12 <sub>k</sub>	+ 1	0 22	+ 4
Obihiro	N.	0·9	44	e 0 21	+ 1	0 36	+ 2
Sapporo		1·1	315	i 0 21	- 1	0 37	- 2
Mori	K.	1·4	262	0 21	- 6	—	—
Kusiro		1·6	65	e 0 29	- 1	0 51	0
Hatinohe		1·9	200	e 0 25	- 9	0 42	-17
Aomori		1·9	219	e 0 31	- 3	0 47	-12
Abashiri		2·2	39	e 0 48	+10	1 17	+11
Nemuro		2·6	66	e 0 48	+ 4	1 11	- 6
Miyako		2·7	187	e 0 36	- 9	1 0	P <sub>r</sub>
Morioka		2·8	200	e 0 39	- 8	1 6	-16
Akita		3·1	215	e 1 12	+10 <sub>g</sub>	—	—
Mizusawa		3·3	197	e 0 57	+ 4	1 22	-13
Isinomaki		3·9	192	e 1 4	+ 2	—	—
Sendai	N.	4·2	198	e 1 23	- 1 <sub>g</sub>	2 17	- 2 <sub>r</sub>
Yamagata		4·3	202	e 1 45	?	—	—
Hokusima		4·8	200	e 1 23	- 2*	2 15	+ 3
Inawasiro		5·1	201	e 1 18	- 2	—	—
Shirakawa		5·5	199	—	—	e 2 10	-20
Utunomiya		6·1	200	e 2 32	+58	3 25	+ 3 <sub>r</sub>
Kumagaya		6·6	202	e 2 5	- 7 <sub>r</sub>	2 56	- 2

April 26d. 1h. 57m. 0s. Epicentre 53°·3N. 170°·5E. (as on 1940, September 8d.).

$$A = -.5897, B = +.0987, C = +.8016; \quad \delta = +5; \quad h = -7; \\ D = +.165, E = +.986; \quad G = -.791, H = +.132, K = -.598.$$

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
		°	°	m. s.	s.	m. s.	s.	m. s.
College		23·7	45	i 5 15	+ 1	—	—	—
Resolute Bay	Z.	40·5	24	e 7 43	+ 1	—	—	e 9 43 PPP
Victoria		40·5	70	7 43	+ 1	—	—	—
Shasta		45·8	78	e 8 24	- 1	—	—	—
Hungry Horse		45·8	64	i 8 24	- 1	—	—	—
Mineral	Z.	46·5	78	e 8 31	0	—	—	i 8 37 ?
Reno	Z.	48·0	77	e 8 42	- 1	—	—	e 8 48 ?
Lick	Z.	48·4	80	e 8 45	- 1	—	—	i 8 52 ?
China Lake	Z.	51·8	79	e 9 10	- 2	—	—	i 9 16 ?
Mount Wilson	Z.	52·7	80	e 9 17	- 1	—	—	e 9 24 ?
Boulder City		53·3	77	e 9 22	- 1	—	—	—
Palomar	Z.	54·0	81	e 9 25	- 3	—	—	i 9 33 ?
Manila		54·8	245	i 8 1	?	—	—	—
Scoresby Sund		56·0	6	e 9 45	+ 2	—	—	—
Kiruna	Z.	57·0	347	i 9 52 <sub>a</sub>	+ 2	—	—	i 10 59 PcP
Tucson		58·3	77	e 9 58	- 1	—	—	—
Kirkland Lake	Z.	62·5	46	e 10 27	- 1	—	—	—
Fayetteville	Z.	64·8	63	i 10 41	- 2	—	—	—
Upsala	Z.	64·9	346	i 10 46 <sub>a</sub>	+ 3	—	—	i 10 53 ?
Morgantown		69·2	52	i 11 9	- 1	—	—	—
Harvard		70·6	43	i 11 18 <sub>k</sub>	- 1	—	—	—
Weston		70·8	43	i 11 19 <sub>k</sub>	- 1	—	—	—
Collmberg	Z.	73·9	346	e 11 40	+ 1	—	—	e 11 48 ?
Stuttgart		76·9	348	e 11 58	+ 2	—	—	—
Triest	Z.	79·3	345	i 12 11 <sub>a</sub>	+ 2	e 12 24	PcP	e 11 46 ?
Tamanrasset	Z.	103·0	346	e 18 16	PP	—	—	—
Kimberley	Z.	144·8	301	i 19 40	[+ 1]	—	—	—

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1952

348

April 26d. 4h. 11m. 10s. Epicentre 36° 8N. 69° 4E. (as on 1952, February 26d.).

A = +.2824, B = +.7513, C = +.5964;  $\delta = -11$ ;  $h = 0$ ;  
D = +.936, E = -.352; G = +.210, H = +.558, K = -.803.

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.	
	<sup>c</sup>	<sup>c</sup>	m.	s.	s.	m.	s.	s.	m.	s.
Kulyab	1.1	15	i 0	24	+ 2	—	—	—	—	—
Stalinabad	1.8	344	i 0	35	- 1 <sub>g</sub>	i 0	59	- 1 <sub>g</sub>	—	—
Obi-garm	1.9	7	i 0	37	- 1 <sub>g</sub>	c 1	3	0 <sub>g</sub>	—	—
Khorog	1.9	69	c 0	37	- 1 <sub>g</sub>	1	7	+ 4 <sub>g</sub>	—	—
Garm	2.3	18	i 0	42	0*	i 1	9	0	0 46	P <sub>z</sub>
Dzhergetal	2.8	31	i 0	50	- 1*	i 1	31	- 1 <sub>g</sub>	—	—
Samarkand	3.5	327	1	5	+ 2*	1	50	+ 2*	—	—
Murgab	3.9	65	c 1	13	+ 3*	c 2	13	+ 4 <sub>g</sub>	—	—
Fergana	4.0	26	c 1	5	+ 1	i 2	16	+ 4 <sub>g</sub>	—	—
Andijan	4.6	30	i 1	14	+ 2	c 2	7	0	2 21	S*
Tchimkent	5.5	1	e 1	34	- 3*	c 3	14	+ 12 <sub>e</sub>	—	—
Frunse	7.3	32	e 1	50	0	—	—	—	—	—
Rybach'e	7.6	40	e 1	48	- 7	—	—	—	—	—
Almata	8.7	39	c 2	12	+ 2	—	—	—	—	—
Almata II	8.9	11	i 2	13	- 1	—	—	—	—	—

April 26d. 12h. 27m. 46s. Epicentre 4° 6S. 102° 8E. Focus at Base of Superficial Layers.

A = -.2208, B = +.9721, C = -.0796;  $\delta = +7$ ;  $h = +7$ ;  
D = +.975, E = +.222; G = +.018, H = -.078, K = -.997.

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.	
	<sup>c</sup>	<sup>c</sup>	m.	s.	s.	m.	s.	s.	m.	s.
Djakarta	4.3	112	e 1	10	+ 5	i 1	58	+ 4	—	—
Bandong	5.3	115	e 1	15	- 4	e 2	18	- 2	—	—
Manila	26.2	42	e 5	33	0	—	—	—	c 7 22	?
Bombay	37.6	309	—	—	—	c 16	14?	SSS	—	—
Murgab	50.4	331	c 8	57	- 1	c 16	6	0	—	—
Khorog	50.9	328	e 9	0	0	e 16	12	- 1	—	—
Przhevalsk	51.8	338	i 9	8	+ 1	—	—	—	—	—
Kulyab	52.2	327	e 9	9	- 1	c 16	29	- 2	—	—
Dzhergetal	52.4	330	e 9	11	0	—	—	—	—	—
Rybach'e	52.7	336	i 9	13	0	e 16	40	+ 3	—	—
Garm	52.8	329	i 9	13	- 1	—	—	—	—	—
Brisbaue	52.9	121	i 9	11 <sub>a</sub>	- 4	—	—	—	i 11 7	PP
Obi-garm	52.9	328	e 9	14	- 1	—	—	—	—	—
Almata II	52.9	338	i 9	15	0	—	—	—	—	—
Andijan	53.0	331	c 9	16	0	—	—	—	—	—
Fergana	53.0	331	i 9	15	- 1	i 16	40	- 2	—	—
Almata	53.1	338	i 9	16	0	c 16	43	0	c 9 37	pP
Stalinabad	53.2	327	e 9	15	- 2	—	—	—	—	—
III	53.6	338	i 9	18	- 2	—	—	—	—	—
Frunse	53.7	335	i 9	21	0	i 16	51	0	9 41	pP
Kyakhta	54.8	2	9	27	- 2	—	—	—	—	—
Tashkent	55.0	330	e 9	29	- 1	c 17	8	0	c 9 50	pP
Tchimkent	55.6	331	i 9	33	- 2	c 17	14?	- 2	—	—
Kabansk	56.5	3	9	41	0	—	—	—	—	—
Irkutsk	56.7	1	9	41	- 2	—	—	—	—	—
Semipalatinsk	58.1	344	i 9	51	- 1	—	—	—	—	—
Kizyl-Arvat	61.0	321	e 10	12	0	—	—	—	—	—
Baku	65.9	318	c 10	47	+ 3	—	—	—	—	—
Shemakla	66.9	318	e 10	54	+ 3	—	—	—	—	—
Kirovobad	68.5	317	i 11	1	0	c 19	57	- 2	—	—
Grozny	70.0	320	11	9	- 1	—	—	—	—	—
Tiflis	70.0	317	e 11	9	- 1	e 20	16	- 1	—	—
Borzhomi	71.0	317	e 11	18	+ 2	—	—	—	—	—
Piatigorsk	72.1	320	e 11	32	pP	—	—	—	—	—
Ksara	73.7	307	e 11	22	- 10	c 18	21	?	i 11 35	pP

Continued on next page.

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1952

349

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.
Pretoria	z.	74.2	245	i 11 35	0	—	—	—
Grahamstown	z.	76.0	237	i 11 47	+ 1	—	—	—
Kimberley	z.	77.3	242	i 11 52	- 1	—	—	—
Yalta		78.2	317	e 11 58	0	—	—	—
Moscow		80.1	329	e 12 8	0	e 22 6	- 3	—
Kiruna	z.	91.3	337	i 13 2 <sub>a</sub>	- 2	—	—	i 13 31 ?
Upsala		91.5	329	i 13 4 <sub>a</sub>	0	c 23 6	[-26]	i 16 38 PP
Triest	z.	92.6	315	c 13 28	sP	—	—	c 13 51 ?
Collmberg	z.	93.4	320	e 13 12	- 1	—	—	—
Stuttgart		95.8	318	e 13 23	- 1	—	—	—
Tamanrasset	z.	98.5	292	e 17 32	PP	—	—	—
Mineral	z.	126.6	41	i 18 59 <sub>a</sub>	[- 1]	—	—	—
Lick	z.	128.0	44	i 19 4 <sub>a</sub>	[+ 1]	—	—	—
Reno	z.	128.2	40	e 19 3	[0]	—	—	—
Tinemaha	z.	130.5	43	i 19 5	[- 3]	i 22 25	SKP	—
China Lake	z.	131.6	43	i 19 9	[0]	i 22 29	SKP	i 22 43 PKS
Pasadena		132.0	46	i 19 11	[+ 1]	i 22 29	SKP	i 23 1 ?
Riverside	z.	132.6	46	i 19 11	[0]	c 22 31	SKP	e 22 56 PKS
Palomar	z.	133.3	46	i 19 13	[0]	c 22 34	SKP	e 22 59 PKS
Morgantown		145.0	3	i 19 32	[- 2]	—	—	c 20 56 ?
Fayetteville	z.	145.0	24	i 19 32	[- 2]	—	—	i 19 39 PKP <sub>2</sub>

April 26d. 20h. 12m. 56s. Epicentre 37°·9N. 69°·1E. (as suggested by U.S.S.R.).

A = +·2822, B = +·7390, C = +·6117;  $\delta = -7$ ;  $h = -1$ ;  
D = +·934, E = -·357; G = +·218, H = +·571, K = -·791.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.
Kulyab		0.5	90	i 0 6?	- 4 <sub>g</sub>	0 14?	P	—
Stalinabad		0.7	338	i 0 16	- 1	i 0 25	- 3	—
Obi-garm		0.9	31	i 0 20	0	c 0 35	+ 1	—
Garm		1.5	49	i 0 28	0	—	—	—
Khorog		2.0	102	i 0 38	+ 1*	i 1 10	+ 4 <sub>g</sub>	—
Dzhergetal		2.1	52	e 0 41	- 1 <sub>g</sub>	i 1 7	+ 1*	—
Samarkand		2.4	317	0 44	0*	1 18	- 1 <sub>g</sub>	—
Fergana		3.2	39	e 0 58	0*	1 42	+ 3*	i 1 50 S <sub>g</sub>
Tashkent		3.4	3	—	—	c 1 54	+ 2 <sub>g</sub>	—
Andijan		3.8	40	e 1 13	- 3 <sub>g</sub>	1 50	+ 3	i 2 8 S <sub>g</sub>
Tchinkent		4.4	5	i 1 26	- 2 <sub>g</sub>	—	—	—
Frunse		6.5	38	e 1 41	+ 2	i 3 35	0 <sub>g</sub>	i 3 41 ?
Krasnogorka		7.1	39	—	—	i 4 0	+ 5 <sub>g</sub>	—

April 26d. 20h. 56m. 17s. Epicentre 20°·5N. 143°·6E. (as on 1947, November 5d.).

A = -·7545, B = +·5563, C = +·3481;  $\delta = -9$ ;  $h = +5$ ;  
D = +·593, E = +·805; G = -·280, H = +·207, K = -·937.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.
Guam		7.1	171	e 1 50	+ 2	—	—	—
Mizusawa		18.7	354	e 4 8	- 14	—	—	c 5 4 ?
Manila		22.3	259	e 5 4	+ 3	—	—	—
College		62.6	26	c 10 33	+ 5	—	—	—
Shasta		79.8	50	i 12 12	0	—	—	—
Mineral	z.	80.5	50	i 12 15	0	—	—	—
Lick	z.	81.5	53	e 12 18	- 3	—	—	—
Reno	z.	82.1	51	e 12 23	- 1	—	—	—
Tinemaha	z.	84.1	53	e 12 31	- 3	—	—	—
China Lake	z.	85.1	53	e 12 37	- 2	—	—	c 12 46 PcP
Mount Wilson	z.	85.3	55	e 12 37	- 3	—	—	—
Riverside	z.	85.9	55	e 12 40	- 3	—	—	—
Boulder City		87.1	53	e 12 47	- 2	—	—	—
Upsala	z.	88.7	336	i 13 3	+ 6	—	—	—
Collmberg	z.	96.4	331	e 17 43?	PP	—	—	—
Stuttgart		100.0	331	e 18 7?	PP	—	—	—
Tamanrasset	z.	120.6	314	i 18 56 <sub>k</sub>	[+ 2]	—	—	c 20 20 PP
La Paz	z.	149.7	87	e 20 9	[+ 32]	—	—	—

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1952

350

April 27d. 8h. 13m. 21s. Epicentre 26°·2S. 178°·5W. Depth of focus 0·070.  
(as on 1948, Dec. 23d.).

Intensity II in the island of Raoul. Epicentre 27°·0S. 180° long. (Wellington).  
Seismological Report for April, May, June, 1952; Bulletin E 128, Wellington, 1955, p.5.

A = -·8981, B = -·0235, C = -·4391;  $\delta$  = -6;  $h$  = +3;  
D = -·026, E = +1·000; G = +·439, H = +·011, K = -·898.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Karapiro	N.	12·7	202	(2 39?)	- 8	—	—	—	2·6
Tuai	N.	13·1	195	e 4 39	?	—	—	—	—
Apia		13·8	28	i 2 29	-30	i 4 46	-37	—	—
Wellington		16·1	199	e 3 11	-11	5 50	-16	—	—
Cobb River	E.	16·5	204	—	—	e 5 56	-17	—	—
Kaimata	N.E.	18·3	204	e 3 51	+ 7	e 6 43	- 2	—	—
Christchurch		18·7	201	—	—	e 6 53	+ 1	—	—
Brisbane	Z.	25·4	261	i 4 53k	+ 3	i 5 25	?	i 5 32	?
Berkeley	Z.	82·7	42	i 11 34	0	—	—	—	—
Lick	Z.	82·7	42	i 11 34k	0	—	—	—	—
Pasadena		82·9	47	i 11 34k	- 1	—	—	e 11 37	P
Palomar	Z.	83·3	48	i 11 36k	- 1	i 11 56	PcP	e 12 7	?
Riverside	Z.	83·3	47	i 11 36k	- 1	—	—	—	—
Fresno	Z.	83·5	44	e 11 37k	- 1	—	—	—	—
China Lake	Z.	84·3	46	i 11 41k	- 1	—	—	e 12 20	?
Shasta		84·5	39	i 11 42	- 1	—	—	—	—
Mineral	Z.	84·7	40	i 11 44k	0	—	—	—	—
Tinemaha	Z.	84·7	45	i 11 44k	0	—	—	e 11 50	PcP
Reno	Z.	85·3	42	e 11 47	+ 1	—	—	—	—
Boulder City		86·2	47	i 11 52	+ 1	—	—	—	—
Tucson		86·8	52	i 11 54	0	—	—	—	—
Seattle		89·2	35	i 12 7	+ 2	i 12 14	PcP	e 12 42	pP
Victoria		89·2	33	12 6	+ 1	—	—	—	—
College		93·8	12	i 12 26	0	—	—	—	—
Hungry Horse		93·9	37	e 12 24	- 2	—	—	—	—
Resolute Bay	Z.	113·4	16	e 17 45	[+ 2]	—	—	e 18 35	pP'
Kimberley	Z.	121·0	204	i 18 2	[+ 6]	—	—	—	—
Kiruna	Z.	136·8	350	e 18 19	[- 8]	i 21 51	PKS	i 18 31	PKP
Upsala	Z.	144·6	347	i 18 45k	[+ 4]	i 19 25	?	i 19 52	?
Ksara		149·4	292	e 18 11	[-38]	—	—	e 27 1	PcPP'
Copenhagen		149·5	349	i 18 55	[+ 6]	i 19 0	?	i 19 6	?
Raciborzu	Z.	152·9	337	e 19 9	[+15]	e 32 30	SKSP	e 19 22	PKP <sub>2</sub>
Witteveen	Z.	153·1	354	i 19 9 <sub>a</sub>	[+15]	—	—	—	—
Collmberg		153·4	345	e 19 1	[+ 6]	i 19 22	PKP <sub>2</sub>	e 22 53	PP
Jena		154·1	346	e 19 11	[+15]	e 19 31	PKP <sub>2</sub>	e 20 6	?
Stuttgart		156·7	347	e 19 4	[+ 5]	e 19 36	PKP <sub>2</sub>	e 23 10	PP
Strasbourg		157·1	350	e 19 8	[+ 8]	i 19 38	PKP <sub>2</sub>	e 19 43	?
Paris		157·4	0	i 19 38	PKP <sub>2</sub>	—	—	—	—
Tamanrasset	Z.	175·0	—	i 19 21 <sub>a</sub>	[+ 7]	i 21 0	PKP <sub>2</sub>	e 24 49	?

April 27d. 12h. 43m. 17s. Epicentre 22°·5S. 176°·2W. Depth of focus 0·010.  
(as on 1948, May 9d.).

A = -·9228, B = -·0613, C = -·3805;  $\delta$  = +10;  $h$  = +4;  
D = -·066, E = +·998; G = +·380, H = +·025, K = -·925.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Apia		9·6	27	e 2 14	- 3	3 48	-16	—	4·8
Auckland	N.	16·3	207	—	—	7 23	SSS	—	8·8
Karapiro	N.	16·9	202	—	—	e 6 43?	-12	—	—
Wellington		20·2	199	e 4 16	-13	e 7 38	-27	—	c 9·6
Cobb River	E.	20·7	205	—	—	e 7 58	-17	—	—

Continued on next page.



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1952

351

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Kaimata	N.E.	22.5	204	—	—	e 8 31	-17	—	—
Christchurch		22.9	200	—	—	e 8 40	-14	e 10 43	? e 12.7
Brisbane	Z.	28.3	253	i 5 45	- 1	—	—	—	—
Lick	Z.	78.6	41	e 11 53	0	—	—	—	—
Mount Wilson	Z.	79.0	45	e 12 2	+ 7	—	—	—	—
Palomar	Z.	79.2	47	e 11 53	- 3	—	—	e 11 58	P
Fresno	Z.	79.4	42	e 11 54	- 3	—	—	—	—
China Lake	Z.	80.2	44	e 11 57	- 4	—	—	e 12 8	pP
Mineral	Z.	80.6	39	e 12 0	- 3	—	—	—	—
Tinemaha	Z.	80.6	43	e 12 0	- 3	—	—	e 12 10	pP
Hong Kong		81.1	299	—	—	e 22 36	+30	—	—
Reno	Z.	81.1	40	e 12 13	+ 7	—	—	—	—
Copenhagen		146.2	351	e 19 31	[+ 3]	—	—	—	—
Ksara		149.7	298	e 19 41	[+ 7]	—	—	e 25 6	?
Witteveen	Z.	149.7	356	e 19 43 <sub>a</sub>	[+ 9]	—	—	—	—
Collmberg	Z.	150.4	347	e 19 38	[+ 3]	—	—	e 19 51	PKP <sub>2</sub>
Jena		151.0	347	e 19 40	[+ 4]	e 19 49	?	e 20 14	?
Prague		151.3	346	e 19 51	[+15]	e 20 18	?	e 20 54	?
Istanbul		151.8	317	e 19 34	[- 3]	—	—	e 19 56	PKP <sub>2</sub>
Karlsruhe	Z.	153.3	354	e 19 43	[+ 4]	—	—	e 19 58	PKP <sub>2</sub>
Stuttgart		153.4	352	e 19 43?	[+ 4]	—	—	e 20 11	pPKP
Strasbourg		153.8	354	e 20 25	?	—	—	—	e 82.7
Helwan	Z.	154.3	291	e 19 41	[+ 1]	—	—	e 20 7	pPKP
Triest	Z.	155.5	343	e 20 3	?	e 30 4	SKKS	e 33 15	?
Granada		164.0	22	i 21 46 <sub>k</sub>	PKP <sub>2</sub>	—	—	25 25	PP
Malaga		164.1	24	i 20 4	[+12]	i 24 34	PP	i 28 28	PPP
Tamanrasset	Z.	178.4	—	e 19 58	[- 1]	e 28 59	?	i 21 51	PKP <sub>2</sub>

April 27d. 13h. 56m. 6s. Epicentre 22°·5S, 176°·2W. Depth of focus 0·010 (as at 12h.).

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Apia		9.6	27	e 2 18	+ 1	3 52	-12	—	4.9
Auckland		16.3	207	—	—	e 7 36	SSS	—	8.9
Wellington		20.2	199	e 6 54?	?	—	—	—	—
Cobb River	E.	20.7	205	—	—	e 7 54?	-21	—	—
Kaimata	N.E.	22.5	204	—	—	e 8 54?	+ 6	—	—
Brisbane	Z.	28.3	253	i 5 49	+ 3	—	—	—	—
Lick	Z.	78.6	41	e 11 51	- 2	—	—	—	—
Pasadena	Z.	78.8	45	e 11 53	- 1	—	—	—	—
Palomar	Z.	79.2	47	e 11 55	- 1	—	—	e 12 21	pP
Riverside	Z.	79.3	45	e 11 54	- 2	—	—	—	—
Fresno	Z.	79.4	42	e 11 54	- 3	—	—	—	—
China Lake	Z.	80.2	44	e 12 2	+ 1	—	—	e 12 13	pP
Mineral	Z.	80.6	39	e 12 2	- 1	—	—	—	—
Tinemaha	Z.	80.6	43	e 11 51	-12	—	—	—	—
Reno	Z.	81.1	40	e 12 7	+ 1	—	—	—	—
Ksara		149.7	298	e 19 58	pPKP	—	—	—	—
Witteveen	Z.	149.7	356	e 19 42	[+ 8]	—	—	—	—
Collmberg	Z.	150.4	347	e 19 42	[+ 7]	—	—	e 19 54	PKP <sub>2</sub>
Jena		151.0	347	e 19 43	[+ 7]	e 21 1	?	e 19 57	pPKP
Florence		157.9	345	e 19 10	[-35]	—	—	—	—
Rome	E.	159.3	342	e 17 44	?	—	—	—	—
Messina	E.	161.4	331	—	—	e 35 28	ScS,P'	—	—
Tamanrasset	Z.	178.4	—	e 20 1	[+ 2]	e 29 5	?	e 21 54	PKP <sub>2</sub>

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1952

352

April 27d. 19h. 16m. 16s. Epicentre 42°·0N. 142°·8E. Depth of focus 0·005. (as on 15d.)

Intensity VI at Misono ; IV at Obihiro, Urakawa, Biratori, Nukibetsu, Hobetsu, Mukawa, Ikeda, Shintoku ; II-III at Tomakomai.

Epicentre 42°·1N. 142°·7E. Depth 60km. Macroseismic radius 100-200km.

Seismo. Bull. Cent. Met. Obs., Japan, for April, 1952, Tokyo, 1952, p.164, with macroseismic chart.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	L.
		°	°	m. s.	s.	m. s.	s.	m.
Urakawa		0·2	355	i 0 3k	- 8	0 10	- 9	—
Obihiro	E.	1·0	18	i 0 12 <sub>a</sub>	- 7	0 23	-10	—
Kusiro		1·5	51	e 0 23	- 3	0 44	- 1	—
Sapporo		1·5	315	i 0 17 <sub>a</sub>	- 9	0 32	-13	—
Hatinohe		1·7	213	e 0 29	+ 1	0 54	+ 4	—
Mori	E.	1·7	273	0 23	- 5	0 41	- 9	—
Asahigawa		1·8	350	e 0 25	- 5	0 43	- 9	—
Aomori		1·9	232	0 29	- 2	0 58	+ 4	—
Suttsu		2·1	293	e 0 38	+ 4	—	—	—
Abasiri		2·3	29	0 35	- 2	1 1	- 3	—
Miyako		2·4	195	e 0 39	+ 1	1 13	+ 6	—
Nemuro		2·4	57	e 0 42	+ 4	—	—	—
Morioka		2·6	208	e 0 42	+ 1	1 16	+ 4	—
Akita		3·1	221	e 0 57	+ 9	—	—	—
Mizusawa		3·1	204	e 0 54	+ 6	1 32	+ 8	—
Wakkanai		3·5	347	—	—	1 44	+10	—
Isinomaki		3·7	198	e 1 16	PP	—	—	—
Sendai	N.	4·0	201	e 1 5	+ 4	1 53	+ 6	—
Yamagata		4·2	207	e 1 8	+ 5	—	—	—
Hokusima		4·6	204	e 1 17	+ 8	—	—	—
Inawasiro		4·9	206	e 1 17	+ 4	—	—	—
Niigata		4·9	216	e 1 35	+22	2 20	+11	—
Onahama		5·2	196	e 1 55	+38	2 49	+32	—
Shirakawa		5·3	203	e 1 25	+ 6	—	—	—
Maebasi		6·3	208	e 2 4	+32	3 5	+21	—
Kumagayama		6·4	205	e 1 50	PP	2 58	SS	—
Nagano	N.	6·4	215	e 1 46	PP	—	—	—
Matusiro		6·5	215	1 38	+ 3	—	—	—
Oiwake		6·6	211	e 1 47	+10	—	—	—
Tokyo		6·7	202	e 2 44	+66	3 48	+54	—
Toyama		6·9	221	e 1 42	+ 1	—	—	—
Kohu		7·2	208	e 1 54	PP	—	—	—
Misima		7·5	205	e 1 58	PP	—	—	—
Nagoya		8·2	215	e 2 16	PPP	—	—	—
Omaesaki		8·2	207	e 2 41	+42	—	—	—
Kiruna		62·3	339	i 10 13	- 5	e 29 23	Q	37·7
Upsala	Z.	69·0	334	i 10 57	- 4	—	—	—
Tinemaha	Z.	72·1	57	e 11 23	+ 4	—	—	—
China Lake	Z.	73·3	56	e 11 28	+ 2	—	—	—
Mount Wilson	Z.	74·0	58	e 11 37	+ 7	—	—	—
Riverside	Z.	74·6	58	e 11 35	+ 1	—	—	—
Collmberg	Z.	77·3	330	e 11 47	- 2	—	—	—
Paris		83·0	335	i 12 18	- 2	—	—	—
Fayetteville	Z.	86·4	44	e 12 35	- 1	—	—	—

April 28d. 1h. 15m. 16s. Epicentre 73°·9N. 8°·5E.

A = +·2760, B = +·0413, C = +·9603 ;  $\delta = +6$  ;  $h = -13$  ;  
D = +·148, E = -·989 ; G = +·950, H = +·142, K = -·279.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Kiruna	Z.	7·2	141	i 1 45	- 4	i 3 4	- 9	i 8 21	PcP
Scoresby Sund		9·8	275	i 2 21	- 3	e 4 31	+14	2 38	PP
Upsala	Z.	14·5	161	e 3 23	- 5	—	—	i 3 36	PP
Copenhagen		18·6	173	i 4 18	- 3	—	—	i 4 24	P
Witteveen	Z.	21·2	182	e 4 56	+ 7	—	—	—	—

Continued on next page.

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1952

353

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.	
Collmberg	Z.	22.8	171	e 5 7	+ 2	—	—	e 5 12	P	—
Jena		23.1	172	e 5 7	- 1	e 7 7	?	e 5 37	PP	—
Prague		24.0	169	e 5 17	0	—	—	e 5 46	PP	—
Resolute Bay		24.7	323	e 5 26	+ 2	e 9 48	+ 4	e 5 34	?	e 13.3
Stuttgart		25.2	179	e 5 29	0	—	—	—	—	—
Paris		25.3	188	e 5 30	0	—	—	e 5 36	P	—
Strasbourg		25.4	180	e 5 31	0	e 6 11	PP	e 6 34	PPP	—
Granada		37.3	196	i 6 23k	-53	—	—	—	—	—
College		40.6	346	i 7 43	0	—	—	—	—	—
Tamanrasset	Z.	51.2	183	e 9 7	0	—	—	—	—	—
Hungry Horse		52.0	315	e 9 8	- 5	—	—	—	—	—
Butte		54.0	313	e 9 27	- 1	—	—	—	—	—
Fayetteville	Z.	59.1	293	e 10 2	- 2	—	—	—	—	—
Mineral	Z.	61.2	319	e 10 19	0	—	—	—	—	—
Reno	Z.	61.6	316	e 10 25	+ 3	—	—	—	—	—
Boulder City		64.1	312	e 10 39	+ 1	—	—	—	—	—
Lick	Z.	64.1	318	e 10 55	+17	—	—	—	—	—
China Lake	Z.	64.7	314	i 10 48	+ 6	—	—	—	—	—
Mount Wilson	Z.	66.4	314	i 10 59	+ 6	—	—	—	—	—
Tucson		66.8	307	e 10 54	- 2	—	—	—	—	—
Palomar	Z.	67.0	312	i 11 3	+ 6	—	—	e 11 16	?	—
La Paz		102.1	253	e 13 8	-50	—	—	—	—	—

April 28d. 10h. 54m. 23s. Epicentre 42°0N, 142°8E. Depth of focus 0.005.  
(as on 27d.).

Intensity VI at Urakawa, Muroran, and Erinomisaki; V at Obihiro, Yasuniya, Yabukawa, Akkesi, Kawayu, Akankohan, Akubetu, etc., and less strongly at many other places. Macro seismic radius more than 300km. Epicentre as adopted. Depth 30km. Seismo. Bull. Cent. Met. Obs., Japan, for April, 1952, Tokyo, 1952, p. 166, with macro seismic chart.

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Urakawa		0.2	355	i 0 12 <sub>a</sub>	+ 1	0 16	- 3	—	—
Obihiro	E.	1.0	18	i 0 22 <sub>k</sub>	+ 3	0 35	+ 2	—	—
Kusiro		1.5	50	e 0 27	+ 1	0 49	+ 4	—	—
Sapporo		1.5	315	i 0 25 <sub>k</sub>	- 1	0 42	- 3	—	—
Hatinohe		1.7	213	e 0 29	+ 1	0 49	- 1	—	—
Mori	E.	1.7	273	i 0 29	+ 1	0 48	- 2	—	—
Asahigawa		1.8	350	e 0 30	0	0 55	+ 3	—	—
Aomori		1.9	232	0 31 <sub>k</sub>	0	0 58	+ 4	—	—
Suttsu		2.1	293	e 0 31	- 3	0 59	0	—	—
Abashiri		2.3	29	i 0 39 <sub>a</sub>	+ 2	1 6	+ 2	—	—
Miyako		2.4	195	i 0 37 <sub>a</sub>	- 1	1 5	- 2	—	—
Nemuro		2.4	57	i 0 39 <sub>k</sub>	+ 1	1 9	+ 2	—	—
Morioka		2.6	208	i 0 42 <sub>k</sub>	+ 1	1 12	0	—	—
Akita		3.1	221	0 50 <sub>k</sub>	+ 2	1 28	+ 4	—	—
Mizusawa	E.	3.1	204	0 50	- 2	1 27	+ 3	—	—
Wakkanai		3.5	347	1 7	+13	1 50	+16	—	—
Isinomaki		3.7	198	e 0 57	+ 1	1 39	0	—	—
Sakata		3.8	217	1 5	+ 7	1 55	+13	—	—
Sendai	N.	4.0	201	e 1 1	0	2 1	+14	—	—
Yamagata		4.2	207	e 1 4	+ 1	1 53	+ 1	—	—
Hokusima		4.6	204	e 1 6	- 3	2 3	+ 1	—	—
Inawasiro		4.9	206	e 1 11	- 2	2 11	+ 2	—	—
Kurilsk		4.9	47	1 13	0	—	—	—	—
Niigata	Z.	4.9	216	i 1 16	+ 3	2 33	+24	—	—
Yuzno-Sakhlinsk		5.0	359	1 15	+ 1	e 2 14	+ 2	—	—
Aikawa		5.3	222	1 17	- 2	2 16	- 3	—	—
Shirakawa		5.3	203	e 1 16	- 3	2 11	- 8	—	—
Mito		5.9	198	e 1 25 <sub>k</sub>	- 2	2 31	- 3	—	—
Utunomiya		5.9	203	e 1 25	- 2	2 29	- 5	—	—
Takada		6.0	217	e 1 30	+ 2	2 58	+21	—	—

Continued on next page.

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1952

354

		$\Delta$	$\Delta z$	P.		O - C.	S.		O - C.	Supp.		L.
		°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.
Tukubasan		6.1	200	e 1	29	- 1	2	37	- 2	---	---	---
Maebasi	Z.	6.3	208	i 1	33	+ 1	2	50	+ 6	---	---	---
Kumagaya		6.4	205	e 1	33	- 1	3	1	+15	---	---	---
Tyosi	N.	6.4	194	e 1	32	- 2	2	45	- 1	---	---	---
Wazima		6.4	226	1	36	+ 2	3	11	+25	---	---	---
Oiwake		6.6	211	e 1	37	0	3	15	+24	---	---	---
Titibu		6.7	207	e 1	44	+ 6	3	4	+10	---	---	---
Tokyo	E.	6.7	202	1	39	+ 1	3	1	+ 7	---	---	---
Matumoto	E.	6.8	214	e 1	41	+ 2	2	59	+ 3	---	---	---
Toyama	E.	6.9	221	e 1	39	- 2	---	---	---	---	---	---
Yokohama		7.0	201	e 1	55	+13	3	26	+25	---	---	---
Ulegorsk		7.1	356	1	43	- 1	e 3	3	- 1	---	---	---
Hunatu		7.2	207	e 1	46	+ 1	3	9	+ 3	---	---	---
Kanazawa		7.2	223	e 1	46	+ 1	---	---	---	---	---	---
Kohu		7.2	208	e 1	47	+ 2	3	13	+ 7	---	---	---
Takayama		7.3	218	e 1	47	+ 1	3	23	+14	---	---	---
Mera		7.4	199	e 1	49	+ 1	3	6	- 5	---	---	---
Ajiro		7.5	204	e 1	58	+ 9	---	---	---	---	---	---
Iida		7.5	212	e 1	45	- 4	3	28	+14	---	---	---
Misima		7.5	205	e 1	39	-10	3	28	+14	---	---	---
Osima		7.7	201	e 1	52	0	2	59	-20	---	---	---
Hukui		7.8	223	e 1	48	- 5	---	---	---	---	---	---
Shizuoka		7.8	207	e 1	53	0	3	21	0	---	---	---
Gihu		8.1	217	1	58	+ 1	3	42	+14	---	---	---
Nagoya		8.2	215	e 2	1	+ 2	3	43	+12	---	---	---
Omaesaki		8.2	207	e 2	5	+ 6	4	1	+30	---	---	---
Tsuruga		8.2	222	e 2	3	+ 4	3	27	- 4	---	---	---
Hamamatu		8.3	210	e 2	9	+ 9	3	40	+ 7	---	---	---
Hikone		8.4	219	e 2	3	+ 1	3	52	+16	---	---	---
Kameyama		8.7	217	2	12	+ 6	4	3	+20	---	---	---
Maizuru		8.7	224	2	8k	+ 2	4	13	+30	---	---	---
Kyoto		8.9	220	e 1	55	-13	---	---	---	---	---	---
Toyooka		9.0	227	i 2	10k	0	4	15	+24	---	---	---
Hatidyozima		9.2	196	e 2	12	0	3	46	- 9	---	---	---
Kobe	E.	9.4	222	e 2	19	+ 4	---	---	---	---	---	---
Owase		9.5	215	2	15	- 2	4	30	+27	---	---	---
Himeji	N.	10.0	224	e 2	18	- 5	---	---	---	---	---	---
Siomisaki		10.2	215	e 2	28	+ 2	5	0	+40	---	---	---
Takamatu		10.3	225	e 2	27	0	5	3	+41	---	---	---
Hamada		11.0	233	2	38	+ 1	---	---	---	---	---	---
Muroto		11.1	221	e 2	40	+ 2	4	51	+ 9	---	---	---
Hiroshima		11.2	230	e 2	42	+ 2	5	13	+29	---	---	---
Koti		11.2	224	e 2	39	- 1	5	8	+24	---	---	---
Matuyama		11.4	227	e 2	41	- 1	---	---	---	---	---	---
Torisima		11.7	191	e 2	55	+ 9	---	---	---	---	---	---
Simidu	N.	12.1	223	e 2	47	- 5	5	25	+19	---	---	---
Ooita		12.4	229	e 2	59	+ 3	---	---	---	---	---	---
Hukuoka	E.	12.9	233	e 2	51a	-11	5	23	- 2	---	---	---
Saga		13.2	233	e 3	26	+20	---	---	---	---	---	---
Kumamoto		13.3	230	e 3	6	- 2	---	---	---	---	---	---
Miyazaki		13.5	226	e 3	15	+ 5	5	53	+14	---	---	---
Yakusima		15.2	225	e 3	28	- 4	---	---	---	---	---	---
Petropavlovsk		15.4	38	i 3	43?	+ 8	---	---	---	---	---	---
Klyuchi		18.5	32	e 4	19	+ 6	7	43	+ 9	---	---	---
Nanking		21.5	252	i 4	41a	- 4	i 8	35	0	---	---	---
Kyakhta		26.3	303	i 5	30	- 1	---	---	---	---	---	---
Kabansk		26.4	305	5	31	- 1	9	59	0	---	---	---
Irkutsk		27.8	306	i 5	44	- 1	10	23	+ 1	---	---	---
Guam		28.5	177	---	---	---	e 11	8	sS	e 12	0	SS
Hong Kong		31.0	240	e 6	12	- 2	11	14	+ 2	---	---	e 13.8

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1952

355

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Manila	33.2	222	i 5 31	-62	e 12 10	+23	e 8 45	?
Semipalatinsk	42.9	305	i 7 52	-2	—	—	—	—
College	44.4	35	i 8 5	-1	i 14 35	0	(e 15 37)	?
Kurmenty	46.5	295	e 8 5?	-18	—	—	—	e 15.6
Przhevalsk	46.6	294	i 8 23	0	—	—	—	—
Almata II	47.0	296	i 8 26	-1	—	—	—	—
Ili	47.0	297	i 8 24	-3	—	—	—	—
Almata	47.3	296	e 8 30	+1	e 15 21	+4	—	—
Rybach'e	48.2	295	i 8 34	-2	—	—	e 8 51	pP
Krasnogorka	48.5	297	i 8 44	+6	—	—	—	—
Naryn	48.7	294	i 8 40	0	e 15 40	+4	—	—
Frunse	49.0	296	i 8 41	-1	e 15 42	+2	—	—
Calcutta	E. 49.1	265	e 10 19	PcP	i 15 48	+6	i 16 20	sS
Murgab	51.4	291	i 9 2	+2	—	—	—	—
Andijan	51.5	294	i 9 0	-1	—	—	9 19	pP
Fergana	52.0	294	i 9 3	-2	e 16 23	+1	—	—
Sverdlovsk	52.2	317	i 9 6	0	i 16 26	+1	i 9 30	pP
Tchimkent	52.6	298	i 9 8	-1	—	—	—	—
Dzhergetal	52.9	294	i 9 10	-2	—	—	—	—
Tashkent	53.3	297	i 9 13	-2	i 11 15	PP	i 9 33	pP
Khorog	53.5	292	i 9 15	-1	—	—	—	—
Garm	53.7	294	i 9 15	-3	—	—	—	—
New Delhi	54.0	279	e 9 18	-2	e 16 53	+4	19 25	ScS
Obi-garm	54.2	294	i 9 19	-2	—	—	—	—
Stalinabad	54.9	294	i 9 29	+3	—	—	—	—
Samarkand	55.6	295	i 9 28	-3	i 17 9	-1	—	—
Resolute Bay	57.5	15	i 9 41 <sub>a</sub>	-4	e 17 35	-1	e 19 28	ScS
Djakarta	58.1	224	e 9 34	-15	e 17 31	-12	—	—
Ashkabad	62.3	298	i 10 16	-2	—	—	—	—
Kiruna	62.3	339	i 10 15 <sub>a</sub>	-3	e 18 41?	+4	i 12 19	PP
Victoria	E. 62.3	49	i 10 17	-1	—	—	—	—
Poona	62.3	271	i 10 18?	0	i 19 3	PS	19 50	ScS
Bombay	62.9	273	e 10 20	-2	e 19 0	SP	12 50	PP
Kizyl-Arvat	63.0	301	i 10 21	-1	—	—	—	—
Seattle	63.4	49	e 10 49	sP	e 18 55	+4	—	e 29.6
Moscow	63.5	323	i 10 29	+3	18 59	+7	i 10 51	sP
Kodaikanal	F. 64.9	263	i 10 37	+2	19 9	-1	—	—
Arcata	Z. 66.2	56	e 11 17	+34	—	—	—	—
Helsinki	66.2	333	i 10 40 <sub>a</sub>	-3	e 19 22	-3	e 20 57	ScS
Baku	66.3	305	i 10 45	+1	—	—	—	—
Shemakla	67.0	305	i 10 49	+1	—	—	—	—
Grozny	67.1	309	i 10 47	-2	—	—	—	—
Scoresby Sund	67.3	355	i 10 48 <sub>a</sub>	-2	e 19 38	-1	20 8	PS
Shasta	67.3	55	i 10 51	+1	—	—	—	—
Hungry Horse	67.5	45	i 10 51	0	e 19 42	+1	e 14 33	PPP
Lenkoran	68.0	303	i 10 54	0	—	—	—	—
Mineral	Z. 68.0	55	e 10 55	+1	—	—	i 11 16	pP
Piatigorsk	68.2	311	i 10 58	+2	—	—	i 11 19	pP
Kirovobad	68.3	306	i 10 55	-1	—	—	—	—
Tiflis	68.7	307	i 10 56	-3	—	—	—	—
Upsala	69.0	334	i 10 58 <sub>a</sub>	-3	e 19 56	-3	e 20 24	SP
Berkeley	69.1	58	i 11 6	+5	e 20 4	+4	i 11 17	pP
Goris	69.1	305	e 11 0	-1	—	—	—	e 30.3
Borzhom	69.4	309	e 11 3	0	—	—	—	—
Reno	69.6	55	e 11 7	+3	e 20 13	+7	—	—
Abastumanj	69.8	309	e 10 44?	-21	—	—	—	—
Brisbane	69.8	171	e 11 7	+2	e 20 7	-1	i 11 25	pP
Leninakan	69.8	308	e 11 8	+3	—	—	—	—
Lick	Z. 69.8	58	i 11 6 <sub>k</sub>	+1	—	—	e 11 27	pP
Zugdidi	69.8	311	e 11 8	+3	—	—	—	—
Sotchi	70.4	312	e 11 12	+3	—	—	—	—
Fresno	Z. 71.4	57	e 11 14	-1	—	—	—	—
Theodosia	71.8	315	i 11 26?	+8	—	—	—	—
Tinemaha	72.1	57	i 11 19	0	i 20 40	+5	i 11 27	P
Yalta	72.8	315	i 11 22	-1	—	—	—	—

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1952

356

		$\Delta$	Az.	P.		O-C.	S.	O-C.	Supp.		L.
		$^{\circ}$	$^{\circ}$	m.	s.	s.	m. s.	s.	m. s.		m.
China Lake		73.3	56	i 11	26	0	i 20 52	+ 3	i 11 46	pP	—
Kishinev		73.8	321	11	27	- 2	—	—	—	—	—
Copenhagen		74.0	333	11	29	- 1	20 58	+ 2	22 3	PPS	35.6
Lwow		74.0	324	i 11	30	0	i 20 59	+ 3	11 53	pP	—
Pasadena		74.0	58	e 11	31	+ 1	i 20 59	+ 3	i 11 59	sP	e 34.0
Riverside	z.	74.6	58	i 11	34	0	—	—	i 11 40	P	—
Boulder City		74.9	55	e 11	37	+ 1	—	—	i 11 44	P	—
Palomar	z.	75.4	58	i 11	39	+ 1	e 13 0	?	i 11 59	pP	—
Uzhgorod		75.6	325	11	43	+ 3	—	—	—	—	—
Skalnate Pleso		76.1	326	e 11	55	?	e 21 59	sS	e 11 59	pP	e 41.6
Potsdam		76.4	331	i 11	45k	+ 1	i 21 25	+ 2	i 12 7	pP	e 35.6
Aberdeen	F.	76.9	342	e 20	17	?	e 21 16	-12	—	—	e 31.4
Bucharest		77.0	320	e 11	52	+ 4	e 21 57	pS	e 11 56	P	35.6
Collmberg		77.3	330	i 11	47	- 2	e 22 1	sS	i 12 5	pP	e 41.6
Prague		77.8	330	e 11	49a	- 3	e 21 44	+ 6	i 12 11	pP	—
Budapest		77.9	326	11	56	+ 4	e 22 1	pS	e 27 7	SS	e 42.1
Istanbul		77.9	316	e 11	51	- 1	e 21 40?	+ 1	e 14 48	PP	36.6
Ogyalla		78.0	326	e 11	57	+ 4	e 21 46	+ 6	e 22 11	ScS	—
Jena		78.1	330	e 11	52	- 2	e 21 57	+16	e 12 14	pP	—
Timisoara		78.3	322	e 11	58	+ 3	e 22 15	sS	—	—	—
Witteveen	z.	78.3	336	i 11	54a	- 1	—	—	—	—	—
Cheb		78.6	331	e 11	59	+ 3	e 21 54	+ 7	e 12 21	pP	—
Ksara		79.1	306	i 12	3	+ 4	e 21 54	+ 2	e 15 1	PP	—
De Bilt		79.3	336	i 11	59a	- 1	e 21 57	+ 3	i 12 11	pP	e 36.6
Belgrade		79.4	322	i 12	2a	+ 1	e 22 23	sS	e 12 16	pP	e 45.3
Sofia		79.6	320	e 12	3	+ 1	i 21 56	- 1	e 15 6	PP	—
Tucson		79.9	55	e 12	4	+ 1	—	—	e 20 14	?	—
Stuttgart		80.8	331	i 12	7a	- 1	e 22 6	- 4	e 12 26	pP	e 41.6
Karlsruhe	z.	80.9	332	e 12	9	0	—	—	—	—	—
Rathfarnham Castle		81.4	343	i 12	11	0	e 22 17?	+ 1	i 12 30	pP	e 40.6
Kew		81.5	338	i 12	10	- 2	e 22 14	- 3	e 15 15	PP	e 39.6
Strasbourg		81.5	332	—	—	—	e 22 22	+ 5	e 22 46	ScS	e 35.6
Triest		81.6	327	i 12	10a	- 2	e 22 27	+ 9	e 12 34	pP	44.0
Zürich		82.2	332	e 12	14a	- 1	e 22 29	+ 5	e 12 33	pP	—
Chur		82.3	330	e 12	15a	- 1	—	—	—	—	—
Basle		82.4	332	e 12	14a	- 2	e 12 57	?	e 14 43	?	—
Kirkland Lake	z.	82.6	28	i 12	16	- 1	—	—	—	—	—
Paris		83.0	335	i 12	19	- 1	i 22 58	ScS	i 12 38	pP	e 40.6
Padova		83.3	328	e 12	23	+ 2	e 22 25	-10	e 30 34	PKKP	—
Bologna		83.6	328	e 12	22a	- 1	e 23 1	ScS	—	—	—
Pavia		83.8	330	e 11	23a	-61	e 22 50	+10	e 33 3	?	—
Florence		84.2	327	i 12	26	0	e 22 45	+ 1	e 23 25	SP	e 40.6
Lubbock		84.2	50	12	27	+ 1	22 46	+ 2	—	—	—
Prato		84.2	327	e 12	27	+ 1	i 23 9	ScS	—	—	—
Helwan		84.6	306	i 12	27a	- 1	e 22 55	+ 7	23 55	PS	—
Karapiro	N.	85.0	155	e 12	54	pP	—	—	—	—	—
Rocca di Papa	N.	85.2	325	i 12	32	+ 1	i 23 20	sS	—	—	—
Rome		85.2	325	e 12	29	- 2	e 22 52	- 2	e 15 38	PP	—
Clermont-Ferrand		85.5	333	i 12	32	0	—	—	i 13 26	?	e 39.6
Shawinigan Falls	N.	86.3	24	e 12	32	- 4	—	—	—	—	—
Fayetteville	z.	86.4	44	i 12	36	0	e 13 4	sP	i 12 50	pP	—
Ottawa		86.4	27	i 12	36	0	22 57	[+ 3]	i 12 51	pP	39.6
Messina		86.8	322	e 12	38	0	e 23 9	0	e 16 13	PP	—
Cleveland		87.7	33	e 12	44k	+ 1	i 23 21	+ 3	—	—	—
Wellington		87.8	157	i 13	0a	pP	i 23 22	+ 3	24 28	PS	e 42.6
Christchurch		89.3	159	e 14	2?	?	e 23 43	+10	e 37 37?	Q	e 41.1
Pennsylvania		89.7	31	i 12	55	+ 3	e 23 13	[- 2]	i 13 10	pP	—
Morgantown		90.0	33	i 12	54	0	—	—	e 18 0	PPP	—
Harvard		90.4	25	e 11	56	-59	—	—	—	—	e 45.6
Weston		90.5	25	i 12	57a	+ 1	—	—	—	—	—

Continued on next page.

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1952

357

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Tortosa	90.8	333	i 12 58	+ 1	i 23 14	[- 8]	—	—
Palisades	91.0	27	i 12 57	- 1	i 23 24	[+ 1]	i 13 18	e 43.6
Toledo	93.1	336	i 13 9	+ 1	e 24 9	+ 3	e 16 54	PP 50.1
Alicante	93.3	332	13 9	0	23 43	[+ 7]	16 57	PP 44.8
Algiers Univ.	z. 93.4	329	i 13 6 <sub>a</sub>	- 3	e 24 56	SP	i 16 48	PP —
Almeria	95.3	334	13 17	- 1	24 26	+ 1	17 10	PP 49.4
Granada	95.4	335	i 13 43 <sub>a</sub>	sP	24 55	sS	i 16 40	PP 148.9
Malaga	96.1	335	i 17 14	PP	i 28 2	?	34 14	? 49.0
Bermuda	101.8	24	—	—	e 25 26	+ 6	—	e 47.4
Tamanrasset	z. 104.4	321	e 14 0	+ 1	e 25 3	sSKS	e 29 57	PKKP —
Kimberley	z. 128.2	265	e 18 53	[- 6]	—	—	—	—
Huancayo	135.4	60	e 19 19	[+ 6]	—	—	e 22 1	PP e 64.2
La Paz	143.3	55	i 19 31 <sub>k</sub>	[+ 4]	41 22	SS	i 19 47	pPKP 69.3

April 28d. 18h. 57m. 18s. Epicentre 51°·1N. 156°·5E. Focus at Base of the Superficial Layers (as on 1951, April 16d.).

A = -·5782, B = +·2514, C = +·7762;  $\delta = 0$ ;  $h = -6$ ;  
D = +·399, E = +·917; G = -·712, H = +·310, K = -·631.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
College	31.4	43	i 6 20	0	—	—	i 6 31	pP
Resolute Bay	46.0	20	i 8 24 <sub>a</sub>	+ 2	—	—	—	—
Hungry Horse	54.4	55	e 8 36	-50	—	—	—	—
Shasta	54.7	67	e 9 26	- 2	—	—	—	—
Mineral	z. 55.4	67	e 9 31	- 2	—	—	—	—
Kiruna	z. 56.9	342	e 9 47?	+ 3	—	—	—	—
Reno	z. 56.9	67	e 9 56	pP	—	—	—	—
Lick	z. 57.3	70	i 9 47	0	—	—	—	—
China Lake	z. 60.7	68	i 10 9	- 1	—	—	e 10 20	pP
Pasadena	z. 61.6	70	i 10 13	- 3	—	—	i 10 25	pP
Riverside	z. 62.1	70	i 10 17	- 3	—	—	e 10 29	pP
Boulder City	62.2	67	i 10 19	- 1	—	—	—	—
Palomar	z. 62.9	70	i 10 23	- 2	—	—	—	—
Upsala	z. 64.5	338	i 10 38	+ 2	—	—	i 11 15	?
Collmberg	z. 73.4	337	e 11 33	+ 3	—	—	—	—
Fayetteville	z. 73.4	53	i 11 29	- 1	—	—	—	—
Stuttgart	76.6	338	e 11 52	+ 3	—	—	—	—
Morgantown	77.1	41	i 11 52	0	—	—	—	—
Paris	78.0	343	i 12 1	+ 4	e 12 24	?	e 12 11	pP
Triest	z. 78.4	340	i 12 1 <sub>a</sub>	+ 2	—	—	e 12 18	sP

April 29d. 0h. 44m. 41s. Epicentre 14°·0S. 173°·0W. Depth of focus 0.005. (as on 1952, Jan. 1d.).

Intensity II at Apia. Epicentre 13°·4S. 172°·9W. (Strasbourg).  
Quarterly Seismological Bulletin of Apia, April-June, 1952, p.3.

A = -·9635, B = -·1183, C = -·2404;  $\delta = +12$ ;  $h = +6$ ;  
D = -·122, E = +·992; G = +·239, H = +·029, K = -·971.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Apia	1.2	80	i 0 22	0	i 0 40	+ 2	—	—
Lick	z. 70.2	41	e 11 9 <sub>k</sub>	+ 1	—	—	—	—
Pasadena	70.8	46	i 11 11	- 1	—	—	—	—
Fresno	z. 71.1	43	e 11 13 <sub>a</sub>	0	—	—	—	—
Riverside	z. 71.2	46	i 11 13	- 1	—	—	—	—
Palomar	z. 71.3	47	i 11 14	- 1	—	—	—	—
Shasta	71.8	39	i 11 17	- 1	—	—	—	—
Mineral	z. 72.1	40	i 11 19 <sub>k</sub>	0	—	—	—	—
China Lake	z. 72.1	45	i 11 19	0	—	—	—	—
Tinemaha	z. 72.3	44	e 11 23	+ 3	—	—	—	—

Continued on next page.

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1952

358

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Reno	72.7	42	11 23	0	—	—	—	—
Boulder City	74.1	46	i 11 30	- 1	—	—	—	—
Tucson	75.1	50	i 11 36	- 1	—	—	—	—
Butte	80.7	38	i 12 7	- 1	—	—	—	—
College	80.9	11	i 12 7	- 2	—	—	—	—
Hungry Horse	81.1	36	i 12 8	- 2	—	—	—	—
La Paz	99.8	110	e 13 45	+ 7	25 19	SKKS	32 9	SS
Collmberg	142.5	353	e 19 21	[- 5]	—	—	—	—
Jena	143.0	355	e 19 23	[- 3]	e 21 6	sPKP	e 19 46	pPKP
Prague	143.5	352	e 19 23	[- 4]	e 21 11	?	e 19 34	PKP <sub>2</sub>
Karlsruhe	145.1	358	e 19 29	[- 1]	—	—	e 19 43	pPKP
Paris	145.1	5	e 19 28	[- 2]	e 19 52	sPKP	e 19 43	pPKP e 77.3
Stuttgart	145.3	357	e 19 27	[- 4]	e 19 53	sPKP	e 19 42	pPKP
Strasbourg	145.5	359	e 19 29	[- 2]	—	—	e 19 42	pPKP
Istanbul	146.9	330	e 19 33	[ 0]	—	—	e 19 56	pPKP
Ksara	147.2	313	e 19 57	pPKP	—	—	e 16 24	?
Triest	148.0	352	e 19 36	[+ 1]	i 20 0	sPKP	e 19 53	pPKP
Clermont-Ferrand	148.2	5	20 37	[+ 62]	—	—	—	—
Tamanrasset	171.1	—	e 19 58	[- 2]	e 25 15	PP	e 20 23	pPKP

April 29d. 2h. 35m. 31s. Epicentre 25°·5N, 122°·8E. Depth of focus 0·040.

A = -·4896, B = +·7596, C = +·4281;  $\delta$  = -3;  $h$  = +3;  
D = +·841, E = +·542; G = -·232, H = +·360, K = -·904.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Zi-ka-wei	5.8	348	i 1 26	- 1	i 2 36	+ 1	—	—
Nanking	7.4	333	1 45	- 2	i 3 11	0	—	—
Yakusima	8.4	52	e 1 55	- 4	—	—	—	—
Hong Kong	8.5	250	i 2 1	+ 1	(3 26)	- 9	—	3.4
Tomie	8.8	35	e 2 20	+16	e 3 58	+16	—	—
Kumamoto	10.0	42	e 2 29	+10	—	—	—	—
Saga	10.1	38	e 2 28	+ 8	—	—	—	—
Hukuoka	10.5	38	2 24	- 1	e 4 19	- 1	e 3 43	?
Ooita	10.9	43	e 2 35	+ 5	—	—	—	—
Manila	11.0	189	i 2 29	- 2	i 4 31	0	—	—
Matuyama	12.0	44	e 2 41	- 3	—	—	—	—
Hirosima	12.2	41	e 2 44	- 2	—	—	—	—
Kōti	12.3	47	e 2 44	- 4	—	—	—	—
Hamada	12.3	38	2 48	0	i 4 57	- 3	(5 28)	SS
Takamatu	13.1	45	e 3 3	+ 6	i 5 9	- 9	—	—
Toyooka	14.4	43	e 3 21	+ 8	e 5 54	+ 8	—	—
Owase	14.4	51	e 3 10	- 3	—	—	—	—
Kyoto	14.6	47	e 3 25	+10	e 5 47	- 3	—	—
Kameyama	15.0	49	e 3 19	- 1	—	—	i 3 59	PPP
Hikone	15.1	47	e 3 28	+ 7	—	—	—	—
Gihu	15.6	47	3 26	- 1	e 6 19	+ 7	—	—
Nagoya	15.6	48	e 3 29	+ 2	e 6 23	+11	—	—
Hamamatu	15.8	51	e 3 29?	0	—	—	—	—
Omaesaki	16.1	52	e 3 38	+ 6	—	—	—	—
Torisima	16.2	68	e 3 39	+ 6	—	—	—	—
Hida	16.3	49	e 3 35	+ 1	e 6 32	+ 6	—	—
Shizuoka	16.4	51	e 3 38	+ 2	e 6 32	+ 4	—	—
Toyama	16.6	44	e 3 34	- 4	e 7 6	SS	e 4 27	PPP
Hatidyosima	16.7	59	3 41	+ 2	—	—	—	—
Matumoto	16.8	47	e 3 43	+ 3	e 6 44	+ 8	—	e 13.4
Wazima	16.9	42	e 3 43	+ 2	—	—	—	—
Misima	16.9	52	e 3 39	- 2	—	—	—	—
Kohu	16.9	50	e 3 41	0	e 6 46	+ 8	—	—
Hunatu	17.0	49	e 3 44	+ 2	—	—	—	—
Osima	17.0	52	e 3 43	+ 1	e 6 46	+ 6	e 14 54	ScS e 10.1

Continued on next page.

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1952

359

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.
Matusiro	17.2	45	3	41	-3	6	42	-2	i 4	56	? e 7.8
Nagano	17.2	45	e 3	42	-2	e 6	41	-3	—	—	—
Oiwake	17.3	46	e 3	44	-1	—	—	—	—	—	—
Titibu	17.4	48	e 3	37	-9	e 6	53	+5	—	—	—
Yokohama	17.6	50	e 3	29	-19	—	—	—	—	—	—
Maebasi	17.7	46	i 3	46	-3	i 6	52	-2	e 14	56	ScS
Kumagaya	17.7	49	e 3	49	0	6	54	0	—	—	—
Tokyo	17.8	50	e 3	50	0	e 6	54	-2	e 8	50	?
Utunomiya	18.3	48	e 3	51	-4	e 7	0	-5	—	—	—
Mito	18.6	49	e 4	0	+2	e 7	7	-3	—	—	—
Shirakawa	18.8	47	e 3	54	-6	e 7	11	-3	—	—	—
Inawasiro	19.0	49	e 3	59	-3	—	—	—	—	—	—
Vladivostok	19.1	21	4	3	0	7	24	+4	4	49	PPP
Hokusima	19.3	47	e 4	3	-2	e 7	25	+2	—	—	—
Sendai	19.9	45	e 4	9	-2	e 7	32	-2	e 7	49	? e 11.4
Mizusawa	20.6	44	4	19	+1	7	36	-11	—	—	—
Miyako	21.4	44	e 4	23	-3	—	—	—	—	—	—
Urakawa	23.4	38	e 4	26	-19	—	—	—	—	—	—
Guam	23.9	115	e 4	47	-3	—	—	—	e 6	1	PPP
Yuzno-Sakhlinsk	26.6	30	5	11	-3	—	—	—	—	—	—
Kyakhta	27.9	336	i 5	23	-3	9	45	-2	—	—	—
Uglegorsk	27.9	27	e 5	24	-2	—	—	—	—	—	—
Kabansk	29.2	338	i 5	35	-2	e 10	7	-1	e 6	29	pP
Irkutsk	30.2	337	i 5	45	-1	10	23	0	e 6	39	pP
Calcutta	31.6	272	i 5	58 <sup>a</sup>	0	i 10	49	+4	12	16	sS
Djakarta	35.1	208	6	3	-25	e 11	53	+14	—	—	—
Petropavlovsk	38.5	33	i 6	53	-3	15	53	SSS	i 7	53	pP
Przhevalsk	40.0	308	i 7	10	+1	—	—	—	—	—	—
Kurmenty	40.2	309	i 7	12	+2	—	—	—	—	—	—
New Delhi	40.6	285	i 7	14	0	i 13	0	-2	i 16	8	SS
Almata II	40.9	309	i 7	17	+1	—	—	—	—	—	—
Semipalatinsk	41.0	320	i 7	15	-2	e 13	5	-2	—	—	—
Almata	41.2	309	i 7	20	+2	—	—	—	—	—	—
Ili	41.3	310	i 7	18	-1	—	—	—	—	—	—
Naryn	41.6	304	i 7	24	+2	i 13	21	+5	—	—	—
Rybach'e	41.7	307	i 7	22	0	13	21	+3	—	—	—
Hyderabad	41.9	268	i 7	23 <sup>?</sup>	-1	i 13	22	+2	9	8	PP
Frunse	42.9	307	i 7	33	+1	i 13	39	+4	—	—	—
Murgab	43.0	300	i 7	36	+3	i 13	39	+3	—	—	—
Khorog	44.2	298	i 7	49	+6	—	—	—	—	—	—
Andijan	44.3	303	i 7	44	+1	14	0	+5	i 15	41	sS
Fergana	44.7	303	i 7	47	+1	i 14	3	+2	—	—	—
Colombo	44.9	253	8	17	+29	14	42	+38	—	—	—
Dzhergetal	45.1	302	i 7	51	+1	i 14	11	+5	e 15	50	sS
Kodaikanal	45.5	260	i 7	53	0	i 14	15	+3	i 9	56	PP
Poona	45.7	271	i 7	56	+2	i 14	14	-1	i 9	50	PP
Garm	45.8	301	i 7	55	0	—	—	—	—	—	19.4
Kulyab	46.2	299	e 7	59	+1	e 14	27	+5	—	—	—
Obi-garm	46.3	301	i 8	0	+1	i 14	27	+4	e 16	7	sS
Bombay	46.5	272	i 8	12	+11	i 14	32	+6	i 9	56	PP
Tchimkent	46.5	306	i 8	0	-1	i 14	28	+2	—	—	—
Tashkent	46.7	304	i 8	3	+1	e 14	30	+1	—	—	—
Stalinabad	47.0	301	8	6	+2	e 14	37	+4	e 16	14	sS
Samarkand	48.4	302	8	14	-1	14	56	+3	—	—	—
Sverdlovsk	53.9	323	i 8	56	0	i 16	8	0	i 9	52	pP
Kizyl-Arvat	56.7	302	i 9	17	+1	—	—	—	e 10	17	pP
Brisbane	60.2	149	i 9	41 <sup>k</sup>	+1	e 17	34	+4	i 11	53	PP
Baku	61.4	304	i 9	50	+2	—	—	—	—	—	—
Shemakla	62.3	305	i 9	55	+1	—	—	—	—	—	—
Lenkoran	62.5	302	9	56	+1	—	—	—	10	56	pP

Continued on next page.

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1952

360

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Grozny	63.9	308	i 9 54	-10	—	—	—	—
Goris	64.2	303	10 6	0	—	—	—	—
Tiflis	64.9	307	i 10 10	-1	e 18 31	+3	—	—
Gori	65.3	307	e 10 14	+1	—	—	—	—
Platigorsk	65.6	309	10 14	-1	18 30	-6	—	—
Leninakan	65.8	306	10 19	+3	—	—	—	—
Borzhomi	65.9	307	i 10 18	+1	e 18 41	+1	—	—
Abastumanj	66.3	307	e 10 21	+2	—	—	—	—
Moscow	66.7	323	i 10 21	-1	i 18 48	-2	11 23	pP
Zugdidi	66.8	309	i 10 25	+2	—	—	—	—
College	67.0	28	i 10 22	-2	i 18 55	+2	(e 26 17)	SSS
Sotchi	68.1	310	i 10 30	-1	—	—	i 11 31	pP
Pulkovo	69.5	328	i 10 37	-2	i 19 20	-3	—	—
Theodosia	70.7	312	i 10 47	+1	i 19 39	+3	—	—
Kiruna	71.2	337	i 10 49	-1	i 19 52	+10	i 11 52	pP
Yalta	71.7	311	10 52	0	19 49	+1	e 11 55	pP
Helsinki	72.0	330	i 10 54 <sub>a</sub>	0	e 19 51	0	e 11 58	pP
Ksara	73.9	300	i 11 7	+2	13 58	PP	12 12	pP
Kishinev	74.4	316	i 11 7	-1	i 20 17	-1	e 12 11	pP
Upsala	75.5	330	i 11 14 <sub>a</sub>	0	e 20 31?	+1	i 12 18	pP
Lwow	76.3	319	e 11 18	-1	i 20 37	-1	—	—
Istanbul	76.4	310	i 11 19	-1	e 20 39	-1	e 12 23	pP
Resolute Bay	77.1	10	i 11 22 <sub>a</sub>	-1	i 20 47	0	e 14 17	PP
Bucharest	77.1	313	e 11 27	+4	e 20 53	+6	e 22 46	sS
Uzhgorod	77.8	318	i 11 27	0	i 20 58	+4	—	—
Skalnate Pleso	78.8	320	11 46	+13	e 21 21	+16	e 12 37	pP
Helwan	78.9	298	i 11 34 <sub>a</sub>	+1	21 11	+5	12 35	pP
Auckland	79.0	139	e 13 14	sP	e 21 6	-1	—	—
Sofia	79.6	312	i 11 38	+1	e 21 15	+2	e 23 11	sS
Raciborz	79.6	321	i 11 37	0	e 21 31	+18	e 11 47	PcP
Timisoara	79.7	316	e 11 41	+4	e 21 29?	+15	e 23 38	?
Copenhagen	79.9	328	i 11 38 <sub>a</sub>	0	21 18	+2	12 44	pP
Szeged	80.2	317	11 43	+3	e 23 11	sS	e 15 57	PPP
Budapest	80.3	318	i 11 40	0	21 24	+3	e 23 19	sS
Bergen	N. 80.5	334	e 11 24	-18	e 21 23	0	—	—
Ogyalla	80.6	319	11 45	+3	e 21 37	+13	e 13 1	pP
Belgrade	80.6	315	e 11 41 <sub>k</sub>	-1	e 21 18	-6	e 12 49	pP
Kalossa	E. 80.8	318	11 43	0	e 21 34	+8	e 22 34	PS
Scoresby Sund	81.1	349	i 11 43 <sub>a</sub>	-2	i 21 40	+11	e 12 50	pP
Potsdam	81.3	325	i 11 47 <sub>a</sub>	+1	i 21 33	+2	i 12 54	pP
Prague	81.7	322	e 11 43 <sub>a</sub>	-5	e 21 33	-2	e 12 55	pP
Collmberg	81.9	323	i 11 47	-2	e 21 40	+3	e 12 55	pP
Wellington	82.1	143	—	—	i 21 39	0	—	—
Christchurch	82.5	146	—	—	21 42	-1	(e 29 59)	SSS
Jena	82.8	323	e 11 54	+1	e 21 46	0	e 12 57	pP
Cheb	82.9	323	11 53	-1	21 47	0	e 23 48	sS
Witteveen	Z. 84.3	328	i 12 3 <sub>a</sub>	+2	—	—	—	—
Triest	84.4	319	i 12 0 <sub>a</sub>	-1	i 22 2	0	e 13 9	pP
Stuttgart	85.3	323	i 12 6	0	e 21 59	-11	e 13 12	pP
Tananarive	85.4	247	—	—	e 22 9	-2	e 23 26	SP
De Bilt	85.5	327	i 12 8 <sub>a</sub>	+1	i 22 6	-6	e 13 14	pP
Karlsruhe	85.6	324	i 12 7 <sub>k</sub>	0	e 22 2	[0]	e 23 41	sS
Aberdeen	85.6	333	i 13 13	pP	i 22 3	[+1]	e 23 56	PS
Victoria	85.6	38	i 12 8 <sub>k</sub>	+1	22 18	+5	—	—
Padova	86.1	319	e 12 9	-1	—	—	—	—
Chur	86.2	321	e 12 10 <sub>a</sub>	0	—	—	e 15 34	PP
Strasbourg	86.2	323	i 12 11 <sub>a</sub>	+1	e 22 7	[+1]	e 13 43	sP
Bologna	86.4	318	e 12 14 <sub>k</sub>	+3	e 22 28	+7	e 22 39	?
Zürich	86.4	322	e 12 11 <sub>a</sub>	0	e 22 7	[0]	e 15 34	PP
Seattle	86.7	38	i 12 14 <sub>a</sub>	+1	e 22 31	+7	e 23 41	PS
Basle	86.9	322	e 12 14 <sub>a</sub>	0	—	—	e 14 25	?
Prato	86.9	318	e 12 17	+3	i 22 10	[-1]	—	—
Messina	87.0	311	i 12 13 <sub>a</sub>	-1	e 22 13	[+2]	i 24 28	sS
Rocca di Papa	N. 87.0	315	i 12 16	+2	i 22 31	+5	i 24 31	sS
Rome	87.1	315	i 12 14 <sub>a</sub>	-1	e 22 11	[-1]	i 24 17	sS

Continued on next page.



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1952

361

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.	
Pavia	87.3	320	i 12 17 <sub>a</sub>	+ 1	i 22 15	[+ 2]	e 13 51	sP	—
Florence	87.9	318	i 12 13 <sub>a</sub>	- 5	e 22 10	[- 7]	i 13 39	sP	—
Kew	88.6	328	i 12 19 <sub>a</sub>	- 3	i 22 23	[+ 1]	e 13 27	pP	e 31.5
Paris	88.9	326	i 12 23	0	e 22 44	0	e 13 30	pP	—
Rathfarnham Castle	90.0	332	i 12 31	+ 3	e 22 59?	+ 5	i 13 35	pP	e 32.5
Clermont-Ferrand	90.4	323	e 12 29	- 1	e 22 35	[+ 3]	e 16 8	PP	—
Shasta	90.6	43	i 12 32	+ 1	—	—	—	—	—
Hungry Horse	90.6	34	i 12 33	+ 2	i 23 6	+ 7	i 13 39	pP	—
Jersey	E. 90.9	327	—	—	e 22 39	[+ 4]	e 25 6	sS	—
Mineral	Z. 91.3	43	e 12 34 <sub>a</sub>	0	—	—	—	—	—
Berkeley	92.3	46	i 12 40 <sub>a</sub>	+ 1	e 23 25	+11	i 25 19	sS	—
Reno	Z. 92.9	43	e 12 44 <sub>a</sub>	+ 2	—	—	e 13 49	pP	—
Butte	92.9	34	i 12 43	+ 1	—	—	e 13 50	pP	—
Lick	Z. 93.0	46	e 12 43 <sub>a</sub>	+ 1	—	—	—	—	—
Tinemaha	Z. 95.4	44	i 12 57	+ 4	—	—	i 14 5	pP	—
Algiers Univ.	Z. 96.0	315	i 12 54 <sub>a</sub>	- 2	e 26 36	PPS	e 16 46	PP	—
China Lake	Z. 96.5	44	i 12 59	+ 1	e 16 56	PP	i 14 5	pP	—
Pasadena	97.1	46	i 13 2	+ 1	—	—	e 13 41	pP	—
Alicante	97.2	318	12 58	- 3	23 34	SKKS	17 0	PP	47.8
Riverside	Z. 97.8	46	i 13 4	0	—	—	e 13 48	pP	—
Boulder City	98.2	43	i 13 8	+ 2	—	—	e 17 8	PP	—
Toledo	98.3	321	e 16 20	?	e 17 2	PP	e 19 1	PPP	—
Palomar	Z. 98.5	46	i 13 8	+ 1	—	—	e 17 9	PP	—
Almeria	99.4	318	13 11	0	24 40	+26	17 14	PP	46.1
Granada	99.8	319	13 10 <sub>a</sub>	- 3	i 23 43	[+21]	17 25	PP	—
Malaga	100.6	319	17 20	PP	26 38	PPS	—	—	—
Tamanrasset	Z. 102.6	303	e 13 26	+ 1	e 17 44	PP	e 20 0	PPP	—
Ottawa	107.5	13	e 18 19	PP	24 2	[+ 4]	32 47	SS	48.0
Cleveland	109.6	19	e 27 41	PS	e 25 40	SKKS	e 33 30	SS	—
Pennsylvania	111.3	16	27 29	SP	—	—	—	—	—
Morgantown	111.8	18	e 18 1	[+ 1]	—	—	i 18 49	PP	—
Palisades	112.0	13	e 18 51	PP	e 24 18	[+ 2]	e 33 47	SS	e 49.5
Philadelphia	112.8	14	e 18 55	PP	e 25 28	SKKS	—	—	—
M'Bour	124.3	311	i 20 15	PP	—	—	e 21 17	pPP	—
San Juan	135.5	11	i 18 48	[+ 2]	i 21 53	SKP	—	—	—
Galerazamba	139.9	27	e 16 2	?	—	—	—	—	—
Chinchina	144.8	32	i 19 7	[+ 4]	i 41 1	SS	e 42 54	sss	—
Bogota	145.9	30	i 19 12	[+ 7]	i 41 14	SS	e 43 4	sss	—
Huancayo	158.3	55	e 19 29	[+ 7]	e 43 20	SS	i 20 2	?	e 89.9
La Paz	166.4	51	i 19 35 <sub>a</sub>	[+ 5]	26 45	[+41]	i 20 38	PKP <sub>2</sub>	—

April 29d. 3h. 7m. 39s. Epicentre 15°·7S. 43°·7E. Depth of focus 0·025.

Felt irregularly in the Comore Islands. Intensity IV-V in Mayotte at stations of Dzaoudzi, Coconi, and Mamoudzou; felt at Andohajanga in the District of Mandritsara; III at Bekodoka and II at Tananarive; Intensity III at Porto Amelia in Mozambique according to Lisbon. Epicentre 15·5S. 43°·75E. (Strasbourg). Depth 200km. (Strasbourg), 140km. (R. P. Poisson).

R. P. Poisson.

Liste des tremblements de terre ressentis en 1952 à Madagascar.

A = +·6963, B = +·6654, C = -·2690;  $\delta$  = -5;  $h$  = +5;  
D = +·691, E = -·723; G = -·194, H = -·186, K = -·963.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.	
Tananarive	4.9	132	i 1 7	- 7	i 2 2	- 9	i 1 18	P	2.9
Pietermaritzburg	Z. 18.5	220	e 4 14	+10	—	—	—	—	—
Kimberley	Z. 21.8	231	i 4 45	+ 8	—	—	—	—	—
Grahamstown	Z. 23.4	220	i 4 39	-14	—	—	i 5 4	P	—
Kodaikanal	E. 42.2	53	—	—	i 13 46	+ 5	e 17 5	SSS	—
Colombo	E. 42.3	60	8 14	pP	14 24	+42	—	—	20.6
Bombay	44.8	41	e 8 6	+10	14 26	+ 8	—	—	—
Poona	E. 45.2	42	i 8 10	+11	i 14 28	+ 4	14 35	SP	—
Hyderabad	47.5	47	i 8 21	+ 3	i 15 5	+ 9	—	—	—
Ksara	49.8	351	i 8 35	0	16 5	pS	—	—	—

Continued on next page.

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1952

362

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
		°	°	m. s.	s.	m. s.	s.	m. s.	m.	
Tamanrasset	z.	53.5	315	i 9 5 <sub>a</sub>	+ 2	e 16 36	+17	e 9 43	pP	—
Lenkoran		54.4	5	9 6	- 3	16 33	+ 2	—	—	—
Erevan		55.6	1	9 20	+ 2	e 16 57	+10	—	—	—
Leninakan		56.2	0	e 9 23	+ 1	—	—	—	—	—
Tiflis		57.1	1	i 9 25	- 4	—	—	—	—	—
Abastumanj		57.2	0	e 9 38?	+ 9	—	—	—	—	—
Borzhomi		57.2	0	e 9 22	- 7	—	—	—	—	—
Gori		57.4	1	e 9 36?	+ 5	—	—	—	—	—
Calcutta	E.	57.9	49	—	—	i 17 31	+14	—	—	e 27.4
Zugdidi		58.0	359	e 9 33	- 2	—	—	—	—	—
Istanbul		58.1	347	e 9 23	-12	e 17 21	+ 1	e 9 56	pP	—
Kulyab		58.7	24	e 9 37	- 3	—	—	—	—	—
Stalinabad		58.9	23	i 9 38	- 3	—	—	—	—	—
Khorog		59.0	25	i 9 34?	- 8	—	—	—	—	—
Samarkand		59.2	21	9 40	- 3	—	—	—	—	—
Obi-garm		59.3	23	i 9 36?	- 8	—	—	—	—	—
Piatigorsk		59.4	359	9 41	- 3	e 17 42	+ 6	i 10 28	pP	—
Messina		59.8	335	i 9 47 <sub>k</sub>	0	e 17 56	+14	i 10 1	?	—
Yalta		60.5	352	9 49	- 3	17 58	+ 8	—	—	—
Sofia		61.1	343	e 9 54	- 2	e 18 25	+27	—	—	—
Fergana		61.6	24	e 9 53	- 6	—	—	—	—	—
Andijan		62.2	24	e 10 0	- 3	—	—	—	—	—
Tchimkent		62.5	22	e 10 1	- 4	e 18 20	+ 4	—	—	—
Belgrade		63.8	342	i 10 14 <sub>k</sub>	0	e 19 1	PS	e 10 28	?	—
Rocca di Papa	N.	63.9	335	i 10 15	+ 1	—	—	—	—	—
Naryn		64.2	27	e 10 1	-15	—	—	—	—	—
Rome		64.2	335	i 10 15 <sub>k</sub>	- 1	e 18 55	+18	—	—	—
Timisoara		64.5	343	e 10 19	+ 1	e 18 54	+14	i 10 36	?	—
Algiers Univ.	z.	64.8	325	i 10 22 <sub>k</sub>	+ 2	i 10 29	?	i 11 15	pP	e 35.4
Rybach'e		65.1	26	i 10 20	- 2	—	—	—	—	—
Przhevalsk		66.1	27	e 10 26	- 3	—	—	—	—	—
Florence	z.	66.2	335	e 10 13	-16	e 18 54	- 7	—	—	—
Almata II		66.3	26	i 10 25	- 5	—	—	—	—	—
Kurmenty		66.5	27	e 10 28	- 3	—	—	—	—	—
III		66.7	26	e 10 29	- 3	—	—	—	—	—
Budapest		66.7	342	10 32	0	—	—	—	—	—
Triest		66.8	338	i 10 31	- 2	i 19 16	+ 8	e 11 8	pP	—
M' Bcur		67.0	294	i 10 41	+ 7	—	—	—	—	38.4
Alicante		67.9	324	10 42	+ 2	19 48	PS	24 30	SS	33.7
Almeria		68.0	322	i 10 42	+ 2	19 42	PS	13 26	PP	38.2
Granada		68.9	321	i 10 47 <sub>a</sub>	+ 1	19 47	PS	13 29	PP	31.2
Tortosa		69.0	327	i 10 48	+ 2	—	—	—	—	e 37.4
Malaga		69.1	321	i 10 48	+ 1	e 19 41	+ 6	—	—	—
Raciborzu		69.3	343	e 10 47	- 1	e 19 46	+ 8	e 11 34	pP	—
Chur		69.4	336	e 10 48 <sub>k</sub>	- 1	—	—	—	—	—
Zürich		70.2	336	i 10 53 <sub>k</sub>	- 1	—	—	—	—	—
Prague		70.4	341	e 10 50	- 5	e 11 56	sP	e 11 39	pP	—
Basle		70.8	335	e 10 57 <sub>k</sub>	0	—	—	—	—	—
Toledo		70.9	323	i 11 1	+ 3	e 21 41	?	i 11 8	?	—
Stuttgart		71.1	337	i 10 59 <sub>k</sub>	0	e 11 23	PcP	e 11 37	pP	—
Clermont-Ferrand		71.3	332	i 11 3	+ 3	—	—	i 11 17	?	—
Moscow		71.3	357	e 10 59	- 1	—	—	—	—	—
Strasbourg		71.5	336	i 11 2 <sub>k</sub>	0	i 11 17	PcP	e 12 2	pP	—
Karlsruhe		71.6	337	e 11 2 <sub>k</sub>	0	—	—	e 11 23	PcP	—
Collmberg	z.	71.9	341	e 11 3	- 1	—	—	—	—	—
Jena		72.1	340	e 11 4	- 1	e 11 24	PcP	e 11 41	pP	—
Sverdlovsk		73.6	10	i 11 13	- 1	—	—	—	—	—
Paris		73.9	333	i 11 16	0	i 20 28	- 2	e 12 30	sP	—
De Bilt		75.3	337	e 11 23	- 1	—	—	—	—	—
Witteveen	z.	75.4	339	i 11 26 <sub>k</sub>	+ 2	—	—	—	—	—

Continued on next page.

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1952

363

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Copenhagen	75.8	343	i 11 27	+ 1	—	—	—	—
Helsinki	77.1	351	i 11 33	- 1	e 21 29	+24	e 11 47	PcP
Upsala	78.2	347	i 11 39 <sub>k</sub>	- 1	e 21 23	+ 6	i 11 52	PcP
Rathfarnham C.	81.0	333	i 11 57 <sub>a</sub>	+ 2	—	—	i 12 27	pP
Manila	82.1	72	i 12 1	+ 1	(e 22 21)	+24	—	e 22.4
Kiruna	85.0	352	i 12 15 <sub>k</sub>	0	i 12 35	PcP	i 12 51	pP
Irkutsk	85.5	32	12 19	+ 2	—	—	—	—
Kyakhta	85.7	34	12 19	+ 1	—	—	—	—
Kabansk	86.6	34	e 12 24	+ 1	e 22 46	+ 5	—	—
La Plata	90.4	234	—	—	23 57	+41	—	45.2
San Juan	113.2	284	e 14 37	P	—	—	—	—
Morgantown	125.7	307	i 18 46	[+ 7]	—	—	i 20 46	PP
Cleveland	126.5	310	e 18 47 <sub>k</sub>	[+ 7]	—	—	—	—
College	130.3	6	i 18 51	[+ 3]	—	—	—	—
Vera Cruz	141.6	282	e 21 34	PP	e 23 49	sPKS	e 24 33	PPP
Hungry Horse	142.6	335	i 19 17	[+ 7]	—	—	—	—
Puebla	143.5	282	e 20 54	?	e 22 29	SKP	—	—
Butte	143.8	332	e 19 21	[+ 9]	—	—	—	—
Lubbock	144.2	307	e 19 20	[+ 7]	—	—	—	—
Tacubaya	144.5	282	e 19 18	[+ 4]	—	—	—	—
Victoria	145.4	344	19 20 <sub>a</sub>	[+ 5]	—	—	—	—
Seattle	146.1	342	i 19 22 <sub>k</sub>	[+ 6]	—	—	i 19 41	?
Tucson	151.6	310	i 19 34	[+10]	—	—	i 19 40	?
Reno	152.2	331	e 19 25 <sub>k</sub>	[ 0]	i 19 41	?	e 19 49	PKP <sub>2</sub>
Boulder City	152.2	321	i 19 35	[+10]	—	—	i 19 41	?
Shasta	152.3	337	i 19 32	[+ 6]	—	—	—	—
Mineral	152.3	335	e 19 34 <sub>k</sub>	[+ 8]	i 19 39	?	e 23 17	PP
Tinemaha	153.4	326	e 19 39	[+12]	—	—	i 19 46	?
China Lake	153.9	324	i 19 37	[+ 9]	i 19 44	?	i 19 56	PKP <sub>2</sub>
Fresno	154.4	328	e 19 37	[+ 8]	—	—	e 19 43	?
Berkeley	154.7	332	i 19 45 <sub>k</sub>	[+16]	—	—	i 19 57	PKP <sub>2</sub>
Lick	154.8	332	i 19 38 <sub>a</sub>	[+ 9]	i 19 45	?	i 19 53	PKP <sub>2</sub>
Riverside	155.0	321	i 19 39	[+10]	—	—	i 19 46	?
Palomar	155.2	318	i 19 39	[+ 9]	i 19 47	?	i 20 6	PKP <sub>2</sub>
Pasadena	155.4	321	i 19 40	[+10]	—	—	i 19 49	?

April 29d. 19h. 42m. 30s. Epicentre 34°·6S. 71°·9W.

Intensity V between 33° and 34°S. in Chile; felt at Santiago and Valparaiso. Epicentre 34°·8S. 71°·6W. (Strasbourg).

F. Greve.

Boletín del año 1952, Instituto Sismológico, Universidad de Chile, Santiago, p. 10.

A = +·2563, B = -·7841, C = -·5652;  $\delta = -5$ ;  $h = 0$ ;  
D = -·951, E = -·311; G = -·176, H = +·537, K = -·825.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Santa Lucia	N. 1.5	50	i 0 25	- 3	—	—	i 0 32	P <sub>c</sub>
Concepción	N. 2.2	183	—	—	e 1 16	+ 3 <sub>g</sub>	2 8	?
Copiapó	N. 7.4	11	e 2 48	+20 <sub>g</sub>	i 3 16	- 2	i 4 18	S <sub>g</sub>
Antofagasta	E. 11.0	8	e 2 58	+16	e 4 56	+ 9	—	—
Buenos Aires	11.1	94	2 42	- 1	5 7	+18	—	—
La Plata	E. 11.5	96	i 2 49	+ 1	4 54	- 5	—	5.7
La Paz	18.3	11	i 4 14 <sub>a</sub>	- 3	i 7 30	- 9	4 35	PP
Huancayo	22.7	351	i 5 4	0	e 9 15	+ 6	—	e 10.2
Bogotá	39.1	356	e 7 29	- 2	e 13 14	-17	—	e 21.1
Chinchina	39.5	354	i 7 36	+ 2	i 13 17	-20	—	—
San Juan	53.0	7	i 9 14	- 7	—	—	—	—
Tacubaya	59.6	330	e 9 40	-28	—	—	—	—
Bermuda	67.0	7	i 10 52	- 5	—	—	—	—
Fayetteville	z. 73.3	341	i 11 32	- 3	e 11 58	?	e 11 50	PcP
Morgantown	74.2	353	i 11 38	- 2	—	—	i 11 55	PcP

Continued on next page.

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1952

364

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Tucson		75.9	327	i 11 50	0	—	—	—	—
Weston		76.6	1	i 11 53 <sub>k</sub>	- 1	—	—	—	—
Harvard		76.7	1	i 11 53 <sub>a</sub>	- 2	—	—	i 12 9	PcP
Buffalo (Larkin)		77.3	355	i 11 57	- 1	—	—	—	—
Grahamstown	Z.	78.0	121	i 12 4	+ 2	—	—	—	—
Kimberley	Z.	79.3	117	i 12 11	+ 2	—	—	—	—
Palomar	Z.	79.7	323	i 12 12	+ 1	—	—	i 12 24	PcP
Riverside	Z.	80.4	323	i 12 15	0	—	—	e 12 27	PcP
Boulder City		80.8	326	e 12 18	+ 1	—	—	—	—
Pasadena		81.0	323	i 12 19	+ 1	—	—	e 12 31	PcP
China Lake	Z.	82.0	324	i 12 25	+ 2	—	—	i 12 37	PcP
Kirkland Lake	Z.	82.7	354	i 12 27 <sub>a</sub>	0	—	—	—	—
Pietermaritzburg	Z.	82.8	120	i 12 31	+ 4	—	—	—	—
Tinemaha	Z.	83.3	324	e 12 31	+ 1	—	—	e 12 51	?
Pretoria	Z.	83.5	116	i 12 32	+ 1	—	—	—	—
Fresno	Z.	83.8	323	e 12 32 <sub>a</sub>	0	—	—	e 12 50	?
Lick	Z.	85.2	322	i 12 41 <sub>a</sub>	+ 2	—	—	i 12 54	?
Reno	Z.	86.0	325	e 12 46 <sub>a</sub>	+ 3	—	—	—	—
Mineral	Z.	87.5	324	i 12 52 <sub>k</sub>	+ 1	—	—	—	—
Shasta		88.2	324	i 12 54	0	—	—	—	—
Hungry Horse		90.7	333	e 13 6	0	—	—	—	—
Tamanrasset	Z.	93.0	64	i 13 17 <sub>k</sub>	0	i 13 29	?	i 13 33	?
Messina		108.6	56	e 29 15	PPS	—	—	—	e 60.7
Upsala	Z.	119.0	35	i 23 43	PPP	—	—	—	—
Kiruna	Z.	122.4	27	i 18 57	[ 0 ]	—	—	i 19 10	?

April 30d. 0h. 53m. 45s. Epicentre 31°·0N. 91°·6E. (as on 1951, November 25d.).

A = -·0240, B = +·8584, C = +·5125;  $\delta$  = +8;  $h$  = +2;  
D = +1·000, E = +·028; G = -·014, H = +·512, K = -·859.

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Calcutta	E.	8.9	200	—	—	i 3 45	-10	i 4 27	S*
Przhevalsk		15.6	321	e 3 49	+ 6	—	—	—	—
Kurmenty		16.0	322	e 3 50	+ 2	—	—	—	—
Murgab		16.3	302	e 3 54?	+ 2	e 6 54?	+ 1	—	—
Naryn		16.3	314	e 3 54?	+ 2	i 7 13?	+20	—	—
Rybach'e		16.8	317	e 3 56?	- 2	7 22?	+17	—	—
Almata		16.9	321	e 4 3	+ 4	—	—	—	—
Khorog		17.8	297	e 4 13	+ 2	e 7 37	+ 9	—	—
Frunse		18.0	315	i 4 16	+ 3	i 7 50	+18	—	—
Andijan		18.3	307	i 4 18	+ 1	i 7 52	+13	—	—
Dzhergetal		18.6	302	e 4 22	+ 1	e 7 50	+ 4	—	—
Fergana		18.7	306	e 4 20	- 2	i 7 53	+ 5	—	—
Garm		19.1	301	e 4 26	- 1	e 8 1	+ 4	—	—
Kulyab		19.2	297	e 4 25	- 3	e 8 0	+ 1	—	—
Stalinabad		20.2	300	i 4 36	- 3	e 8 20	- 1	—	—
Poona	E.	20.3	236	i 4 36	- 4	e 8 27	+ 4	4 52	PP
Tashkent		20.7	306	i 4 46	+ 2	i 8 35	+ 4	—	—
Bombay	E.	20.8	239	e 4 44	- 1	e 8 37	+ 4	9 17	SS
Tchimkent		20.9	309	i 4 44	- 2	i 8 42	+ 7	—	—
Semipalatinsk		21.2	341	e 4 49?	0	—	—	—	—
Samarkand		21.8	300	4 57	+ 1	—	—	—	—
Kyakhta		22.3	25	e 5 6	+ 5	—	—	—	—
Irkutsk		23.2	19	e 5 15	+ 6	—	—	—	—
Nanking	Z.	23.2	80	5 14	+ 5	—	—	—	—
Kabansk		23.8	22	e 5 19	+ 4	—	—	—	—
Kodaikanal	E.	24.5	217	—	—	e 8 52	PcP	—	—
Sverdlovsk		33.6	330	i 6 45	+ 1	e 12 19	+13	—	—
Borzhomi		39.8	300	e 7 37?	+ 1	—	—	—	—
Moscow		44.9	320	e 8 18	0	—	—	—	—
Kiruna	Z.	54.6	334	i 9 32	0	—	—	—	—

Continued on next page.

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1952

365

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Upsala	z.	55.8	325	i 9 40	- 1	—	—	—	—
Collmberg	z.	59.6	315	e 10 6	- 2	—	—	—	—
Jena		60.6	315	e 10 14	- 1	—	—	—	—
Messina	z.	61.4	300	e 10 19	- 1	—	—	—	—
Stuttgart		62.7	313	e 10 27	- 2	—	—	—	—
Paris		66.8	315	i 10 54	- 2	—	—	—	—
Resolute Bay	z.	74.5	3	e 11 42	0	—	—	—	—
Tamanrasset	z.	75.4	288	e 11 42k	- 5	—	—	e 14 33 PP	—

April 30d. 1h. 49m. 0s. Epicentre 25°·5N. 94°·5E.

Given by stations of U.S.S.R.

A = -·0709, B = +·9009, C = +·4281;  $\delta$  = -8;  $h$  = +3;  
D = +·997, E = +·078; G = -·034, H = +·427, K = -·904.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Poona	K.	20.4	254	e 5 13	+32	i 9 13	+48	10 55?	10.7
Bombay	F.	21.1	256	e 9 24	SS	—	—	11 50	Q
Przhevalsk		21.5	327	4 45	- 7	8 44	- 3	—	—
Murgab		21.6	312	e 4 55	+ 1	—	—	—	—
Kurmenty		22.0	328	e 4 55	- 3	e 9 3	+ 7	—	—
Nanking		22.3	66	e 5 7	+ 6	—	—	—	—
Rybach'e		22.7	322	i 5 0	- 4	—	—	—	—
Almata		22.8	326	e 5 1	- 4	—	—	—	—
Khorog		22.8	307	e 5 8	+ 3	8 58	-13	—	—
Frunse		23.8	321	i 5 12	- 3	—	—	—	—
Krasnogorka		23.8	322	i 5 13	- 2	i 9 20	- 8	—	—
Andijan		23.9	314	e 5 15	- 1	—	—	—	—
Dzhergetal		23.9	312	i 5 18	+ 2	e 9 17	-13	—	—
Fergana		24.1	313	e 5 18	0	e 9 35	+ 1	—	—
Kulyab		24.3	307	e 5 26	+ 6	9 25	-12	—	—
Garm		24.4	310	e 5 22	+ 1	e 9 45	+ 6	—	—
Obi-garm		24.7	309	i 5 27	+ 3	—	—	—	—
Stalinabad		25.3	309	i 5 32	+ 2	e 10 1	+ 7	—	—
Tashkent		26.2	314	i 5 38	0	—	—	—	—
Kyakhta		26.5	16	e 5 33?	- 8	e 10 7	- 7	—	—
Tchinkent		26.5	316	e 5 39	- 2	10 23	+ 9	—	—
Samarkand		27.0	308	e 5 52	+ 7	e 10 25?	+ 3	—	—
Irkutsk		27.8	12	e 5 46?	- 7	—	—	—	—
Kabansk		28.1	15	e 5 47?	- 8	e 10 26?	-14	—	—
Sverdlovsk		39.6	332	i 7 33	- 2	—	—	—	—
Kiruna	z.	60.6	335	i 10 13	- 2	—	—	—	—
Upsala	z.	61.8	326	i 10 22	- 1	—	—	i 10 28	?
Jena	z.	66.3	317	e 10 55	+ 3	—	—	—	—
Stuttgart		68.3	315	e 11 8	+ 3	—	—	e 11 15	?
Tamanrasset	z.	79.7	290	12 18	+ 7	—	—	—	—
Resolute Bay	z.	79.9	3	e 12 12	0	—	—	—	—
Victoria		98.9	24	21 1	?	—	—	—	—
Tinemaha	z.	110.6	27	e 23 40	?	—	—	—	—
China Lake	z.	111.9	27	e 23 51	?	—	—	—	—
Mount Wilson	z.	113.0	28	e 24 8	?	—	—	—	—
Riverside	z.	113.5	28	e 24 11	?	—	—	—	—
Palomar	z.	114.3	28	e 24 10	?	—	—	e 24 27	?
Fayetteville	z.	118.2	8	—	—	e 25 48	[+ 4]	—	—



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1952

366

May 1d. 15h. 4m. 11s. Epicentre 51°·3N. 175°·1E. (as on 1940, Feb. 7d.).

A = -·6255, B = +·0536, C = +·7783;  $\delta = -13$ ;  $h = -6$ ;  
D = +·085, E = +·996; G = -·775, H = +·066, K = -·628.

		$\Delta$		P.		O-C.	S.		O-C.	Supp.		L.	
		°	'	m.	s.	s.	m.	s.	s.	m.	s.	m.	
Mitchell Field		5·2	79	i 1	24	+ 3	—	—	—	1	29	P*	—
College		23·4	40	i 5	10	- 1	—	—	—	—	—	—	—
Victoria		38·8	69	8	27	+59	—	—	—	—	—	—	—
Resolute Bay		41·4	24	e 7	46 <sub>a</sub>	- 4	e 13	57	- 8	e 16	57	SS	e 22·8
Hungry Horse		44·2	64	i 8	11	- 1	—	—	—	—	—	—	—
Berkeley	z.	44·8	82	i 8	22 <sub>a</sub>	+ 5	—	—	—	i 8	54	?	—
Reno	z.	45·7	78	e 8	26 <sub>a</sub>	+ 2	—	—	—	—	—	—	—
Lick	z.	46·0	82	i 8	28 <sub>a</sub>	+ 1	—	—	—	i 8	37	?	—
Fresno	z.	47·5	81	e 8	39 <sub>a</sub>	+ 1	—	—	—	e 8	50	?	—
Tinemaha		48·2	80	e 8	46 <sub>a</sub>	+ 2	—	—	—	i 9	2	?	—
China Lake		49·4	80	i 8	55 <sub>a</sub>	+ 2	e 9	5	?	e 9	9	?	—
Pasadena		50·2	83	i 8	59 <sub>a</sub>	- 1	i 9	9	?	i 9	13	?	—
Boulder City		51·0	78	i 9	7	+ 1	—	—	—	—	—	—	—
Palomar	z.	51·5	82	i 9	10 <sub>a</sub>	+ 1	i 9	15	?	i 9	18	?	—
Tucson		56·0	79	i 9	43	0	—	—	—	—	—	—	—
Scoresby Sund		57·9	7	e 9	52	- 4	—	—	—	—	—	—	30·8
Kiruna		59·7	350	i 10	4 <sub>a</sub>	- 5	i 18	10	- 9	e 24	47?	SSS	e 38·8
Lubbock		60·5	72	e 10	14	0	—	—	—	—	—	—	—
Fayetteville	z.	63·3	65	i 10	31	- 2	—	—	—	—	—	—	—
Cleveland	z.	66·1	53	i 10	49 <sub>a</sub>	- 2	—	—	—	—	—	—	—
Upsala	z.	67·7	348	i 10	57	- 4	i 11	3	?	i 11	13	?	—
Morgantown		68·3	54	i 11	3	- 2	—	—	—	—	—	—	—
Pennsylvania	z.	68·5	51	e 11	5	- 1	—	—	—	e 11	19	?	—
Harvard		70·1	46	i 11	14 <sub>k</sub>	- 2	—	—	—	—	—	—	—
Weston		70·3	46	i 11	15 <sub>a</sub>	- 2	—	—	—	—	—	—	—
Fordham		70·4	49	i 11	16	- 2	—	—	—	—	—	—	—
Witteveen	z.	75·8	354	e 11	53	+ 3	—	—	—	—	—	—	—
Collmberg	z.	76·7	349	e 11	53	- 2	—	—	—	e 12	5	PcP	—
Raciborzu	z.	77·1	346	e 11	50	- 7	—	—	—	e 12	3	PcP	—
Jena		77·2	350	e 11	57?	0	e 12	50	?	e 12	8	PcP	—
Prague		77·7	348	e 12	22	+22	e 12	34	?	e 12	53	?	—
Stuttgart		79·6	351	e 12	12?	+ 2	—	—	—	—	—	—	—
Strasbourg		79·9	352	e 12	16	+ 4	—	—	—	—	—	—	—
Paris		80·1	355	e 12	11	- 2	e 12	17	PcP	i 12	27	?	—
Belgrade		81·8	342	e 12	22 <sub>a</sub>	0	e 22	30	- 5	e 15	10	PP	—
Triest	z.	82·1	348	e 12	21	- 3	e 13	30	?	e 12	44	PcP	—
Poona	z.	82·6	291	i 12	31	+ 5	i 12	35	?	i 12	38	PcP	—
Rome		86·0	347	—	—	—	e 20	16	?	—	—	—	e 56·1
Rocca di Papa	n.	86·1	347	e 12	45	+ 1	—	—	—	—	—	—	—
San Juan		92·5	56	i 13	15	+ 1	—	—	—	—	—	—	—
Tamanrasset	z.	105·7	350	e 18	23	PP	—	—	—	—	—	—	—
Pretoria	z.	144·2	303	e 19	38?	[ 0]	—	—	—	—	—	—	—
Kimberley	z.	148·4	305	i 19	53?	[ + 8]	—	—	—	—	—	—	—
Grahamstown	z.	150·9	298	e 19	49?	[ 0]	—	—	—	—	—	—	—

May 1d. 16h. 10m. 45s. Epicentre 28°·7N. 43°·6W. (as on 1951, Sept. 8d.).

A = +·6362, B = -·6058, C = +·4777;  $\delta = -6$ ;  $h = +2$ ;  
D = -·690, E = -·724; G = +·346, H = -·329, K = -·879.

		$\Delta$		P.		O-C.	S.		O-C.	Supp.		L.	
		°	'	m.	s.	s.	m.	s.	s.	m.	s.	m.	
Bermuda		18·5	286	i 4	20	+ 1	e 7	53	+ 9	—	—	e 8·6	
Fort de France		21·4	231	—	—	—	e 8	46	+ 1	—	—	—	
San Juan		23·0	248	i 5	5	- 2	—	—	—	—	—	—	
Weston		26·2	309	e 5	38	0	—	—	—	—	—	e 11·4	
Harvard		26·4	309	e 5	43	+ 3	—	—	—	—	—	e 11·6	
Ottawa		30·3	313	—	—	—	e 11	21	+ 6	e 12	27	SS	15·6
Morgantown		31·8	298	i 6	28	0	—	—	—	—	—	—	—
Malaga		33·8	65	i 6	48	+ 2	i 11	56	-14	—	—	—	15·7
Granada		34·4	64	7	10	+19	—	—	—	—	—	—	16·4
Almeria		35·3	65	i 7	0	+ 1	—	—	—	—	—	—	17·0

Continued on next page.

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1952

367

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	l.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Alicante	36.9	63	e 7 8	- 4	e 12 56	- 2	—	18.5
Bogota	37.5	236	e 6 56 <sup>l</sup>	- 21	—	—	—	—
Kew	39.4	42	—	—	e 14 15 <sup>?</sup>	+ 40	—	—
Algiers Univ.	z. 39.7	66	e 7 36	0	—	—	e 7 41	e 19.8
Paris	40.4	46	i 7 43	+ 2	i 7 49	?	e 7 53	—
De Bilt	42.9	42	—	—	e 14 35	+ 8	—	e 19.2
Fayetteville	z. 43.0	293	i 9 0	+ 57	—	—	i 9 47	PP
Scoresby Sund	43.6	11	e 8 9	+ 1	—	—	—	23.2
Strasbourg	43.8	48	e 8 10	+ 1	e 14 47	+ 7	—	—
Witteveen	z. 43.9	40	e 8 11	+ 1	—	—	—	—
Zürich	44.2	50	e 8 13	+ 1	—	—	—	—
Karlsruhe	z. 44.3	47	e 8 14	+ 1	—	—	—	—
Tamanrasset	z. 44.4	85	e 8 14	0	e 18 5	SSS	e 10 5	PP
Stuttgart	44.8	48	e 8 17	0	e 14 57	+ 2	e 9 55	PcP
Salo	45.4	53	e 8 43	+ 21	—	—	e 9 52	PcP
Florence	45.9	55	e 8 37	+ 11	e 15 34	+ 23	—	e 22.2
Jena	46.6	46	e 8 32	0	e 9 3	?	e 9 29	?
Rome	46.9	57	e 8 35	+ 1	e 15 32	+ 7	—	e 22.9
Cheb	47.0	46	e 9 34	+ 59	e 15 35	+ 9	e 10 27	PP
Collnberg	z. 47.5	45	e 8 39	+ 1	—	—	e 8 45	?
Triest	z. 47.7	52	i 8 40 <sup>a</sup>	0	e 15 41	+ 5	e 10 0	PcP
Copenhagen	47.8	39	—	—	15 47	+ 9	—	23.2
Prague	48.3	46	e 8 44	- 1	e 10 15	PP	e 11 30	PPP
Lubbock	49.5	291	e 8 53	- 1	—	—	—	—
Messina	49.5	62	e 8 55	+ 1	e 16 21	+ 19	—	—
Huancayo	50.8	222	—	—	e 16 15	- 5	e 19 22	SS
La Paz	50.8	211	8 53	- 11	e 16 18	- 2	—	23.8
Tacubaya	51.2	272	e 9 24	+ 17	e 16 58	PPS	—	—
Resolute Bay	52.7	345	e 9 17	- 1	e 16 49	+ 3	—	e 27.2
Kiruna	54.0	25	e 9 28	0	e 17 3	0	e 17 12	PS
Hungry Horse	56.5	311	e 10 38	+ 52	—	—	—	—
Tucson	57.2	292	e 9 51	0	—	—	—	—
Istanbul	59.3	56	e 10 5	- 1	e 12 24	PP	e 13 51	PPP
Boulder City	59.4	297	i 10 6	0	—	—	—	—
China Lake	z. 61.6	298	e 10 21	- 1	—	—	—	—
Palomar	z. 61.8	295	e 10 21	- 2	—	—	—	—
Tinemaha	z. 61.8	299	e 10 23	0	—	—	—	—
Riverside	z. 62.0	296	e 10 23	- 1	—	—	—	—
Reno	z. 62.3	302	e 10 25	- 1	—	—	—	—
Pasadena	62.6	297	e 10 25	- 3	—	—	—	e 33.2
Victoria	62.6	313	10 26	- 2	—	—	—	—
Fresno	z. 63.1	300	e 12 9	?	—	—	—	—
Mineral	z. 63.4	303	i 10 33 <sup>a</sup>	- 1	—	—	—	—
Lick	z. 64.3	301	i 10 40 <sup>a</sup>	+ 1	—	—	—	—
Berkeley	z. 64.6	301	i 10 41 <sup>a</sup>	0	—	—	—	—
Ksara	66.5	63	i 10 56	+ 2	e 15 21	PPP	e 7 36	?
College	70.1	335	i 11 16	0	—	—	—	e 36.0

May 2d. 4h. 34m. 43s. Epicentre 41°·5N. 75°·0E.

Epicentre given by the stations of U.S.S.R.

A = +·1944, B = +·7256, C = +·6601;  $\delta$  = +2;  $h$  = -2;  
D = +·966, E = -·259; G = +·171, H = +·638, K = -·751.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
	°	°	m. s.	s.	m. s.	s.	m. s.
Naryn	0.8	95	e 0 13	- 3 <sub>r</sub>	i 0 23	- 3 <sub>r</sub>	—
Rybach'e	1.2	40	e 0 23	- 1	0 39	- 2	—
Frunse	1.4	347	i 0 25	- 2	i 0 43	- 3	—
Andijan	2.1	249	i 0 38	+ 1	i 1 7	+ 3	—
Almata	2.3	39	e 0 38	- 2	—	—	—

Continued on next page.

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1952

368

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	
	°	°	m. s.	s.	m. s.	s.	m. s.	s.
Almata II	2.5	45	i 0 43	0	e 1 16	+ 2	—	—
Fergana	2.7	245	e 0 48	+ 3	e 1 24	0*	—	—
Przhevalsk	2.7	65	i 0 49	+ 4	i 1 24	0*	—	—
Ili	2.9	32	i 0 49	+ 1	i 1 28	+ 4	i 0 25	?
Kurmenty	2.9	57	e 0 49	+ 1	i 1 28	+ 4	—	—
Murgab	3.2	195	e 1 5	+ 1 <sub>g</sub>	e 1 51	+ 5 <sub>g</sub>	—	—
Chilisk	3.3	51	i 0 58	- 1*	i 1 40	- 2*	i 1 7	P
Dzhergetal	3.7	233	e 0 59	- 1	e 2 4	+ 2 <sub>g</sub>	—	—
Garm	4.4	236	e 1 8	- 2	—	—	—	—
Khorog	4.8	214	—	—	e 2 20	+ 8	—	—
Kulyab	5.4	230	—	—	e 2 42	- 2*	—	—

May 2d. 4h. 48m. 33s. Epicentre 39°·2N. 70°·7E. (as on 1952, April 2d.).

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	
	°	°	m. s.	s.	m. s.	s.	m. s.	s.
Dzhergetal	0.4	88	i 0 13	0	e 0 20	- 1	—	—
Garm	0.4	237	i 0 9	+ 1 <sub>g</sub>	—	—	—	—
Fergana	1.4	31	e 0 28?	+ 1	i 0 49?	+ 3	—	—
Kulyab	1.5	209	e 0 30	+ 2	e 0 48	- 1	—	—
Stalinabad	1.6	247	i 0 30	0	i 0 52	+ 1	—	—
Khorog	1.9	158	i 0 39	+ 1 <sub>g</sub>	i 1 9	+ 6 <sub>g</sub>	—	—
Andijan	2.0	39	i 0 43	+ 3 <sub>g</sub>	i 1 9	+ 3 <sub>g</sub>	—	—
Tashkent	2.4	334	e 0 45	+ 1*	e 1 16?	+ 1*	0 59	?
Murgab	2.7	108	i 1 36	S <sub>g</sub>	e 1 39	S <sub>g</sub>	—	—
Frunse	4.7	38	—	—	i 2 41	+ 6 <sub>g</sub>	—	—

May 2d. 11h. 13m. 51s. Epicentre 35°·8N. 140°·8E. Depth of focus 0·005.  
(as on 1951, Nov. 3d.).

Intensity V at Tyosi, Yokaichiba, Sakura, Sasagawa, Ryngasaki; IV at Tukubasan, Mito, Sanrizuka, Makabe, and Hokota. Epicentre 35°·6N. 140°·8E. Depth 80km. Macro seismic radius 200-300km. Seismo. Bull. Cent. Met. Obs., Japan, May, 1952, Tokyo, 1952, p.186, with macro seismic chart.

A = -·6300, B = +·5138, C = +·5823;  $\delta = -4$ ;  $h = 0$ ;  
D = +·632, E = +·775; G = -·451, H = +·368, K = -·813.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	
	°	°	m. s.	s.	m. s.	s.	m. s.	s.
Tyosi	0.1	—	0 9	- 1	0 12	- 6	—	—
Mito	0.7	335	0 15k	0	0 24	- 3	—	—
Tukubasan	0.7	306	0 12k	- 3	0 21	- 6	—	—
Tokyo	0.8	263	i 0 15k	- 2	0 27	- 2	—	—
Yokohama	1.0	249	i 0 20k	+ 1	0 33	0	—	—
Onahama	1.1	4	0 24a	+ 4	0 39	+ 3	—	—
Utunomiya	1.1	315	0 19k	- 1	0 37	+ 1	—	—
Kumagaya	1.2	287	0 19k	- 3	0 39	+ 1	—	—
Mera	1.2	222	0 18	- 4	0 31	- 7	—	—
Titibu	1.4	278	i 0 23	- 1	0 44	+ 1	—	—
Maebasi	1.5	293	i 0 25k	- 1	0 46	+ 1	—	—
Osima	1.5	228	i 0 24	- 2	0 39	- 6	—	—
Ajiro	1.6	242	0 25	- 2	0 41	- 6	—	—
Hunatu	1.7	260	0 27	- 1	0 53	+ 3	—	—
Misima	1.7	246	i 0 26k	- 2	0 46	- 4	—	—
Kohu	1.8	265	i 0 30k	0	0 52	0	—	—
Inawasiro	1.9	343	e 0 31	0	0 55	+ 1	—	—
Oiwake	1.9	286	0 30	- 1	1 1	+ 7	—	—
Hukusima	2.0	352	0 35	+ 3	1 4	+ 7	—	—
Shizuoka	2.1	247	0 33	- 1	0 59	0	—	—

Continued on next page.

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1952

369

		$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.	
		°	°	m.	s.	s.	m.	s.	s.	m.	s.
Matsuro		2.2	291	0	35	0	0	58	- 4	—	—
Matumoto	K.	2.3	281	e 0	36	- 1	1	9	+ 5	—	—
Iida		2.4	263	i 0	39	+ 1	1	13	+ 6	—	—
Omaesaki		2.4	240	0	37	- 1	1	11	+ 4	—	—
Niigata	Z.	2.5	327	i 0	51	+12	1	22	+13	—	—
Sendai		2.5	2	0	41	+ 2	1	15	+ 6	—	—
Yamagata		2.5	352	e 0	43	+ 4	1	14	+ 5	—	—
Hamamatu		2.7	247	0	42	0	1	16	+ 2	—	—
Hatidyojima		2.7	196	0	45	+ 3	1	12	- 2	—	—
Isinomaki		2.7	9	e 0	47	+ 5	—	—	—	—	—
Takayama		2.9	277	e 0	49	+ 4	—	—	—	—	—
Aikawa		3.0	317	0	47	0	—	—	—	—	—
Toyama		3.0	287	e 0	49	+ 2	—	—	—	—	—
Nagoya		3.2	259	e 0	48	- 1	—	—	—	—	—
Gihu		3.3	263	e 0	53	+ 2	—	—	—	—	—
Mizusawa		3.3	5	0	58	+ 7	1	53	+24	—	—
Kanazawa		3.4	284	e 0	57	+ 5	—	—	—	—	—
Ibukisan		3.6	264	e 0	56	+ 1	1	52	+15	—	—
Kameyama		3.7	257	e 0	57	+ 1	1	55	+16	—	—
Hikone		3.8	264	e 0	55	- 3	1	50	+ 8	—	—
Akita		3.9	252	1	7	+ 8	2	0	+16	—	—
Miyako	Z.	3.9	13	e 1	1	+ 2	—	—	—	—	—
Morioka		3.9	4	e 1	1	+ 2	1	47	+ 3	—	—
Kyoto		4.2	262	e 1	0	- 3	2	17	+25	—	—
Owase		4.2	247	e 0	56	- 7	1	58	+ 6	—	—
Kasiwara		4.3	254	e 1	10	+ 5	2	5	+11	—	—
Osaka	Z.	4.5	257	e 1	12	+ 5	2	17	+18	—	—
Kobe	R.	4.7	258	e 1	22	+12	2	21	+17	—	—
Hatinohe		4.8	8	1	14	+ 2	2	6	- 1	—	—
Siomisaki		4.8	242	e 1	5	- 7	2	4	- 3	—	—
Toyooka		4.9	268	e 1	22	+ 9	2	26	+17	—	—
Aomori		5.0	0	e 1	25	+11	2	29	+17	—	—
Sumoto		5.1	255	1	7	- 9	—	—	—	—	—
Mori	R.	6.3	358	e 1	40	+ 8	3	8	+24	—	—
Koti		6.4	252	e 1	32	- 2	2	50	+ 4	—	—
Matuyama		6.9	256	e 1	56	+15	3	19	+20	—	—
Hirosima		7.0	261	e 1	42	0	3	15	+14	—	—
Kusiro		7.7	20	e 2	52	+60	—	—	—	—	—
Ooita		8.0	254	e 2	14	+18	—	—	—	—	—
Miyazaki		8.7	246	e 2	30	+24	—	—	—	—	—
Nanking		18.6	266	e 4	13	- 1	e 7	34	- 2	—	—
Manila		27.6	226	e 5	35	- 8	—	—	—	—	—
College		50.4	31	e 8	54	+ 1	—	—	—	—	—
Resolute Bay		63.9	14	e 10	29 <sup>a</sup>	+ 1	—	—	—	—	—
Kiruna	Z.	67.5	339	i 10	51	0	—	—	—	—	—
Victoria		67.6	46	10	55	+ 3	—	—	—	—	—
Mineral	Z.	72.9	53	e 11	27	+ 3	—	—	—	—	—
Scoresby Sund		73.3	255	e 11	28	+ 2	—	—	—	—	—
Lick	Z.	74.5	55	e 11	37	+ 4	—	—	—	—	—
Reno	Z.	74.5	52	e 11	50	+17	—	—	—	—	—
Butte		75.2	44	e 11	39	+ 2	—	—	—	—	—
Tinemaha	Z.	76.9	54	e 11	51	+ 4	—	—	—	—	—
China Lake	Z.	78.1	54	e 11	56	+ 2	—	—	—	—	—
Mount Wilson	Z.	78.7	56	e 12	0	+ 3	—	—	—	—	—
Riverside	Z.	79.3	56	e 12	4	+ 4	—	—	—	—	—
Palomar	Z.	80.0	56	e 12	1	- 3	—	—	—	e 12	7
Istanbul	Z.	81.2	315	e 12	9	- 1	—	—	—	—	pP
Collmberg	Z.	81.9	330	e 12	14	0	e 12	33	PcP	e 12	28
Jena		82.8	330	e 12	19	+ 1	e 13	36	?	e 12	31
Tucson		84.7	54	e 12	31	+ 3	—	—	—	—	pP
Stuttgart		85.4	330	e 12	32	0	—	—	—	e 12	50
Fayetteville	Z.	92.1	42	i 13	5	+ 2	—	—	—	i 13	19
Tamanrasset	Z.	108.0	317	e 18	40	PP	—	—	—	—	pP
La Paz	Z.	147.9	61	19	43	[+ 8]	—	—	—	—	—

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1952

370

May 3d. 12h. 14m. 11s. Epicentre  $14^{\circ}6'S$ .  $76^{\circ}3'W$ . (as on 1951, June 24d.).

Intensity V-VI at Ica; IV-V at Huaytara; III-IV at Nazca and Ica; II-III at Miraflores; II at Lima.

E. Silgado.

Datos Sísmológicos del Perú, 1952-1955. Bull. Soc. Geológ. del Perú, Tome 29, Lima, 1957, pp.11 and 18.

A = +.2293, B = -.9406, C = -.2505;  $\delta = +6$ ;  $h = +6$ ;  
D = -.972, E = -.237; G = -.059, H = +.243, K = -.968.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Huancayo	2.7	20	i 0 49	+ 4	e 1 19	0	—	—
La Paz	8.1	105	i 1 59 <sub>a</sub>	- 3	i 3 27	- 8	2 16	PP
Bogota	19.2	5	i 4 29	+ 1	i 8 4	+ 5	i 4 48	PP
Chinchina	19.5	2	e 4 33	+ 2	i 8 10	+ 4	i 8 47	SS
Galerazamba	25.2	2	i 6 1	+32	i 10 21	+29	i 6 32	PP
Bermuda	48.0	13	e 8 40	- 3	e 15 30	-11	—	—
Fayetteville	z. 53.2	342	i 9 21	- 1	e 9 35	?	i 10 19	?
Morgantown	54.1	357	i 9 30	+ 1	e 13 14	?	—	—
Palisades	55.4	2	e 9 36	- 2	—	—	—	—
Weston	56.9	5	e 9 46	- 3	—	—	—	e 27.1
Harvard	57.0	5	i 9 50 <sub>k</sub>	0	—	—	—	—
Tucson	57.1	325	i 9 51	+ 1	—	—	—	—
Ottawa	59.7	1	e 10 29	+20	—	—	—	—
Palomar	z. 61.4	321	i 10 22	+ 2	—	—	i 10 52	pP
Boulder City	62.1	325	i 10 26	+ 1	—	—	—	—
Riverside	z. 62.2	321	e 10 27	+ 1	i 10 57	?	e 10 45	pP
Kirkland Lake	z. 62.6	358	e 10 25	- 3	—	—	—	—
Pasadena	z. 62.7	321	e 10 31	+ 2	—	—	e 10 46	pP
China Lake	z. 63.6	323	e 10 36	+ 1	i 11 11	PcP	i 10 53	pP
Tinemaha	z. 64.8	323	e 10 44	+ 1	—	—	i 10 59	pP
Fresno	z. 65.5	323	e 11 19 <sub>a</sub>	+32	—	—	—	—
Lick	z. 67.0	322	e 10 59 <sub>a</sub>	+ 2	—	—	i 11 14	pP
Reno	z. 67.4	325	e 11 1 <sub>a</sub>	+ 2	—	—	—	—
Berkeley	z. 67.7	322	e 11 2 <sub>a</sub>	+ 1	—	—	i 11 18	pP
Butte	68.6	334	e 11 8	+ 1	—	—	—	—
Mineral	z. 69.0	324	e 11 9 <sub>a</sub>	0	—	—	—	—
Shasta	69.6	324	e 11 13	0	—	—	—	—
Hungry Horse	71.1	335	e 11 21	- 1	—	—	—	—
Almeria	86.2	50	12 57	+13	—	—	—	—
Alicante	88.2	49	e 12 40	-14	e 23 25	[+ 3]	—	—
Tamanrasset	z. 88.2	66	i 12 54 <sub>k</sub>	0	e 16 39	PP	e 20 26	?
Resolute Bay	89.9	355	e 13 0 <sub>a</sub>	- 2	—	—	16 49	PP
Kimberley	z. 92.5	120	—	—	i 38 13	?	—	—
Scoresby Sund	92.7	16	e 13 16	+ 1	—	—	—	—
College	95.5	336	i 13 27	- 1	—	—	—	—
Stuttgart	97.9	41	e 13 37?	- 2	—	—	—	—
Rome	z. 98.7	49	e 13 59?	+17	—	—	—	e 49.8
Upsala	104.5	32	i 19 56	?	—	—	—	—
Ksara	116.3	59	e 15 5	P	e 26 25	{-24}	—	—
Poona	z. 151.1	78	i 19 50	[+ 1]	i 20 3	PKP <sub>2</sub>	i 20 30	?

May 3d. 20h. 56m. 50s. Epicentre  $45^{\circ}8'N$ .  $10^{\circ}3'E$ . (as on 1950, Nov. 2d.).

A = +.6883, B = +.1251, C = +.7146;  $\delta = +6$ ;  $h = -4$ ;  
D = +.179, E = -.984; G = +.703, H = +.128, K = -.700.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Salo	0.2	143	e 0 8 <sub>k</sub>	- 2	i 0 12	- 4	—	—
Pavia	1.0	232	i 0 17 <sub>k</sub>	- 4	e 0 30	- 6	—	—
Chur	1.2	333	e 0 26	+ 2	e 0 48	+ 8 <sub>x</sub>	—	—
Bologna	1.5	151	—	—	e 0 46	- 3	e 0 51	S <sub>x</sub>
Oropa	1.7	264	e 0 43	+ 9 <sub>x</sub>	i 0 47	- 7	—	—
Padova	1.7	140	0 20	- 11	i 0 36	P <sub>g</sub>	—	—
Zürich	1.8	323	e 0 41 <sub>a</sub>	+ 5 <sub>g</sub>	e 1 10	+10 <sub>g</sub>	e 0 46	?
Florence	2.1	162	—	—	e 1 17	+ 8 <sub>g</sub>	e 1 54	?
Ravensburg	2.1	347	e 0 45	+ 3 <sub>g</sub>	e 1 16	+ 7 <sub>g</sub>	—	—
Triest	2.3	94	e 0 44	- 2 <sub>x</sub>	e 1 19	+ 3 <sub>g</sub>	i 1 30	?

Continued on next page.



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1952

371

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Basle	2.5	313	e 0 50	0 <sub>g</sub>	e 1 29	+ 6 <sub>g</sub>	—	—
Neuchatel	2.6	297	e 0 51	- 1 <sub>g</sub>	e 1 26	0 <sub>g</sub>	—	—
Stuttgart	3.1	346	e 0 56?	0*	e 1 39	- 3 <sub>g</sub>	e 1 3	P <sub>g</sub> ?
Strasbourg	3.3	330	e 1 15	+ 9 <sub>g</sub>	i 1 54	+ 5 <sub>r</sub>	e 2 7	e 2.2
Rome	E. 4.2	158	e 1 19	+ 4*	e 3 24	?	—	—
Prague	5.1	31	—	—	e 2 30	- 5*	e 2 48	S <sub>g</sub> ?
Jena	5.2	8	e 1 50?	+ 6 <sub>g</sub>	e 2 50	- 2 <sub>g</sub>	e 3 11	?
Collmberg	5.8	18	e 1 55	- 1 <sub>g</sub>	e 2 46	+ 8	e 2 19	?
Paris	6.1	302	e 1 49	+ 2*	e 2 51	+ 6	e 2 7	P <sub>g</sub>

May 4d. 6h. 55m. 59s. Epicentre 36°·7N. 70°·5E. Depth of focus 0·030  
(as on April 4d.).

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	°	°	m. s.	s.	m. s.	s.
Khorog	1.2	48	i 0 33	- 1	i 0 57	- 3
Kulyab	1.3	335	e 0 36	+ 1	i 1 0	- 1
Obi-garm	2.1	342	i 0 41	- 1	i 1 11	- 3
Garm	2.3	356	i 0 43	- 1	i 1 15	- 2
Stalinabad	2.3	323	—	—	i 1 16	- 1
Dzhergetal	2.6	12	i 0 46	- 1	e 1 20	- 3
Murgab	3.2	59	e 0 55	+ 1	e 1 36	+ 1
Fergana	3.8	15	e 1 1	0	e 1 47	- 1
Samarkand	4.1	319	—	—	1 52	- 2

May 4d. 14h. 15m. 17s. Epicentre 25°·0S. 177°·5W.

A = -·9065, B = -·0396, C = -·4203;  $\delta$  = -4;  $h$  = +3;  
D = -·044, E = +·999; G = +·420, H = +·018, K = -·907.

Not intended to be approximate.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Auckland	N. 13.5	207	i 3 11	- 4	i 6 49	L	—	(16.8)
Karapiro	N. 14.2	203	e 3 43?	+19	—	—	—	—
Tuai	N. 14.5	197	e 3 32	+ 4	—	—	e 3 53	PP e 7.1
New Plymouth	E. 15.7	205	e 3 48	+ 4	e 6 52	+13	e 7 29	SS
Wellington	17.5	200	i 4 9 <sub>a</sub>	+ 2	e 7 36	+15	e 4 53	PP 8.2
Cobb River	E. 18.0	206	e 4 10	- 3	—	—	e 4 25	? e 8.2
Kaimata	N.E. 19.7	206	e 4 33	- 1	—	—	e 4 49	? e 9.8
Christchurch	20.2	201	e 5 7	+28	e 8 4	-17	i 8 49	SS e 9.2
Brisbane	26.5	258	i 5 40 <sub>a</sub>	- 1	i 10 18	+ 4	i 11 42	SS i 13.1
Riverview	28.6	245	i 5 59 <sub>k</sub>	- 1	i 10 41	- 7	i 12 1	SS e 13.1
Melbourne	34.3	240	i 6 49	- 1	i 14 46	SSS	i 8 8	PP i 15.9
Perth	58.2	247	—	—	18 31	+32	i 24 18	SSS 29.0
Manila	71.7	296	i 11 25	- 1	e 20 33	-12	i 14 7	PP
Djakarta	74.4	270	e 10 37	-65	e 20 31	-45	e 14 55	PP
Mitchell Field	76.6	1	i 11 52	- 2	—	—	i 11 56	P
Yuzno-Sakhlinsk	80.1	333	e 12 12	- 1	e 22 28	+10	—	—
Petropavlovsk	80.5	345	i 12 12	- 3	i 27 1	SS	e 15 18	PP
Santa Clara	E. 81.1	41	—	—	e 22 11	-17	—	—
Berkeley	81.2	41	e 12 19	0	i 22 33	+ 4	i 23 31	ScS e 37.9
Hong Kong	81.3	299	e 12 22	+ 2	—	—	—	—
Lick	Z. 81.3	41	e 12 19 <sub>a</sub>	- 1	—	—	i 12 26	PcP
Pasadena	Z. 81.4	46	e 12 21	+ 1	e 23 34	PS	e 15 30	PP e 33.3
Palomar	Z. 81.8	48	i 12 20	- 2	i 12 25	PcP	i 12 37	PcP
Riverside	Z. 81.9	46	e 12 21	- 2	i 12 25	PcP	i 12 29	PcP
Uglegorsk	82.1	335	e 12 23	- 1	e 22 48	ScS	—	—
China Lake	Z. 82.8	45	e 12 27	0	i 12 36	PcP	e 12 51	PcP
Shasta	83.0	39	e 12 27	- 1	—	—	i 12 30	P
Nanking	83.1	310	i 12 34 <sub>k</sub>	+ 5	23 15	PS	—	—
Mineral	Z. 83.2	40	e 12 29 <sub>a</sub>	0	i 12 36	PcP	e 15 49	PP
Tinemaha	Z. 83.2	44	i 12 28	- 1	—	—	i 12 45	PcP

Continued on next page.

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1952

372

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
	°	°	m. s.	s.	m. s.	s.	m. s.	m.	
Boulder City	84.7	46	e 12 36	- 1	—	—	i 12 41	PcP	—
Tucson	85.3	51	i 12 39	- 1	—	—	16 7	PP	—
Victoria	87.7	33	12 53	+ 1	e 23 14	[- 5]	e 23 49	S	—
Tacubaya	88.0	68	e 12 53	0	—	—	—	—	—
Butte	91.9	39	e 13 12	+ 1	—	—	—	—	—
College	92.5	12	13 10	- 4	e 24 13	- 4	i 13 25	pP	e 37.2
Huancayo	95.7	106	e 13 28	- 1	e 24 53	+ 9	e 26 7	PS	e 42.6
La Plata	97.4	134	—	—	25 43	+44	33 49	?	45.2
La Paz	99.8	114	i 12 3	?	i 24 48	{- 5}	i 26 49	PS	46.0
Irkutsk	102.6	322	e 18 13	PP	e 25 48	+ 6	e 27 13	PS	—
Chinchina	102.8	90	—	—	e 24 47	[+ 7]	e 25 12	SKKS	—
Bogota	104.1	91	e 19 39	PPP	e 30 21	?	—	—	48.7
Colombo	E. 104.3	271	18 18	PP	28 43?	PPS	—	—	—
Galerazamba	105.5	85	—	—	e 26 21	+15	—	—	—
Kodaikanal	E. 107.8	274	e 18 13	[-16]	—	—	—	—	—
Cleveland	110.4	53	e 28 56	PS	e 26 8	{ 0}	e 29 35	PPS	—
Pennsylvania	112.9	54	—	—	28 43?	PS	—	—	—
Poona	E. 114.1	281	e 18 53	[+12]	i 25 35	[+ 6]	22 1	PKS	—
Ottawa	115.4	50	28 43	PS	29 51	PPS	35 51	SS	46.4
Palisades	115.9	55	e 19 56	PP	e 29 46	PS	e 36 5	SS	e 57.5
San Juan	116.5	81	e 19 53	PP	—	—	—	—	—
Almata	117.7	308	20 4	PP	—	—	—	—	—
Rybach'e	118.2	306	e 20 4	PP	—	—	e 22 34	PPP	—
Frunse	119.3	307	e 18 55	[+ 4]	e 25 56	[+ 8]	e 20 15	PP	—
Fort de France	119.7	87	—	—	e 27 28	{+16}	e 37 28	SSP	—
Andijan	120.7	304	e 18 58	[+ 4]	—	—	e 20 25	PP	—
Fergana	121.1	304	e 20 26	PP	—	—	—	—	—
Bermuda	121.4	66	e 33 43	?	e 36 55	SS	e 51 13	Q	e 57.4
Dzhergetal	121.4	302	e 18 55	[ 0]	—	—	—	—	—
Kulyab	122.3	300	e 19 8	[+11]	—	—	—	—	—
Kimberley	z. 122.4	203	i 18 54	[- 3]	—	—	—	—	—
Obi-garm	122.5	302	e 18 58	[ 0]	—	—	—	—	—
Tashkent	123.1	305	e 19 1	[+ 2]	e 26 1	[+ 1]	e 20 39	PP	—
Quetta	123.2	292	e 18 18	[-41]	—	—	—	—	66.7
Stalinabad	123.2	302	e 19 1	[+ 2]	—	—	—	—	—
Samarkand	124.7	303	e 19 5	[+ 3]	e 20 51	PP	23 24	PPP	—
Sverdlovsk	127.9	324	e 19 10	[+ 2]	38 25	SS	e 21 8	PP	—
Ashkabad	131.3	300	i 19 20	[+ 6]	—	—	i 22 15	PKS	—
Scoresby Sund	132.3	11	e 21 38	PP	e 26 10	[-16]	—	—	62.7
Kiruna	135.8	350	i 19 20	[- 3]	e 28 50	{- 6}	e 22 48	PKS	e 54.7
Baku	137.8	304	e 19 27	[ 0]	—	—	e 22 14	PP	—
Shemakla	138.7	304	i 19 33	[+ 5]	—	—	—	—	—
Moscow	140.1	330	e 19 30	[- 1]	—	—	23 7	PKS	—
Grozny	140.3	309	i 19 34	[+ 3]	—	—	—	—	—
Kirovobad	140.4	305	e 19 27	[- 4]	—	—	—	—	—
Goris	140.6	303	e 19 35	[+ 3]	e 23 15	PKS	e 22 15	PP	—
Tiflis	141.4	307	e 19 30	[- 3]	—	—	—	—	—
Helsinki	141.6	343	e 25 9	PPP	—	—	—	—	—
Erevan	141.9	305	e 19 34	[ 0]	—	—	—	—	—
Piatigorsk	142.0	312	i 19 39	[+ 5]	i 29 10	{-23}	i 22 37	PP	—
Borzhomi	142.4	307	e 19 43	[+ 8]	—	—	—	—	—
Upsala	143.6	348	i 19 32 <sub>a</sub>	[- 5]	e 23 14	PKS	e 47 7	SSS	e 66.7
Sotchi	144.5	312	19 39	[+ 1]	—	—	—	—	—
Theodosia	146.8	316	e 19 42	[ 0]	—	—	—	—	—
Simferopol	147.6	317	e 19 48	[+ 4]	—	—	e 23 5	PKS	—
Aberdeen	147.7	5	—	—	i 26 2	[-19]	i 39 19	P'P'	e 76.8
Yalta	147.8	315	e 19 50	[+ 6]	—	—	e 22 55	PP	—
Copenhagen	148.5	350	e 19 50	[+ 5]	—	—	24 13	?	—
Kishinev	149.6	325	19 51	[+ 4]	30 0	{-16}	23 24	PKS	—
Ksara	149.7	295	e 19 53	[+ 6]	41 28	SS	22 53	PP	—
Lwow	150.1	332	19 51	[+ 3]	e 27 1	[- 7]	i 23 17	PKS	—
Iasi	150.2	327	e 19 57	[+ 9]	—	—	—	—	—
Cernauti	150.3	328	e 19 56	[+ 8]	—	—	—	—	—
Potsdam	151.5	348	e 19 51	[+ 1]	—	—	e 21 14	?	e 72.7
Uzhgorod	151.7	334	20 1	[+11]	27 2	[+ 6]	23 18	PP	—

Continued on next page.

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1952

378

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Witteveen	z. 152.0	355	e 20 1	[+11]	—	—	—	—
Raciborzu	152.2	340	e 19 58	[+ 7]	23 27	PKS	e 20 15	PKP <sub>2</sub>
Collmberg	z. 152.5	346	e 19 52	[+ 1]	e 24 16	PP	e 20 47	?
Istanbul	152.7	314	19 43?	[- 8]	e 26 48	[- 9]	e 23 17	PKS
Bucharest	152.8	322	e 20 4	[+12]	e 29 30	{-64}	e 20 11	PKP <sub>2</sub>
De Bilt	152.8	357	e 19 55	[+ 3]	—	—	e 23 43	PP
Jena	153.2	347	e 19 54	[+ 2]	e 23 34	PP	e 20 29	PKP <sub>2</sub>
Prague	153.3	343	e 19 59	[+ 7]	e 23 21	PKS	e 20 25	PKP <sub>2</sub>
Kew	153.5	4	e 20 17	PKP <sub>2</sub>	e 24 49	PP	e 44 45	SSP
Cheb	153.8	343	e 20 3	[+10]	e 28 3	?	e 24 7	PP
Helwan	z. 154.0	288	e 19 57	[+ 4]	e 25 32	PP	20 20	PKP <sub>2</sub>
Ogyalla	154.0	336	e 21 27	?	e 27 7	[+ 8]	e 23 27	PKS
Timisoara	154.4	329	19 43?	[-11]	—	—	—	—
Belgrade	155.4	328	e 20 7k	[+12]	e 37 27	PPS	e 24 52	PP
Karlsruhe	z. 155.6	351	e 19 56?	[+ 1]	e 23 21	PKS	e 20 28	PKP <sub>2</sub>
Stuttgart	155.7	350	e 19 56	[+ 1]	e 30 53	{+ 3}	e 20 25	PKP <sub>2</sub>
Strasbourg	156.1	352	e 19 57	[+ 1]	e 23 26	PKS	e 20 13	pPKP
Paris	156.2	1	e 20 3	[+ 7]	e 24 12	PP	i 20 35	PKP <sub>2</sub>
Basle	157.1	352	e 20 3	[+ 6]	—	—	—	—
Zürich	157.1	351	e 19 38	[-19]	e 23 42	PKS	e 20 33	PKP <sub>2</sub>
Triest	157.5	341	e 19 57	[- 1]	i 29 56	{-63}	e 20 37	PKP <sub>2</sub>
Salo	158.5	345	e 19 24	[-35]	e 25 2	PP	e 20 3	PKP
Pavia	159.2	347	e 20 11	[+11]	e 31 6	{- 2}	e 25 23	PP
Florence	159.9	342	e 18 59	[-62]	e 29 3	PKKP	e 32 4	PSKS
Taranto	160.2	326	18 35	?	29 43	?	23 5	?
Rome	161.2	337	e 19 0	[-62]	e 25 43	[-83]	e 23 26	?
Messina	162.8	324	e 19 31	[-33]	30 3	{-84}	e 23 11	?
Alicante	166.4	10	e 20 4	[- 3]	27 15	[+ 6]	21 11	PKP <sub>2</sub>
Granada	166.7	22	20 43 <sub>a</sub>	PKP <sub>2</sub>	—	—	—	—
Malaga	166.9	25	i 20 37	PKP <sub>2</sub>	i 25 1	PP	28 57	PPP
Almeria	167.5	19	i 20 10	[+ 2]	27 2	[- 8]	20 50	PKP <sub>2</sub>
Algiers Univ.	z. 168.2	358	i 19 52? <sub>a</sub>	[-16]	e 25 2	PP	e 20 55	PKP <sub>2</sub>
Tamanrasset	z. 176.5	—	i 20 9k	[- 3]	e 25 45	PP	i 21 50	PKP <sub>2</sub>

May 4d. 15h. 32m. 50s. Epicentre 36°·9N. 70°·8E. Depth of focus 0·030.  
(as on 1952, April 21d.).

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.
Khorog	0·9	48	i 0 30	- 2	i 0 53	- 3
Kulyab	1·3	321	e 0 35	0	i 1 1	0
Garm	2·1	350	i 0 42	0	i 1 14	0
Obi-garm	2·2	335	e 0 41	- 2	i 1 12	- 4
Dzhergetal	2·3	8	i 0 45	+ 1	i 1 19	+ 2
Stalinabad	2·3	316	i 0 45	+ 1	i 1 18	+ 1
Murgab	2·9	59	e 0 49	- 1	e 1 27	- 2
Fergana	3·6	12	e 0 59	+ 1	e 1 43	- 1
Andijan	4·0	17	—	—	i 1 53	+ 1

May 5d. 4h. 47m. 1s. Epicentre 22°·5N. 143°·5E. Depth of focus 0·010.  
(as on 1951, Aug. 30d.).

A = -·7434, B = +·5501, C = +·3805;  $\delta = +3$ ;  $h = +4$ ;  
D = +·595, E = +·804; G = -·306, H = +·226, K = -·925.

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.
Manila	22·7	254	i 4 55	+ 1	—	—	—
Nanking	23·9	299	e 5 34	pP	9 17	+ 5	i 10 9
Brisbane	z. 50·5	169	i 8 48k	- 2	—	—	—
College	60·8	27	i 10 4	0	—	—	—
Victoria	75·5	44	11 36	+ 1	—	—	—
Shasta	78·7	51	i 11 53	0	—	—	—
Mineral	z. 79·3	51	i 11 57k	+ 1	—	—	i 12 27
Berkeley	z. 79·7	54	e 12 31	pP	—	—	—
Lick	z. 80·4	53	i 12 3	+ 1	—	—	i 12 34
Kiruna	z. 80·8	342	i 12 4	0	—	—	i 12 35

Continued on next page.

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1952

374

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	
Reno	z.	80.9	51	e 12 7	+ 2	—	—	e 12 49	sP
Hungry Horse		81.4	42	e 12 9	+ 1	—	—	e 12 40	pP
Fresno	z.	82.0	54	e 12 11	0	—	—	e 12 42	pP
Tinemaha	z.	83.0	53	i 12 17	+ 1	—	—	e 12 48	pP
Butte		83.2	43	i 12 19	+ 2	—	—	i 12 50	pP
China Lake	z.	84.0	54	i 12 21	0	i 13 2	sP	e 12 52	pP
Pasadena		84.2	56	e 12 22	0	—	—	e 12 58	pP
Riverside	z.	84.8	56	e 12 25	0	—	—	e 13 1	pP
Palomar	z.	85.5	56	e 12 28	0	—	—	e 12 44	PcP
Boulder City		85.9	53	i 12 32	+ 2	—	—	e 13 3	pP
Fayetteville	z.	100.2	44	e 13 32	- 4	—	—	—	—
Tamanrasset	z.	119.2	315	e 18 42	[ + 4 ]	—	—	—	—
San Juan		130.1	37	—	—	i 22 9	SKP	i 23 7	?
La Paz		149.6	84	e 19 33	[ 0 ]	—	—	—	—

May 5d. 9h. 35m. 17s. Epicentre 23°·0N. 96°·0W. (as on 1946, March 31d.).

A = -·0963, B = +·9164, C = +·3885;  $\delta$  = -1; h = +4;  
D = +·995, E = +·105; G = -·041, H = +·386, K = -·921.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Calcutta	N.	7.1	267	i 3 46	?	—	—	—	i 4.2
Hyderabad	N.	17.4	255	—	—	e 7 15	- 4	—	—
New Delhi		17.8	293	e 4 9	- 2	i 7 13	-15	i 7 0	?
Poona		21.2	262	i 4 50	+ 1	i 8 21	-20	i 5 9	PP
Nanking		22.1	61	e 5 0	+ 2	i 9 23	SS	—	—
Quetta	N.	26.8	293	e 5 45	+ 1	e 10 18	- 1	—	12.7
Ksara		53.3	295	i 9 25	+ 2	—	—	e 11 23	PP
Kiruna	z.	63.5	336	i 10 33 <sub>a</sub>	- 1	—	—	—	—
Upsala	z.	64.6	327	i 10 40 <sub>a</sub>	- 1	—	—	i 11 7	?
Stuttgart		71.0	316	e 11 20	- 2	—	—	—	—
Strasbourg		72.0	316	e 11 27	- 1	—	—	—	—
Paris		75.3	317	e 11 47	0	—	—	—	—
Tamanrasset	z.	81.8	291	i 12 24 <sub>k</sub>	+ 2	—	—	—	—
Kimberley	z.	85.7	237	i 12 29	-13	—	—	—	—

May 6d. 2h. 16m. 49s. Epicentre 49°·8N. 177°·8W.

A = -·6475, B = -·0249, C = +·7616;  $\delta$  = -9; h = -5;  
D = -·038, E = +·999; G = -·761, H = -·029, K = -·648.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	
Mitchell Field		2.3	19	e 0 40	0	i 1 3	- 6	—	—
College		21.8	34	e 4 55	- 1	—	—	—	—
Shasta		39.2	82	i 7 33	+ 2	—	—	i 7 41	?
Mineral	z.	40.0	82	e 7 38	0	—	—	i 7 47	pP
Berkeley	z.	40.9	85	i 7 46	0	—	—	e 7 54	pP
Lick	z.	41.6	85	i 7 52	+ 1	—	—	i 8 0	pP
Reno	z.	41.6	81	e 7 51	0	—	—	—	—
Fresno	z.	43.2	84	e 8 2	- 2	—	—	—	—
China Lake	z.	45.1	84	e 8 20	0	e 10 2	PcP	e 8 29	?
Pasadena	z.	45.8	86	i 8 25	0	—	—	e 8 44	?
Riverside	z.	46.4	86	e 8 30	0	—	—	—	—
Boulder City		46.8	82	e 8 33	0	—	—	—	—
Tucson		51.7	83	e 9 10	- 1	—	—	—	—
Scoresby Sund		58.8	10	i 10 4 <sub>k</sub>	+ 2	—	—	—	—
Fayetteville	z.	59.7	69	i 10 6	- 3	—	—	i 10 56	PcP
Kiruna	z.	61.9	352	i 10 26 <sub>k</sub>	- 2	—	—	i 10 29	P
Morgantown		65.5	58	i 10 46	- 1	—	—	—	—
Weston		68.0	50	i 11 3 <sub>a</sub>	0	—	—	—	—
San Juan		89.3	62	i 13 2	+ 3	—	—	—	—
Tamanrasset	z.	107.7	357	i 14 23 <sub>k</sub>	P	—	—	—	—
Pretoria	z.	148.7	310	i 19 59 <sub>?</sub>	PKP <sub>?</sub>	—	—	—	—

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1952

375

May 6d. 17h. 21m. 1s. Epicentre 41°·7N. 125°·3W.

A = -·4327, B = -·6111, C = +·6628 ;  $\delta = -2$  ;  $h = -2$  ;  
D = -·816, E = +·578 ; G = -·381, H = -·541, K = -·749.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Shasta	2·4	114	i 0 39	- 2	—	—	—	—
Corvallis	3·2	26	c 0 54	+ 2	—	—	—	—
Berkeley	4·5	147	e 1 9 <sub>a</sub>	- 2	i 2 0	- 5	—	—
Santa Clara	5·1	148	e 1 27	- 3*	i 2 23	+ 3	—	—
Seattle	6·3	19	e 1 36	0	i 3 29	+ 1 <sub>z</sub>	i 3 18	S*
Victoria	6·9	10	1 46	+ 1	—	—	e 2 5	P*
Tinemaha	7·2	128	i 2 19	+13*	—	—	i 2 25	P <sub>e</sub>
China Lake	8·4	132	i 2 7	+ 1	i 3 51	+ 8	e 2 15	?
Pasadena	9·4	141	i 2 18 <sub>k</sub>	0	i 4 4	- 3	i 2 24	?
Riverside	9·9	138	i 2 25	0	—	—	i 2 33	?
Boulder City	10·0	122	e 2 27	0	—	—	—	—
Butte	10·2	61	i 2 28	- 3	—	—	—	—
Hungry Horse	10·4	46	e 2 31	- 3	—	—	—	e 5·4
Bozeman	11·1	64	e 2 41	- 2	e 4 40	- 9	—	—
Tucson	14·9	125	i 3 33	- 1	e 6 23	+ 3	—	—
Lubbock	20·2	104	4 36	- 3	10 41	L	—	(10·7)
Lincoln	21·5	81	e 4 17	-35	—	—	e 7 23	?
Fayetteville	24·8	91	i 5 21	- 4	—	—	—	e 13·2
College	26·5	338	i 5 44	+ 3	e 10 49	+35	i 9 6	PcP e 11·3
Kirkland Lake	32·3	62	e 6 33	0	—	—	—	—
Cleveland	32·5	74	i 6 32 <sub>k</sub>	- 2	c 11 17	-32	—	—
Buffalo (Larkin)	34·2	71	i 6 48	- 1	—	—	—	—
Morgantown	34·2	78	i 6 47	- 2	—	—	—	—
Pennsylvania	35·3	74	i 6 59	0	—	—	—	i 19·1
Ottawa	35·7	66	—	—	12 35	- 4	17 9	ScS
Philadelphia	37·5	75	e 7 23	+ 6	e 13 15	+8	—	—
City College, N.Y.	38·1	72	i 7 22	0	—	—	—	e 17·4
Palisades	38·1	72	i 7 21	- 1	e 13 16	0	e 16 8	SS e 19·5
Fordham	38·2	72	i 7 23	0	e 13 5	-12	—	—
Harvard	39·3	69	i 7 33 <sub>a</sub>	+ 1	—	—	—	e 18·2
Weston	39·5	69	e 7 33	- 1	—	—	—	e 20·0
San Juan	55·1	95	i 9 36	0	—	—	i 9 43	?
Kiruna	67·8	13	i 11 2 <sub>k</sub>	0	e 20 0?	0	e 16 37	?
Triest	85·7	27	e 12 43	+ 1	e 13 29	?	e 16 2	PP e 34·0

May 6d. 18h. 44m. 15s. Epicentre 17°·1S. 166°·3E.

A = -·9292, B = +·2265, C = -·2922 ;  $\delta = +10$  ;  $h = +5$  ;  
D = +·237, E = +·972 ; G = +·284, H = -·069, K = -·956.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Brisbane	16·0	228	i 3 48 <sub>k</sub>	0	i 3 54	?	i 4 0	PP i 9·1
Riverview	21·5	216	i 5 16	PP	i 8 51	+ 4	i 9 1	PcP e 10·4
Berkeley	86·4	50	i 12 46	+ 1	—	—	—	—
Lick	86·6	50	e 12 46	0	—	—	—	—
Fresno	87·8	51	e 12 51	- 1	—	—	—	—
Mineral	87·9	47	i 12 53	0	—	—	—	—
Pasadena	88·0	54	i 12 52	- 1	—	—	—	—
Riverside	88·5	54	i 12 54	- 2	—	—	e 13 5	?
College	88·8	18	i 12 57	0	—	—	—	—
Reno	88·9	49	e 12 58	0	—	—	—	—
China Lake	89·0	52	i 12 57	- 1	—	—	i 13 10	?
Tinemaha	89·0	51	i 13 0	+ 2	—	—	—	—
Boulder City	91·2	53	e 13 8	0	—	—	—	—
Tucson	93·1	57	e 13 16	- 1	—	—	—	—
Ksara	132·7	300	e 20 27	?	e 23 9	PKS	—	—

Continued on next page.



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1952

376

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Stuttgart	z. 143.3	334	e 19 37	[+ 1]	—	—	—	—
Karlsruhe	z. 143.5	336	e 19 39	[+ 2]	—	—	—	—
Triest	z. 143.5	327	i 19 38 <sub>a</sub>	[+ 1]	e 19 49	PKP <sub>2</sub>	e 20 6	?
Strasbourg	144.1	335	i 19 41	[+ 3]	—	—	i 19 53	PKP <sub>2</sub>
Rome	N. 146.6	323	e 21 25	?	—	—	—	—
Tamanrasset	z. 161.1	291	e 20 6	[+ 4]	—	—	—	—

May 6d. 22h. 26m. 45s. Epicentre 18°·7N. 105°·2W. (as on 1943, Dec. 26d.).

A = -·2485, B = -·9147, C = +·3187;  $\delta=0$ ;  $h=+5$ ;  
D = -·965, E = +·262; G = -·084, H = -·308, K = -·948.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Manzanillo	0.9	67	0 24	+ 4	—	—	—	0.6
Guadalajara	2.6	41	0 51	- 1 <sub>g</sub>	1 27	+ 1 <sub>g</sub>	—	—
Tacubaya	5.8	80	1 33	+ 4	2 39	+ 1	—	—
Puebla	6.6	86	1 45	+ 4	—	—	—	3.4
Oaxaca	8.2	101	—	—	e 1 20	-11 <sub>g</sub>	—	—
Vera Cruz	8.6	86	e 2 18	PP	e 3 48	0	—	e 4.4
Tucson	14.4	341	i 3 32	+ 5	e 6 33	SS	—	—
Lubbock	15.1	11	e 3 39	+ 3	—	—	i 3 45	P
Riverside	z. 18.7	326	e 4 23	+ 1	—	—	—	—
Boulder City	19.2	336	e 4 30	+ 2	—	—	—	—
Pasadena	19.3	326	i 4 29	0	e 8 9	+ 7	e 12 54	ScP
Fayetteville	z. 19.8	27	i 4 35	0	—	—	—	—
China Lake	20.3	330	i 4 40	0	i 4 52	PP	i 5 12	PPP
Tinemaha	21.6	330	i 4 56	+ 2	e 9 4	+15	—	—
Fresno	z. 22.1	328	e 4 59	0	—	—	—	—
Lincoln	23.2	19	e 5 12	+ 3	—	—	—	—
Lick	z. 23.5	326	e 5 13	+ 1	—	—	i 5 27	?
Santa Clara	23.7	326	—	—	e 10 38	SSS	—	e 13.5
Berkeley	24.2	326	i 5 21	+ 2	e 5 51	PP	i 5 32	?
Reno	z. 24.3	333	e 5 25	+ 5	e 9 55	+18	—	—
Mineral	z. 25.8	330	e 5 35	+ 1	—	—	—	—
Bozeman	27.3	352	—	—	e 10 35	+ 8	—	—
Butte	27.9	350	i 5 54	0	—	—	—	—
Morgantown	30.2	41	i 6 13	- 1	—	—	e 8 27	?
Cleveland	z. 30.4	36	i 6 16 <sub>k</sub>	0	—	—	—	—
Hungry Horse	30.4	348	e 6 16	0	—	—	—	—
Pennsylvania	32.1	40	i 6 32	+ 1	—	—	—	e 18.3
City College, N.Y.	34.7	44	i 6 54	0	—	—	—	—
Fordham	34.7	44	e 6 53	- 1	—	—	—	—
Palisades	34.8	44	i 6 54	- 1	e 12 30	+ 5	—	e 17.9
Kirkland Lake	z. 35.8	29	i 7 4	+ 1	—	—	—	—
Ottawa	36.2	36	i 7 6	0	12 59	+12	8 25	PP
San Juan	37.0	83	i 7 13	0	—	—	—	—
Harvard	37.1	42	i 7 14 <sub>a</sub>	0	—	—	—	e 21.0
Weston	37.2	42	i 7 14	- 1	—	—	—	e 20.6
Huancayo	42.4	134	e 8 2	+ 4	—	—	—	—
La Paz	50.5	131	e 8 59	- 3	—	—	—	—
College	54.1	339	e 9 26	- 3	—	—	—	—
Kiruna	85.1	19	e 12 39	0	e 23 16?	+8	e 24 15	PS
Paris	87.2	39	e 12 49	0	—	—	e 12 54	PcP
Tamanrasset	z. 100.7	62	e 17 43	PP	—	—	—	—
Ksara	115.9	35	e 19 51	PP	e 29 7	PS	—	—

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1952

377

May 6d. 23h. 38m. 25s. Epicentre 50°·2N. 8°·3E.

Intensity V-VI in the Taunus region. Epicentre as adopted (Strasbourg).  
Monthly Seismic Bulletin, Stuttgart, for May, 1952.

A = +·6360, B = +·0928, C = +·7661;  $\delta = +2$ ;  $h = -5$ ;  
D = +·144, E = -·990; G = +·758, H = +·111, K = -·643.

	$\Delta$ °	Az. °	P.		O-C.		S.		O-C.		Supp.		L. m.	
			m.	s.	s.	m.	s.	m.	s.	m.	s.			
Karlsruhe	1·2	176	0	23	0*	i 0	38	-	3	i 1	0	?	—	
Stuttgart	1·5	157	e 0	25	-	3	e 0	47	-	2	e 0	30	P <sub>g</sub>	e 1·0
Strasbourg	1·6	192	e 0	32	0 <sub>g</sub>		i 0	49	-	2	e 0	56	S <sub>g</sub>	—
Jena	2·2	70	e 0	41	+ 1*		i 1	9	+ 3		e 0	58	S <sub>g</sub>	—
Ravensburg	2·6	160	e 1	4?	?		e 1	25	+ 4*		e 1	31	S <sub>g</sub>	—
Basle	2·7	190	e 0	51	+ 2*		e 1	24	0*		—	—	—	—
Zürich	2·8	176	e 0	55	- 1 <sub>g</sub>		e 1	31	- 1 <sub>g</sub>		—	—	—	—
Collmburg	3·2	68	e 0	48	- 4		e 1	39	0*		i 1	43	S <sub>g</sub>	—
Prague	3·9	89	e 1	32?	?		e 1	48?	- 2		e 2	8?	S <sub>g</sub>	e 2·4
Paris	4·0	252	e 1	15	+ 4*		i 1	47	- 5		i 2	9	S <sub>g</sub>	i 2·3
Clermont-Ferrand	5·6	220	—	—	—		i 3	7	+ 3 <sub>g</sub>		—	—	—	—

May 7d. 3h. 40m. 39s. Epicentre 41°·6N. 41°·5E. (as suggested by U.S.S.R.).

A = +·5617, B = +·4970, C = +·6614;  $\delta = -3$ ;  $h = -3$ ;  
D = +·663, E = -·749; G = +·495, H = +·438, K = -·750.

	$\Delta$ °	Az. °	P.		O-C.		S.		O-C.	
			m.	s.	s.	m.	s.	m.	s.	
Abastumanj	1·0	81	i 0	5?	-16	i 0	20?	-16		
Zugdidi	1·0	17	e 0	18	- 2 <sub>g</sub>	i 0	31	- 2 <sub>g</sub>		
Borzdomi	1·4	81	i 0	27	0	i 0	48	+ 2		
Tsikhlis-Dzhvari	1·5	85	i 0	29	+ 1	i 0	50	0 <sub>g</sub>		
Gori	2·0	79	e 0	36	+ 1	1	3	0*		
Sotchi	2·4	326	e 0	44	0*	1	22	+ 3 <sub>g</sub>		
Tiflis	2·5	87	e 0	45?	0*	e 1	18?	0*		
Erevan	2·7	122	e 0	49	0*	1	32	+ 3 <sub>g</sub>		
Grozny	3·6	59	—	—	—	i 2	0	+ 1 <sub>g</sub>		
Kirovobad	3·8	102	e 1	9	+ 1*	—	—	—		
Goris	4·2	118	1	18	+ 3*	2	29	+10 <sub>g</sub>		
Yalta	6·1	321	e 2	31	S	(e 2	31)	-14		

May 7d. 13h. 41m. 27s. Epicentre 36°·8N. 69°·9E. Depth of focus 0·030.  
(as on 1952, April 18d.).

	$\Delta$ °	Az. °	P.		O-C.		S.		O-C.		Supp.		
			m.	s.	s.	m.	s.	m.	s.	m.	s.		
Kulyab	1·1	355	i 0	34	+ 1	i 1	0	+ 1			—	—	
Khorog	1·5	64	i 0	36	0	i 1	3	- 1			—	—	
Obi-garm	1·9	355	i 0	42	+ 2	i 1	14	+ 4			—	—	
Stalinabad	2·0	333	i 0	42	+ 1	i 1	13	+ 1			—	—	
Garm	2·2	8	i 0	44	+ 1	i 1	16	0			—	—	
Dzhergetal	2·6	23	i 0	49	+ 2	i 1	24	+ 1			—	—	
Murgab	3·6	63	i 0	58	0	i 1	40	- 4			—	—	
Fergana	3·9	22	i 1	3	+ 1	—	—	—			—	—	
Andijan	4·4	25	i 1	9	+ 1	i 2	1	0			—	—	
Tashkent	4·5	354	i 1	13	+ 4	—	—	—			—	—	
Naryn	6·6	44	e 1	35	- 1	i 2	48	- 3			—	—	
Quetta	7·0	201	e 1	42	+ 1	i 2	55	- 5			—	—	
Frunse	7·1	29	i 1	43	+ 1	i 3	2	0			—	—	
Rybach'e	7·4	38	e 1	47	+ 1	—	—	—			—	—	
Almata	8·4	38	e 2	0	+ 1	—	—	—			—	—	
Almata II	8·6	39	e 2	2	0	—	—	—			—	—	
Ili	9·0	35	i 2	5	- 2	—	—	—			—	—	
Kurmenty	9·0	43	i 2	5	- 2	—	—	—			—	—	
New Delhi	10·2	141	e 2	14	- 8	4	9	- 5			i 4	37	SS
Poona	z.	18·5	i 3	58	- 4	i 7	10	- 6			i 4	11	PP

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1952

378

May 7d. 16h. 14m. 34s. Epicentre 50°·9N. 130°·7W. (as on 1918, Dec. 30d.).

A = -·4122, B = -·4792, C = +·7749;  $\delta = +1$ ;  $h = -6$ ;  
D = -·758, E = +·652; G = -·505, H = -·587, K = -·632.

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Alberni		4·2	112	1 2	- 5	—	—	—	—
Horseshoe Bay		5·0	105	1 16	- 2	—	—	—	—
Seattle		6·4	118	e 1 39	+ 1	i 3 32	L	—	(i 3·5)
Hungry Horse		11·1	97	e 2 43	0	—	—	—	e 5·5
Shasta		11·8	147	i 2 54	+ 1	—	—	—	—
Mineral	z.	12·4	146	e 4 1	+60	—	—	—	—
Reno	z.	13·8	142	e 3 18	- 1	—	—	—	—
Berkeley	z.	14·4	152	—	—	e 6 20	+11	—	—
Lick	z.	15·1	151	e 3 37	+ 1	—	—	—	—
Fresno	z.	16·2	147	e 3 51	+ 1	—	—	—	—
Tinemaha	z.	16·5	143	i 4 1	+ 7	—	—	i 4 39	?
College		16·5	334	e 3 56	+ 2	e 7 6	+ 8	—	e 8·6
China Lake		17·9	140	i 4 13	+ 1	—	—	—	e 8·5
Boulder City		18·9	137	e 4 24	0	—	—	—	—
Pasadena		19·1	146	i 4 27	0	—	—	—	—
Riverside	z.	19·6	146	i 4 32	0	—	—	—	—
Tucson		23·8	133	e 5 14	- 1	—	—	e 8 42	PcP e 14·2
Resolute Bay		28·0	19	—	—	e 11 4	+26	e 16 59	ScS e 14·8
Fayetteville	z.	30·0	105	e 6 14	+ 2	—	—	—	—
La Paz		86·5	121	e 12 46	0	—	—	i 15 50	PP
Tamanrasset	z.	97·0	40	e 16 28	?	—	—	—	—

May 8d. 0h. 58m. 42s. Epicentre 35°·5N. 140°·4E. Depth of focus 0·005.  
(as on 1952, Jan. 20d.).

Intensity VI at Yokohama, Kengasaki, Hambara, Onagigawa, Kururi, Tateyama, Katakai, and Naruto; V at Tokyo, Kashiwa. Felt in many other localities.  
Epicentre 35°·45N. 140°·15E. Depth 50-60km. Macroseismic radius 200-300km. (Tokyo).  
Seismo. Bull. of the Cent. Met. Obs., Japan, for May, 1952, Tokyo, 1952, p.187, with macroseismic chart on p.187.

A = -·6287, B = +·5201, C = +·5781;  $\delta = -3$ ;  $h = 0$ ;  
D = +·637, E = +·771; G = -·445, H = +·368, K = -·816.

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Tyosi	n.	0·4	58	0 13	+ 1	0 22	0	—	—
Kashiwa		0·5	315	e 0 12	- 1	—	—	—	—
Tokyo	z.	0·6	289	i 0 12 <sub>k</sub>	- 2	—	—	—	—
Yokohama		0·7	264	i 0 11	- 4	—	—	—	—
Mera		0·7	219	i 0 14	- 1	0 22	- 5	—	—
Tukubasan		0·8	341	0 15	- 2	0 24	- 5	—	—
Mito		0·9	3	0 18 <sub>a</sub>	0	0 34	+ 3	—	—
Kumagaya		1·0	309	i 0 18 <sub>a</sub>	- 1	0 34	+ 1	—	—
Utunomiya		1·1	338	i 0 19 <sub>a</sub>	- 1	0 34	- 2	—	—
Osima		1·1	229	i 0 17 <sub>k</sub>	- 3	0 29	- 7	—	—
Ajiro		1·2	247	0 19	- 3	0 31	- 7	—	—
Titibu		1·2	294	i 0 20	- 2	0 35	- 3	—	—
Misima		1·2	252	i 0 16 <sub>a</sub>	- 6	0 31	- 7	—	—
Maebasi		1·3	213	i 0 23	0	0 40	0	—	—
Hunatu		1·3	270	i 0 22	- 1	0 36	- 4	—	—
Kohu		1·5	275	i 0 23 <sub>a</sub>	- 3	0 41	- 4	—	—
Onahama	z.	1·5	16	i 0 25 <sub>a</sub>	- 1	0 47	+ 2	—	—
Shirakawa		1·6	355	e 0 27	0	0 50	+ 3	—	—
Shizuoka		1·7	252	i 0 24 <sub>a</sub>	- 4	0 42	- 8	—	—
Oiwake		1·7	299	i 0 28 <sub>a</sub>	0	0 56	+ 6	—	—
Omaesaki		2·0	243	0 31 <sub>a</sub>	- 1	0 54	- 3	—	—
Matusiro		2·1	301	i 0 32	- 2	1 0	+ 1	—	—
Inawasiro		2·1	354	i 0 34	0	1 6	+ 7	—	—
Matumoto	n.	2·1	290	i 0 35	+ 1	1 1	+ 2	—	—
Iida		2·1	270	i 0 34	0	0 55	- 4	—	—

Continued on next page.

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1952

379

		$\Delta$	Az.	P.		O - C.	S.		O - C.	Supp.		L.	
		°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.	
Nagano		2.2	203	i 0	33	- 2	0	57	- 5	---	---	---	
Hamamatu		2.3	250	0	37	0	1	7	+ 3	---	---	---	
Hokusima		2.3	1	i 0	40 <sub>a</sub>	+ 3	1	10	+ 6	---	---	---	
Hatidyosima		2.4	191	0	37	- 1	1	2	- 5	---	---	---	
Takada		2.4	313	0	36	- 2	1	7	0	---	---	---	
Niigata	Z.	2.7	336	e 0	42	0	1	12	- 2	---	---	---	
Yamagata		2.7	359	e 0	45	+ 3	1	16	+ 2	---	---	---	
Sendai	Z.	2.8	8	e 0	44	0	1	18	+ 1	---	---	---	
Toyama		2.8	294	i 0	44 <sub>a</sub>	0	1	23	+ 6	---	---	---	
Nagoya		2.8	263	0	43	- 1	1	16	- 1	---	---	---	
Isinomaki		3.0	14	0	44	- 3	1	24	+ 2	---	---	---	
Gihu		3.0	268	0	48	+ 1	1	20	- 2	---	---	---	
Aikawa		3.1	325	0	43	- 5	---	---	---	---	---	---	
Kanazawa		3.2	289	e 0	47	- 2	---	---	---	---	---	---	
Ibukisan		3.3	270	i 0	50	- 1	1	34	+ 5	---	---	---	
Kameyama		3.3	261	i 0	51 <sub>a</sub>	0	1	23	- 6	---	---	---	
Hukui		3.4	281	e 0	52	0	---	---	---	---	---	---	
Wazima		3.4	306	0	50 <sub>a</sub>	- 2	1	28	- 4	---	---	---	
Hikone		3.4	269	0	53	+ 1	1	27	- 5	---	---	---	
Tsuruga		3.5	274	i 0	53	- 1	---	---	---	---	---	---	
Mizusawa		3.7	8	1	0	+ 4	2	2	+23	---	---	---	
Owase		3.8	249	e 0	54	- 4	---	---	---	---	---	---	
Kyoto		3.9	262	e 1	0	+ 1	1	51	+ 7	---	---	---	
Kashiwara		3.9	255	0	58	- 1	---	---	---	---	---	---	
Osaka		4.1	260	e 1	0	- 2	---	---	---	---	---	---	
Akita		4.2	356	1	5	+ 2	1	55	+ 3	---	---	---	
Morioka		4.2	6	e 1	5	+ 2	2	12	+20	---	---	---	
Miyako		4.3	16	e 1	4	- 1	1	56	+ 2	---	---	---	
Kobe		4.4	259	e 1	4	- 2	2	2	+ 5	---	---	---	
Toyooka		4.6	275	e 1	5	- 4	2	8	+ 6	---	---	---	
Sumoto		4.7	257	i 1	12	+ 2	2	7	+ 3	---	---	---	
Himeji	N.	5.0	261	e 1	19	+ 5	2	21	+ 9	---	---	---	
Hatinohe		5.1	10	e 1	16	0	2	14	0	---	---	---	
Aomori		5.3	3	e 1	7	-12	---	---	---	---	---	---	
Okayama		5.4	263	1	23	+ 3	2	16	- 6	---	---	---	
Takamatu		5.4	259	i 1	18	- 2	2	26	+ 4	---	---	---	
Muroto		5.6	249	e 1	25	+ 2	2	29	+ 2	---	---	---	
Saigo	N.	5.8	279	e 1	30	+ 5	2	46	+14	---	---	---	
Yonago		5.8	273	e 1	34	+ 9	---	---	---	---	---	---	
Koti		6.0	254	e 1	28	0	2	38	+ 1	---	---	---	
Hirosima		6.6	263	1	38	+ 1	2	56	+ 5	---	---	---	
Mori	E.	6.6	1	e 1	40	+ 3	---	---	---	---	---	---	
Hamada		6.8	268	1	39	0	3	5	+ 9	---	---	---	
Urakawa		6.9	15	e 1	39	- 2	2	56	- 3	---	---	---	
Suttsu		7.3	359	e 1	53	+ 7	3	34	+25	---	---	---	
Ooita		7.6	256	e 1	54	+ 4	3	25	+ 9	---	---	---	
Sapporo		7.6	5	e 1	59	+ 9	3	32	+16	---	---	---	
Simonoseki		7.9	262	i 1	59	+ 4	3	42	+19	---	---	---	
Kusiro		8.1	21	e 1	59	+ 2	3	20	- 8	---	---	---	
Miyazaki		8.3	247	e 2	2	+ 2	3	26	- 7	---	---	---	
Hukuoka		8.5	260	e 2	1 <sub>a</sub>	- 2	4	3	+25	---	---	---	
Kumamoto		8.5	255	e 1	57	- 6	3	42	+ 4	---	---	---	
Saga		8.6	258	e 2	9	+ 5	4	14	+33	---	---	---	
Nemuro		8.8	25	e 2	4	- 3	3	38	- 8	---	---	---	
Unzendake		8.9	255	2	3	- 5	---	---	---	---	---	---	
Nagasaki		9.1	256	e 2	14	+ 3	---	---	---	---	---	---	
Ituhara		9.2	265	e 2	16	+ 4	4	8	+13	---	---	---	
Yakusima		9.7	242	e 2	14	- 5	---	---	---	---	---	---	
Yuzno-Sakhlinsk		11.6	8	2	44	- 1	---	---	---	---	---	---	
Zi-ka-wei		16.4	260	i 3	47 <sub>a</sub>	0	e 6	45	- 2	i 4	2	PP	
Petropavlovsk		21.8	28	i 4	50	+ 2	1	8	53	+13	i 5	6	pP
Hong Kong		26.4	247	e 5	26	- 6	e 10	1	+ 2	---	---	e 13.5	
Manila		27.2	225	e 5	37	- 3	e 16	29	ScS	e 8	35	PcP	
Kyakhta		28.7	312	5	51	- 2	10	33?	- 3	---	---	---	
Kabansk		29.1	313	e 5	54	- 3	e 10	40?	- 2	---	---	---	

Continued on next page.

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1952

380

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Irkutsk	30.5	315	e 6 8	- 1	e 11 3	- 2	—	—
Semipalatinsk	45.2	309	i 8 11	- 2	e 14 46	- 1	—	—
Przhevalsk	47.7	300	8 32	0	—	—	—	—
Kurmenty	47.7	299	i 8 33	+ 1	—	—	—	—
Almata II	48.3	301	i 8 39	+ 2	—	—	—	—
Almata	48.6	301	—	—	i 15 40	+ 5	—	—
Naryn	49.7	299	i 8 49	+ 2	i 15 53	+ 3	—	—
Frunse	50.4	300	i 8 53	0	i 16 3	+ 3	—	—
College	50.8	82	i 8 58	+ 2	17 10	+ 65	—	e 22.9
Murgab	52.2	295	e 9 9	+ 3	e 16 31	+ 6	—	—
Andijan	52.8	298	i 9 8	- 3	i 16 34	+ 1	—	—
Fergana	53.1	298	e 9 12	- 1	e 16 35	- 2	e 9 30	pP
New Delhi	53.2	282	e 9 12	- 2	i 16 37	- 1	19 50	SS
Dzhergetal	53.9	296	i 9 18	- 1	—	—	—	—
Khorog	54.2	293	e 9 21	0	e 16 56	+ 4	—	—
Tashkent	54.6	300	i 9 24	0	i 16 54	- 3	—	—
Obi-garm	55.2	297	9 28	0	i 17 8	+ 3	—	—
Kulyab	55.4	295	e 9 32?	+ 2	i 17 10?	+ 2	—	—
Sverdlovsk	55.8	312	9 35	+ 2	i 17 16	+ 3	—	—
Stalinabad	55.9	297	i 9 32	- 2	i 17 17	+ 3	—	—
Samarkand	56.8	299	i 9 38	- 2	i 17 28	+ 2	—	—
Poona	60.6	274	i 10 4	- 2	i 18 13	- 3	18 44	sS
Quetta	60.6	289	e 10 10	+ 4	e 18 19	+ 3	—	—
Ashkabad	63.7	299	e 10 28	+ 1	i 18 58	+ 3	—	—
Brisbane	63.8	167	i 10 32 <sub>a</sub>	+ 4	e 19 0	+ 4	—	—
Resolute Bay	64.3	14	e 10 31	0	i 19 5	+ 3	i 10 50	pP
Kizyl-Arvat	64.7	303	10 34	+ 1	i 19 10	+ 3	—	e 31.3
Kiruna	67.6	339	i 10 52	0	i 19 43	+ 1	i 11 13	pP
Moscow	68.0	325	e 10 56	+ 2	i 19 49	+ 2	11 13	pP
Victoria	68.1	45	10 57	+ 2	—	—	—	—
Baku	68.6	306	e 11 3	+ 5	i 19 58	+ 4	—	—
Seattle	69.1	46	e 11 24	pP	e 20 48	PPS	—	—
Pulkovo	69.1	330	e 11 4	+ 3	e 20 0	0	—	—
Shemakla	69.2	306	i 11 4	+ 2	20 5	+ 4	—	—
Grozny	69.7	310	—	—	20 14	+ 7	—	—
Riverview	69.7	170	—	—	e 20 20	+ 13	i 20 41	sS
Lenkoran	70.0	305	11 6	- 1	—	—	—	—
Kirovobad	70.6	307	i 11 11	+ 1	—	—	—	—
Piatigorsk	71.0	311	11 13	0	20 16	- 6	—	—
Helsinki	71.0	332	e 11 15	+ 2	e 20 23	+ 1	e 11 35	pP
Tiflis	71.1	309	11 15	+ 2	e 20 25	+ 2	—	—
Borzhome	72.0	309	e 11 19	0	—	—	—	—
Erevan	72.1	307	e 11 20	+ 1	20 38	+ 3	—	—
Leninakan	72.2	308	e 11 29?	+ 9	—	—	—	—
Abastumanj	72.4	309	e 11 25	+ 4	—	—	—	—
Zugdidi	72.5	310	e 11 24	+ 2	—	—	—	—
Shasta	72.7	53	i 11 25	+ 2	—	—	—	—
Sotchi	73.3	312	11 26	0	20 48	- 1	—	—
Mineral	73.4	52	i 11 30 <sub>k</sub>	+ 3	—	—	i 11 47	pP
Scoresby Sund	73.5	354	i 11 29	+ 1	e 20 57	+ 6	i 11 48	pP
Hungry Horse	73.5	42	i 11 30	+ 2	—	—	—	—
Upsala	74.0	334	i 11 31 <sub>a</sub>	+ 1	e 20 56	0	i 11 49	pP
Berkeley	74.3	55	i 11 36 <sub>k</sub>	+ 4	e 21 24	sS	i 11 52	pP
Reno	75.0	52	e 11 37	+ 1	—	—	e 11 54	pP
Lick	75.0	55	i 11 39 <sub>a</sub>	+ 3	—	—	e 11 57	pP
Theodosia	75.1	315	11 37	0	21 8	- 1	—	—
Butte	75.6	43	i 11 43	+ 3	—	—	—	—
Simferopol	75.8	315	11 41	0	e 21 14	- 2	—	—
Yalta	76.1	315	11 43	+ 1	21 20	0	—	—
Fresno	76.5	54	e 11 48	+ 3	—	—	e 12 6	pP
Tinemaha	77.4	54	e 11 54	+ 4	—	—	i 11 59	?
Kishinev	77.5	321	11 52	+ 2	21 36	+ 1	—	—
Ivov	78.1	324	11 54	0	21 44	+ 3	—	—
Cernauti	78.2	321	11 55	+ 1	—	—	—	—
China Lake	78.5	54	i 12 0	+ 4	—	—	i 12 17	pP

Continued on next page.



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1952

381

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.	
	$^{\circ}$	$^{\circ}$	m.	s.	s.	m.	s.	s.	m.	s.	m.	
Copenhagen	78.9	334	i 11	59	+ 1	i 21	52	+ 2	22	22	sS	38.3
Pasadena	79.1	56	i 12	2	+ 3	e 22	29	sS	i 12	19	pP	e 35.7
Reykjavik	z. 79.7	353	e 12	6	+ 4	—	—	—	—	—	—	—
Riverside	z. 79.7	56	e 12	5	+ 3	i 12	8	P	i 12	22	pP	—
Uzhgorod	79.8	323	e 12	9	+ 6	i 22	4	+ 5	—	—	—	—
Boulder City	80.3	53	i 12	9	+ 4	—	—	—	i 12	29	pP	—
Skalnate Pleso	80.4	326	e 12	2	- 4	e 21	51	-14	e 15	0	PP	—
Raciborz	80.7	327	e 12	12	+ 4	e 22	16	+ 7	e 22	50	sS	—
Barrett	z. 81.0	56	i 12	12	+ 3	—	—	—	i 12	28	pP	—
Istanbul	81.1	315	e 12	10	0	e 22	19?	+ 6	e 12	26	pP	—
Potsdam	81.2	332	e 12	14	+ 4	i 22	18	+ 4	e 12	29	pP	e 42.3
Ksara	81.4	305	e 12	15	+ 4	22	44	sS	—	—	—	—
Collmburg	82.0	330	e 12	14	0	e 15	36	PP	e 12	32	pP	—
Timisoara	82.3	323	e 12	44	sP	e 22	31	+ 6	e 15	24?	PP	—
Prague	82.3	329	e 12	15?	- 1	e 22	27	+ 2	e 12	31	pP	—
Jena	82.9	331	e 12	21	+ 2	e 22	58?	sS	e 12	38	pP	—
Cheb	83.2	330	—	—	—	e 22	39	+ 5	e 23	9	sS	—
Belgrade	83.3	322	e 12	40k	pP	e 22	47	+12	e 12	54	?	e 44.4
Witteveen	z. 83.3	334	e 12	22	+ 1	—	—	—	—	—	—	—
De Bilt	84.4	335	e 12	18?	- 9	e 22	48	+ 2	e 23	20	sS	e 41.3
Tucson	85.2	54	e 12	34	+ 3	—	—	—	e 15	54	PP	e 38.9
Stuttgart	85.5	330	e 12	32	0	e 22	52	[+ 4]	e 12	49	pP	e 44.3
Triest	86.0	326	e 12	36	+ 1	i 22	53	[+ 1]	i 23	37	sS	41.7
Strasbourg	86.3	331	e 12	35	- 1	e 22	56	[+ 2]	i 12	53	pP	e 42.3
Kew	86.8	337	i 12	41	+ 3	e 22	59	[+ 2]	i 12	56	pP	e 40.3
Helwan	86.9	305	e 12	42	+ 3	23	0	[+ 2]	e 13	3	pP	—
Zürich	86.9	330	e 12	39k	0	e 23	1	[+ 3]	e 23	30	S	—
Rathfarnham Castle	87.0	341	i 12	38k	- 1	e 23	3?	[+ 5]	e 12	59	pP	e 41.3
Paris	88.0	334	e 12	46	+ 2	i 13	16	sP	i 13	8	pP	e 46.3
Taranto	88.1	320	—	—	—	23	16	- 5	—	—	—	—
Pavia	88.4	328	—	—	—	e 23	3	[- 4]	e 24	16	PS	—
Florence	88.5	326	e 12	46	- 1	e 23	32	+ 7	e 29	36	SS	e 42.3
Kirkland Lake	z. 89.2	26	e 12	53	+ 3	—	—	—	—	—	—	—
Rome	89.4	324	e 12	25	-26	e 23	11	[- 2]	e 29	15	SS	—
Lubbock	89.9	48	12	57	+ 4	23	50	+12	—	—	—	—
Messina	90.6	320	e 12	57	+ 1	e 23	47	+ 3	e 16	45	PP	—
Morgantown	96.5	31	e 13	27	+ 4	—	—	—	e 17	40	pPP	—
Harvard	97.0	22	e 13	44a	pP	—	—	—	—	—	—	e 54.1
Weston	97.2	22	i 13	46a	pP	—	—	—	—	—	—	—
Algiers Univ.	z. 97.9	326	37	28	P'P'	—	—	—	—	—	—	—
Toledo	98.1	333	e 13	47	pP	—	—	—	e 17	35	PP	—
Alicante	98.1	330	13	32	+ 1	—	—	—	—	—	—	e 48.1
Granada	100.3	332	17	54k	PP	32	12	SS	—	—	—	50.4
Malaga	101.1	332	e 18	5	PP	—	—	—	—	—	—	54.4
Tamanrasset	z. 108.0	316	e 18	6	?	e 18	42	PP	e 29	57	PPP	—
Kimberley	z. 125.9	258	e 18	49	[- 6]	—	—	—	—	—	—	—
Huancayo	140.1	62	e 19	29	[+ 8]	—	—	—	—	—	—	e 65.9
La Paz	148.3	60	i 19	45a	[+10]	23	42	pPP	20	2	pPKP	—

May 8d. 9h. 38m. 58s. Epicentre 16°-9S. 70°-3W. Depth of focus 0.010.

A = +.3227, B = -.9013, C = -.2889;  $\delta = -6$ ;  $h = +5$ ;  
D = -.941, E = -.337; G = -.097, H = +.272, K = -.957.

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		
	$^{\circ}$	$^{\circ}$	m.	s.	s.	m.	s.	s.	m.	s.	
La Paz	2.1	79	i 0	37	+ 3	i 1	4	+ 4	i 1	10	?
Antofagasta	E. 6.7	181	e 1	36	- 1	—	—	—	—	—	—
Huancayo	6.9	314	e 2	4	+24	e 3	11	+13	—	—	—
San Juan	35.3	7	i 6	46	- 1	—	—	—	—	—	—
Fayetteville	z. 57.3	337	i 9	40	0	i 10	20	sP	i 10	7	pP
Harvard	59.1	359	i 10	14k	pP	—	—	—	—	—	—
Tucson	62.4	322	e 10	14	- 1	—	—	—	—	—	—
Riverside	z. 67.6	319	e 10	47	- 1	—	—	—	e 11	15	pP
Pasadena	z. 68.2	319	e 10	51	- 1	—	—	—	e 11	19	pP
China Lake	z. 68.9	321	e 10	55	- 1	—	—	—	e 11	24	pP
Tinemaha	z. 70.1	321	e 11	4	0	—	—	—	e 11	32	pP
Lick	z. 72.4	319	i 11	16	- 1	—	—	—	—	—	—
Tamanrasset	z. 84.0	64	e 12	7	-14	—	—	—	e 12	40	pP

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1952

382

May 8d. 10h. 54m. 19s. Epicentre 36°·6N. 68°·7E. (as on 1952, February 2d.).

A = +·2923, B = +·7497, C = +·5936 ;  $\delta = -15$  ;  $h = 0$  ;  
D = +·932, E = -·363 ; G = +·215, H = +·553, K = -·805.

	$\Delta$ °	Az. °	P.		O-C.		S.		O-C.		Supp.	
			m.	s.	s.	m.	s.	s.	m.	s.		
Kulyab	1·6	33	i 0	29	- 1	i 0	49	- 2				
Stalinabad	2·0	1	i 0	41	+ 1 <sub>g</sub>	i 1	6	0 <sub>g</sub>				
Obi-garm	2·2	20	i 0	43	- 1 <sub>g</sub>	i 1	10	+ 1*				
Khorog	2·5	69	i 0	42	- 1*	i 1	12	- 2				
Garm	2·7	27	e 0	48?	- 1*	i 1	31	+ 2 <sub>r</sub>	i 0	52	P <sub>r</sub>	
Dzhergetal	3·3	36	e 0	56	+ 3	i 1	38	+ 3	1	3	P <sub>g</sub>	
Samarkand	3·4	337	1	8	0 <sub>g</sub>	e 1	33	- 4	1	13	?	
Fergana	4·5	31	e 1	12	+ 1	2	2	- 3				
Murgab	4·5	65	1	21	+ 1*	e 2	14	- 4*				
Tashkent	4·8	6				e 2	29	+ 3*	e 2	47	S <sub>r</sub>	
Frunse	7·8	35	e 1	55	- 3	3	22	- 6				
Almata II	9·4	42	e 2	18	0							
Ili	9·7	38	e 2	21	- 1							

May 8d. 11h. 11m. 21s. Epicentre 35°·5N. 140°·4E. Focus at Base of Superficial Layers. (as at 0h.).

Intensity V at Hambara ; IV at Misima, Honno, and Daibutsu ; II-III at Tokyo, Yokohama, Ajiro, Hunatu, Simidu, and Setagaya. Epicentre 35°·5N. 140°·3E. Depth 50km. Macro seismic radius 100-200km. (Tokyo).  
Seismo. Bull. Cent. Met. Obs., Japan, for May, 1952, Tokyo, 1952, p. 190, with macro seismic chart on p. 190.

	$\Delta$ °	Az. °	P.		O-C.		S.		O-C.	
			m.	s.	s.	m.	s.	s.		
Tyosi	N.	0·4	58	e 0	14	+ 5	0	23	+ 7	
Tokyo	E.	0·6	289	e 0	12	- 0	0	20	- 1	
Yokohama		0·7	264	0	12	- 1	0	21	- 2	
Mera		0·7	219	0	14	+ 1	0	25	+ 2	
Tukubasan		0·8	341	0	13	- 2	0	24	- 2	
Mito		0·9	3	e 0	19	+ 3	0	30	+ 2	
Kumagaya		1·0	309	e 0	18	- 0	0	32	+ 1	
Utunomiya		1·1	338	e 0	18	- 1	0	32	- 1	
Osima		1·1	229	e 0	18	- 1	0	30	- 3	
Ajiro		1·2	247	0	19	- 1	0	31	- 5	
Titibu		1·2	294	e 0	20	0	0	33	- 3	
Misima		1·2	252	0	20	0	0	35	- 1	
Maebasi		1·3	213	e 0	24	+ 2				
Hunatu		1·3	270	0	22	0	0	37	- 1	
Kohu		1·5	275	e 0	25	+ 1	0	41	- 3	
Shizuoka		1·7	252	0	26	- 2				
Oiwake		1·7	299	e 0	27	- 1	0	48	- 1	
Matusiro		2·1	301	e 0	27	- 6				
Nagano	E.	2·2	203	e 0	36	+ 1				
Nagoya		2·8	263	e 0	50	+ 7	1	19	+ 3	
Kameyama		3·3	261	0	53	+ 2				

May 8d. 21h. 10m. 53s. Epicentre 2°·2N. 126°·9E. Depth of focus 0·010. (as on 1951, July 4d.).

A = -·6000, B = +·7991, C = +·0382 ;  $\delta = +2$  ;  $h = +7$  ;  
D = +·800, E = +·600 ; G = -·023, H = +·031, K = -·999.

	$\Delta$ °	Az. °	P.		O-C.		S.		O-C.		Supp.		L. m.
			m.	s.	s.	m.	s.	s.	m.	s.			
Manila	13·6	335	i 3	5	- 5	e 5	40	+ 1	e 3	48	PPP		
Djakarta	21·7	248	e 4	40	- 4	i 8	37	+ 4	i 5	43	PPP		
Hong Kong	23·5	329	i 4	59	- 3	i 9	7	+ 2	10	35	SSS		
Zi-ka-wei	z.	29·3	i 5	52 <sub>a</sub>	- 3	10	43	+ 3					
Miyazaki	29·9	8	e 6	5	+ 4	10	57	+ 7				e 14·0	

Continued on next page.

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1952

383

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
	$^{\circ}$	$^{\circ}$	m.	s.	s.	m.	s.	s.	m.	s.	m.
Nanking	30.6	346	e 6	5 <sub>a</sub>	- 2	i 11	3	+ 3	—	—	—
Ooita	31.2	7	e 6	20	+ 8	e 11	10	0	e 6	53	pP
Hukuoka	31.4	6	e 6	14	0	11	10	- 3	e 7	58	?
Muroto	31.6	12	e 6	14	- 2	e 11	16	0	e 7	13	PP
Koti	31.8	11	e 6	18	+ 1	e 11	20	+ 1	e 7	21	PP
Matuyama	31.9	9	e 6	20	+ 2	i 11	23	+ 2	e 8	0	?
Hirosima	32.4	9	6	22	0	11	29	0	—	—	—
Takamatu	32.6	10	i 6	25	+ 1	i 11	34	+ 2	—	—	—
Sumoto	32.8	13	i 6	26	0	i 11	34	- 1	—	—	14.1
Hamada	32.9	8	6	24	- 3	11	37	0	e 6	57	pP
Kobe	33.2	14	e 6	29	- 1	e 11	44	+ 3	e 8	14	PPP
Kameyama	33.7	16	6	32	- 2	i 11	50	+ 1	e 8	13	PPP
Omaesaki	33.9	17	e 6	38	+ 2	11	56	+ 4	(14	29)	SSS
Hikone	34.0	14	6	35	- 1	e 11	51	- 3	—	—	14.5
Nagoya	34.1	15	e 6	35	- 2	i 11	55	0	—	—	—
Gihu	34.3	15	6	37	- 2	11	57	- 1	—	—	—
Misima	34.6	17	e 6	40	- 2	e 11	59	- 4	e 8	36	PPP
Kohu	35.0	17	e 6	42	- 3	e 12	8	- 1	—	—	—
Tokyo	35.4	19	e 6	37	- 11	i 12	28	+ 13	e 8	6	PP
Matumoto	35.4	15	e 6	48	0	e 12	15	0	—	—	14.7
Perth	35.6	195	e 6	47	- 3	i 12	19	+ 1	i 14	37	SS
Toyama	35.6	14	6	49	- 1	e 12	18	0	e 7	28	sP
Matusiro	35.7	15	6	50	- 1	12	16	- 4	14	50	SS
Kumagaya	35.7	17	e 6	47	- 4	—	—	—	e 8	6	?
Nagano	35.8	15	e 6	50	- 2	e 12	21	0	—	—	—
Maebasi	35.8	17	i 6	49	- 3	e 12	28	+ 7	e 8	13	PP
Utunomiya	36.2	18	e 6	53	- 2	e 12	18	- 9	—	—	e 14.9
Onahama	36.9	19	e 7	1	0	12	35	- 3	—	—	—
Inawasiro	37.2	18	e 7	3	0	e 12	45	+ 2	—	—	—
Niigata	37.3	16	e 7	6	+ 2	i 12	35	- 9	—	—	—
Hokusima	37.5	17	7	4	- 2	12	47	0	—	—	—
Sendai	38.1	19	e 7	5	- 6	e 13	1	+ 5	8	17	PP
Brisbane	38.8	141	i 7	15	- 2	i 13	7	0	i 7	50	sP
Mizusawa	39.0	19	7	17	- 1	13	9	- 1	13	6	S
Akita	39.2	17	7	20	0	e 12	37	- 36	e 8	33	PP
Morioka	39.5	18	e 7	20	- 2	e 13	15	- 2	—	—	—
Aomori	40.4	17	e 7	34	+ 4	e 13	34	+ 3	—	—	—
Mori	41.6	15	e 7	39	- 1	13	51	+ 3	—	—	17.9
Urakawa	42.2	18	e 7	50	+ 5	e 14	2	+ 5	(e 17	3)	SS
Riverview	42.5	149	i 7	49	+ 2	i 14	8	+ 6	i 9	27	PP
Calcutta	42.5	301	i 7	47 <sub>a</sub>	0	i 14	5	+ 3	9	58	PPP
Sapporo	42.7	16	e 7	49	0	i 14	7	+ 2	e 8	16	pP
Melbourne	43.2	159	i 7	51	- 2	i 14	14	+ 2	—	—	e 18.2
Yuzno-Sakhlinsk	46.6	15	e 8	20	0	15	2	+ 1	i 8	47	pP
Colombo	47.1	277	8	25	+ 1	15	5	- 3	—	—	27.5
Ulegorsk	48.5	14	e 8	36	+ 1	15	28	+ 1	—	—	—
Kodaikanal	49.7	282	e 8	46	+ 2	i 15	43	- 1	—	—	—
Hyderabad	49.9	291	i 8	46	0	i 15	44	- 3	19	17	SS
Kyakhta	51.0	343	i 8	52	- 2	e 16	0	- 2	—	—	22.9
Kabansk	52.5	345	e 9	4	- 1	16	26	+ 3	e 9	29	pP
Irkutsk	53.3	343	9	10	- 1	i 16	37	+ 3	e 9	34	pP
New Delhi	54.1	305	e 9	12	- 5	i 16	39	- 5	11	12	PP
Poona	54.4	291	i 9	35	+ 16	i 16	44	- 4	10	18	PcP
Petropavlovsk	57.1	22	i 9	37	- 2	i 17	22	- 2	i 10	4	pP
Przhevalsk	59.0	321	9	51	- 1	17	51	+ 2	—	—	—
Auckland	59.0	136	e 14	53	PcS	17	51	+ 2	i 18	22	PPS
Kurmenty	59.3	321	i 9	53	- 1	—	—	—	—	—	e 25.4
Kaimata	59.9	143	e 10	3	+ 5	—	—	—	—	—	—
Cobb River	59.9	141	e 9	59	+ 1	e 19	45	ScS	—	—	—
Almata II	60.0	321	9	57	- 2	—	—	—	—	—	—
Karapiro	60.1	137	e 9	59	0	—	—	—	—	—	—
Naryn	60.1	319	e 9	58	- 1	i 18	8	+ 5	—	—	—
Murgab	60.2	314	e 10	3	+ 3	—	—	—	—	—	—
Almata	60.3	321	i 9	59	- 2	i 18	4	- 2	—	—	—
Klyuchi	60.4	22	e 10	12 <sub>f</sub>	+ 11	—	—	—	—	—	—

Continued on next page.

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1952

384

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.
Ili	60.5	322	i 9	59?	- 3	—	—	—	—	—	—
Christchurch	61.2	144	—	—	—	e 18	26	+ 9	(e 23	52)	SSS e 23.9
Wellington	61.3	141	i 10	6	- 2	e 18	33	+15	e 12	24	PP
Frunse	61.6	318	i 10	7	- 3	i 18	23	+ 1	i 10	35	pP
Tuai	61.6	137	e 10	9	- 1	—	—	—	—	—	—
Khorog	61.6	320	i 10	8	- 2	i 18	22	0	—	—	—
Semipalatinsk	62.1	329	e 10	11	- 2	18	25	- 3	—	—	—
Andijan	62.3	316	i 10	12	- 2	i 18	36	+ 5	10	40	pP
Dzhergetal	62.5	315	i 10	15	- 1	i 18	33	- 1	—	—	—
Fergana	62.5	316	e 10	13	- 3	i 18	34	0	e 10	41	pP
Quetta	63.0	303	i 10	15	- 4	e 18	34	- 6	i 20	2	ScS
Kulyab	63.1	313	i 10	19	- 1	i 18	40	- 1	—	—	—
Obi-garm	63.4	313	i 10	20	- 2	i 18	44	- 1	—	—	—
Stalinabad	64.1	313	i 10	23	- 3	i 18	51	- 2	—	—	—
Tashkent	64.4	315	e 10	27	- 1	i 19	1	+ 4	i 10	54	pP
Samarkand	65.7	313	i 10	33	- 3	19	13	0	—	—	—
Mitchell Field	68.2	34	i 10	52	0	—	—	—	—	—	—
Ashkabad	71.9	309	i 11	13	- 1	i 20	29	+ 3	—	—	—
Kizyl-Arvat	73.6	311	11	23	- 1	i 20	52	+ 7	—	—	—
Sverdlovsk	75.3	329	e 11	33	- 1	e 21	1	- 3	—	—	—
Baku	78.7	311	i 11	58	+ 5	i 21	48	+ 7	—	—	—
Lenkoran	79.3	309	11	55	- 1	21	44	- 3	—	—	—
Tananarive	80.6	251	e 13	18	?	e 22	7	+ 6	e 26	45	SS
Goris	81.3	310	12	7	0	i 22	12	+ 4	—	—	—
Kirovobad	81.4	311	i 12	7	- 1	22	11	+ 2	—	—	—
Grozny	82.0	313	i 12	11	0	i 22	16	+ 1	—	—	—
Tiflis	82.6	311	e 12	14	0	22	24	+ 3	23	7	sS
Erevan	82.8	310	i 12	18	+ 3	22	30	+ 7	—	—	—
Leninakan	83.3	311	12	22	+ 5	22	38	+10	—	—	—
Borzhomi	83.7	312	12	19	0	22	38	+ 6	—	—	—
Piatigorsk	84.0	314	12	20	- 1	22	37	+ 2	i 12	46	pP
Zugdidi	84.8	313	i 12	26	+ 1	22	50	+ 7	—	—	—
College	86.0	25	e 12	28	- 3	i 22	53	- 2	i 28	34	SS e 34.4
Moscow	87.8	326	i 12	40	+ 1	23	11	- 1	e 16	7	PP
Theodosia	89.5	315	12	48	+ 1	23	29	+ 1	16	20	PP
Ksara	89.6	304	i 12	53k	+ 5	23	38	+ 9	—	—	—
Yalta	90.4	314	12	53	+ 1	23	39	+ 3	23	17	SKS
Simferopol	90.4	315	e 12	51	- 1	23	32	- 4	e 18	23	PPP
Pulkovo	91.4	330	e 12	59	+ 3	23	49	+ 4	23	24	SKS
Helwan	93.7	300	e 13	7	0	24	13	+ 8	e 13	28	pP
Kishinev	93.9	317	13	7	- 1	23	37	[+ 5]	e 13	39	pP
Helsinki	94.0	331	e 13	11	+ 3	e 24	14	+ 7	e 13	51	sP
Kiruna	94.1	338	i 13	6	- 3	e 24	8?	0	i 13	33	pP e 40.1
Istanbul	94.5	313	e 13	13	+ 3	e 23	38	[+ 3]	e 24	18	S e 45.1
Iasi	94.7	318	e 13	31	pP	e 24	19	+ 6	e 23	51	SKS
Bucharest	96.2	315	13	28	+10	e 23	54	[+ 9]	e 13	50	pP
Lwow	96.6	321	13	22	+ 2	23	53	[+ 6]	e 13	53	pP
Upsala	97.7	332	i 13	25	0	i 23	54	[+ 2]	i 17	28	PP e 42.1
Uzhgorod	98.0	319	i 13	26	0	23	58	[+ 4]	e 17	34	PP
Pretoria	98.8	245	e 13	37	+ 7	—	—	—	—	—	—
Skalnate Pleso	99.2	320	e 14	37	+65	e 24	15	[+15]	e 17	42	PP e 48.1
Resolute Bay	99.3	11	e 13	32	0	e 24	56	+ 4	e 19	57	PPP e 38.6
Timisoara	99.3	317	e 17	59	PP	e 25	6	+14	e 25	37?	sS
Grahamstown	99.8	237	i 13	38	+ 3	—	—	—	—	—	—
Belgrade	100.1	316	e 12	52a	-44	e 24	14	[+10]	e 13	58	pP e 48.5
Raciborzu	100.2	322	e 13	49	+13	e 25	14	+14	e 17	43	PP
Ogyalla	100.8	319	e 19	25	?	e 25	41	sS	e 26	27	SP
Victoria	101.3	40	13	42	+ 1	21	47	PKS	—	—	—
Copenhagen	101.7	328	18	1	PP	25	12	0	24	20	SKS
Kimberley	101.7	241	i 13	45?	+ 2	—	—	—	—	—	—
Seattle	102.2	40	i 27	1	PS	e 24	27	[+12]	e 25	29	S
Prague	102.5	323	e 14	2	+15	e 25	22	+ 3	e 24	24	SKS e 48.1
Potsdam	102.6	326	i 18	2	PP	i 25	29	+ 9	e 24	59	SKKS e 49.1
Collmberg	103.0	323	e 13	50	+ 1	e 25	20	- 3	e 14	19	pP
Bergen	103.1	334	—	—	—	e 25	19	- 5	—	—	e 45.1

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1952

385

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Taranto	103.4	312	17 9	?	e 24 12	[- 8]	e 32 49	SS
Cheb	103.8	323	e 18 10	PP	e 25 22	- 8	e 20 19	PPP e 50.1
Jena	103.9	324	e 13 52?	- 1	e 25 41	+11	e 18 14	PP
Shasta	104.1	46	e 13 55	+ 1	—	—	e 18 10	PP
Triest	104.4	318	e 13 55	0	e 24 30	[+ 5]	i 25 29	S 50.9
Scoresby Sund	104.6	351	e 14 8	+14	e 24 22	[- 4]	e 18 18	PP 48.1
Mineral	z. 104.8	48	e 14 2	+ 5	—	—	e 18 11	PP
Berkeley	105.0	50	e 14 1	+ 3	e 25 41	+ 1	i 18 17	PP
Santa Clara	E. 105.3	50	—	—	e 25 1?	[+32]	—	—
Messina	E. 105.3	311	e 17 48	PP	i 25 54	+12	e 27 39	PS
Lick	z. 105.6	50	e 14 2	P	e 14 21	?	e 18 21	PP
Padova	105.7	319	e 18 43	PP	e 25 43	- 2	e 24 37	SKS
Stuttgart	106.2	322	e 14 4	P	e 26 1	+11	e 18 27	PP e 49.1
Reno	z. 106.3	47	e 14 25	P	—	—	e 18 24	PP
Bologna	106.4	318	e 18 56	pPP	e 25 58	- 7	—	—
Rome	106.4	315	e 17 56	PP	i 25 38	-13	e 28 2	PS
Florence	106.7	318	e 14 36	P	i 24 33	[- 2]	i 18 35	PP e 53.1
De Bilt	107.1	327	e 18 44	pPP	e 24 25	[-11]	e 25 37	SKKS e 49.1
Strasbourg	107.1	323	e 18 36	pPP	e 24 45	[+ 9]	e 25 38	SKKS e 49.6
Hungry Horse	107.2	37	e 17 52	PP	—	—	—	—
Pavia	107.6	319	e 17 55 <sup>a</sup>	PP	e 25 56	S	e 27 46	PS
Aberdeen	108.1	333	i 18 44	pPP	i 25 21	sSKS	i 27 58	PS e 50.0
Tinemaha	z. 108.2	50	i 18 44	pPP	—	—	—	—
China Lake	z. 109.1	51	e 14 19	P	e 18 28	PKP	e 18 41	PP
Pasadena	109.1	53	e 14 38	P	e 24 52	[+ 7]	i 18 47	PP e 44.4
Durham	109.2	331	e 14 55	pP	—	—	i 19 15	PP
Riverside	z. 109.8	53	e 14 26	P	e 18 9	PKP	i 18 52	PP
Paris	110.2	325	e 18 10	[-10]	i 25 54	SKKS	e 14 40	P e 58.1
Kew	110.4	328	e 18 57	PP	i 28 16	PS	e 30 4	PPS e 44.1
Boulder City	111.2	49	e 18 29	[+ 7]	—	—	e 14 41	P
Clermont-Ferrand	111.9	321	e 19 7	PP	i 28 23	PS	—	— e 66.1
Rathfarnham Castle	112.3	332	e 20 22	?	e 30 12	PPS	e 37 58	SSS e 46.1
Algiers Univ.	z. 115.1	313	e 18 32	[+ 2]	e 19 49	PP	e 18 54	pPKP
Tortosa	115.2	317	—	—	i 29 5	PS	—	— 54.9
Tucson	115.6	52	e 18 38	[+ 7]	e 26 38	SKKS	—	—
Alicante	117.0	316	18 33	[- 1]	e 25 21	[+ 5]	29 23	PS e 55.6
Tamanrasset	z. 117.7	297	e 18 43	[+ 8]	e 31 3	PPS	20 21	PP
Toledo	118.7	319	e 18 40	[+ 3]	25 19	[- 3]	19 52	PP 57.1
Granada	119.7	316	18 42 <sup>k</sup>	[+ 3]	28 29	S	29 47	PS 64.3
Malaga	120.5	316	i 20 13	PP	i 26 9	[+41]	i 22 41	PPP 63.4
Lubbock	121.9	47	e 18 49	[+ 6]	—	—	e 19 6	? —
Kirkland Lake	z. 124.6	22	e 18 53	[+ 5]	e 19 10	?	e 19 16	pPKP
Ottawa	128.5	20	e 19 0	[+ 4]	27 55	SKKS	21 9	PP 51.3
Cleveland	129.4	27	e 19 10 <sup>k</sup>	[+13]	i 22 25	SKP	e 31 19	PS
Buffalo (Larkin)	129.6	24	e 19 3	[+ 5]	—	—	i 22 17	PP
Tacubaya	129.9	63	e 19 11	[+13]	e 21 26	PP	e 19 32	pPKP
Pennsylvania	131.6	25	e 19 7	[+ 5]	e 22 23	pPP	e 19 24	pPKP
Morgantown	131.6	28	i 19 8	[+ 6]	—	—	e 21 33	PP
Harvard	132.5	17	e 19 5	[+ 1]	e 39 9	SS	i 21 32 <sup>a</sup>	PP e 65.7
Weston	132.7	17	e 19 11	[+ 7]	e 22 35	PKS	e 21 27	PP
Palisades	133.0	21	i 19 9	[+ 5]	i 28 22	SKKS	e 19 34	pPKP
City College, N.Y.	133.1	21	e 19 10	[+ 6]	—	—	i 21 31	PP
Fordham	133.1	21	e 19 16	[+12]	—	—	i 21 30	PP
Philadelphia	133.4	22	i 22 29	PKS	e 28 27	?	—	—
Bermuda	143.9	16	e 19 27	[+ 3]	e 29 31	SKKS	e 23 4	PKS
Kingston	149.2	48	e 19 43	PKP <sub>2</sub>	—	—	i 20 10	pPKP <sub>2</sub>
Huancayo	155.9	115	e 19 49	[+ 7]	e 43 39	SS	e 49 37	SSS e 64.6
San Juan	155.9	30	i 19 47	[+ 5]	—	—	i 20 12	pPKP
Chinchina	156.4	70	i 19 36	[- 7]	e 30 44	SKKS	i 20 16	pPKP
Bogota	158.0	70	i 19 55	[+10]	e 26 56	[+17]	e 20 19	pPKP
La Paz	159.5	135	i 19 55	[+ 8]	i 26 55	[+14]	21 1	pPKP <sub>2</sub>
Fort de France	161.4	25	e 19 52	[+ 3]	—	—	—	—



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1952

386

May 8d. 21h. 49m. 38s. Epicentre 5°·3S, 144°·9E. Depth of focus 0·025.

A = -·8147, B = +·5726, C = -·0917;  $\delta = +2$ ;  $h = +7$ ;  
D = +·575, E = +·818; G = +·075, H = -·053, K = -·996.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
		°	°	m. s.	s.	m. s.	s.	m. s.	m.	
Brisbane		23·4	161	i 4 53 <sub>a</sub>	0	i 8 49	+ 1	i 5 32	pP	—
Manila		30·9	310	e 6 21	+20	—	—	e 6 59	PP	—
Melbourne		32·4	179	—	—	i 11 19	+ 6	(e 12 58)	SS	e 13·0
Karapiro	N.	42·8	143	e 7 22?	-18	—	—	—	—	—
Cobb River	E.	43·5	149	e 7 43	- 3	—	—	e 8 2	?	—
Kaimata	N.E.	43·9	151	e 7 52	+ 3	—	—	—	—	—
Tuai	N.	44·3	144	e 7 49	- 3	—	—	e 8 59	?	—
Wellington		44·7	148	i 7 51	- 5	—	—	—	—	—
Christchurch		45·2	151	e 8 3	+ 4	—	—	—	—	—
College		85·3	23	i 12 17	+ 1	—	—	i 13 6	pP	—
Shasta		95·5	50	i 13 4	0	—	—	—	—	—
Lick	Z.	95·9	53	e 13 4	- 2	—	—	—	—	—
Mineral	Z.	96·1	50	e 12 57	-10	—	—	—	—	—
Reno	Z.	97·4	51	e 13 14	+ 1	—	—	—	—	—
Pasadena		98·7	56	i 13 19	0	—	—	—	—	—
China Lake	Z.	99·2	54	e 13 20	- 1	e 17 20	PP	e 14 11	pP	—
Riverside	Z.	99·3	56	e 13 22	+ 1	—	—	—	—	—
Boulder City		101·4	54	e 13 31	0	—	—	—	—	—
Ksara		108·7	304	i 19 48	?	e 24 40	[+17]	—	—	—
Istanbul		112·8	313	e 20 1	PP	—	—	—	—	—
Collmberg	Z.	119·3	327	e 18 36	[+10]	—	—	—	—	—
Triest	Z.	121·7	322	e 18 42	[+11]	e 20 2	PP	e 19 29	pPKP	—
Stuttgart		122·7	327	e 18 42	[+ 9]	—	—	—	—	—
Ottawa		126·7	35	e 18 45	[+ 5]	—	—	—	—	—
Morgantown		127·1	44	i 18 46	[+ 5]	—	—	e 21 15	PP	—
Harvard		130·8	35	i 18 55 <sub>k</sub>	[+ 7]	—	—	—	—	—
Algiers Univ.	Z.	133·1	317	e 22 13	SKP	—	—	—	—	—
Tamanrasset	Z.	137·1	299	e 19 14	[+14]	e 31 10	SKKP	e 19 58	pPKP	—
San Juan		147·0	63	i 19 21	[+ 3]	—	—	—	—	—

May 9d. 3h. 29m. 4s. Epicentre 26°·2S, 178°·5W. Depth of focus 0·060.

(as on April 27d.).

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
		°	°	m. s.	s.	m. s.	s.	m. s.	m.	
Auckland	N.	12·1	207	i 2 17	-26	i 4 49	- 4	i 3 49	?	—
Karapiro	N.	12·7	202	e 2 21	-29	—	—	—	—	e 6·0
Tuai	N.	13·1	195	e 3 6	+12	e 4 44	?	—	—	e 6·6
New Plymouth	E.	14·3	204	e 2 52	-15	—	—	—	—	e 7·1
Wellington		16·1	199	e 3 19	- 6	e 6 44	+33	e 4 53	?	e 9·2
Cobb River	E.	16·5	204	e 3 17	-12	—	—	—	—	—
Kaimata	N.E.	18·3	204	e 3 48	+ 1	e 3 59	?	e 5 26	?	e 9·4
Christchurch		18·7	201	e 6 25	?	(e 7 8)	+10	—	—	e 7·1
Brisbane		25·4	261	i 4 55	+ 1	i 9 30	+40	i 11 8	SSS	i 12·6
Riverview		27·3	247	i 5 10 <sub>k</sub>	- 1	e 9 50	+30	i 6 0	PP	—
Manila		71·4	296	i 10 41	+ 3	—	—	—	—	—
Zi-ka-wei	Z.	80·9	311	e 11 36 <sub>a</sub>	+ 5	—	—	—	—	—
Santa Clara	E.	82·6	42	—	—	e 22 1	+40	—	—	e 34·2
Berkeley		82·7	42	e 11 55	+15	i 21 35	ScS	i 22 56	PS	e 32·8
Lick	Z.	82·7	42	e 11 40 <sub>a</sub>	0	—	—	e 13 9	pP	—
Pasadena		82·9	47	i 11 41	0	e 22 21	PS	i 13 11	pP	e 36·2
Nanking		83·2	310	e 11 48 <sub>a</sub>	+ 6	e 21 33	+ 6	e 22 10	PS	—
Riverside	Z.	83·3	47	e 11 42	- 1	e 12 17	?	i 13 14	pP	—
Fresno	Z.	83·5	44	e 11 44	0	—	—	—	—	—
China Lake	Z.	84·3	46	i 11 48	0	i 11 54	?	i 13 19	pP	—
Shasta		84·5	39	e 11 49	0	—	—	—	—	—
Mineral	Z.	84·7	40	e 11 50 <sub>a</sub>	0	—	—	e 13 21	pP	—
Tinemaha	Z.	84·7	45	e 11 49	- 1	—	—	e 12 3	?	—
Reno	Z.	85·3	42	e 11 52	- 1	—	—	e 13 36	pP	—
Boulder City		86·2	47	e 11 58	+ 1	—	—	—	—	—

Continued on next page.

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1952

387

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Tucson	86.8	52	e 11 59	- 1	—	—	i 13 32	pP
Seattle	89.2	35	—	—	e 23 7	SP	—	—
Butte	93.4	39	e 12 31	+ 1	—	—	—	—
College	93.8	12	e 12 33	+ 1	—	—	e 14 9	pP
Huancayo	96.3	106	—	—	24 11	SP	39 28	? e 44.3
La Plata	E. 97.2	134	—	—	23 20	-11	30 44	SS
La Paz	100.1	114	e 11 56?	-65	26 18	PS	31 32	SS
Colombo	103.4	271	17 56?	PP	—	—	—	—
Cleveland	E. 111.8	53	—	—	e 28 14	PS	—	—
Palisades	117.3	55	—	—	e 29 56	?	e 33 48	SS e 54.5
Scoresby Sund	133.7	11	e 21 12	PP	e 29 9	?	38 44	SS
Kiruna	136.8	350	i 18 38	[+ 4]	e 22 11	PKS	e 39 15	SS e 55.9
Upsala	144.6	347	i 18 50	[+ 2]	i 20 29	?	i 20 23	pPKP e 72.9
Ksara	149.4	292	e 19 4	[+ 8]	22 46	PKS	36 6	PPS
Copenhagen	149.5	349	i 19 7 <sub>a</sub>	[+11]	—	—	21 3	pPKP 72.9
Potsdam	152.4	346	e 19 18?	[+18]	—	—	—	— e 74.9
Istanbul	152.8	311	19 9?	[+ 8]	e 42 56?	SS	—	—
Witteveen	z. 153.1	354	e 19 16	[+15]	—	—	—	—
Collmberg	z. 153.4	345	e 19 13	[+11]	—	—	e 21 5	pPKP
Helwan	z. 153.4	284	e 19 8	[+ 6]	23 2	PP	e 20 8	? —
De Bilt	154.0	355	e 19 14	[+12]	e 44 26	SS	e 19 38	? e 70.9
Jena	154.1	346	e 19 12	[+ 9]	e 23 11	PP	e 20 15	? —
Prague	154.2	342	e 19 21	[+18]	e 23 16	PP	e 20 46	pPKP
Belgrade	z. 156.0	326	e 19 48 <sub>a</sub>	PKP <sub>2</sub>	—	—	e 19 57	? —
Stuttgart	156.7	347	e 19 11	[+ 5]	e 25 56	[+26]	e 19 48	PKP <sub>2</sub> e 81.9
Strasbourg	157.1	350	e 19 45	PKP <sub>2</sub>	—	—	—	—
Florence	160.7	339	e 19 33	[+22]	e 26 36	[+62]	e 23 16	PP
Rome	161.9	334	e 19 13?	[+ 1]	e 25 3	[-32]	e 23 6	PP
Messina	E. 163.1	321	e 19 44	[+31]	—	—	e 24 40	? —
Alicante	167.8	7	19 26	[+ 9]	—	—	—	— e 84.8
Malaga	168.3	24	18 44	?	—	—	24 14	PP 80.1
Algiers Univ.	z. 169.4	353	e 20 38	pPKP	—	—	—	—
Tamanrasset	z. 175.0	—	i 19 29 <sub>k</sub>	[+ 9]	e 21 15	PKP <sub>2</sub>	e 21 5	pPKP

May 9d. 4h. 2m. 1s. Epicentre 35°·8N. 140°·8E. Depth of focus 0·005. (as on 2d.).

Intensity IV at Tsubasan, Tokyo, Yokohama, Ajiro, Hunatu, Iwabuchi, Murayama, Mito, Yodobasi, Senzu, and Asakawa. Epicentre 35°·8N. 140°·4E. Depth of focus 65km. Macro seismic radius 65km.

Seismo. Bull. Cent. Met. Obs., Japan, for 1952, May, Tokyo, 1952, p.190, with macro seismic chart.

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.
Mito	0.7	335	0 19 <sub>a</sub>	+ 4	0 30	+ 3
Tsubasan	0.7	306	0 15	0	0 23	- 4
Tokyo	0.8	263	i 0 16 <sub>k</sub>	- 1	0 25	- 4
Yokohama	1.0	249	i 0 18 <sub>k</sub>	- 1	0 27	- 6
Utunomiya	1.1	315	e 0 21	+ 1	0 33	- 3
Kumagaya	1.2	287	i 0 20 <sub>k</sub>	- 2	0 31	- 7
Mera	1.2	222	0 21	- 1	0 33	- 5
Shirakawa	1.4	340	e 0 30	+ 6	0 45	+ 2
Titibu	1.4	278	i 0 23	- 1	0 35	- 8
Maebasi	1.5	293	i 0 23 <sub>k</sub>	- 3	0 38	- 7
Osima	1.5	228	0 24 <sub>k</sub>	- 2	0 38	- 7
Ajiro	1.6	242	0 22	- 5	0 35	-12
Hunatu	1.7	260	i 0 25	- 3	0 39	-11
Misima	1.7	246	0 25	- 3	0 40	-10
Kohu	1.8	265	i 0 27 <sub>k</sub>	- 3	0 43	- 9
Inawasiro	1.9	343	e 0 33	+ 2	0 58	+ 4
Oiwake	1.9	286	0 28	- 3	—	—
Hokusima	2.0	352	0 45	+13	1 0	+ 3
Shizuoka	2.1	247	0 31 <sub>k</sub>	- 3	0 51	- 8
Matusiro	2.2	291	0 33	- 2	—	—

Continued on next page.

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1952

388

		$\Delta$	Az.	P.	O - C.	S.	O - C.
		°	°	m. s.	s.	m. s.	s.
Matumoto	N.	2.3	281	e 0 35	- 2	0 58	- 6
Nagano	E.	2.3	292	e 0 33	- 4	—	—
Iida		2.4	263	e 1 13	S	1 50	?
Omaesaki		2.4	240	e 0 41	+ 3	1 3	- 4
Takada		2.4	302	e 0 41	+ 3	1 4	- 3
Sendai	N.	2.5	2	e 0 47	+ 8	1 15	+ 6
Toyama	Z.	3.0	287	e 0 45	- 2	1 3	-19
Nagoya		3.2	259	1 7	+18	1 51	+24
Gihu		3.3	263	e 0 53	+ 2	1 32	+ 3
Mizusawa		3.3	5	1 15	+24	e 1 37	+ 8
Kanazawa		3.4	284	e 0 59	+ 7	—	—
Kameyama		3.7	257	e 1 0	+ 4	1 42	+ 3
Hikone		3.8	264	e 1 1	+ 3	1 38	- 4
Miyako		3.9	13	e 1 17	+18	2 0	+16
Morioka		3.9	4	e 1 4	+ 5	1 49	+ 5
Owase		4.2	247	e 0 54	- 9	1 46	- 6
Osaka		4.5	257	e 1 18	+11	2 24	+25

May 9d. 8h. 2m. 5s. Epicentre 46°3N. 7°5E. (as on 1951, Aug. 20d.).

Intensity V-VI in Central Valais; III-IV in Bernese Oberland.  
Epicentre as adopted. Macro seismic radius 20km.

E. Wanner.

Jahresbericht des Erdbebendienstes der Schweiz im Jahre, 1952, Zürich, 1953, p.2, with macro seismic chart fig.3, separate from text.

$$A = +.6874, B = +.0905, C = +.7206; \quad \delta = -3; \quad h = -4;$$

$$D = +.131, E = -.991; \quad G = +.714, H = +.094, K = -.693.$$

		$\Delta$	Az.	P.	O - C.	S.	O - C.	Supp.
		°	°	m. s.	s.	m. s.	s.	m. s.
Oropa		0.8	155	i 0 13?	?	i 0 11?	?	—
Basle		1.3	3	e 0 23	- 2	e 0 41	- 3	—
Zürich		1.3	35	e 0 22 <sub>a</sub>	- 3	0 42	- 2	e 0 24
Chur		1.5	68	e 0 27 <sub>k</sub>	- 1	e 0 48	- 1	e 0 51
Ebingen		2.1	28	e 0 39?	+ 2	e 1 7	+ 3	—
Ravensburg		2.1	44	e 0 38	+ 1	e 1 6	+ 2	e 1 12
Strasbourg		2.3	5	e 0 43	+ 1*	e 1 10	+ 1	i 1 14
Stuttgart		2.7	24	e 0 40	- 5	e 1 14	- 5	e 0 49
Karlsruhe		2.8	13	e 0 52	+ 1*	e 1 17	- 5	i 1 31
Paris		4.2	308	i 1 4	- 3	i 1 55	- 2	i 1 18
Triest	Z.	4.4	97	e 1 16	+ 6	e 2 0	- 2	e 1 35
Jena		5.3	29	e 1 41	- 5 <sub>g</sub>	e 2 15	-10	i 2 50
Prague		6.0	48	e 1 50	+ 5*	e 2 49	+ 6	i 3 11
Collnberg		6.2	34	e 1 54	+ 5*	e 3 16	+ 8*	e 2 21
Raciborz		8.1	58	—	—	e 4 23	- 5 <sub>g</sub>	e 4 28

May 9d. 15h. 31m. 31s. Epicentre 39°4N. 119°7W. (as on 1949, Dec. 7d.)

Intensity VI at Carson City, Virginia City; IV at Applegate, Castle, Creek, Colfax, Doyle, Floriston, Fernley, and Reno. Epicentre as adopted. Macro seismic area 3000sq.m.

L. M. Murphy and W. K. Cloud.

United States Earthquakes, 1952, U.S.C.G.S., Serial No. 773, Washington, 1954, p.15.

$$A = -.3839, B = -.6730, C = +.6322; \quad \delta = -1; \quad h = -1;$$

$$D = -.869, E = +.495; \quad G = -.313, H = -.549, K = -.775.$$

		$\Delta$	Az.	P.	O - C.	S.	O - C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Reno		0.2	330	e 1 3 <sub>a</sub>	+59 <sub>g</sub>	—	—	i 1 4	?
Mineral	Z.	1.7	303	i 0 31 <sub>a</sub>	0	—	—	—	—
Berkeley		2.5	233	i 0 41 <sub>a</sub>	- 2	i 1 12	- 2	—	—
Shasta		2.5	302	i 0 40	- 3	—	—	—	—
Fresno		2.6	181	e 0 43 <sub>a</sub>	- 1	i 1 16	- 1	—	—

Continued on next page.

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1952

389

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Lick		2.6	216	i 0 42 <sub>a</sub>	- 2	i 1 10	- 7	—	—
Tinemaha	z.	2.6	154	i 0 42	- 2	i 1 22	+ 5	—	—
Santa Clara		2.7	221	i 0 50 <sub>a</sub>	+ 5	i 1 34	+ 5 <sub>g</sub>	—	—
Haiwee		3.5	157	i 1 4	+ 1*	i 1 51	+ 3*	—	—
Arcata	z.	3.7	295	e 0 56 <sub>a</sub>	- 4	e 1 36	- 9	—	—
China Lake	z.	4.0	155	e 1 1	- 3	i 1 50	- 2	—	—
Santa Barbara	N.	5.0	180	e 1 28	0*	e 2 28	- 4*	—	—
Boulder City		5.1	130	e 1 17	- 3	—	—	—	—
Pasadena		5.4	167	i 1 23	- 1	i 2 45	+ 1*	i 1 29	P*
Riverside	z.	5.7	160	i 1 28	0	i 2 50	- 3*	—	—
Corvallis	z.	5.8	334	e 1 32	+ 3	—	—	—	—
Butte		8.4	36	e 2 8	+ 2	—	—	i 2 38	P <sub>g</sub>
Seattle		8.4	348	i 2 12	+ 6	i 3 36	- 7	i 2 51	P <sub>g</sub>
Bozeman		9.0	43	e 2 43	P*	e 4 11	+ 13	—	—
Victoria		9.5	345	2 22	+ 2	—	—	—	—
Hungry Horse		9.8	23	i 2 30	+ 6	i 5 4	+ 9*	—	—
Tucson		10.1	132	e 2 34	+ 5	—	—	—	e 5.4
Lubbock		15.5	106	e 3 43	+ 1	—	—	e 4 52	?
College		30.3	337	i 6 13	- 2	—	—	—	—
Morgantown		30.5	77	i 6 14	- 3	—	—	—	—
Harvard		35.1	68	i 7 5 <sub>a</sub>	0	—	—	—	e 21.2
Resolute Bay		37.2	10	e 7 13 <sub>k</sub>	- 2	—	—	—	e 19.9
Scoresby Sund		55.9	24	i 9 40 <sub>k</sub>	- 2	—	—	—	—
Kiruna	z.	68.9	15	i 11 6	- 3	—	—	—	—
Upsala	z.	75.0	21	i 11 43	- 2	—	—	—	—
Ksara		103.7	22	e 15 32	?	e 24 50	[+ 5]	—	—

May 9d. 17h. 47m. 42s. Epicentre 6°·5S. 155°·0E. Focus at Base of Superficial Layers.  
(as on 1950, July 29d.).

A = -·9006, B = +·4200, C = -·1125;  $\delta$  = +14;  $h$  = +7;  
D = +·423, E = +·906; G = +·102, H = -·048, K = -·994.

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Brisbane		20.9	187	i 4 41 <sub>k</sub>	- 1	i 8 34	+ 6	i 5 3	pP
Riverview		27.4	188	i 5 46	+ 2	i 10 23	+ 2	i 5 51	pP
Melbourne		32.5	195	e 6 48	pP	i 13 18	SS	—	e 14.0
Apia		33.5	106	i 6 52	+ 14	—	—	—	e 16.3
Auckland	N.	35.2	153	i 6 54	+ 1	12 28	+ 5	e 14 18	SS
Karapiro	N.	36.4	153	e 7 0	- 3	e 12 48	+ 6	7 22	pP
New Plymouth	E.	36.7	154	7 8	+ 2	12 48	+ 2	—	—
Cobb River	E.	37.9	158	e 7 14	- 2	e 13 16	+ 11	e 9 31	PcP
Tuai	N.	37.9	152	e 7 14	- 2	—	—	e 7 25	pP
Kaimata	N.E.	38.7	161	e 7 27	+ 5	e 13 16	- 1	e 9 43	PcP
Wellington		38.9	157	e 7 22	- 2	e 13 13	- 7	e 9 54	PcP
Manila		39.7	302	i 7 32	+ 1	e 13 27	- 5	15 37	SS
Christchurch		40.0	161	i 7 31	- 2	i 13 33	- 3	i 9 6	PP
Mera		43.6	342	e 7 8	- 55	—	—	e 10 9	PcP
Osima		43.6	342	e 8 8	+ 5	e 10 25	PcP	e 9 3	?
Siomisaki		43.7	338	e 7 22	?	—	—	—	—
Shizuoka		44.1	342	e 8 9	+ 2	—	—	—	—
Miyazaki		44.3	332	e 8 16	+ 8	—	—	—	—
Tokyo		44.3	342	e 8 23	+ 15	e 14 38	- 2	e 10 10	PP
Perth		44.4	230	e 8 13	+ 4	14 53	+ 12	10 20	PP
Koti		44.7	335	e 8 14	+ 2	e 14 55	+ 10	e 9 46	PcP
Mito		44.8	344	e 8 15	+ 3	—	—	—	—
Kumagaya		44.9	342	e 8 18	+ 5	e 14 53	+ 5	18 58	SSS
Sumoto		44.9	337	e 7 55	- 18	e 14 31	- 17	—	—
Utsunomiya		45.1	344	e 8 17	+ 2	—	—	—	—
Maebasi		45.2	342	e 8 18	+ 2	—	—	e 10 44	PPP
Takamatu		45.2	336	8 17	+ 1	14 56	+ 3	—	—
Matuyama		45.3	334	e 8 26	+ 10	—	—	—	—
Ooita		45.3	332	e 8 22	+ 6	e 10 49	PPP	e 8 44	pP
Matumoto		45.4	342	e 8 22	+ 5	e 14 56	0	e 10 31	PP

Continued on next page.

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1952

390

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.	
Matusiro		45.6	342	8 19	0	14 54	- 4	e 10 54	PPP	22.9
Nagano		45.7	342	e 8 22	+ 2	—	—	—	—	e 20.3
Hirosima		45.9	333	e 8 23	+ 2	—	—	—	—	—
Inawasiro		46.0	344	e 8 23	+ 1	—	—	—	—	—
Toyama		46.1	340	e 8 23	0	e 15 3	- 2	e 8 45	pP	20.8
Hukuoka		46.2	332	8 27	+ 3	e 15 5	- 2	e 10 1	PP	22.1
Sendai		46.4	346	e 8 28	+ 3	15 14	+ 4	e 8 45	pP	18.7
Hamada		46.5	334	8 29	+ 3	15 16	+ 5	e 19 17	SSS	e 22.1
Mizusawa	E.	47.2	346	e 8 35	+ 4	e 15 9	-12	—	—	—
	N.	47.2	346	e 8 32	+ 1	15 1	-20	—	—	—
Miyako		47.5	347	e 8 34	0	e 15 22	- 3	—	—	—
Morioka		47.7	348	e 8 36	+ 1	—	—	—	—	e 19.4
Djakarta		47.9	268	i 8 34 <sub>a</sub>	- 3	i 15 36	+ 5	—	—	21.8
Akita	Z.	48.0	345	8 41	+ 3	—	—	—	—	—
Hong Kong		49.2	307	8 48	+ 1	(e 15 51)	+ 2	e 14 0	PcS	e 15.8
Zi-ka-wei	Z.	49.3	322	8 47 <sub>a</sub>	- 1	15 57	+ 6	i 11 50	PPP	—
Urakawa		49.7	349	e 8 57	+ 6	e 15 50	- 6	e 9 13	pP	e 20.3
Mori	E.	50.1	348	e 8 59	+ 5	—	—	—	—	21.3
Nemuro		50.3	351	e 9 6	+11	—	—	—	—	e 24.1
Sapporo		50.9	348	e 9 24	pP	e 16 22	PS	e 21 36	SSS	e 29.2
Abasiri		51.2	350	e 9 4	+ 2	—	—	—	—	—
Nanking		51.6	321	e 9 6 <sub>a</sub>	+ 1	i 16 28	+ 6	—	—	—
Kurilsk		51.9	354	9 8	+ 1	—	—	—	—	—
Vladivostok		53.7	339	9 20	- 1	16 56	+ 5	—	—	—
Honolulu		53.9	57	e 9 19	- 3	e 16 52	- 2	—	—	—
Yuzno-Sakhlinsk		54.3	350	9 27	+ 2	e 17 8	+ 9	—	—	—
Uglegorsk		56.5	351	i 9 41	0	17 35	+ 7	—	—	—
Petropavlovsk		59.5	2	e 10 1	- 1	i 18 7	- 1	i 10 29	pP	—
Klyuchi		62.8	4	e 10 25	+ 1	18 57	+ 8	10 58	pP	—
Mitchell Field		63.1	20	i 10 26	0	—	—	—	—	—
Shillong	E.	69.1	301	i 11 6	+ 1	19 20	-46	11 26	PcP	—
Kyakhta		70.4	329	11 12	- 1	—	—	—	—	—
Calcutta	E.	71.3	296	i 11 17	- 1	i 20 27	- 5	21 19	S <sub>c</sub> S	29.5
Kabansk		71.4	330	11 19	0	e 20 31	- 2	—	—	—
Irkutsk		72.7	330	11 26	0	e 20 47	- 1	—	—	—
Kodaikanal	E.	79.0	282	i 12 2	0	i 21 59	+ 2	22 41	PS	—
Hyderabad	N.	79.2	289	e 12 4	+ 1	21 58	- 1	e 27 21	SS	35.1
New Delhi		82.5	300	e 12 20	- 1	i 22 32	- 2	15 28	PP	37.8
College		82.6	20	i 12 19	- 2	i 23 48	PPS	e 27 42	SS	i 34.1
Poona		83.7	290	i 12 29	+ 2	22 53	+ 7	22 38	S <sub>c</sub> KK <sub>s</sub>	—
Przhevsk		84.6	314	12 32	+ 1	22 51	- 4	—	—	—
Kurmenty		84.8	315	i 12 35	+ 3	—	—	—	—	—
Sitka		84.8	31	e 12 34	+ 2	e 22 57	0	—	—	—
Semipalatinsk		85.4	322	i 12 35	0	—	—	—	—	—
Almata II		85.5	315	e 12 35	- 1	—	—	—	—	—
Almata		85.8	315	i 12 38	+ 1	22 48	(- 9)	13 11	pP	—
Naryn		86.1	313	i 12 41	+ 2	i 23 0	(+ 1)	i 17 56	PPP	—
Rybach'e		86.2	314	i 12 40	- 1	e 22 48	(-12)	i 13 15	pP	—
Murgab		87.0	309	i 12 54	+11	e 23 21	+ 3	—	—	—
Arcata	Z.	87.4	49	e 12 47 <sub>a</sub>	+ 2	—	—	—	—	—
Frunse		87.4	314	i 12 45	0	23 18	- 4	13 19	pP	—
Berkeley		88.2	52	e 12 49	0	i 23 39	+10	i 16 17	PP	e 39.7
Santa Clara		88.4	52	13 0?	+10	e 23 42	+11	e 24 40	PS	e 40.0
Shasta		88.5	49	i 12 49	- 1	—	—	—	—	—
Andijan		88.6	311	12 52	+ 1	e 23 16	(+ 1)	e 13 23	pP	—
Lick	Z.	88.6	52	e 12 51 <sub>a</sub>	0	e 24 40	PS	e 16 35	PP	—
Khorog		88.7	308	i 12 53	+ 2	e 23 17	(+ 1)	—	—	—
Fergana		89.0	311	e 12 52	- 1	23 14	(- 4)	e 16 37	PP	—
Dzhergetal		89.3	310	i 12 52	- 2	e 23 16	(- 3)	—	—	—
Victoria		89.3	41	12 52 <sub>k</sub>	- 2	23 33	- 6	25 49	PPS	40.0
Seattle		89.9	42	i 12 59	+ 2	i 23 52	+7	i 13 18	pP	i 41.6
Fresno	Z.	90.0	53	e 12 56 <sub>a</sub>	- 1	—	—	—	—	—
Kulyab		90.2	308	—	—	e 23 29	(+ 4)	—	—	—
Obi-garm		90.4	309	i 13 0	- 1	e 23 42	- 7	—	—	—
Reno	Z.	90.4	50	e 12 59 <sub>a</sub>	0	e 23 50	+ 1	e 13 22	pP	—

Continued on next page.



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1952

391

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.	
Pasadena	91.0	56	i 13 1	- 1	e 23 30	[ 0]	i 13 23	pP	i 41.2
Tashkent	91.0	311	i 13 1	- 1	e 23 45	-10	i 13 16	PcP	—
Stalinabad	91.1	309	i 13 2	- 1	e 23 46	-10	—	—	—
Tinemaha	z. 91.2	53	i 13 3	0	—	—	—	—	—
Quetta	91.5	300	e 13 7	+ 3	i 24 1	+ 2	i 13 23	pP	40.3
Riverside	z. 91.6	56	e 13 4	- 1	i 30 27	PKKP	e 17 4	PP	—
China Lake	z. 91.7	53	e 13 4	- 1	e 30 28	PKKP	i 13 25	pP	—
Samarkand	92.6	309	13 10	0	i 24 6	- 3	i 17 31	PP	—
Boulder City	93.9	54	i 13 15	0	—	—	i 13 22	pP	—
Hungry Horse	95.5	42	i 13 24	- 1	e 24 27	- 7	e 17 20	PP	—
Butte	96.3	44	e 12 13	?	—	—	—	—	—
Tucson	96.9	58	e 13 30	+ 1	e 24 57	sS	e 17 31	PP	e 34.9
Bozeman	97.4	45	e 13 27	- 4	—	—	e 17 32	PP	—
Sverdlovsk	97.8	327	i 13 33	0	i 24 12	[+ 5]	—	—	—
Ashkabad	99.2	307	i 13 42	+ 2	—	—	e 17 51	PP	—
Saskatoon	100.2	38	e 13 48	+ 4	—	—	e 17 54	PP	—
Kizyl-Arvat	100.8	308	13 48	+ 1	18 46	PP	e 21 10	?	—
Resolute Bay	101.5	14	e 13 48	- 2	e 24 21	[- 4]	e 14 8	pP	e 38.2
Tananarive	104.2	249	e 16 23	?	e 25 20	-27	e 20 41	PPP	50.0
Lubbock	104.5	56	e 14 0	- 3	—	—	e 14 32	?	—
Lenkoran	106.7	308	14 15	P	—	—	e 18 10	PKP	—
Tacubaya	107.0	71	e 19 1	PP	e 28 20	PS	i 19 13	?	—
Puebla	108.0	71	—	—	e 36 7	?	—	—	—
Lincoln	108.1	48	e 17 35	?	e 25 46	-33	—	—	—
Kirovobad	108.3	310	18 59	PP	28 14	PS	—	—	—
Goris	108.5	309	14 24	P	—	—	e 18 31	PP	—
Oaxaca	109.3	72	—	—	e 35 17	?	e 35 35	?	—
Tiflis	109.4	312	e 14 24	P	28 29	PS	e 18 53	PP	—
Erevan	109.8	310	19 3	PP	—	—	i 21 21	PPP	—
Vera Cruz	109.9	72	—	—	e 35 26	?	—	—	—
Piatigorsk	110.2	314	e 18 46	PP	—	—	i 20 18	?	—
Leninakan	110.3	311	e 18 36	[+ 8]	—	—	e 19 14	PP	—
Moscow	110.6	328	18 43	[+14]	—	—	—	—	—
Kiruna	111.6	343	e 14 26 <sup>a</sup>	P	e 25 6	[- 3]	i 18 32	PKP	e 49.3
Pulkovo	112.5	333	—	—	e 28 52	PS	—	—	—
Sotchi	112.7	315	e 19 34	PP	e 25 14	[+ 1]	—	—	—
Helsinki	114.6	335	—	—	i 25 21	[ 0]	—	—	—
Theodosia	115.3	317	e 18 40	[+ 2]	e 29 18	PS	e 19 42	PP	—
Pietermaritzburg	z. 115.9	233	e 18 41	[+ 2]	—	—	—	—	—
Merida	116.0	69	—	—	e 35 27	SS	e 36 27	?	—
Scoresby Sund	116.1	359	e 18 41	[+ 1]	e 26 41	SKKS	i 36 1	SS	54.3
Simferopol	116.2	317	18 42	[+ 2]	—	—	e 19 42	PP	—
Yalta	116.3	317	e 18 42	[+ 2]	e 25 23	[- 4]	e 19 49	PP	—
Grahamstown	z. 117.1	227	e 18 38	[- 4]	—	—	i 18 45	PKP	—
Kirkland Lake	z. 117.7	38	e 18 49	[+ 6]	—	—	—	—	—
Ksara	117.7	304	i 18 49	[+ 6]	31 18	PPS	19 59	PP	—
Upsala	117.8	338	i 18 43	[ 0]	i 25 31	[- 2]	e 19 53	PP	e 47.3
Helwan	118.6	301	e 18 54	[+ 9]	30 30	PPS	20 18	PP	—
Kishinev	118.9	322	e 19 3	[+18]	—	—	—	—	—
Cleveland	119.1	46	i 18 44 <sup>k</sup>	[- 2]	e 25 44	[+ 6]	i 20 4	PP	—
Pretoria	z. 119.2	236	i 18 47	[+ 1]	—	—	—	—	—
Iasi	119.6	323	e 18 48	[+ 1]	e 21 32	?	e 21 26	?	—
Cernauti	120.1	323	e 18 48	[ 0]	e 30 18	PS	e 23 1	PPP	—
Lwow	120.5	325	e 28 52	PS	e 35 6	SS	—	—	—
Pittsburgh	120.5	45	—	—	e 28 50	PS	—	—	—
Buffalo (Larkin)	120.6	43	e 18 48	[- 1]	—	—	—	—	—
Kimberley	z. 120.6	230	i 18 49	[ 0]	—	—	—	—	—
Istanbul	121.0	315	e 18 51	[+ 2]	e 30 28	PS	e 19 8	pPKP	—
Ottawa	121.5	39	e 19 6	[+16]	25 58	[+12]	20 24	PP	56.6
Bucharest	121.7	319	e 18 56	[+ 6]	e 25 51	[+ 5]	e 20 35	PP	49.3
Pennsylvania	121.9	45	e 18 52	[+ 1]	e 30 20	PS	e 20 41	PP	—
Uzhgorod	122.1	325	i 18 54	[+ 3]	22 32	PKS	i 20 39	PP	—
Reykjavik	z. 122.4	358	e 18 52	[ 0]	—	—	i 19 13	?	—
Copenhagen	122.7	336	e 18 55	[+ 2]	30 28	PS	20 40	PP	—
Shawinigan Falls	x. 122.8	36	e 18 53	[ 0]	—	—	20 45	PP	—

Continued on next page.

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1952

392

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Skalnate Pleso	123.0	327	e 19 26	?	e 22 29	PKS	e 20 34	PP e 50.3
Raciborz	123.6	328	i 18 56	[+ 2]	e 30 36	PS	e 20 54	PP i 51.8
Timisoara	124.2	322	e 19 1	[+ 6]	e 27 50	?	e 21 38	? —
Budapest	124.5	325	e 18 58	[+ 2]	—	—	—	e 65.3
Palisades	124.6	44	i 18 55	[- 1]	e 26 2	[+ 7]	i 15 41	P e 58.0
Potsdam	124.6	333	i 19 0k	[+ 4]	e 38 0	SS	e 20 56	PP e 49.3
Fordham	124.7	44	i 18 58	[+ 2]	—	—	e 20 40	PP —
City College, N.Y.	124.7	44	e 18 56	[ 0]	—	—	e 20 43	PP —
Ogyalla	124.8	326	e 18 55	[- 2]	e 25 42	[-14]	e 20 42	PP —
Belgrade	125.1	321	e 18 59k	[+ 2]	e 26 2	[+ 5]	e 42 56	SSS e 67.2
Kalossa	125.1	325	19 2	[+ 5]	e 22 28	PKS	e 20 56	PP —
Collberg	125.4	332	e 18 51	[- 7]	e 26 5	[+ 7]	e 21 27	PP e 54.8
Harvard	125.5	41	i 18 58a	[ 0]	e 30 52	PS	e 19 4	pPKP e 58.2
Prague	125.5	330	e 18 58k	[ 0]	e 25 58	[ 0]	e 19 16	pPKP e 56.3
Weston	125.7	11	e 18 58	[ 0]	e 37 18	SS	e 20 15	PP —
Athens	125.9	312	e 18 58a	[- 1]	e 25 59	[ 0]	e 19 16	pPKP —
Jena	126.3	331	e 19 0	[+ 1]	e 21 6	PP	e 19 19	pPKP —
Aberdeen	126.4	345	i 20 53	PP	i 26 8	[+ 7]	i 23 53	PPP e 52.9
Cheb	126.5	331	e 19 56	[+56]	e 27 48	SKKS	e 21 0	PP e 53.3
Huancayo	126.7	110	i 19 3	[+ 3]	e 22 28	PKS	e 21 10	PP e 52.9
Witteveen	127.1	337	e 19 2	[+ 1]	—	—	e 19 24	pPKP —
De Bilt	128.2	337	i 19 7k	[+ 4]	e 22 34	PKS	e 21 2	PP e 55.3
Durham	128.3	343	i 21 14	PP	—	—	i 21 23	PP —
Kingston	128.3	72	e 19 16	+13]	—	—	—	e 58.9
La Plata	128.4	145	21 0	PP	25 30	[-36]	22 18	PKS 59.1
Triest	128.6	326	i 19 2a	[- 2]	e 25 59	[- 7]	i 19 22	pPKP 57.5
Stuttgart	128.9	331	i 19 4a	[- 1]	e 25 41	[-27]	e 19 23	pPKP 63.3
Karlsruhe	129.1	332	19 6	[+ 1]	e 22 30	PKS	e 21 10	PP e 58.3
Taranto	129.3	318	21 20	PP	e 26 10	[+ 1]	34 18	PPS —
Chinchina	129.6	87	i 19 8	[+ 2]	i 22 26	PKS	i 19 27	pPKP —
Strasbourg	129.7	332	i 19 7k	[+ 1]	e 26 37	[+27]	i 21 16	PP 58.3
Chur	130.1	329	e 19 7a	[ 0]	e 22 31	PKS	e 31 30	PS e 68.1
Zürich	130.2	331	e 19 5k	[- 2]	e 21 21	PP	e 19 27	pPKP —
Padova	130.3	326	e 19 6	[- 1]	e 22 29	PKS	e 32 23	PS —
Salo	130.4	328	e 19 16a	[+ 9]	e 22 37	PKS	e 32 22	PS —
Basle	130.5	331	e 19 8	[ 0]	e 22 29	PKS	e 21 29	PP —
Bologna	130.7	327	e 19 11a	[+ 3]	e 22 30	PKS	—	—
Kew	130.7	340	i 19 6	[- 2]	i 22 28	PKS	e 21 33	PP e 39.3
Bogota	131.1	89	i 19 13	[+ 4]	i 22 45	PKS	e 21 35	PP 62.3
Florence	131.1	325	i 19 12	[+ 3]	25 48	[-25]	i 24 31	PPP —
Prato	131.2	325	i 18 12	[-57]	—	—	e 21 36	PP —
Pavia	131.4	328	i 19 12a	[+ 3]	e 31 20	PS	e 21 32	PP e 63.1
Rocca di Papa	131.5	322	i 19 12	[+ 3]	i 22 34	PKS	—	e 59.3
La Paz	131.6	119	i 19 15	[+ 5]	i 26 18	[+ 3]	i 22 2	PP 62.3
Messina	131.6	317	e 19 10	[ 0]	i 22 46	PKS	21 46	PP —
Rome	131.6	323	i 19 12a	[+ 2]	i 22 30	PKS	e 21 37	PP —
Paris	131.8	336	i 19 10	[ 0]	i 26 32	[+17]	e 19 31	pPKP e 59.3
Jersey	133.3	339	—	—	e 22 52	PKS	—	68.3
Clermont-Ferrand	133.9	333	i 19 15	[- 1]	i 22 58	PKS	e 22 22	PP e 57.5
Bermuda	135.0	50	i 19 18	[+ 2]	e 22 59	PKS	e 22 7	PP e 62.4
San Juan	138.3	67	i 19 13	[- 9]	—	—	—	—
Algiers Univ.	140.5	323	e 19 27	[+ 1]	e 34 32	PPS	e 22 28	PP —
Alicante	141.3	329	e 19 29	[+ 2]	26 37	[+ 5]	22 39	PP 66.0
Toledo	141.8	334	e 19 27	[- 1]	22 32	PP	25 37	PPP 63.3
Coimbra	143.3	338	19 31k	[ 0]	—	—	63 6	Q 69.3
Almeria	143.5	329	i 19 28	[- 3]	26 40	[+ 5]	22 44	PP 66.3
Fort de France	143.6	74	i 19 30	[- 1]	e 33 21	PS	e 42 51	SS —
Granada	143.8	331	i 19 35a	[+ 3]	i 27 11	[+35]	19 50	pPKP i 65.4
Malaga	144.5	331	i 19 35	[+ 2]	26 19	[-18]	i 23 1	PP 59.8
Lisbon	144.9	338	i 19 33a	[- 1]	23 28	PKS	22 34	PP 71.2
Tamanrasset	146.4	302	i 19 38k	[+ 2]	i 23 21	PP	e 26 14	PPP —

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1952

393

May 10d. 14h. 22m. 56s. Epicentre 41°·7N. 144°·9E. Depth of focus 0·005.  
(as on April 25d.).

Intensity IV at Kusiro, Otu, and Shiranuka; II-III at Nemuro and Kenebetu. Macro-seismic radius 100-200km. Epicentre 41°·9N. 145°·2E. Depth 60km.  
Seismo. Bull. of Cent. Met. Obs., Japan, for May, 1952, Tokyo, 1952, p. 191, with macro-seismic chart.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Kusiro		1·3	344	i 0 18	- 5	0 36	- 4	---	---
Urakawa		1·6	286	i 0 27k	0	0 51	+ 7	---	---
Nemuro		1·7	17	i 0 21k	- 7	0 38	-12	---	---
Obihiro	N.	1·8	314	c 0 28	- 2	0 48	- 4	---	---
Abashiri		2·4	349	0 33	- 5	0 56	-11	---	---
Asahigawa		2·8	318	e 0 49	+ 5	---	---	---	---
Hatinohe		2·8	245	e 0 42	- 2	1 16	- 1	---	---
Miyako		3·0	228	0 46	- 1	1 22	0	---	---
Sapporo		3·0	298	e 0 50	+ 3	1 26	+ 4	---	---
Aomori		3·2	251	i 0 51a	+ 2	1 36	+ 9	---	---
Mori	E.	3·3	277	0 52	+ 1	1 32	+ 3	---	---
Morioka		3·5	236	i 0 54a	0	1 34	0	---	---
Mizusawa		3·9	230	0 59	0	1 46	+ 2	e 1 49	s
Akita		4·1	243	1 3	+ 1	---	---	---	---
Sendai	N.	4·6	223	e 1 8	- 1	2 4	+ 2	---	---
Yamagata		4·9	227	e 1 16	+ 3	2 11	+ 2	---	---
Hokusima		5·2	222	1 16	- 1	2 24	+ 7	---	---
Inawasiro		5·5	223	e 1 24	+ 3	2 6	-18	---	---
Onahama		5·7	214	e 1 34	+10	2 35	+ 6	---	---
Shirakawa		5·8	220	e 1 27	+ 2	2 32	0	---	---
Aikawa		6·3	237	1 32	0	---	---	---	---
Mito		6·3	215	e 1 28	- 4	2 45	+ 1	---	---
Utunomiya		6·5	219	e 1 36	+ 1	2 47	- 2	---	---
Kumagaya		7·0	220	e 1 45	+ 3	3 2	+ 1	---	---
Maebasi		7·0	223	i 1 42	0	3 5	+ 4	---	---
Nagano	N.	7·2	228	e 1 48	+ 3	---	---	---	---
Tokyo		7·2	216	e 1 44	- 1	3 4	- 2	---	---
Matusiro		7·3	227	e 1 47	+ 1	3 29	+20	---	---
Oiwake		7·3	225	e 1 47	+ 1	---	---	---	---
Wazima		7·5	238	e 1 51	+ 2	---	---	---	---
Matumoto	E.	7·7	227	e 1 55	+ 3	---	---	---	---
Hunatu		7·8	220	e 1 57	+ 4	3 22	+ 1	---	---
Kohu		7·8	221	e 1 56	+ 3	3 22	+ 1	---	---
Toyama		7·8	232	e 1 52	- 1	---	---	---	---
Misima		8·1	217	e 1 56	- 1	3 32	+ 4	---	---
Osima		8·2	214	e 1 57	- 2	3 26	- 5	---	---
Takamatu		11·3	233	2 40	- 1	---	---	---	---
Resolute Bay		57·4	16	e 9 41a	- 3	i 10 4	sP	i 9 51	pP
Victoria		61·3	49	10 10	- 1	---	---	---	---
Kiruna	Z.	63·1	339	i 10 22	- 1	---	---	i 10 31	pP
Mineral	Z.	66·9	55	e 10 47	0	---	---	---	---
Reno	Z.	68·5	55	e 10 58	0	---	---	---	---
Lick	Z.	68·6	58	e 11 4	+ 6	---	---	---	---
Upsala	Z.	69·9	334	i 11 6	0	---	---	i 11 15	pP
China Lake	Z.	72·1	57	i 11 21	+ 2	---	---	---	---
Mount Wilson	Z.	72·8	59	i 11 24	+ 1	---	---	e 11 40	pP
Pasadena	Z.	72·8	59	i 11 23	0	---	---	---	---
Riverside	Z.	73·4	59	e 11 27	0	---	---	---	---
Collmberg	Z.	78·4	331	e 11 54	- 1	---	---	e 12 13	pP
Prague		78·8	330	e 12 0	+ 3	---	---	e 12 11	pP
Jena		79·2	332	e 12 0	0	e 12 25	sP	e 12 10	pP
Witteveen	Z.	79·2	336	e 12 4	+ 4	---	---	---	---
Ksara		80·6	307	e 11 55	-12	e 23 27	PPS	---	---
Stuttgart		81·8	332	e 12 20?	+ 7	---	---	---	---
Fayetteville	Z.	85·6	44	i 12 33	0	---	---	---	e 43·1
Harvard		90·0	26	e 13 4	pP	---	---	---	---

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1952

394

May 10d. 17h. 4m. 22s. Epicentre 2°·2N. 126°·9E. Depth of focus 0·010.  
(as on 8d.).

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Manila	13·6	335	i 3 12	+ 2	e 6 39	+60	i 3 43	—
Hong Kong	23·5	329	5 3	+ 1	(9 19)	+14	—	9·3
Nanking	30·6	346	e 6 9	+ 2	11 2	+ 2	—	—
Brisbane	38·8	141	i 7 11	- 6	i 12 58	- 9	i 7 33	pP
Mizusawa	E. 39·0	19	—	—	7 53	sP	—	—
Riverview	42·5	149	i 7 44	- 3	i 14 3	+ 1	—	e 17·4
Kyakhta	51·0	343	e 8 56	+ 2	e 16 3?	+ 1	e 9 16	pP
Kabansk	52·5	345	e 9 5	0	e 16 25	+ 2	—	—
Irkutsk	53·3	343	e 9 10	- 1	e 16 37	+ 3	—	—
Poona	E. 54·4	291	e 9 10	- 9	16 54	+ 6	10 7	PcP
Przhevalsk	59·0	321	9 54	+ 2	17 57	+ 8	—	—
Kurmenty	59·3	321	i 9 55	+ 1	—	—	—	—
Almata II	60·0	321	i 9 59	0	—	—	—	—
Naryn	60·1	319	e 10 0	+ 1	i 18 10	+ 7	—	—
Murgab	60·2	314	e 10 6	+ 6	e 18 15	+11	—	—
Almata	60·3	321	i 10 3	+ 2	i 18 12	+ 6	—	—
Rybach'e	60·5	319	i 10 3	+ 1	i 18 13	+ 5	10 24	pP
Frunse	61·6	318	i 10 11	+ 1	—	—	i 10 31	pP
Khorog	61·6	320	e 10 12	+ 2	e 18 30	+ 8	—	—
Semipalatinsk	62·1	329	e 10 12	- 1	—	—	—	—
Andijan	62·3	316	i 10 16	+ 2	i 18 38	+ 7	—	—
Dzhergetal	62·5	315	e 10 17	+ 1	e 18 39	+ 5	10 37	pP
Fergana	62·5	316	—	—	18 40	+ 6	—	—
Kulyab	63·1	313	i 10 20	0	i 18 44	+ 3	—	—
Obi-garm	63·4	313	i 10 24?	+ 2	i 18 52?	+ 7	10 45	pP
Stalinabad	64·1	313	i 10 27	+ 1	i 18 58	+ 5	10 48	pP
Ashkabad	71·9	309	11 17	+ 3	20 35	+ 9	—	—
Sverdlovsk	75·3	329	i 11 34	0	21 3	- 1	—	—
Baku	78·7	311	e 11 56	+ 3	—	—	—	—
Goris	81·3	310	i 12 9	+ 2	—	—	—	—
Kirovobad	81·4	311	e 12 10	+ 2	—	—	—	—
Grozny	82·0	313	e 12 13	+ 2	i 22 20	+ 5	—	—
Tiflis	82·6	311	e 12 16	+ 2	—	—	—	—
Erevan	82·8	310	e 12 17	+ 2	22 29	+ 6	—	—
Borzhomi	83·7	312	i 12 12?	- 7	—	—	—	—
Piatigorsk	84·0	314	i 12 22	+ 1	22 35	0	i 12 44	pP
Zugdidi	84·8	313	i 12 29	+ 4	—	—	—	—
Sotchi	86·5	314	—	—	22 50	[+ 3]	—	—
Moscow	87·8	326	e 12 38	- 1	23 11	- 1	e 22 58	SKS
Theodosia	89·5	315	e 12 47	0	e 23 9	[+ 2]	—	—
Ksara	89·6	304	e 12 51	+ 3	24 51	PS	—	—
Simferopol	90·4	315	e 12 51	- 1	—	—	—	—
Yalta	90·4	314	e 12 52	0	e 23 16	[+ 4]	—	—
Kiruna	z. 94·1	338	i 13 6	- 3	i 17 17	pPP	i 13 25	pP
Upsala	97·7	332	i 13 22 <sub>a</sub>	- 3	i 23 50	[- 2]	i 17 31	PP
Resolute Bay	99·3	11	e 13 29 <sub>a</sub>	- 3	e 17 49	pPP	e 13 51	pP
Victoria	101·3	40	13 38	- 3	—	—	—	—
Copenhagen	101·7	328	—	—	24 15	[+ 3]	—	—
Prague	102·5	323	e 18 33	pPP	—	—	e 18 48	?
Potsdam	102·6	326	e 18 2?	PP	—	—	—	e 52·6
Collmberg	z. 103·0	323	e 14 20	sP	—	—	—	—
Jena	103·9	324	e 18 13	PP	e 18 58	sPP	e 18 39	pPP
Stuttgart	106·2	322	e 18 11?	PP	e 25 18	-32	e 18 53	?
China Lake	z. 109·1	51	e 18 1	?	e 18 40	PP	e 19 8	?
Mount Wilson	z. 109·2	53	e 19 10	?	—	—	—	—
Riverside	z. 109·8	53	e 18 47	PP	—	—	e 19 12	?
Paris	110·2	325	e 19 5	PP	e 19 18	?	i 19 26	pPP
Tamanrasset	z. 117·7	297	i 18 38 <sub>a</sub>	[+ 3]	e 29 24	PS	i 19 0	pPKP
Fayetteville	z. 126·0	41	i 18 50	[- 1]	e 20 59	pPP	e 19 11	pPKP
Harvard	132·5	17	i 19 3 <sub>k</sub>	[- 1]	—	—	e 21 49	pPP
Huancayo	155·9	115	e 19 46	[+ 4]	—	—	—	—
San Juan	155·9	30	i 20 8	pPKP	—	—	—	—

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1952

395

May 11d. 9h. 13m. 1s. Epicentre 37°·1N. 71°·2E. Depth of focus 0·015.  
(as on 1952, April 13d.).

	$\Delta$	Az.	P.	O - C.	S.	O - C.
	°	°	m. s.	s.	m. s.	s.
Khorog	0·5	41	i 0 15	- 4	i 0 29	- 5
Kulyab	1·4	305	i 0 28	0	—	—
Garm	2·0	340	i 0 35	+ 1	i 1 1	+ 1
Obi-garm	2·0	324	i 0 36	+ 2	i 1 2	+ 2
Dzhergetal	2·1	0	e 0 35	- 1	e 1 2	- 1
Stalinabad	2·4	307	i 0 39	- 1	1 10	0
Murgab	2·5	60	e 0 41?	0	e 1 10?	- 2
Fergana	3·3	7	e 0 53	+ 1	i 1 33	+ 2
Andijan	3·8	13	—	—	i 1 43	0
Samarkand	4·2	309	1 3	0	—	—
Tashkent	4·5	341	—	—	1 57	- 2
Naryn	5·7	39	e 1 23	- 1	i 2 29	+ 1
Frunse	6·3	22	e 1 33	+ 1	2 44	+ 1
Rybach'c	6·5	34	1 34	- 1	—	—
Almata II	7·8	35	e 1 50	- 2	—	—
Kurmenty	8·0	40	i 1 53	- 2	—	—
Kiruna	z. 41·6	334	i 7 39	+ 2	—	—

May 12d. 10h. 8m. 45s. Epicentre 35°·8N. 140°·1E. Focus at base of superficial layers.  
(as on 1950, Aug. 22d.).

Intensity IV at Tokyo, Hunatu, Naruto, Shimodate, and Mitsumine ; II-III at Tukubasan, Osima, Ajiro, Mito, etc. Epicentre as adopted. Depth 75-80km. Macroseismic radius 100-200km.

Seismo. Bull. of the Cent. Met. Obs., Japan, for May, 1952, Tokyo, 1952, p.192, with macroseismic chart.

A = -·6237, B = +·5215, C = +·5823 ;  $\delta = +4$  ; h = 0 ;  
D = +·641, E = +·767 ; G = -·447, H = +·374, K = -·813.

	$\Delta$	Az.	P.	O - C.	S.	O - C.
	°	°	m. s.	s.	m. s.	s.
Tokyo	z. 0·3	253	i 0 9k	+ 1	0 19	+ 4
Tukubasan	0·4	0	0 11	+ 2	0 20	+ 4
Yokohama	0·5	225	i 0 10k	0	0 21	+ 3
Tyosi	E. 0·6	96	e 0 13	+ 1	0 24	+ 3
Kumagaya	z. 0·7	301	0 16	+ 3	0 29	+ 6
Mito	0·7	27	0 14	+ 1	0 26	+ 3
Titibu	0·8	283	e 0 17	+ 2	0 30	+ 4
Utunomiya	0·8	346	e 0 11	- 4	0 30	+ 4
Mera	0·9	194	0 11	- 5	0 23	- 5
Maebasi	1·0	306	e 0 19	+ 1	0 35	+ 4
Ajiro	1·1	228	0 16	- 3	0 29	- 4
Hunatu	1·1	255	0 18	- 1	0 32	- 1
Misima	1·2	234	0 17	- 3	0 31	- 5
Osima	1·2	210	e 0 11	- 9	0 29	- 7
Kohu	1·3	262	i 0 21k	- 1	0 38	0
Onahama	1·3	29	e 0 28	+ 6	0 41	+ 3
Shirakawa	1·3	4	e 0 26	+ 4	—	—
Oiwake	1·4	293	0 22	- 1	0 43	+ 2
Shizuoka	1·6	239	0 53	S	(0 53)	+ 7
Matusiro	1·7	296	0 28	0	0 49	0
Inawasiro	1·8	0	e 0 32	+ 3	0 55	+ 4
Matumoto	S. 1·8	284	e 0 34	+ 5	0 54	+ 3
Iida	1·9	261	e 0 22	- 9	0 37	- 17
Hukusima	2·0	9	e 0 33	+ 1	—	—
Toyama	2·5	291	e 0 46	+ 7	1 11	+ 2
Sendai	E. 2·6	15	0 45	+ 4	1 24	+ 13
Gihu	2·7	262	e 0 51	+ 9	1 21	+ 7
Hatidyosima	2·7	185	1 6	S	(1 6)	- 8
Nagoya	2·7	256	e 0 44	+ 2	1 16	+ 2
Ibukisan	3·1	263	e 0 56	+ 8	—	—
Morioka	4·0	12	e 0 59	- 1	1 47	0



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1952

396

May 12d. 19h. 31m. 25s. Epicentre 35° 3N. 6° 9W.

Felt at Port Lyautey, Rabat, Casablanca (according to Averroes), intensity IV in Spain at Seville, Huelva and as far as Toledo. Epicentre 37° 4N. 6° 4W. (Madrid), 35° 3N. 6° 9W. (Strasbourg).

Boletín sísmico, primer semestre, año 1952, Instituto Geográfico y catastral, Madrid, 1954, p.120.

$$\begin{aligned} A = +.8120, B = -.0983, C = +.5752; \quad \delta = -14; \quad h = +1; \\ D = -.120, E = -.993; \quad G = +.571, H = -.069, K = -.818. \end{aligned}$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Malaga	2.5	54	i 0 42	- 1	i 1 16	+ 2	1 21	4.4
Granada	3.3	54	0 56k	+ 3	i 1 32	- 3	1 6	—
Almeria	3.9	65	i 1 1	- 1	1 42	- 8	1 4	—
Lisbon	3.9	333	i 1 6k	+ 4	1 49	- 1	1 19	—
Coimbra	5.0	346	1 20k	+ 2	2 9	- 9	1 24	—
Toledo	5.1	25	i 1 19	- 1	i 2 5	-15	—	—
Alicante	6.0	57	1 30	- 2	2 46	+ 3	1 52	—
Algiers Univ. z.	8.2	77	e 2 3	0	e 3 49	+11	i 2 16	—
Barcelona	9.4	47	i 2 17	- 1	—	—	—	—
Clermont-Ferrand	12.9	33	i 3 4	- 3	5 24	- 9	e 8 55	—
Paris	15.2	24	i 3 35	- 3	i 6 29	+ 1	i 3 51	—
Basle	16.3	37	e 3 47a	- 5	—	—	—	e 7.7
Florence z.	16.4	53	e 3 18	-35	—	—	i 4 19	—
Rome N.	16.5	61	e 4 19	PPP	e 7 25	SS	—	—
Tamanrasset z.	16.5	136	i 4 1k	+ 7	e 7 19	SS	e 4 9	8.6
Zürich	16.7	39	e 3 55a	- 2	e 7 14	+11	—	—
Strasbourg	17.2	33	i 4 3a	0	e 7 17	+ 3	e 4 15	—
Karlsruhe z.	17.8	33	e 4 10a	- 1	—	—	e 4 17	—
Stuttgart	18.0	35	e 4 11a	- 2	e 7 35	+ 3	e 4 22	e 9.5
Triest z.	18.8	48	i 4 25a	+ 2	e 5 24	?	e 4 53	—
De Bilt	18.9	22	—	—	e 7 51	- 2	—	e 8.6
Jena	20.6	34	e 4 42	- 1	e 6 11	?	e 5 8	—
Witteveen z.	20.9	22	i 4 39k	- 7	—	—	i 4 41	—
Prague	21.4	38	e 4 51	0	e 8 35	-10	e 5 12	—
Collmburg z.	21.5	35	e 4 51	- 1	e 4 54	P	e 5 4	e 10.0
Potsdam	22.2	31	e 5 3	+ 3	e 9 5	+ 5	—	e 12.6
Raciborzu z.	23.5	41	e 5 26	+14	—	—	e 6 3	—
Copenhagen	24.3	25	—	—	9 59	+22	—	—
Istanbul z.	28.7	66	e 6 1	0	—	—	e 6 38	—
Upsala z.	29.3	24	i 6 7	+ 1	—	—	—	—
Kiruna z.	36.1	16	i 7 6	+ 1	—	—	i 7 11	?
Fayetteville z.	68.4	299	e 11 11	+ 5	—	—	—	—
China Lake z.	84.3	310	e 12 49	PcP	—	—	e 12 56	?

May 13d. 3h. 36m. 17s. Epicentre 31° 8S. 179° 5E. Depth of focus 0.040. (as on 1952, Jan. 22d.).

$$\begin{aligned} A = -.8515, B = +.0074, C = -.5244; \quad \delta = +10; \quad h = +2; \\ D = +.009, E = +1.000; \quad G = +.524, H = -.005, K = -.852. \end{aligned}$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Auckland N.	6.4	216	—	—	i 3 8	SS	—	—
Karapiro N.	7.0	207	e 1 48	+ 6	e 3 6	+ 4	—	—
Wellington	10.2	200	e 2 14	- 8	i 4 11	- 2	e 2 49	PPP
Cobb River E.	10.7	208	—	—	e 4 1	-23	—	—
Kaimata N.E.	12.5	209	e 2 58	+ 8	e 5 10	+ 6	—	—
Christchurch	12.9	203	e 3 29	+34	e 5 18	+ 5	—	—
Lick z.	88.0	43	e 12 22	+ 3	—	—	—	—
Mount Wilson z.	88.1	47	e 12 18	- 1	—	—	e 12 59	pP
Riverside z.	88.4	47	e 12 20	- 1	—	—	e 12 32	PcP
Fresno z.	88.7	44	e 12 21	- 1	—	—	—	—
China Lake z.	89.4	46	e 12 26	+ 1	—	—	e 12 40	PcP
Tinemaha z.	89.9	46	e 12 22	- 6	—	—	—	—
Mineral z.	90.1	41	e 12 45	PcP	—	—	—	—
Reno z.	90.6	42	e 12 44	PcP	—	—	—	—
Kiruna z.	141.9	348	i 19 8	[+10]	—	—	—	—

Continued on next page.

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1952

397

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	J. m.
Helsinki	147.0	339	i 19 18 <sub>a</sub>	[+11]	—	—	i 19 32	—
Ksara	149.5	283	e 19 41	PKP <sub>2</sub>	—	—	e 23 25	—
Upsala	z. 149.5	343	i 19 25	[+15]	i 21 28	?	i 19 38	—
Copenhagen	154.1	344	e 19 52	PKP <sub>2</sub>	—	—	—	—
Istanbul	z. 154.6	300	e 19 39	PKP <sub>2</sub>	—	—	—	—
Collnberg	z. 158.1	338	e 20 7	PKP <sub>3</sub>	e 20 26	pPKP	e 20 20	—
Jena	z. 158.9	338	e 19 53 <sub>f</sub>	PKP <sub>2</sub>	—	—	e 20 11	—
Stuttgart	161.5	339	e 19 53 <sub>f</sub>	PKP <sub>2</sub>	e 22 20	?	e 20 35	—
Tamanrasset	z. 169.6	212	e 19 46	[+14]	e 25 3	PP	e 21 3	—
Malaga	174.1	32	i 25 8	PP	—	—	—	93.4

May 13d. 17h. 19m. 50s. Epicentre 36°·5N, 71°·0E. Depth of focus 0·015.  
(as on 1952, Feb. 6d.).

$\Delta = +\cdot 2623$ ,  $B = +\cdot 7619$ ,  $C = +\cdot 5922$ ;  $\delta = -1$ ;  $h = 0$ ;  
 $D = +\cdot 946$ ,  $E = -\cdot 326$ ;  $G = +\cdot 193$ ,  $H = +\cdot 560$ ,  $K = -\cdot 806$ .

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.
Khorog	1.1	26	e 0 25	+ 1	e 0 44	+ 1
Kulyab	1.7	325	—	—	i 0 56	+ 2
Obi-garm	2.4	335	i 0 41	+ 1	i 1 11	+ 1
Garm	2.6	348	i 0 41	- 1	i 1 12	- 2
Stalinabad	2.7	319	i 0 43	- 1	i 1 16	- 1
Dzhergetal	2.7	4	i 0 44	0	i 1 17	0
Murgab	3.0	51	—	—	e 1 24	0
Fergana	3.9	9	e 0 58	- 1	—	—
Andijan	4.4	15	1 6	0	1 56	- 1
Naryn	6.3	37	—	—	e 2 39	- 4

May 13d. 19h. 31m. 45s. Epicentre 10°·3N, 85°·3W. Depth of focus 0·005.

$A = +\cdot 0806$ ,  $B = -\cdot 9808$ ,  $C = +\cdot 1776$ ;  $\delta = +1$ ;  $h = +6$ ;  
 $D = -\cdot 997$ ,  $E = -\cdot 082$ ;  $G = +\cdot 015$ ,  $H = -\cdot 177$ ,  $K = -\cdot 984$ .

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	J. m.
Balboa Heights	5.8	102	1 6	-19	2 21	-11	—	—
Galerazamba	9.9	86	i 2 28	+ 6	i 4 25	+13	i 2 47	PPP
Chinchina	11.0	118	i 2 36	- 1	i 4 50	+11	—	—
Kingston	11.2	46	i 2 45	+ 5	i 5 10	SS	—	e 6.5
Merida	11.4	339	i 2 44	+ 2	i 4 57	+ 8	i 5 8	SS
Bogota	12.5	116	i 2 59	+ 2	i 6 1	?	i 3 45	?
Oaxaca	13.0	302	i 3 3 <sub>k</sub>	+ 1	i 5 30	+ 3	i 5 47	SS
Vera Cruz	13.7	311	e 3 19	+ 6	e 6 9	SS	e 6 19	SSS
Port-au-Prince	15.0	55	i 3 36	+ 6	e 6 14	0	3 46	PP
Puebla	15.2	306	e 3 31	- 1	e 6 19	0	e 6 42	SS
Tacubaya	16.2	306	i 3 50 <sub>k</sub>	+ 5	i 7 2	SS	—	—
Guadalajara	20.2	303	e 4 33	+ 1	e 8 23	+13	e 4 53	pP
San Juan	20.2	63	i 4 31	- 1	—	—	—	—
Mobile	20.5	352	i 4 37	+ 2	e 8 29	+13	—	—
Columbia	23.9	8	e 5 37	PP	—	—	—	—
Fort de France	24.0	77	i 5 9	- 1	i 9 50	SS	—	—
Huancayo	24.3	156	e 5 16	+ 4	i 9 30	+ 6	—	—
Chihuahua	26.7	316	e 6 24	PP	e 10 23	+19	—	—
Fayetteville	z. 26.9	344	i 5 34	- 3	i 12 5	?	e 5 55	pP
Lubbock	27.7	330	5 43	- 1	11 7	+47	—	—
Bermuda	29.1	37	i 5 58	+ 1	—	—	—	—
Washington	29.4	13	e 6 1	+ 2	e 13 15	L	—	—
Morgantown	29.6	7	i 6 2	+ 1	—	—	i 6 18	pP
Pittsburgh	30.4	7	e 6 7	- 1	i 11 10	+ 7	—	—
Pennsylvania	31.1	10	e 6 14	0	e 11 8	- 6	i 6 32	pP

Continued on next page.

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1952

398

	$\Delta$	Az.	P.	O - C.	S.	O - C.	Supp.	I.		
	°	°	m. s.	s.	m. s.	s.	m. s.	m.		
Cleveland	31.2	5	i 6 15 <sub>a</sub>	0	e 11 6	-10	i 6 29	pP	—	
Chicago	31.4	356	e 6 31	pP	e 11 40	+21	—	—	—	
La Paz	31.6	147	i 6 20 <sub>k</sub>	+ 1	i 11 22	0	i 7 27	PP	14.2	
City College, N.Y.	32.0	17	i 6 23	+ 1	—	—	i 7 34	PP	—	
Fordham	32.1	17	e 6 23	0	i 11 51	+21	—	—	—	
Tucson	32.1	317	i 6 24	+ 1	e 13 40	sS	e 7 36	PP	e 18.6	
Palisades	32.2	17	i 6 24	0	i 11 58	sS	i 6 39	pP	e 15.5	
Buffalo (Larkin)	33.0	9	i 6 31	0	—	—	—	—	—	
Weston	34.2	18	i 6 45 <sub>k</sub>	+ 4	e 12 1	- 1	i 7 12	sP	—	
Harvard	34.3	18	e 6 35	- 7	e 13 13	P&S	i 6 57	pP	e 14.8	
Vermont	35.6	14	e 7 0	+ 7	e 12 53	sS	—	—	—	
Ottawa	35.9	11	i 6 55 <sub>a</sub>	- 1	12 23	- 5	e 7 18	pP	19.5	
Boulder City	37.0	319	i 7 6	+ 1	—	—	—	—	—	
Riverside	37.7	314	i 7 11	0	e 13 7	+11	i 7 26	pP	—	
Shawinigan Falls N.	37.7	14	e 7 10	- 1	13 5	+ 9	8 41	PP	20.2	
Kirkland Lake	z.	38.0	5	i 7 13 <sub>a</sub>	0	e 8 44	PP	i 7 32	pP	—
Pasadena	38.3	314	i 7 18	+ 2	i 13 16	+11	i 7 36	pP	e 16.2	
China Lake	38.8	317	i 7 21	+ 1	i 13 22	+ 9	i 7 44	pP	—	
Tinemaha	39.9	317	i 7 32	+ 3	e 13 57	sS	i 7 48	pP	—	
Fresno	z.	40.8	316	e 7 36 <sub>a</sub>	- 1	e 13 49	+ 6	e 7 46	pP	—
Bozeman	41.6	333	e 7 43	0	e 14 9	+15	—	—	—	
Reno	42.3	320	e 7 51	+ 2	e 14 7	+ 2	e 7 59	pP	—	
Lick	z.	42.4	316	e 7 49 <sub>a</sub>	- 1	e 14 29	sS	i 8 10	pP	—
Santa Clara	42.6	316	i 7 54 <sub>a</sub>	+ 3	i 14 31	sS	—	—	e 23.2	
Berkeley	43.0	316	i 7 57 <sub>a</sub>	+ 2	e 14 27	+12	i 8 16	pP	—	
Mineral	z.	43.9	319	e 8 2	0	—	—	—	—	
Shasta	44.6	319	e 8 5	- 3	—	—	—	—	—	
Hungry Horse	44.9	333	e 8 8	- 2	—	—	e 8 16	P	—	
Saskatoon	45.2	341	8 9	- 4	e 9 57	PP	e 10 40	PPP	—	
Arcata	z.	45.8	318	e 8 18 <sub>a</sub>	+ 1	e 14 59	+ 4	—	—	—
Corvallis	z.	47.3	323	e 8 27	- 2	—	—	—	—	
Seattle	48.5	327	i 8 46 <sub>a</sub>	+ 8	e 15 35	+ 2	i 9 23	sP	—	
Victoria	49.6	327	8 36	-11	16 0	+11	—	—	—	
Buenos Aires	51.4	151	e 8 58	- 2	16 20	+ 6	—	—	—	
La Plata	51.9	151	6 45	?	16 21	0	20 15	SS	33.0	
Resolute Bay	64.6	357	e 10 30 <sub>a</sub>	- 3	e 18 55	-11	e 10 52	pP	e 28.2	
College	69.2	336	i 11 0	- 2	i 20 8	- 7	—	—	e 27.9	
Scoresby Sund	71.6	18	e 11 13	- 3	e 20 35	+ 6	e 14 9	PP	—	
Lisbon	72.8	52	—	—	20 52	+ 9	25 31	SS	34.5	
Rathfarham Castle	75.3	37	e 12 0 <sub>a</sub>	pP	e 21 55	PS	—	—	e 35.2	
Malaga	76.6	54	i 11 45	0	i 21 45	+20	22 21	sS	36.5	
Toledo	76.8	51	e 11 45	- 1	e 21 36	+ 9	14 36	PP	33.2	
Granada	77.3	54	i 11 51 <sub>k</sub>	+ 2	21 39	+ 6	12 21	sP	i 35.8	
Aberdeen	77.7	34	i 14 51	PP	i 22 45	PPS	e 17 55	?	37.2	
Jersey	E.	77.9	42	e 11 54	+ 2	e 24 28	?	—	—	
Durham	78.0	36	i 11 55	+ 2	—	—	e 16 9	PPP	—	
Almeria	78.2	54	e 11 54	0	21 46	+ 4	e 14 54	PP	37.4	
Kew	78.9	39	i 11 56 <sub>a</sub>	- 2	e 22 20	sS	e 27 39	sSS	e 35.2	
Alicante	79.6	52	e 12 5	+ 3	e 21 53	- 4	15 3	PP	e 38.0	
Tortosa	80.2	50	12 5	0	22 9	+ 6	—	—	—	
Paris	80.9	41	i 12 8	- 1	e 22 20	+ 9	e 12 31	pP	e 39.2	
Clermont-Ferrand	81.6	45	e 12 10	- 2	e 22 27	+ 9	e 12 51	sP	e 38.2	
De Bilt	82.3	38	i 12 16	0	e 22 35	+10	e 15 28	PP	e 35.2	
Algiers Univ.	z.	82.6	54	i 12 19 <sub>a</sub>	+ 2	e 23 41	PPS	e 12 45	pP	—
Mitchell Field	82.8	322	i 12 20	+ 2	—	—	—	—	—	
Witteveen	z.	83.1	37	e 12 19	- 1	—	—	—	—	
Neuchatel	84.1	43	—	—	e 28 10	SS	—	—	—	
Basle	84.4	43	i 12 24	- 3	—	—	e 13 57	?	e 40.2	
Strasbourg	84.4	42	e 12 26	- 1	e 22 50	+ 4	e 12 45	pP	39.2	
Karlsruhe	z.	84.7	41	e 12 28	0	—	—	—	—	
Zürich	85.1	43	e 12 27	- 3	—	—	—	—	e 41.2	
Stuttgart	85.3	41	e 12 29	- 2	e 22 45	(- 2)	e 15 41	PP	e 35.2	
Pavia	85.9	45	e 12 33 <sub>a</sub>	- 1	e 29 47	sSS	e 15 49	PP	e 42.2	
Chur	85.9	43	e 12 33	- 1	—	—	—	—	e 43.2	
Copenhagen	85.9	34	i 12 33 <sub>a</sub>	- 1	23 7	+ 6	29 15	SS	—	

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1952

400

May 13d. 22h. 29m. 54s. Epicentre 40°·7N. 48°·3E. (as suggested by U.S.S.R.).

A = +·5058, B = +·5677, C = +·6495;  $\delta = -3$ ;  $h = -2$ ;  
D = +·747, E = -·665; G = +·432, H = +·485, K = -·760.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	
	°	°	m. s.	s.	m. s.	s.	m.	s.
Shemakla	0·3	105	i 0 9	+ 1*	i 0 13	0*	—	—
Baku	1·3	105	e 0 30	+ 4 <sub>g</sub>	—	—	—	—
Goris	1·9	231	i 0 39	+ 1 <sub>g</sub>	i 1 6	+ 3 <sub>g</sub>	i 1	8
Lenkoran	2·0	169	0 40	0 <sub>g</sub>	1 8	+ 2 <sub>g</sub>	—	—
Makbach-Kala	2·3	345	i 0 46	0 <sub>g</sub>	i 1 19	+ 3 <sub>g</sub>	—	—
Tiflis	2·8	291	e 0 57	+ 1 <sub>g</sub>	e 1 36	+ 4 <sub>g</sub>	—	—
Erevan	2·9	260	—	—	1 37	+ 1 <sub>g</sub>	—	—
Grozny	3·2	325	e 0 58	0*	i 1 52	+ 6 <sub>g</sub>	—	—
Gori	3·4	293	—	—	1 43	- 2*	i 2	1
Leninakan	3·4	273	—	—	1 42	- 3*	—	—
Tsikhlis-Dzhvari	3·8	287	1 13	- 3 <sub>g</sub>	e 2 3	- 3 <sub>g</sub>	—	—
Borzhomi	3·9	289	e 1 10	0*	—	—	—	—
Zugdidi	5·1	292	e 1 39	- 3 <sub>g</sub>	—	—	—	—
Piatigorsk	5·1	312	e 1 29	- 1*	—	—	—	—
Kiruna	z. 31·1	340	i 6 20	- 2	—	—	—	—

May 14d. 0h. 36m. 53s. Epicentre 41°·9N. 145°·4E.

Intensity V at Otsu, Kawayu, and Shiranuka; IV at Kusiro; II-III at Ikeda and Tomakomai. Epicentre as adopted. Macro seismic radius greater than 300km. Seismo. Bull. Cent. Met. Obs., Japan, for 1952, May, Tokyo, 1952, p. 193, with macro seismic chart.

A = -·6145, B = +·4239, C = +·6653;  $\delta = -7$ ;  $h = -2$ ;  
D = +·568, E = +·823; G = -·548, H = +·378, K = -·747.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.		L.
	°	°	m. s.	s.	m. s.	s.	m.	s.	m.
Kusiro	1·3	326	i 0 25	0	0 42	- 2	—	—	—
Nemuro	1·4	5	i 0 27 <sub>a</sub>	0	0 46	0	—	—	—
Urakawa	2·0	277	i 0 36 <sub>a</sub>	+ 1	1 1	- 1	—	—	—
Abashiri	2·3	339	0 40 <sub>a</sub>	0	1 3	- 6	—	—	—
Asahigawa	2·9	310	e 0 49	+ 1	1 25	+ 1	—	—	—
Hatinohe	3·2	245	i 0 53 <sub>a</sub>	+ 1	1 31	- 1	—	—	—
Sapporo	3·2	291	i 0 56 <sub>k</sub>	+ 4	1 38	+ 6	—	—	—
Miyako	3·4	230	i 0 55 <sub>a</sub>	0	1 39	+ 2	—	—	—
Aomori	3·6	254	1 0	+ 2	1 46	+ 4	—	—	—
Mori	N. 3·6	275	e 1 1	+ 3	1 52	+ 10	—	—	—
Morioka	3·9	237	i 1 3 <sub>a</sub>	+ 1	2 3	+ 3*	—	—	—
Suttsu	3·9	285	e 0 58	- 4	—	—	—	—	—
Mizusawa	4·3	231	1 10	+ 2	1 57	- 3	e 2	4	
Wakkanai	4·4	324	e 1 32	+ 4 <sub>g</sub>	2 18	+ 3*	—	—	
Akita	4·6	243	1 13 <sub>a</sub>	+ 1	2 6	- 1	—	—	
Sendai	5·0	225	1 17 <sub>a</sub>	- 1	2 14	- 4	—	—	
Yamagata	5·3	228	1 23	+ 1	2 21	- 4	—	—	
Yuzno-Sakhlinsk	5·4	340	e 1 28	+ 4	e 2 35	+ 7	—	—	
Hukusima	5·6	224	1 27	0	2 27	- 6	—	—	
Inawasiro	5·9	225	e 1 28	- 3	2 38	- 2	—	—	
Onahama	6·0	217	e 1 33 <sub>k</sub>	+ 1	2 34	- 9	—	—	
Niigata	z. 6·3	233	e 1 38	+ 2	2 42	- 8	—	—	
Aikawa	6·7	237	1 41	- 1	2 27	- 33	—	—	
Mito	6·7	216	e 1 42	0	2 57	- 3	—	—	
Utunomiya	6·8	220	e 1 42	- 2	3 1	- 2	—	—	
Tukubasan	7·0	218	e 1 45	- 1	3 0	- 8	—	—	
Kumagaya	7·4	221	1 53 <sub>k</sub>	+ 1	3 15	- 3	—	—	
Maebasi	z. 7·4	224	i 1 51	- 1	3 25	+ 7	—	—	
Uglegorsk	7·5	343	1 55	+ 2	3 26	+ 6	—	—	
Nagano	E. 7·6	229	e 1 58	+ 3	3 27	+ 4	—	—	
Tokyo	z. 7·6	217	e 1 53	- 2	3 17	- 6	—	—	
Matusiro	7·7	228	i 1 56	0	3 19	- 6	—	—	
Oiwake	7·7	226	1 57	+ 1	3 34	+ 9	—	—	
Titibu	7·7	222	i 1 56	0	—	—	—	—	
Wazima	8·0	238	e 1 59	- 1	3 29	- 4	—	—	

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1952

401

		Δ °	Az. °	P.		O - C. s.	S.		O - C. s.	Supp.		L. m.
				m.	s.		m.	s.		m.	s.	
Matumoto	N.	8.1	228	e 2	2	0	—	—	—	—	—	—
Hunatu		8.2	221	e 2	6	+ 3	3 37	- 1	—	—	—	—
Kohn		8.2	223	e 2	3	0	—	—	—	—	—	—
Mera		8.2	214	e 2	3	0	—	—	—	—	—	—
Osima		8.5	215	e 2	6	- 1	3 37	- 8	—	—	—	—
Takayama		8.5	230	e 2	9	+ 2	—	—	—	—	—	—
Kanazawa		8.6	235	e 2	12	+ 3	—	—	—	—	—	—
Iida		8.7	225	e 2	11	+ 1	3 45	- 5	—	—	—	—
Shizuoka		8.8	221	e 2	11	0	—	—	—	—	—	—
Omaesaki		9.2	220	e 2	17	+ 1	—	—	—	—	—	—
Gihu		9.3	229	e 2	18	+ 1	—	—	—	—	—	—
Hamamatu		9.4	222	e 2	14	- 4	4 0	- 7	—	—	—	—
Nagoya		9.4	227	e 2	20	+ 2	4 7	0	—	—	—	—
Tsuruga		9.6	232	e 2	23	+ 2	3 47	- 25	—	—	—	—
Hikone		9.7	230	e 2	25	+ 3	—	—	—	—	—	—
Hatidyozima		9.8	208	e 2	27	+ 3	—	—	—	—	—	—
Kameyama		9.9	228	e 2	26	+ 1	4 26	+ 6	—	—	—	—
Vladivostok		10.0	282	e 2	27	0	4 24	+ 2	—	—	—	—
Kyoto		10.2	231	e 2	26	- 5	4 30	+ 3	—	—	—	—
Toyooka		10.4	236	i 2	32	- 2	—	—	—	—	—	—
Osaka		10.6	230	e 2	37	+ 1	—	—	—	—	—	—
Kobe	E.	10.8	231	e 2	38	- 1	—	—	—	—	—	—
Saigo	N.	11.0	243	e 2	42	0	—	—	—	—	—	—
Yonago		11.4	239	e 2	50	+ 3	—	—	—	—	—	—
Takamatu		11.7	233	i 2	50	- 1	5 16	+ 12	—	—	—	—
Muroto		12.4	229	e 2	58	- 3	5 22	+ 1	—	—	—	—
Koti		12.5	232	e 3	0	- 2	—	—	—	—	—	—
Hamada		12.6	241	i 3	3	0	5 46	+ 20	—	—	—	—
Hirosima		12.7	238	e 3	4	- 1	5 52	+ 24	—	—	—	—
Matuyama		12.8	235	e 3	5	- 1	—	—	—	—	—	—
Simidu		13.4	232	e 3	13	- 1	—	—	—	—	—	—
Petropavlovsk		14.3	34	i 3	31	+ 5	—	—	—	—	—	—
Hukuoka		14.4	240	e 3	25	- 2	—	—	—	—	—	—
Saga		14.7	239	e 3	31	0	—	—	—	—	—	—
Kumamoto		14.8	237	e 3	32	0	—	—	—	—	—	—
Miyazaki		14.9	233	e 3	34	0	6 46	+ 26	—	—	—	—
Yakusima		16.6	231	e 3	54	- 2	—	—	—	—	—	—
Zi-ka-wei	Z.	22.0	248	e 4	54 <sub>a</sub>	- 4	i 9 1	+ 5	—	—	—	—
Nanking		23.3	254	i 5	10 <sub>k</sub>	0	i 9 32	+ 12	—	—	—	—
Mitchell Field		27.5	54	e 5	52	+ 2	—	—	—	—	—	—
Kabansk		28.0	304	e 5	53	- 2	e 10 36	- 2	—	—	—	—
Kyakhta		28.0	302	e 5	53	- 2	e 10 39	+ 1	—	—	—	—
Irkutsk		29.5	305	e 6	6	- 2	11 1	- 1	—	—	—	—
Manila		34.5	225	e 6	51	- 1	e 17 4	L	e 7 20	?	(e 17.1)	—
College		43.4	35	i 8	6	0	i 14 30	- 5	e 10 30	PPP	i 17.6	—
Shillong	E.	46.7	268	e 8	28	- 4	—	—	10 19	PP	—	—
Kurmenty		48.3	295	e 8	44	- 1	—	—	—	—	—	—
Przhevalsk		48.4	294	e 8	45	- 1	—	—	—	—	—	—
Almata II		48.8	296	e 8	49	0	—	—	—	—	—	—
Ili		48.8	298	e 8	48	- 1	e 15 50	- 2	—	—	—	—
Almata		49.1	296	i 8	50	- 1	i 15 58	+ 2	—	—	—	—
Rybach'e		50.0	296	i 8	59?	+ 1	e 16 6?	- 3	—	—	—	—
Naryn		50.5	294	i 9	1	- 1	i 16 14	- 2	—	—	—	—
Sitka		50.6	44	e 9	11	+ 9	e 16 23	+ 6	—	—	—	—
Frunse		50.8	296	i 9	3	- 1	i 16 20	0	—	—	—	—
Andijan		53.3	295	i 9	21	- 2	16 53	- 1	—	—	—	—
Murgab		53.3	292	i 9	23	0	i 16 50	- 4	—	—	—	—
Sverdlovsk		53.6	317	i 9	22	- 3	16 55	- 3	—	—	—	—
Fergana		53.8	295	i 9	24	- 2	i 16 57	- 4	—	—	—	—
Tchinkent		54.4	298	—	—	—	i 16 59	- 10	—	—	—	—
Dzhergetal		54.8	295	i 9	32	- 2	—	—	—	—	—	—
Tashkent		55.1	297	i 9	33	- 3	i 17 17	- 1	—	—	—	—
Khorog		55.3	291	e 9	36	- 2	—	—	—	—	—	—
New Delhi		55.9	280	e 9	41	- 1	i 17 23	- 6	17 55	PPS	—	—
Obi-garm		56.0	295	i 9	43	0	i 17 28	- 2	—	—	—	—

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1952

402

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Kulyab		56.4	293	i 9 47	+ 2	i 17 36	0	—	—
Stalinabad		56.7	295	i 9 47	- 1	i 17 37	- 3	—	—
Resolute Bay		57.1	16	i 9 48 <sup>a</sup>	- 2	i 17 42	- 3	e 19 42	ScS e 27.1
Samarkand		57.4	296	i 9 50	- 3	17 44	- 5	—	—
Victoria		60.9	49	e 10 6	-11	—	—	—	—
Hyderabad	E.	61.5	268	i 10 23	+ 2	i 18 41	- 1	12 29	PP
Seattle		62.0	49	e 10 27	+ 3	—	—	—	—
Quetta		62.4	287	i 10 26	- 1	e 18 53	0	—	37.1
Kiruna		63.1	339	i 10 29 <sup>a</sup>	- 3	i 18 58	- 4	i 11 3	PcP e 33.1
Ashkabad		64.0	298	i 10 37	- 1	19 14	+ 1	—	—
Poona		64.3	273	i 10 38	- 1	e 19 16	- 1	11 6	PcP
Arcata	Z.	64.6	57	e 10 45	+ 4	—	—	—	—
Kizyl-Arvat		64.8	301	i 10 43	0	19 23	0	—	—
Moscow		65.2	323	10 44	- 1	i 19 25	- 3	—	—
Pulkovo		65.6	330	—	—	e 19 27	- 6	—	—
Shasta		65.8	56	e 10 50	+ 1	—	—	—	—
Hungry Horse		66.2	46	e 10 49	- 3	e 19 34	- 6	—	—
Mineral	Z.	66.5	56	e 10 54 <sup>k</sup>	0	—	—	e 14 28	PPP
Kodaikanal	E.	66.8	263	i 10 54	- 2	i 19 48	0	—	—
Helsinki		67.2	333	e 10 54	- 4	e 19 51	- 1	—	—
Colombo	E.	67.3	258	10 56	- 3	—	—	15 8	PPP
Berkeley		67.5	59	e 11 1	+ 1	e 19 49	- 7	e 28 43	Q e 31.1
Saskatoon		67.6	39	e 11 1	0	e 19 55	- 2	—	—
Scoresby Sund		67.6	356	i 10 59 <sup>a</sup>	- 2	i 19 56	- 1	i 11 55	? 32.1
Makhach-Kala		67.9	309	i 11 3	- 1	i 20 1	0	—	—
Baku		68.0	305	i 11 4	+ 1	—	—	—	—
Reno	Z.	68.1	56	e 11 5	+ 1	e 20 6	+ 3	—	—
Lick	Z.	68.2	59	i 11 8 <sup>a</sup>	+ 4	—	—	i 11 42	PcP
Shemakla		68.6	306	i 11 7	0	20 10	+ 1	—	—
Grozny		68.7	310	i 11 6	- 1	i 20 11	+ 1	—	—
Bozeman		69.4	47	e 11 15	+ 3	e 20 19	+ 1	—	—
Lenkoran		69.6	303	11 14	+ 1	20 22	+ 1	—	—
Fresno	Z.	69.8	58	e 11 14	0	—	—	—	—
Piatigorsk		69.8	312	11 13	- 1	20 22	- 1	—	—
Upsala		69.9	335	i 11 13 <sup>a</sup>	- 2	i 20 19	- 5	i 11 33	PcP e 33.1
Tiflis		70.2	309	i 11 17	0	20 29	+ 1	—	—
Tinemaha	Z.	70.5	57	i 11 19	+ 1	—	—	—	—
Goris		70.7	306	11 20	0	i 20 34	0	—	—
Borzhom		71.0	310	11 22	0	20 37	0	—	—
Tsikhlis-Dzhvari		71.1	310	i 11 21	- 1	i 20 39	+ 1	—	—
Abastumanj		71.3	310	e 11 26	+ 3	e 20 45	+ 4	—	—
Erevan		71.4	307	i 11 26	+ 2	20 45	+ 3	—	—
Leninakan		71.4	308	e 11 27 <sup>?</sup>	+ 3	—	—	—	—
Zugdidi		71.4	311	e 11 23	- 1	—	—	—	—
China Lake	Z.	71.7	58	e 11 24	- 2	—	—	i 11 44	PcP
Sotchi		71.9	313	11 28	+ 1	20 50	+ 2	—	—
Pasadena		72.4	60	i 11 31	+ 1	i 20 53	0	—	e 32.9
Riverside	Z.	73.0	60	i 11 34	+ 1	—	—	—	—
Theodosia		73.3	316	11 34	- 1	21 0	- 4	—	—
Boulder City		73.4	56	i 11 37	+ 1	—	—	i 14 43	PP
Simferopol		74.0	317	11 38	- 1	e 21 10	- 1	—	—
Copenhagen		74.9	335	i 11 44 <sup>a</sup>	0	21 20	- 2	23 19	? 38.1
Kishinev		75.1	322	11 43	- 3	21 22	- 2	—	—
Lwow		75.2	325	i 11 55	+ 9	i 21 31	+ 6	—	—
Riverview		75.5	175	i 11 49 <sup>a</sup>	+ 1	e 21 34	+ 6	i 22 1	ScS e 33.1
Iasi		75.6	323	e 11 49	+ 1	e 21 26	- 3	e 22 0	ScS
Uzhgorod		76.9	325	i 11 56	0	e 21 44	+ 1	—	—
Skalnate Pleso		77.3	326	11 45	-13	e 21 35	-13	e 22 18	PS e 40.6
Potsdam		77.4	333	i 11 59 <sup>k</sup>	+ 1	i 21 47	- 2	12 16	PcP e 39.1
Raciborzu		77.4	329	i 11 59	+ 1	e 21 50	+ 1	i 12 11	PcP e 44.1
Bucharest	E.	78.3	320	e 12 3 <sup>a</sup>	0	21 55	- 4	e 15 27	PP e 37.1
Tucson		78.3	57	e 12 6	+ 3	—	—	e 15 6	PP
Collmberg		78.4	332	e 12 2	- 2	e 21 52	- 8	e 14 26	PP e 41.6
Prague		78.9	330	e 12 6	- 1	e 22 3	- 2	e 12 14	PcP e 39.1
Budapest		79.1	326	12 10	+ 2	22 10	+ 3	22 37	PS e 42.6

Continued on next page.

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1952

403

	z.	$\Delta$ °	Az. °	P.		O-C. s.	S.		O-C. s.	Supp.		L. m.
				m.	s.		m.	s.		m.	s.	
Jena		79.2	332	e 12	7	- 1	e 22 12	+ 4	e 15 14	PP	—	
Ogyalla		79.2	327	e 12	10?	+ 2	e 22 10	+ 2	e 23 14	PPS	e 41.6	
Witteveen		79.2	336	i 12	9k	+ 1	—	—	—	—	—	
Istanbul		79.3	316	e 12	8	- 1	e 21 52	-17	e 22 20	SKS	—	
Cheb		79.6	332	e 12	12	+ 2	e 22 10	- 2	e 12 31	PcP	e 40.6	
Timisoara		79.6	323	i 12	15	+ 5	e 22 15	+ 3	—	—	e 40.6	
Durham		79.7	341	—	—	—	i 22 13	0	—	—	—	
Kalossa		79.9	326	e 12	12	0	e 22 14	- 2	e 13 0	?	e 44.1	
De Bilt		80.2	336	i 12	13	- 1	i 22 19	0	i 12 40	PcP	e 38.1	
Belgrade		80.6	323	e 12	15k	- 1	e 22 25	+ 2	e 12 38	PcP	e 44.3	
Ksara		80.7	307	i 12	18	+ 2	22 21	- 3	12 44	PcP	—	
Sofia		81.0	320	e 12	9	- 9	e 22 37	+10	—	—	e 44.1	
Stuttgart		81.8	332	e 12	21	- 1	e 22 31	- 4	i 12 49	PcP	e 42.1	
Karlsruhe		81.9	333	e 12	22	- 1	e 22 37	+ 1	—	—	—	
Rathfarnham Castle		82.1	343	e 12	21a	- 3	e 22 37	- 1	e 12 36	PcP	e 38.1	
Kew		82.3	339	i 12	22a	- 3	i 22 39	- 1	e 23 48	PS	e 38.1	
Strasbourg		82.5	333	e 12	25a	- 1	e 22 42	0	e 12 39	PcP	e 38.1	
Lubbock		82.8	51	12	29	+ 2	22 48	+ 3	—	—	—	
Triest		82.8	328	e 12	28	+ 1	i 22 41	- 4	i 22 51	SKS	40.4	
Zürich		83.2	332	e 12	28a	- 1	e 22 44	- 5	e 23 44	PS	—	
Chur		83.3	331	e 12	30	0	—	—	—	—	e 47.1	
Basle		83.4	333	e 12	39	+ 9	e 23 3	+12	—	—	—	
Chicago		83.9	37	—	—	—	e 22 56	0	e 28 27	SS	—	
Paris		83.9	336	i 12	34	+ 1	e 22 54	- 2	i 13 1	pP	43.1	
Salo		84.0	330	e 12	32	- 1	e 22 50	- 7	e 12 54	PcP	—	
Padova		84.4	328	e 13	32	+56	e 22 58	- 3	—	—	—	
Bologna		84.7	328	e 12	38a	+ 1	e 23 9	+ 5	—	—	—	
Pavia		84.9	330	e 12	38a	0	i 23 2	- 4	e 13 1	PcP	—	
Fayetteville		85.2	45	i 12	41	+ 2	—	—	i 12 57	pP	—	
Florence		85.3	328	i 12	39k	- 1	e 23 11	+ 1	e 15 56	PP	—	
Prato		85.3	328	e 12	40	0	e 23 3	- 7	—	—	—	
Taranto		85.5	323	—	—	—	23 16	+ 4	e 38 37	Q	e 45.6	
Ottawa		85.7	28	i 12	43a	+ 1	23 7	[+ 2]	16 2	PP	—	
Helwan		86.3	307	i 12	46a	+ 1	23 19	- 1	e 16 4	PP	—	
Rome		86.4	327	i 12	43a	- 2	e 23 7?	[- 3]	e 16 9	PP	—	
Clermont-Ferrand		86.5	335	i 12	46	0	e 32 37	SSS	i 13 17	?	—	
Cleveland		86.8	34	i 12	49k	+ 2	e 23 13	[ 0]	—	—	—	
Messina		88.1	323	e 13	26	?	e 23 26?	-11	e 16 42	PP	e 47.8	
Pennsylvania		88.8	32	e 13	0	+ 3	e 23 24	[- 1]	e 16 25	PP	—	
Morgantown		89.0	34	i 12	59	+ 1	—	—	e 14 19	?	—	
Harvard		89.6	26	i 13	4a	+ 3	e 23 55	+ 4	e 24 56	PS	e 50.2	
Weston		89.8	26	i 13	3k	+ 1	—	—	—	—	e 47.8	
Palisades		90.1	29	—	—	—	i 23 35	[+ 2]	i 24 0	S	e 44.0	
Philadelphia		90.6	30	e 13	16	+11	e 23 31	[- 5]	—	—	—	
Toledo		94.0	337	i 13	21	0	e 24 22	- 8	e 24 2	SKS	50.1	
Algiers Univ.		94.5	330	e 17	8	PP	—	—	e 17 47	?	—	
Almeria		96.3	334	i 13	30	- 2	24 2	[- 6]	17 26	PP	52.0	
Granada		96.3	336	i 16	22a	?	27 6	PPS	17 27	PP	50.0	
Malaga		97.0	336	i 13	36	+ 1	i 24 24	[+12]	17 26	PP	49.8	
Tamanrasset		105.7	322	14	47	+33	e 18 15	PKP	e 18 35	PP	—	
Pretoria		126.5	267	i 19	8	[+ 3]	—	—	—	—	—	
Huancayo		133.7	62	e 19	25	[+ 6]	—	—	—	—	e 62.7	
La Paz		141.7	58	i 19	36a	[+ 3]	29 28	{- 3}	—	—	68.7	

May 14d. 9h. 32m. 49s. Epicentre 36°-8N. 69°-9E. Depth of focus 0.030 (as on 7d.).

	$\Delta$ °	Az. °	P.		O-C. s.	S.		O-C. s.
			m.	s.		m.	s.	
Kulyab	1.1	355	e 0	35	+ 2	i 1	1	+ 2
Khorog	1.5	64	i 0	34	- 2	i 1	2	- 2
Obi-garm	1.9	355	i 0	41	+ 1	i 1	12	+ 2
Stalinabad	2.0	333	i 0	41	0	i 1	13	+ 1
Garm	2.2	8	i 0	42	- 1	i 1	15	- 1
Dzhergetal	2.6	23	i 0	48	+ 1	i 1	24	+ 1
Samarkand	3.7	323	—	—	—	1	44	- 2
Andijan	4.4	25	—	—	—	2	2	+ 1

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1952

404

May 14d. 12h. 37m. 22s. Epicentre 36°·1'N. 136°·2'E. (as on 1948, Aug. 14d.).

Intensity IV at Hukui, Unabara, Yuwaku, Katuyama; II-III at Kanazawa, Wazima, Maizuru, Hikone, and Toyooka. Epicentre 36°45'N. 136°12'E. Macroseismic radius 100-200km.

Seismo. Bull. Cent. Met. Obs., Japan, May, 1952, Tokyo, 1952, p.195, with macroseismic chart.

$$A = -0.5845, B = +0.5606, C = +0.5866; \quad \delta = +1; \quad h = 0;$$

$$D = +0.692, E = +0.722; \quad G = -0.423, H = +0.406, K = -0.810.$$

	$\Delta$	Az.	P.	O - C.	S.	O - C.
	°	°	m. s.	s.	m. s.	s.
Hukui	0.1	—	e 0 4	- 4	0 11	- 2
Tsuruga	0.5	193	0 13	- 1	0 23	0
Kanazawa	0.6	40	e 0 6	- 9	0 11	-15
Ibukisan	0.7	168	i 0 19	+ 2	0 30	+ 2
Gihu	0.8	147	0 19	+ 1	0 35	+ 4
Hikone	0.8	177	0 21	+ 3	0 35	+ 2
Maizuru	0.9	223	i 0 19 <sub>a</sub>	- 1	0 35	+ 1
Takayama	0.9	87	e 0 15 <sub>k</sub>	- 5	0 27	- 7
Toyama	1.0	54	e 0 15	- 6	0 28	- 8
Nagoya	1.1	146	0 25	+ 3	0 45	+ 6
Kyoto	1.2	199	e 0 26	+ 2	0 46	+ 5
Toyooka	1.2	243	i 0 22	- 2	0 42	+ 1
Kameyama	1.3	170	0 29	+ 4	0 50	+ 6
Matumoto	E. 1.4	85	e 0 27	0	0 54	+ 8
Wazima	1.4	24	i 0 18 <sub>a</sub>	- 9	0 34	-12
Hida	1.5	114	e 0 25	- 3	0 54	+ 5
Osaka	1.5	201	e 0 34	+ 6	0 57	+ 8
Kasiwara	1.6	192	e 0 34	+ 4	1 0	+ 9
Kobe	Z. 1.6	210	e 0 32	+ 2	0 57	+ 6
Matusiro	1.7	75	0 29	- 2	—	—
Nagano	1.7	71	e 0 31	0	—	—
Tottori	1.7	249	e 0 30	- 1	0 55	+ 1
Hamamatu	1.9	138	0 43	+ 5 <sub>g</sub>	1 9	+ 6 <sub>g</sub>
Oiwake	1.9	83	e 0 32	- 2	1 5	+ 2 <sub>g</sub>
Takada	1.9	59	e 0 33	- 1	0 57	- 2 <sub>g</sub>
Kohu	2.0	104	e 0 36	+ 1	1 7	+ 5
Owase	2.0	180	0 39	+ 4	—	—
Sumoto	2.0	212	0 38	+ 3	1 10	+ 4 <sub>g</sub>
Shizuoka	2.1	122	0 41	- 1 <sub>g</sub>	1 10	+ 1 <sub>g</sub>
Hunatu	2.2	106	e 0 42	- 2 <sub>g</sub>	—	—
Omaesaki	2.2	132	0 44	0 <sub>g</sub>	1 25	+12 <sub>g</sub>
Maebasi	2.3	83	e 0 45	- 1 <sub>g</sub>	1 20	+ 4 <sub>g</sub>
Misima	N. 2.4	114	e 0 46	- 2 <sub>g</sub>	1 30	+11 <sub>g</sub>
Titibu	2.4	93	e 0 48	0 <sub>g</sub>	—	—
Aikawa	2.5	40	e 0 38	- 5	1 7	- 5
Takamatu	2.5	225	i 0 48	- 2 <sub>g</sub>	1 25	+ 2 <sub>g</sub>
Kumagaya	2.6	89	e 0 49	+ 2 <sub>g</sub> *	—	—
Matsue	2.6	256	e 1 9	S	(e 1 9)	- 8
Siomisaki	2.7	188	0 43	- 2	—	—
Osima	2.9	117	e 0 53	+ 1*	1 39	+ 3 <sub>g</sub>
Tokyo	E. 2.9	98	e 0 57	- 1 <sub>g</sub>	1 35	- 1 <sub>g</sub>
Yokohama	2.9	103	1 0	+ 2 <sub>g</sub>	—	—
Mera	3.2	112	e 0 58	0*	—	—
Koti	3.4	222	e 1 4	- 4 <sub>g</sub>	1 53	+ 1 <sub>g</sub>
Hirosima	3.5	242	1 5	+ 2*	1 50	+ 2*
Inawasiro	3.5	63	e 0 59	+ 2	—	—
Mito	3.5	84	e 1 17	+ 7 <sub>g</sub>	—	—
Matuyama	3.6	233	e 1 6	+ 2*	1 58	- 1 <sub>g</sub>

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1952

405

May 14d. 21h. 11m. 35s. Epicentre 16°·5N, 86°·5W.

A = +·0586, B = -·9575, C = +·2823;  $\delta = -7$ ;  $h = +5$ ;  
D = -·998, E = -·061; G = +·017, H = -·282, K = -·959.

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.	
	<sup>c</sup>	<sup>c</sup>	m.	s.	s.	m.	s.	s.	m.	s.	m.	
Merida	5·3	327	i 1	25 <sup>a</sup>	+ 3	i 2	23	- 2	—	—	—	
Kingston	9·4	80	e 2	16	- 2	e 4	7	0	—	—	e 6·2	
Vera Cruz	9·5	288	i 2	29 <sup>a</sup>	+ 9	—	—	—	—	—	i 5·2	
Oaxaca	9·9	274	e 2	29	+ 4	i 4	19	- 1	—	—	—	
Puebla	11·4	284	e 2	51	+ 4	i 4	59	+ 3	—	—	—	
Galerazamba	12·3	116	e 3	2	+ 3	i 5	31	+13	e 16	11	ScS	6·3
Tacubaya	12·4	285	i 3	8 <sup>a</sup>	+ 7	i 5	25	+ 4	—	—	—	—
Mobile	14·2	354	i 3	25	+ 1	i 5	41	-23	—	—	—	—
Chinchina	15·7	136	i 3	45	+ 1	i 6	53	+14	—	—	—	—
Guadalajara	16·5	287	e 4	9	+15	—	—	—	—	—	—	—
Bogota	17·0	133	i 4	3	+ 2	i 7	17	+ 7	—	—	—	—
Columbia	18·1	12	i 4	11	- 3	e 7	41	+ 6	—	—	—	—
San Juan	19·5	78	i 4	27 <sup>a</sup>	- 4	—	—	—	—	—	—	—
Fayetteville	z.	20·7	i 4	43	- 1	i 8	0	-31	e 4	54	pP	—
Lubbock	21·9	325	4	58	+ 1	8	49	- 5	—	—	—	—
Morgantown	23·8	13	i 5	14	- 1	i 9	25	- 3	—	—	—	—
Washington	23·8	19	i 5	14	- 1	—	—	—	i 5	40	?	—
Washington, N.R.I.	23·8	19	i 5	12	- 3	—	—	—	—	—	—	—
Fort de France	24·5	90	i 5	9	-13	i 9	51	+11	—	—	—	e 11·7
Pittsburgh	24·5	20	e 5	20	- 2	i 9	51	+11	—	—	—	—
Chicago	25·2	357	e 5	28	- 1	e 9	48	- 4	—	—	—	—
Bermuda	25·3	46	i 5	27	- 3	e 10	0	+ 6	—	—	—	e 12·1
Cleveland	25·3	8	i 5	29 <sup>a</sup>	- 1	e 9	54	0	—	—	—	—
Pennsylvania	25·3	14	e 5	28	- 2	e 9	48	- 6	e 5	59	PP	e 11·0
Philadelphia	25·4	20	e 5	20	-11	e 9	49	- 7	—	—	—	—
City College, N.Y.	26·6	21	i 5	40	- 2	e 10	17	+ 1	—	—	—	—
Fordham	26·6	21	i 5	42	0	e 10	18	+ 2	—	—	—	—
Palisades	26·7	21	i 5	41 <sup>a</sup>	- 2	e 10	18	+ 1	i 5	46	?	e 12·5
Buffalo (Larkin)	27·1	12	e 5	47	+ 1	—	—	—	—	—	—	—
Tucson	27·1	311	i 5	48	+ 2	e 10	6	-18	i 6	52	PPP	—
Harvard	28·9	23	i 6	1 <sup>a</sup>	- 2	e 10	50	- 3	—	—	—	e 14·7
Weston	28·9	23	i 6	1 <sup>k</sup>	- 2	e 10	49	- 4	—	—	—	—
Ottawa	30·2	14	i 6	12 <sup>a</sup>	- 2	11	9	- 4	7	10	PP	14·4
Huancayo	30·4	158	e 6	29	+13	e 11	34	+18	—	—	—	e 13·0
Boulder City	31·8	314	i 6	31	+ 3	—	—	—	—	—	—	—
Kirkland Lake	z.	32·0	e 6	27	- 3	—	—	—	e 6	52	?	—
Shawinigan Falls N.	32·1	17	e 6	30	- 1	12	4	+21	7	36	PP	—
Riverside	z.	32·7	e 6	39	+ 3	—	—	—	i 6	54	?	—
Pasadena	33·4	309	i 6	45	+ 3	i 12	10	+ 7	—	—	—	e 14·2
China Lake	33·7	312	i 6	47	+ 2	i 12	16	+ 8	—	—	—	—
Tinemaha	34·7	312	e 6	56	+ 2	e 12	33	+ 9	i 7	17	?	—
Fresno	z.	35·7	e 7	3 <sup>a</sup>	+ 1	e 12	33	- 6	—	—	—	—
Reno	37·0	316	e 7	14 <sup>a</sup>	+ 1	e 13	8	+ 9	e 7	27	?	—
Lick	z.	37·3	i 7	19 <sup>a</sup>	+ 3	—	—	—	i 7	30	?	—
La Paz	37·5	149	i 7	9	- 8	—	—	—	17	31	Q	19·1
Santa Clara	37·5	311	i 7	27 <sup>a</sup>	+10	e 13	16	+ 9	—	—	—	e 20·9
Berkeley	37·9	311	i 7	24 <sup>a</sup>	+ 4	i 13	18	+ 5	i 9	19	PcP	i 16·2
Mineral	z.	38·6	i 7	28 <sup>a</sup>	+ 2	—	—	—	—	—	—	—
Hungry Horse	38·9	332	e 7	33	+ 4	—	—	—	i 9	0	PP	e 17·6
Saskatoon	39·0	340	e 12	1	?	e 18	7	?	—	—	—	—
Shasta	39·3	316	i 7	33	+ 1	—	—	—	—	—	—	—
Seattle	42·8	325	e 8	7	+ 6	—	—	—	—	—	—	—
Victoria	43·9	325	8	0	-10	—	—	—	—	—	—	—
Resolute Bay	58·4	358	i 9	56 <sup>k</sup>	- 4	e 18	5	+ 3	e 19	43	ScS	e 26·2
College	63·1	336	i 10	31	- 1	e 19	0	- 2	—	—	—	e 25·6
Scoresby Sund	66·1	19	i 10	48 <sup>a</sup>	- 3	e 19	36	- 3	24	7	SS	30·4
Rathfarnham Castle	71·1	38	e 11	20	- 2	e 15	13	?	e 16	25	?	—
Toledo	73·9	53	e 11	27	-12	—	—	—	—	—	—	—
Malaga	74·1	55	i 11	38	- 2	i 21	48	PS	15	2	PP	34·3
Granada	74·7	55	i 11	40 <sup>a</sup>	- 3	20	59	-20	12	5	PcP	32·9

Continued on next page.



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1952

406

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Almeria	75.6	55	11 44	- 4	21 20	- 9	12 4	PcP 36.5
Paris	77.1	43	e 11 53?	- 4	—	—	e 12 11	PcP
Strasbourg	80.6	42	e 12 17	+ 1	e 22 37	+14	e 12 33	PcP e 35.4
Kiruna	81.1	22	e 12 20	+ 2	e 22 32	+ 4	e 23 21	PS e 35.4
Stuttgart	81.4	42	e 12 16	- 4	—	—	—	e 36.4
Copenhagen	81.5	34	—	—	22 31	- 1	—	—
Jena	82.3	40	e 12 22	- 3	e 12 39	PcP	e 15 29	PP 42.4
Upsala	82.8	30	i 12 25	- 2	i 22 46	+ 1	i 15 37	PP
Florence	84.2	46	e 17 3	PPP	—	—	—	—
Triest	z. 85.3	44	e 12 39	- 1	e 12 47	PcP	e 13 0	? e 45.8
Tamanrasset	z. 85.5	68	e 12 41	0	e 12 54	PcP	e 13 25	? —
Rome	85.6	48	e 15 47?	PP	e 23 0	[- 5]	e 28 51	SS —
Raciborzu	z. 86.6	39	e 12 43	- 3	—	—	e 12 57	PcP —
Messina	8. 88.9	50	—	—	e 24 55	PPS	e 29 57	SS —
Taranto	89.5	48	e 16 25?	PP	—	—	—	—
Istanbul	97.4	44	e 18 25?	PP	—	—	—	—
Ksara	105.7	49	e 17 59	PP	e 28 5	PS	—	— 48.4

May 15d. 10h. 25m. 22s. Epicentre 18°·6N. 121°·2E. (as on 1951, May 31d.).

Felt at Aparri; Intensity III at Laoag. Epicentre 18°·75N. 121°·25E. (Strasbourg).  
Monthly seismic bulletin, Manila, May, 1952, p.3.

A = -·4913, B = +·8112, C = +·3170 ;  $\delta$  = -9 ; h = +5 ;  
D = +·855, E = +·518 ; G = -·164, H = +·271, K = -·948.

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Manila	4.0	183	i 1 11	0*	e 2 12	0 <sub>r</sub>	—	—
Hong Kong	7.5	300	1 49	- 4	—	—	—	—
Zi-ka-wei	z. 12.6	1	e 3 0	- 3	5 48	SS	—	—
Saga	16.7	27	e 4 2	+ 5	—	—	—	—
Hukuoka	17.1	27	e 4 8	+ 6	e 7 16	+ 4	e 4 18	PP e 9.3
Siomisaki	19.7	38	e 4 36	+ 2	8 22	+12	—	—
Kobe	20.3	35	e 4 40	0	i 4 50	?	e 6 16	? —
Osaka	20.5	35	e 4 39	- 3	e 9 5	SSS	e 5 16	PPP —
Toyama	22.9	32	e 5 16	+10	e 9 18	+ 5	e 5 14	PP —
Matumoto	N. 23.0	36	e 5 16	+ 9	e 9 36	+22	—	—
Matusiro	23.3	35	5 9	- 1	9 19	- 1	i 9 27	S —
Nagano	23.4	34	e 5 13	+ 2	e 9 35	+14	—	—
Oiwake	23.4	35	e 5 7	- 4	—	—	—	—
Kumagaya	23.7	37	e 5 24	+10	e 10 3	SS	—	—
Maebasi	23.7	35	e 5 28	+14	e 10 8	SS	—	—
Tokyo	N. 23.7	39	e 5 14	0	e 9 53	+26	e 4 34	? —
Utunomiya	24.3	35	e 5 14	- 6	—	—	—	—
Djakarta	28.4	211	e 5 56	- 2	e 10 44	- 1	—	—
Calcutta	E. 31.0	283	i 8 38	?	i 11 54	+28	—	—
Kyakhta	33.8	343	6 44	- 2	e 12 5	- 5	—	i 18.5
Kabansk	35.3	344	6 57	- 2	e 12 30	- 3	—	—
Irkutsk	36.1	342	7 5	0	e 12 45	0	—	—
Przhevalsk	43.3	313	8 7	+ 2	—	—	—	—
Kurmenty	43.6	314	i 8 8	0	—	—	—	—
Almata II	44.3	314	e 8 14	+ 1	—	—	—	—
Almata	44.6	314	e 8 16	0	e 14 53	+ 1	—	—
Naryn	44.6	311	i 8 17	+ 1	i 14 54	+ 2	—	—
Ili	44.7	315	e 8 16	0	—	—	—	—
Poona	44.8	278	i 8 18	+ 1	i 8 47	?	9 58	PcP —
Rybach'e	44.9	312	i 8 18	0	i 14 58	+ 2	—	—
Semipalatinsk	45.4	325	i 8 21	- 1	—	—	—	—
Frunse	46.1	312	i 8 28	0	i 15 15	+ 1	—	—
Andijan	47.1	308	i 8 36	+ 1	i 15 31	+ 3	—	—
Khorog	47.1	304	i 8 33	- 2	e 15 27	- 1	—	—
Fergana	47.5	308	i 8 38	0	e 15 34	0	—	—

Continued on next page.

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1952

407

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Dzhergetal	47.7	307	e 8 42	+ 2	—	—	—	—
Kulyab	48.6	305	i 8 48	+ 1	—	—	—	—
Obi-garm	48.8	307	i 8 49	0	e 15 54	+ 2	—	—
Tashkent	49.5	309	i 8 55	+ 1	i 16 2	0	—	—
Tchimkent	49.5	311	i 8 54	0	e 16 3	+ 1	—	—
Quetta	50.3	295	e 9 1	+ 1	e 16 9	- 4	—	23.8
Samarkand	51.0	306	i 9 3	- 3	16 21	- 1	—	—
Brisbane	z. 55.2	145	i 9 40 <sub>a</sub>	+ 3	—	—	i 10 46	PcP
Ashkabad	57.6	304	i 9 54	0	17 55	+ 4	—	—
Sverdlovsk	58.6	326	i 10 0	- 1	—	—	—	—
Baku	64.1	307	e 10 40	+ 2	—	—	—	—
Shemakla	65.0	307	e 10 44	0	—	—	—	—
Makhach-Kala	65.8	310	i 10 49	0	—	—	—	—
Kirovobad	66.8	307	i 10 55	- 1	19 46	- 2	—	—
Goris	66.9	306	e 10 59	+ 3	e 19 47	- 2	—	—
Grozny	67.0	310	i 10 58	+ 1	19 50	0	—	—
Tiflis	67.8	309	e 10 57	- 5	—	—	—	—
Piatigorsk	68.9	312	11 5	- 4	—	—	—	—
Tsikhlis-Dzhvari	68.9	309	i 11 10	+ 1	—	—	—	—
Moscow	71.3	324	11 21	- 2	—	—	—	—
College	73.8	26	i 11 35	- 3	—	—	—	—
Theodosia	74.2	313	11 39	- 1	21 10	- 4	—	—
Simferopol	75.1	313	11 45	- 1	e 21 21	- 3	—	—
Yalta	75.1	312	11 45	- 1	e 21 21	- 3	—	—
Ksara	76.1	301	i 11 48?	- 3	e 21 28?	- 7	—	—
Kiruna	z. 76.9	338	i 11 54	- 2	i 22 7	ScS	e 14 55	PP e 37.6
Istanbul	79.6	310	i 12 9	- 1	e 22 14?	+ 2	e 22 58	PS
Lwow	80.5	319	i 12 14	- 1	—	—	—	—
Upsala	80.7	330	i 12 15 <sub>k</sub>	- 1	i 12 31	PcP	i 13 14	? e 40.6
Helwan	z. 80.9	298	i 12 17	0	—	—	e 12 48	?
Uzhgorod	82.0	319	e 12 23	0	22 47	ScS	—	—
Raciborzu	z. 84.0	321	i 12 35	+ 2	—	—	e 12 41	PcP
Resolute Bay	84.2	9	i 12 32 <sub>k</sub>	- 2	—	—	e 12 39	PcP
Belgrade	84.4	315	e 12 36 <sub>k</sub>	0	e 22 55	- 6	e 13 0	?
Potsdam	86.0	325	e 12 44	+ 1	—	—	—	e 41.6
Collmberg	86.5	323	e 12 45	- 1	e 16 5	PP	e 13 2	?
Jena	87.5	323	e 12 49	- 2	e 15 53	PP	e 16 45	?
Scoresby Sund	87.5	349	i 12 51 <sub>a</sub>	0	e 23 27	- 4	i 16 16	PP
Witteveen	z. 89.3	327	i 12 59 <sub>k</sub>	0	—	—	—	—
Stuttgart	89.9	322	e 13 1	- 1	—	—	—	e 48.6
Messina	E. 90.4	311	—	—	e 24 4	+ 6	—	—
Strasbourg	90.8	322	e 13 6	0	—	—	—	e 47.6
Victoria	91.9	37	13 10 <sub>k</sub>	- 1	—	—	—	—
Seattle	93.0	37	e 13 18	+ 1	—	—	—	—
Tamanrasset	z. 104.9	301	e 17 37	?	e 18 33	PP	e 20 41	PPP
Fayetteville	z. 116.1	32	e 18 54	[+ 9]	—	—	—	—
Fort de France	146.8	3	e 19 38	[- 4]	—	—	—	—
La Paz	170.8	—	e 20 14	[+ 4]	—	—	e 25 38	PP

May 15d. 11h. 8m. 16s. Epicentre 53°·3N. 178°·4W. Depth of focus 0·005.  
(as on 1951, October 6d.).

A = -·6000, B = -·0168, C = +·7998;  $\delta = -4$ ;  $h = -7$ ;  
D = -·028, E = +1·000; G = -·800, H = -·022, K = -·600.

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.
Mitchell Field	1.8	141	i 0 28	- 2	i 0 58	+ 6	—
College	19.3	40	i 4 34	pP	—	—	—
Victoria	34.3	75	6 44	+ 2	—	—	—
Resolute Bay	z. 37.9	25	e 7 18 <sub>a</sub>	+ 5	—	—	e 7 45
Mineral	39.9	85	i 7 31	+ 2	—	—	—

Continued on next page.

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1952

408

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	s.
Reno	z.	41.5	84	e 7 34	- 8	e 14 21	+28	—	—
Lick	z.	41.8	88	e 7 47	+ 2	—	—	—	—
Fresno	z.	43.3	87	e 7 58	+ 1	—	—	—	—
Tinemaha	z.	44.0	86	e 8 25	sP	—	—	i 8 37	?
China Lake	z.	45.3	87	e 8 11	- 2	—	—	i 8 16	P
Mount Wilson	z.	46.1	89	e 8 18	- 1	—	—	—	—
Riverside		46.6	89	e 8 26	+ 3	—	—	—	—
Tucson		51.2	85	e 9 2	+ 3	—	—	—	—
Scoresby Sund		55.4	10	e 9 31	+ 1	—	—	—	—
Fayetteville	z.	58.8	71	i 9 54	0	—	—	—	—
Harvard		65.8	51	i 10 41k	0	—	—	—	—
Weston		66.0	51	e 10 42	0	—	—	—	—
Upsala	z.	66.5	352	i 10 41	- 4	—	—	—	—
Florence		82.9	353	e 17 14	PPP	e 35 15	?	—	—
Poona	z.	85.5	295	i 12 17	-15	—	—	—	—
San Juan		88.0	62	i 12 42	- 2	—	—	—	—
Pretoria	z.	146.1	314	i 19 21	{ -11 }	—	—	—	—
Kimberley	z.	150.1	316	i 19 33	{ - 5 }	—	—	—	—

May 15d. 18h. 12m. 44s. Epicentre 22°·0N. 119°·0E. (as on 1943, November 7d.).

Approximate.

$$A = -.4500, B = +.8117, C = +.3724; \quad \delta = +4; \quad h = +4;$$

$$D = +.875, E = +.485; \quad G = -.180, H = +.326, K = -.928.$$

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Hong Kong		4.5	275	e 1 33	+ 3 <sub>g</sub>	—	—	—	—
Zi-ka-wei	z.	9.4	13	e 2 17	- 1	4 12	+ 5	—	—
Nanking		10.0	359	e 2 36	PP	4 39	SS	—	—
Brisbane	z.	59.2	144	e 9 56	- 9	—	—	—	—
Ksara		72.6	300	i 11 39?	+ 8	e 21 25?	+29	—	—
Kiruna		73.0	337	i 11 35 <sub>a</sub>	+ 2	e 20 56	- 4	i 11 51	PcP e 36.3
Istanbul		75.8	309	e 11 55	+ 5	e 21 46	+15	—	49.3
Upsala	z.	76.8	330	i 11 58	+ 3	—	—	i 12 4	?
Resolute Bay		81.1	9	i 12 14k	- 4	—	—	—	—
Collmberg	z.	82.6	322	e 12 30	+ 4	—	—	—	—
Jena		83.5	322	e 12 34	+ 3	e 12 43	PcP	e 12 46	?
Scoresby Sund		83.8	348	i 12 32k	0	—	—	—	—
Triest	z.	84.6	318	e 12 29	- 7	e 12 42	PcP	e 12 57	?

May 15d. 18h. 44m. 13s. Epicentre 14°·5N. 92°·3W. Depth of focus 0.020.  
(as on 1946, March 25d.).

Felt at Suchiate in the State of Chiapas. Epicentre 14°32'N. 92°19'W. Depth 100km.  
Monthly Seismic Bulletin, Tacubaya, May, 1952, p.4.

$$A = -.0389, B = -.9678, C = +.2488; \quad \delta = +5; \quad h = +6;$$

$$D = -.999, E = +.040; \quad G = -.010, H = -.249, K = -.969.$$

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Oaxaca		4.9	300	i 1 12	- 1	i 2 16	+ 6	—	—
Merida		6.9	20	e 1 36	- 4	i 3 0	+ 3	—	—
Puebla		7.2	309	e 1 41	- 3	e 3 6	+ 2	—	—
Tacubaya		8.2	307	i 1 57	0	i 3 34	+ 6	—	—
Mobile		16.6	13	i 3 47	+ 2	i 7 3	+20	—	—
Chinchina		19.0	116	i 4 3	- 9	e 7 37	+ 3	—	—
Bogota		20.5	117	i 4 17	-10	i 8 9	+ 7	—	9.8
Lubbock		20.9	338	e 4 31	0	—	—	e 4 1	?
Fayetteville	z.	21.6	357	i 4 37	- 1	e 8 49	+27	i 5 12	pP
Columbia		21.9	25	i 4 41	0	—	—	i 5 2	pP

Continued on next page.

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1952

409

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Tucson		24.5	320	e 5 6	0	e 9 47	+35	e 6 3	PPP e 11.9
San Juan		25.4	77	e 5 38	pP	—	—	—	—
Morgantown		27.3	21	i 5 30	- 2	—	—	i 6 26	PP
Cleveland		28.5	17	i 5 41k	- 1	e 10 53	+36	e 6 37	PP
Palomar	z.	29.1	315	i 5 50	+ 2	—	—	i 6 15	pP
Pennsylvania		29.2	23	5 47?	- 2	—	—	—	—
Boulder City		29.4	321	e 5 52	+ 2	—	—	—	—
Philadelphia		29.5	29	—	—	e 11 9	+36	—	—
Riverside	z.	29.8	315	i 5 55	+ 1	—	—	i 8 54	PcP
Fort de France		30.1	85	e 9 13	PcP	e 12 2	SS	—	—
Buffalo (Larkin)		30.6	20	—	—	e 11 2	+12	—	—
City College, N.Y.		30.7	28	—	—	e 11 6	+15	—	—
Bermuda		30.8	49	e 6 1	- 2	—	—	—	e 13.2
Palisades		30.9	28	i 6 2	- 2	e 11 8	+13	i 6 24	pP e 17.3
China Lake	z.	31.1	319	e 6 6	+ 1	e 12 49	PcS	e 9 0	PcP
Huancayo		31.3	147	e 6 5	- 2	e 11 5	+ 4	—	e 14.0
Tinemaha	z.	32.2	319	i 6 18	+ 3	e 12 53	PcS	e 9 2	PcP
Fresno	z.	33.0	318	e 6 23	+ 1	—	—	—	—
Harvard		33.1	29	i 6 23k	0	e 11 37	+ 8	—	e 19.3
Weston		33.2	29	e 6 21a	- 3	e 12 41	ScP	—	—
Ottawa		33.8	21	i 6 27a	- 2	11 51	+11	8 13	PPP 18.1
Lick	z.	34.6	317	e 6 37	+ 2	—	—	—	—
Reno	z.	34.7	322	e 6 39	+ 3	—	—	—	—
Kirkland Lake	z.	35.1	15	e 6 37	- 3	—	—	—	—
Berkeley		35.3	317	—	—	e 12 23	+20	e 16 47	ScS
Shasta		37.0	321	e 6 55	- 1	—	—	—	—
Hungry Horse		38.2	337	e 6 15	-51	—	—	—	—
La Paz		39.0	141	7 11	- 1	13 9	+10	i 15 56	SS 18.5
Seattle		41.4	330	e 7 35	+ 3	—	—	—	—
Victoria		42.5	330	7 41	0	—	—	—	—
Resolute Bay		60.2	359	e 9 53	0	e 18 6	+14	e 25 40	Q e 26.3
College		62.7	337	i 10 10	0	e 18 42	+18	i 10 49	PcP e 23.3
Kew		80.0	39	e 15 47?	PP	—	—	—	—
De Bilt		83.2	38	e 15 47?	PP	—	—	—	—
Kiruna	z.	84.9	22	e 12 19a	+ 1	e 15 55	PP	e 16 55	? e 37.8
Stuttgart		86.6	41	e 12 26	0	e 23 17	sSKS	e 26 47	? —
Florence		89.4	45	e 16 17	PP	e 25 7	PPS	—	—
Tamanrasset	z.	91.5	66	e 12 50	+ 1	—	—	—	—
Messina	E.	94.6	48	—	—	e 25 5	sS	—	e 49.3
Poona	z.	144.5	23	i 19 9	[- 8]	—	—	—	—

May 15d. 21h. 6m. 51s. Epicentre 24°7S. 69°5W. Depth of focus 0.010.  
(as on April 14d.).

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Antofagasta	E.	1.3	321	i 0 27	+ 3	i 0 45	+ 3	—	—
Copiapo	N.	2.8	196	i 0 41	- 3	—	—	i 0 49	? i 1.4
La Paz		8.3	9	e 2 2	+ 3	i 3 55	+23	—	i 4.2
Santa Lucia	N.	8.8	187	—	—	3 33	-11	—	4.9
Buenos Aires		13.7	138	—	—	e 5 21	-20	—	—
Huancayo		13.7	335	e 3 19	+ 8	—	—	i 3 55	? —
La Plata		14.3	138	3 39	PP	7 3	?	—	7.4
San Juan		43.0	5	i 7 46	- 5	—	—	—	—
Merida		49.4	335	—	—	e 16 20	sS	e 16 26	? —
Puebla		51.7	325	e 15 41	?	e 15 54	-18	—	—
Tacubaya		52.5	324	—	—	i 16 22	- 1	—	—
Morgantown		64.7	351	i 10 28	- 2	—	—	i 10 54	pP
Fayetteville	z.	64.8	338	i 10 29	- 2	i 11 15	sP	i 10 54	pP
Weston		66.8	359	i 10 41k	- 2	—	—	i 11 6	pP
Harvard		66.9	359	i 10 42	- 2	—	—	i 11 7	pP
Tucson		69.0	323	i 10 58	+ 1	—	—	i 11 23	pP
Ottawa		70.0	356	e 11 1	- 2	—	—	i 11 26	pP
Kirkland Lake	z.	73.1	353	i 11 20k	- 2	—	—	i 11 45	pP
Palomar	z.	73.2	320	i 11 25	+ 3	—	—	e 11 44	pP
Boulder City		74.0	323	i 11 28	+ 1	—	—	—	—

Continued on next page.

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1952

410

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.	
Riverside	z.	74.0	320	i 11 28	+ 1	—	—	i 11 53	pP	—
Pasadena	z.	74.6	320	i 11 31	+ 1	—	—	i 11 57	pP	—
China Lake	z.	75.4	322	i 11 36	+ 1	i 12 15	sP	i 12 2	pP	—
Tinemaha	z.	76.7	322	i 11 43	+ 1	—	—	i 12 8	pP	—
Fresno	z.	77.3	321	e 11 46	0	—	—	—	—	—
Lick	z.	78.8	320	i 11 55k	+ 1	—	—	i 12 21	pP	—
Reno	z.	79.3	323	e 11 59k	+ 3	—	—	—	—	—
Butte		80.5	331	i 12 4	+ 1	—	—	i 12 30	pP	—
Mineral	z.	80.8	322	e 12 4k	0	—	—	i 12 31	pP	—
Shasta		81.5	322	i 12 8	0	—	—	i 12 34	pP	—
Grahamstown	z.	81.6	123	i 12 6	- 3	—	—	—	—	—
Kimberley	z.	82.0	117	i 12 8	- 3	—	—	—	—	—
Hungry Horse		82.9	332	i 12 16	+ 1	—	—	—	—	—
Pretoria	z.	86.0	116	i 12 28	- 3	—	—	—	—	—
Tamanrasset	z.	86.7	63	e 12 33	- 1	e 13 17	sP	i 13 0	pP	—
Victoria		87.4	327	12 36	- 1	—	—	—	—	—
College		107.3	334	i 14 33	pP	—	—	—	—	—
Poona	z.	145.5	93	19 16	[-11]	i 42 48	SSP	—	—	—

May 15d. 21h. 37m. 22s. Epicentre 53°·3N. 178°·4W. Depth of focus 0.005 (as at 11h.).

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Mitchell Field		1.8	141	i 0 28	- 2	i 1 3	+11	—	—
College		19.3	40	i 4 35	pP	—	—	—	—
Victoria		34.3	75	6 44	+ 2	—	—	—	—
Resolute Bay		37.9	25	e 7 19 <sub>a</sub>	+ 6	e 13 46	+47	—	e 20.1
Shasta		39.2	85	e 7 26	+ 3	—	—	—	—
Hungry Horse		39.7	69	e 7 22	- 6	—	—	—	—
Mineral	z.	39.9	85	e 7 30	+ 1	—	—	—	—
Reno	z.	41.5	84	e 7 34	- 8	—	—	—	—
Fresno	z.	43.3	87	e 8 10	pP	—	—	—	—
Tinemaha	z.	44.0	86	e 8 4	+ 1	i 8 12	?	i 8 19	pP
China Lake	z.	45.3	87	e 8 12	- 1	—	—	i 8 32	pP
Mount Wilson	z.	46.1	89	e 8 18	- 1	—	—	e 8 37	pP
Riverside	z.	46.6	89	e 8 24	+ 1	—	—	e 8 41	pP
Boulder City		46.8	85	e 8 26	+ 1	—	—	—	—
Palomar	z.	47.4	89	i 8 29	- 1	—	—	—	—
Kiruna		58.4	352	i 9 16	-35	—	—	i 9 33	pP
Fayetteville	z.	58.8	71	e 9 54	0	—	—	—	e 23.6
Ottawa		61.7	52	e 8 28	?	—	—	—	—
Weston		66.0	51	e 10 42	0	—	—	—	—
Upsala	z.	66.5	352	e 10 31	-14	—	—	i 10 43	pP
San Juan		88.0	62	i 12 43	- 1	—	—	—	—
Ksara		88.3	333	—	—	e 33 32?	?	—	e 42.7
Pretoria	z.	146.1	314	i 19 22	[-10]	—	—	—	—
Kimberley	z.	150.1	316	i 19 34	[- 4]	—	—	—	—

May 16d. 0h. 3m. 40s. Epicentre 38°·6N. 70°·5E. (as on 1951, May 13d.).

A = +.2615, B = +.7386, C = +.6213;  $\delta = -7$ ;  $h = -1$ ;  
D = +.943, E = -.334; G = +.207, H = +.586, K = -.784.

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.
Garm		0.4	339	i 0 8	0 <sub>g</sub>	i 0 15	- 1*
Obi-garm		0.6	279	i 0 13	0*	i 0 22	+ 1*
Dzhergetal		0.8	42	i 0 16	0 <sub>g</sub>	i 0 28	0*
Kulyab		0.9	219	e 0 18	0 <sub>g</sub>	—	—
Khorog		1.4	142	i 0 27	0	e 0 46	0
Stalinabad		1.4	268	—	—	e 0 48	+ 2
Fergana		2.0	29	—	—	e 1 9	+ 3 <sub>g</sub>
Andijan		2.6	34	—	—	i 1 27	+ 1 <sub>g</sub>
Samarkand		2.9	291	—	—	e 1 30	0*
Tchimkent		3.8	352	—	—	e 1 55	- 2*



The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1952

411

May 16d. 5h. 42m. 27s. Epicentre 14°·5N. 92°·3W. Depth of focus 0·020 (as on May 15d.).

Felt at Tapachula and Suchiate in the province of Chiapas. Epicentre 14°32'N. 92°19'W.  
Depth 100km.

Monthly Seismological Bulletin of Tacubaya, May, 1952, p.4.

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Oaxaca	4·9	300	e 1 12	- 1	e 2 16	+ 6	—	—
Merida	6·9	20	i 1 38	- 2	i 3 0	+ 3	—	—
Puebla	7·2	309	1 43	- 1	3 8	+ 4	—	—
Tacubaya	8·2	307	i 1 56	- 1	i 3 37	+ 9	—	—
Guadalajara	12·2	302	—	—	5 51	SS	—	—
Mobile	16·6	13	i 3 44	- 1	e 7 4	SS	—	—
Bogota	20·5	117	i 4 19	- 8	i 8 11	+ 9	i 4 37	? 10·0
Lubbock	20·9	338	4 33	+ 2	8 8	- 1	—	—
Fayetteville	z. 21·6	357	i 4 37	- 1	e 8 40	PcP	i 4 54	pP
Columbia	21·9	25	e 4 41	0	e 8 49	+22	—	—
Tucson	24·5	320	i 5 21	+15	e 9 43	+31	—	— e 12·4
San Juan	25·4	77	e 5 35	pP	—	—	—	—
Lincoln	26·5	353	e 6 33	+69	e 10 43	+58	—	—
Morgantown	27·3	21	i 5 31	- 1	—	—	e 6 41	PP
Washington	27·8	26	e 5 35	- 1	—	—	e 5 49	? —
Cleveland	28·5	17	i 5 41k	- 1	e 10 53	+36	—	—
Palomar	29·1	315	i 5 50	+ 2	e 7 50	PPP	i 6 1	pP
Pennsylvania	29·2	23	5 33?	-16	—	—	—	—
Boulder City	29·4	321	i 6 52	PP	—	—	—	e 15·6
Philadelphia	29·5	29	e 6 3	+12	—	—	e 10 19	? —
Riverside	z. 29·8	315	i 5 56	+ 2	—	—	i 8 55	PcP
Fort de France	30·1	85	—	—	e 12 8	ScP	—	—
Pasadena	30·5	315	i 6 2	+ 2	—	—	8 57	PcP e 14·2
Buffalo (Larkin)	30·6	20	i 6 0	- 1	—	—	—	—
City College, N.Y.	30·7	28	—	—	e 11 24	+33	—	—
Bermuda	30·8	49	e 5 58	- 5	—	—	—	e 13·4
Fordham	30·8	28	e 5 59	- 4	e 11 9	+16	—	—
Palisades	30·9	28	i 6 1	- 3	e 11 7	+12	i 6 23	pP e 17·3
China Lake	z. 31·1	319	i 5 56a	- 9	i 8 59	PcP	i 6 35	pP
Huancayo	31·3	147	—	—	e 11 3	+ 2	—	e 14·0
Tinemaha	z. 32·2	319	i 6 18a	+ 3	e 9 3	PcP	e 12 54	PcS
Fresno	z. 33·0	318	e 6 23a	+ 1	—	—	—	—
Harvard	33·1	29	i 6 21a	- 2	e 11 42	+13	—	e 23·8
Weston	33·2	29	i 6 22k	- 2	e 11 49	+19	i 6 44	pP
Ottawa	33·8	21	i 6 27a	- 2	11 55	+15	9 5	PcP 17·6
Lick	z. 34·6	317	i 6 38a	+ 3	—	—	—	—
Reno	z. 34·7	322	e 6 40a	+ 4	e 12 19	+26	—	—
Kirkland Lake	z. 35·1	15	i 6 37a	- 3	e 8 3	?	e 6 59	pP
Berkeley	35·3	317	e 6 44a	+ 3	e 12 33	ScP	—	e 17·2
Mineral	z. 36·3	321	e 6 52a	+ 2	—	—	e 8 35	PP
Shasta	37·0	321	e 6 56	0	—	—	—	—
Hungry Horse	38·2	337	e 6 52	-14	e 16 29	SSS	—	—
La Paz	39·0	141	e 7 8	- 4	13 5	+ 6	8 45	PP 18·8
Seattle	41·4	330	i 7 35a	+ 3	i 8 0	sP	i 7 53	pP
Victoria	42·5	330	7 42a	+ 1	14 14	PS	—	—
Resolute Bay	60·2	359	e 9 52a	- 1	e 18 6	+14	e 10 38	PcP e 25·6
College	62·7	337	i 10 11	+ 1	e 18 38	+14	i 10 48	PcP e 25·9
De Bilt	83·2	38	—	—	e 23 33?	PS	—	e 39·6
Witteveen	z. 83·9	36	i 12 13	0	—	—	—	—
Kiruna	84·9	22	i 12 19	+ 1	i 22 43	+12	e 24 2	PS
Strasbourg	85·8	41	e 22 15	?	e 28 33	?	e 35 33	Q e 40·6
Copenhagen	86·2	34	15 46	?	22 57	+13	—	41·6
Stuttgart	86·6	41	e 12 26	0	—	—	—	e 44·6
Jena	87·4	38	e 12 29	- 1	e 14 6	?	e 12 56	pP
Collmberg	z. 88·1	38	—	—	e 30 1	SS	e 30 19	? —
Triest	z. 90·6	43	e 12 45	0	e 13 37	sP	e 13 16	pP
Rome	91·1	46	—	—	e 23 23	- 6	—	e 45·6
Tamanrasset	z. 91·5	66	e 12 49	0	—	—	—	—
Messina	94·6	49	e 20 11	?	—	—	—	e 49·2
Istanbul	102·6	41	—	—	e 24 19? [+17]	—	e 32 33?	? 53·6
Ksara	111·1	45	14 27?	P	24 48? [+ 9]	—	—	—
Poona	z. 144·5	23	19 18	[+ 1]	—	—	i 19 23	PKP

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1952

412

May 16d. 10h. 8m. 23s. Epicentre 18°·6N. 121°·2E. (as on 15d.).

	Δ	Az.	P.		O - C.	S.		O - C.	Supp.		L. m.
			m.	s.		m.	s.		m.	s.	
Manila	4·0	183	i 1	12	+ 1*	i 2	10	- 2 <sub>g</sub>	—	—	—
Hong Kong	7·5	300	e 1	49	- 4	—	—	—	—	—	3·6
Nanking	13·6	351	e 3	14	- 3	6	9	ScS	e 3	26	PP
Saga	16·7	27	e 4	3	+ 6	—	—	—	—	—	—
Hukuoka	17·1	27	e 4	12	PP	e 7	40	ScS	4	21	PPP
Kyoto	20·8	35	e 4	57	+ 12	—	—	—	—	—	—
Kameyama	21·1	36	e 4	50	+ 2	—	—	—	—	—	—
Gihu	21·5	36	e 4	46	- 6	—	—	—	—	—	—
Nagoya	21·6	36	e 4	56	+ 2	—	—	—	—	—	—
Iida	22·4	36	e 5	5	+ 3	—	—	—	—	—	—
Misima	22·8	39	e 5	5	0	9	13	+ 2	—	—	—
Toyama	22·9	32	e 5	12	+ 6	e 9	23	+ 10	—	—	—
Mera	23·2	39	e 5	15	+ 6	—	—	—	—	—	—
Matusiro	23·3	35	5	9	- 1	9	9	- 11	i 9	28	ScS
Oiwake	23·4	35	e 5	12	+ 1	—	—	—	—	—	e 10·9
Nagano	23·4	34	e 5	25	+ 14	e 9	39	+ 18	—	—	—
Kumagaya	23·7	37	e 5	23	+ 9	e 9	51	+ 24	—	—	—
Maebasi	23·7	35	e 5	23	+ 9	e 9	59	+ 32	—	—	—
Tokyo	23·7	39	e 5	34	PP	e 9	28	+ 1	e 8	17	?
Vladivostok	26·1	17	e 5	38	+ 1	e 10	7	0	—	—	—
Bandong	28·7	208	6	8	+ 7	—	—	—	—	—	—
Calcutta	31·0	283	i 6	33	+ 12	—	—	—	—	—	i 15·8
Kyakhta	33·8	343	6	44	- 2	—	—	—	—	—	—
Kabansk	35·3	344	6	57	- 2	e 12	37	+ 4	—	—	—
Irkutsk	36·1	342	7	4	- 1	—	—	—	—	—	—
Przhevalsk	43·3	313	8	6	+ 1	—	—	—	—	—	—
Almata II	44·3	314	e 8	15	+ 2	—	—	—	—	—	—
Almata	44·6	314	i 8	16	0	e 14	54	+ 2	—	—	—
Naryn	44·6	311	e 8	16	0	e 14	54	+ 2	—	—	—
Rybach'e	44·9	312	i 8	17	- 1	e 14	56	0	—	—	—
Murgab	45·4	306	8	31?	+ 9	—	—	—	—	—	—
Semipalatinsk	45·4	325	e 8	20	- 2	—	—	—	—	—	—
Frunse	46·1	312	i 8	27	- 1	i 15	17	+ 3	—	—	—
Andijan	47·1	308	i 8	37	+ 2	15	30	+ 2	—	—	—
Khorog	47·1	304	8	37	+ 2	—	—	—	—	—	—
Kulyab	48·6	305	i 8	46	- 1	i 15	46	- 3	—	—	—
Obi-garm	48·8	307	i 8	48	- 1	i 15	50	- 2	—	—	—
Stalinabad	49·4	306	i 8	54	+ 1	i 15	59	- 1	—	—	—
Tashkent	49·5	309	i 8	54	0	i 16	3	+ 1	—	—	—
Tchimkent	49·5	311	i 8	54	0	e 16	3	+ 1	—	—	—
Quetta	50·3	295	e 9	4	+ 4	e 16	8	- 5	—	—	23·6
Samarkand	51·0	306	i 9	5	- 1	—	—	—	—	—	—
Ashkabad	57·6	304	9	55	- 1	17	54	+ 3	—	—	—
Sverdlovsk	58·6	326	9	59	- 2	18	4	0	—	—	—
Kizyl-Arvat	59·2	306	10	5	0	—	—	—	—	—	—
Kirovobad	66·8	307	10	53	- 3	—	—	—	—	—	—
Goris	66·9	306	e 10	56	0	—	—	—	—	—	—
Grozny	67·0	310	e 10	56	- 1	—	—	—	—	—	—
Tiflis	67·8	309	e 11	1	- 1	e 19	55	- 5	—	—	—
Leninakan	68·7	308	e 11	20?	+ 13	—	—	—	—	—	—
Piatigorsk	68·9	312	11	6	- 3	—	—	—	—	—	—
Sotchi	71·4	311	e 11	20	- 4	—	—	—	—	—	—
Simferopol	75·1	313	e 11	46	0	—	—	—	—	—	—
Yalta	75·1	312	e 11	45	- 1	—	—	—	—	—	—
Ksara	76·1	301	e 11	51?	0	e 9	58?	?	e 15	21?	?
Kiruna	76·9	338	e 11	54	- 2	e 21	43	0	e 16	38?	PPP
Istanbul	79·6	310	—	—	—	e 22	37?	ScS	—	—	—
Upsala	80·7	330	i 12	16 <sub>a</sub>	0	—	—	—	i 12	22	PcP
Helwan	80·9	298	i 12	18	+ 1	—	—	—	e 13	43	?
Uzhgorod	82·0	319	—	—	—	e 22	48	ScS	—	—	—
Resolute Bay	84·2	9	e 12	33	- 1	e 22	49	[- 6]	i 12	38	PcP
Collmberg	86·5	323	e 12	45	- 1	—	—	—	—	—	—
Jena	87·5	323	e 12	49	- 2	—	—	—	i 12	56	PcP
Triest	88·5	318	e 12	54	- 2	e 13	1	PcP	e 16	23	PP
Stuttgart	89·9	322	e 13	1	- 1	—	—	—	—	—	e 47·6
Messina	90·4	311	e 18	43	PPP	e 24	1	+ 3	—	—	—

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1952

418

May 16d. 10h. 52m. 15s. Epicentre 16°·0N. 96°·5W. Depth of focus 0·005.  
(as on 1951, July 9d.).

Felt strongly at Miahuatlan in the Province of Oaxaca. Epicentre 16°8'N. 96°48'W.  
Depth 50km.  
Monthly Seismological Bulletin of Tacubaya, May 1952, p. 5.

A = -·1089, B = -·9556, C = +·2739;  $\delta$  = +5; h = +6;  
D = -·994, E = +·113; G = -·031, H = -·272, K = -·962.

	$\Delta$	Az.	P.	O - C.	S.	O - C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Oaxaca	1·0	346	i 0 18k	- 1	i 0 29	- 4	—	—
Puebla	3·4	334	e 0 54	+ 2	i 1 33	+ 1	—	i 1·6
Tacubaya	4·2	324	i 1 6k	+ 3	1 56	+ 4	—	—
Guadalajara	8·0	307	—	—	e 3 32	+ 6	—	—
Merida	8·1	52	e 2 4	+ 7	i 3 32	+ 4	—	—
Lubbock	18·2	347	e 4 8	- 2	7 43	+16	—	—
Fayetteville	z. 20·1	6	i 4 28	- 3	e 8 11	+ 3	i 4 43	PP
Tucson	20·8	324	i 4 35	- 3	i 8 28	+ 7	e 10 57	?
Columbia	22·7	33	e 5 9	+12	e 9 8	+12	—	—
Bogota	24·8	115	i 5 22	+ 5	e 9 52	sS	—	—
Lincoln	24·8	0	e 5 19	+ 2	—	—	e 7 52	?
Palomar	25·2	317	i 5 20 <sub>a</sub>	- 1	—	—	i 5 28	pP
Boulder City	25·7	324	i 5 25	- 1	—	—	—	13·6
Riverside	z. 26·0	317	e 5 26	- 3	i 8 45	PcP	i 5 36	pP
Pasadena	z. 26·6	317	i 5 32	- 2	—	—	i 5 40	pP
China Lake	27·3	321	e 5 38	- 3	i 8 59	PcP	i 5 47	pP
Morgantown	27·6	27	i 5 43	0	—	—	e 7 59	?
Cleveland	28·5	23	i 6 3 <sub>a</sub>	+12	e 10 46	+13	—	—
Tinemaha	z. 28·5	322	e 5 53	+ 2	—	—	e 6 22	sP
San Juan	29·1	80	e 6 6	pP	—	—	—	—
Fresno	z. 29·2	320	e 5 54	- 4	—	—	—	—
Buffalo (Larkin)	30·8	26	i 6 13	+ 1	—	—	—	e 15·6
Lick	z. 30·8	319	i 6 9 <sub>a</sub>	- 3	—	—	e 7 27	PP
Reno	z. 31·0	325	e 6 13	- 1	—	—	—	—
Palisades	32·2	34	i 6 26	+ 2	—	—	—	—
Mineral	z. 32·6	324	e 6 25k	- 3	e 7 41	PP	i 6 34	pP
Butte	32·8	340	e 6 28	- 1	—	—	i 6 36	pP
Bermuda	33·1	54	6 35	+ 3	—	—	—	—
Shasta	33·3	323	e 6 29	- 5	—	—	—	—
Harvard	34·0	33	i 6 47 <sub>a</sub>	+ 7	—	—	—	—
Weston	34·0	33	6 52	pP	—	—	—	—
Ottawa	34·1	27	i 6 40	0	12 9	+ 8	—	—
Kirkland Lake	z. 34·8	20	e 6 45	- 1	—	—	i 6 55	pP
Hungry Horse	35·3	340	e 6 44	- 7	—	—	—	—
Seattle	38·1	332	e 7 13	- 1	—	—	i 7 27	pP
Victoria	39·2	332	7 20	- 3	—	—	—	—
La Paz	42·7	137	e 7 59	+ 7	—	—	—	—
Sitka	50·3	334	e 5 5	?	e 12 26	?	—	—
Resolute Bay	58·7	1	e 9 59k	+ 6	—	—	—	e 31·8
College	59·7	338	i 9 57	- 3	—	—	e 10 9	pP
Scoresby Sund	69·9	20	e 11 25	PcP	—	—	—	—
Malaga	82·2	54	i 12 18	+ 3	e 22 26	+ 2	—	—
Granada	82·8	54	i 12 35 <sub>a</sub>	PcP	—	—	—	—
Kiruna	z. 84·9	21	i 12 29	0	—	—	—	—
Witteveen	z. 85·1	36	e 12 32	+ 2	—	—	—	—
Clermont-Ferrand	85·2	44	i 12 32	+ 1	e 16 45?	?	i 12 41	pP
Strasbourg	87·3	40	e 12 41	0	—	—	—	—
Upsala	z. 87·8	28	i 12 43 <sub>a</sub>	0	i 13 32	?	i 12 53	pP
Stuttgart	88·1	40	e 12 42?	- 3	—	—	—	—
Triest	z. 92·2	42	e 13 6	+ 2	—	—	e 13 17	pP
Tamanrasset	z. 94·5	65	i 13 18k	+ 4	—	—	e 13 27	pP

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1952

414

May 16d. 13h. 59m. 35s. Epicentre 36°·6N. 68°·7E. (as on May 8d.).

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	°	°	m. s.	s.	m. s.	s.
Kulyab	1·6	33	i 0 30	0	i 0 56	+ 3 <sub>g</sub>
Stalinabad	2·0	1	e 0 44	+ 4 <sub>g</sub>	i 1 9	+ 3 <sub>g</sub>
Obi-garm	2·2	20	i 0 40	0*	i 1 20	+ 7 <sub>g</sub>
Khorog	2·5	69	i 0 39	- 4	i 1 11	- 3
Garm	2·7	27	i 0 46	+ 1	i 1 37	+ 8 <sub>g</sub>
Fergana	4·5	31	e 1 11	0	e 2 5	0
Murgab	4·5	65	e 1 9	- 2	e 2 1	- 4
Andijan	5·0	33	i 1 19	+ 1	e 2 19	+ 1

May 16d. 14h. 32m. 16s. Epicentre 63°·9N. 22°·7W. (as on 1952, March 12d.).

Felt throughout most of the S.W. of Iceland, intensity VII-VIII at Krisuvik; V at Reykjavik and Keflavik. Epicentre 63°·9N. 22°·1W. (Reykjavik), near to that of March 12d. 12h.

Vedrátan, 1952, Reykjavik, p. 62.

$$A = +\cdot4081, B = -\cdot1707, C = +\cdot8968; \quad \delta = -7; \quad h = -10;$$

$$D = -\cdot386, E = -\cdot923; \quad G = +\cdot827, H = -\cdot326, K = -\cdot442.$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Reykjavik	0·4	56	i 0 7k	- 1 <sub>g</sub>	—	—	—	—
Scoresby Sund	6·6	2	i 1 44	+ 3	3 14	- 6*	i 2 0	—
Rathfarnham Castle	13·6	134	—	—	e 5 40	- 10	—	e 10·2
Kew	17·2	124	—	—	e 7 44?	SS	—	—
Kiruna	17·8	58	e 4 12	+ 1	e 7 36	+ 8	e 7 54	SS e 8·7
Copenhagen	19·3	98	e 4 30	+ 1	8 11	+ 9	—	9·7
Jena	22·2	108	e 4 59	- 1	e 9 11?	+ 11	e 5 24	PP
Collnberg	22·6	107	e 5 2	- 1	—	—	e 5 8	P
Stuttgart	22·9	115	e 5 4	- 2	e 9 24	+ 11	—	—
Pavia	25·9	121	e 8 20	?	—	—	—	e 12·2 e 15·6
Triest	27·3	114	e 5 46	- 2	i 11 25	SS	e 6 5	? 16·3
Tamanrasset	z. 45·2	142	i 8 22k	+ 2	—	—	—	—
Fayetteville	z. 50·2	272	i 9 1	+ 1	—	—	—	—

May 16d. 16h. 15m. 52s. Epicentre 41°·4N. 143°·9E. Depth of focus 0·010. (as on 1944, June 20d.).

Intensity IV at Kusiro; II-III at Nemuro, Sapporo, Otsu, and Kenebetsu. Epicentre 41°·6N. 144°·5E. Depth about 80km. Macro seismic radius >300km. Seismo. Bull. Cent. Met. Obs., Japan, for May, 1952, Tokyo, 1952, p. 196, with macro seismic chart.

$$A = -\cdot6079, B = +\cdot4433, C = +\cdot6588; \quad \delta = +7; \quad h = -2;$$

$$D = +\cdot589, E = +\cdot808; \quad G = -\cdot532, H = +\cdot388, K = -\cdot752.$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Urakawa	1·1	312	i 0 18	- 4	0 37	- 1	—	—
Kusiro	1·6	13	e 0 18	- 10	0 34	- 15	—	—
Obihiro	N. 1·6	341	i 0 24	- 4	0 44	- 5	—	—
Hatinohe	2·0	234	0 32	- 1	0 59	+ 2	—	—
Miyako	2·3	220	e 0 36	- 1	1 7	+ 2	—	—
Nemuro	2·3	32	e 0 26	- 11	0 52	- 13	—	—
Aomori	2·4	256	e 0 40	+ 2	—	—	—	—
Sapporo	2·5	312	i 0 35 <sub>a</sub>	- 5	1 10	0	—	—
Abashiri	2·6	6	0 40	- 1	1 2	- 10	—	—
Asahigawa	2·6	335	e 0 33	- 8	—	—	—	—
Mori	E. 2·6	286	e 0 40	- 1	1 22	+ 10	—	—
Morioka	2·7	231	i 0 41	- 2	1 14	0	—	—
Mizusawa	N. 3·1	225	0 51	+ 3	1 28	+ 4	—	—
Suttsu	3·1	298	e 0 51	+ 3	—	—	—	—
Sendai	K. 3·9	218	e 0 58	- 1	1 46	+ 2	—	—

Continued on next page.

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1952

415

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Hukusima		4.5	217	e 1 8	+ 1	2 3	+ 4	—	—
Inawasiro		4.8	219	e 1 12	+ 1	—	—	—	—
Onahama		5.0	209	e 1 23	+ 9	2 11	0	—	—
Aikawa		5.5	234	e 1 19	- 2	—	—	—	—
Mito		5.6	209	e 1 29	+ 7	2 30	+ 4	—	—
Utunomiya		5.8	214	e 1 27	+ 2	2 30	- 1	—	—
Kumagaya		6.3	215	e 1 38	+ 6	2 49	+ 6	—	—
Maebasi		6.3	219	e 1 34	+ 2	2 47	+ 4	—	—
Nagano		6.5	225	e 1 38	+ 3	—	—	—	—
Oiwake		6.5	221	e 1 49	PP	—	—	—	—
Matusiro		6.6	224	e 1 35	- 1	2 44	- 6	—	—
Wazima		6.7	236	e 1 39	+ 2	3 1	+ 8	—	—
Matumoto	E.	6.9	224	e 2 20	+40	—	—	—	—
Toyama		7.0	230	e 1 52	+10	3 46	+46	—	—
Hunatu		7.1	216	e 2 11	PP	3 12	+ 9	—	—
Kohu		7.1	218	e 1 52	+ 9	3 6	+ 3	—	—
Misima		7.4	214	e 1 59	PP	3 13	+ 3	—	—
Iida		7.6	221	e 2 5	PP	—	—	—	—
Nagoya		8.3	223	e 2 10	PP	3 47	SS	—	—
Kameyama		8.8	224	e 2 16	PP	4 8	SS	—	—
Hong Kong		31.4	242	—	—	e 17 8?	?	—	—
Manila		33.3	224	—	—	e 15 12	SSS	—	—
College		44.4	35	i 8 1	- 2	(e 13 45)	PcS	—	e 13.8
Resolute Bay		57.9	16	i 9 42 <sub>a</sub>	- 2	—	—	e 9 55	pP
Kiruna		63.1	339	i 10 18 <sub>k</sub>	- 2	—	—	—	e 28.1
Shasta		67.0	56	e 10 46	+ 1	—	—	—	—
Upsala	Z.	69.9	334	i 11 2 <sub>a</sub>	0	—	—	—	—
China Lake	Z.	72.9	57	e 11 22	+ 2	—	—	—	—
Riverside	Z.	74.2	59	e 11 30	+ 2	—	—	—	—
Boulder City	Z.	74.6	56	e 11 33	+ 3	—	—	—	—
Collmberg	Z.	78.3	331	e 11 49	- 2	—	—	—	—
Jena	Z.	79.1	332	e 11 55	0	—	—	e 12 25	sP
Stuttgart		81.7	332	e 12 10	+ 1	—	—	—	e 44.1
Triest	Z.	82.6	328	e 12 15	+ 1	e 12 27	PcP	e 12 36	pP
Paris		83.9	336	i 12 22	+ 2	—	—	—	—
Fayetteville	Z.	86.3	44	i 12 33	+ 1	—	—	—	—
Weston		91.0	25	e 12 50	- 4	—	—	—	—
Tamanrasset	Z.	105.4	321	e 18 27	PP	—	—	—	—
Pretoria	Z.	125.4	266	e 40 40	?	—	—	—	—
La Paz		142.9	57	19 34	[+12]	—	—	—	—

May 16d. 18h. 37m. 29s. Epicentre 41°·4N. 143°·9E. Focus at Base of Superficial Layers. (as at 16h.).

Intensity II-III at Kusiro and Nemuro. Epicentre 41°·4N. 144°·0E. Depth about 40km. Macroseismic radius 200-300km. Seismo. Bull. Cent. Met. Obs., Japan, for May, 1952, Tokyo, 1952, p. 197, with macroseismic chart.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Urakawa		1.1	312	i 0 22 <sub>k</sub>	+ 3	0 36	+ 3	—	—
Kusiro		1.6	13	e 0 15	-11	0 34	-12	—	—
Obihiro	N.	1.6	341	e 0 23	- 3	0 46	0	—	—
Hatinohe		2.0	234	0 18	-14	1 0	+ 4	—	—
Miyako		2.3	220	e 0 37	+ 1	1 6	+ 2	—	—
Nemuro		2.3	32	e 0 31	- 5	0 53	-11	—	—
Aomori		2.4	256	0 42	+ 4	1 34	SS	—	—
Sapporo		2.5	312	e 0 37	- 2	1 12	+ 3	—	—
Mori	E.	2.6	286	e 0 42	+ 1	1 26	+15	—	—
Morioka		2.7	231	e 0 43	+ 1	1 17	+ 3	—	—
Mizusawa		3.1	225	0 50	+ 2	1 28	+ 4	—	—
Suttsu		3.1	298	e 0 53	+ 5	—	—	—	—
Akita		3.3	240	e 0 50	- 1	1 32	+ 3	—	—
Sendai	N.	3.9	218	e 1 4	+ 5	1 46	+ 2	—	—
Hukusima		4.5	217	e 1 11	+ 3	2 7	+ 7	—	—

Continued on next page.



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1952

416

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Inawasiro	4.8	219	e 1 12	0	2 15	+ 8	—	—
Shirakawa	5.1	215	e 1 21	+ 5	2 17	+ 2	—	—
Aikawa	5.5	234	e 1 18	- 4	—	—	—	—
Mito	5.6	209	e 1 34	PP	2 33	+ 6	—	—
Utunomiya	5.8	214	e 1 24	- 2	2 31	- 1	—	—
Kumagaya	6.3	215	e 1 37	+ 4	2 49	+ 4	—	—
Maebasi	6.3	219	e 1 35	+ 2	2 48	+ 3	—	—
Nagano	6.5	225	e 1 41	+ 5	—	—	—	—
Oiwake	6.5	221	e 1 42	+ 6	—	—	—	—
Matusiro	6.6	224	e 1 45	+ 8	2 56	+ 4	—	—
Tokyo	6.6	211	e 1 34	- 3	2 50	- 2	—	—
Wazima	6.7	236	e 1 40	+ 1	3 1	+ 6	—	—
Matumoto	N. 6.9	224	e 2 29	+48	—	—	—	—
Kohu	E. 7.1	218	e 1 49	+ 5	—	—	—	—
Misima	E. 7.1	214	e 2 0	PP	3 12	0	—	—
Nagoya	8.3	223	e 2 57	+56	—	—	—	—
College	44.4	35	i 8 0	- 9	—	—	i 8 11	pP
Kiruna	63.1	339	i 10 19	- 7	—	—	i 10 28	P
Upsala	Z. 69.9	334	i 11 2	- 8	—	—	i 11 12	pP
China Lake	Z. 72.9	57	e 11 31	+ 3	—	—	e 11 43	pP
Riverside	Z. 74.2	59	e 11 38	+ 3	—	—	—	—
Boulder City	74.6	56	e 11 41	+ 3	—	—	—	—
Jena	79.1	332	11 56	- 7	—	—	e 12 7	P
Stuttgart	81.7	332	e 12 11	- 6	—	—	—	—
Triest	Z. 82.6	328	e 12 14	- 7	e 13 3	?	e 12 25	PcP
Fayetteville	Z. 86.3	44	i 12 36	- 4	—	—	i 12 46	pP
Tamanrasset	Z. 105.4	321	e 18 25	PP	—	—	—	—

May 16d. 20h. 45m. 41s. Epicentre 6°·7N. 78°·9W. (as on 1945, July 9d.).

Felt at Balboa Heights, in the Canal area, and by the ship "Irish Rose" at 6°30'N. 78°41'W. Epicentre 6°·25N. 79°·0W. (U.S.C.G.S.).

L. M. Murphy and W. K. Cloud.

United States Earthquakes, 1952, U.S.C.G.S. Serial 773, Washington, 1954, p.49.

A = +·1912, B = -·9745, C = +·1176 ;  $\delta$  = +4 ; h = +7 ;  
D = -·981, E = -·193 ; G = +·023, H = -·115, K = -·993.

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Balboa Heights	2.2	344	0 40	+ 2	1 8	+ 2	—	—
Chinchina	3.7	119	i 0 56	- 4	i 1 43	- 2	i 7 24	?
Bogota	5.3	113	i 1 19	- 3	i 2 17	- 8	—	—
Galerazamba	5.3	42	i 1 6	-16	i 2 6	-19	i 10 16	?
Kingston	11.3	10	e 2 47	+ 1	e 5 12	SS	—	e 5.8
Port au Prince	13.3	28	e 3 9	- 4	—	—	—	—
Ciudad Trujillo	14.5	36	i 2 14	-74	e 4 59	-72	—	—
San Juan	17.0	46	i 3 55	- 6	—	—	—	—
Merida	17.5	325	i 4 5 <sub>a</sub>	- 2	i 7 28	+ 7	i 7 56	SS
Huancayo	19.0	170	i 4 23	- 3	i 7 53	- 2	—	i 8.5
Fort de France	19.1	65	i 4 24	- 3	i 8 2	+ 5	5 4	PP
Oaxaca	20.2	303	e 5 11	PPP	i 9 15	SSS	—	e 10.0
Vera Cruz	20.8	309	e 4 53	+ 8	e 8 55	SS	e 5 21	PP
Puebla	22.4	305	i 5 25	PP	i 9 36	SS	—	—
Tacubaya	23.4	305	i 5 18 <sub>a</sub>	+ 7	i 9 24	+ 3	i 9 36	?
Mobile	25.3	341	i 5 28	- 2	i 9 57	+ 3	—	—
La Paz	25.5	156	i 5 31 <sub>k</sub>	- 1	i 9 51	- 6	i 10 59	SS
Bermuda	28.7	26	i 6 4	+ 3	e 11 7	+17	—	c 13.4
Washington	32.0	3	i 6 30	0	—	—	—	—
Fayetteville	Z. 32.3	337	i 6 31	- 2	—	—	i 8 32	?
Morgantown	32.7	359	i 6 36	0	e 11 49	- 3	—	—
Pennsylvania	33.9	2	i 6 49	+ 2	e 12 15	+ 4	e 9 21	PcP
Lubbock	34.1	325	6 49	+ 1	12 16	+ 2	—	—
Fordham	34.2	8	i 6 52	+ 3	i 12 19	+ 3	—	—
Palisades	34.3	8	e 6 50 <sub>a</sub>	0	e 13 18	+61	e 7 49	PP

Continued on next page.

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1952

417

		Δ °	Az. °	P.		O - C. s.	S.		O - C. s.	Supp.		L. m.
				m.	s.		m.	s.		m.	s.	
Cleveland		34.6	357	i 6	52 <sub>a</sub>	- 1	i 12	24	+ 2	—	—	—
Buffalo (Larkin)		35.9	0	i 7	4	0	e 12	42	0	—	—	—
Weston		36.1	10	i 7	6 <sub>a</sub>	+ 1	i 12	48	+ 3	i 8	21	PP
Harvard		36.2	10	i 7	7 <sub>a</sub>	+ 1	i 12	49	+ 2	e 7	34	? e 16.9
Lincoln		37.4	338	e 7	24	+ 8	e 13	2	- 3	—	—	—
Vermont		37.9	7	e 7	25	+ 5	i 13	19	+ 6	—	—	—
Ottawa		38.5	4	e 7	26	0	13	23	+ 1	9	0	PP
Tucson		39.0	316	i 7	31	+ 1	e 13	37	+ 8	e 9	11	PP
Shawinigan Falls	N.	40.0	7	e 7	39	+ 1	13	47	+ 3	17	47	ScS
Santa Lucia	N.	40.8	170	e 7	50	+ 5	e 14	2	+ 6	e 9	22	PP
Kirkland Lake	Z.	41.2	359	e 7	48 <sub>a</sub>	0	e 14	1	- 1	i 9	24	PP
Concepcion	N.	43.7	171	e 6	37	?	e 13	42	-57	e 17	38	SS
Boulder City		43.9	317	e 8	11	+ 1	e 14	48	+ 6	—	—	—
Palomar	Z.	44.0	313	i 8	12 <sub>a</sub>	+ 1	i 14	35	- 8	i 8	20	pP
Riverside		44.7	313	i 8	17 <sub>a</sub>	+ 1	e 14	56	+ 2	i 8	25	pP
Pasadena		45.3	313	i 8	22 <sub>a</sub>	+ 1	i 15	5	+ 3	i 8	29	pP
Buenos Aires		45.5	156	8	21	- 2	14	59	- 6	—	—	e 19.6
China Lake		45.7	316	i 8	24	0	i 15	11	+ 3	i 8	29	pP
La Plata	E.	46.0	156	i 8	27	0	15	1	-11	18	1	ScS
	N.	46.0	156	i 8	21	- 6	15	7	- 5	18	43	SS
Tinemaha		46.8	316	i 8	34	+ 1	i 14	25	-59	i 10	5	PcP
Fresno		47.7	315	e 8	40 <sub>a</sub>	0	e 15	36	0	—	—	—
Reno		49.1	318	e 8	53 <sub>a</sub>	+ 2	e 16	3	+ 7	—	—	—
Lick	Z.	49.3	315	e 8	53 <sub>a</sub>	0	i 10	14	PcP	i 8	58	?
Santa Clara		49.5	315	e 8	57 <sub>a</sub>	+ 3	i 16	5	+ 3	—	—	e 24.3
Berkeley		50.0	315	e 8	59 <sub>a</sub>	+ 1	i 16	11	- 2	i 10	57	PP
Saskatoon		50.6	338	8	33	-29	e 16	19	+ 2	—	—	i 20.0
Mineral	Z.	50.7	318	i 9	3 <sub>a</sub>	0	i 10	7	PcP	i 9	10	pP
Hungry Horse		51.0	331	i 9	6	0	e 16	24	+ 2	—	—	—
Shasta		51.4	318	i 9	7	- 2	—	—	—	—	—	—
Arcata	Z.	52.6	317	e 9	18 <sub>a</sub>	0	—	—	—	—	—	—
Corvallis	Z.	53.9	322	i 9	23	- 4	e 17	4	+ 2	—	—	—
Seattle		54.9	325	i 9	36 <sub>a</sub>	+ 1	i 17	21	+ 5	i 17	48	PPS
Victoria		56.0	326	9	41	- 2	e 17	41	PS	—	—	—
M'Bour		61.2	77	i 10	18	- 1	i 10	36	?	e 14	6	PPP
Resolute Bay		67.9	356	i 11	3 <sub>k</sub>	+ 1	i 20	4	+ 3	i 21	4	ScS
Reykjavik	Z.	69.9	23	i 11	15	0	—	—	—	—	—	e 27.0
Scoresby Sund		73.0	17	i 11	32 <sub>k</sub>	- 1	i 21	1	+ 1	25	49	SS
Malaga		73.5	53	i 11	36	0	i 21	8	+ 2	i 14	22	PP
Toledo		74.1	51	i 11	38	- 2	i 21	14	+ 2	14	26	PP
Granada		74.2	53	i 11	41	+ 1	i 21	20	+ 6	14	3	PP
Rathfarnham Castle		74.2	37	i 11	38 <sub>a</sub>	- 2	e 21	13	- 1	21	50	PS
College		75.0	336	i 11	43	- 2	i 21	19	- 4	e 13	59	PP
Almeria		75.1	54	i 11	41	- 5	i 21	20	- 4	11	58	PcP
Jersey	E.	76.3	41	e 11	52	0	e 21	49	+12	—	—	35.8
Alicante		76.7	52	i 11	59	+ 4	21	40	- 1	31	55	Q
Durham		77.2	36	i 11	58	+ 1	i 21	48	+ 1	i 12	8	PcP
Aberdeen		77.3	33	i 15	5	PP	i 21	44	- 4	i 22	31	PS
Kew		77.6	39	i 11	59 <sub>k</sub>	- 1	e 21	31	-20	i 12	16	PcP
Tortosa		77.6	50	11	59	- 1	i 21	50	- 1	—	—	—
Barcelona		78.8	49	—	—	—	e 22	4	0	—	—	—
Paris		79.3	42	i 12	8	- 1	i 22	7	- 2	i 12	27	pP
Algiers Univ.		79.5	54	i 12	8 <sub>k</sub>	- 2	e 22	46	PS	e 15	14	PP
Clermont-Ferrand		79.6	45	i 12	0	-10	e 22	19	+ 7	e 27	49	SS
De Bilt		81.0	38	i 12	19 <sub>k</sub>	+ 1	i 22	27	0	e 27	49	SS
Bergen		81.3	30	e 12	24	+ 4	i 22	29	- 1	—	—	e 33.8
Witteveen	Z.	82.0	37	12	22 <sub>k</sub>	- 1	—	—	—	—	—	—
Neuchatel		82.3	44	i 12	24	- 1	e 22	46	+ 6	—	—	—
Tamanrasset	Z.	82.3	68	i 12	25 <sub>a</sub>	0	e 17	29	PPP	e 39	1	P'P'
Basle		82.7	43	e 12	26 <sub>k</sub>	- 1	—	—	—	—	—	—

Continued on next page.

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1952

418

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.	
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.	
Strasbourg	82.7	42	i 12	27k	0	i 22	45	+ 1	e 12	45	pP	e 38.3
Karlsruhe	83.2	41	i 12	29k	0	i 22	51	+ 2	e 12	46	sP	38.3
Zürich	83.3	43	e 12	29k	- 1	e 22	49	- 1	e 15	38	PP	—
Stuttgart	83.7	42	i 12	31k	- 1	i 22	55	+ 1	e 23	49	PS	39.3
Pavia	83.9	45	i 12	33k	0	e 22	57	+ 1	i 13	45	?	e 40.4
Chur	84.0	44	e 12	38k	+ 5	—	—	—	—	—	—	—
Salo	84.8	45	e 12	55	+18	e 23	27	+22	e 13	29	?	—
Jena	85.1	39	i 12	38	- 1	e 23	9	+ 1	e 15	53	PP	—
Copenhagen	85.2	34	i 12	39k	0	23	9	0	24	5	PS	39.3
Prato	85.3	47	i 12	40	0	e 23	3	[ 0]	—	—	—	—
Bologna	85.5	46	e 12	41k	0	e 23	11	- 1	—	—	—	—
Florence	85.5	47	i 12	38k	- 3	e 22	52	[-12]	e 24	29	PPS	—
Cheb	85.7	40	e 12	41a	- 1	e 23	15	+ 1	e 16	3	PP	e 39.8
Padova	85.8	46	18	43	+ 1	23	15	0	—	—	—	—
Collmborg	85.9	39	i 12	42	- 1	23	11	[+ 4]	e 16	10	PP	e 38.0
Potsdam	85.9	38	i 12	42k	- 1	i 23	17	+ 1	i 12	47	PcP	e 40.3
Rome	86.5	48	i 12	46k	0	i 23	23	+ 1	29	11	SS	—
Prague	87.0	40	i 12	48k	0	e 23	30	+ 3	e 16	10	PP	e 40.3
Triest	87.0	45	i 12	49k	+ 1	i 23	16	[+ 2]	e 24	34	PS	41.2
Kiruna	87.3	23	i 12	49k	- 1	i 23	23	- 6	i 16	15	PP	e 37.3
Upsala	87.4	31	i 12	49k	- 1	i 23	29	- 1	e 24	31	PS	e 38.3
Vienna	88.5	42	i 12	56	0	e 23	46	+ 5	e 24	48	PS	—
Messina	89.3	52	e 12	57	- 2	e 23	29	[ 0]	e 29	45	SS	—
Raciborz	89.4	39	e 13	1k	+ 1	23	55	+ 6	e 13	3	PcP	e 48.3
Ogyalla	89.8	42	e 13	2	0	23	33	[+ 1]	e 29	49	SS	—
Taranto	90.3	49	13	4	0	23	38	[+ 3]	—	—	—	35.7
Skalnate Pleso	90.8	40	12	59	- 7	23	57	- 5	e 16	39	PP	—
Helsinki	91.0	28	e 13	5	- 2	e 23	42	[+ 3]	e 25	13	PS	—
Belgrade	91.8	44	e 13	12k	+ 1	e 24	15	+ 4	e 23	49	SKS	e 51.4
Timisoara	92.2	43	12	19?	?	23	19?	[-26]	—	—	—	—
Uzhgorod	92.3	40	e 13	13	0	23	36	[-10]	17	0	PP	—
Lwow	93.1	39	13	16	- 1	24	25	+ 3	13	34	pP	—
Pulkovo	93.7	28	e 13	17	- 3	i 23	57	[+ 3]	i 29	24	?	—
Athens	95.7	51	e 17	17	PP	e 24	4	[- 1]	—	—	—	—
Bucharest	95.9	43	e 13	31	+ 1	e 24	36	-10	e 17	24	PP	—
Kishinev	97.0	41	13	34	- 1	24	13	[+ 1]	e 17	30	PP	—
Istanbul	98.9	46	e 13	40	- 3	24	21	[- 1]	25	6	S	45.3
Moscow	98.9	31	e 13	43	0	e 24	26	[+ 4]	—	—	—	—
Simferopol	101.1	42	13	52	- 1	e 27	6	PS	20	4	PPP	—
Yalta	101.3	42	13	53	- 1	e 24	55	{- 8}	27	7	PS	—
Theodosia	101.9	41	13	57	0	24	42	[+ 6]	18	4	PP	—
Helwan	103.9	57	e 14	7	+ 1	24	46	[ 0]	e 27	29	PS	—
Sotchi	105.4	41	18	30	[+ 6]	24	55	[+ 3]	27	52	PS	—
Ksara	106.3	52	18	43	PP!	28	8	PS	—	—	—	—
Piatigorsk	107.3	40	18	45	PP	i 28	12	PS	i 20	4	pPP	—
Zugdidi	107.3	42	e 18	50	PP	—	—	—	—	—	—	—
Pretoria	108.3	114	i 18	47	PP	—	—	—	—	—	—	—
Sverdlovsk	108.5	22	e 18	56	PP	24	55	[-11]	e 33	55	SS	—
Borzhom	108.6	42	e 18	21	[- 9]	e 28	20	PS	—	—	—	—
Tsikhlis-Dzhvari	108.6	42	e 19	9	PP	28	28	PS	—	—	—	—
Grozny	109.4	39	i 19	4	PP	i 28	30	PS	—	—	—	—
Tiflis	109.5	41	e 14	30	- 1	28	34	PS	i 19	3	PP	—
Makhach-Kala	110.7	38	i 19	13	PP	i 28	43	PS	—	—	—	—
Kirovobad	111.1	42	e 18	41	[+ 6]	—	—	—	—	—	—	—
Goris	111.6	42	e 19	19	PP	28	51	PS	—	—	—	—
Baku	113.5	40	e 22	14	PPP	29	16	PS	—	—	—	—
Lenkoran	113.7	42	19	33	PP	29	14	PS	19	53	pPP	—
Kizyl-Arvat	118.3	37	e 20	11	PP	e 30	1	PS	—	—	—	—
Semipalatinsk	120.2	14	e 18	52	[- 1]	—	—	—	—	—	—	—
Irkutsk	121.1	3	e 18	49	[- 6]	e 20	14	PP	e 22	50	PPP	—

Continued on next page.

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1952

419

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.	
	$^{\circ}$	$^{\circ}$	m.	s.	s.	m.	s.	s.	m.	s.	m.	
Kabansk	121.2	5	e 18	55	[ 0]	e 30	19	PS	e 23	1	PPP	—
Kyakhta	122.9	5	e 18	58	[ 0]	e 26	2	[+ 3]	e 20	19	?	—
Tashkent	123.9	28	e 19	1	[+ 1]	e 26	9	[+ 6]	i 27	46	SKKS	—
Samarkand	124.0	32	e 20	47	PP	—	—	—	e 23	15	PPP	—
Frunse	125.0	23	i 19	4	[+ 2]	e 30	53	PS	i 22	43	PKS	—
Almata	125.6	21	i 19	5	[+ 1]	—	—	—	—	—	—	—
Almata II	125.7	21	e 19	5	[+ 1]	—	—	—	—	—	—	—
Andijan	125.8	27	i 19	5	[+ 1]	e 30	36	SKSP	e 20	59	PP	—
Fergana	125.8	27	e 19	5	[+ 1]	e 28	4	{+11}	e 20	59	PP	—
Stalinabad	125.8	31	i 19	5	[+ 1]	—	—	—	—	—	—	—
Rybach'e	125.9	22	i 19	5	[+ 1]	e 31	4	PS	e 20	51	PP	—
Obi-garm	126.2	30	i 19	5	[ 0]	—	—	—	—	—	—	—
Riverview	126.6	232	e 30	6	?	e 38	17	SS	—	—	—	e 59.5
Brisbane	z. 126.7	241	i 18	2 <sub>a</sub>	[-64]	—	—	—	—	—	—	—
Kulyab	126.8	31	i 19	5	[- 1]	—	—	—	—	—	—	—
Naryn	126.8	23	e 19	7	[+ 1]	—	—	—	i 21	7	PP	—
Przhevalsk	126.8	19	19	7	[+ 1]	—	—	—	—	—	—	—
Khorog	128.1	30	i 19	10	[+ 2]	i 22	31	PKS	—	—	—	—
Murgab	128.4	27	i 19	18	[+ 9]	i 22	34	PKS	—	—	—	—
Quetta	130.8	40	e 19	18	[+ 4]	i 22	41	PKS	i 21	28	PP	69.3
Nanking	z. 137.8	338	19	28	[+ 1]	—	—	—	—	—	—	—
Poona	143.2	46	i 19	33	[- 3]	e 32	56	SKSP	e 23	17	PKS	—
Hyderabad	N. 147.1	42	i 19	49	[+ 6]	—	—	—	—	—	—	—
Hong Kong	148.4	336	e 19	51	[+ 6]	—	—	—	—	—	—	—
Kodalkanal	E. 151.0	53	19	31	[-18]	—	—	—	—	—	—	—
Manila	151.0	318	i 19	50	[+ 1]	—	—	—	—	—	—	—
Bandong	173.5	89	e 20	20	[+ 9]	e 32	17	{- 3}	e 25	50	PP	—

May 16d. 20h. 47m. 34s. Epicentre 40°·2N. 142°·3E. (as on 1940, July 21d.).

Intensity II-III at Miyako, Hatinohe, Isinomaki, Misawa, and Ozawaguchi.  
Epicentre 40°·1N. 142°·4E. Depth about 20km. Macroseismic radius 100-200km.  
Seismo. Bull. Cent. Met. Obs., Japan, for May, 1952, Tokyo, 1952, p.198, with macroseismic chart.

A = -·6060, B = +·4684, C = +·6429;  $\delta = -5$ ;  $h = -2$ ;  
D = +·612, E = +·791; G = -·509, H = +·393, K = -·766.

	$\Delta$	Az.	P.		O-C.	S.		O-C.
	$^{\circ}$	$^{\circ}$	m.	s.	s.	m.	s.	s.
Miyako	0.6	203	e 0	14	- 1	0	23	- 3
Hatinohe	0.7	300	i 0	17	0	0	27	- 1
Morioka	1.0	240	i 0	21 <sub>k</sub>	0	0	34	0*
Aomori	1.3	298	0	29	+ 3 <sub>g</sub>	0	49	+ 5
Mizusawa	1.4	220	0	29	+ 1 <sub>g</sub>	0	47	+ 1
Akita	1.7	254	0	35	+ 1 <sub>g</sub>	1	0	+ 4 <sub>g</sub>
Isinomaki	1.9	203	e 0	31	- 3 <sub>g</sub>	0	56	- 3 <sub>g</sub>
Sendai	E. 2.2	209	e 0	51	+ 7 <sub>g</sub>	1	16	+ 3 <sub>g</sub>
Mori	E. 2.3	326	e 0	43	+ 1*	1	16	0 <sub>g</sub>
Yamagata	2.5	218	e 0	41	- 2	1	14	0
Hokusima	2.8	210	e 0	52	+ 1*	1	31	- 1 <sub>g</sub>
Sapporo	2.9	346	e 0	51	- 1*	1	30	0*
Inawasiro	3.1	213	e 0	42	- 9	1	28	- 1
Onabama	3.5	199	e 1	16	+ 6 <sub>g</sub>	1	54	- 2 <sub>g</sub>
Mito	4.0	201	e 1	9	- 2*	2	8	- 4 <sub>g</sub>
Utsunomiya	4.1	208	e 1	4	- 1	2	6	0*
Tukubasan	4.3	204	e 1	8	0	1	51	- 9
Kumagaya	4.6	210	e 1	26	+ 4*	2	13	+ 6
Nagano	4.8	224	e 1	42	+ 6 <sub>g</sub>	—	—	—
Oiwake	4.9	219	e 1	29	+ 2*	—	—	—
Tokyo	4.9	205	e 1	9	- 8	2	12	- 3
Toyama	5.3	230	e 1	50	+ 4 <sub>g</sub>	—	—	—
Kohu	5.4	214	e 1	32	- 3*	2	39	- 5*

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1952

420

May 16d. 22h. 19m. 30s. Epicentre 23° 28. 177° 4W. (as on 1951, May 22d.).

A = -0.9191, B = -0.0417, C = -0.3917;  $\delta = -9$ ;  $h = +4$ ;  
D = -0.045, E = +0.999; G = +0.391, H = +0.018, K = -0.920.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	
	°	°	m. s.	s.	m. s.	s.	m. s.	
Apia	10.8	31	—	—	e 4 34	- 8	—	—
Karapiro	N. 15.9	201	e 4 10	PP	6 31	-13	—	—
Tuai	N. 16.2	195	6 30?	?	—	—	—	—
Wellington	19.2	199	e 4 26	- 2	e 7 36	-23	e 8 42	PcP
Cobb River	E. 19.7	204	e 5 2	PPP	5 47	?	—	—
Kaimata	N.E. 21.4	204	4 51	0	8 26	-19	—	—
Christchurch	21.9	200	—	—	e 8 37	-17	—	—
Brisbane	27.0	256	i 5 49 <sub>a</sub>	+ 4	i 12 18	SSS	i 6 37	PP
Riverview	N. 29.5	242	—	—	i 11 57	SS	i 13 19	SSS
Lick	Z. 79.9	42	i 12 17	+ 5	—	—	—	—
Mount Wilson	Z. 80.2	47	e 12 12	- 2	—	—	—	—
Fresno	Z. 80.6	44	e 12 22	+ 6	—	—	—	—
Palomar	Z. 80.6	48	e 12 14	- 2	—	—	—	—
Riverside	Z. 80.6	47	e 12 15	- 1	—	—	e 12 58	?
China Lake	Z. 81.5	45	e 12 20	- 1	—	—	—	—
Shasta	81.6	39	e 12 21	0	—	—	—	—
Mineral	Z. 81.8	40	e 12 27	+ 5	—	—	—	—
Tinemaha	Z. 81.8	45	e 12 22	0	—	—	—	—
Reno	Z. 82.4	42	e 12 20	- 5	—	—	—	—
Boulder City	83.4	47	i 12 30	0	—	—	—	—
Victoria	86.2	34	12 42	- 2	—	—	—	—
College	90.7	12	i 13 4	- 2	—	—	—	—
Kimberley	Z. 124.1	204	i 18 58	[- 3]	—	—	—	—
Kiruna	Z. 134.0	351	e 19 8	[-11]	i 19 17	PKP	i 19 24	?
Upsala	Z. 141.9	348	i 19 26	[- 8]	—	—	i 19 57	?
Copenhagen	146.7	351	i 19 43	[+ 1]	—	—	—	—
Kishinev	148.3	327	e 19 46	[+ 1]	—	—	e 21 29	?
Lwow	148.6	333	i 19 46	[+ 1]	e 19 53	?	e 20 21	?
Cernanti	148.8	329	e 19 50	[+ 5]	—	—	e 20 30	?
Ksara	149.0	297	e 19 48	[+ 2]	e 27 42	[+50]	—	—
Rathfarnham C.	Z. 149.2	10	i 19 47 <sub>a</sub>	[+ 1]	—	—	i 19 58	PKP <sub>2</sub>
Potsdam	Z. 149.8	348	e 19 51	[+ 4]	—	—	—	—
Uzhgorod	150.2	335	i 19 53	[+ 5]	e 19 59	PKP <sub>2</sub>	e 20 26	?
Witteveen	Z. 150.3	356	i 24 51	PP	—	—	—	—
Raciborzu	150.5	341	e 20 3	[+15]	—	—	e 20 6	PKP <sub>2</sub>
Collmberg	150.8	346	e 19 46?	[- 3]	e 20 51	?	i 19 59	PKP <sub>2</sub>
Jena	151.4	347	e 19 46	[- 3]	e 20 26	?	e 20 1	PKP <sub>2</sub>
Istanbul	Z. 151.5	316	e 19 53	[+ 3]	—	—	—	—
Prague	151.6	344	i 19 59	[+ 9]	e 23 44	PKS	e 20 58	?
Stuttgart	154.0	350	e 19 50	[- 3]	e 19 59	?	e 20 14	PKP <sub>2</sub>
Strasbourg	154.3	353	i 20 7	[+13]	—	—	i 20 16	PKP <sub>2</sub>
Paris	154.4	1	e 19 59	[+ 5]	e 20 8	?	e 20 16	PKP <sub>2</sub>
Zürich	Z. 155.4	351	e 20 21 <sub>a</sub>	PKP <sub>2</sub>	—	—	—	—
Triest	Z. 155.8	341	e 19 53	[- 3]	e 20 33	?	i 20 22	PKP <sub>2</sub>
Florence	158.3	343	e 19 55	[- 4]	e 25 18	?	e 20 34	PKP <sub>2</sub>
Tamanrasset	Z. 177.3	—	e 20 11	[- 1]	e 25 51	PP	i 21 58	PKP <sub>2</sub>

May 17d. 5h. 56m. 57s. Epicentre 4° 48. 153° 9E. Depth of focus 0.025.

A = -0.8954, B = +0.4387, C = -0.0762;  $\delta = +1$ ;  $h = +7$ ;  
D = +0.440, E = +0.898; G = +0.068, H = -0.034, K = -0.997.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Brisbane	23.0	180	i 4 47	- 2	i 8 43	+ 1	i 5 19	pP
Riverview	29.4	183	i 5 44 <sub>k</sub>	- 4	i 10 24	- 2	i 6 49	PP
Melbourne	34.3	162	—	—	i 11 37	- 5	e 14 8	SS
Apia	35.1	106	e 6 33?	- 4	—	—	—	e 11.2
Auckland	N. 37.6	151	e 8 51	PcP	—	—	—	e 16.0

(Continued on next page.)



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1952

421

		$\Delta$ °	Az. °	P.		O - C. s.	S.		O - C. s.	Supp.		L. m.	
				m.	s.		m.	s.		m.	s.		
Manila		37.7	301	e 6	59	0	i 12	35	+ 1	i 7	39	pP	—
Karapiro	N.	38.8	152	e 7	4	- 4	16	55	ScS	7	47	pP	—
Cobb River	E.	40.3	157	e 7	18	- 2	—	—	—	e 7	59	pP	—
Kaimata	N.E.	41.0	160	e 7	27	+ 1	—	—	—	e 8	44	?	—
Wellington		41.2	155	e 8	5	pP	—	—	—	—	—	—	e 20.6
Christchurch		42.3	159	e 7	37	+ 1	—	—	—	—	—	—	e 20.0
Nagoya		42.5	340	e 7	39	+ 1	—	—	—	—	—	—	—
Matusiro		43.3	342	i 7	43	- 1	13	49	- 8	—	—	—	—
Sendai		44.1	346	e 7	51	0	—	—	—	e 9	49	PPP	—
Perth		45.0	227	—	—	—	i 14	18	- 3	e 17	19	SS	i 21.0
Bandung		46.1	265	6	56	?	i 14	29	- 8	—	—	—	—
Djakarta		46.9	266	8	15	+ 2	14	39	- 9	—	—	—	—
Zi-ka-wei	Z.	47.0	321	i 8	14a	0	14	50	+ 1	i 8	56	pP	—
Hong Kong		47.0	306	8	15	+ 1	e 14	54	+ 5	8	58	pP	—
Nanking		49.3	319	i 8	31a	0	i 15	24	+ 2	i 9	13	pP	—
Hyderabad	N.	77.5	289	—	—	—	i 21	6	- 3	—	—	—	—
College		81.1	22	i 11	54	- 1	—	—	—	i 12	40	pP	—
Shasta		88.1	49	e 12	31	+ 1	—	—	—	—	—	—	—
Lick	Z.	88.2	52	e 12	33	+ 3	—	—	—	—	—	—	—
Victoria		88.4	41	12	31	0	—	—	—	—	—	—	—
Mineral	Z.	88.6	49	e 12	33	+ 1	—	—	—	—	—	—	—
Fresno	Z.	89.7	53	e 12	39	+ 2	—	—	—	—	—	—	—
Reno	Z.	89.9	50	e 12	39	+ 1	—	—	—	—	—	—	—
Pasadena		90.7	56	i 12	43	+ 1	—	—	—	e 13	43	sP	e 37.4
Tinemaha	Z.	90.9	53	e 12	44	+ 1	—	—	—	—	—	—	—
China Lake	Z.	91.3	54	e 12	45k	0	—	—	—	—	—	—	—
Riverside	Z.	91.4	56	e 12	46k	+ 1	—	—	—	—	—	—	—
Palomar	Z.	91.7	57	e 12	48	+ 1	—	—	—	—	—	—	—
Boulder City		93.6	54	i 12	57	+ 2	—	—	—	—	—	—	—
Tacubaya		107.4	71	i 27	20	SP	—	—	—	—	—	—	—
Kiruna		109.3	343	i 18	23	PKP	e 24	22	[- 3]	e 27	51	SP	e 35.0
Fayetteville	Z.	110.3	53	e 18	30	[+ 22]	—	—	—	—	—	—	—
Ksara		115.6	306	i 19	28	PP	e 28	38	SP	—	—	—	—
Istanbul	Z.	118.7	315	e 19	39	PP	—	—	—	e 20	27	?	—
Copenhagen		120.3	336	—	—	—	25	13	[+ 7]	26	37	SKKS	57.0
Collnberg		123.0	332	e 18	33	[ 0]	e 20	17	PP	e 19	31	pPKP	—
Jena		123.9	332	e 18	36?	[+ 1]	e 20	24	PP	e 21	6	pPP	—
Triest	Z.	126.2	327	e 20	27	PP	e 20	36	PP	e 21	23	pPP	—
Stuttgart		126.6	332	e 18	41	[+ 1]	e 31	33	SPP	e 20	41	PP	—
Huancayo		128.4	109	i 18	48	[+ 4]	—	—	—	—	—	—	—
Florence		128.8	326	i 21	47	SKP	e 25	40	[+ 8]	e 30	47	PS	—
Rome		129.2	323	i 21	45k	SKP	e 31	49	PS	—	—	—	e 60.0
Messina	E.	129.3	318	e 20	33	PP	e 39	15	PSS	—	—	—	—
La Paz		133.5	118	i 18	57	[+ 3]	i 22	9	SKP	i 21	25	PP	—
Algiers Univ.	Z.	138.1	324	19	58	?	e 22	17	SKP	e 21	54	PP	—
San Juan		138.5	67	i 19	4	[+ 1]	i 22	20	SKP	—	—	—	—
Fort de France		144.0	71	e 18	42	[- 31]	—	—	—	—	—	—	—
Tamanrasset	Z.	144.4	305	i 19	15a	[+ 2]	e 22	35	PP	e 20	3	pPKP	—

May 17d. 6h. 4m. 41s. Epicentre 36°-8N. 69°-9E. Depth of focus 0.030.  
(as on 14d.).

		$\Delta$ °	Az. °	P.		O - C. s.	S.		O - C. s.	Supp.		L. m.
				m.	s.		m.	s.		m.	s.	
Kulyab		1.1	355	i 0	34	+ 1	—	—	—	—	—	—
Khorog		1.5	64	i 0	35	- 1	—	—	—	—	—	—
Obi-garm		1.9	355	i 0	41	+ 1	i 1	12	+ 2	—	—	—
Stalinabad		2.0	333	i 0	41	0	i 1	12	0	—	—	—
Garm		2.2	8	i 0	43	0	i 1	15	- 1	—	—	—
Murgab		3.6	63	e 1	0	+ 2	e 1	43	- 1	—	—	—
Samarkand		3.7	323	i 1	1	+ 1	—	—	—	—	—	—
Fergana		3.9	22	i 1	3	+ 1	i 1	49	- 1	—	—	—
Andijan		4.4	25	i 1	9	+ 1	i 2	1?	0	—	—	—
Tashkent		4.5	354	i 1	12	+ 3	i 2	6	+ 3	—	—	—

Continued on next page.

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1952

422

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Tchimkent	5.5	358	i 1 23	+ 1	—	—	—	—
Naryn	6.6	44	e 1 35	- 1	i 2 48	- 3	—	—
Quetta	7.0	201	e 1 35	- 6	i 2 53	- 7	—	—
Frunse	7.1	29	i 1 43	+ 1	i 3 2	0	—	—
Rybach'e	7.4	38	i 1 47	+ 1	i 3 9	0	—	—
Almata	8.4	38	i 2 0	+ 1	—	—	—	—
Almata II	8.6	39	i 2 2	0	e 3 59	+ 22	—	—
Przhevalsk	8.7	46	2 2	- 1	3 38	- 1	—	—
III	9.0	35	i 2 5	- 2	—	—	—	—
Kurmenty	9.0	43	i 2 5	- 2	—	—	—	—
Ashkabad	9.3	281	e 2 27	+ 16	3 53	0	—	—
New Delhi	10.2	141	e 2 14	- 8	4 10	- 4	4 52	S*
Kizyl-Arvat	11.0	286	—	—	4 29	- 3	—	—
Poona	18.5	168	i 3 58	- 4	7 34	+ 18	4 24	PP
Upsala	z. 40.3	322	i 7 18	+ 1	—	—	—	8.6
Kiruna	z. 41.4	334	i 7 28 <sub>a</sub>	+ 2	—	—	—	—
Florence	z. 44.5	298	e 7 49	- 2	—	—	—	—

May 17d. 6h. 22m. 49s. Epicentre 52°·0N. 152°·2E. Depth of focus 0·060.

A = -·5469, B = +·2883, C = +·7860;  $\delta = +1$ ;  $h = -7$ ;  
D = +·466, E = +·884; G = -·695, H = +·367, K = -·618.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Sapporo	11.6	224	e 2 40	+ 3	e 4 47	+ 5	—	—
Sendai	15.8	214	e 3 22	0	6 14	+ 9	—	—
College	32.6	43	i 5 56	0	—	—	—	—
Victoria	51.1	58	8 23 <sub>a</sub>	- 1	—	—	—	—
Kiruna	z. 55.2	340	i 8 56 <sub>k</sub>	+ 2	—	—	—	—
Mineral	z. 57.4	65	e 9 8	- 1	—	—	—	—
Reno	z. 59.0	64	e 9 21	+ 1	—	—	—	—
Lick	z. 59.5	67	i 9 23	0	—	—	—	—
Tinemaha	z. 61.6	65	e 9 38	+ 1	—	—	—	—
Upsala	z. 62.6	336	i 9 46 <sub>k</sub>	+ 2	—	—	—	—
China Lake	z. 62.9	65	i 9 44 <sub>a</sub>	- 2	—	—	i 11 11	pP
Pasadena	z. 63.7	67	i 9 51	0	—	—	—	—
Riverside	z. 64.3	67	e 9 53	- 2	—	—	—	—
Boulder City	z. 64.3	64	e 9 55	0	—	—	—	—
Palomar	z. 65.1	67	e 9 59	- 1	—	—	—	—
Stuttgart	74.8	336	e 11 0	+ 2	—	—	—	—
Fayetteville	z. 74.9	50	i 10 58	0	—	—	i 12 27	pP
Istanbul	z. 75.0	319	e 10 53	- 6	—	—	—	—
Weston	78.7	31	i 11 20 <sub>k</sub>	+ 1	—	—	—	—

May 17d. 9h. 48m. 13s. Epicentre 42°·2N. 143°·9E. (as on 1952, March 16d.).

Intensity V at Obihiro, Meguro, Erimomisaki, Memuro, Ikeda, Otsu, and Kawaya; IV at Kusiro, Urakawa, and Mukawa. Epicentre 41°·8N. 144°·2E. Depth about 60km. Macroseismic radius greater than 300km. (Tokyo). Seismo. Bull. Cent. Met. Obs., Japan, for May, 1952, Tokyo, 1952, p. 198, with macroseismic chart on page 198.

A = -·6004, B = +·4378, C = +·6692;  $\delta = -2$ ;  $h = -2$ ;  
D = +·589, E = +·808; G = -·541, H = +·394, K = -·743.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Urakawa	0.8	267	i 0 23 <sub>a</sub>	+ 5	0 43	+ 12	—	—
Obihiro	z. 0.9	323	i 0 29	+ 9	0 52	+ 18	—	—
Kusiro	0.9	25	e 0 25	+ 5	0 43	+ 9	—	—
Nemuro	1.7	47	e 0 33	- 1 <sub>g</sub>	0 52	- 2	—	—
Abashiri	1.8	9	0 38	+ 2 <sub>g</sub>	1 5	+ 5 <sub>g</sub>	—	—

Continued on next page.

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1952		423										
		$\Delta$	Az.	P.		O - C.	S.		O - C.	Supp.		L.
		°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.
Asahigawa		2.0	325	i 0	39 <sub>a</sub>	- 1 <sub>g</sub>	1	17	+11 <sub>g</sub>	—	—	—
Sapporo		2.1	295	i 0	42 <sub>a</sub>	0 <sub>g</sub>	1	24	+15 <sub>g</sub>	—	—	—
Hatinohe		2.4	227	i 0	42 <sub>a</sub>	+ 1	1	8	- 4	—	—	—
Mori	N.	2.5	268	i 0	47 <sub>a</sub>	+ 2*	1	31	+ 8 <sub>g</sub>	—	—	—
Aomori		2.7	239	i 0	47	+ 2	1	24	0*	—	—	—
Suttsu		2.8	282	i 0	54 <sub>a</sub>	- 2 <sub>g</sub>	—	—	—	—	—	—
Miyako		3.0	219	i 0	44 <sub>a</sub>	- 6	1	15	-12	—	—	—
Morioka		3.2	220	i 0	51 <sub>a</sub>	- 1	1	26	- 6	—	—	—
Wakkanai		3.6	334	1	15	+ 3 <sub>g</sub>	2	3	+ 4 <sub>g</sub>	—	—	—
Mizusawa		3.7	216	0	59	- 1	1	37	- 8	1	34	S
Akita		3.8	231	1	2 <sub>a</sub>	+ 1	1	42	- 5	—	—	—
Kurilsk		4.2	42	1	6	- 1	—	—	—	—	—	—
Sendai	N.	4.5	211	e 1	7 <sub>a</sub>	- 4	2	0	- 5	—	—	—
Sakata		4.5	224	1	14	+ 3	2	12	- 6*	—	—	—
Yamagata		4.8	216	e 1	13	- 2	2	2	-10	—	—	—
Yuzno-Sakhlinsk		4.8	350	i 1	21	- 4*	—	—	—	—	—	—
Hukusima		5.2	212	e 1	19	- 2	2	10	-12	—	—	—
Inawasiro		5.4	214	i 1	20	- 4	2	24	- 4	—	—	—
Nugata	Z.	5.6	223	e 1	25	- 2	2	34	+ 1	—	—	—
Onahama	Z.	5.8	205	e 1	23	- 6	2	20	-18	—	—	—
Shirakawa		5.8	211	e 1	27	- 2	2	26	-12	—	—	—
Aikawa		6.0	228	1	29	- 3	2	31	-12	—	—	—
Utunomiya		6.4	210	e 1	32	- 6	2	36	-17	—	—	—
Mito		6.4	206	e 1	35	- 3	2	48	- 5	—	—	—
Takada		6.7	222	e 1	54	- 3*	3	16	- 7*	—	—	—
Tukubasan		6.7	208	e 1	34	- 8	2	44	-16	—	—	—
Maebasi	Z.	6.9	214	e 1	41	- 4	2	57	- 8	—	—	—
Kumagaya		7.0	212	e 1	39	- 7	2	58	-10	—	—	—
Ulegorsk		7.0	350	1	51	+ 5	—	—	—	—	—	—
Nagano		7.1	220	e 1	47	- 1	3	10	0	—	—	—
Oiwake		7.2	217	e 1	57	+ 8	2	55	-18	—	—	—
Titibu		7.2	213	i 1	56	+ 7	3	2	-11	—	—	—
Matusiro		7.2	220	i 1	44	- 5	3	4	- 9	—	—	—
Wazima		7.2	231	e 1	46	- 3	3	15	+ 2	—	—	—
Tokyo		7.2	208	e 1	43	- 6	3	0	-13	—	—	—
Matumoto	N.	7.5	220	e 1	51	- 2	—	—	—	—	—	—
Toyama		7.6	226	e 1	53	- 2	—	—	—	—	—	—
Kohu		7.8	214	e 1	58	0	3	16	-12	—	—	—
Hunatu		7.8	213	e 1	51	- 7	3	15	-13	—	—	—
Takayama		7.9	223	e 1	59	0	3	28	- 2	—	—	—
Mera		7.9	205	2	5	+ 6	3	15	-15	—	—	—
Misima		8.0	210	e 2	1	+ 1	3	19	-14	—	—	—
Kanazawa		8.0	227	e 1	58	- 2	3	26	- 7	—	—	—
Osima		8.2	207	e 1	59	- 4	3	20	-18	—	—	—
Iida		8.2	217	e 2	2	- 1	3	28	-10	—	—	—
Shizuoka		8.4	213	e 2	14	+ 8	3	32	-11	—	—	—
Gihu		8.8	222	e 2	3	- 8	—	—	—	—	—	—
Omaesaki		8.8	212	e 2	19	+ 8	—	—	—	—	—	—
Vladivostok		8.9	280	2	19	+ 7	—	—	—	—	—	—
Nagoya		8.9	220	e 1	56	-16	3	19	-36	—	—	—
Tsuruga		9.0	226	e 2	9	- 4	3	54	- 4	—	—	—
Hikone		9.1	223	2	13	- 1	—	—	—	—	—	—
Maizuru		9.4	227	e 2	15	- 3	4	2	- 5	—	—	—
Kameyama		9.4	221	e 2	10	- 8	3	57	-10	—	—	—
Kyoto		9.6	224	e 2	19	- 2	4	36	-13*	—	—	—
Toyooka		9.7	230	e 2	21	- 1	4	12	- 3	—	—	—
Osaka		10.0	223	e 2	25	- 2	4	48	+26	—	—	—
Kashiwara		10.0	222	e 2	45	+18	—	—	—	—	—	—
Saigo	E.	10.1	237	e 2	20	- 9	4	34	+ 9	—	—	—
Kobe	Z.	10.1	225	e 2	26	- 3	—	—	—	—	—	—

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1952

424

	Δ °	Az. °	P.		O - C. s.	S.		O - C. s.	Supp.		L. m.
			m.	s.		m.	s.		m.	s.	
Yonago	10.6	234	e 2	39	+ 3	5	39	L	—	—	(5.6)
Sumoto	10.6	225	i 2	31	- 5	5	12	+35	—	—	—
Takamatu	11.0	228	i 3	9 <sub>a</sub>	+27	5	22	+35	—	—	—
Muroto	11.8	224	e 2	41	-12	4	50	-16	—	—	—
Hamada	11.8	236	i 2	49 <sub>a</sub>	- 4	5	0	- 6	—	—	—
Koti	11.9	227	e 2	38	-16	5	22	+13	—	—	—
Hirosima	11.9	233	e 2	51	- 3	5	6	- 3	—	—	—
Matuyama	12.2	230	e 2	51	- 7	5	13	- 3	—	—	—
Simidu	12.8	226	e 3	11	+ 5	—	—	—	—	—	—
Ooita	13.2	231	e 3	7	- 4	5	37	- 3	—	—	—
Hukuoka	13.7	235	e 3	14 <sub>a</sub>	- 4	5	44	- 8	—	—	—
Saga	14.0	235	3	19 <sub>k</sub>	- 3	—	—	—	—	—	—
Unzendake	14.4	233	3	23	- 4	6	31	+22	—	—	—
Patropavlovsk	14.8	37	i 3	49	PP	i 6	47	SSS	—	—	—
Tomie	15.3	236	i 3	37 <sub>k</sub>	- 2	—	—	—	—	—	—
Yakusima	15.9	227	e 3	43	- 4	—	—	—	—	—	—
Klyuchi	17.9	31	e 4	21	+ 9	e 7	42	+12	—	—	—
Zi-ka-wei	21.0	246	i 4	44 <sub>a</sub>	- 3	i 8	34	- 3	—	—	—
Nanking	22.4	252	i 4	57 <sub>a</sub>	- 5	8	57	- 7	—	—	—
Kyakhta	26.9	301	i 5	45	0	e 10	28	+ 8	—	—	—
Kabansk	26.9	304	5	46	+ 1	e 10	29	+ 9	—	—	—
Irkutsk	28.4	305	i 6	0	+ 2	—	—	—	—	—	—
Guam	28.6	177	e 7	4	PPP	e 10	36	-12	—	—	—
Hong Kong	31.8	240	6	27	- 1	—	—	—	—	—	—
Manila	33.9	223	e 6	43	- 4	i 12	23	+12	i 14 25	SS	i 16.9
College	43.7	34	i 8	7	- 1	i 14	37	- 2	e 17 33	SS	e 19.4
Kurmenty	47.2	295	i 8	37	+ 1	—	—	—	—	—	—
Przhevalsk	47.3	294	8	38	+ 1	—	—	—	—	—	—
Ili	47.6	297	i 8	39	0	—	—	—	—	—	—
Almata II	47.7	296	i 8	35 <sub>?</sub>	- 5	—	—	—	—	—	—
Almata	48.0	296	i 8	43	0	—	—	—	—	—	—
Rybach'e	48.9	294	i 8	50	0	e 16	0	+ 7	—	—	—
Naryn	49.4	293	i 8	55	+ 2	i 16	9	+ 9	—	—	—
Frunse	49.7	296	i 8	57	+ 1	i 16	4	0	—	—	—
Calcutta	50.0	265	e 7	59	-59	i 16	19	+10	i 22 57	Q	26.4
Andijan	52.1	294	i 9	14	0	e 16	40	+ 2	—	—	—
Fergana	52.7	294	i 9	18	0	e 16	46	0	—	—	—
Sverdlovsk	52.7	316	i 9	18	0	i 16	46	0	—	—	—
Tchimkent	53.3	297	i 9	23	0	i 16	58	+ 4	—	—	—
Tashkent	53.9	296	i 9	28	+ 1	e 17	2	0	—	—	—
Khorog	54.2	291	i 9	30	+ 1	i 17	8	+ 2	—	—	—
New Delhi	54.8	278	9	32	- 2	i 17	11	- 3	11 36	PP	—
Obi-garm	54.9	293	i 9	34	- 1	i 17	15	- 1	—	—	—
Kulyab	55.2	292	i 9	37	0	i 17	24	+ 4	—	—	—
Stalinabad	55.6	293	i 9	39	- 1	i 17	25	0	—	—	—
Samarkand	56.3	295	9	44	- 1	—	—	—	—	—	—
Resolute Bay	57.1	15	i 9	48	- 2	i 17	44	- 1	i 19 37	ScS	e 23.8
Hyderabad	60.4	267	i 10	10	- 3	i 18	26	- 2	22 43	SS	—
Quetta	61.2	287	e 10	18	- 1	e 18	39	+ 1	i 10 32	pP	30.8
Victoria	61.5	48	10	18	- 3	—	—	—	—	—	—
Kiruna	62.4	339	i 10	25 <sub>a</sub>	- 2	i 18	52	- 1	e 20 15	ScS	e 30.8
Seattle	62.6	48	e 10	34	+ 6	—	—	—	i 10 38	?	—
Ashkabad	62.9	298	—	—	—	i 19	2	+ 2	—	—	—
Poona	63.1	271	i 10	31	- 1	19	2	0	11 5	PcP	29.7
Kiszyl-Arvat	63.7	300	i 10	35	- 1	19	12	+ 2	—	—	—
Corvallis	63.8	53	e 10	33	- 3	e 19	0	-11	—	—	—
Moscow	64.3	323	i 10	39	0	i 19	16	- 1	—	—	—
Pulkovo	64.7	329	e 10	39	- 3	e 19	21	- 1	—	—	—
Arcata	65.4	56	e 10	55 <sub>a</sub>	+ 8	—	—	—	—	—	—
Helsinki	66.4	332	e 10	51	- 2	e 19	41	- 2	—	—	—

Continued on next page.

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1952

125

	$\Delta$	Az.	P.	O - C.	S.	O - C.	Supp.	L.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Shasta	66.5	55	e 10 53	- 1	—	—	—	—
Hungry Horse	66.7	45	i 10 55	0	e 19 44	- 2	—	—
Makhach-Kala	66.8	307	i 10 56	0	i 19 49	+ 1	—	—
Scoresby Sund	67.2	355	e 10 56	- 2	i 20 13	PS	i 20 39	PPS 29.8
Mineral	z. 67.2	55	i 10 57 <sub>a</sub>	- 1	—	—	—	—
Shemakla	67.5	305	i 11 0	0	i 19 59	+ 3	—	—
Grozny	67.6	308	i 11 0	- 1	19 59	+ 2	—	—
Berkeley	68.3	58	e 11 6 <sub>a</sub>	+ 1	e 20 3	- 3	i 11 28	PcP
Lenkoran	68.5	303	11 6	0	20 10	+ 2	—	—
Santa Clara	E. 68.8	58	e 10 7	-61	e 20 13	+ 2	—	e 33.6
Reno	68.8	55	e 11 6	- 2	e 20 11	0	—	—
Kirovobad	68.8	306	i 11 9	+ 1	i 20 14	+ 3	—	—
Lick	z. 69.0	58	e 11 9 <sub>a</sub>	0	—	—	e 11 17	P
Tiflis	69.2	308	i 11 11	+ 1	i 20 19	+ 3	—	—
Upsala	69.2	334	i 11 9 <sub>a</sub>	- 1	e 20 13	- 3	e 24 47	SS e 33.8
Gori	69.4	308	e 11 12	0	i 20 20	+ 2	—	—
Goris	69.6	305	11 12	- 1	i 20 23	+ 2	—	—
Brisbane	69.8	170	e 11 11	- 3	e 20 17	- 6	e 11 15	P
Borzhome	69.9	308	11 17	+ 2	20 29	+ 5	—	—
Tsikhlis-Dzhvari	70.0	308	i 11 17	+ 2	i 20 29	+ 3	—	—
Leninakan	70.3	308	e 11 21 <sub>?</sub>	+ 4	—	—	—	—
Abastumanj	70.3	308	e 11 18	+ 1	e 20 34	+ 5	—	—
Erevan	70.3	306	i 11 19	+ 2	20 35	+ 6	—	—
Zugdidi	70.4	310	e 11 19	+ 1	e 20 33	+ 3	—	—
Fresno	z. 70.6	57	e 11 19	0	—	—	—	—
Sotchi	70.9	312	11 20	- 1	20 37	+ 1	—	—
Tinemaha	71.3	56	i 11 22	- 1	i 20 37	- 4	—	—
Bergen	72.3	340	—	—	e 20 55	+ 3	—	e 34.8
Theodosia	72.3	315	11 27	- 2	20 54	+ 2	—	—
China Lake	72.5	56	e 11 26	- 4	e 20 49	- 5	—	—
Simferopol	73.0	316	11 33	0	—	—	—	—
Pasadena	73.2	58	i 11 40	+ 5	i 20 57	- 5	—	e 31.4
Mount Wilson	z. 73.2	58	i 11 32	- 3	—	—	i 11 41	P
Yalta	73.3	315	11 35	0	21 5	+ 1	—	—
Riverside	z. 73.8	58	i 11 36	- 2	—	—	—	—
Boulder City	74.1	55	i 11 38	- 2	—	—	i 11 48	PcP
Copenhagen	74.2	334	i 11 40 <sub>a</sub>	0	21 13	- 1	i 11 51	PcP 36.8
Lwow	74.3	324	11 41	0	21 16	+ 1	—	—
Palomar	74.6	58	i 11 42	- 1	—	—	i 11 50	PcP
Iasi	74.7	322	e 11 43	0	e 20 49	-30	e 20 18	? —
Riverview	75.9	173	—	—	e 21 30	- 2	e 31 29	Q e 38.2
Uzhgorod	76.0	324	i 11 52	+ 1	i 21 35	+ 1	—	—
Skalnate Pleso	76.4	326	11 53	0	e 21 29	- 9	e 15 59	PPP
Potsdam	76.6	332	i 11 54 <sub>a</sub>	0	i 21 39 <sub>?</sub>	- 1	e 27 23 <sub>?</sub>	SS e 38.8
Raciborz	76.6	328	i 11 54 <sub>a</sub>	0	e 21 41	+ 1	e 12 5	PcP e 42.8
Aberdeen	77.0	342	i 13 24	?	i 21 42	- 3	i 19 33	? e 36.5
Bucharest	E. 77.4	319	e 11 52	- 6	e 21 35	-14	e 14 56	PP 31.8
Collmberg	77.6	330	i 11 58	- 2	e 22 6	+15	e 15 11	PP e 39.3
Prague	78.0	330	e 12 2 <sub>a</sub>	0	e 21 55	0	e 15 2	PP e 39.5
Budapest	78.2	325	e 12 3	0	22 0	+ 3	22 37	PS 41.8
Ogyalla	78.3	326	12 7	+ 4	22 3	+ 4	e 22 39	PS
Istanbul	78.3	316	i 12 3 <sub>a</sub>	0	e 22 15	+16	i 12 17	pP 41.8
Jena	78.4	331	i 12 3	- 1	e 21 59	- 1	e 15 7	PP
Witteveen	z. 78.4	335	i 12 5 <sub>a</sub>	+ 1	—	—	—	—
Cheb	78.8	331	e 12 1	- 5	e 21 52	-12	e 14 58	PP e 39.8
Durham	E. 79.0	340	—	—	i 22 10	+ 4	—	—
Kalossa	79.0	325	e 12 12	+ 5	e 22 13	+ 7	e 22 59	PS e 44.3
Tucson	79.1	56	e 12 7	- 1	e 22 5	- 2	—	—
De Bilt	79.5	335	i 12 10 <sub>a</sub>	0	e 22 12	+ 1	—	e 38.8
Ksara	79.7	306	i 12 14 <sub>a</sub>	+ 3	22 22	+ 9	—	—

Continued on next page.



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1952

426

	$\Delta$ °	Az. °	P.		O-C. s.	S.		O-C. s.	Supp.		L. m.	
			m.	s.		m.	s.		m.	s.		
Belgrade	79.7	322	e 12	11 <sub>a</sub>	0	e 22	9	- 4	e 26	32	SS	e 44.2
Sofia	80.0	319	e 12	14	+ 1	e 22	20	+ 3	—	—	—	e 43.0
Stuttgart	81.0	331	i 12	18 <sub>a</sub>	0	e 22	27	0	e 12	26	PcP	43.8
Karlsruhe	81.1	332	e 12	18 <sub>a</sub>	0	e 22	30	+ 2	e 15	22	PP	39.8
Rathfarnham Castle	81.5	342	i 12	18 <sub>a</sub>	- 3	e 22	31	- 1	e 12	57	?	e 38.8
Kew	81.7	338	i 12	21 <sub>a</sub>	- 1	e 22	33	- 1	e 27	56	SS	e 36.8
Strasbourg	81.7	332	i 12	21 <sub>a</sub>	- 1	e 22	35	+ 1	i 12	33	PcP	e 38.8
Triest	81.9	327	i 12	21 <sub>a</sub>	- 2	22	41 <sub>?</sub>	+ 5	i 12	27	PcP	42.6
Zürich	82.4	331	e 12	23 <sub>a</sub>	- 2	e 22	39	- 2	e 15	35	PP	—
Chur	82.5	330	e 12	26 <sub>a</sub>	0	—	—	—	—	—	—	e 46.8
Basle	82.6	332	e 12	27 <sub>a</sub>	+ 1	e 22	46	+ 3	e 23	47	PPS	—
Paris	83.2	335	i 12	29	0	e 22	46	- 3	i 15	41	PP	e 41.8
Lubbock	83.5	49	12	31	0	22	51	- 1	—	—	—	—
Bologna	83.8	328	e 12	34 <sub>a</sub>	+ 2	e 22	58	+ 3	e 23	16	ScS	—
Padova	83.9	328	e 12	30	- 3	e 22	56	0	—	—	—	—
Pavia	84.1	329	e 12	34	0	e 24	12	PPS	e 15	13	PP	e 47.5
Jersey	84.2	338	e 13	1	+27	e 23	11	+12	—	—	—	41.8
Prato	84.4	327	e 12	38	+ 2	—	—	—	i 12	57	?	—
Florence	84.5	327	e 12	31 <sub>k</sub>	- 5	i 22	57	- 5	i 12	38	PcP	—
Taranto	84.6	322	12	44	+ 8	23	4	+ 1	e 41	47	Q	54.8
Helwan	85.2	306	i 12	39 <sub>a</sub>	0	23	5	[+ 3]	15	59	PP	—
Rome	85.5	325	i 12	40 <sub>a</sub>	- 1	i 23	4	[ 0]	i 12	51	pP	—
Fayetteville	85.7	43	i 12	30	-12	i 13	33	?	i 12	51	PcP	—
Clermont-Ferrand	85.7	333	e 12	57	+15	—	—	—	—	—	—	e 37.3
Cleveland	87.1	32	e 12	47	- 2	i 23	26	- 2	i 12	58	PcP	—
Messina	87.2	321	e 12	54	+ 5	e 23	25	- 3	e 16	24	PP	—
Morgantown	89.4	33	i 12	57	- 3	e 23	46	- 3	—	—	—	—
Harvard	89.8	25	i 13	1 <sub>k</sub>	- 1	—	—	—	—	—	—	e 45.4
Weston	90.0	25	e 13	2	- 1	—	—	—	—	—	—	e 46.6
Palisades	90.4	27	—	—	—	e 23	52	- 6	—	—	—	e 44.4
Fordham	90.5	27	e 13	13	+ 8	—	—	—	—	—	—	—
Toledo	93.3	336	i 13	18	0	e 24	26	+ 2	e 17	4	PP	47.8
Alicante	93.5	333	e 13	19	0	e 24	27	+ 2	25	44	PS	45.4
Algiers Univ.	93.7	329	i 13	18	- 2	e 13	30	PcP	i 17	14	PP	—
Almería	95.5	334	13	49	+21	24	39	- 3	17	39	PP	51.6
Granada	95.6	335	i 13	47 <sub>k</sub>	+19	24	53	+10	17	23	PP	i 50.5
Malaga	96.3	335	i 13	31	- 1	i 17	25	PP	i 20	39	?	50.4
Bermuda	101.3	25	—	—	—	e 25	24	- 7	e 42	11	Q	e 47.1
Tamanrasset	104.8	321	14	12	+ 2	i 18	28	PP	e 20	51	PPP	—
Bogota	122.0	47	e 20	32	PP	e 25	55	[- 2]	e 51	15	Q	—
Pretoria	125.4	267	i 19	3 <sub>?</sub>	[ 0]	—	—	—	—	—	—	—
Huancayo	134.6	60	—	—	—	e 39	49	SS	—	—	—	e 64.2
La Paz	142.5	56	e 19	31	[- 4]	—	—	—	21	48	PP	71.2

May 17d. 15h. 47m. 27s. Epicentre 6°·7N. 78°·9W. (as on 16d.).

	$\Delta$ °	Az. °	P.		O-C. s.	S.		O-C. s.	Supp.		L. m.
			m.	s.		m.	s.		m.	s.	
Balboa Heights	2.2	344	0	41	+ 1*	1	10	+ 1*	—	—	—
Chinchina	3.7	119	i 1	18	+ 4 <sub>g</sub>	i 2	5	+ 3 <sub>g</sub>	—	—	—
Bogota	5.3	113	i 1	20	- 2	i 2	26	+ 1	i 2	51	S <sub>g</sub>
Galerazamba	5.3	42	i 1	32	- 1*	i 2	20	- 5	—	—	—
San Juan	17.0	46	i 4	1	0	—	—	—	—	—	—
Huancayo	19.0	170	e 4	25	- 1	e 8	3	+ 8	—	—	e 11.2
La Paz	25.5	156	e 5	26	- 6	10	1	+ 4	—	—	12.6
Tucson	39.0	316	e 7	32	+ 2	—	—	—	—	—	—
Palomar	44.0	313	i 8	14	+ 3	—	—	—	—	—	—
Mount Wilson	45.3	313	e 8	24	+ 3	—	—	—	—	—	—
China Lake	45.7	316	i 8	26	+ 2	i 8	32	P	i 8	56	?
College	75.0	336	e 11	44	- 1	—	—	—	—	—	—
Tamanrasset	82.3	68	e 12	25 <sub>a</sub>	0	—	—	—	—	—	—
Stuttgart	83.7	42	e 13	55	?	—	—	—	e 14	11	?

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1952

427

May 17d. 23h. 56m. 41s. Epicentre 36°·0N. 137°·6E. (as on 1952, January 11d.).

Intensity V at Otaki and Takane ; IV at Kiso, Kaida, Yomikaki, Oi, and Gero ; II-III at Iida, Takayama, and Kohu. Epicentre 35°·8N. 137°·4E. Depth 20km. Macro-seismic radius 100-200km.

Seismo. Bull. Cent. Met. Obs. Japan, for May, 1952, Tokyo, 1952, page 200, with macro-seismic chart on page 200.

$$A = -.5988, B = +.5468, C = +.5852 ; \quad \delta = +1 ; \quad h = 0 ; \\ D = +.674, E = +.738 ; \quad G = -.432, H = +.395, K = -.811.$$

		$\Delta$	Az.	P.		O-C.	S.		O-C.
		°	°	m.	s.	s.	m.	s.	s.
Takayama		0·3	298	e 0	7	+ 1 <sub>g</sub>	0	14	+ 1*
Matumoto	E.	0·4	52	e 0	14	+ 1	0	23	+ 2
Iida		0·5	159	e 0	10	0 <sub>g</sub>	0	19	0*
Matusiro		0·7	42	0	20	+ 3	0	38	+ 10
Toyama		0·7	335	e 0	18	+ 1	0	31	+ 3
Oiwake		0·8	67	0	23	+ 5	0	38	+ 7
Kohu		0·9	115	i 0	19 <sub>k</sub>	- 1	0	33	- 1
Gihu		0·9	228	0	13	- 5 <sub>g</sub>	0	22	P
Kanazawa		0·9	305	e 0	20	0	—	—	—
Nagoya		1·0	212	e 0	15	- 5 <sub>g</sub>	0	27	- 6 <sub>g</sub>
Hunatu		1·1	118	e 0	23	+ 1	0	39	0
Hukui		1·1	273	e 0	19	- 3	—	—	—
Shizuoka		1·2	148	e 0	21	- 2*	0	39	- 1 <sub>g</sub>
Titibu		1·2	91	e 0	29	+ 5	0	47	+ 6
Ibukisan		1·2	238	e 0	19	- 4*	0	32	- 8 <sub>g</sub>
Maebasi		1·2	71	e 0	30	+ 6	0	53	+ 12
Hikone		1·3	236	e 0	22	- 3	0	35	- 7*
Tsuruga		1·3	254	e 0	21	- 4	0	34	- 8*
Misima		1·4	129	0	29	+ 1 <sub>g</sub>	0	48	+ 2
Kameyama		1·5	219	0	25	- 3	0	40	- 8*
Kumagaya		1·5	84	e 0	34	+ 4 <sub>g</sub>	0	55	+ 5 <sub>g</sub>
Wazima		1·5	338	0	31	+ 1 <sub>g</sub>	0	51	+ 1 <sub>g</sub>
Kyoto		1·8	237	e 0	30	- 2	0	50	- 6
Yokohama		1·8	109	i 0	40	+ 4 <sub>g</sub>	1	5	+ 5 <sub>g</sub>
Tokyo	E.	1·8	100	e 0	42	+ 6 <sub>g</sub>	1	5	+ 5 <sub>g</sub>
Utunomiya		1·9	73	e 0	41	+ 3 <sub>g</sub>	1	9	+ 6 <sub>g</sub>
Osima		1·9	130	e 0	37	- 1 <sub>g</sub>	1	5	+ 2 <sub>g</sub>
Tukubasan		2·0	84	e 0	42	+ 2 <sub>g</sub>	1	9	+ 3 <sub>g</sub>
Mera		2·1	121	0	48	+ 6 <sub>g</sub>	1	11	+ 2 <sub>g</sub>
Kashiwara		2·1	224	e 0	58	S	(e 0 58)	—	- 6
Osaka		2·1	231	e 0	38	+ 1	1	4	0
Owase		2·3	211	0	36	- 4	1	1	- 8
Mito		2·3	81	e 0	50	+ 4 <sub>g</sub>	1	21	+ 5 <sub>g</sub>
Kobe		2·4	236	e 0	53	+ 5 <sub>g</sub>	—	—	—
Inawasiro		2·6	52	e 0	47	0*	—	—	—
Onahama		2·8	71	e 1	2	+ 6 <sub>g</sub>	—	—	—
Sumoto	N.	2·8	233	0	39	- 8	1	19	- 3
Siomisaki		3·0	210	e 0	49	- 1	1	30	+ 3
Takamatu		3·4	241	e 1	1	0*	1	41	+ 4

May 19d. 18h. 32m. 20s. Epicentre 42°·2N. 143°·9E. (as on 17d.).

Intensity VI at Obihiro, Ikeda, Otu, Oda, Hombetu, Shintoka, and Memuro ; V at Kusiro, Biroo, and Niasoro. Macro-seismic radius more than 300km. Epicentre 41°·8N. 144°·1E.

Seismo. Bull. Cent. Met. Obs., Japan, for May, 1952, Tokyo, 1952, p. 201, with macro-seismic chart.

		$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.	L.
		°	°	m.	s.	s.	m.	s.	s.	m.	s.
Urakawa		0·8	267	i 0	17 <sub>a</sub>	- 1	0	36	+ 5	—	—
Kusiro		0·9	25	i 0	23	+ 3	0	39	+ 5	—	—
Obihiro	N.	0·9	323	i 0	27	+ 7	0	48	+ 14	—	—
Nemuro		1·7	47	e 0	31	0	0	51	- 3	—	—
Abashiri		1·8	9	e 0	39 <sub>a</sub>	+ 3 <sub>g</sub>	1	5	+ 5 <sub>g</sub>	—	—

Continued on next page.

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1952

428

		$\Delta$ °	Az. °	P.		O - C. s.	S.		O - C. s.	Supp.		L. m.
				m.	s.		m.	s.		m.	s.	
Asahigawa		2.0	325	i 0	42 <sub>a</sub>	+ 2 <sub>g</sub>	1	17	+11 <sub>g</sub>	—	—	—
Sapporo		2.1	295	i 0	44 <sub>a</sub>	+ 2 <sub>g</sub>	1	20	+11 <sub>g</sub>	—	—	—
Hatinohe		2.4	227	0	42	+ 1	1	9	- 3	—	—	—
Mori	N.	2.5	268	i 0	48	+ 5	1	28	+ 5 <sub>g</sub>	—	—	—
Aomori		2.7	239	0	49 <sub>a</sub>	+ 4	1	26	+ 2 <sub>g</sub>	—	—	—
Miyako		3.0	219	i 0	48 <sub>a</sub>	- 2	1	21	- 6	—	—	—
Morioka		3.2	220	i 0	52 <sub>a</sub>	0	1	30	- 2	—	—	—
Wakkanai		3.6	334	1	8	+10	1	44	+ 2	—	—	—
Mizusawa		3.7	216	0	58	- 2	1	39	- 6	—	—	—
Akita		3.8	231	1	1 <sub>a</sub>	0	1	45	- 2	—	—	—
Isinomaki		4.2	209	1	2	- 5	1	50	- 7	—	—	—
Kurilsk		4.2	42	1	7	0	—	—	—	—	—	—
Sakata		4.5	224	1	18	- 2 <sub>g</sub>	2	9	+ 4	—	—	—
Sendai	N.	4.5	211	1	8 <sub>a</sub>	- 3	2	0	- 5	—	—	—
Yamagata		4.8	216	e 1	12	- 3	2	5	- 7	—	—	—
Yuzno-Sakhlinsk		4.8	350	1	20	+ 5	—	—	—	—	—	—
Hukusima		5.2	212	1	17	- 4	2	17	- 5	—	—	—
Inawasiro		5.4	214	e 1	20	- 4	2	25	- 3	—	—	—
Niigata	Z.	5.6	223	1	27	0	2	31	- 2	—	—	—
Onahama		5.8	205	i 1	25	- 4	2	21	-17	—	—	—
Shirakawa		5.8	211	e 1	27	- 2	2	32	- 6	—	—	—
Aikawa		6.0	228	1	32	0	2	39	- 4	—	—	—
Mito		6.4	206	1	34	- 4	2	41	-12	—	—	—
Utsunomiya		6.4	210	e 1	33	- 5	2	42	-11	—	—	—
Takada		6.7	222	1	44	+ 2	2	56	- 4	—	—	—
Tukubasan		6.7	208	1	36	- 6	2	47	-13	—	—	—
Maebasi	Z.	6.9	214	i 1	41	- 4	2	58	- 7	—	—	—
Tyosi	N.	6.9	201	e 1	42	- 3	2	52	-13	—	—	—
Kumagaya		7.0	212	1	44	- 2	3	0	- 8	—	—	—
Ulegorsk		7.0	350	1	41	- 5	—	—	—	—	—	—
Nagano		7.1	220	e 1	46	- 2	3	18	+ 8	—	—	—
Matusiro		7.2	220	1	45	- 4	3	1	-12	—	—	—
Oiwake		7.2	217	1	45	- 4	3	8	- 5	—	—	—
Titibu		7.2	213	1	47	- 2	3	6	- 7	—	—	—
Tokyo		7.2	208	e 1	46	- 3	3	2	-11	—	—	—
Wazima		7.2	231	1	49	0	3	15	+ 2	—	—	—
Matumoto	E.	7.5	220	e 1	54	+ 1	3	16	- 4	—	—	—
Yokohama		7.5	208	1	50	- 3	3	12	- 8	—	—	—
Toyama		7.6	226	e 1	51	- 4	—	—	—	—	—	—
Hunatu		7.8	213	1	56	- 2	3	19	- 9	—	—	—
Kohu		7.8	214	e 1	56	- 2	3	19	- 9	—	—	—
Mera		7.9	205	e 1	53	- 6	3	22	- 8	—	—	—
Takayama		7.9	223	e 1	57	- 2	—	—	—	—	—	—
Kanazawa		8.0	227	e 2	4	+ 4	—	—	—	—	—	—
Misima		8.0	210	e 1	58	- 2	3	13	-20	—	—	—
Ajiro		8.1	209	e 2	2	0	3	22	-13	—	—	—
Iida		8.2	217	e 2	3	0	3	28	-10	—	—	—
Osima		8.2	207	e 1	57	- 6	3	24	-14	—	—	—
Shizuoka		8.4	213	2	2	- 4	3	22	-21	—	—	—
Hukui		8.5	226	e 2	10	+ 3	—	—	—	—	—	—
Gihu		8.8	222	2	12	+ 1	—	—	—	—	—	—
Hamamatu		8.9	215	e 2	3	- 9	3	42	-13	—	—	—
Nagoya		8.9	220	2	12	0	4	8	+13	—	—	—
Vladivostok		8.9	280	2	16	+ 4	4	7	+12	—	—	—
Tsuruga		9.0	226	2	14	+ 1	3	54	- 4	—	—	—
Hikone		9.1	223	2	16	+ 2	4	4	+ 4	—	—	—
Kameyama		9.4	221	2	18	0	4	8	+ 1	—	—	—
Maizuru		9.4	227	2	20	+ 2	4	3	- 4	—	—	—
Hatidyozima		9.6	201	2	21	0	—	—	—	—	—	—
Kyoto		9.6	224	e 2	21	0	4	6	- 6	—	—	—

Continued on next page.

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1952

429

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Toyooka	z.	9.7	230	i 2 22	0	4 10	- 5	—	—
Osaka		10.0	223	e 2 16	-11	—	—	—	—
Kobe	z.	10.1	225	e 2 27	- 2	—	—	—	—
Owase		10.1	219	2 25	- 4	—	—	—	—
Tottori		10.1	232	i 2 41k	+12	—	—	—	—
Wakayama		10.5	224	i 2 32	- 3	—	—	—	—
Sumoto		10.6	225	2 34	- 2	4 44	+ 7	—	—
Himeji		10.7	227	i 2 32k	- 6	—	—	—	—
Siomisaki		10.8	219	e 2 33	- 6	—	—	—	—
Tokusima		10.9	225	e 2 42	+ 2	—	—	—	—
Hamada		11.8	236	e 2 50	- 3	5 20	+14	—	—
Hirosima		11.9	233	2 54	0	5 30	+21	—	—
Koti		11.9	227	e 2 52	- 2	—	—	—	—
Matuyama		12.2	230	e 2 55	- 3	5 11	- 5	—	—
Uwazima		12.7	229	e 3 1	- 4	5 21	- 7	—	—
Simidu		12.8	226	3 2	- 4	—	—	—	—
Simonoseki		13.1	235	i 3 10	0	—	—	—	—
Ooita		13.2	231	e 3 13	+ 2	6 23	L	—	(6.4)
Hukuoka		13.7	235	i 3 17 <sub>a</sub>	- 1	5 41	-11	—	—
Kumamoto		14.0	232	e 3 20	- 2	—	—	—	—
Saga		14.0	235	3 22	0	—	—	—	—
Miyazaki		14.3	228	e 3 7	-19	—	—	—	—
Nagasaki		14.6	234	e 3 32	+ 2	—	—	—	—
Petropavlovsk		14.8	37	i 3 36 <sub>?</sub>	+ 4	i 6 3 <sub>?</sub>	-15	—	—
Kagosima		15.0	229	e 3 30	- 5	6 19	- 4	—	—
Tomie		15.3	236	i 3 39	0	—	—	—	—
Klyuchi		17.9	31	e 4 21	+ 9	e 7 40	+10	—	—
Zi-ka-wei	z.	21.0	246	i 4 43 <sub>a</sub>	- 4	—	—	—	—
Nanking		22.4	252	4 57 <sub>a</sub>	- 5	i 8 57	- 7	—	—
Kabansk		26.9	304	i 5 46	+ 1	e 10 27	+ 7	—	—
Kyakhta		26.9	301	i 5 46	+ 1	e 10 27	+ 7	—	—
Irkutsk		28.4	305	i 6 0	+ 2	10 51	+ 6	—	—
Hong Kong		31.8	240	6 27	- 1	(11 40)	+ 2	10 0	? 11.7
Manila		33.9	223	e 6 43	- 4	i 12 23	+12	e 7 48	PP e 16.9
Semipalatinsk		43.5	304	i 8 8	+ 1	e 14 44	+ 8	—	—
College		43.7	34	e 8 8	0	i 14 36	- 3	—	e 25.7
Shillong	E.	45.4	267	i 8 23	+ 1	e 15 8	+ 4	10 8	PP 19.7
Kurmenty		47.2	295	i 8 37	+ 1	—	—	—	—
Przhevalsk		47.3	294	8 39	+ 2	15 37	+ 6	—	—
Almata II		47.7	296	e 8 41	+ 1	—	—	—	—
Almata		48.0	296	i 8 43	0	i 15 46	+ 5	—	—
Rybach'e		48.9	294	i 8 50 <sub>?</sub>	0	16 3 <sub>?</sub>	+10	9 6 <sub>?</sub>	pP
Frunse		49.7	296	i 8 58	+ 2	16 10	+ 6	9 10	pP
Calcutta	E.	50.0	265	i 8 58	0	i 16 21	+12	10 57	PP 24.2
Sitka		51.3	43	e 9 16	+ 8	i 16 28	+ 2	—	—
Andijan		52.1	294	i 9 14	0	i 16 42	+ 4	i 9 28	pP
Murgab		52.1	291	i 9 20	+ 6	—	—	—	—
Fergana		52.7	294	i 9 18	0	e 16 49	+ 3	—	—
Sverdlovsk		52.7	316	i 9 18	0	i 16 46	0	9 34	pP
Tchimkent		53.3	297	i 9 27	+ 4	—	—	—	—
Tashkent		53.9	296	i 9 28	+ 1	e 17 7	+ 5	—	—
Obi-garm		54.9	293	i 9 35	0	i 17 16	0	9 50	pP
Kulyab		55.2	292	i 9 31 <sub>?</sub>	- 6	i 17 20 <sub>?</sub>	0	—	—
Stalinabad		55.6	293	i 9 40	0	i 17 27	+ 2	—	—
Samarkand		56.3	295	i 9 45	0	—	—	—	—
Resolute Bay		57.1	15	i 9 48	- 2	i 17 43	- 2	i 19 36	ScS e 25.2
Djakarta		58.8	225	e 9 59	- 3	e 18 2	- 5	—	—
Hyderabad		60.4	267	i 10 12	- 1	i 18 28	0	i 22 44	SS 29.2
Quetta		61.2	287	i 10 18	- 1	i 18 40	+ 2	i 10 33	pP 35.7
Victoria		61.5	48	e 10 45	+24	18 39	- 3	—	—

Continued on next page.

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1952

430

		$\Delta$ °	Az. °	P. m. s.	O - C. s.	S. m. s.	O - C. s.	Supp. m. s.	L. m.
Kiruna		62.4	339	i 10 26 <sup>a</sup>	- 1	i 18 54	+ 1	i 11 15	PcP e 31.7
Seattle		62.6	48	i 10 32	+ 4	i 18 51	- 5	i 11 16	PcP
Ashkabad		62.9	298	i 10 31	+ 1	i 19 3	+ 3		
Poona		63.1	271	i 10 30	- 2	i 19 3	+ 1	12 52	PP
Kizyl-Arvat		63.7	300	i 10 36	0	19 13	+ 3		30.3
Corvallis	z.	63.8	53	e 10 33	- 3	e 19 8	- 3		
Moscow		64.3	323	i 10 39	0	i 19 16	- 1	i 10 54	pP
Arcata	z.	65.4	56	e 10 56 <sup>a</sup>	+ 9				
Kodaikanal	E.	65.8	262	10 49	0	19 49	+14	13 16	PP
Colombo	E.	66.2	257			i 19 54	+14		38.5
Helsinki		66.4	332	e 10 52	- 1	e 19 40	- 3	e 11 6	pP
Shasta		66.5	55	i 10 52	- 2				
Hungry Horse		66.7	45	e 10 53	- 2	e 19 42	- 4		
Makhach-Kala		66.8	307	i 10 56	0	i 19 50	+ 2	i 11 11	pP
Baku		66.9	304	i 10 58	+ 2	e 19 54	+ 5		
Mineral	z.	67.2	55	i 10 57 <sup>a</sup>	- 1			i 11 6	?
Scoresby Sund		67.2	355	i 10 58	0	i 19 54	+ 2	24 28	SS
Shemakla		67.5	305	11 0	0				33.7
Grozny		67.6	308	i 11 0	- 1	i 19 58	+ 1		
Saskatoon		68.0	38	11 13	+10	20 0	- 2		
Berkeley		68.3	58	e 11 2	- 3	i 20 3	- 3	i 11 34	PcP e 27.8
Lenkoran		68.5	303	11 6	0	20 11	+ 3		
Piatigorsk		68.7	311	11 8	+ 1	20 13	+ 3	i 11 22	pP
Kirovobad		68.8	306	i 11 9	+ 1	20 15	+ 4		
Reno		68.8	55	e 11 6	- 2	e 28 8	Q	e 39 34	P'P' (e 28.1)
Santa Clara		68.8	58	e 11 8	0	i 20 9	- 2		e 32.2
Butte		69.0	45	i 11 8	- 1				
Lick	z.	69.0	58	e 10 58	-11	e 13 34	PP	i 11 11	P
Tiflis		69.2	308	i 11 10	0	20 19	+ 3		
Upsala		69.2	334	i 11 10 <sup>a</sup>	0	i 20 12	- 4	i 21 5	ScS e 31.7
Gori		69.4	308	11 14	+ 2	20 23	+ 5		
Goris		69.6	305	11 23 <sup>?</sup>	+10				
Brisbane		69.8	170	e 11 15 <sup>a</sup>	+ 1	i 20 18	- 5	i 21 18	ScS i 29.7
Borzhom		69.9	308	11 16	+ 1	i 20 28	+ 4		
Bozeman		70.0	46	e 11 45	PcP	e 20 21	- 5		
Tsikhli-Dzhvari		70.0	308	i 11 17	+ 2	i 20 31	+ 5		
Erevan		70.3	306	11 19	+ 2	20 35	+ 6		
Leninakan		70.3	308	11 21	+ 4				
Zugdidi		70.4	310	11 22	+ 4				
Fresno	z.	70.6	57	e 11 16	- 3				
Sotchi		70.9	312	11 21	0	20 37	+ 1		
Tinemaha		71.3	56	i 11 26	+ 3	e 20 38	- 3	i 11 34	?
Bergen		72.3	340	e 11 26	- 3	e 20 50	- 2	e 14 5	PP e 34.7
Theodosia		72.3	315	11 29	0	20 53	+ 1	11 47	pP
China Lake		72.5	56	i 11 28	- 2	e 20 50	- 4	i 11 59	?
Simferopol		73.0	316	11 33	0	21 1	+ 1		
Pasadena		73.2	58	i 11 35	0	i 20 56	- 6	e 25 10	SS e 28.0
Yalta		73.3	315	11 36	+ 1	21 5	+ 1		
Reykjavik	z.	73.4	354	i 11 35 <sup>k</sup>	- 1			i 12 28	?
Boulder City		74.1	55	e 11 38	- 2	e 21 10	- 2		
Copenhagen		74.2	334	i 11 40 <sup>k</sup>	0	21 13	- 1	26 4	SS 34.7
Kishinev		74.2	321	11 40	0	21 13	- 1		
Lwow		74.3	324	11 41	0	21 14	- 1		
Palomar		74.6	58	i 11 41	- 2	i 21 11	- 7	i 12 12	?
Iasi		74.7	322	e 11 41	- 2	e 21 15	- 4		
Bacau		75.4	322	e 11 49	+ 2	e 21 29	+ 2		
Riverview		75.9	173	i 11 59 <sup>a</sup>	+ 9	i 21 28	- 4	i 21 59	ScS e 32.7
Uzhgorod		76.0	324	i 11 50	- 1	21 33	- 1	12 7	pP
Skalnate Pleso		76.4	326	11 30	-23	e 21 38	0	e 21 16	?
Potsdam		76.6	332	i 11 54 <sup>a</sup>	0	i 21 42	+ 2	i 12 5	PcP e 37.7

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1952

431

	△	Az.	P.		O - C.	S.		O - C.	Supp.		L.
			m.	s.		m.	s.		m.	s.	
Raciborzu	76.6	328	11	55 <sup>a</sup>	+ 1	e 21	42	+ 2	i 12	4	PcP e 41.7
Aberdeen	77.0	342	i 11	55	- 1	i 21	45	0	i 14	54	PP e 35.2
Campulung	77.3	320	e 12	3	+ 5	e 21	58	+10			
Bucharest	77.4	319	e 11	59	+ 1	i 21	51	+ 2	e 14	55	PP e 30.7
Collmberg	77.6	330	i 11	58	- 2	e 21	48	- 3	e 14	56	PP e 32.7
Prague	78.0	330	i 12	2 <sup>a</sup>	0	e 21	55	0	e 15	5	PP e 38.2
Budapest	78.2	325	12	3	0	22	0	+ 3	12	16	PcP 41.7
Istanbul	78.3	316	e 12	18	PcP	e 22	10	+11	e 22	28	ScS
Ogyalla	78.3	326	e 12	7	+ 4	22	4	+ 5	e 22	54	PPS
Edinburgh	78.4	342				21	55	- 5			
Jena	78.4	331	e 12	4	0	e 21	58	- 2	e 12	20	PcP e 37.7
Witteveen	78.4	335	i 12	6	+ 2				i 12	49	? e 37.7
Timisoara	78.6	322	e 12	10	+ 5	e 22	7	+ 5	i 22	26	ScS e 41.7
Szeged	78.7	325	12	7	+ 1	22	5	+ 2	22	26	ScS e 42.4
Vienna	78.7	327	e 12	7	+ 1	e 22	39	PS			
Cheb	78.8	331	12	7 <sup>a</sup>	+ 1	e 22	3	- 1	e 15	3	PP e 36.7
Durham	79.0	340	e 12	3	- 4	22	7	+ 1	i 22	32	ScS
Kalossa	79.0	325	e 12	14	+ 7	e 22	6	0	22	23	ScS 41.7
Tucson	79.1	56	e 12	6	- 2	e 22	4	- 3	e 27	5	SS e 30.3
De Bilt	79.5	335	i 12	10 <sup>a</sup>	0	e 22	13	+ 2	i 15	11	PP e 37.7
Belgrade	79.7	332	e 12	11 <sup>k</sup>	0	e 22	12	- 1	i 22	35	ScS e 31.8
Ksara	79.7	306	i 12	12 <sup>a</sup>	+ 1	22	25	+12			
Sofia	80.0	319	e 12	14	+ 1	i 22	20	+ 3	i 22	40	ScS
Stuttgart	81.0	331	i 12	18 <sup>a</sup>	0	e 22	23	- 4	e 15	20	PP e 38.7
Karlsruhe	81.1	332	i 12	19 <sup>a</sup>	+ 1	e 22	29	+ 1	i 12	31	PcP e 38.7
Rathfarnham Castle	81.5	342	i 12	19 <sup>a</sup>	- 2	e 22	31	- 1	e 15	24	PP e 39.8
Kew	81.7	338	i 12	21 <sup>a</sup>	- 1	e 22	35	+ 1	i 15	25	PP e 39.7
Strasbourg	81.7	332	i 12	22 <sup>a</sup>	0	i 22	35	+ 1	i 12	27	PcP 39.7
Triest	81.9	327	i 12	22 <sup>a</sup>	- 1	i 22	35	- 1	e 38	46	P'P' 41.6
Kirkland Lake	82.0	28	e 12	23	0						
Zürich	82.4	331	e 12	25 <sup>a</sup>	0	e 22	42	+ 1	e 15	31	PP
Chur	82.5	330	e 12	26 <sup>a</sup>	0	e 22	42	0			e 42.5
Basle	82.6	332	e 12	27 <sup>a</sup>	+ 1	e 22	46	+ 3			
Paris	83.2	335	i 12	30	+ 1	i 22	50	+ 1	i 12	45	pP e 40.7
Neuchatel	83.3	332	e 12	30	0	e 22	49	- 1			
Athens	83.4	316	e 12	29	- 1	e 22	44	- 7	i 23	5	ScS
Lubbock	83.5	49	e 12	31	0	22	51	- 1			
Auckland	83.6	155	e 12	16	-15	e 22	50	- 3	e 17	5	PPP e 38.2
Bologna	83.8	328	e 12	35	+ 3	e 22	58	+ 3			
Padova	83.9	328	e 12	24	- 9	e 22	54	- 2			e 47.7
Oropa	84.1	331	e 12	32	- 2	e 22	57	- 1			44.7
Pavia	84.1	329	e 12	36	+ 2	e 22	59	+ 1	e 29	25	? e 43.6
Jersey	84.2	338	e 13	11	+37	i 22	53	- 6	e 15	40	PP 38.7
Prato	84.4	327	e 12	36	0	i 23	0	- 1			
Florence	84.5	327	i 12	35 <sup>a</sup>	- 1	i 23	2	0	e 15	54	PP
Taranto	84.6	322	12	40	+ 4	22	50	-13	27	40	? e 37.7
Karapiro	84.8	155	e 12	35	- 2	e 22	58	- 7			
Helwan	85.2	306	12	40	+ 1	23	4	[+ 2]	15	58	PP
Rocca di Papa	85.5	325	e 12	45	+ 4	e 23	3	[- 1]			e 45.7
Rome	85.5	325	i 12	40 <sup>a</sup>	- 1	i 23	5	[+ 1]	i 24	32	PPS
Clermont-Ferrand	85.7	333	i 12	41	- 1	e 23	10	- 4	e 31	52	SSS 37.8
Fayetteville	85.7	43	i 12	40	- 2	i 13	0	?	i 12	50	PcP
St. Louis	85.7	39	e 12	41	- 1	i 23	10	- 4			
Shawinigan Falls	85.8	24	e 12	41	- 1				16	1	PP
Ottawa	85.9	27	e 12	41	- 2	23	8	[+ 1]	24	48	PPS 39.2
Buffalo (Larkin)	87.1	29	e 12	48	- 1	e 23	8	[- 7]			
Cleveland	87.1	32	i 12	51	+ 2	i 23	13	[- 2]	e 29	12	SS
Messina	87.2	321	i 12	48 <sup>k</sup>	- 1	i 23	28	0	e 16	12	PP e 34.3
Vermont	87.5	26	e 12	48	- 3	e 23	15	[- 2]			
Wellington	87.7	157	e 12	50	- 2	23	30	- 3	24	28	PS e 40.4
Pittsburgh	88.7	32	i 12	27	-30	i 23	10	[-15]			
Christchurch	89.2	159				e 23	23	[- 5]	29	44	SS e 37.7
Pennsylvania	89.2	31	e 12	57	- 2	e 23	23	[- 5]	e 25	3	PS
Morgantown	89.4	33	i 12	58	- 2				i 16	34	PP
Harvard	89.8	25	e 13	1	- 1	e 23	43	{+ 2}	e 24	9	ScS e 45.2

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1952

482

	$\Delta$ °	Az. °	P. m. s.		O-C. s.	S. m. s.		O-C. s.	Supp. m. s.		I. m.
Barcelona	89.9	332	e 13	6	+ 4	24	17	+23	—	—	e 43.5
Weston	90.0	25	i 13	2 <sub>a</sub>	- 1	i 23	52	- 2	—	—	—
City College, N.Y.	90.5	27	e 13	5	0	e 23	36	{ 0 }	—	—	—
Fordham	90.5	27	e 13	4	- 1	i 23	54	- 5	—	—	—
Tunis	90.8	323	—	—	—	e 23	38	{ 0 }	e 25	34	PPS e 45.7
Philadelphia	90.9	29	—	—	—	e 24	0	- 3	e 30	10	SS —
Tortosa	91.0	333	13	10	+ 3	i 23	41	{ + 2 }	—	—	—
Toledo	93.3	336	i 13	18	0	e 24	25	+ 1	e 17	5	PP e 43.7
Alicante	93.5	333	e 13	20	+ 1	e 24	33	+ 8	26	2	PS e 45.2
Algiers Univ. z.	93.7	329	e 13	18	- 2	e 25	33	PS	i 17	3	PP 41.7
Columbia	93.7	36	—	—	—	e 24	11	{ + 2 }	e 30	50	SS —
Coimbra	94.2	339	—	—	—	30	46	SS	—	—	48.7
Almeria	95.5	334	i 13	30	+ 2	i 24	42	0	24	6	SKS 45.9
Granada	95.6	335	i 14	1 <sub>a</sub>	+33	24	25	{ + 3 }	i 17	24	PP i 50.6
Lisbon	95.8	339	—	—	—	e 33	5	?	e 40	18	Q 45.4
Malaga	96.3	335	i 13	32	0	i 24	40	- 9	17	28	PP 35.4
Bermuda	101.3	25	e 18	3	PP	e 25	32	+ 1	e 27	3	PS e 42.1
Tamanrasset z.	104.8	321	e 14	11 <sub>k</sub>	+ 1	e 25	16	{ -13 }	e 30	3	PKKP —
Tananarive	107.1	261	—	—	—	e 25	4	{ + 4 }	e 34	7	SSP 56.0
Fort de France	118.8	28	—	—	—	e 26	39	{ -27 }	—	—	—
M'Bour	121.0	339	e 20	24	PP	—	—	—	e 20	41	? 67.7
Bogota	122.0	47	e 20	45	PP	i 25	57	{ 0 }	e 30	2	PS 52.7
Pretoria z.	125.4	267	i 19	3	{ 0 }	—	—	—	—	—	—
Kimberley z.	129.6	265	i 19	4	{ -7 }	—	—	—	—	—	—
Grahamstown z.	130.7	259	i 22	6	PP	—	—	—	—	—	e 69.9
Huancayo	134.6	60	e 19	27	{ + 6 }	e 28	45	{ - 4 }	e 32	10	SKSP e 53.4
La Paz	142.5	56	i 19	36	{ + 1 }	29	32	{ - 4 }	i 22	48	PP 67.1
La Plata E.	161.5	73	28	52	?	34	16	?	37	46	? 76.6

May 19d. 21h. 57m. 40s. Epicentre 37°·3N. 141°·3E. Focus at Base of the Superficial Layers. (as on April 23d.).

Intensity IV at Hirano, Tusima, Kakuda, and Asino; II-III at Onahama, Shirakawa, Inawasiro, Mito, Utunomiya, and Yanagawa. Macroseismic radius 100-200km. Epicentre 37°·1N. 141°·4E. Depth 40km. Seismo. Bull. Cent. Met. Obs., Japan, for May, 1952, Tokyo, 1952, p.203, with macroseismic chart.

	$\Delta$ °	Az. °	P. m. s.		O-C. s.	S. m. s.		O-C. s.
Onahama	0.5	221	i 0	9	- 1	0	16	- 2
Hokusima	0.8	304	i 0	14 <sub>k</sub>	- 1	0	26	0
Shirakawa	0.9	258	e 0	14	- 2	0	26	- 2
Inawasiro	1.0	286	e 0	15	- 3	0	28	- 3
Sendai N.	1.0	342	0	15	- 3	0	29	- 2
Mito	1.1	216	0	16	- 3	0	29	- 4
Tukubasan	1.4	222	0	20	- 3	0	36	- 5
Utunomiya	1.4	237	e 0	19	- 4	0	37	- 4
Mizusawa E.	1.8	356	0	33	+ 4	0	54	+ 3
Kumagaya	1.9	233	e 0	28	- 3	0	50	- 4
Maebasi	2.0	243	e 0	30	- 2	0	56	0
Tokyo	2.0	218	e 0	31	- 1	0	52	- 4
Yokohama	2.3	215	0	35	- 1	—	—	—
Miyako	2.4	13	e 0	39	+ 1	1	7	+ 1
Morioka	2.4	358	e 0	35	- 3	1	4	- 2
Oiwake	2.4	246	e 0	41	+ 3	—	—	—
Matusiro	2.6	253	e 0	44	+ 3	—	—	—
Hunatu	2.7	229	e 0	47	+ 5	1	26	+12
Kohu	2.8	233	e 0	45	+ 2	1	16	0
Misima	2.9	221	e 0	39	- 6	1	8?	-11
Osima	3.0	211	e 0	42	- 4	1	16	- 6

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1952

438

May 20d. 4h. 13m. 49s. Epicentre 40°·0N. 144°·6E. Depth of focus 0·005.

Intensity II-III at Hatinohe, Urakawa, Shibutani, and Watari. Epicentre as adopted. Depth of focus 70km. Macroseismic radius >300km. Seismo. Bull. Cent. Met. Obs., Japan, May, 1952, Tokyo, 1952, p.204, with macroseismic chart.

$$A = -\cdot6262, B = +\cdot4450, C = +\cdot6402; \quad \delta = +1; \quad h = -2; \\ D = +\cdot579, E = +\cdot815; \quad G = -\cdot522, H = +\cdot371, K = -\cdot768.$$

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	
		°	°	m. s.	s.	m. s.	s.	m.	s.
Miyako		2·0	260	0 31	- 1	0 53	- 4	—	—
Hatinohe		2·4	283	e 0 35	- 3	1 2	- 5	—	—
Urakawa		2·6	328	e 0 40	- 1	1 9	- 3	—	—
Morioka		2·7	264	i 0 40 <sub>a</sub>	- 2	1 8	- 6	—	—
Mizusawa		2·8	252	0 44	0	1 15	- 2	—	—
Aomori		3·0	286	e 0 48	+ 1	1 20	- 2	—	—
Isinomaki		3·0	238	e 0 46	- 1	1 18	- 4	—	—
Kusiro		3·0	357	i 0 45	- 2	1 17	- 5	—	—
Nemuro		3·4	12	e 0 49	- 3	1 26	- 6	—	—
Sendai	z.	3·4	240	i 0 50	- 2	1 25	- 7	—	—
Akita		3·5	266	e 0 53	- 1	—	—	—	—
Mori	E.	3·7	306	0 55	- 1	1 35	- 4	—	—
Hukushima		3·9	236	e 0 58	- 1	1 39	- 5	—	—
Sapporo		3·9	322	e 0 55	- 4	1 38	- 6	—	—
Onahama		4·2	225	e 1 8	+ 5	1 46	- 6	—	—
Inawasaki		4·3	237	e 1 4	- 1	1 54	0	—	—
Shirakawa		4·5	231	e 1 10	+ 3	1 54	- 5	—	—
Mito		4·9	223	e 1 10	- 3	2 3	- 6	—	—
Utsunomiya		5·1	229	e 1 14	- 2	2 7	- 7	—	—
Tokubasan		5·2	225	1 16	- 1	2 12	- 5	—	—
Kumagaya		5·6	228	e 1 25	+ 2	2 25	- 2	—	—
Maebasi		5·6	232	e 1 24	+ 1	2 25	- 2	—	—
Tokyo		5·7	223	e 1 16	- 8	2 25	- 4	—	—
Titibu		5·9	229	e 1 31	+ 4	2 30	- 4	—	—
Nagano		6·0	238	e 1 33	+ 5	—	—	—	—
Matsuro		6·1	237	e 1 33	+ 3	2 37?	- 2	—	—
Hunatu		6·4	228	e 1 29	- 5	2 51	+ 5	—	—
Kohu		6·4	229	e 1 38	+ 4	2 45	- 1	—	—
Osima		6·7	220	e 1 33	- 5	2 46	- 8	—	—
Kiruna	z.	64·6	340	i 10 34k	+ 1	—	—	—	—
Tinemaha	z.	72·1	57	e 11 22	+ 3	—	—	e 11 37	pP
China Lake	z.	73·2	57	e 11 29	+ 3	e 11 35	?	e 11 44	pP
Fayetteville	z.	87·0	45	i 12 42	+ 3	—	—	—	—

May 20d. 10h. 58m. 54s. Epicentre 34°·2N. 140°·6E. Depth of focus 0·010. (as on 1949, Sept. 20d.).

Intensity IV at Osima, Miyakejima, Mikurajima; II-III at Ajiro, Hatidyozima, Misima, Hunatu, Habu, Daibutu, and Kisarazu. Epicentre 34°·2N. 140°·3E. Depth 90km. Macroseismic radius 100-200km. Seismo. Bull. Cent. Met. Obs., Japan, for May, 1952, Tokyo, 1952, p.205, with macroseismic chart.

$$A = -\cdot6405, B = +\cdot5261, C = +\cdot5595; \quad \delta = +6; \quad h = 0; \\ D = +\cdot635, E = +\cdot773; \quad G = -\cdot432, H = +\cdot355, K = -\cdot829.$$

		$\Delta$	Az.	P.	O-C.	S.	O-C.		
		°	°	m. s.	s.	m. s.	s.		
Mera		1·0	319	0 18	- 2	0 30	- 6		
Osima		1·2	299	i 0 20 <sub>a</sub>	- 3	0 32	- 8		
Hatidyozima		1·3	210	0 24	0	0 40	- 2		
Yokohama		1·4	328	i 0 25 <sub>a</sub>	0	0 42	- 2		
Ajiro		1·5	305	0 24	- 3	0 39	- 8		
Tyosi	N.	1·5	8	0 28	+ 1	0 47	0		
Tokyo		1·6	335	i 0 28 <sub>k</sub>	0	0 47	- 2		
Misima		1·7	307	i 0 26 <sub>a</sub>	- 3	0 44	- 7		
Hunatu		2·0	311	0 32	- 1	0 53	- 4		
Shizuoka		2·0	293	e 0 32	- 1	0 53	- 4		

Continued on next page.

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1952

434

		$\Delta$	Az.	P.	O-C.	S.	O-C.
		°	°	m. s.	s.	m. s.	s.
Tukubasan		2.0	349	0 34	+ 1	0 56	- 1
Kohu		2.2	311	i 0 36	0	0 59	- 3
Kumagaya	z.	2.2	333	0 36	0	0 59	- 3
Mito		2.2	357	e 0 40	+ 4	1 2	0
Titibu		2.2	325	e 0 37	+ 1	1 0	- 2
Utunomiya		2.4	346	e 0 39	+ 1	1 5	- 2
Maebasi		2.5	330	e 0 40	0	1 6	- 4
Iida		2.6	300	e 0 42	+ 1	1 9	- 3
Oiwake		2.7	322	0 42	- 1	1 13	- 1
Shirakawa		2.9	354	e 0 47	+ 2	1 17	- 2
Matumoto	E.	3.0	313	e 0 46	- 1	1 19	- 3
Matusiro		3.1	320	e 0 50	+ 2	—	—
Nagano		3.1	322	e 0 53	+ 5	1 27	+ 3
Nagoya		3.2	288	0 49	- 1	1 22	- 5
Gihu		3.4	292	e 0 52	0	1 26	- 6
Inawasiro		3.4	354	e 0 52	0	1 27	- 5
Hukusima		3.5	358	e 0 56	+ 2	1 33	- 1
Kameyama		3.5	282	0 54	0	1 30	- 4
Ibukisan		3.7	290	e 0 55	- 1	1 34	- 5
Sendai	E.	4.0	3	e 1 1	+ 1	1 42	- 4
Tsuruga		4.0	293	e 1 0	0	1 44?	- 2
Mizusawa	E.	4.9	5	(1 7)	- 6	1 7	P
Victoria		68.9	45	11 1	+ 5	—	—
Istanbul	z.	82.2	315	—	—	e 21 29	-48

May 20d. 13h. 32m. 28s. Epicentre 23°·1S. 178°·6E. Depth of focus 0·080.  
(as on 1950, Feb. 3d.).

A = -·9205, B = +·0225, C = -·3901;  $\delta=0$ ;  $h=+4$ ;  
D = +·024, E = +1·000; G = +·390, H = -·010, K = -·921.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
		°	°	m. s.	s.	m. s.	s.	m. s.
Apia		13.0	44	i 2 42	- 7	i 4 50	-15	—
Karapiro	N.	15.0	189	e 3 12	+ 3	e 5 43	+ 1	—
Tuai	N.	15.7	184	—	—	e 5 50	- 4	—
Wellington		18.4	191	e 3 43	+ 1	e 6 41	0	e 14 20
Cobb River	E.	18.6	194	e 3 44	0	e 6 43	- 2	i 6 47
Kaimata	N.E.	20.3	195	—	—	e 8 18	+65	—
Christchurch		21.0	193	—	—	e 7 32?	+ 7	—
Brisbane	z.	23.5	253	i 4 45k	+16	i 4 50	?	i 4 59
Riverview	E.	26.3	240	—	—	i 9 8	+18	—
Manila		67.7	298	e 10 15	+10	—	—	—
Berkeley	z.	82.2	43	i 11 26 <sub>a</sub>	+ 1	—	—	—
Lick	z.	82.3	43	i 11 27 <sub>a</sub>	+ 1	—	—	i 11 32
Pasadena		82.8	48	i 11 28	0	—	—	e 14 45
Arcata	z.	83.0	40	e 11 32 <sub>k</sub>	+ 3	—	—	—
Fresno	z.	83.2	45	e 11 30 <sub>a</sub>	0	—	—	—
Palomar		83.2	49	i 11 30 <sub>a</sub>	0	e 21 3	- 2	e 13 26
Riverside	z.	83.2	48	i 11 29 <sub>a</sub>	- 1	—	—	e 14 49
China Lake	z.	84.1	46	i 11 35 <sub>a</sub>	0	—	—	e 13 34
Mineral	z.	84.1	42	i 11 35 <sub>a</sub>	0	i 11 41	?	e 13 30
Tinemaha	z.	84.3	46	e 11 37	+ 1	—	—	—
Reno	z.	84.8	43	e 11 39 <sub>a</sub>	+ 1	—	—	—
Boulder City		86.0	48	e 11 25	-19	—	—	e 13 55
Tucson		87.0	53	i 11 49	0	—	—	—
Victoria		88.1	35	11 55	+ 1	—	—	—
College		91.4	13	e 12 12	+ 3	—	—	—
Fayetteville	z.	101.1	56	i 17 3	PP	—	—	—
Upsala	z.	140.9	345	i 23 23	?	—	—	—
Ksara		145.7	297	e 18 49	[+12]	e 33 51	PPS	e 20 51
Rathfarnham C.	z.	149.6	6	e 16 24	?	—	—	—
Tamanrasset	z.	173.6	—	i 20 53 <sub>k</sub>	PKP <sub>2</sub>	i 22 50	PKS	i 22 56

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1952

485

May 20d. 15h. 3m. 18s. I | Epicentre 41°·3N. 21°·0E. (as on 1948, March 26d.).  
15h. 28m. 23s. II |

Intensities V at Malo Crsko and Cer. Macro seismic radius 8km.

M. D. Uzelac.

Annuaire de l' Institut Seismologique de Beograd, macroseismique et macroseismique, 1952, New Series, No. 11, Belgrade, 1956, p.60.

A = +·7034, B = +·2700, C = +·6575;  $\delta = -2$ ;  $h = -2$ ;  
D = +·358, E = -·934; G = +·614, H = +·236, K = -·754.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
	°	°	m. s.	s.	m. s.	s.	m. s.	m.	
I Sofia	2·2	51	e 0 41	+ 3	e 1 6	0	e 1 11	S <sub>g</sub>	—
I Belgrade	3·5	354	e 0 57 <sub>a</sub>	0	e 1 58	+ 2 <sub>g</sub>	i 1 11	P <sub>g</sub>	—
II	3·5	354	e 0 57 <sub>a</sub>	0	e 1 53	- 3 <sub>g</sub>	e 1 7	P <sub>g</sub>	—
II Athens	3·9	147	e 1 55	S*	(e 1 55)	- 5*	e 2 19	S <sub>g</sub>	—
II Timisoara	4·4	2	e 1 16	+ 6	e 2 4	+ 2	e 1 34	P <sub>g</sub>	—
I Bucharest	4·8	49	e 1 32	- 4 <sub>g</sub>	e 2 8	- 4	e 2 34	S*	2·9
II	4·8	49	e 1 40	+ 4 <sub>g</sub>	e 2 9	- 3	—	—	2·9
II Messina	E. 5·2	235	—	—	e 2 15	- 7	—	—	e 4·0
I Istanbul	Z. 6·0	91	e 1 56	- 4 <sub>g</sub>	e 3 12	- 6 <sub>g</sub>	—	—	—
II	Z. 6·0	91	e 1 58	- 2 <sub>g</sub>	e 3 9	+ 7*	e 3 33	S <sub>g</sub>	—
II Rome	6·4	278	—	—	e 3 14	0*	—	—	e 4·2
I Trieste	6·8	312	—	—	e 3 29	+ 3*	i 3 50	S <sub>g</sub>	—
II	6·8	312	—	—	e 3 22	- 4*	e 3 42	S <sub>g</sub>	e 3·9
II Salo	N. 8·7	303	e 3 3	P <sub>g</sub>	e 3 11	?	—	—	—
II Stuttgart	11·2	316	e 2 37	- 7	—	—	—	—	e 6·2

May 20d. 15h. 12m. 0s. Epicentre 18°·6N. 121°·2E. (as on 16d.).

Intensity IV at Aparri. Monthly Seismo. Bull., Manila, May, 1952, p.4.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	L.
	°	°	m. s.	s.	m. s.	s.	m.
Manila	4·0	183	i 1 16	- 4 <sub>g</sub>	i 2 4	+ 1*	—
Hong Kong	7·5	300	1 51	- 2	3 15	- 5	3·7
Zi-ka-wei	Z. 12·6	1	e 2 59	- 4	—	—	—
Nanking	13·6	351	e 3 12	- 5	e 5 56	+ 6	—
Vladivostok	26·1	17	5 36	- 1	e 9 59	- 8	—
Yuzno-Sakhlinsk	33·3	27	e 6 39	- 2	e 11 55	- 7	—
Kyakhta	33·8	343	6 44	- 2	12 0	-10	—
Ulegorsk	34·8	24	e 6 53	- 1	12 18	- 7	—
Kabansk	35·3	344	6 57	- 2	—	—	—
Irkutsk	36·1	342	7 4	- 1	e 12 42	- 3	—
Przhevalsk	43·3	313	e 8 9	+ 4	—	—	—
Almata	44·6	314	i 8 17	+ 1	i 14 51	- 1	—
Naryn	44·6	311	e 8 17	+ 1	i 14 52	0	—
Petropavlovsk	45·0	31	e 8 17	- 2	—	—	—
Murgab	45·4	306	e 8 28?	+ 6	—	—	—
Semipalatinsk	45·4	325	e 8 19	- 3	—	—	—
Andijan	47·1	308	i 8 36	+ 1	15 28	0	—
Khorog	47·1	304	e 8 37	+ 2	e 15 26	- 2	—
Fergana	47·5	308	e 8 38	0	e 15 28	- 6	—
Kulyab	48·6	305	e 8 56	+ 9	—	—	—
Obi-garm	48·8	307	e 8 48	- 1	—	—	—
Stalinabad	49·4	306	e 8 54	+ 1	e 15 54	- 6	—
Tchimkent	49·5	311	—	—	e 16 1	- 1	—
Samarkand	51·0	306	e 9 6	0	—	—	—
Sverdlovsk	58·6	326	i 10 0	- 1	18 0	- 4	—
Istanbul	Z. 79·6	310	e 12 10	0	—	—	—
Upsala	80·7	330	i 12 15	- 1	i 12 37	?	—
Resolute Bay	84·2	9	12 33 <sub>a</sub>	- 1	e 12 41	PcP	—
Tamanrasset	Z. 104·9	301	e 21 29	SKP	—	—	—



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1952

486

May 20d. 20h. 12m. 33s. Epicentre 12°·7N. 75°·0E. (as on 1946, June 24d.).

A = +·1908, B = +·7121, C = +·6757;  $\delta$  = +6;  $h$  = -3;  
D = +·966, E = -·259; G = +·175, H = +·653, K = -·737.

	$\Delta$ °	Az. °	P.		O - C. s.	S.		O - C. s.
			m.	s.		m.	s.	
Frunse	0·4	301	i 0	10	- 3	i 0	17	- 4
Rybach'e	0·8	107	i 0	17	- 1	i 0	29	- 2
Almata	1·5	68	i 0	31	+ 3	i 0	53	+ 4
Naryn	1·5	150	e 0	24	- 4	i 0	41	- 8
Almata II	1·8	72	i 0	36	+ 4	i 1	2	+ 6
III	2·0	50	i 0	38	+ 3	e 1	4	+ 2
Przhevalsk	2·5	95	0	45	+ 2	1	21	- 2 <sub>g</sub>
Chilisk	2·7	71	i 0	49?	+ 4	i 1	25?	+ 6
Andijan	2·8	225	i 0	45	- 2	i 1	22	0
Fergana	3·3	226	e 0	57?	+ 4	i 1	41?	+ 6
Tchimkent	4·0	266	—	—	—	e 2	18	+ 6 <sub>g</sub>
Murgab	4·4	191	e 1	19	+ 1*	—	—	—
Tashkent	4·4	251	—	—	—	2	27	+ 2 <sub>g</sub>
Garm	5·1	225	i 1	18	- 2	i 2	18	- 2
Kulyab	6·2	221	—	—	—	e 3	2	- 6*
Stalinabad	6·3	231	—	—	—	e 3	27	- 1 <sub>g</sub>

May 21d. 4h. 33m. 51s. Epicentre 41°·6N. 72°·7E. (as suggested by U.S.S.R.).

A = +·2230, B = +·7161, C = +·6614;  $\delta$  = -2;  $h$  = -3;  
D = +·955, E = -·297; G = +·197, H = +·631, K = -·750.

	$\Delta$ °	Az. °	P.		O - C. s.	S.		O - C. s.
			m.	s.		m.	s.	
Andijan	0·9	196	i 0	19	- 1	—	—	—
Frunse	1·9	48	i 0	33	- 1	i 0	53	- 6
Tchimkent	2·4	287	e 0	41	0	e 1	23	+ 4 <sub>g</sub>
Naryn	2·5	94	e 0	39	- 4	i 1	7	- 7
Tashkent	2·6	264	—	—	—	e 1	30	+ 4 <sub>g</sub>
Rybach'e	2·7	71	e 0	43	- 2	i 1	15	- 4
Garm	3·2	197	i 0	54	+ 2	i 1	37	- 2*
Murgab	3·4	163	—	—	—	e 1	42	- 3*
Almata	3·6	60	i 0	59	+ 1	i 1	42	0
Obi-garm	3·7	220	i 1	3?	+ 3	i 1	53?	- 1*
Almata II	3·8	63	e 1	3	+ 2	i 1	50	+ 3
III	4·0	52	i 1	3	- 1	—	—	—
Khorog	4·2	192	1	9	+ 2	2	12	+ 3*
Przhevalsk	4·3	76	—	—	—	2	10	- 2*
Kurmenty	4·4	68	—	—	—	i 2	7	+ 5
Chilisk	4·7	62	—	—	—	i 2	18	+ 8
Samarkand	4·8	248	—	—	—	e 2	9	- 3

May 21d. 11h. 45m. 26s. Epicentre 16°·9N. 98°·7W. Depth of focus 0·010.  
(as on 1952, Jan. 3d.).

A = -·1448, B = -·9464, C = +·2889;  $\delta$  = +10;  $h$  = +5;  
D = -·988, E = +·151; G = -·044, H = -·286, K = -·957.

		$\Delta$ °	Az. °	P.		O - C. s.	S.		O - C. s.	Supp.		L. m.	
				m.	s.		m.	s.		m.	s.		
Oaxaca		1·9	86	0	33	+ 1	—	—	—	—	—	1·1	
Puebla		2·2	12	0	40	+ 4	—	—	—	—	—	—	
Tacubaya		2·5	349	0	43	+ 3	—	—	—	—	—	—	
Fayetteville	z.	19·5	10	i 4	20	- 2	—	—	—	—	—	1·4	
Palomar	z.	23·1	319	e 4	59	+ 1	—	—	—	—	—	—	
Riverside	z.	23·9	319	e 5	4	- 2	e 7	36	?	e 5	9	P	—
Mount Wilson	z.	24·5	319	e 5	10	- 1	—	—	—	—	—	—	
China Lake		25·2	324	e 5	17	- 1	—	—	—	—	—	—	
Tinemaha	z.	26·5	323	e 5	26	- 4	—	—	—	—	—	—	
Kirkland Lake	z.	34·7	21	e 6	41 <sub>a</sub>	- 1	—	—	—	—	—	—	

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1952

487

May 22d. 3h. 51m. 20s. Epicentre 38°·6N. 68°·8E. (as on 1952, Feb. 27d.).

A = +·2833, B = +·7305, C = +·6213;  $\delta = -10$ ;  $h = -1$ ;  
D = +·932, E = -·362; G = +·225, H = +·579, K = -·784.

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.
Stalinabad	0·1	—	i 0 12	$P_g$	i 0 17	$S_g$
Obi-garm	0·7	82	i 0 15	- 2	i 0 24	- 4
Kulyab	1·0	132	i 0 20	- 1	i 0 30	- 6
Garm	1·2	78	i 0 25	+ 1	i 0 40	- 1
Samarkand	1·8	307	0 47	+11 <sub>g</sub>	—	—
Khorog	2·5	117	—	—	e 1 16	+ 2
Fergana	2·9	52	e 0 55	- 3 <sub>g</sub>	e 1 34	- 2 <sub>g</sub>
Andijan	3·5	51	e 1 8	- 2 <sub>g</sub>	—	—

May 22d. 23h. 8m. 19s. Epicentre 29°·6N. 131°·5E. Focus at Base of Superficial Layers.

Intensity IV at Tashiro and Osumi; II-III at Yakusima and Minamitane. Epicentre 30°·4N. 131°·7E. Macro seismic radius 100-200km.  
Seismo. Bull. Cent. Met. Obs., Japan, May, 1952, Tokyo, 1952, p. 205, with macro seismic chart.

A = -·5771, B = +·6523, C = +·4914;  $\delta = +1$ ;  $h = +2$ ;  
D = +·749, E = +·663; G = -·326, H = +·368, K = -·871.

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Yakusima	1·2	314	i 0 20 <sub>a</sub>	0	0 34	- 2	—	—
Kagosima	2·1	337	i 0 36	+ 3	0 49	-10	—	—
Miyazaki	2·3	359	i 0 37	+ 1	1 4	0	—	—
Kumamoto	3·3	348	e 0 50	- 1	1 28	- 1	—	—
Nagasaki	3·4	336	e 0 50	- 2	1 42	+10	—	—
Ooita	3·6	1	e 0 55	0	2 20	+43	—	—
Uwazima	3·7	13	0 56	0	1 40	+ 1	—	—
Hukuoka	4·1	347	i 1 2 <sub>a</sub>	0	1 45	- 4	—	—
Koti	N. 4·3	23	i 1 5	0	—	—	—	—
Muroto	4·3	31	i 1 3 <sub>k</sub>	- 2	2 23	+29	—	—
Simonoseki	4·4	354	i 1 8	+ 2	2 5	+ 8	—	—
Hirosima	4·8	9	1 13	+ 1	2 3	- 4	—	—
Ituhara	5·0	338	e 1 9	- 6	1 59	-13	—	—
Takamatu	5·2	24	1 18 <sub>k</sub>	0	2 13	- 4	—	—
Siomisaki	5·3	42	1 19 <sub>a</sub>	0	—	—	—	—
Himeji	E. 5·5	26	e 1 27	+ 5	—	—	—	—
Sumoto	5·5	30	i 1 23 <sub>k</sub>	+ 1	2 47	+22	—	—
Kobe	N. 5·9	31	e 1 27	0	—	—	—	—
Matsue	6·0	12	e 1 31	+ 2	2 35	- 2	—	—
Osaka	6·1	33	e 1 21	- 9	—	—	—	—
Kyoto	6·5	32	e 1 33	- 3	3 9	+19	—	—
Toyooka	6·5	24	e 1 36	0	3 44	?	—	—
Kameyama	6·7	37	1 41	+ 2	3 9	+14	—	—
Maizuru	6·7	29	e 1 39	0	3 41	?	—	—
Salgo	N. 6·8	13	e 1 39	- 1	3 27	?	—	—
Nagoya	7·2	38	i 1 48 <sub>a</sub>	+ 2	3 15 <sub>?</sub>	+ 8	—	—
Gihu	7·3	36	1 46	- 1	3 6 <sub>?</sub>	- 4	—	—
Omaesaki	7·6	47	e 1 59	+ 8	—	—	—	—
Kohu	8·4	43	e 2 5	+ 3	4 27	?	—	—
Osima	8·4	50	e 2 5	+ 3	—	—	—	—
Hunatu	8·5	44	2 5	+ 1	5 25	?	—	—
Toyama	8·5	33	2 4 <sub>k</sub>	0	—	—	—	—
Matumoto	N. 8·6	38	e 2 6	+ 1	5 24	?	—	—
Zi-ka-wei	Z. 8·8	283	i 2 4 <sub>a</sub>	- 4	—	—	—	—
Matusiro	8·9	37	i 2 10	+ 1	4 6	+17	—	—
Nagano	9·0	37	e 2 10	- 1	5 29	?	—	—
Oiwake	9·0	40	2 12	+ 1	—	—	—	—
Wazima	9·0	29	e 2 10	- 1	—	—	—	—
Tokyo	Z. 9·2	47	i 2 15 <sub>k</sub>	+ 2	4 1	+ 4	—	—
Kumagaya	9·3	43	2 16	+ 1	5 37	?	—	—

Continued on next page.

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1952

488

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Atkawa		10.1	32	e 2 27	+ 1	—	—	—	—
Niigata		10.4	35	e 2 36	+ 6	4 34	+ 8	—	—
Inawasiro		10.7	40	e 2 36	+ 2	—	—	—	—
Hokusima		11.0	40	e 2 37	- 1	—	—	—	—
Sendai	E.	11.7	40	2 47k	- 1	4 56	- 2	—	—
Mizusawa		12.4	37	2 58	+ 1	—	—	3 1	P
Hatinohe		13.6	34	3 13	0	5 33	-11	—	—
Sapporo		15.6	28	e 3 40	+ 1	6 42?	+11	—	—
Hong Kong		17.2	249	e 3 53	- 6	—	—	—	—
Manila		17.8	216	i 4 5	- 2	i 7 11	-11	i 4 19	PP
Shillong	E.	35.2	275	i 6 50	- 3	9 25	PcP	8 23	PPP
Calcutta	F.	39.2	270	i 9 4	PP	i 17 3	ScS	—	—
Djakarta		42.8	218	i 6 56	-60	e 13 20	-58	—	—
New Delhi		47.1	283	e 8 28	- 3	e 15 33	+13	18 19	SS
Poona	Z.	53.3	272	9 17	- 1	i 9 38	?	9 28	pP
Quetta		55.2	289	e 9 34	+ 2	e 17 13	+ 2	e 17 23	PS
College		59.7	29	e 10 3	- 1	i 18 13	+ 3	—	—
Brisbane		60.4	157	i 10 9k	+ 1	i 18 29	+10	i 10 24	pP
Kiruna		70.4	338	i 11 12	- 1	i 20 19	- 3	i 11 34	PcP
Resolute Bay		71.7	12	i 11 19k	- 1	e 20 38	+ 1	i 11 31	PcP
Upsala		75.7	332	i 11 43	- 1	e 21 41	PS	i 11 56	PcP
Iasi		77.5	318	e 11 55	+ 1	e 21 47	PS	e 12 3	PcP
Victoria		77.5	41	11 54k	0	—	—	—	—
Ksara		78.4	302	e 12 3	+ 4	e 22 52	PPS	—	—
Scoresby Sund		78.4	352	e 11 59	0	e 21 55	+ 4	e 22 11	PS
Seattle		78.6	41	i 12 3k	+ 3	—	—	—	—
Istanbul		79.6	312	e 12 5	0	e 22 4?	0	e 12 23	pP
Bucharest	E.	79.8	316	e 12 7	+ 1	e 22 8	+ 2	—	—
	N.	79.8	316	e 12 1	- 5	e 22 11	+ 5	—	—
Copenhagen		80.5	330	i 12 10a	0	22 13	0	—	—
Skalnate Pleso		80.6	322	e 12 11	0	22 12	- 2	e 15 5	PP
Raciborzu		81.2	324	e 12 15	+ 1	e 15 20	PP	e 12 27	pP
Shasta		82.2	47	i 12 20	+ 1	—	—	—	—
Potsdam		82.3	328	e 12 24	+ 4	i 22 35	+ 3	—	—
Ogyalla		82.5	322	e 12 34	+13	e 22 47	+13	e 15 23	PP
Hungry Horse		82.8	38	e 12 23	+ 1	—	—	—	—
Mineral	Z.	82.9	47	e 12 22	- 1	—	—	e 13 5	?
Belgrade		83.0	318	e 12 29a	+ 6	e 22 45	+ 6	e 25 40	?
Collnberg		83.0	326	e 12 23	0	e 22 40	+ 1	e 28 47	SS
Prague		83.1	325	e 12 26k	+ 2	e 22 50	+10	e 12 46	sP
Helwan		83.7	301	e 12 25	- 2	22 47	+ 1	23 2	ScS
Berkeley	Z.	83.8	50	e 12 29	+ 2	—	—	e 12 36	pP
Jena		83.9	326	e 12 28	0	e 22 47	- 1	e 14 6	?
Lick	Z.	84.5	50	e 12 32k	+ 1	—	—	i 12 41	pP
Reno	Z.	84.5	47	e 12 33k	+ 2	—	—	e 12 51	pP
Witteveen	Z.	84.9	331	i 12 34a	+ 1	—	—	—	—
Butte		85.0	39	i 12 35	+ 2	—	—	i 13 2	?
Aberdeen	E.	85.1	337	i 14 25	?	i 22 56	- 3	i 23 17	?
De Bilt		86.1	330	i 12 40a	+ 1	e 23 7	- 2	—	—
Fresno	Z.	86.1	49	e 12 38k	- 1	—	—	—	—
Triest		86.2	322	i 12 41k	+ 2	i 23 15	+ 5	e 13 4	pP
Stuttgart		86.5	326	e 12 41	0	e 23 16	+ 3	e 13 1	pP
Durham		86.8	335	—	—	i 23 15	- 1	i 23 7	SKS
Karlsruhe		86.8	327	e 12 43	+ 1	e 23 23	+ 7	e 23 9	SKS
Tinemaha	Z.	86.9	49	e 12 45	+ 2	—	—	—	—
Strasbourg		87.4	327	e 12 46	+ 1	e 23 25	+ 3	e 23 11	SKS
Zürich		87.8	325	e 12 47	0	e 23 26	0	e 23 12	SKS
Padova		88.0	321	e 12 54	+ 6	e 23 12	[+ 1]	—	—
China Lake	Z.	88.1	49	e 12 50	+ 2	—	—	e 16 15	PP
Basle		88.2	326	e 12 48	- 1	e 23 31	+ 2	—	—

Continued on next page.

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1952

489

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Pasadena	88.6	51	e 12 52	+ 1	—	—	e 12 57	pP e 46.3
Florence	88.8	321	i 12 52 <sup>a</sup>	0	i 23 37	+ 2	e 16 17	PP
Kew	88.8	332	e 12 52	0	e 23 51	+16	e 23 19	SKS e 41.7
Pavia	89.0	323	e 12 55	+ 2	e 23 16	[- 2]	—	—
Riverside	z. 89.3	51	e 12 50	- 4	—	—	—	—
Rome	89.3	319	12 57 <sup>k</sup>	+ 3	i 23 42	+ 3	i 23 22	SKS
Paris	89.6	329	e 12 56	0	i 23 28	[+ 7]	e 16 48	PP e 47.7
Rathfarnham Castle	89.7	336	e 12 58	+ 2	e 23 39	- 4	e 24 59	PS e 41.7
Boulder City	89.8	48	e 12 58	+ 2	—	—	e 16 27	PP
Messina	E. 89.9	315	e 13 16	pP	e 23 44	- 1	e 24 56	PS
Palomar	z. 89.9	51	e 12 58	+ 1	—	—	—	—
Clermont-Ferrand	91.6	327	e 13 5	0	e 25 3	PS	e 22 39	? e 50.2
Tucson	94.7	49	e 13 21	+ 2	e 32 49	?	e 16 52	PP e 46.3
Alicante	98.9	324	13 44	+ 6	24 <sup>*</sup> 20	[+ 8]	27 44	? e 50.2
Granada	101.4	326	—	—	24 23	[- 2]	31 36	SS 55.1
Ottawa	101.4	20	—	—	27 16	PS	—	— 41.5
Fayetteville	z. 101.8	37	e 13 51	0	—	—	—	—
Tamanrasset	z. 106.4	309	18 9	[-12]	—	—	i 18 38	PP
Chinchina	136.9	42	i 19 15	[- 4]	—	—	—	—
Bogota	138.1	40	e 19 30	[+ 8]	e 23 3	SKP	e 32 16	PSKS 105.7
Huancayo	149.6	62	e 19 48	[+ 7]	—	—	—	— e 84.8
La Paz	z. 157.8	59	i 20 0	[+ 7]	—	—	i 20 31	PKP <sub>2</sub>

May 23d. 4h. 20m. 51s. Epicentre 32°·9N. 136°·2E. Focus at Base of Superficial Layers.

Intensity V at Siomisaki, Muroto, and Isato; IV at Owase, Tu, Wakayama, Sumoto, Tokusima, Kameyama, Kobe, Kyoto, and Koti. Epicentre 32°·9N. 136°·1E. Depth about 60km. Macro seismic radius > 300km. (Tokyo). Seismo. Bull. Cent. Met. Obs., Japan, for May, 1952, Tokyo, 1952, p. 207, with macro seismic chart on page 207.

$$A = -.6072, B = +.5823, C = +.5406; \quad \delta = +1; \quad h = 0;$$

$$D = +.692, E = +.722; \quad G = -.390, H = +.374, K = -.841.$$

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Owase	1.2	0	i 0 19	- 1	0 32	- 4	—	—
Wakayama	1.6	327	i 0 25	- 1	0 41	- 5	—	—
Kashiwara	1.7	348	i 0 27 <sup>k</sup>	- 1	0 46	- 3	—	—
Muroto	1.7	282	i 0 24 <sup>a</sup>	- 4	0 41	- 8	—	—
Osaka	z. 1.8	342	i 0 29	0	0 53	+ 2	—	—
Sumoto	1.8	323	i 0 27 <sup>k</sup>	- 2	0 47	- 4	—	—
Tokusima	1.8	311	i 0 28 <sup>k</sup>	- 1	0 49	- 2	—	—
Kobe	2.0	334	i 0 31 <sup>k</sup>	- 1	0 54	- 2	—	—
Kameyama	2.0	6	i 0 31 <sup>k</sup>	- 1	0 53	- 3	—	—
Hamamatu	2.2	35	0 38	+ 3	1 2	+ 1	—	—
Kyoto	2.2	350	i 0 33 <sup>k</sup>	- 2	0 59	- 2	—	—
Himeji	2.2	317	i 0 35	0	0 59	- 2	—	—
Takamatu	2.3	308	i 0 34	- 2	0 59	- 5	—	—
Koti	2.3	286	i 0 33 <sup>a</sup>	- 3	0 58	- 6	—	—
Nagoya	2.4	16	i 0 38 <sup>k</sup>	0	1 4	- 2	—	—
Omaesaki	2.4	45	e 0 41	+ 3	1 19	+13	—	—
Hikone	2.4	1	0 39	+ 1	1 7	+ 1	—	—
Gihu	2.5	11	0 38	- 1	1 9	0	—	—
Okayama	2.6	313	0 35	- 6	—	—	—	—
Maizuru	2.6	347	0 41 <sup>k</sup>	0	1 11	0	—	—
Tsuruga	2.7	358	i 0 42	0	1 13	- 1	—	—
Simidu	2.7	268	i 0 39 <sup>a</sup>	- 3	1 8	- 6	—	—
Shizuoka	2.8	42	0 43 <sup>a</sup>	0	1 15	- 1	—	—
Toyooka	2.9	336	i 0 43 <sup>k</sup>	- 2	1 15	- 4	—	—
Matuyama	3.0	288	i 0 42 <sup>a</sup>	- 4	1 5	-17	—	—

Continued on next page.

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1952

440

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.		L.
		°	°	m. s.	s.	m. s.	s.	m. s.		m.
Iida		3.0	28	e 0 39	- 7	1 9	-13	—	—	—
Tottori		3.1	328	i 0 41 <sub>k</sub>	- 7	1 13	-11	—	—	—
Hatidyosima		3.1	86	0 54	+ 6	—	—	—	—	—
Uwazima		3.1	276	i 0 43 <sub>k</sub>	- 5	1 14	-10	—	—	—
Ajiro		3.2	49	0 51	+ 2	1 27	0	—	—	—
Hukui	N.	3.2	1	i 0 51 <sub>a</sub>	+ 2	1 28	+ 1	—	—	—
Misima		3.2	46	0 50	+ 1	1 41	+14	—	—	—
Osima		3.3	56	0 51 <sub>a</sub>	0	1 30	+ 1	—	—	—
Kohu		3.4	35	e 0 53	+ 1	1 39	+ 7	—	—	—
Takayama		3.4	15	e 0 51	- 1	1 38	+ 6	—	—	—
Hunatu		3.4	39	0 41	-11	1 29	- 3	—	—	—
Hirosima		3.5	296	0 50 <sub>a</sub>	- 3	1 25	- 9	—	—	—
Matsue		3.6	315	1 19	+24	2 1	+24	—	—	—
Matumoto	E.	3.6	23	i 1 0	+ 5	1 41	+ 4	—	—	—
Mera		3.6	55	0 56	+ 1	1 43	+ 6	—	—	—
Kanazawa		3.7	5	e 0 55	- 1	1 48	+ 9	—	—	—
Oiwake		3.9	28	e 0 57	- 2	—	—	—	—	—
Ooita		3.9	276	i 0 58	- 1	1 47	+ 3	—	—	—
Titibu		3.9	37	i 1 3	+ 4	1 42	- 2	—	—	—
Toyama		3.9	12	e 0 59	0	—	—	—	—	—
Tokyo	N.	4.0	46	i 1 2 <sub>a</sub>	+ 2	1 59	+12	—	—	—
Matsuro		4.0	24	1 1	+ 1	1 59	+12	—	—	—
Miyazaki		4.1	258	e 1 1	- 1	1 49	0	—	—	—
Nagano		4.1	23	e 1 4	+ 2	2 2	+13	—	—	—
Salgo	N.	4.1	325	e 1 1	- 1	1 55	+ 6	—	—	—
Maebasi		4.2	33	i 1 19 <sub>a</sub>	+16	—	—	—	—	—
Kumagaya		4.2	38	i 1 6 <sub>a</sub>	+ 3	1 52	0	—	—	—
Wazima		4.5	7	1 7	- 1	2 3	+ 3	—	—	—
Takada		4.5	21	e 1 13	+ 5	1 51	- 9	—	—	—
Tukubasan		4.6	43	1 13	+ 4	2 13	+11	—	—	—
Kumamoto		4.6	271	e 1 7	- 2	1 57	- 5	—	—	—
Utunomiya		4.7	38	e 1 12	+ 2	2 11	+ 6	—	—	—
Tyosi	N.	4.8	52	1 19	+ 7	2 22	+15	—	—	—
Hukuoka		4.9	279	e 1 10 <sub>a</sub>	- 3	2 4	- 6	—	—	—
Uzendake		5.0	270	1 9	- 6	1 55	-17	—	—	—
Shirakawa		5.3	37	e 1 21	+ 2	2 27	+ 7	—	—	—
Nagasaki		5.3	270	e 1 16	- 3	1 58	-22	—	—	—
Yakusima		5.4	245	1 22	+ 2	—	—	—	—	—
Aikawa		5.4	18	e 1 27	+ 7	2 41	+19	—	—	—
Niigata		5.5	24	e 1 31	+ 9	2 43	+18	—	—	—
Inawasiro		5.6	33	e 1 28	+ 5	2 39	+12	—	—	—
Onahama		5.6	42	e 1 28 <sub>k</sub>	+ 5	2 38	+11	—	—	—
Ituhara		5.9	284	e 1 29	+ 2	2 43	+ 8	—	—	—
Hokusima		6.0	35	e 1 31	+ 2	2 40	+ 3	—	—	—
Yamagata		6.3	31	e 2 28	+55	4 7	+82	—	—	—
Sakata		6.6	25	1 48	+11	3 16	+24	—	—	—
Sendai	E.	6.6	34	1 40	+ 3	2 59	+ 7	—	—	—
Mizusawa		7.4	31	1 52	+ 4	e 2 56	-16	2 51	S	—
Akita		7.5	24	e 1 54	+ 4	3 20	+ 5	—	—	—
Morioka		7.9	29	e 1 57	+ 2	3 29	+ 4	—	—	—
Hatinohe		8.7	28	2 13	+ 7	4 3	+18	—	—	—
Urakawa		10.6	28	e 2 41	+ 8	—	—	—	—	—
Vladivostok		10.8	346	i 2 34	- 1	—	—	—	—	—
Sapporo		10.9	20	e 2 39	+ 2	4 51	+12	—	—	—
Zi-ka-wei	Z.	12.6	266	i 2 49 <sub>a</sub>	-11	5 15	- 5	—	—	—
Yuzno-Sakhlinsk		14.9	18	3 29	- 1	6 11	- 4	—	—	—
Ulegorsk		16.8	14	3 51	- 3	6 56	- 3	—	—	—
Hong Kong		22.1	247	4 55	+ 1	8 57	+ 7	—	—	—
Manila		22.9	221	i 5 1	- 1	i 9 14	+ 9	e 5 28	PP	e 11.8
Petropavlovsk		25.8	30	i 5 31	+ 1	—	—	—	—	—

Continued on next page.



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1952

441

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Kyakhta	28.0	317	e 5 48	- 2	—	—	—	—
Kabansk	28.7	320	—	—	e 10 39	- 3	—	—
Irkutsk	30.1	320	e 6 7	- 1	e 11 3	- 1	—	—
Shillong	E. 39.1	272	e 7 31	+ 5	13 23	0	9 4	PP
Calcutta	E. 43.3	269	i 11 57	?	—	—	—	i 24.2
Przhevalsk	45.9	300	e 8 21	0	—	—	—	—
Kurmenty	46.0	300	i 8 24	+ 2	—	—	—	—
Ili	46.7	302	e 8 27	0	—	—	—	—
Almata II	46.7	301	e 8 27	0	—	—	—	—
Almata	46.9	301	i 8 29	0	15 18	+ 1	—	—
Rybach'e	47.6	299	i 8 33	- 1	i 15 26	- 1	—	—
Naryn	47.9	298	e 8 36	- 1	—	—	—	—
Frunse	48.7	300	i 8 42	- 1	i 15 42	0	i 8 55	pP
Murgab	50.1	295	8 58	+ 4	e 16 6	+ 4	—	—
Fergana	51.2	298	e 9 1	- 1	e 16 17	0	—	—
Khorog	52.1	294	e 9 9	0	16 31	+ 2	—	—
Tchimkent	52.4	301	—	—	i 16 34	+ 1	—	—
Tashkent	52.8	300	e 9 11	0	i 16 40	+ 1	—	—
Obi-garm	53.2	297	e 9 17	0	e 16 43	- 1	—	—
Kulyab	53.3	296	i 9 23	+ 5	16 54	+ 8	—	—
Stalinabad	53.9	297	i 9 22	0	i 16 57	+ 3	i 9 45	pP
College	54.8	30	i 9 29	0	e 17 2	- 4	i 9 42	pP
Sverdlovsk	55.5	320	i 9 32	- 2	17 15	0	e 9 47	pP
Ashkabad	61.9	298	10 19	+ 1	e 18 40	+ 2	—	—
Brisbane	z. 62.1	163	i 10 21k	+ 1	—	—	i 10 28	?
Kizyl-Arvat	63.0	301	10 26	0	18 56	+ 4	—	—
Baku	67.0	304	e 10 57	+ 5	e 19 47	+ 6	—	—
Resolute Bay	67.6	13	e 10 53	- 2	e 19 50	+ 2	i 11 6	pP
Makhach-Kala	67.6	308	10 55	0	e 19 48	0	—	e 30.2
Shemakla	67.8	305	i 10 56	- 1	—	—	—	—
Moscow	68.0	323	e 10 57?	- 1	e 19 51?	- 2	—	—
Kiruna	68.8	338	i 11 1k	- 2	i 20 2	- 1	i 11 14	pP
Kirovobad	69.3	306	11 4	- 2	20 9	0	—	e 35.2
Pulkovo	69.5	329	i 11 3	- 4	—	—	—	—
Goris	69.9	304	11 9	- 1	—	—	—	—
Tiflis	69.9	307	10 59?	- 11	—	—	—	—
Piatigorsk	70.0	310	—	—	20 16	- 1	—	—
Erevan	70.8	305	e 11 17	+ 2	20 32	+ 6	—	—
Victoria	72.4	43	11 25k	0	—	—	—	—
Sotchi	72.4	311	11 24	- 1	20 42	- 3	—	—
Theodosia	74.4	314	e 11 35	- 1	—	—	—	—
Corvallis	z. 74.4	47	e 11 37	+ 1	—	—	—	—
Upsala	74.7	333	i 11 37k	- 1	i 11 40	P	i 11 50	pP
Simferopol	75.2	314	e 11 40	- 1	—	—	—	e 39.2
Yalta	75.4	314	e 11 40	- 2	—	—	—	—
Scoresby Sund	75.7	353	e 11 44	0	—	—	—	34.2
Shasta	77.0	50	i 11 52	+ 1	—	—	i 12 5	pP
Hungry Horse	77.7	40	i 11 56	+ 1	—	—	—	—
Mineral	z. 77.7	50	i 11 55k	0	i 12 24	sP	i 12 9	pP
Berkeley	z. 78.6	52	e 12 1k	+ 1	—	—	i 12 17	pP
Reno	79.3	49	e 12 5k	+ 1	e 22 7	+ 7	e 12 21	pP
Lick	z. 79.3	52	i 12 5k	+ 1	—	—	i 12 21	pP
Copenhagen	79.6	332	i 12 4k	- 1	—	—	i 12 18	pP
Butte	79.9	41	i 12 8	+ 1	—	—	—	41.2
Ksara	80.0	304	e 12 10	+ 2	—	—	—	—
Skalnate Pleso	80.4	323	e 13 57	?	e 21 39	- 33	—	—
Istanbul	80.4	313	12 11	+ 1	22 13?	+ 1	e 22 27?	S <sub>c</sub> S
Raciborzu	80.9	325	e 12 14	+ 2	—	—	e 12 25	pP
Fresno	z. 80.9	51	e 12 13k	+ 1	—	—	e 12 29	pP
Potsdam	81.6	329	—	—	e 22 27	+ 3	—	e 44.2

Continued on next page.

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1952

442

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Tinemaha	z.	81.7	51	e 12 28	pP	—	—	—	—
Collmberg		82.4	328	e 12 19	- 1	e 15 28	PP	e 12 32	pP
Prague		82.6	327	e 12 23	+ 2	e 22 32	- 3	e 15 33	PP
China Lake	z.	82.9	51	e 12 23	0	—	—	i 12 40	sP
Belgrade		83.1	319	e 12 25 <sub>k</sub>	+ 1	e 23 29	PS	e 12 37	pP
Jena		83.3	328	e 12 24	- 1	e 22 21	- 21	e 12 36	pP
Pasadena		83.4	53	e 12 26	+ 1	e 14 5	?	i 12 42	sP
Witteveen	z.	84.0	332	i 12 27 <sub>k</sub>	- 1	—	—	—	—
Riverside	z.	84.1	53	e 12 29	0	—	—	—	—
Boulder City		84.6	50	e 12 33	+ 2	—	—	—	—
Palomar	z.	84.8	53	e 12 32	0	—	—	e 12 39	PcP
De Bilt		85.1	332	e 12 32	- 2	e 23 2	+ 3	—	—
Stuttgart		86.0	328	e 12 37	- 1	e 23 7	- 1	e 12 51	pP
Karlsruhe	z.	86.1	329	e 12 37	- 2	—	—	—	—
Triest		86.1	324	i 12 40 <sub>a</sub>	+ 1	e 23 3	- 6	e 12 51	pP
Strasbourg		86.7	329	e 12 42	0	e 23 18	+ 3	e 12 55	pP
Kew		87.7	334	i 12 44	- 3	—	—	i 12 59	pP
Rathfarnham Castle		88.2	338	i 12 48	- 1	e 23 42	+ 13	i 13 2	pP
Florence	z.	88.6	323	e 13 0	PcP	—	—	—	—
Paris		88.8	332	e 12 51	- 1	—	—	e 13 5	pP
Rome		89.4	321	e 13 9	pP	e 23 24	[+ 4]	e 16 25	PP
Tucson		89.5	51	e 12 56	+ 1	—	—	e 16 27	PP
Messina	E.	90.3	317	e 13 36	+ 37	e 23 51	+ 3	—	—
Tamanrasset	z.	107.3	313	i 17 50	?	—	—	e 18 1	PKP
Huancayo		144.4	62	e 19 36	[+ 3]	—	—	—	—
La Paz		152.6	59	e 19 55	PKP <sub>1</sub>	—	—	23 40	PP

May 23d. 15h. 12m. 27s. Epicentre 56° 3S. 25° 1W. (as on 1952, April 19d.).

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Kimberley	z.	44.6	73	i 7 30?	- 46	—	—	—	—
Pretoria	z.	48.8	74	i 8 51	+ 2	—	—	—	—
La Paz		51.3	303	9 13	+ 5	16 13	- 13	—	—
Tamanrasset	z.	82.9	28	i 12 37 <sub>k</sub>	PcP	i 13 17	?	e 15 46	PP
Ksara		103.6	48	i 22 8	?	—	—	—	54.6
Morgantown		106.2	319	i 18 5	PKP	—	—	—	—
Triest	z.	106.7	27	e 17 54	[- 32]	e 17 57	PKP	e 18 40	PP
Palomar	z.	118.1	289	e 18 49	[ 0]	—	—	—	—
Riverside	z.	118.7	289	e 18 49	[- 1]	—	—	—	—
Pasadena	z.	119.2	289	e 18 51	[ 0]	—	—	—	—
China Lake	z.	120.2	291	e 18 52	[- 1]	—	—	—	—
Upsala	z.	120.7	23	i 18 55	[+ 1]	—	—	i 19 6	?
Tinemaha	z.	121.5	291	e 18 55	[- 1]	—	—	—	—
Fresno	z.	122.1	290	e 18 56	[- 1]	—	—	—	—
Lick	z.	123.5	288	e 18 59 <sub>a</sub>	[- 1]	—	—	i 19 11	?
Reno	z.	124.2	291	e 19 1	[ 0]	—	—	—	—
Berkeley	z.	124.2	288	e 19 0 <sub>a</sub>	[- 1]	—	—	e 19 12	?
Mineral	z.	125.7	291	e 19 2	[- 2]	—	—	e 19 15	?
Kiruna	z.	128.3	20	i 19 9 <sub>k</sub>	[ 0]	—	—	i 19 22	?
Victoria		132.4	297	19 16	[ 0]	—	—	—	—
Zi-ka-wei	z.	145.7	122	i 19 35 <sub>a</sub>	[- 5]	—	—	—	—

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1952

448

May 23d. 20h. 24m. 12s. Epicentre 19°·0S. 176°·0W. Depth of focus 0·040.  
(as on 1951, Feb. 4d.).

A = -·9439, B = -·0660, C = -·3236 ;  $\delta = +2$  ;  $h = +5$  ;  
D = -·070, E = +·998 ; G = +·323, H = +·023, K = -·946.

		$\Delta$ °	Az. °	P.		O-C.	S.		O-C.	Supp.		L.
				m.	s.	s.	m.	s.	m.	s.	m.	
Apia		6·6	39	i 1	24	-13	i 2	27	-26	—	—	—
Karapiro	N.	20·2	200	4	16	+ 2	—	—	—	—	—	—
Tuai	N.	20·6	196	4	18	0	e 7	57	+10	—	—	—
Wellington		23·6	198	4	49	+ 2	9	1	+23	—	—	—
Cobb River	E.	24·0	202	e 4	54	+ 4	e 8	52	+ 8	e 9	7	?
Kaimata	N.E.	25·8	202	5	9	+ 2	e 9	36	+22	—	—	—
Christchurch		26·3	199	4	48?	-23	—	—	—	—	—	—
Brisbane		29·6	247	i 5	43 <sub>a</sub>	+ 2	i 10	18	+ 4	i 6	29	pP
Riverview		32·7	236	i 6	18 <sub>a</sub>	+10	e 11	18	+16	i 13	47	SS
Manila		70·4	294	e 10	45	0	—	—	—	—	—	—
Berkeley	Z.	75·8	41	e 11	16 <sub>k</sub>	0	—	—	—	e 12	16	pP
Lick	Z.	75·9	41	e 11	14 <sub>k</sub>	- 3	e 12	54	sP	e 12	14	pP
Pasadena		76·3	46	i 11	18 <sub>k</sub>	- 1	e 14	12	PP	e 12	17	pP
Fresno		76·7	43	e 11	20 <sub>k</sub>	- 1	e 20	49	+ 6	i 12	20	pP
Palomar	Z.	76·7	47	i 11	20	- 1	—	—	—	e 12	20	pP
Riverside	Z.	76·8	46	i 11	20	- 2	—	—	—	e 12	20	pP
Shasta		77·5	39	i 11	26	0	—	—	—	e 12	26	pP
China Lake		77·6	45	i 11	25 <sub>k</sub>	- 1	e 14	19	PP	e 12	23	pP
Mineral	Z.	77·7	40	e 11	26	- 1	—	—	—	e 12	25	pP
Tinemaha	Z.	77·9	44	i 11	28 <sub>k</sub>	0	—	—	—	e 12	29	pP
Zi-ka-wei	Z.	78·1	309	e 11	29 <sub>k</sub>	0	—	—	—	e 12	57	sP
Reno	Z.	78·4	41	e 11	29	- 1	—	—	—	—	—	—
Boulder City		79·6	46	e 11	36	- 1	—	—	—	e 12	36	pP
Tucson		80·5	51	i 11	43	+ 1	—	—	—	e 13	8	sP
Seattle		81·9	34	i 11	50 <sub>k</sub>	+ 1	—	—	—	—	—	—
Victoria		81·9	32	11	48	- 1	—	—	—	—	—	—
College		86·4	12	e 12	9	- 2	e 22	10	-11	24	5	PS
Hungry Horse		86·8	36	i 12	12	- 1	—	—	—	—	—	—
Fayetteville	Z.	94·6	54	i 12	50	+ 1	i 16	37	PP	i 13	53	pP
La Paz		100·8	112	e 13	20	+ 2	i 23	38	[+11]	i 31	43	SS
Kiruna		130·1	353	i 18	29	[- 7]	e 21	38	SKP	i 21	59	PKS
Upsala	Z.	138·0	350	i 18	41	[-10]	—	—	—	—	—	—
Rathfarnham C.	Z.	144·9	11	i 19	6	[+ 3]	—	—	—	e 19	16	?
Potsdam		145·9	352	e 19	10	[+ 5]	—	—	—	—	—	—
Witteveeu	Z.	146·2	358	i 19	10	[+ 5]	—	—	—	i 20	14	pPKP
Raciborzu		147·0	344	i 19	10	[+ 3]	—	—	—	e 19	13	?
De Bilt		147·0	359	i 19	11 <sub>k</sub>	[+ 4]	—	—	—	—	—	—
Collnberg		147·0	351	e 19	9	[+ 2]	e 19	14	PKP <sub>2</sub>	e 20	13	pPKP
Kew		147·4	6	i 19	10	[+ 3]	—	—	—	i 20	14	pPKP
Jena		147·6	352	e 19	11	[+ 3]	e 21	7	?	i 20	13	pPKP
Prague		147·9	348	i 19	14	[+ 6]	e 20	38	sPKP	e 20	18	pPKP
Ksara		148·0	304	i 19	13	[+ 5]	e 22	14	SKP	20	19	pPKP
Istanbul	Z.	149·3	321	e 19	17	[+ 7]	e 22	52	PP	e 20	24	pPKP
Timisoara		149·8	337	e 19	23	[+12]	—	—	—	—	—	—
Stuttgart	Z.	150·0	353	e 19	13 <sub>k</sub>	[+ 2]	e 22	52	PP	e 20	22	pPKP
Paris		150·2	3	e 19	15	[+ 4]	e 22	55	PP	i 20	27	pPKP
Strasbourg		150·3	356	i 19	19	[+ 8]	—	—	—	e 20	24	pPKP
Belgrade	Z.	150·8	336	e 19	22 <sub>k</sub>	[+10]	e 24	3	pPP	e 20	28	pPKP
Basle		151·4	355	e 19	20	[+ 7]	e 30	25	SKKS	—	—	—
Zürich		151·5	355	e 19	18	[+ 5]	—	—	—	e 20	26	pPKP
Chur		151·9	353	e 19	22	[+ 8]	—	—	—	—	—	—
Triest	Z.	152·2	347	i 19	16 <sub>a</sub>	[+ 2]	e 23	10	PP	e 20	28	pPKP
Florence		154·6	348	e 19	22 <sub>k</sub>	[+ 4]	—	—	—	e 23	24	PP
Rome		156·1	345	e 19	24 <sub>k</sub>	[+ 4]	(e 44 48)	—	sSS	e 21	16	?
Messina	E.	158·4	336	e 21	19	pPKP <sub>2</sub>	e 28	33	?	—	—	e 44·8
Malaga		160·8	21	i 20	13	PKP <sub>2</sub>	—	—	—	i 23	59	PP
Algiers Univ.	Z.	162·3	2	e 19	32	[+ 5]	e 20	15	PKP <sub>2</sub>	e 24	15	PP
Tamanrasset	Z.	176·0	340	i 19	38 <sub>a</sub>	[+ 3]	e 32	6	SKKS	i 20	44	pPKP

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1952

444

May 23d. 22h. 12m. 28s. Epicentre 19°·2N. 155°·5W. (as on 1952, March 25d.).

Located in the Fault of Kealakekua ; felt in the Islands of Hawaii and Maui, with slight damage in the Kona Region. Epicentre 19°29'N. 155°29'W.

L. M. Murphy and W. K. Cloud.

United States Earthquakes, 1952, U.S.C.G.S., Serial 773, Washington, 1954, p. 49.

G. A. MacDonald.

The South Hawaii Earthquakes of March and April, 1952, Volcano Letter, U.S.A., 1952, No. 515, p. 1-5, with 4 Figures.

$$\begin{aligned} A = -.8600, B = -.3919, C = +.3269; \quad \delta = +5; \quad h = +5; \\ D = -.415, E = +.910; \quad G = -.297, H = -.136, K = -.945. \end{aligned}$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Hawaii Volcanic Obs.	0.3	43	0 12	+ 1	i 0 22	+ 4	—	—
Honolulu	3.0	314	i 0 40	-10	—	—	—	—
Santa Clara	κ. 34.4	51	e 6 53	+ 2	e 12 31	+12	(e 14 31)	SS e 14.5
Arcata	z. 34.4	43	e 6 52	+ 1	—	—	—	—
Berkeley	z. 34.4	51	i 6 52 <sub>a</sub>	+ 1	e 12 23	+ 4	e 9 26	PcP e 17.4
Lick	z. 34.6	51	i 6 54 <sub>a</sub>	+ 1	i 7 17	?	i 8 8	PP
Shasta	35.5	45	i 7 2	+ 2	—	—	—	—
Fresno	z. 35.8	52	e 7 4 <sub>a</sub>	+ 1	—	—	e 8 31	PP
Mineral	z. 35.9	46	i 7 4	0	—	—	i 7 19	?
Pasadena	z. 36.3	58	i 7 9 <sub>a</sub>	+ 2	e 12 52	+ 4	e 8 30	PP e 15.2
Reno	z. 36.8	48	i 7 13	+ 2	e 13 8	+12	—	—
Riverside	z. 36.9	58	i 7 13	+ 1	—	—	—	—
Corvallis	z. 36.9	39	e 7 15	+ 3	e 12 56	- 2	—	—
Tinemaha	z. 37.1	54	i 7 18	+ 4	i 13 12	+11	—	—
Palomar	z. 37.2	59	i 7 16 <sub>a</sub>	+ 1	—	—	—	—
China Lake	z. 37.2	54	i 7 16 <sub>a</sub>	+ 1	—	—	e 8 44	PP e 18.0
Victoria	39.0	34	7 30 <sub>a</sub>	0	—	—	e 7 34	P
Seattle	39.1	36	i 7 33 <sub>a</sub>	+ 2	e 13 45	+14	e 9 1	PP
Boulder City	39.4	55	i 7 35	+ 2	—	—	—	—
Tucson	42.0	62	i 7 57	+ 3	i 13 50	PcS	i 9 40	PP e 19.1
Butte	44.2	43	i 8 13	+ 1	—	—	—	—
Hungry Horse	44.3	38	i 8 12	- 1	—	—	—	—
College	45.9	4	i 8 22	- 4	e 15 6	- 5	—	—
Lubbock	49.6	61	e 8 55	0	—	—	—	—
Tacubaya	52.9	79	e 9 20	0	e 17 25	PPS	—	—
Fayetteville	z. 56.0	58	i 9 42	- 1	—	—	i 9 59	?
St. Louis	59.1	56	e 10 3	- 1	e 18 18	+ 7	—	—
Resolute Bay	64.0	14	e 10 32 <sub>a</sub>	- 6	e 19 9	- 4	e 20 22	ScS e 29.2
Cleveland	65.7	52	i 10 48 <sub>k</sub>	0	e 19 39	+ 5	—	—
Kirkland Lake	z. 66.3	45	e 11 2	+10	—	—	—	—
Morgantown	67.1	54	i 10 56	- 1	—	—	—	—
Pennsylvania	68.5	52	e 11 3	- 3	e 20 14	+ 6	e 20 43	PPS
Ottawa	69.5	48	—	—	20 22	+ 2	24 38	SS
City College, N.Y.	71.4	52	i 11 24	0	—	—	—	—
Fordham	71.5	52	i 11 24	0	—	—	—	—
Harvard	72.9	50	e 11 32	- 1	—	—	—	e 38.8
Weston	73.1	50	e 11 31	- 3	—	—	—	—
Zi-ka-wei	z. 74.6	299	e 11 36	- 7	—	—	—	—
Chinchina	78.8	88	i 11 59	- 7	e 22 6	+ 2	—	—
Bogota	80.4	88	—	—	e 22 33	+12	—	—
Bermuda	80.6	59	—	—	e 22 27	+ 4	e 23 14	PS
Huancayo	84.8	105	i 12 42	+ 5	e 22 58	- 7	—	—
Scoresby Sund	84.9	15	e 12 37	- 1	e 23 4	- 2	—	—
La Paz	92.9	106	13 14	- 2	i 23 57	[+ 7]	25 42	PS
Kiruna	93.2	1	i 13 14	- 3	i 23 53	[+ 2]	i 24 18	S e 36.5
Upsala	z. 101.0	3	i 13 50	- 3	—	—	—	—
Rathfarnham C.	z. 103.1	17	—	—	e 24 34	[- 8]	e 25 5	SKKS
Collmberg	z. 109.1	7	e 19 0	PP	—	—	—	—
Paris	109.5	14	e 19 3	PP	—	—	—	—
Strasbourg	110.9	11	e 19 40	PP	—	—	—	—
Stuttgart	111.0	10	e 19 11?	PP	—	—	—	—

Continued on next page.

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1952

445

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Clermont-Ferrand	112.5	16	—	—	e 35 7	SS	—	—
Rome	118.2	9	e 29 42	PS	e 36 22	SS	—	e 64.5
Istanbul	N. 119.9	355	—	—	e 27 32?	{+19}	—	64.5
Messina	E. 122.3	8	—	—	e 33 45	?	—	—
Ksara	126.2	348	e 21 31	PP	e 33 45	?	—	—
Tamanrasset	z. 134.3	25	e 19 8	[-12]	e 21 50	PP	e 19 21	PKP
Kimberley	z. 170.5	81	e 20 12	[+ 2]	—	—	—	—

May 24d. 1h. 59m. 9s. Epicentre 20°·5S. 70°·5W. (as on 1950, June 16d.).

Intensity IV in Peru at Arica and Tacna, and in Chile between 20° and 21° south latitude.  
Epicentre : 21°·25S. (Strasbourg).  
21°·5S. 71°W. (U.S.C.G.S.).

F. Greve.

Boletín del año 1952, Instituto Sismológico, Universidad de Chile, Santiago, p. 13.

E. Silgado.

Datos Sismológicos del Perú, 1952-1955, Boletín de la Sociedad geológica del Perú, Tome 29, Lima, 1957, p. 11.

A = +·3129, B = -·8837, C = -·3481 ;  $\delta = +1$  ;  $h = +5$  ;  
D = -·943, E = -·334 ; G = -·116, H = +·328, K = -·937.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Autofagasta	E. 3.1	179	e 0 52	+ 1	—	—	i 1 0	P <sub>g</sub>
La Paz	4.6	30	i 1 21 <sub>a</sub>	- 1*	i 2 16	- 4*	i 2 40	S <sub>g</sub>
Copiapo	N. 6.8	179	i 1 33	-11	i 2 45	-18	—	—
Huancayo	9.6	330	i 2 23	+ 2	i 5 7	-10 <sub>g</sub>	—	—
Santa Lucia	12.9	181	e 3 15	+ 8	e 5 48	+15 <sub>g</sub>	e 4 17	?
Buenos Aires	17.6	144	4 7	- 1	7 26	+ 3	—	—
La Plata	18.1	144	i 4 12	- 2	7 39	+ 4	7 51	SS
Bogota	25.2	353	i 5 33	+ 4	i 9 55	+ 3	i 5 43	?
Chinchina	25.8	348	i 5 31	- 3	i 10 4	+ 2	i 5 52	?
Galerazamba	31.4	352	i 6 46	+21	i 11 36	+ 4	i 7 26	PP
Fort de France	36.2	17	e 7 5	- 1	i 12 38	- 9	—	—
Kingston	38.7	352	e 9 44	PcP	e 13 24	- 1	—	—
Merida	45.2	335	e 8 30	+10	—	—	i 10 58	PPP
Vera Cruz	46.8	327	e 8 55	?	—	—	—	—
Puebla	47.8	324	e 9 21	+40	—	—	—	—
Tacubaya	48.6	324	i 9 6	?	e 15 52	+ 3	e 16 11	PPS
Bermuda	52.8	7	e 9 18	- 1	i 17 1	+14	—	—
Columbia	55.1	350	i 9 44	+ 8	e 17 9	- 9	—	—
Washington	59.4	355	e 10 7	+ 1	—	—	i 10 15	P
Morgantown	60.5	352	i 10 11	- 3	e 18 26	- 3	—	—
Fayetteville	z. 60.6	339	i 10 13	- 2	e 18 25	- 5	i 10 53	PcP
City College, N.Y.	61.1	358	i 10 19	+ 1	e 18 34	- 3	—	—
Fordham	61.1	358	i 10 19	+ 1	i 18 33	- 4	—	—
Pittsburgh	61.2	353	e 10 35	+16	i 18 53	+15	—	—
Pennsylvania	61.3	354	e 10 20	0	e 18 36	- 3	e 11 9	PcP
Lubbock	61.5	331	e 10 21	0	e 18 39	- 3	—	—
St. Louis	61.7	344	e 10 21	- 1	i 18 39	- 5	—	—
Cleveland	62.5	351	i 10 27 <sub>a</sub>	- 1	—	—	i 10 36	P
Weston	62.6	0	i 10 29	+ 1	e 18 53	- 3	—	—
Harvard	62.7	0	i 10 28 <sub>a</sub>	- 1	—	—	—	—
M'Bour	63.0	61	i 11 28	+57	—	—	i 11 44	?
Buffalo (Larkin)	63.5	354	i 10 34	0	e 19 3	- 4	—	—
Vermont	64.7	359	e 10 46	+ 4	e 19 25	+ 3	—	—
Tucson	65.1	324	e 10 45	0	e 19 28	+ 1	e 11 17	PcP
Ottawa	65.7	356	e 10 57	+ 9	19 32	- 2	24 7	SS
Shawinigan Falls	N. 66.8	359	e 10 55	- 1	19 24	-24	20 47	ScS
Kirkland Lake	z. 68.9	354	e 11 8	- 1	—	—	i 11 17	P
Palomar	69.5	321	e 11 13	+ 1	e 20 21	+ 1	i 20 44	PS
Boulder City	70.1	323	e 11 17	+ 1	e 20 21	- 6	—	—
Riverside	z. 70.2	321	e 11 17	0	—	—	i 11 26	P

Continued on next page.



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1952

446

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.	
	$^{\circ}$	$^{\circ}$	m.	s.	s.	m.	s.	s.	m.	s.	m.	
Pasadena	70.8	321	i 11	21	+ 1	i 20	37	+ 2	e 25	9	SS	e 34.2
China Lake	71.6	323	i 11	24	- 1	—	—	—	i 11	34	P	—
Tinemaha	z. 72.9	322	e 11	37	+ 4	e 21	3	+ 4	—	—	—	—
Fresno	73.5	322	e 11	35k	- 1	e 21	1	- 5	—	—	—	—
Lick	z. 75.0	320	e 11	45a	0	i 14	15	PP	i 11	56	P	—
Santa Clara	E. 75.2	320	e 12	31	+45	e 21	22	- 3	e 22	16	PPS	e 38.9
Reno	75.4	324	e 11	49k	+ 2	e 21	26	- 1	e 11	57	PcP	—
Berkeley	75.7	320	i 11	45a	- 4	i 21	34	+ 4	i 12	1	PcP	e 36.2
Butte	76.4	333	i 11	54	+ 1	—	—	—	i 12	3	P	—
Mineral	z. 77.0	323	e 11	56a	0	—	—	—	i 12	5	P	—
Shasta	77.7	323	i 11	58	- 2	—	—	—	—	—	—	—
Arcata	z. 78.7	322	i 12	17	+11	—	—	—	—	—	—	—
Hungry Horse	78.8	333	e 12	6	0	e 21	59	- 5	—	—	—	—
Corvallis	z. 80.7	325	e 12	28	+12	—	—	—	—	—	—	—
Seattle	82.3	328	i 12	35k	+10	i 22	42	+ 2	—	—	—	—
Victoria	83.3	328	12	31	+ 1	—	—	—	—	—	—	—
Malaga	84.4	48	i 12	36	0	i 23	2	+ 1	15	52	PP	42.0
Grahamstown	z. 84.6	124	i 12	37	+ 1	—	—	—	—	—	—	—
Kimberley	z. 84.8	119	i 12	37	0	—	—	—	—	—	—	—
Granada	85.2	48	i 12	30a	- 9	23	22	ScS	—	—	—	40.4
Tamanrasset	z. 85.7	65	i 12	42k	0	e 23	29	ScS	e 15	34	PP	38.8
Almeria	85.8	49	12	41	- 1	23	22	+ 7	16	3	PP	43.0
Toledo	86.2	46	i 12	44	0	e 23	18	- 1	e 16	3	PP	44.3
Alicante	87.9	48	12	57	+ 4	23	51	ScS	38	37	Q	e 45.6
Pretoria	z. 88.7	117	i 12	56	- 1	—	—	—	—	—	—	—
Algiers Univ.	z. 89.7	51	e 12	59	- 2	e 16	31	PP	17	21	?	—
Tortosa	89.7	47	e 16	45	PP	i 23	53	+ 1	—	—	—	—
Rathfarnham C.	z. 91.9	33	e 13	14	+ 3	—	—	—	—	—	—	—
Clermont-Ferrand	93.6	43	i 13	20	+ 1	e 24	14	{+ 6}	e 17	4	PP	e 48.4
Kew	94.2	35	i 13	19	- 3	e 24	11	{- 1}	—	—	—	e 45.8
Paris	94.6	40	e 13	23	- 1	e 23	58	[- 1]	24	30	S	47.8
Aberdeen	96.0	30	—	—	—	e 31	26	SS	—	—	—	e 44.8
Resolute Bay	96.2	354	—	—	—	e 24	4	[- 4]	e 24	45	S	e 44.6
Scoresby Sund	96.9	14	e 13	33	- 1	e 24	55	+ 1	26	22	PS	48.8
Pavia	97.3	44	i 17	32a	PP	e 27	45	?	e 32	37	?	e 46.6
Strasbourg	97.7	41	e 13	36	- 2	e 25	3	+ 2	e 17	34	PP	e 44.8
Florence	98.2	47	e 13	38a	- 2	e 25	13	+ 8	e 27	5	PPS	—
Rome	98.4	49	i 17	36k	PP	e 25	7	0	e 24	18	SKS	—
Bologna	98.5	45	e 17	11	?	—	—	—	—	—	—	—
De Bilt	98.5	36	e 13	34	- 8	e 24	30	{- 13}	e 17	32	PP	e 42.8
Stuttgart	98.6	41	e 13	40	- 2	e 24	21	[+ 1]	e 17	39	PP	e 50.8
Messina	99.4	53	e 17	46	PP	24	28	[+ 4]	e 27	0	PS	—
Triest	100.5	45	e 13	46	- 5	e 25	21	- 4	i 24	26	SKS	45.6
Jena	100.8	39	e 13	52	0	e 17	57	PP	e 14	2	P	—
Cheb	E. 101.0	39	e 17	56	PP	e 24	33	[+ 1]	—	—	—	—
Taranto	101.4	51	e 16	51?	?	—	—	—	—	—	—	—
Collmberg	101.8	40	e 13	56	0	—	—	—	e 18	5	PP	—
Potsdam	102.2	37	—	—	—	e 24	36	[- 2]	—	—	—	e 45.8
Prague	102.3	40	e 14	8	+ 9	e 24	33	[- 5]	e 18	7	PP	—
Copenhagen	102.8	34	18	15	PP	25	48	+ 4	24	57	?	45.8
College	103.1	334	e 14	1	- 1	e 24	39	[- 3]	e 18	15	PP	e 42.8
Belgrade	z. 104.8	48	e 18	28k	PP	—	—	—	—	—	—	—
Kiruna	109.1	24	i 19	14	PP	e 25	41	{- 18}	e 28	27	PS	e 48.8
Helwan	z. 109.9	65	e 19	6	PP	e 28	57	PS	e 29	4	PS	—
Istanbul	110.2	52	e 19	4?	PP	e 26	51	S	e 21	27	PPP	—
Ksara	114.4	62	19	40	PP	29	29	PS	—	—	—	—
Simferopol	114.4	49	e 19	28	PP	e 29	7	PS	—	—	—	—
Yalta	114.4	50	e 19	32	PP	e 29	10	PS	—	—	—	—
Theodosia	115.9	49	e 19	44	PP	e 29	23	PS	—	—	—	—
Moscow	116.8	37	e 19	54	PP	—	—	—	—	—	—	—
Sotchi	118.3	51	e 20	13	PP	—	—	—	—	—	—	—
Piatigorsk	120.8	50	20	21	PP	—	—	—	—	—	—	—
Tsikhilis-Dzhvari	121.0	53	18	58	[+ 3]	—	—	—	—	—	—	—
Erevan	121.8	55	e 20	31	PP	30	32	PS	—	—	—	—
Tiflis	122.1	53	20	29	PP	e 30	31	PS	—	—	—	—

Continued on next page.

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1952

447

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Grozny	122.7	51	i 20 34	PP	—	—	—	—
Goris	123.2	56	e 20 40	PP	—	—	—	—
Kirovobad	123.2	54	20 38	PP	—	—	—	—
Makhach-Kala	124.0	51	e 20 41	PP	—	—	—	—
Shemakla	125.0	54	i 19 5	[+ 3]	—	—	—	—
Lenkoran	125.9	56	19 5	[+ 1]	—	—	e 20 49	PP
Baku	126.0	54	e 21 0	PP	—	—	—	—
Sverdlovsk	129.0	32	e 19 11	[+ 1]	e 38 27	SS	e 31 22	PS
Petropavlovsk	130.3	324	—	—	i 22 34	PKS	e 23 40	PPP
Kizyl-Arvat	130.9	56	19 15	[+ 1]	22 43	PKS	—	—
Ashkabad	132.7	58	19 18	[+ 1]	—	—	—	—
Samarkand	139.0	52	i 19 37?	[+ 8]	—	—	22 27	PP
Tchimkent	140.1	47	e 19 27	[- 4]	—	—	—	—
Tashkent	140.2	49	e 19 27	[- 4]	e 26 36	[- 3]	23 9	PKS
Quetta	E. 140.6	67	i 19 38	[+ 6]	i 23 13	PKS	—	85.8
Stalinabad	140.6	53	i 19 27	[- 5]	—	—	—	—
Obi-garm	141.3	53	i 19 28	[- 5]	e 23 6	PKS	e 22 34	PP
Ulegorsk	141.4	326	19 31	[- 2]	—	—	e 22 51	PP
Kulyab	141.6	55	e 19 32	[- 1]	—	—	—	—
Fergana	142.3	50	i 19 32?	[- 3]	—	—	—	—
Semipalatinsk	142.3	30	e 19 31	[- 4]	—	—	—	—
Yuzno-Sakhlinsk	142.3	323	e 19 34	[- 1]	—	—	—	—
Andijan	142.6	49	i 19 33	[- 2]	—	—	e 22 39	PP
Khorog	143.1	56	e 19 35	[- 1]	—	—	e 22 49	PP
Frunse	143.3	44	i 19 34	[- 2]	—	—	i 22 48	PP
Ili	144.3	41	i 19 38	[ 0]	—	—	—	—
Rybach'e	144.4	45	i 19 38	[ 0]	—	—	e 22 58	PP
Murgab	144.5	53	i 19 42	[+ 4]	—	—	e 23 2	PP
Almata	144.6	42	i 19 39	[+ 1]	—	—	—	—
Naryn	144.8	47	i 19 41	[+ 2]	—	—	i 22 48	PP
Almata II	144.9	42	i 19 40	[+ 1]	—	—	—	—
Kurmenty	145.5	42	i 19 42	[+ 2]	—	—	—	—
Przhevaisk	145.9	43	e 19 43	[+ 2]	—	—	—	—
Poona	146.4	88	i 19 43	[+ 2]	i 19 49	PKP <sub>2</sub>	i 23 5	PP
Irkutsk	148.0	6	e 19 46	[+ 2]	—	—	—	—
Kabansk	148.4	5	e 19 47	[+ 2]	e 23 18	PKS	—	—
Kyakhta	150.1	4	e 19 49	[+ 1]	—	—	e 23 26	PP
Zi-ka-wei	z. 164.6	328	19 49 <sub>a</sub>	[- 16]	—	—	19 59	PKP
Manila	167.7	243	e 20 9	[+ 1]	i 25 8	PP	e 21 8	PKP <sub>2</sub>

May 24d. 4h. 15m. 14s. Epicentre 36°·0N. 114°·8W. (as on 1939, May 4d.).

Intensity VI at Boulder City and Whitney; V at Las Vegas; IV at Overton, etc. Macro-seismic area 1000sq.m. Epicentre 36°·1N. 114°·7W.

L. M. Murphy and W. K. Cloud.

United States Earthquakes, 1952, U.S.C.G.S., Serial 773, Washington, 1954, p.12.

$$A = -.3401, B = -.7361, C = +.5852; \quad \delta = -3; \quad h = 0;$$

$$D = -.908, E = +.419; \quad G = -.245, H = -.531, K = -.811.$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Boulder City	0.0	—	i 0 4	+ 1*	—	—	—	—
Overton	0.6	28	i 0 12	0 <sub>g</sub>	—	—	—	—
Pierce Ferry	0.7	80	i 0 13	- 1 <sub>g</sub>	—	—	—	—
China Lake	2.3	265	i 0 38	- 2	—	—	—	—
Haiwee	2.6	273	e 0 44	0	i 1 23	+ 2*	i 0 49	P*
Riverside	2.9	226	i 0 48 <sub>k</sub>	0	i 1 35	- 1 <sub>g</sub>	—	—
Tinemaha	3.0	292	e 0 51	+ 1	i 1 39	0 <sub>g</sub>	i 0 55	P*
Palomar	z. 3.1	214	i 0 51 <sub>k</sub>	0	i 1 40	- 2 <sub>g</sub>	—	—
Pasadena	3.3	238	i 0 54	+ 1	i 1 47	- 2 <sub>g</sub>	—	—
Tucson	5.0	138	i 1 17	- 1	i 2 39	- 6 <sub>g</sub>	—	—
Santa Clara	E. 5.9	284	—	—	13 18	+ 3 <sub>g</sub>	—	—
Berkeley	6.2	288	i 1 50 <sub>a</sub>	+ 1*	e 3 8	0*	—	—
Shasta	7.6	310	e 1 55	0	—	—	—	—
Lubbock	10.9	99	e 3 16	?	—	—	—	—
Fayetteville	z. 16.7	84	e 4 0	+ 3	—	—	e 5 10	?
St. Louis	19.7	75	e 4 37	+ 3	—	—	—	e 5.6
College	35.0	336	e 6 55	- 1	—	—	—	e 8.7

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1952

448

May 24d. 16h. 5m. 55s. Epicentre  $0^{\circ}48.98^{\circ}8E$ . (as on 1950, Sept. 5d.).

$A = -0.1530$ ,  $B = +0.9882$ ,  $C = -0.0069$ ;  $\delta = 0$ ;  $h = +7$ ;  
 $D = +0.988$ ,  $E = +0.153$ ;  $G = +0.001$ ,  $H = -0.007$ ,  $K = -1.000$ .

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.	
Djakarta	9.8	126	e 2 20	- 4	e 4 5	-12	—	—	
Colombo	E. 20.2	291	4 51	PP	i 8 44	SS	—	11.6	
Kodalkanal	E. 23.7	298	i 5 26	+12	e 9 38	+11	5 53	PP	10.7
Calcutta	E. 25.0	337	i 5 22	- 5	i 9 49	0	—	—	—
Hong Kong	26.4	32	e 5 47	+ 7	—	—	6 43	?	11.0
Manila	26.5	53	i 5 42	+ 1	e 10 38	+24	i 6 34	PPP	i 14.2
Hyderabad	N. 26.7	313	i 5 45	+ 2	10 28	+11	6 36	PPP	13.0
Shillong	E. 26.7	346	i 5 45	+ 2	i 10 18	+ 1	16 34	ScS	12.6
Poona	30.9	309	i 6 22	+ 2	i 11 25	+ 1	13 19	ScP	14.5
Perth	35.3	153	e 7 13	+14	i 12 57	+24	15 5	SS	—
New Delhi	35.5	327	i 6 58 <sup>a</sup>	- 2	i 12 28	- 8	13 26	PcS	17.4
Dehra Dun	N. 36.4	329	—	—	e 13 47?	?	—	—	e 22.0
Zi-ka-wei	Z. 38.1	32	i 7 22	0	13 13	- 3	—	—	—
Quetta	42.9	318	i 8 3	+ 1	i 14 33	+ 6	i 9 48	PcP	20.1
Miyazaki	44.6	40	e 8 18	+ 2	e 14 55	+ 3	—	—	e 24.4
Murgab	44.9	332	e 8 21	+ 3	e 14 59	+ 3	—	—	—
Hukuoka	45.0	38	e 8 21	+ 2	e 15 17	+19	e 10 26	?	e 24.6
Khorog	45.3	329	i 8 23	+ 2	i 15 3	+ 1	—	—	—
Ooita	45.5	39	e 8 23	0	—	—	—	—	e 27.0
Naryn	46.5	337	i 8 33	+ 2	i 15 34	+15	—	—	—
Przhevalsk	46.5	340	e 8 33	+ 2	e 15 23	+ 4	—	—	—
Kulyab	46.6	329	8 19?	-13	15 6?	-15	—	—	—
Koti	47.0	40	i 8 37	+ 2	e 15 42	+16	—	—	—
Kurmenty	47.0	340	i 8 37	+ 2	—	—	—	—	—
Obi-garm	47.2	329	i 8 36	0	i 15 27	- 2	—	—	—
Rybach'e	47.3	337	i 8 41	+ 4	i 15 34	+ 3	—	—	—
Almata II	47.5	339	i 8 41	+ 3	—	—	—	—	—
Andijan	47.5	335	i 8 39	+ 1	i 15 34	0	—	—	—
Fergana	47.5	332	i 8 39	+ 1	—	—	—	—	—
Stalinabad	47.6	329	i 8 38	- 1	i 15 32	- 3	—	—	—
Almata	47.7	339	i 8 42	+ 2	i 15 40	+ 4	—	—	—
Takamatu III	47.8	40	8 43	+ 2	15 55	+17	—	—	27.6
Kobe	48.2	339	i 8 44	0	—	—	—	—	—
Osaka	48.7	40	e 8 51	+ 3	e 10 35	PP	e 9 9	?	—
	48.9	40	e 8 41	- 9	—	—	e 9 48	?	—
Owase	49.0	42	e 8 50	0	—	—	—	—	—
Samarkand	49.3	327	i 8 52	- 1	—	—	—	—	—
Tashkent	49.4	331	e 8 53	0	i 16 4	+ 4	—	—	—
Kameyama	49.7	40	e 8 59	+ 3	e 16 12	+ 8	e 10 41	PP	—
Nagoya	50.2	41	e 8 42	-18	—	—	—	—	—
Kyakhta	51.0	6	i 9 8	+ 2	e 16 30	+ 8	—	—	—
Misima	51.2	42	e 9 9	+ 2	—	—	—	—	—
Toyama	51.3	39	e 9 13	+ 5	e 16 41	+15	e 10 30	PcP	e 30.1
Kohu	51.5	41	e 9 11	+ 2	—	—	—	—	—
Matusiro	51.8	39	i 9 12	0	16 50	+17	e 11 30	PP	25.3
Maebasi	52.3	40	e 9 21	+ 6	e 17 13	?	—	—	—
Semipalatinsk	52.3	346	i 9 21	+ 6	e 16 51	+11	—	—	—
Tokyo	52.3	41	e 9 14	- 1	16 44	+ 4	e 11 7	PP	e 24.1
Kumagaya	52.4	41	e 9 23	+ 7	e 17 6	+24	—	—	e 32.0
Vladivostok	52.5	30	i 9 18	+ 1	—	—	—	—	—
Irkutsk	52.7	4	i 9 20	+ 2	e 16 50	+ 4	—	—	—
Kabansk	52.7	5	i 9 20	+ 2	e 16 48	+ 2	—	—	—
Ashkabad	53.3	321	i 9 23	0	i 16 51	- 3	—	—	—
Tananarive	53.5	247	e 9 29	+ 5	17 1	+ 4	19 17	ScS	24.4
Hokusima	54.0	41	e 9 31	+ 3	—	—	—	—	—
Sendai	54.6	39	e 9 19	-13	e 16 56	-15	e 9 31	P	21.6
Akita	54.9	38	e 9 34	- 1	e 17 15	- 1	—	—	e 33.4
Mizusawa	55.2	39	9 40	+ 3	17 24	+ 4	17 11	S	—
Kizyl-Arvat	55.3	321	i 9 36	- 2	17 16	- 5	—	—	—
Melbourne	E. 56.5	135	—	—	i 17 55	+18	i 22 59	?	i 24.6

Continued on next page.

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1952

449

	$\Delta$ °	Az. °	P. m. s.		O - C. s.	S. m. s.		O - C. s.	Supp. m. s.		l. m.
Sapporo	57.6	35	e 9	47	- 7	e 17	49	- 2	—	—	e 35.7
Brisbane	58.5	121	e 10	20	+20	e 18	2	- 1	—	—	—
Riverview	59.3	129	i 10	5 <sub>a</sub>	- 1	i 18	14	0	e 19	57	ScS e 27.3
Lenkoran	60.1	316	10	10	- 1	—	—	—	—	—	—
Baku	60.2	318	i 10	13	+ 1	—	—	—	—	—	—
Yuzno-Sakhlinsk	60.8	33	10	22	+ 6	—	—	—	—	—	—
Shemakla	61.1	318	i 10	17	- 1	—	—	—	—	—	—
Uglegorsk	61.7	31	10	23	+ 1	—	—	—	—	—	—
Goris	62.2	316	10	23	- 3	18	49	- 2	—	—	—
Makhach-Kala	63.0	320	i 10	30	- 1	e 18	55	- 6	—	—	—
Erevan	63.7	316	i 10	35	- 1	19	8	- 2	—	—	—
Tiflis	64.2	317	i 10	38	- 1	i 19	14	- 2	—	—	—
Grozny	64.3	320	i 10	39	0	i 19	14	- 3	—	—	—
Leninakan	64.4	317	10	41	+ 1	19	17	- 1	—	—	—
Gori	64.8	318	10	42	- 1	19	23	0	—	—	—
Sverdlovsk	64.8	338	i 10	42	- 1	i 19	21	- 2	—	—	—
Tsikhlis-Dzhvari	65.1	317	—	—	—	19	22	- 5	—	—	—
Borzhomi	65.2	317	e 10	44	- 1	19	28	0	—	—	—
Abastumanj	65.5	317	e 10	47	0	e 19	28	- 4	—	—	—
Piatigorsk	66.3	319	10	51	- 1	19	39	- 3	—	—	—
Zugdidi	66.5	318	i 10	53	- 1	19	43	- 1	—	—	—
Ksara	68.0	306	i 11	4	+ 1	i 20	12	+10	—	—	—
Sotchi	68.4	318	11	4	- 2	20	1	- 6	—	—	—
Helwan	70.7	301	e 11	19	- 1	e 20	32	- 2	e 21	11	ScS
Pietermaritzburg z.	71.1	238	e 11	16	- 6	—	—	—	—	—	—
Theodosia	71.8	318	11	25	- 1	20	42	- 4	—	—	—
Pretoria z.	72.4	243	i 11	27	- 3	—	—	—	—	—	—
Yalta	72.4	317	11	29	- 1	20	50	- 3	—	—	—
Simferopol	72.6	317	11	30	- 1	e 20	52	- 4	—	—	—
Petropavlovsk	72.7	33	i 11	33	+ 1	—	—	—	—	—	—
Moscow	74.5	329	11	41	- 1	i 21	13	- 4	—	—	—
Grahamstown z.	75.0	235	i 11	44	- 1	—	—	—	—	—	—
Istanbul	75.1	313	i 11	45 <sub>a</sub>	- 1	i 21	19	- 5	i 21	48	ScS 36.1
Klyuchi	75.2	30	i 11	46	0	—	—	—	—	—	—
Kimberley z.	75.8	240	i 11	47	- 3	—	—	—	—	—	—
Kishinev	76.7	319	i 11	53	- 2	21	35	- 6	—	—	—
Kaimata N.E.	77.0	133	e 12	13	PcP	e 21	50	+ 5	—	—	—
Iasi	77.6	319	e 12	1	+ 1	e 21	47	- 4	—	—	—
Cobb River E.	77.7	131	e 12	7	+ 7	e 21	41	-11	(e 26 23)	SS	e 26.4
Bucharest	78.0	315	e 12	4	+ 2	e 21	51	- 4	—	—	—
Athens	78.5	308	e 13	3 <sub>k</sub>	+59	e 22	57	PPS	e 23	28	?
Auckland N.	78.6	127	23	20	PPS	i 22	3	+ 1	e 27	10	SS e 40.1
Wellington	79.2	131	e 12	11	+ 3	—	—	—	—	—	e 42.6
Pulkovo	79.7	331	i 12	9	- 2	i 22	8	- 5	—	—	—
Lawow	80.5	320	i 12	15	0	i 22	19	- 3	—	—	—
Uzhgorod	81.4	319	12	10	-10	—	—	—	—	—	—
Timisoara	81.6	316	e 12	34	PcP	e 22	37	+ 4	—	—	—
Belgrade	82.0	315	e 12	23 <sub>a</sub>	0	e 22	30	- 7	e 15	36	PP e 45.4
Helsinki	82.3	331	e 12	25	0	e 22	37	- 3	e 28	29	SS
Szeged E.	82.4	317	12	25	0	22	39	- 2	15	24	PP
Skalnate Pleso	82.8	320	e 12	19	- 8	22	26	-19	e 28	10	SS e 36.3
Kalossa	83.3	318	e 12	33	PcP	e 22	47	- 3	15	37	PP
Budapest	83.4	318	12	28	- 2	22	46	- 5	23	0	ScS e 47.1
Taranto	83.8	310	12	31	- 1	22	11	-44	—	—	38.5
Ogyalla	84.0	318	e 12	30	- 3	e 22	57	0	e 24	29	PPS
Raciborzu	84.3	320	e 12	36	+ 1	e 22	59	- 1	e 23	8	ScS e 51.1
Messina	84.9	308	i 12	38 <sub>k</sub>	0	i 23	4	- 2	e 29	8	SS
Vienna	85.2	318	e 12	41	+ 2	e 23	11?	+ 2	e 12	55	?
Upsala	85.9	330	i 12	44	+ 1	i 23	17	+ 1	e 29	6?	SS e 39.1
Kiruna	86.0	338	i 12	43 <sub>a</sub>	0	i 23	16	- 1	e 23	25	ScS e 44.1

Continued on next page.

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1952

450

	$\Delta$	Az.	P.		O - C.	S.		O - C.	Supp.		L.
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	in.
Prague	86.7	320	e 12	47	0	e 23	20	- 4	e 16	10	PP e 39.1
Triest	86.8	315	i 12	47 <sub>a</sub>	0	i 23	30	+ 5	e 16	20	PP 44.3
Mitchell Field	87.0	38	i 12	49	+ 1	—	—	—	—	—	—
Rome	87.5	312	i 12	50 <sub>a</sub>	- 1	i 23	29	- 2	e 29	2	SS e 41.4
Collmberg	87.7	321	i 12	51	- 1	e 25	59	?	e 16	35	PP —
Potsdam	87.7	322	i 12	51 <sub>a</sub>	- 1	i 23	31	- 2	i 23	54	PS e 38.1
Cheb	88.0	320	e 12	55	+ 2	e 23	32	- 4	e 29	24	SS —
Padova	88.1	315	e 12	59	+ 5	e 23	33	- 4	—	—	—
Copenhagen	88.3	326	i 12	55	0	23	38	- 1	—	—	42.1
Bologna	88.5	314	e 12	57 <sub>a</sub>	+ 1	e 23	41	0	—	—	—
Florence	88.5	313	i 12	52 <sub>a</sub>	- 4	e 23	31	{+ 1}	e 24	35	PS —
Jena	88.5	320	e 12	56	0	e 23	42	+ 1	e 23	23	SKS —
Prato	88.6	313	e 12	55	- 1	i 23	41	- 1	—	—	—
Chur	89.8	317	e 13	2 <sub>a</sub>	0	—	—	—	—	—	—
Pavia	90.0	315	i 13	3 <sub>a</sub>	0	i 23	53	- 1	e 16	27	PP —
Stuttgart	90.0	319	i 13	2 <sub>a</sub>	- 1	e 23	43	{+ 1}	e 16	45	PP 50.1
Zürich	90.4	318	e 13	4 <sub>a</sub>	0	e 23	29	[- 6]	e 23	51	SKKS —
Karlsruhe	90.6	320	13	5	0	e 24	7	+ 7	e 23	51	SKKS e 44.1
Strasbourg	91.0	319	e 13	8	+ 1	e 23	58	- 5	e 17	34	? e 41.1
Witteveen	z. 91.6	324	i 13	7	- 3	—	—	—	—	—	—
Bergen	92.1	331	e 25	30	PS	e 24	57	- 8	e 33	49	PKKS e 41.6
De Bilt	92.5	323	e 13	14	0	e 24	19	+ 2	e 23	56	SKKS e 43.1
Tamanrasset	z. 93.2	292	i 13	17 <sub>k</sub>	0	e 17	12	PP	e 19	0	PPP —
Clermont-Ferrand	94.3	316	e 13	23	0	e 24	34	+ 2	e 31	15	SSP 40.1
Paris	94.5	319	i 13	23	0	e 24	34	0	e 26	0	PS —
Algiers Univ.	z. 94.9	307	e 13	25	0	e 25	50	PS	e 13	4	? —
Kew	96.0	322	e 13	24	- 6	e 24	45	- 2	e 19	16	PPP e 44.1
Aberdeen	96.2	328	i 15	41	?	i 24	49	+ 1	i 24	24	SKKS e 42.1
Durham	96.3	325	—	—	—	e 24	12	{+ 4}	i 24	57	S —
Alicante	97.5	309	14	3	+26	24	31	{- 5}	43	17	Q e 49.7
Almeria	99.3	308	13	58	+13	25	23	+ 9	18	23	PP 56.6
Rathfarnham Castle	99.3	325	e 13	12	-33	e 15	18	?	e 13	38	P e 44.1
College	100.1	23	13	50	+ 1	24	23	[- 4]	—	—	—
Granada	100.1	308	13	47	- 2	25	14	- 7	27	2	PS 50.4
Toledo	100.1	311	e 17	56	PP	—	—	—	—	—	52.6
Scoresby Sund	100.3	343	e 13	50	0	e 25	25	+ 2	24	49	SKKS 49.1
Malaga	100.8	308	i 15	37	?	27	45	PPS	i 20	3	PPP 52.2
Resolute Bay	105.4	4	e 17	35	?	e 24	49	[- 3]	e 18	41	PP e 56.1
Victoria	119.8	31	18	53	{+ 1}	—	—	—	—	—	—
Seattle	121.0	31	i 20	27	PP	i 30	31	PS	—	—	—
Hungry Horse	124.4	25	e 19	6	{+ 5}	e 27	43	{ 0}	—	—	—
Shasta	125.2	38	e 19	4	{+ 1}	—	—	—	e 18	17	? —
Mineral	z. 125.9	38	e 19	6 <sub>a</sub>	{+ 2}	—	—	—	e 21	2	PP —
Berkeley	126.9	41	i 19	15 <sub>a</sub>	{+ 9}	e 22	35	PKS	e 21	9	PP —
Butte	126.9	27	e 19	15	{+ 9}	—	—	—	—	—	—
Reno	127.5	38	e 19	9 <sub>k</sub>	{+ 2}	—	—	—	e 21	11	PP —
Lick	z. 127.6	41	i 19	9 <sub>a</sub>	{+ 2}	e 21	7	PP	i 21	30	PP —
Fresno	z. 129.2	40	e 19	11 <sub>a</sub>	{+ 1}	—	—	—	e 21	9	PP —
China Lake	z. 131.2	39	i 19	16	{+ 2}	i 22	38	SKP	e 21	31	PP —
Pasadena	131.8	42	e 19	17	{+ 2}	i 22	40	SKP	e 31	29	PS —
Kirkland Lake	z. 132.4	358	e 19	17	{ 0}	—	—	—	e 21	41	PP —
Riverside	z. 132.4	42	e 19	18	{+ 1}	e 22	42	SKP	e 32	1	PS —
Boulder City	132.8	38	e 19	15	[- 2]	—	—	—	e 19	20	PKP —
Palomar	z. 133.1	42	e 21	53	PP	—	—	—	—	—	—
Shawinigan Falls N.	133.4	352	e 22	8	PP	—	—	—	—	—	—
Ottawa	134.8	354	e 21	56	PP	28	33	{- 17}	39	30	SS 56.4
Vermont	135.5	352	e 20	34	?	—	—	—	e 22	13	PP —
Harvard	137.2	349	e 19	26	{+ 1}	e 40	30	SS	e 22	14	PP e 70.6
Weston	137.3	349	e 19	21	[- 5]	e 40	28	SS	e 22	1	PP —
Buffalo (Larkin)	137.7	357	e 19	27	{+ 1}	—	—	—	—	—	—

Continued on next page.



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1952

451

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
	°	°	m. s.	s.	m. s.	s.	m. s.	m.	
Tucson	137.7	39	i 19 19	[- 7]	—	—	22 21	PP	—
La Plata	138.7	210	23 11	PKS	27 5	[+28]	40 41	SS	64.1
Cleveland	z. 139.1	0	e 19 35 <sup>k</sup>	[+ 6]	—	—	e 22 21	PP	—
City College, N.Y.	139.2	351	e 19 31	[+ 2]	—	—	e 22 37	PP	—
Fordham	139.2	351	e 19 30	[+ 1]	—	—	e 22 34	PP	—
Pennsylvania	139.7	356	e 19 34	[+ 4]	e 32 32	PS	e 22 24	PP	—
Philadelphia	140.2	352	e 22 38 <sup>?</sup>	PP	e 40 43 <sup>?</sup>	SS	—	—	—
Morgantown	140.9	358	i 19 28	[- 4]	—	—	i 22 37	PP	—
Washington	141.4	354	e 19 26	[- 7]	—	—	e 22 43	PP	—
Fayetteville	z. 142.5	17	i 19 31	[- 4]	—	—	i 22 43	PP	—
Bermuda	144.6	336	i 19 38	[ 0]	e 33 20	PS	e 41 52	SS	e 69.1
Columbia	146.6	359	e 19 45	[+ 3]	—	—	e 23 5	PP	—
Mobile	149.2	12	i 19 53	[+ 7]	—	—	—	—	—
Tacubaya	154.2	41	e 20 22	PKP <sub>2</sub>	—	—	—	—	—
Fort de France	155.6	305	—	—	e 33 3	?	—	—	—
La Paz	158.8	218	i 20 11	[+12]	27 13	[+ 9]	i 20 43	PKP <sub>2</sub>	98.1
Huancayo	166.3	205	e 20 11	[+ 4]	—	—	e 25 8	PP	—
Galerazamba	168.1	330	—	—	e 45 47	SS	—	—	88.1
Bogota	171.7	301	i 20 20	[+10]	e 25 50	PP	—	—	—
Chinchina	172.8	309	i 20 13	[+ 2]	i 25 27	PP	—	—	—

May 25d. 7h. 2m. 22s. Epicentre 29°·8N. 131°·2E. (as on 1951, July 25d.).

A = -·5725, B = +·6540, C = +·4945;  $\delta = 0$ ;  $h = +2$ ;  
D = +·752, E = +·659; G = -·326, H = +·372, K = -·869.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Zi-ka-wei	z. 8.5	281	i 2 9 <sup>a</sup>	+ 2	3 53	+ 8	—	—
Manila	17.8	215	i 4 8	- 3	e 7 34	+ 6	e 4 26	PP
Brisbane	z. 60.7	158	i 10 12 <sup>a</sup>	- 3	—	—	i 10 51	PcP
Kiruna	70.1	338	i 11 15	- 1	e 20 28	+ 1	i 11 27	PcP
Resolute Bay	71.5	12	e 11 22 <sup>k</sup>	- 2	e 20 43	0	e 11 37	PcP
Upsala	z. 75.4	332	i 11 47	0	—	—	i 12 0	PcP
Ksara	78.1	302	e 12 19	PcP	—	—	e 12 25	?
Scoresby Sund	78.2	352	e 12 3	0	e 22 1	+ 4	—	—
Collmberg	82.7	326	e 12 26	- 1	—	—	e 12 39	PcP
Prague	82.8	325	e 12 30	+ 3	e 12 41	PcP	e 14 59	PP
Jena	83.6	326	e 12 32	+ 1	—	—	e 12 43	PcP
Triest	85.9	321	e 17 46	PPP	e 23 19	+ 3	—	—
Stuttgart	86.2	326	e 12 46	+ 2	e 23 18	- 1	e 12 56	PcP
Tinemaha	z. 87.0	49	i 12 49	+ 1	—	—	—	—
Strasbourg	87.0	326	e 12 48	0	e 23 31	+ 4	—	—
China Lake	z. 88.1	49	e 12 53	- 1	—	—	—	—
Florence	88.5	321	e 13 5	+ 9	e 23 44	+ 3	—	—
Rome	89.0	319	—	—	e 23 47	+ 2	e 23 13	SKS
Paris	89.3	329	e 12 59	0	—	—	e 13 12	?
Messina	E. 89.5	315	—	—	e 23 52	+ 2	—	—
Palomar	z. 90.1	51	i 13 1	- 2	—	—	—	—
Tamanrasset	z. 106.1	309	e 18 39	PP	—	—	18 3	?
Huancayo	149.7	61	e 19 55	[+ 8]	—	—	—	—

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1952

452

May 26d. 2h. 46m. 32s. Epicentre 28°·5N. 94°·5E.

Felt at Dibrugarh, Digboi, Tinsukia, Margherita, and Ledo. Epicentre 28°·5N. 95°·0E. (Strasbourg).

Seismological Bulletin, Government of India, Meteorological Department, May, 1952, p.11.

A = -·0690, B = +·8774, C = +·4747;  $\delta$  = -7;  $h$  = +2;  
D = +·997, E = +·079; G = -·037, H = +·473, K = -·880.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
		°	°	m. s.	s.	m. s.	s.	m. s.	m.	
Shillong	E.	3·7	220	i 0 59	- 1	i 1 46	+ 1	1 9	P*	2·0
Calcutta	E.	8·1	225	i 2 15 <sub>a</sub>	+13	i 4 4	0*	4 14	S <sub>g</sub>	—
Dehra Dun	N.	14·5	281	—	—	e 5 40	-31	e 6 40	SSS	e 7·8
New Delhi		15·2	274	e 3 33	- 5	6 30	+ 2	3 53	PP	—
Hyderabad	N.	18·4	237	i 4 16	- 2	i 7 45	+ 4	—	—	—
Przhevalsk		19·1	322	e 4 27	0	—	—	—	—	—
Kurmenty		19·5	323	i 4 32	+ 1	—	—	—	—	—
Murgab		19·8	305	i 4 35	0	8 20	+ 7	—	—	—
Naryn		19·9	314	i 4 35	- 1	8 21	+ 6	—	—	—
Chilisk		19·9	324	i 4 41	+ 5	—	—	—	—	—
Almata II		20·2	322	i 4 39?	0	—	—	—	—	—
Almata		20·4	322	i 4 44?	+ 3	i 8 43?	+18	—	—	—
Rybach'e	•	20·4	317	i 4 40?	- 1	i 8 36?	+11	—	—	—
III		20·8	323	i 4 44	- 1	—	—	—	—	—
Khorog		21·2	299	i 4 48	- 1	i 8 46	+ 5	—	—	—
Poona		21·3	247	i 4 52	+ 2	i 8 51	+ 8	9 43	SSS	10·2
Frunse		21·6	317	i 4 54	0	i 8 58	+ 9	—	—	—
Andijan		21·9	309	e 4 56	- 1	i 9 1	+ 7	—	—	—
Dzhergetal		22·0	307	i 5 1	+ 3	i 9 2	+ 6	—	—	—
Fergana		22·1	308	4 58	- 1	i 9 3	+ 5	—	—	—
Kulyab		22·7	301	i 5 2	- 2	i 9 9	0	—	—	—
Obi-garm		23·0	303	i 5 10	+ 3	i 9 19	+ 5	—	—	—
Zi-ka-wei	z.	23·5	75	5 14 <sub>a</sub>	+ 2	e 9 25	+ 2	—	—	—
Stalinabad		23·6	303	i 5 12	- 1	i 9 30	+ 5	—	—	—
Quetta		24·0	282	i 5 18	+ 1	i 9 32	0	i 5 31	pP	—
Tashkent		24·2	308	e 5 20	+ 1	i 9 35	0	—	—	—
Kodaikanal	E.	24·2	226	i 5 25	+ 6	9 43	+ 8	—	—	—
Semipalatinsk		24·4	338	i 5 22?	+ 1	9 51?	+12	—	—	—
Irkutsk		24·9	13	5 29	+ 3	e 9 55	+ 8	—	—	—
Kabansk		25·2	15	5 31	+ 2	e 9 59	+ 7	—	—	—
Samarkand		25·3	303	i 5 24	- 6	9 51	- 3	—	—	—
Ashkabad		31·5	297	6 27	+ 1	11 34	0	—	—	—
Kizyl-Arvat		33·3	299	e 6 40	- 1	—	—	—	—	—
Vladivostok		33·4	54	e 6 39	- 3	i 12 2	- 1	—	—	—
Djakarta		36·5	158	e 8 50	PP	—	—	—	—	—
Sverdlovsk		37·0	330	i 7 14	+ 1	12 59	0	—	—	—
Bandong		37·4	156	e 7 16	0	—	—	—	—	—
Baku		38·3	301	i 7 25	+ 1	—	—	—	—	—
Lenkoran		39·0	298	7 31	+ 1	13 26	- 3	—	—	—
Shemakla		39·2	301	i 7 34	+ 3	i 13 37	+ 5	—	—	—
Makhach-Kala		40·3	304	e 7 42	+ 2	e 13 47	- 2	—	—	—
Goris		41·0	299	7 45	- 1	13 55	- 4	—	—	—
Kirovobad		41·0	301	7 46	0	13 56	- 3	—	—	—
Grozny		41·6	305	7 50	- 1	—	—	—	—	—
Uglegorsk		41·6	47	7 47	- 4	e 14 2	- 6	—	—	—
Yuzno-Sakhlinsk		41·6	50	7 53	+ 2	e 14 12	+ 4	—	—	—
Tiflis		42·2	302	e 7 57?	+ 1	e 14 13?	- 4	—	—	—
Erevan		42·4	300	e 8 0	+ 2	14 19	- 1	—	—	—
Gori		42·7	303	e 8 1	+ 1	—	—	—	—	—
Tsikhlis-Dzhvari		43·2	302	e 8 5	+ 1	—	—	—	—	—
Borzhomi		43·3	302	e 8 6	+ 1	—	—	—	—	—
Piatigorsk		43·6	306	8 9	+ 1	—	—	—	—	—
Abastumanj		43·7	302	e 8 11	+ 3	—	—	—	—	—
Sotchi		46·0	305	e 8 26	- 1	e 15 7	- 5	—	—	—
Moscow		48·4	321	e 8 45	- 1	15 43	- 3	—	—	—

Continued on next page.

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1952		453									
		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.		
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.	m.	
Theodosia		49.1	307	e 8 47	- 4	—	—	—	—	—	
Ksara		49.9	291	e 8 57	0	16 16?	+ 9	—	—	—	
Yalta		50.0	305	e 8 56	- 2	e 16 0	- 9	—	—	—	
Simferopol		50.0	307	e 8 58	0	—	—	—	—	—	
Petropavlovsk		52.4	43	e 9 22?	+ 6	—	—	—	—	—	
Pulkovo		52.9	325	i 9 18	- 2	e 16 44	- 4	—	—	—	
Kishinev		53.5	310	9 22	- 2	16 49	- 8	—	—	—	
Klyuchi		53.7	39	e 9 26	0	—	—	—	—	—	
Istanbul		54.0	302	e 9 26	- 2	e 16 58?	- 5	e 11 32	PP	—	
Helwan	z.	54.5	288	e 9 28	- 4	17 7	- 3	11 34	PP	—	
Helsinki		55.6	326	e 9 41	+ 1	e 17 29	+ 4	—	—	—	
Lwow		56.5	313	e 9 44	- 2	e 17 34	- 3	—	—	—	
Kiruna		57.9	334	i 9 55 <sub>a</sub>	- 1	e 17 55	0	e 18 17	PPS	e 28.3	
Timisoara		58.9	309	9 28?	- 35	—	—	—	—	—	
Skalnate Pleso		59.0	313	e 9 55	- 9	e 17 58	- 12	e 18 37	PPS	—	
Upsala		59.3	325	i 10 5 <sub>a</sub>	- 1	e 18 11	- 3	e 12 13	PP	e 27.9	
Belgrade	z.	59.6	307	e 10 9 <sub>a</sub>	+ 1	—	—	e 10 56	PcP	—	
Raciborz	E.	60.2	314	e 10 16	+ 4	e 18 47	PPS	—	—	—	
Ogyalla	N.	60.6	311	e 10 21	+ 6	—	—	e 16 6	?	—	
Prague		62.6	315	e 10 28?	0	e 18 56	?	e 12 50	PP	—	
Copenhagen		62.6	321	i 10 28	0	18 52	- 4	—	—	—	
Taranto		62.9	303	—	—	19 58	+ 58	—	—	—	
Potsdam		62.9	317	i 10 31 <sub>k</sub>	+ 1	e 18 59	- 1	e 23 11?	SS	e 34.5	
Collnberg		63.2	316	e 10 29	- 3	e 11 16	PcP	e 11 38	?	—	
Cheb		63.8	315	e 10 35	- 1	e 19 10	- 1	e 22 34	?	—	
Triest		64.0	310	e 10 35	- 3	i 19 8	- 5	e 11 14	PcP	—	
Jena		64.1	315	e 10 37	- 1	e 19 19?	+ 5	e 14 38	PPP	—	
Messina		64.8	301	e 10 41	- 2	e 19 21	- 2	—	—	—	
Bergen		65.3	327	—	—	e 24 28	?	—	—	e 35.0	
Padova		65.6	309	e 11 22	PcP	e 19 25	- 8	—	—	—	
Rome		66.0	306	10 47 <sub>a</sub>	- 3	19 32	- 6	13 14	PP	—	
Stuttgart		66.2	314	e 10 50 <sub>a</sub>	- 2	e 19 38	- 2	e 23 58	SS	—	
Florence		66.3	308	e 10 49 <sub>a</sub>	- 3	e 19 32	- 10	e 23 51	SS	—	
Witteveen	z.	66.6	320	e 10 53	- 1	—	—	—	—	—	
Karlsruhe		66.6	315	e 10 55	+ 1	—	—	e 13 36	PP	—	
Zürich		67.0	313	e 10 54	- 3	e 19 45	- 5	—	—	—	
Strasbourg		67.2	315	e 10 56	- 2	e 19 50	- 2	e 13 28	PP	e 37.0	
Pavia		67.3	311	e 10 59 <sub>a</sub>	0	e 19 53	- 1	e 13 30	PP	—	
De Bilt		67.7	318	i 11 2	+ 1	e 20 1	+ 3	e 13 36	PP	e 35.5	
Aberdeen		69.9	325	e 14 5	PP	i 20 22	- 2	i 21 20	PPS	e 38.3	
Paris		70.4	316	e 11 17	- 1	e 20 28	- 2	e 11 38	PcP	e 43.5	
Durham		70.6	322	—	—	i 20 31	- 2	i 21 31	PPS	—	
Kew		71.1	319	i 11 21	- 1	e 20 35	- 3	e 15 49	PPP	e 38.5	
Clermont-Ferrand		71.1	312	i 11 23	+ 1	e 20 38	0	e 13 59	PP	—	
Scoresby Sund		71.6	342	e 11 26	+ 1	e 20 46	+ 2	e 14 1	PP	34.5	
Algiers Univ.	z.	74.6	303	e 11 40	- 3	—	—	e 12 14	?	—	
Tortosa		74.8	308	i 11 42	- 2	—	—	—	—	e 43.5	
College		75.3	23	11 46	- 1	21 24	- 2	—	—	—	
Resolute Bay		76.9	3	e 11 56	0	e 21 41	- 2	e 14 54	PP	e 42.8	
Toledo		78.3	309	i 12 4	+ 1	e 21 55	- 4	—	—	48.5	
Tamanrasset	z.	78.6	290	i 12 5 <sub>k</sub>	0	i 12 15	PcP	e 15 5	PP	—	
Almeria		78.6	306	12 6	+ 1	22 25	+ 23	23 3	PS	45.8	
Malaga		80.0	307	i 12 10	- 3	i 22 18	+ 1	i 15 22	PP	47.1	
Hungry Horse		99.3	18	e 17 14	PP	—	—	—	—	—	
Mineral	z.	103.7	27	e 17 57	PP	—	—	—	—	—	
Reno	z.	105.1	26	e 18 24	PP	—	—	—	—	—	
Ottawa	N.	105.9	352	—	—	e 24 52	[- 3]	—	—	—	
Harvard		108.2	348	—	—	e 28 19	PS	—	—	e 57.6	
China Lake	z.	109.2	27	e 19 4	PP	—	—	—	—	—	
Boulder City		110.2	25	e 18 45	[+ 11]	—	—	—	—	—	
Fayetteville	z.	115.2	8	e 18 40	[- 3]	—	—	—	—	—	
Bermuda		116.3	340	e 18 48	[+ 2]	e 29 38	PS	e 19 58	PP	e 59.8	
Bogota		145.3	340	e 19 41	[+ 1]	—	—	—	—	79.5	
Chinchina		145.4	343	i 19 40	[0]	—	—	—	—	—	

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1952

454

May 26d. 3h. 26m. 20s. Epicentre 22°·5S. 176°·2W. Depth of focus 0·015.  
(as on 1952, April 27d.).

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
		°	°	m. s.	s.	m. s.	s.	m. s.
Apia		9·6	27	—	—	3 40	-22	—
Wellington		20·2	199	—	—	e 7 55	- 6	e 7 52 S
Cobb River	E.	20·7	205	e 4 34	+ 2	e 8 8	- 2	—
Kaimata	N.E.	22·5	204	e 4 52	+ 3	e 8 43	0	—
Brisbane	Z.	28·3	253	i 5 41k	- 3	—	—	—
Lick	Z.	78·6	41	e 12 23	pP	—	—	—
Pasadena	Z.	78·8	45	i 11 55	+ 5	—	—	i 12 24 pP
Mount Wilson	Z.	79·0	45	e 11 50	- 1	e 12 7	PcP	i 12 27 pP
Palomar	Z.	79·2	47	i 11 54	+ 2	—	—	—
Riverside	Z.	79·3	45	e 11 53	0	—	—	i 12 26 pP
Fresno	Z.	79·4	42	e 11 54	+ 1	—	—	e 12 26 pP
China Lake	Z.	80·2	44	i 11 55	- 3	—	—	i 12 31 pP
Shasta		80·3	38	e 11 56	- 2	—	—	e 12 30 pP
Mineral	Z.	80·6	39	e 11 58	- 2	—	—	—
Tinemaha	Z.	80·6	43	e 11 59	- 1	—	—	i 12 35 pP
Reno	Z.	81·1	40	e 12 36	pP	—	—	—
Boulder City		82·1	46	e 12 8	0	—	—	e 12 41 pP
Tucson		82·8	50	e 12 10	- 1	—	—	e 12 45 pP
College		89·8	11	12 41	- 4	—	—	—
Pennsylvania	N.	110·5	307	—	—	24 40? [- 4]	—	—
Kiruna	Z.	133·5	351	i 18 58	[- 3]	—	—	—
Upsala	Z.	141·4	348	i 19 6	[- 10]	—	—	—
Copenhagen		146·2	351	i 19 22	[- 2]	—	—	—
Witteveen	Z.	149·7	356	e 19 33	[+ 3]	—	—	—
Collmberg		150·4	347	e 19 33	[+ 2]	e 19 39	PKP <sub>2</sub>	e 20 12 pPKP
Jena		151·0	347	e 19 28	[- 4]	e 20 30	sPKP	e 20 5 pPKP
Prague		151·3	346	e 19 32	[ 0]	e 19 44	PKP <sub>2</sub>	e 20 15 pPKP
Istanbul	Z.	151·8	317	e 19 32	[- 1]	—	—	e 20 17 pPKP
Stuttgart		153·4	352	e 19 32	[- 3]	e 19 41	?	e 19 52 PKP <sub>2</sub>
Tamanrasset	Z.	178·4	—	19 49	[- 6]	e 21 48	PKP <sub>2</sub>	e 25 34 PP

May 26d. 9h. 17m. 33s. Epicentre 36°·9N. 70°·8E. Depth of focus 0·025.  
(as on 4d.).

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	°	°	m. s.	s.	m. s.	s.
Khorog	0·9	48	0 27	- 1	0 50	- 1
Kulyab	1·3	321	i 0 31	0	i 0 57	+ 1
Garm	2·1	350	i 0 39	0	i 1 11	+ 1
Obi-garm	2·2	335	i 0 39	- 2	i 1 11	- 1
Dzhergetal	2·3	8	i 0 43	+ 1	i 1 17	+ 3
Stalinabad	2·3	316	e 0 41	- 1	i 1 14	0
Murgab	2·9	59	e 0 49	0	i 1 27	+ 1
Fergana	3·6	12	e 0 57	0	i 1 43	+ 2
Tashkent	4·6	346	—	—	i 2 5	+ 1
Tchimkent	5·5	351	e 1 21	- 1	i 2 23	- 2
Naryn	6·1	40	—	—	i 2 38	- 1
Frunse	6·6	25	e 1 36	0	—	—
Almata II	8·1	36	e 1 54	- 1	—	—

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1952

455

May 26d. 22h. 1m. 33s. Epicentre 38°·6N. 70°·5E. (as on 16d.).

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.
Garm	0·4	339	i 0 10	0*	0 18	+ 2*
Obi-garm	0·6	279	e 0 15	0	e 0 26	0
Dzhergetal	0·8	42	i 0 16?	0 <sub>g</sub>	e 0 29?	+ 1*
Stalinabad	1·4	268	i 0 27	0	i 0 47	+ 1
Khorog	1·4	142	i 0 24	- 3	i 0 40	- 6
Fergana	2·0	29	e 0 38?	+ 1*	—	—
Andijan	2·6	34	i 0 48	+ 1*	i 1 26	0 <sub>g</sub>
Murgab	2·7	95	—	—	i 1 26	+ 2*
Samarkand	2·9	291	i 0 55	- 3 <sub>g</sub>	—	—
Tchimkent	3·8	352	—	—	e 2 1	+ 4*
Naryn	5·1	54	e 1 34	+ 4*	—	—
Frunse	5·3	35	—	—	i 3 1	+ 6 <sub>g</sub>
Rybach'e	5·7	46	—	—	i 3 13	+ 5 <sub>g</sub>
Przhevalsk	7·2	55	e 1 51	+ 2	—	—

May 28d. 5h. 10m. 24s. I | Epicentre 25°·5S. 67°·0W. (as on 1951, March 7d.).  
6h. 24m. 51s. II |

A = +·3531, B = -·8319, C = -·4281;  $\delta$  = +1;  $h$  = +3;  
D = -·921, E = -·391; G = -·167, H = +·394, K = -·904.

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
I Antofagasta	E.	3·6	300	(i 0 52)	- 6	—	—	i 0 41 ?	i 0·9
I La Paz		9·0	353	e 2 16	+ 3	i 3 54	- 4	i 4 18 SS	4·4
II		9·0	353	e 2 13	0	i 4 32	SS	i 3 26 ?	5·2
I Huancayo		15·5	328	e 3 40	- 2	—	—	—	—
II		15·5	328	i 3 46	+ 4	—	—	—	—
I Fayetteville	Z.	66·4	336	i 10 52	- 1	—	—	i 11 15 ?	—
II	Z.	66·4	336	i 10 48	- 5	—	—	—	—
I Harvard		67·8	357	i 11 6	+ 4	—	—	—	—
I Palomar	Z.	75·3	319	i 11 46	- 1	—	—	—	—
II	Z.	75·3	319	e 11 46	- 1	—	—	—	—
I Riverside	Z.	76·1	318	i 11 51	0	—	—	—	—
II	Z.	76·1	318	i 11 50	- 1	—	—	—	—
I Mount Wilson	Z.	76·6	318	i 11 55	+ 1	—	—	—	—
II	Z.	76·6	318	i 11 54	0	—	—	—	—
I China Lake	Z.	77·5	320	i 11 58	- 1	—	—	—	—
II	Z.	77·5	320	i 11 57	- 2	—	—	—	—
II Tinemaha	Z.	78·7	320	i 12 6	0	—	—	—	—
II Tamanrasset	Z.	85·1	62	i 12 40 <sub>a</sub>	+ 1	—	—	—	—
I Toledo		87·5	43	e 13 4	+13	e 15 27	PP	—	—

May 28d. 7h. 47m. 42s. Epicentre 36°·9N. 70°·8E. Depth of focus 0·030. (as on 26d.).

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Khorog	0·9	48	0 33	+ 1	—	—	—	—
Garm	2·1	350	i 0 43	+ 1	i 1 15	+ 1	—	—
Obi-garm	2·2	335	i 0 43	0	—	—	—	—
Stalinabad	2·3	316	i 0 45	+ 1	i 1 19	+ 2	—	—
Dzhergetal	2·3	8	i 0 46	+ 2	e 1 20	+ 3	—	—
Murgab	2·9	59	i 0 53	+ 3	e 1 31	+ 2	—	—
Fergana	3·6	12	i 1 0	+ 2	e 1 44	0	—	—
Andijan	4·0	17	i 1 6	+ 3	i 1 53	+ 1	—	—
Samarkand	4·1	314	i 1 6	+ 2	—	—	—	—
Tashkent	4·6	346	i 1 14	+ 3	i 2 8	+ 3	—	—
Naryn	6·1	40	1 29	- 1	2 32	- 7	—	—
Frunse	6·6	25	i 1 38	+ 2	—	—	i 2 31 sP	—
Rybach'e	6·9	35	i 1 42	+ 2	—	—	2 35 sP	—
Quetta	7·4	206	i 1 41	- 5	i 3 0	- 9	—	—
Almata	7·9	35	i 1 54	+ 1	i 3 21	0	2 49 sP	—

Continued on next page.



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1952

456

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Przhevalsk	8.1	44	e 1 56	+ 1	—	—	—	—
Ili	8.6	32	i 2 0	- 2	—	—	—	—
New Delhi	9.9	145	2 14	- 4	i 3 59	- 8	i 3 6	sP
Ashkabad	9.9	280	i 2 18	0	i 4 7	0	—	—
Kizyl-Arvat	11.7	285	—	—	4 43	- 5	—	—
Semipalatinsk	15.1	24	i 3 22	- 2	—	—	i 4 18	sP
Baku	16.7	288	i 3 45	+ 3	—	—	—	—
Lenkoran	17.5	283	3 50	- 1	e 7 8	+11	4 54	sP
Shemakla	17.7	290	i 3 54	+ 1	e 7 11	+10	i 5 0	sP
Poona	z. 18.5	171	i 3 56	- 6	i 12 0	PcS	i 8 18	PcP
Makhach-Kala	18.8	297	i 4 6	+ 1	i 7 30	+ 8	5 11	sP
Kirovobad	19.4	289	e 4 10	- 1	—	—	—	—
Goris	19.4	283	4 11	0	—	—	5 17	sP
Grozny	20.2	296	i 4 21	+ 2	i 7 59	+11	—	—
Shillong	E. 20.4	115	i 4 26	+ 5	i 8 5	+13	i 8 29	PcP
Hyderabad	20.5	159	i 4 16	- 6	i 7 49	- 4	—	—
Tiflis	20.7	291	4 25	+ 1	—	—	i 5 32	sP
Erevan	20.8	287	i 4 28	+ 3	e 8 13	+14	5 36	sP
Sverdlovsk	21.1	344	i 4 30	+ 2	i 5 36	sP	e 5 9	pP
Gori	21.2	292	e 4 33	+ 4	—	—	—	—
Leninakan	21.3	289	4 34	+ 4	—	—	—	—
Borzhom	21.7	292	i 4 37	+ 3	—	—	—	—
Tsikhli-Dzhvari	21.8	290	i 4 36	+ 2	—	—	i 5 45	sP
Zugdidi	22.9	294	e 4 46	+ 1	—	—	—	—
Sotchi	24.6	297	e 4 59	- 2	—	—	—	—
Kodaikanal	E. 27.2	166	e 5 47	+22	—	—	—	—
Theodosia	27.8	299	e 5 16	-14	—	—	—	—
Irkutsk	28.1	45	5 32	- 1	e 9 52	- 8	e 6 17	pP
Yalta	28.6	298	e 5 36	- 2	—	—	—	—
Simferopol	28.7	299	e 5 37	- 1	—	—	—	—
Kyakhta	28.8	50	5 38	- 1	—	—	—	—
Moscow	29.3	321	5 44	0	e 10 23	+ 4	e 6 45	PP
Kabansk	29.4	48	5 44	- 1	—	—	—	—
Istanbul	z. 32.5	291	e 6 11	- 1	e 7 23	sP	e 6 57	pP
Pulkovo	33.5	325	i 6 29	0	i 11 43	+ 3	—	—
Lwow	35.8	307	i 6 42	+ 2	—	—	i 7 56	sP
Helsinki	37.2	325	i 6 54 <sub>a</sub>	+ 3	—	—	e 8 21	PP
Timisoara	N. 37.7	301	e 8 9	sP	—	—	—	—
Skalnate Pleso	E. 38.3	306	e 6 57	- 3	e 15 48?	SS	e 8 6	sP
Szeged	E. 38.5	302	7 34	+32	13 28	+47	9 44	pPP
Budapest	39.1	304	e 7 41	+34	e 15 48	SS	—	—
Kalossa	39.2	303	e 8 18	sP	—	—	e 9 38	?
Raciborzu	39.6	308	e 7 13?	+ 2	e 13 2	+ 5	e 8 1	pP
Ogyalla	39.7	304	e 8 28	sP	e 16 57	SSS	e 11 12	?
Upsala	40.7	322	i 7 20 <sub>a</sub>	0	e 16 23	SS	i 8 8	pP
Kiruna	41.7	334	i 7 28	0	e 13 37	+ 9	e 9 11	PP
Prague	42.0	307	e 7 32 <sub>a</sub>	+ 1	e 16 50	SS	e 8 44	sP
Potsdam	42.7	311	i 7 38	+ 2	e 17 1	SS	i 8 51	sP
Collmberg	42.8	309	e 7 36	- 1	e 9 20	PP	e 8 50	sP
Copenhagen	43.0	309	i 7 41 <sub>a</sub>	+ 2	17 24	SS	8 52	sP
Triest	43.0	301	i 7 38 <sub>a</sub>	- 1	e 17 26	SS	i 8 51	sP
Messina	43.3	291	e 7 41	0	e 13 52	+ 1	e 8 52	sP
Cheb	43.3	308	e 7 35	- 6	e 15 25	sS	e 8 53	sP
Jena	43.7	308	e 7 45	0	e 9 31	PP	e 9 0	sP
Rome	44.6	296	e 7 39	-13	e 14 43	+33	—	—
Bologna	44.9	301	e 8 15	+21	—	—	—	—
Florence	z. 45.1	299	i 7 53 <sub>k</sub>	- 3	e 16 22	?	e 10 57	pPP
Stuttgart	45.5	306	i 7 58 <sub>a</sub>	- 1	e 14 30	+ 7	e 8 47	pP
Karlsruhe	46.0	307	e 8 3	0	e 18 38	SSS	e 8 51	pP
Zürich	46.2	305	e 8 1	- 3	—	—	e 8 53	pP

Continued on next page.

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1952

457

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
	°	°	m. s.	s.	m. s.	s.	m. s.	m.	
Pavia	46.2	302	e 8 4	0	—	—	e 10 11	PP	—
Strasbourg	46.5	306	e 8 5	- 2	e 10 2	PP	e 8 54	pP	—
De Bilt	47.6	312	i 8 16	+ 1	—	—	e 9 31	sP	—
Paris	49.9	307	i 8 31	- 2	i 11 42	PPP	i 9 22	pP	—
Clermont-Ferrand	50.2	303	e 8 35	0	—	—	—	—	—
Kew	51.0	311	—	—	—	—	i 9 55	sP	—
Scoresby Sund	56.6	337	e 9 23	+ 1	—	—	—	—	—
Toledo	57.1	299	e 9 25	0	i 10 39	sP	e 10 17	pP	—
Almeria	57.2	295	i 10 39	sP	18 47	PPS	—	—	—
Tamanrasset	z. 57.3	276	i 9 24k	- 2	e 10 39	sP	i 10 14	pP	—
Malaga	58.6	296	i 10 33	pP	i 18 49	PPS	13 1	PPP	36.9
Pretoria	z. 74.1	219	i 11 10	- 3	—	—	—	—	—
Pietermaritzburg	z. 76.3	216	i 11 24	- 2	—	—	—	—	—
Kimberley	z. 78.3	221	i 11 32	- 5	—	—	—	—	—
Grahamstown	z. 81.1	217	e 11 34	-18	—	—	—	—	—
Fayetteville	z. 106.1	348	e 17 20	?	—	—	—	—	—
China Lake	z. 107.2	8	e 18 3	PKP	—	—	e 19 9	pPP	—
Mount Wilson	z. 108.8	8	e 18 24	PP	—	—	e 18 39	?	—
Palomar	z. 109.7	8	e 18 46	PP	—	—	—	—	—

May 28d. 7h. 59m. 8s. Epicentre 35°·4N. 135°·8E. Depth of focus 0.050.  
(as on 1943, Sept. 27d.).

Intensity V at Simodate and Kinkazan; IV at Tokyo, Utunomiya, Tukubasan, Mito, Onahama, Kaminokawa, Kituregawa, and Asino. Epicentre 35°·1N. 135°·8E. Depth 370km. Macroseismic radius >300km. (Tokyo).  
Seismo. Bull. Cent. Met. Obs., Japan, for May, 1952, Tokyo, 1952, p.209. with macroseismic chart.

A = -·5857, B = +·5696, C = +·5767;  $\delta = +7$ ;  $h = 0$ ;  
D = +·697, E = +·717; G = -·413, H = +·402, K = -·817.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Maizuru	0.3	284	i 0 46	+ 2	1 22	+ 3	—	—
Tsuruga	0.3	41	i 0 44	0	1 21	+ 2	—	—
Kyoto	0.4	188	e 0 47	+ 3	1 23	+ 4	—	—
Hikone	0.4	105	i 0 47	+ 3	1 24	+ 5	—	—
Ibukisan	0.5	92	i 0 35	- 9	1 8	-11	—	—
Osaka	0.8	202	e 0 46	+ 1	1 25	+ 4	—	—
Toyooka	z. 0.8	279	i 0 46k	+ 1	1 22	+ 1	—	—
Kameyama	0.8	135	i 0 48k	+ 3	1 25	+ 4	—	—
Gihu	0.8	90	0 47	+ 2	1 24	+ 3	—	—
Hukui	0.8	30	i 0 48	+ 3	1 26	+ 5	—	—
Kobe	0.9	215	i 0 47	+ 1	1 24	+ 3	—	—
Kashiwara	0.9	180	i 0 50	+ 4	1 24	+ 3	—	—
Nagoya	1.1	104	i 0 49k	+ 3	1 26	+ 3	—	—
Tottori	1.3	274	e 0 57	+10	1 37	+13	—	—
Sumoto	1.3	216	i 0 49	+ 2	1 26	+ 2	—	—
Wakayama	1.3	204	i 0 48k	+ 1	1 29	+ 5	—	—
Kanazawa	1.3	31	e 0 51	+ 4	1 30	+ 6	—	—
Takayama	1.4	57	e 0 50	+ 2	1 30	+ 5	—	—
Owase	1.4	166	0 48	0	1 27	+ 2	—	—
Himeji	1.5	218	i 0 49k	+ 1	1 26	0	—	—
Tokusima	1.7	217	i 0 52	+ 2	1 32	+ 3	—	—
Hamamatu	1.7	114	0 56	+ 6	1 35	+ 6	—	—
Iida	1.7	86	e 0 53	+ 3	1 34	+ 5	—	—
Okayama	1.7	244	0 54	+ 4	1 36	+ 7	—	—
Toyama	1.7	41	0 54	+ 4	1 35	+ 6	—	—
Takamatu	E. 1.8	217	i 0 52k	+ 2	1 32	+ 2	—	—
Matumoto	1.9	65	i 0 55	+ 4	1 38	+ 7	—	—
Yonago	2.0	271	i 0 55	+ 3	1 22	-10	—	—
Siomisaki	2.0	181	0 52k	0	1 34	+ 2	—	—
Saigo	2.2	292	e 0 55k	+ 2	1 36	+ 1	—	—

Continued on next page.

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1952

458

	$\Delta$	Az.	P.		O - C.	S.		O - C.	Supp.		L.
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.
Kohu	2.2	84	i 0	57	+ 4	1 42	+ 7	—	—	—	—
Wazima	2.2	24	0	57	+ 4	1 41	+ 6	—	—	—	—
Shizuoka	2.2	111	i 1	0 <sub>a</sub>	+ 7	1 46	+ 11	—	—	—	—
Matusiro	2.3	60	0	57 <sub>k</sub>	+ 3	1 42	+ 6	—	—	—	—
Nagano	2.3	57	e 0	57	+ 3	1 44	+ 8	—	—	—	—
Oiwake	2.4	67	1	0	+ 5	1 46	+ 9	—	—	—	—
Hunatu	2.4	88	1	1	+ 6	1 45	+ 8	—	—	—	—
Muroto	2.5	212	i 0	56 <sub>k</sub>	+ 1	1 41	+ 2	—	—	—	—
Takada	2.6	50	1	2	+ 6	1 49	+ 9	—	—	—	—
Misima	2.6	96	i 0	59 <sub>a</sub>	+ 3	1 46	+ 6	—	—	—	—
Koti	2.7	225	i 0	58 <sub>k</sub>	+ 1	1 40	- 2	—	—	—	—
Ajiro	2.7	97	i 1	0	+ 3	1 49	+ 7	—	—	—	—
Titibu	2.7	78	i 1	2	+ 5	1 49	+ 7	—	—	—	—
Maebasi	2.8	69	i 1	4 <sub>k</sub>	+ 6	1 48	+ 5	—	—	—	—
Osima	3.0	105	1	3 <sub>a</sub>	+ 3	1 55	+ 9	—	—	—	—
Kumagaya	3.0	76	1	3 <sub>a</sub>	+ 3	1 52	+ 6	—	—	—	—
Hirosima	3.0	250	i 0	59 <sub>k</sub>	- 1	1 48	+ 2	—	—	—	—
Matuyama	3.0	238	i 0	58 <sub>k</sub>	- 2	1 43	- 3	—	—	—	—
Hamada	3.1	261	i 1	0	- 1	1 47	- 1	—	—	—	—
Yokohama	3.2	89	i 1	5	+ 3	1 54	+ 4	—	—	—	—
Mera	3.3	98	1	8	+ 6	1 53	+ 1	—	—	—	—
Alkawa	3.3	37	i 1	3 <sub>k</sub>	+ 1	1 53	+ 1	—	—	—	—
Tokyo	3.3	85	e 1	6	+ 4	1 56	+ 4	—	—	—	—
Uwazima	3.4	233	i 1	6 <sub>k</sub>	+ 3	1 55	+ 2	—	—	—	—
Kashiwa	3.4	81	i 1	15 <sub>a</sub>	+ 12	2 0	+ 7	—	—	—	—
Utunomiya	3.5	70	e 1	7	+ 3	2 0	+ 5	—	—	—	—
Simidu	3.5	223	i 1	5 <sub>k</sub>	+ 1	1 57	+ 2	—	—	—	—
Tukubasan	3.6	74	1	12	+ 7	2 0	+ 3	—	—	—	—
Niigata	3.6	45	i 1	10 <sub>k</sub>	+ 5	2 5	+ 8	—	—	—	—
Mito	3.9	73	1	13	+ 5	2 5	+ 3	—	—	—	—
Shirakawa	4.0	62	1	13 <sub>k</sub>	+ 4	2 5	+ 1	—	—	—	—
Inawasiro	4.1	57	i 1	13 <sub>k</sub>	+ 3	2 7	+ 1	—	—	—	—
Ooita	4.1	239	i 1	10 <sub>k</sub>	0	2 2	- 4	—	—	—	—
Hatidyosima	4.1	123	1	7	- 3	2 11	+ 5	—	—	—	—
Tyosi	4.1	85	e 1	12	+ 2	2 12	+ 6	—	—	—	—
Simonoseki	4.3	251	1	13 <sub>a</sub>	0	2 10	0	—	—	—	—
Hokusima	4.4	57	i 1	18 <sub>k</sub>	+ 4	2 16	+ 5	—	—	—	—
Onahama	4.4	112	i 1	15	+ 1	2 12	+ 1	—	—	—	—
Yamagata	4.6	50	1	32 <sub>k</sub>	+ 16	2 32	+ 17	—	—	—	—
Sakata	4.7	41	i 1	21	+ 4	2 24	+ 7	—	—	—	—
Hukuoka	4.8	250	e 1	17 <sub>k</sub>	- 1	2 19	0	—	—	—	—
Kumamoto	4.9	240	i 1	20 <sub>k</sub>	+ 1	2 23	+ 2	—	—	—	—
Saga	5.0	247	i 1	21 <sub>k</sub>	+ 1	2 27	+ 4	—	—	—	—
Sendai	5.0	53	i 1	21 <sub>k</sub>	+ 1	2 25	+ 2	—	—	—	—
Miyazaki	5.0	228	1	20	0	2 23	0	—	—	—	—
Unzendake	5.3	241	i 1	20 <sub>k</sub>	- 4	2 27	- 2	—	—	—	—
Isinomaki	5.3	54	i 1	27 <sub>k</sub>	+ 3	2 32	+ 3	—	—	—	—
Ituhara	5.5	259	1	27 <sub>k</sub>	+ 1	2 32	- 1	—	—	—	—
Akita	5.5	37	i 1	27 <sub>k</sub>	+ 1	2 36	+ 3	—	—	—	—
Nagasaki	5.6	243	1	26 <sub>k</sub>	- 1	2 36	+ 1	—	—	—	—
Mizusawa	5.6	48	1	30	+ 3	2 36	+ 1	2 39	S	—	—
Kagosima	5.8	231	i 1	30 <sub>k</sub>	+ 1	2 41	+ 2	—	—	—	—
Morioka	6.1	43	i 1	34 <sub>k</sub>	+ 2	2 44	- 1	—	—	—	—
Torisima	6.2	141	i 1	36	+ 2	3 7	+ 20	—	—	—	—
Miyako	6.4	47	i 1	36	0	2 51	- 1	—	—	—	—
Tomie	6.5	247	1	36	- 1	—	—	—	—	—	—
Aomori	6.7	34	1	42	+ 2	3 7	+ 9	—	—	—	—
Yakusima	6.7	224	1	38	- 2	2 56	- 2	—	—	—	—
Hatinohe	6.8	40	1	42	+ 1	3 0	0	—	—	—	—
Mori	7.7	28	i 1	52	+ 1	3 21	+ 2	—	—	—	—

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1952

459

	△	Az.	P.		O - C.	S.		O - C.	Supp.		L.
			m.	s.		m.	s.		m.	s.	
Suttsu	8.1	23	e 1	59	+ 3	3	28	0	—	—	—
Vladivostok	8.3	339	i 1	58	0	i 3	34	+ 2	—	—	—
Urakawa	8.7	37	i 2	3k	0	3	37	- 3	—	—	—
Sapporo	8.8	28	i 2	4k	0	3	41	- 2	—	—	—
Obihiro	9.4	35	i 2	15	+ 3	3	58	+ 2	—	—	—
Asahigawa	9.8	29	i 2	14k	- 2	3	58	- 6	—	—	—
Kusiro	10.1	39	i 2	16	- 4	4	4	- 7	—	—	—
Abashiri	10.8	35	e 2	30	+ 2	4	27	+ 1	—	—	—
Nemuro	10.9	41	e 2	29k	- 1	4	26	- 2	—	—	—
Wakkanai	10.9	22	e 2	38	+ 8	4	30	+ 2	—	—	—
Yuzno-Sakhlinsk	12.6	22	2	49	- 1	5	2	- 3	—	—	—
Zi-ka-wei	12.7	255	i 2	46	- 5	4	53	-14	—	—	—
Kurilsk	13.4	39	3	0	+ 1	5	29	+ 7	—	—	—
Uglegorsk	14.4	17	3	13	+ 2	5	43	0	—	—	—
Nanking	14.5	262	e 3	5	- 7	5	38	- 7	—	—	—
Hong Kong	22.9	241	e 4	36	0	7	34	-43	—	—	i 8.6
Manila	24.6	217	e 4	41	-10	e 8	31	-14	i 4	55	P
Kyakhta	26.0	314	i 5	1	- 3	9	5	- 3	6	6	pP
Kabansk	26.6	317	i 5	7	- 2	9	16	- 1	6	14	pP
Klyuchi	26.9	31	e 5	10	- 2	—	—	—	—	—	—
Irkutsk	28.0	317	i 5	19	- 3	9	35	- 5	6	25	pP
Mitchell Field	37.4	47	i 7	42	+60	i 12	3	- 1	—	—	—
Shillong	38.8	268	i 12	13	ScP	12	34	+ 9	16	17	ScS
Semipalatinsk	42.4	309	i 7	18	- 5	e 13	10	- 8	i 8	32	pP
Chilisk	44.3	300	i 7	45	+ 7	—	—	—	—	—	—
Kurmenty	44.4	299	i 7	37	- 1	—	—	—	—	—	—
Przhevalsk	44.5	298	e 7	37	- 2	e 13	44	- 4	—	—	—
Rybach'e	46.2	297	i 7	50	- 3	14	6	- 6	—	—	—
Naryn	46.4	296	i 7	52	- 2	i 14	12	- 2	—	—	—
Frunse	47.1	298	i 7	58	- 2	i 14	22	- 2	i 9	12	pP
Murgab	48.8	293	8	14	+ 1	i 14	47	- 1	—	—	—
Andijan	49.3	296	i 8	15	- 1	i 14	51	- 4	e 9	32	pP
Djakarta	49.5	220	i 8	9a	- 9	e 14	45	-13	i 9	27	pP
Bandung	49.7	218	e 9	26	pP	e 14	59	- 1	—	—	—
Fergana	49.8	296	i 8	18	- 2	i 14	56	- 6	e 9	33	pP
Dzhergetal	50.5	295	8	24	- 1	i 15	9	- 2	i 9	40	pP
Khorog	50.8	291	i 8	30	+ 2	i 15	16	+ 1	—	—	—
Tashkent	51.3	298	—	—	—	i 15	21	- 1	i 17	32	sS
Obi-garm	51.8	294	i 8	33	- 2	i 15	25	- 4	—	—	—
Kulyab	52.0	293	i 8	46?	+10	i 15	40?	+ 8	i 18	4?	sS
Stalinabad	52.6	294	i 8	36	- 5	15	29	-11	i 9	55	pP
College	52.9	31	8	40	- 3	i 15	41	- 3	e 10	8	pP
Sverdlovsk	53.4	319	i 8	44	- 3	i 15	45	- 5	i 10	0	pP
Samarkand	53.5	297	8	44	- 3	15	46	- 6	—	—	—
Hyderabad	53.7	266	10	2	PcP	i 15	49	- 5	i 17	51	sS
Poona	56.9	270	i 9	6	- 5	16	42	+ 6	18	59	sS
Quetta	57.0	286	e 9	5	- 7	e 16	25	-13	i 18	44	sS
Ashkabad	60.4	298	i 9	33	- 2	i 17	19	- 2	—	—	—
Sitka	60.4	38	i 9	38	+ 3	e 17	27	+ 6	—	—	—
Kizyl-Arvat	61.5	300	e 9	40	- 2	i 17	32	- 3	e 11	1	pP
Brisbane	64.6	163	i 10	0	- 2	i 18	11	- 2	e 11	16	pP
Resolute Bay	65.3	13	i 10	5k	- 2	i 18	18	- 4	i 11	28	pP
Baku	65.4	313	e 10	8	0	i 18	21	- 2	—	—	—
Moscow	65.8	322	10	8	- 2	i 18	22	- 6	i 11	30	pP
Makhach-Kala	65.8	307	i 10	8	- 2	i 18	23	- 5	—	—	—
Kiruna	66.4	338	i 10	10	- 4	i 18	31	- 4	e 11	35	pP
Grozny	66.8	308	e 10	16	0	i 18	34	- 6	—	—	—
Piatigorsk	68.2	309	10	20	- 5	—	—	—	—	—	—
Tiflis	68.2	307	e 10	22	- 3	i 18	52	- 4	e 11	42	pP
Goris	68.2	304	i 10	23	- 2	i 18	53	- 3	11	48	pP

Continued on next page.

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1952

460

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
	$^{\circ}$	$^{\circ}$	m.	s.	s.	m.	s.	s.	m.	s.	m.
Gori	68.5	307	i 10	26	- 1	i 18	56	- 4	---	---	---
Erevan	69.1	305	i 10	30	0	i 19	1	- 6	---	---	---
Tsikhlis-Dzhvari	69.1	307	i 10	29	- 1	i 19	4	- 3	---	---	---
Borzhomí	69.1	307	i 10	29	- 1	i 19	2	- 5	---	---	---
Leninakan	69.3	306	10	32	0	19	6	- 3	---	---	---
Helsinki	69.3	331	e 10	28k	- 4	i 19	3	- 6	e 11	51	pP
Alberni	69.6	43	10	34	0	---	---	---	---	---	---
Zugdidi	69.7	309	---	---	---	e 19	8	- 6	---	---	---
Riverview	70.4	167	i 10	38a	0	i 19	22	0	i 21	47	sS
Sotchi	70.5	310	i 10	37	- 2	i 19	17	- 6	e 11	59	pP
Victoria	70.8	44	i 10	40	- 1	19	30	+ 4	---	---	---
Seattle	71.9	44	i 10	49k	+ 2	i 19	44	+ 5	i 12	19	pP
Upsala	72.4	332	i 10	47k	- 3	i 19	37	- 7	e 22	9	sS
Theodosia	72.4	313	i 10	46	- 4	i 19	35	- 9	e 12	13	pP
Corvallis	z. 73.0	47	i 10	53	- 1	i 19	53	+ 2	---	---	---
Scoresby Sund	73.2	353	i 10	54	- 1	i 19	52	- 1	e 15	36	PPP
Simferopol	73.2	314	i 10	52	- 3	e 19	45	- 8	---	---	---
Yalta	73.5	313	10	54	- 3	i 19	50	- 6	---	---	---
Arcata	74.5	51	i 11	4k	+ 2	e 20	12	+ 4	e 14	15	PP
Kishinev	75.1	318	11	2	- 4	20	7	- 7	---	---	---
Iasi	75.7	319	e 11	7	- 2	---	---	---	e 14	3	PP
Shasta	75.7	50	i 11	9	0	e 19	54	-26	---	---	---
Lwow	75.9	322	i 11	10	0	i 20	20	- 3	---	---	---
Cernauti	75.9	319	e 11	9	- 1	---	---	---	---	---	---
Hungry Horse	76.0	40	i 11	11	0	e 20	23	- 1	e 14	7	PP
Bergen	z. 76.3	337	e 20	43	ScS	i 20	13	-14	e 25	21	SS
Mineral	76.4	50	e 11	12k	- 1	e 20	29	+ 1	i 12	20	pP
Saskatoon	77.2	34	11	21	+ 4	20	37	0	---	---	---
Copenhagen	77.2	331	i 11	15k	- 2	i 20	32	- 5	25	36	SS
Berkeley	77.4	52	i 11	18k	0	i 20	40	+ 1	i 12	42	pP
Santa Clara	77.9	52	i 11	22k	+ 1	i 20	44	0	i 11	33	PcP
Reno	78.0	50	i 11	22k	0	e 20	48	+ 3	---	---	---
Lick	z. 78.1	52	i 11	21	- 1	e 20	31	-15	i 12	43	pP
Skalnate Pleso	78.2	323	e 11	8	-15	20	15	-32	e 12	19	pP
Bucharest	78.2	317	e 11	23	0	i 20	45	- 2	e 14	20	PP
Butte	78.3	41	i 11	23	0	e 20	49	+ 1	---	---	---
Istanbul	z. 78.5	313	i 11	22	- 2	e 20	43	- 7	e 12	46	pP
Raciborzu	78.6	325	i 11	25	0	e 20	51	0	e 12	54	pP
Reykjavik	z. 79.2	351	i 11	5k	-23	---	---	---	---	---	---
Potsdam	79.3	329	i 11	27	- 2	i 20	54	- 5	i 13	32	sP
Fresno	79.6	52	e 11	29k	- 1	e 21	2	0	e 14	37	PP
Budapest	79.9	322	11	31	- 1	i 21	7	+ 2	e 17	25	pPPP
Timisoara	80.0	320	e 11	33	+ 1	i 21	5	- 1	---	---	e 43.4
Ogyalla	80.1	323	e 11	34	+ 1	21	6	- 1	e 12	51	pP
Collmberg	80.2	327	i 11	30k	- 3	e 21	0	- 8	e 12	56	pP
Prague	80.4	326	i 11	32k	- 2	i 21	5	- 5	e 12	52	pP
Tinemaha	80.4	52	i 11	34	0	i 21	13	+ 3	i 14	43	PP
Auckland	N. 80.5	149	i 21	42	SP	e 20	57	-14	21	21	ScS
Kalossa	80.6	322	11	36	+ 1	21	8	- 4	13	7	pP
Vienna	80.8	324	e 11	35	- 1	e 21	33	+19	e 14	45	PP
Sofia	80.8	316	e 11	35	- 1	i 21	12	- 2	---	---	---
Belgrade	81.0	319	i 11	36k	- 2	i 21	12	- 4	e 23	32	sS
Jena	81.0	327	i 11	35	- 3	e 21	11	- 5	i 13	2	pP
Cheb	81.3	327	e 11	40	+ 1	21	15	- 4	e 12	59	pP
China Lake	81.6	51	i 11	39k	- 2	i 21	21	- 1	e 38	14	PKPPKP
Witteveen	z. 81.6	332	i 11	39	- 2	---	---	---	---	---	---
Karapiro	N. 81.7	149	11	41	0	e 21	25	+ 2	---	---	---
Pasadena	z. 82.2	53	i 11	44k	0	i 21	29	+ 1	i 11	54	PcP
De Bilt	82.8	332	i 11	47k	0	i 21	30	- 4	e 13	22	pP
Riverside	82.9	53	i 11	45	- 2	e 21	43	+ 8	i 30	6	PKKP

Continued on next page.



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1952

461

		$\Delta$	Az.	P.		O-C.	S.	O-C.	Supp.		L.
		°	°	m.	s.	s.	m.	s.	m.	s.	m.
Boulder City		83.3	50	i 11	49	0	i 21	37	—	—	—
Cobb River	E.	83.3	153	e 11	50	+ 1	—	—	e 13	21	pP
Athens		83.6	312	e 11	47k	- 4	i 21	38	i 21	30	S
Palomar		83.6	53	i 11	51	0	i 21	44	i 30	6	PKKP
Stuttgart		83.7	328	i 11	49k	- 2	e 21	30	e 13	12	pP
Helwan	E.	83.8	302	—	—	—	i 21	33	i 23	28	PS
Karlsruhe		83.8	328	11	52	0	e 21	44	—	—	—
Triest		83.9	323	i 11	48k	- 4	i 21	34	e 13	19	pP
Wellington		84.3	152	11	53	- 1	21	37	e 22	43	SP
Strasbourg		84.4	328	i 11	53	- 2	e 21	46	e 13	59	sP
Zürich		85.0	326	e 11	55k	- 3	e 21	41	e 13	59	sP
Chur		85.0	326	e 11	55k	- 3	e 21	41	e 15	12	PP
Kew		85.3	334	i 11	57k	- 2	e 21	45	i 15	20	PP
Basle		85.3	326	e 11	57k	- 2	e 21	45	e 15	11	PP
Christchurch	E.	85.4	154	—	—	—	e 21	46	e 24	25	PS
Taranto		85.7	318	—	—	—	e 19	35	—	—	—
Rathfarnham Castle		85.7	338	i 11	43	- 18	e 21	31	e 14	27	sP
Bologna		85.9	324	i 12	22	+ 20	i 22	24	—	—	—
Neuchatel		86.0	326	e 12	0	- 2	e 21	50	—	—	—
Paris		86.4	331	i 12	2	- 2	i 21	53	i 13	30	pP
Prato		86.4	323	i 12	2 <sub>a</sub>	- 2	i 23	7	—	—	—
Pavia		86.4	326	i 12	2	- 2	e 21	52	e 13	6	pP
Florence		86.4	323	i 12	2	- 2	i 22	5	e 15	34	PP
Oropa		86.6	327	i 12	5	0	i 21	53	—	—	—
Rome		87.2	321	i 12	6	- 2	i 22	16	e 15	35	PP
Tucson		88.2	51	i 12	12	- 1	e 22	4	i 15	45	PP
Clermont-Ferrand		88.6	329	i 12	13	- 2	i 22	24	e 25	5	sS
Kirkland Lake	Z.	90.9	23	i 12	25k	- 1	e 22	44	i 16	3	PP
Lubbock		92.7	45	12	35	+ 1	22	34	—	—	—
Tortosa		93.7	327	e 12	54	+ 16	i 22	27	—	—	—
Shawinigan Falls N.		94.5	19	e 12	41k	- 1	22	39	14	57	sP
Ottawa		94.7	22	i 12	42k	- 1	22	39	16	32	PP
St. Louis		94.9	34	12	44	0	e 23	40	—	—	—
Fayetteville	Z.	95.0	38	i 12	43	- 1	i 14	58	e 14	20	pP
Algiers Univ.	Z.	95.8	323	e 16	43	PP	i 24	31	e 17	53	PPP
Buffalo (Larkin)		96.0	25	i 12	49	0	—	—	—	—	—
Cleveland		96.2	27	e 12	49k	- 1	i 22	48	i 16	47	PP
Alicante		96.2	327	12	48	- 2	22	35	16	40	PP
Toledo		96.4	330	e 12	51	0	e 15	16	e 14	20	pP
Pittsburgh		97.7	27	i 13	4	+ 7	i 23	5	i 17	11	PP
Almeria		98.3	328	i 13	13	+ 14	23	45	17	13	PP
Morgantown		98.4	28	i 12	59	- 1	e 23	59	—	—	—
Harvard		98.5	20	e 12	59	- 1	i 23	0	e 25	41	pS
Granada		98.5	329	13	11k	+ 11	23	2	17	9	PP
Weston		98.7	20	i 13	0k	- 1	e 23	1	e 14	34	pP
City College, N.Y.		99.4	22	i 13	4	0	i 23	4	—	—	—
Fordham		99.4	22	i 13	4	0	e 23	9	—	—	—
Philadelphia		99.8	23	e 13	29?	+ 23	i 22	54?	—	—	—
Washington		100.1	25	e 13	8	0	—	—	e 17	3	PP
Tacubaya		104.7	53	e 16	49	PP	e 23	44	e 26	7	pS
Tamanrasset	Z.	105.4	313	13	29	P	e 17	42	e 16	6	sP
Bermuda		109.9	18	e 18	22	PP	e 25	27	e 28	3	PS
Pretoria	Z.	118.2	258	i 18	5	[ 0]	i 28	31	—	—	—
Pietermaritzburg	Z.	118.2	253	i 18	6	[+ 1]	i 27	10	—	—	—
Kimberley	Z.	122.2	256	i 18	11	[- 2]	i 28	12	—	—	—
Fort de France		127.6	20	i 18	23	[- 1]	—	—	e 20	25	PP
Chinchina		130.2	42	i 18	26	[- 2]	—	—	i 20	15	pPKP
Bogota		131.3	41	i 18	33	[+ 2]	—	—	i 20	53	PP
Huancayo		143.5	58	i 18	52	[- 1]	—	—	i 21	58	PP
La Paz		151.5	54	i 19	11k	[+ 5]	i 28	52	i 20	39	pPKP
La Plata	E.	168.8	92	—	—	—	30	40	36	58	PPS

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1952

462

May 29d. 7h. 19m. 44s. Epicentre 41°·4N. 144°·4E. Depth of focus 0·005.

Intensity II-III at Urakawa and Oda. Macro seismic radius 100-200km. Epicentre as adopted.

Seismo. Bull. Cent. Met. Obs., Japan, for May, 1952, Tokyo, 1952, p. 211, with macro seismic chart.

$$A = -\cdot6117, B = +\cdot4379, C = +\cdot6588; \quad \delta = -5; \quad h = -2;$$

$$D = +\cdot582, E = +\cdot813; \quad G = -\cdot536, H = +\cdot383, K = -\cdot752.$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.	L.
	°	°	m. s.	s.	m. s.	s.	m.
Urakawa	1·4	302	i 0 23 <sub>a</sub>	- 1	0 43	0	—
Kusiro	1·6	0	i 0 26	- 1	0 40	- 7	—
Obihiro	E. 1·8	330	e 0 28	- 2	0 47	- 5	—
Nemuro	2·1	24	e 0 46	?	—	—	—
Abashiri	2·6	358	e 0 36	- 5	1 6	- 6	—
Miyako	2·6	227	e 0 43	+ 2	1 13	+ 1	—
Aomori	2·8	258	e 0 46	+ 2	1 36	+19	—
Asahigawa	2·8	328	e 0 50	+ 6	—	—	—
Sapporo	2·8	307	e 0 41	- 3	1 23	+ 6	—
Mori	N. 3·0	285	e 0 47	0	1 27	+ 5	—
Morioka	3·0	236	e 0 47	0	1 21	- 1	—
Mizusawa	3·4	229	0 56	+ 4	1 33	+ 1	—
Suttsu	3·4	295	e 0 47	- 5	—	—	—
Sendai	E. 4·1	222	e 1 6	+ 4	2 2	+13	—
Hokusima	4·8	221	e 1 13	+ 1	2 11	+ 4	—
Inawasiro	5·1	222	e 1 20	+ 4	2 18?	+ 4	—
Onahama	5·2	212	e 1 19	+ 2	2 19	+ 2	—
Shirakawa	5·4	219	e 1 30	+10	—	—	—
Mito	5·9	213	e 1 45	+18	2 37	+ 3	—
Kumagaya	6·5	218	e 1 42	+ 7	2 54	+ 5	—
Nagano	6·7	227	e 1 42	+ 4	—	—	—
Hunatu	7·4	219	e 1 45	- 3	3 17	+ 6	—
Kohu	7·4	220	e 1 57	+ 9	3 15?	+ 4	—
Kiruna	Z. 63·3	339	i 10 24	0	—	—	—
Brisbane	Z. 69·0	172	—	—	e 26 37	?	e 35·2
Fayetteville	Z. 86·1	44	e 12 34	- 1	—	—	—

May 29d. 17h. 29m. 17s. Epicentre 42°·2N. 45°·5E. (as on 1952, February 18d.).

$$A = +\cdot5208, B = +\cdot5300, C = +\cdot6692; \quad \delta = -4; \quad h = -3;$$

$$D = +\cdot713, E = -\cdot701; \quad G = +\cdot469, H = +\cdot477, K = -\cdot743.$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	°	°	m. s.	s.	m. s.	s.
Tiflis	0·7	227	e 0 15	- 2	e 0 26	- 2
Gori	1·1	258	e 0 21	- 1	e 0 34	- 2 <sub>g</sub>
Grozny	1·1	9	0 22	0	i 0 37	- 2 <sub>g</sub>
Borzhomi	1·6	257	0 29	- 1	0 49	- 2
Kirovobad	1·6	149	0 36	+ 4 <sub>g</sub>	1 2	+ 9 <sub>g</sub>
Tsikhlis-Dzhvari	1·6	253	i 0 28	- 2	—	—
Leninakan	1·9	221	0 37	- 1 <sub>g</sub>	1 4	+ 1 <sub>g</sub>
Abastumanj	2·1	257	0 35	- 2	1 3	- 1
Erevan	2·2	200	e 0 42	+ 4	1 11	+ 2*
Piatigorsk	2·6	316	e 0 39	- 5	1 9	- 8
Zugdidi	2·7	277	e 0 45?	0	—	—
Goris	2·8	167	0 54	- 2 <sub>g</sub>	1 30	- 2 <sub>g</sub>

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1952

463

May 30d. 1h. 17m. 15s. Epicentre 21°·9N. 121°·4E. Depth of focus 0·010.

A = -·4839, B = +·7927, C = +·3708;  $\delta = +3$ ;  $h = +4$ ;  
D = +·854, E = +·521; G = -·193, H = +·316, K = -·929.

		$\Delta$ °	Az. °	P.		O-C.	S.		O-C.	Supp.		L.
				m.	s.	s.	m.	s.	m.	s.	m.	s.
Hong Kong		6·7	275	1	35	- 2	2	58	+ 5	—	—	—
Manila		7·3	183	e 1	46	0	e 3	5	- 3	—	—	—
Zi-ka-wei	z.	9·3	0	2	9 <sub>a</sub>	- 4	i 3	50	- 6	—	—	—
Vladivostok		22·9	19	i 4	52	- 4	i 8	51	- 3	—	—	—
Kabansk		32·2	342	i 6	18	- 3	e 11	20	- 6	—	—	—
Irkutsk		33·1	340	i 6	27	- 2	11	38	- 2	—	—	—
Przhevalsk		41·2	311	e 7	41	+ 5	—	—	—	—	—	—
Almata		42·5	312	e 7	49	+ 2	—	—	—	—	—	—
Naryn		42·7	308	e 7	52	+ 3	—	—	—	i 8 15	pP	—
Rybach'e		42·9	310	e 7	52	+ 2	14	12	+ 4	e 8 16	pP	—
Semipalatinsk		42·9	322	e 7	53	+ 3	e 14	11	+ 3	—	—	—
Frunse		44·1	310	e 8	3	+ 3	e 14	31	+ 6	8 24	pP	—
Khorog		45·5	301	e 8	15	+ 4	—	—	—	—	—	—
Fergana		45·7	305	e 8	14	+ 1	—	—	—	—	—	—
Dzhergetal		45·9	304	e 8	20	+ 6	—	—	—	—	—	—
Obi-garm		47·1	304	8	25	+ 1	15	13	+ 5	—	—	—
Tashkent		47·7	307	e 8	32	+ 3	i 15	21	+ 5	i 8 53	pP	—
Stalinabad		47·8	304	e 8	31	+ 2	15	23	+ 5	8 53	pP	—
Ashkabad		56·0	302	e 9	33	+ 2	17	17	+ 7	—	—	—
Brisbane	z.	57·8	147	i 9	43 <sub>a</sub>	- 1	—	—	—	i 9 48	P	—
Kirovobad		65·0	306	10	34	+ 2	—	—	—	—	—	—
Piatigorsk		66·9	310	10	46	+ 2	—	—	—	—	—	—
College		70·7	27	11	7	0	—	—	—	e 13 31	PP	—
Kiruna	z.	74·0	338	i 11	26 <sub>a</sub>	- 1	—	—	—	i 11 29	P	—
Upsala	z.	78·0	330	i 11	49 <sub>a</sub>	0	i 12	28	sP	—	—	—
Prague		83·7	322	e 12	21	+ 2	e 13	9	?	e 13 58	?	—
Collmberg	z.	84·0	323	e 12	20	- 1	—	—	—	—	—	—
Scoresby Sund		84·3	349	i 12	22 <sub>k</sub>	0	—	—	—	—	—	—
Jena		85·0	323	e 12	26	0	e 16	19?	PP	e 12 52	pP	—
Triest	z.	86·2	318	e 12	30	- 2	—	—	—	e 12 59	pP	—
Stuttgart		87·4	322	e 12	35	- 2	e 13	17	sP	e 16 1	PP	e 48·8
Rome		88·7	315	—	—	—	e 23	27	+ 7	—	—	e 47·8
Victoria		89·2	37	e 12	46	0	—	—	—	—	—	—
Shasta		94·1	43	e 13	9	0	—	—	—	—	—	—

May 31d. 4h. 54m. 43s. Epicentre 60°·5S. 153°·2E.

A = -·4417, B = +·2231, C = -·8689;  $\delta = -14$ ;  $h = -9$ ;  
D = +·451, E = +·893; G = +·776, H = -·392, K = -·495.

		$\Delta$ °	Az. °	P.		O-C.	S.		O-C.	Supp.		L.
				m.	s.	s.	m.	s.	m.	s.	m.	s.
Macquarie Island		6·8	30	i 1	39	- 5	(e 2 53)	-10	—	i 1 50	PP	e 2·9
Christchurch		20·4	42	e 4	47	+ 6	i 8	28	+ 3	e 9 12	SSS	e 9·6
Kaimata	N.E.	21·2	38	e 5	5	PP	—	—	—	e 5 24	PPP	—
Cobb River	E.	22·9	38	e 5	14	+ 8	—	—	—	—	—	—
Melbourne	E.	23·3	343	—	—	—	e 9	30	+10	i 10 11	SS	—
Wellington		23·4	42	5	7	- 4	9	23	+ 2	8 59	PcP	e 10·8
Riverview		26·7	355	i 5	51 <sub>a</sub>	+ 8	i 10	28	+11	i 11 21	Q	e 12·6
Auckland	N.	27·4	38	e 5	12	-37	—	—	—	—	—	e 11·8
Brisbane		33·0	0	e 6	36	- 3	e 11	52	- 5	i 7 44	PP	e 13·8
Perth		37·6	302	i 6	12	?	i 16	12	SS	i 10 24	?	—
Manila		79·2	328	e 12	7	- 1	e 18	5	?	—	—	—
Bogota		113·8	124	e 20	47	?	e 29	2	PS	—	—	51·3
China Lake	z.	120·0	70	e 18	56	[+ 3]	—	—	—	—	—	e 55·1
Fayetteville	z.	131·6	88	e 20	3	[+48]	—	—	—	—	—	—
Ksara		132·1	265	—	—	—	e 22	21	PKS	e 35 13	?	73·3
Istanbul		141·1	266	e 19	17?	[-15]	e 27	17?	[+36]	—	—	55·3
Bermuda		142·5	121	e 19	53	[+18]	e 23	23	PKS	e 22 35	PP	e 88·5
Messina		145·4	250	e 19	54	[+14]	e 26	50	[+ 3]	—	—	e 57·8
Kirkland Lake	z.	147·5	88	e 19	39	[- 4]	—	—	—	—	—	—
Harvard		147·6	103	e 19	46	[+ 2]	—	—	—	—	—	—

Continued on next page.

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1952

464

	$\Delta$ °	Az. °	P. m. s.	O - C. s.	S. m. s.	O - C. s.	Supp. m. s.	L. m.
Weston	147.7	103	e 19 37	[- 7]	—	—	—	—
Rome	149.8	251	e 19 54	[+ 7]	i 22 52	PKS	e 24 41	? e 81.3
Florence	z. 151.8	252	e 19 53	[+ 3]	e 23 49	PP	e 24 55	? —
Triest	152.0	257	e 20 8	PKP <sub>2</sub>	e 30 47	{+18}	e 41 57	? e 79.7
Malaga	152.2	222	i 19 41	[-10]	i 19 59	PKP <sub>2</sub>	27 23	PPP 95.8
Collmberg	156.2	266	e 20 19	PKP <sub>2</sub>	—	—	—	— e 89.3
Stuttgart	156.4	258	e 20 12	?	e 30 20	?	e 31 18	? e 79.3
Jena	156.7	265	e 20 13?	[+16]	e 20 22	PKP <sub>2</sub>	e 20 53	? —
Potsdam	156.8	268	e 25 23?	?	—	—	—	e 74.3
Strasbourg	157.0	256	e 20 52	?	e 24 27	PP	—	e 75.3
Kiruna	158.7	311	i 20 30	PKP <sub>2</sub>	e 44 35	SS	e 50 47	SSS e 64.3
De Bilt	160.5	260	—	—	e 50 17?	SSS	—	— e 82.3
Rathfarnham C. z.	166.7	246	e 19 52	[-15]	—	—	—	—
Scoresby Sund	169.8	351	—	—	e 32 21	{+19}	e 28 36	? 77.3

May 31d. 5h. 37m. 34s. Epicentre 34°·1N. 139°·2E. Focus at Base of Superficial Layers.

Intensity VI at Kuzusima; IV at Miyakezima; II-III at Tokyo and Uguisu. Macro-seismic radius 100-200km. Epicentre as adopted. Depth 20km. ca. Seismo. Bull. Cent. Met. Obs., Japan, for May, 1952, Tokyo, 1952, p. 212, with macro-seismic chart.

$$A = -0.6282, B = +0.5422, C = +0.5580; \quad \delta = -2; \quad h = 0;$$

$$D = +0.653, E = +0.757; \quad G = -0.422, H = +0.365, K = -0.830.$$

	$\Delta$ °	Az. °	P. m. s.	O - C. s.	S. m. s.	O - C. s.
Osima	0.7	13	i 0 11	- 2	0 18	- 5
Ajiro	1.0	355	0 16	- 2	0 27	- 4
Mera	1.0	32	0 15	- 3	—	—
Misima	z. 1.0	349	0 18	0	0 32	+ 1
Omaesaki	1.0	301	i 0 18k	0	0 32	+ 1
Hatidyozima	1.1	152	0 21	+ 2	0 37	+ 4
Shizuoka	1.1	323	i 0 19	0	0 38	+ 5
Hamamatu	1.4	297	e 0 24	+ 1	0 38	- 3
Hunatu	1.4	346	e 0 26	+ 3	0 44	+ 3
Yokohama	1.4	15	i 0 24a	+ 1	0 44	+ 3
Kohu	1.6	341	i 0 29	+ 3	0 49	+ 3
Tokyo	1.6	16	0 27	+ 1	0 49	+ 3
Iida	1.8	322	i 0 40	+11	1 3	+12
Titibu	1.9	357	i 0 31	0	0 56	+ 2
Kumagaya	z. 2.1	4	i 0 34a	+ 1	1 0	+ 1
Tukubasan	2.2	19	0 31	- 4	—	—
Maebasi	z. 2.3	357	i 0 37a	+ 1	1 7	+ 3
Oiwake	2.3	347	0 39	+ 3	1 8	+ 4
Gihu	2.4	303	0 38	0	1 8	+ 2
Kameyama	2.4	288	0 47	+ 9	1 30	+24
Matumoto	E. 2.4	332	e 0 44	+ 6	1 11	+ 5
Mito	2.5	24	e 0 39	0	1 15	+ 6
Owase	2.5	269	e 0 42	+ 3	1 8	- 1
Matusiro	2.6	342	i 0 42	+ 1	1 16	+ 5
Hikone	2.7	296	0 43	+ 1	1 16	+ 2
Nagano	2.7	343	0 46	+ 4	1 21	+ 7
Kyoto	3.0	289	e 0 47	+ 1	1 46	+24
Onahama	3.1	25	e 0 53	+ 5	1 21	- 3
Shirakawa	3.1	15	e 0 46	- 2	—	—
Takada	3.1	346	e 1 0	+12	1 33	+ 9
Toyama	3.1	328	e 0 55	+ 7	1 36	+12
Kanazawa	3.2	320	e 0 58	+ 9	—	—
Kobe	3.4	281	e 0 44	- 8	1 28	- 4
Inawasiro	3.5	11	e 0 53	0	1 25	- 9
Sumoto	3.6	275	e 0 53	- 2	1 46	+ 9
Hokusima	3.8	15	e 0 56	- 2	—	—
Aikawa	4.0	349	e 1 5	+ 5	2 0	+13
Takamatu	4.3	274	1 5	0	1 53	- 1
Sendai	N. 4.4	18	e 1 8	+ 2	2 3	+ 6
Kotl	4.8	265	e 1 18	+ 6	2 12	+ 5
Mizusawa	E. 5.3	16	e 2 22	+63	e 3 0	+40

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1952

465

May 31d. 11h. 50m. 47s. Epicentre 22°·0S. 171°·7E. (as on 1950, July 17d.).

A = -·9184, B = +·1340, C = -·3724;  $\delta = +10$ ;  $h = +4$ ;  
D = +·144, E = +·990; G = +·368, H = -·054, K = -·928.

		$\Delta$ °	Az. °	P.		O-C. s.	S.		O-C. s.	Supp.		L. m.	
				m.	s.		m.	s.		m.	s.		
Auckland	N.	15·1	170	3	42	+ 6	e 6	38	+13	e 8	29	PcP	—
Karapiro	N.	16·2	169	e 3	49	- 1	—	—	—	—	—	—	—
Tuai	N.	17·4	166	e 4	7	+ 1	e 7	20	+ 1	i 4	23	PP	—
Brisbane		17·8	248	i 4	13 <sub>a</sub>	+ 2	i 7	30	+ 2	i 4	50	PPP	—
Cobb River	E.	19·0	178	e 4	25	- 1	e 5	28	?	e 4	29	P	—
Wellington		19·4	174	i 4	27	- 3	8	5	+ 1	4	46	PP	—
Kaimata	N.E.	20·5	181	e 4	40	- 2	—	—	—	e 5	25	?	—
Christchurch		21·5	179	4	50	- 2	e 8	51	+ 4	—	—	—	e 9·7
Riverview		21·6	232	i 4	56 <sub>a</sub>	+ 2	i 8	52	+ 3	i 5	19	pP	e 10·2
Lick	Z.	86·1	47	i 12	44	0	—	—	—	—	—	—	—
Mount Wilson	Z.	87·1	51	i 12	49	0	—	—	—	i 13	21	?	—
Riverside	Z.	87·4	51	i 12	50	0	—	—	—	e 13	19	?	—
Shasta		87·4	44	e 12	49	- 1	—	—	—	—	—	—	—
Palomar	Z.	87·5	53	i 12	50	- 1	—	—	—	i 13	20	?	—
Mineral	Z.	87·7	45	e 12	51	- 1	—	—	—	—	—	—	—
China Lake	Z.	88·2	50	i 12	53	- 1	—	—	—	i 13	22	?	—
Tinemaha	Z.	88·3	49	e 12	56	+ 1	—	—	—	e 13	30	?	—
Reno	Z.	88·5	46	e 13	7	+11	—	—	—	—	—	—	—
Boulder City		90·2	51	e 13	4	0	—	—	—	—	—	—	—
Victoria		90·9	37	13	6	- 1	—	—	—	13	34	?	—
Tucson		91·6	56	e 13	10	0	—	—	—	—	—	—	—
College		92·0	15	13	9	- 3	—	—	—	—	—	—	—
Istanbul		143·3	310	e 19	31	[- 5]	—	—	—	—	—	—	—
Collmberg	Z.	146·4	336	e 19	34	[- 8]	—	—	—	—	—	—	—
Jena		147·2	335	e 19	43	[ 0]	e 20	25	?	e 20	43	?	—
Stuttgart	Z.	149·9	336	e 19	49	[+ 2]	e 20	20	?	e 20	31	?	—
Triest	Z.	150·3	328	e 19	49 <sub>a</sub>	[+ 1]	e 20	59	?	e 23	27	PP	—
Strasbourg		150·5	337	e 19	50	[+ 2]	e 20	26	?	e 20	34	?	—
Tamanrasset	Z.	167·2	276	e 20	5	[- 2]	i 21	13	PKP <sub>2</sub>	e 24	59	PP	—

May 31d. 15h. 26m. 21s. Epicentre 36°·6N. 68°·7E. (as on 16d.).

		$\Delta$ °	Az. °	P.		O-C. s.	S.		O-C. s.
				m.	s.		m.	s.	
Stalinabad		2·0	1	0	38	+ 1*	i 1	10	+ 4 <sub>g</sub>
Obi-garm		2·2	20	i 0	43	- 1 <sub>g</sub>	i 1	21	+ 8 <sub>g</sub>
Khorog		2·5	69	i 0	43	0	i 1	18	0*
Garm		2·7	27	i 0	50	+ 1*	1	20	+ 1
Dzhergetal		3·3	36	i 0	55	+ 2	e 1	41	- 1*
Samarkand		3·4	337	i 0	56	+ 1	—	—	—
Fergana		4·5	31	i 1	13	+ 2	—	—	—
Murgab		4·5	65	1	9	- 2	e 2	11	+ 6
Tashkent		4·8	6	—	—	—	2	13	+ 1
Andijan		5·0	33	i 1	20	+ 2	i 2	21	+ 3
Naryn		7·4	47	e 1	52	0	—	—	—
Frunse		7·8	38	e 1	57	- 1	3	29	+ 1
Rybach'e		8·2	42	e 2	3	0	—	—	—
Almata		9·2	41	2	15	- 1	—	—	—
Almata II		9·4	42	i 2	19	+ 1	—	—	—
Przhevalsk		9·5	49	e 2	19	- 1	—	—	—
Ili		9·7	38	i 2	21	- 1	—	—	—



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1952

466

June 1d. 16h. 53m. 40s. Epicentre 16°·78. 173°·5W. Depth of focus 0·010.  
(as on 1952, Feb. 25d.).

A = -·9522, B = -·1085, C = -·2856;  $\delta = +2$ ;  $h = +5$ ;  
D = -·113, E = +·994; G = +·284, H = +·032, K = -·958.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Apia		3·3	30	i 0 44	- 7	i 1 18	-11	—	—
Karapiro	N.	23·2	205	4 31	-28	—	—	—	—
Tuai	N.	23·5	200	5 6	+ 4	—	—	—	—
Wellington		26·5	201	e 5 30	0	e 10 17	sS	—	—
Cobb River	E.	27·1	205	e 5 39	+ 3	—	—	—	—
Kaimata	N.F.	28·8	205	e 6 2	+11	—	—	—	—
Brisbane	Z.	32·7	246	e 6 30	+ 5	—	—	—	—
Lick	Z.	72·6	41	i 11 20	+ 1	—	—	i 11 45	pP
Pasadena		73·0	46	i 11 20	- 1	—	—	e 11 45	pP
Fresno	Z.	73·4	42	e 11 23	0	—	—	e 11 48	pP
Palomar	Z.	73·4	47	i 11 24	+ 1	—	—	i 11 33	PcP
Riverside	Z.	73·4	46	e 11 23	0	—	—	e 11 48	pP
Shasta		74·2	38	e 11 28	0	—	—	—	—
China Lake	Z.	74·3	44	e 11 28	0	—	—	e 11 50	pP
Mineral	Z.	74·5	39	e 11 28	- 2	—	—	i 11 53	pP
Tinemaha	Z.	74·6	43	e 11 31	+ 1	—	—	e 11 57	pP
Reno	Z.	75·1	40	e 11 32	- 1	—	—	e 11 57	pP
Boulder City		76·3	46	e 11 39	- 1	—	—	e 12 6	pP
Tucson		77·2	50	e 11 46	+ 1	—	—	—	—
Seattle		78·7	33	e 11 54	+ 1	—	—	—	—
College		83·6	11	i 12 18	- 1	—	—	i 12 41	pP
Hungry Horse		83·6	36	e 12 18	- 1	—	—	—	—
Fayetteville	Z.	91·4	53	i 12 50	- 6	—	—	i 16 33	PP
Collmberg		145·1	354	e 19 25	[- 1]	—	—	e 19 54	pPKP
Raciborzu	Z.	145·4	348	e 19 32	[+ 5]	—	—	—	—
Jena		145·6	355	e 19 28	[+ 1]	e 20 8	sPKP	e 19 57	pPKP
Prague		146·1	352	e 19 30	[+ 2]	e 20 3	sPKP	e 19 55	pPKP
Paris		147·8	5	e 19 35	[+ 4]	i 19 44	PKP <sub>2</sub>	e 20 0	pPKP
Stuttgart	Z.	147·9	356	e 19 34	[+ 3]	e 20 17	?	e 20 0	pPKP
Strasbourg		148·2	358	i 19 36	[+ 5]	e 20 8	sPKP	e 20 3	pPKP
Ksara		148·6	309	e 19 29	[- 3]	e 23 9	PKS	19 53	pPKP
Istanbul	Z.	148·9	326	e 23 25	SKP	—	—	—	—
Triest	Z.	150·5	350	i 19 40k	[+ 5]	e 21 7	?	e 20 9	pPKP
Clermont-Ferrand		150·9	5	i 19 44	[+ 8]	e 20 30	?	e 20 12	pPKP
Florence	Z.	152·7	352	e 19 32	[- 6]	e 20 26	?	e 20 9	pPKP
Alicante		157·6	15	18 57	[-48]	26 10	[-29]	24 2	PPP e 61·4
Tamanrasset	Z.	173·9	—	e 20 1	[+ 3]	e 21 31	PKP <sub>2</sub>	e 20 30	pPKP

June 2d. 0h. 49m. 14s. Epicentre 36°·5N. 71°·0E. Depth of focus 0·030.  
(as on 1952, May 13d.).

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	°	°	m. s.	s.	m. s.	s.
Khorog	1·1	26	i 0 34	+ 1	i 0 57	- 2
Kulyab	1·7	325	e 0 37	- 1	e 1 4	- 3
Obi-garm	2·4	335	e 0 42	- 3	e 1 14	- 5
Garm	2·6	348	i 0 46	- 1	i 1 19	- 4
Dzhergetal	2·7	4	i 0 48	0	i 1 22	- 3
Stalinabad	2·7	319	i 0 47	- 1	i 1 22	- 3
Murgab	3·0	51	0 49	- 2	—	—
Fergana	3·9	9	e 1 2	0	—	—
Andijan	4·4	15	1 9	+ 1	1 58	- 3
Samarkand	4·5	317	1 11	+ 2	—	—
Frunse	7·0	23	—	—	3 1	+ 1

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1952

467

June 2d. 2h. 54m. 20s. Epicentre 29°·0N. 96°·0E. (as on 1951, Nov. 6d.).

A = -·0916, B = +·8712, C = +·4823;  $\delta = -1$ ;  $h = +2$ ;  
D = +·995, E = +·105; G = -·051, H = +·480, K = -·876.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
		°	°	m. s.	s.	m. s.	s.	m. s.	m.	
Shillong	E.	5·0	228	i 1 19	+ 1	i 2 17	- 1	1 44	PP	—
Calcutta	N.	9·5	229	e 2 26	+ 6	i 4 5	- 5	5 7	S <sub>g</sub>	—
New Delhi		16·5	273	e 3 49	- 5	i 6 42	-16	4 0	PP	—
Hong Kong		17·7	106	—	—	e 7 33	+ 7	—	—	9·8
Hyderabad	E.	19·8	238	e 4 32	- 3	8 20	+ 7	—	—	—
Nanking	E.	19·9	74	e 4 33	- 3	8 10	- 5	—	—	—
Zi-ka-wei	Z.	22·1	76	e 4 58	- 1	9 6	+ 8	—	—	—
Poona		22·8	247	i 5 6	+ 1	e 9 6	- 5	5 36	PP	10·5
Bombay		23·4	249	i 5 17	+ 6	e 9 26	+ 5	—	—	9·9
Quetta		25·2	281	e 5 35	+ 6	e 9 51	- 1	—	—	14·7
Manila		27·2	115	e 6 12	+25	—	—	—	—	—
Ksara		50·9	291	e 9 10	+ 5	e 17 11	+50	—	—	—
Kiruna		58·1	334	i 9 55	- 3	—	—	i 10 4	?	e 31·7
Upsala	Z.	59·6	325	i 10 6 <sub>a</sub>	- 2	i 11 53	PP	i 10 14	?	—
Prague		63·2	315	e 10 32	0	e 13 5	PP	e 10 45	?	—
Collmberg	Z.	63·7	315	e 10 34	- 2	—	—	e 10 41	?	—
Jena		64·7	315	e 10 40	- 2	e 13 0	PP	e 11 46	?	—
Triest	Z.	64·8	310	10 39?	- 4	e 19 23	0	e 11 10	PcP	—
Rome		66·7	306	—	—	e 19 40	- 6	e 24 2	SS	e 38·8
Stuttgart		66·8	314	e 10 54	- 2	e 19 59	+11	—	—	e 39·7
Florence		67·0	308	e 10 36	-21	—	—	—	—	e 44·9
Witteveen	Z.	67·1	320	e 10 57	0	—	—	—	—	—
Paris		70·9	316	e 11 21?	0	—	—	e 11 36	PcP	—
College		74·3	23	11 39	- 2	—	—	—	—	—
Brisbane	Z.	78·3	130	e 12 10	+ 7	—	—	—	—	—
Tamanrasset	Z.	79·7	290	i 12 11 <sub>k</sub>	0	—	—	i 12 19	?	—
Hungry Horse		98·4	19	e 13 40	- 1	—	—	—	—	—
Bogota		145·2	343	i 19 39	{- 1}	—	—	—	—	—

June 2d. 10h. 8m. 23s. Epicentre 30°·5N. 91°·5E. (as on 1951, Nov. 23d.).

A = -·0226, B = +·8628, C = +·5050;  $\delta = -4$ ;  $h = +2$ ;  
D = +1·000, E = +·026; G = -·013, H = +·505, K = -·863.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
		°	°	m. s.	s.	m. s.	s.	m. s.	m.	
Shillong	E.	4·9	176	e 1 27	0*	2 26	- 3*	1 35	PP	2·5
Calcutta	N.	8·4	200	i 2 17 <sub>a</sub>	+11	i 4 5	- 8*	—	—	e 4·6
New Delhi		12·6	265	i 3 3	0	i 5 16	-10	3 11	PP	—
Hyderabad	E.	17·6	225	—	—	e 7 40	+17	—	—	9·6
Poona		20·0	236	i 4 42	+ 5	i 8 23	+ 6	5 0	PP	8·6
Bombay		20·5	240	e 4 46	+ 4	e 8 28	+ 1	—	—	8·7
Quetta		21·1	277	i 4 53	+ 5	e 8 49	+10	—	—	11·6
Hong Kong		21·9	106	e 4 55	- 2	e 8 56	+ 2	—	—	e 11·8
Nanking		23·4	79	e 5 8	- 3	e 9 16	- 5	—	—	—
Kodaikanal	E.	24·0	219	—	—	e 10 43	SS	—	—	—
Zi-ka-wei	Z.	25·7	82	5 31 <sub>k</sub>	- 2	9 58	- 3	—	—	—
Ksara		46·6	290	e 8 22?	-10	e 19 13	SSS	—	—	—
Kiruna		55·0	334	i 9 34	- 1	e 25 35	?	—	—	e 26·6
Upsala		56·2	325	e 9 43 <sub>k</sub>	- 1	—	—	e 13 49	PPP	e 28·6
Triest		60·8	310	e 10 16	0	e 19 7	PS	e 10 40	PcP	—
Jena		60·9	315	e 10 15	- 2	e 12 1	?	e 12 26	PP	—
Rome		62·7	304	—	—	e 22 0	SS	—	—	e 31·8
Stuttgart		62·9	314	e 10 29	- 1	—	—	e 12 49	PP	e 34·6
Florence		63·0	307	e 10 16	-15	—	—	—	—	—
Paris		67·1	315	—	—	e 21 50	?	e 21 56	?	—

Continued on next page.

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1952

468

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Kew		67.9	319	—	—	e 29 22	?	—	e 36.6
Tamanrasset	z.	75.5	289	e 11 48	0	—	—	—	—
Pretoria	z.	82.5	234	e 12 26	0	—	—	—	—
Kimberley	z.	86.7	234	i 12 47	0	—	—	i 37 57	?
Mineral	z.	103.1	25	i 17 40	PP	—	—	—	—
Lick	z.	105.7	27	e 18 1	PP	—	—	—	—
Tinemaha	z.	107.2	24	e 18 11	[-17]	—	—	e 18 54	PP
China Lake	z.	108.6	24	i 18 20k	[-10]	—	—	e 19 6	PP
Pasadena	z.	109.9	26	e 18 26	[-7]	—	—	—	—
Riverside	z.	110.3	26	e 18 29	[-5]	—	—	—	—
Palomar	z.	111.1	25	e 18 33	[-2]	—	—	—	—
Fayetteville	z.	113.5	5	i 19 36	PP	i 26 44	{+14}	—	—

June 2d. 10h. 33m. 34s. Epicentre 30°·5N. 91°·5E. (as at 10h.8m.).

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Shillong	E.	4.9	176	e 1 32	+ 5*	i 2 26	- 3*	1 39	PP
Calcutta	N.	8.4	200	e 2 17	+11	i 3 54	+11	4 6	SS
New Delhi		12.6	265	e 3 2	- 1	i 5 15	-11	3 18	PP
Przhevalsk		15.9	322	3 46	- 1	—	—	—	—
Murgab		16.5	303	e 3 54	0	e 7 8	+10	—	—
Naryn		16.6	315	e 3 58	+ 2	—	—	—	—
Almata II		17.0	322	i 4 0	- 1	—	—	—	—
Almata		17.2	322	i 4 4	+ 1	—	—	—	—
Rybach'e		17.2	318	i 4 3	0	e 7 28	+14	—	—
Hyderabad		17.6	225	e 4 7	- 1	e 7 47	+24	—	9.6
III		17.6	325	e 4 7	- 1	—	—	—	—
Khorog		17.9	298	e 4 15	+ 3	e 7 45	+15	—	—
Frunse		18.3	318	i 4 18	+ 1	e 7 52	+13	—	—
Dzhergetal		18.7	304	i 4 20	- 2	—	—	—	—
Fergana		18.8	307	e 4 23	0	e 8 2	+12	—	—
Kulyab		19.4	299	i 4 29	- 1	8 12	+ 8	—	—
Poona		20.0	236	i 4 41	+ 4	8 19	+ 2	5 9	PP
Stalinabad		20.4	301	i 4 41	0	i 8 30	+ 5	—	—
Bombay		20.5	240	i 4 48	+ 6	e 8 29	+ 2	—	9.5
Tashkent		20.9	308	i 4 47	+ 1	i 8 46	+11	—	—
Quetta		21.1	277	i 4 55	+ 7	e 8 48	+ 9	—	—
Hong Kong		21.9	106	e 4 54	- 3	e 8 56	+ 2	—	e 11.8
Nanking		23.4	79	e 5 6	- 5	i 9 24	+ 3	—	—
Irkutsk		23.7	20	5 12	- 2	e 9 28	+ 1	—	—
Kodaikanal	E.	24.0	219	—	—	e 10 47	SSS	—	—
Kabansk		24.3	22	5 17	- 3	e 9 38	+ 1	—	—
Zi-ka-wei	z.	25.7	82	5 30k	- 3	9 59	- 2	—	—
Sverdlovsk		34.0	331	e 6 44	- 4	—	—	—	—
Borzhomj		40.0	300	e 7 40	+ 2	—	—	—	—
Abastumanj		40.4	300	e 7 43	+ 2	—	—	—	—
Zugdidi		41.1	301	e 7 51	+ 4	—	—	—	—
Sotchi		42.7	303	e 8 2	+ 2	—	—	—	—
Theodosia		45.8	306	e 8 25	0	—	—	—	—
Ksara		46.6	290	e 8 37	+ 5	—	—	e 10 39	PP
Simferopol		46.7	305	e 8 34	+ 2	—	—	—	—
Yalta		46.7	304	e 8 33	+ 1	—	—	—	—
Istanbul		50.8	301	e 8 26f	-38	—	—	—	—
Kiruna		55.0	334	i 9 32	- 3	—	—	—	e 27.9
Upsala		56.2	325	i 9 41	- 3	e 24 2	SSS	e 12 17	? e 28.4
Triest	z.	60.8	310	e 10 13	- 3	—	—	e 10 44	PcP
Jena		60.9	315	e 10 16	- 1	e 10 37	?	e 11 8	PcP
Stuttgart		62.9	314	e 10 30	0	—	—	—	e 34.4
Strasbourg		63.9	313	e 10 34	- 3	—	—	—	33.4
Clermont-Ferrand		67.8	311	e 17 14	?	e 18 35	?	—	—
Kew		67.9	319	—	—	e 25 15	SSP	—	e 36.4
Tamanrasset	z.	75.5	289	e 11 49	+ 1	—	—	—	—

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1952

469

June 2d. 18h. 7m. 3s. Epicentre 6°·2N. 125°·6E. Depth of focus 0·015.  
(as on 1950, Aug. 7d.).

Intensity V at Davao; II at Hinatuan. Epicentre 6°·25N. 126°·5E., Strasbourg.  
Manila Monthly Seismo. Bull., June, 1952, p.1.

A = -·5788, B = +·8084, C = +·1073;  $\delta = +3$ ;  $h = +7$ ;  
D = +·813, E = +·582; G = -·062, H = +·087, K = -·994.

	$\Delta$ °	Az. °	P.		O - C. s.	S.		O - C. s.	Supp.		L. m.
			m.	s.		m.	s.		m.	s.	
Manila	9·5	332	i 2	19	+ 4	—	—	—	—	—	—
Hong Kong	19·4	327	4	17	- 1	—	—	—	—	—	—
Guam	20·2	67	e 4	13	-14	i 7	47	-14	—	—	—
Bandong	22·1	235	e 4	54	+ 9	e 9	6	+30	—	—	—
Zi-ka-wei	z. 25·2	352	i 5	9 <sub>a</sub>	- 6	9	33	+ 5	—	—	—
Vladivostok	37·2	8	6	50	-10	12	29	- 8	—	—	—
Brisbane	z. 42·7	143	i 7	38	- 8	i 10	8	PP	i 8	5	pP
Yuzno-Sakhlinsk	43·2	17	e 7	37	-13	13	55	-11	—	—	—
Uglegorsk	44·9	15	7	55	- 8	14	21	-10	8	19	pP
Riverview	46·6	151	e 7	48	-29	e 14	51	- 4	i 18	23	SS
Kyakhta	46·8	344	8	14	- 4	14	57	- 1	—	—	—
Kabansk	48·3	345	8	26	- 4	15	20	+ 1	—	—	—
Irkutsk	49·2	343	i 8	33	- 4	15	32	+ 1	—	—	—
Bombay	52·9	289	e 9	8	+ 3	e 16	34	+12	—	—	—
Petropavlovsk	54·0	24	e 9	2	-11	—	—	—	i 9	25	pP
Przhevsk	55·1	319	9	22	+ 1	—	—	—	—	—	—
Kurmenty	55·5	320	i 9	24	0	—	—	—	—	—	—
Almata II	56·1	320	e 9	29	+ 1	—	—	—	—	—	—
Naryn	56·3	317	e 9	30	0	—	—	—	e 10	0	pP
Almata	56·4	320	i 9	31	+ 1	17	20	+11	—	—	—
Ili	56·6	321	e 9	31	- 1	—	—	—	—	—	—
Murgab	56·6	313	9	31	- 1	—	—	—	—	—	—
Rybach'e	56·6	318	i 9	31	- 1	e 17	18	+ 6	—	—	—
Frunse	57·8	318	i 9	41	+ 1	17	36	+ 9	i 10	9	pP
Khorog	58·0	311	9	43	+ 1	e 17	38	+ 8	—	—	—
Andijan	58·5	315	i 9	46	+ 1	17	46	+10	—	—	—
Dzhergetal	58·8	313	i 9	50	+ 3	—	—	—	—	—	—
Fergana	58·8	314	i 9	47	0	e 17	49	+ 9	—	—	—
Kulyab	59·5	311	9	51	- 1	—	—	—	—	—	—
Quetta	59·8	302	i 9	58	+ 4	—	—	—	—	—	—
Stalinabad	60·5	312	i 9	58	- 1	i 18	11	+ 9	i 10	30	pP
Tashkent	60·9	315	e 10	1	0	i 18	15	+ 8	—	—	—
Samarkand	62·1	312	i 10	7	- 2	—	—	—	—	—	—
Ashkabad	68·3	309	i 10	55	+ 6	—	—	—	—	—	—
Kizyl-Arvat	70·1	310	11	1	+ 1	—	—	—	—	—	—
Sverdlovsk	71·3	329	i 11	5	- 2	i 20	15	+ 2	—	—	—
Baku	75·1	310	i 11	33	+ 3	—	—	—	—	—	—
Lenkoran	75·8	308	i 11	33	0	21	5	+ 2	—	—	—
Shemakla	76·1	311	i 11	33	- 2	—	—	—	—	—	—
Makhach-Kala	77·1	313	i 11	42	+ 1	e 21	25	+ 7	—	—	—
Goris	77·8	309	11	45	+ 1	—	—	—	—	—	—
Kirovobad	77·8	311	i 11	46	+ 2	—	—	—	—	—	—
Grozny	78·4	313	e 11	49	+ 1	21	39	+ 7	—	—	—
Tiflis	79·0	312	11	52	+ 1	—	—	—	—	—	—
Erevan	79·2	310	i 11	53	+ 1	—	—	—	—	—	—
Gori	79·6	314	11	55 <sup>?</sup>	+ 1	—	—	—	—	—	—
Leninakan	79·7	311	11	57	+ 2	—	—	—	—	—	—
Borzhom	80·1	312	i 11	59	+ 2	—	—	—	—	—	—
Piatigorsk	80·4	314	11	58	- 1	—	—	—	—	—	—
Abastumanj	80·5	312	12	0	+ 1	—	—	—	—	—	—
Zugdidi	81·2	313	12	51	+ 2	—	—	—	—	—	—
Sotchi	82·8	313	i 12	11	0	—	—	—	—	—	—
College	83·0	26	i 12	3	- 9	—	—	—	—	—	—
Moscow	83·8	326	i 12	15	- 1	i 22	28	+ 1	—	—	—
Theodosia	85·8	315	i 12	27	+ 1	—	—	—	—	—	—

Continued on next page.

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1952

470

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Ksara	86.4	303	i 12 32	+ 3	e 22 8?	[-32]	i 25 17	?
Simferopol	86.7	315	i 12 30	0	—	—	—	—
Yalta	86.7	314	i 12 30	0	e 23 0	+ 5	—	—
Kiruna	z. 90.0	338	i 12 42 <sub>a</sub>	- 4	—	—	i 13 16	pP
Helwan	F. 90.6	300	—	—	e 23 11	[+ 4]	e 27 37	?
Istanbul	90.9	311	i 12 50	0	e 23 18	[+10]	e 16 31	PP
Upsala	z. 93.6	331	i 13 0	- 3	—	—	i 13 35	pP
Prague	98.6	323	e 13 25	0	—	—	e 13 36	?
Collmberg	z. 99.0	324	e 13 25	- 2	—	—	e 17 32	PP
Pretoria	z. 99.3	245	—	—	e 29 24	?	—	—
Taranto	99.8	313	e 15 57	?	e 23 57	?	—	—
Jena	100.0	323	e 13 30	- 2	—	—	e 17 38	PP
Triest	z. 100.5	318	e 13 31	- 3	i 17 46 <sub>a</sub>	PP	e 18 14	pPP
Stuttgart	102.2	322	e 13 40	- 2	e 25 14	+ 4	e 23 57	SKS
Rome	102.7	315	e 13 43	- 1	e 24 13	[+ 3]	e 18 0	PP
Florence	102.9	317	—	—	e 28 5	PPS	—	—
Lick	z. 104.0	49	e 17 24	PP	—	—	—	—
Kew	106.3	328	e 12 57?	?	—	—	—	—
China Lake	z. 107.6	49	e 16 54	?	e 29 45	?	—	—
Pasadena	z. 107.7	51	e 29 41	?	—	—	—	—
Riverside	z. 108.4	51	e 16 45	?	e 29 40	?	—	—
Boulder City	109.6	48	e 16 39	?	—	—	—	—
Tamanrasset	z. 114.7	300	e 18 26	[+ 1]	i 19 28	PP	i 26 36	?
Fayetteville	z. 123.8	38	i 15 18	P	—	—	i 18 38	PKP
Weston	129.2	15	i 15 3 <sub>k</sub>	P	—	—	—	—

June 2d. 19h. 1m. 13s. Epicentre 37°-6N. 71°-6E. Depth of focus 0.020.  
(as on 1952, April 14d.).

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Khorog	0.1	180	i 0 19	- 3	i 0 35	- 3	—	—
Kulyab	1.5	282	i 0 30	- 1	e 0 54	0	—	—
Dzhergetal	1.6	349	i 0 33	+ 1	i 0 58	+ 2	—	—
Garm	1.7	324	i 0 34	+ 1	i 1 0	+ 2	—	—
Murgab	2.0	67	i 0 33	- 3	e 0 58	- 6	—	—
Stalinabad	2.4	293	i 0 42	+ 1	e 1 15	+ 3	—	—
Fergana	2.8	3	i 0 47	+ 1	i 1 21	0	—	—
Andijan	3.2	11	i 0 51	0	i 1 30	0	—	—
Samarkand	4.1	302	i 1 1	- 2	—	—	—	—
Tashkent	4.1	336	i 1 3	0	i 1 51	0	—	—
Naryn	5.1	41	e 1 13	- 3	i 2 12	- 2	—	—
Rybach'e	5.9	34	i 1 26	0	i 2 34	+ 1	—	—
Almata	7.0	35	i 1 39	- 2	—	—	—	—
Przhevsk	7.1	45	1 41	- 1	—	—	—	—
Kurmenty	7.5	41	1 44	- 4	—	—	—	—
Ili	7.6	32	i 1 46	- 3	—	—	—	—
Quetta	8.3	208	—	—	i 3 22	- 9	—	—
New Delhi	10.1	151	e 2 13	- 9	i 3 56	-17	2 21	PP
Ashkabad	10.5	276	2 26	- 1	i 4 19	- 4	—	—
Kizyl-Arvat	12.1	281	2 53	+ 5	e 4 57	- 3	—	—
Poona	z. 19.1	173	i 4 9	- 4	i 8 38	+62	i 4 25	pP
Kirovobad	19.8	287	e 4 25	+ 5	—	—	—	—
Grozny	20.4	294	e 4 31	+ 5	—	—	—	—
Upsala	z. 40.5	321	i 7 27	+ 2	—	—	i 9 8	PcP
Kiruna	z. 41.3	333	i 7 33	+ 2	—	—	i 8 13	?
Tamanrasset	z. 57.9	275	i 9 39 <sub>a</sub>	+ 2	—	—	e 10 14	pP



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1952

471

June 2d. 22h. 58m. 23s. Epicentre 39°·2N. 71°·5E. (as on 1952, March 18d.).

A = +·2465, B = +·7368, C = +·6295;  $\delta = -9$ ;  $h = -1$ ;  
D = +·948, E = -·317; G = +·200, H = +·597, K = -·777.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	
	°	°	m. s.	s.	m. s.	s.	m. s.	
Dzhergetal	0·2	274	i 0 7	- 3	i 0 15	- 1	i 0 11	?
Garm	1·0	258	i 0 19	- 2	0 33	- 3	—	—
Fergana	1·2	11	e 0 22	- 2	—	—	—	—
Andijan	1·7	23	i 0 32	+ 1	i 0 55	+ 1	i 0 59	S <sub>g</sub>
Khorog	1·7	177	i 0 31	0	0 52	- 2	—	—
Kulyab	1·9	226	i 0 37	+ 3	1 7	+ 4 <sub>g</sub>	—	—
Murgab	2·1	114	e 0 36	- 1	e 1 5	- 1*	—	—
Stalinabad	2·2	253	i 0 41	+ 3	i 1 16	+ 3 <sub>g</sub>	—	—
Tashkent	2·7	322	e 0 49	+ 4	1 21	+ 2	e 1 5	P <sub>g</sub>
Samarkand	3·5	289	i 1 2	- 1*	e 1 47	- 1*	e 1 10	P <sub>g</sub>
Naryn	4·0	58	e 1 7	- 4*	i 2 6	+ 3*	e 1 20	P <sub>g</sub>
Frunse	4·4	31	i 1 11	+ 1	i 1 57	- 5	i 1 25	P <sub>g</sub>
Rybach'e	4·7	45	i 1 16	+ 2	i 2 14	+ 4	2 40	S <sub>g</sub>
Almata	5·8	44	e 1 30	+ 1	i 3 0	+ 4*	i 3 42	—
Almata II	6·0	46	1 33	+ 1	—	—	—	—
Przhevalsk	6·2	56	1 34	- 1	e 3 13	+ 5*	—	—
Ili	6·3	40	i 1 36	0	—	—	—	—
Kurmenty	6·4	51	e 1 36	- 2	—	—	—	—
Quetta	9·7	204	—	—	e 4 16	+ 1	—	—
Kiruna	z. 39·9	333	e 7 36	- 1	—	—	i 7 43	?
Collmberg	z. 41·9	307	e 7 54	0	—	—	—	—
Jena	z. 42·8	306	e 8 1	0	—	—	—	—
Stuttgart	44·7	305	e 8 15	- 1	—	—	—	—
Tamanrasset	z. 57·7	274	e 9 55	0	—	—	—	—

June 3d. 5h. 48m. 18s. Epicentre 39°·2N. 71°·5E. (as on 2d.).

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	
	°	°	m. s.	s.	m. s.	s.	m. s.	
Dzhergetal	0·2	274	i 0 6	0*	i 0 11	+ 1*	—	—
Garm	1·0	258	i 0 20	0 <sub>g</sub>	i 0 34	0*	—	—
Fergana	1·2	11	e 0 24	0	i 0 38	- 2 <sub>g</sub>	—	—
Andijan	1·7	23	i 0 31	0	0 54	0*	—	—
Khorog	1·7	177	0 32	0*	e 0 57	+ 1 <sub>g</sub>	—	—
Kulyab	1·9	226	i 0 38	0 <sub>g</sub>	e 1 3	0 <sub>g</sub>	—	—
Murgab	2·1	114	e 0 37	0	e 1 9	0 <sub>g</sub>	—	—
Stalinabad	2·2	253	e 0 43	- 1 <sub>g</sub>	i 1 14	+ 1 <sub>g</sub>	—	—
Tashkent	2·7	322	e 0 51	+ 2*	i 1 28	- 1 <sub>g</sub>	—	—
Samarkand	3·5	289	1 1	- 2*	—	—	—	—
Frunse	4·4	31	e 1 11	+ 1	i 2 26	+ 1 <sub>g</sub>	i 2 7	S
Rybach'e	4·7	45	—	—	e 2 21	- 3*	—	—
Almata	5·8	44	e 1 33	+ 4	e 2 40	+ 2	—	—
Almata II	6·0	46	e 1 34	+ 2	—	—	—	—
Przhevalsk	6·2	56	e 1 35	0	—	—	—	—
Ili	6·3	40	e 1 35	- 1	—	—	—	—

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1952

472

June 3d. 5h. 53m. 22s. Epicentre 45°·7N. 26°·8E. (as on 1952, Jan. 16d.).

A = +·6255, B = +·3160, C = +·7133;  $\delta = -10$ ;  $h = -4$ ;  
D = +·451, E = -·893; G = +·637, H = +·322, K = -·701.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Bacau		0·9	4	e 0 25	+ 5	e 0 40	+ 6	—	—
Campulung	E.	1·3	251	e 0 30	+ 4 <sub>g</sub>	e 0 48	+ 4	—	—
Bucharest	E.	1·4	198	e 0 28	0 <sub>g</sub>	i 0 43	- 3	—	—
Iasi		1·6	20	e 0 32	0 <sub>g</sub>	i 0 56	+ 3 <sub>g</sub>	—	—
Kishinev		1·9	47	0 37	+ 3	—	—	i 0 45	P <sub>g</sub>
Cernanti		2·7	347	0 49	0*	—	—	e 0 58	P <sub>g</sub>
Sofia		3·9	221	e 1 2	0	e 1 54	+ 4	i 2 17	S <sub>g</sub>
Timisoara		3·9	273	e 1 15	- 3 <sub>g</sub>	e 1 57	+ 7	e 2 16	S <sub>g</sub>
Belgrade		4·5	262	e 1 31 <sub>a</sub>	+ 1 <sub>g</sub>	e 2 18	0*	e 2 35	S <sub>g</sub>
Lwow		4·5	337	i 1 17	+ 6	i 2 10	+ 5	i 1 25	P*
Szeged	E.	4·7	282	1 42	?	2 51	?	3 6	?
Istanbul		4·9	160	i 1 13	- 4	i 2 19	+ 4	e 2 35	S <sub>g</sub>
Simferopol		5·2	96	1 20	- 1	2 14	- 8	—	—
Yalta		5·3	101	1 21	- 1	2 16	- 9	—	—
Kalossa	E.	5·5	281	e 2 5	?	2 58	- 4 <sub>g</sub>	3 41	?
Budapest	N.	5·6	291	1 51	- 1 <sub>g</sub>	2 59	- 6 <sub>g</sub>	2 8	?
Skalnate Pleso		5·6	310	e 1 48	- 4 <sub>g</sub>	e 2 29	- 4	e 2 49	S*
Theodosia		6·1	93	1 31	- 3	2 36	- 9	e 1 38	?
Ogyalla		6·3	293	e 2 3	- 3 <sub>g</sub>	e 3 3	- 8 <sub>g</sub>	e 3 20	S <sub>g</sub>
Raciborzu		7·3	310	e 1 58	PP	e 3 15	0	e 11 48	PcS
Vienna		7·6	293	e 2 13	0*	e 4 15	+ 4 <sub>g</sub>	—	—
Taranto		8·7	237	—	—	e 3 48	- 2	—	—
Triest		9·1	275	e 2 18	+ 4	e 3 54	- 6	i 5 12	S <sub>g</sub>
Prague		9·4	303	e 2 24	+ 6	e 4 6	- 1	e 5 6	S <sub>g</sub>
Sotchi		9·5	98	2 15	- 5	3 54	- 16	e 2 23	?
Collmberg		10·8	306	e 2 38 <sup>?</sup>	- 1	—	—	—	—
Rome		11·0	255	e 3 38	?	e 4 56	+ 9	e 5 32	?
Florence		11·2	266	e 4 24	?	—	—	—	—
Zugdidi		11·3	101	e 2 50	+ 4	e 4 42	- 12	—	—
Jena		11·4	303	e 3 2	PPP	e 4 53	- 3	e 3 27	?
Moscow		12·1	30	—	—	e 5 3	- 11	—	—
Abastumanj		12·2	103	e 3 0	+ 2	—	—	—	—
Stuttgart		12·4	291	e 3 1	0	e 6 50	?	—	—
Borzhomi		12·6	102	e 3 0	- 3	e 5 16	- 10	—	—
Gori		13·0	100	e 3 8	- 1	e 5 25	- 10	—	—
Copenhagen		13·5	323	i 3 13	- 2	—	—	—	—
Tiflis		13·6	100	e 3 25	PP	5 39	- 11	—	—
Grozny		13·7	93	e 3 21	+ 3	—	—	—	—
Ksara		13·8	146	e 2 33	?	—	—	—	—
Kirovobad		15·1	101	e 3 41	+ 5	—	—	—	—
Upsala		15·2	342	i 3 34	- 4	i 6 34	+ 6	i 8 50	PcP
De Bilt		15·6	304	—	—	e 7 3	SS	—	—
Goris		15·6	106	i 3 49	+ 6	—	—	—	—
Clermont-Ferrand		16·6	279	e 4 0	+ 4	—	—	—	—
Baku		17·7	100	e 4 13	+ 3	—	—	—	—
Kew		18·8	298	—	—	e 7 54	+ 4	e 12 47	PcS
Kiruna		22·4	356	i 5 2	0	i 9 12	+ 8	i 12 37	PcS
Sverdlovsk		23·7	50	e 5 14	0	e 9 43	+ 16	e 5 22	?
Tamanrasset	z.	28·7	224	e 5 58	- 3	—	—	—	—

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1952

473

June 3d. 11h. 21m. 26s. Epicentre 36°·7N. 70°·5E. Depth of focus 0·025.  
(as on May 4d.).

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Khorog	1·2	48	i 0 31	0	i 0 55	0	—	—
Kulyab	1·3	335	0 35	+ 4	—	—	—	—
Obi-garm	2·1	342	i 0 39	0	e 1 10	0	—	—
Garm	2·3	356	i 0 44	+ 2	i 1 17	+ 3	—	—
Stalinabad	2·3	323	i 0 44	+ 2	i 1 17	+ 3	—	—
Dzhergetal	2·6	12	i 0 46	+ 1	i 1 21	+ 1	—	—
Murgab	3·2	59	i 0 52	0	i 1 31	- 2	—	—
Fergana	3·8	15	i 1 0	0	i 1 47	+ 1	—	—
Samarkand	4·1	319	1 4	+ 1	—	—	—	—
Andijan	4·3	20	i 1 6	0	—	—	—	—
Tashkent	4·7	349	i 1 14	+ 3	i 2 8	+ 2	—	—
Naryn	6·4	41	e 1 31	- 2	i 2 41	- 5	—	—
Frunse	6·9	26	i 1 41	+ 1	i 2 58	+ 1	—	—
Quetta	7·1	205	e 1 40	- 2	i 2 56	- 6	—	3·6
Rybach'e	7·2	35	i 1 44	0	i 3 4	- 1	—	—
Almata	8·2	35	i 1 57	0	i 3 27	- 1	—	—
Almata II	8·4	37	i 1 59	0	—	—	—	—
Przhevalsk	8·4	44	1 58	- 1	—	—	—	—
Ili	8·8	33	i 2 1	- 4	—	—	—	—
Ashkabad	9·8	281	e 2 20	+ 2	—	—	—	—
New Delhi	9·8	143	e 2 10	- 8	4 2	- 3	3 37	Q 4·7
Poona	18·3	170	i 3 59	- 3	i 7 21	+ 5	4 12	PP 8·3
Kirovobad	19·2	289	4 12	+ 1	—	—	—	—
Sverdlovsk	21·2	345	4 32	+ 1	—	—	—	—
Upsala	z. 40·7	321	i 7 23	0	—	—	—	—
Tamanrasset	z. 57·1	277	e 9 27	- 2	—	—	e 10 13	pP —

June 3d. 12h. 24m. 12s. Epicentre 8°·5N. 77°·0W. Depth of focus 0·005.

A = +·2225, B = -·9638, C = +·1468;  $\delta$  = -3; h = +7;  
D = -·974, E = -·225; G = +·033, H = -·143, K = -·989.

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Balboa Heights	2·6	280	i 0 38	- 3	i 1 8	- 4	—	—
Galerazamba	2·8	37	i 0 39	- 5	i 1 10	- 7	—	—
Chinchina	3·8	159	i 1 0	+ 2	i 1 46	+ 4	—	—
Bogota	4·8	143	i 1 14	+ 2	i 2 12	+ 5	i 2 27	?
Huancayo	20·5	175	e 4 42	pP	—	—	—	—
La Paz	26·3	160	e 5 39	+ 8	—	—	—	—
Morgantown	31·1	356	i 6 15	+ 1	—	—	—	—
Fayetteville	z. 31·6	333	i 6 17	- 2	—	—	i 6 34	pP —
Antofagasta	e. 32·6	168	e 8 14	PPP	—	—	e 8 55	PcP —
Weston	34·1	8	i 6 42k	+ 2	—	—	i 8 0	PP —
Tucson	39·3	312	e 7 23	- 1	—	—	—	—
Kirkland Lake	z. 39·6	357	e 7 28	+ 1	—	—	—	—
Palomar	z. 44·3	310	i 8 6a	+ 1	e 8 48	?	i 8 24	pP —
Riverside	z. 44·9	311	i 8 11a	+ 1	—	—	—	—
Pasadena	45·6	311	i 8 16k	0	—	—	e 8 31	pP —
China Lake	z. 45·9	313	e 8 17a	- 1	—	—	—	—
Tinemaha	z. 46·9	314	e 8 26	0	—	—	—	—
Fresno	z. 47·9	313	e 8 32	- 2	—	—	—	—
Butte	48·2	328	e 8 35	- 1	—	—	—	—
Reno	49·1	316	e 8 45	+ 2	—	—	—	—
Lick	z. 49·5	313	e 8 46	0	—	—	i 8 58	pP —
Hungry Horse	50·5	329	e 8 52	- 2	—	—	—	—
Mineral	z. 50·7	316	i 8 55	0	—	—	—	—
College	74·2	335	e 11 31	- 1	—	—	—	—
Tamanrasset	z. 79·9	68	e 12 7	+ 4	—	—	e 12 20	pP —
Kimberley	z. 104·3	118	i 23 17	?	—	—	—	—
Pretoria	z. 107·3	114	i 23 51	?	—	—	—	—

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1952

474

June 3d. 13h. 21m. 11s. Epicentre 42°·1N. 143°·5E. Depth of focus 0·005.  
(as on 1952, April 20d.).

Intensity V at Obihiro, Shiranuka, Akankohan, Meguro, Ogihusi, Misono, Nubibetu, Kayakita, Biroo, Shihoro, Kamibisei, Yatiyo, Kamisatunai, Otu, and Nisisumbetu. Epicentre 42°·1N. 143°·4E. Depth 55km. Macroseismic radius 200-300km. Seismo. Bull. Cent. Met. Obs., Japan, 1952, Tokyo, 1952, p.231, with macroseismic chart.

		Δ	Az.	P.		O - C.		S.		O - C.		Supp.		L. m.
				m.	s.	s.	m.	s.	m.	s.	m.	s.		
Urakawa		0·5	276	i 0	13 <sub>a</sub>	0	0	21	- 2	—	—	—	—	
Obihiro	N.	0·8	345	e 0	16	- 1	0	30	+ 1	—	—	—	—	
Kusiro		1·1	37	i 0	23	+ 3	0	38	+ 2	—	—	—	—	
Asahigawa		1·9	334	e 0	32	+ 1	0	52	- 2	—	—	—	—	
Sapporo		1·9	301	i 0	28 <sub>k</sub>	- 3	0	48	- 6	—	—	—	—	
Abashiri		2·0	16	0	35	+ 3	0	58	+ 1	—	—	—	—	
Hakodate		2·1	261	0	36	+ 2	—	—	—	—	—	—	—	
Hatinohe		2·2	223	e 0	35	0	1	0	- 2	—	—	—	—	
Mori	E.	2·2	270	0	33	- 2	0	57	- 5	—	—	—	—	
Aomori		2·4	238	0	41	+ 3	1	6	- 1	—	—	—	—	
Miyako		2·7	205	e 0	44	+ 2	1	13	- 1	—	—	—	—	
Morioka		3·0	217	e 0	48	+ 1	1	20	- 2	—	—	—	—	
Akita		3·5	229	0	55	+ 1	1	42	+ 8	—	—	—	—	
Mizusawa	E.	3·5	213	0	59	+ 5	1	37	+ 3	—	—	—	—	
Wakkanai		3·6	339	—	—	—	e 1	37	0	—	—	—	—	
Isinomaki		4·0	205	e 1	2	+ 1	1	47	0	—	—	—	—	
Sendai	Z.	4·3	209	e 1	5	0	1	55	+ 1	—	—	—	—	
Yamagata		4·5	213	e 1	11	+ 4	2	1	+ 2	—	—	—	—	
Hokusima	N.	4·9	210	1	15	+ 2	2	10	+ 1	—	—	—	—	
Yuzno-Sakhlinsk		4·9	345	1	14	+ 1	2	10	+ 1	—	—	—	—	
Inawasiro		5·2	211	e 1	19	+ 2	2	19	+ 2	—	—	—	—	
Niigata		5·4	221	e 1	44	?	—	—	—	—	—	—	—	
Onahama		5·5	201	e 1	26	+ 5	2	34	+10	—	—	—	—	
Mito		6·2	204	e 1	32	+ 1	2	40	- 1	—	—	—	—	
Utunomiya		6·2	208	e 1	32	+ 1	—	—	—	—	—	—	—	
Tukubasan		6·4	205	e 1	35	+ 1	2	44	- 2	—	—	—	—	
Maebasi		6·6	213	e 1	44	+ 7	3	1	+10	—	—	—	—	
Kumagaya		6·7	210	e 1	43	+ 5	2	53	- 1	—	—	—	—	
Nagano		6·8	219	e 1	45	+ 6	3	10	+14	—	—	—	—	
Matusiro		6·9	218	1	57	+16	—	—	—	—	—	—	—	
Oiwake		6·9	215	e 1	45	+ 4	3	13	+14	—	—	—	—	
Wazima		6·9	229	e 1	44	+ 3	—	—	—	—	—	—	—	
Titibu		7·0	211	e 1	58	+16	—	—	—	—	—	—	—	
Tokyo	N.	7·0	206	1	45	+ 3	3	0	- 1	—	—	—	—	
Ulegorsk		7·1	351	1	43	- 1	3	2	- 2	—	—	—	—	
Matumoto	N.	7·3	218	e 2	1	+15	3	33	+24	—	—	—	—	
Toyama	Z.	7·3	224	1	47	+ 1	—	—	—	—	—	—	—	
Yokohama		7·3	206	e 1	57	+11	3	9	0	—	—	—	—	
Kohu		7·5	212	e 1	51	+ 2	3	13	- 1	—	—	—	—	
Hunatu		7·6	211	e 2	6	+16	—	—	—	—	—	—	—	
Misima		7·8	209	e 1	57	+ 4	3	19	- 2	—	—	—	—	
Iida		7·9	216	e 2	14	+19	—	—	—	—	—	—	—	
Osima		8·0	205	e 1	55	- 1	3	19	- 7	—	—	—	—	
Gihu		8·5	221	e 2	3	0	—	—	—	—	—	—	—	
Nagoya		8·6	219	e 2	8	+ 4	3	55	+14	—	—	—	—	
Vladivostok		8·7	281	2	2	- 4	3	42	- 1	—	—	—	—	
Kameyama		9·1	220	e 2	16	+ 5	3	52	- 1	—	—	—	—	
Osaka		9·7	223	e 2	29	+10	—	—	—	—	—	—	—	
Kobe	N.	9·9	224	e 2	17	- 5	—	—	—	—	—	—	—	
Ooita		12·9	231	e 3	13	+11	—	—	—	—	—	—	—	
Petropavlovsk		15·0	38	e 3	42	+12	e 6	33	+19	—	—	—	—	
Zi-ka-wei	Z.	20·7	247	e 4	35	- 2	—	—	—	—	—	—	—	
Nanking		22·1	252	e 4	47	- 4	e 8	44	- 1	—	—	—	—	
Kyakhta		26·7	302	e 5	32	- 3	e 9	59	- 5	—	—	—	—	
Irkutsk		28·2	305	e 5	46	- 3	e 10	27	- 1	—	—	—	—	

Continued on next page.

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1952

475

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Hong Kong		31.5	241	—	—	e 11 25	+ 5	—	—
College		44.0	35	i 8 3	0	—	—	—	—
Przhevalsk		47.1	294	e 8 26	- 1	—	—	—	—
Ili		47.4	297	e 8 27	- 3	—	—	—	—
Almata II		47.5	296	e 8 29	- 1	—	—	—	—
Almata		47.7	296	i 8 32	0	—	—	—	—
Rybach'e		48.6	295	i 8 39	0	—	—	—	—
Frunse		49.5	296	e 8 45	- 1	—	—	—	—
Andijan		51.9	294	i 9 3	- 1	—	—	—	—
Murgab		51.9	291	e 9 1	- 3	—	—	—	—
Fergana		52.5	293	e 9 5	- 4	—	—	—	—
Dzhergetal		53.4	293	e 9 14	- 1	—	—	—	—
Khorog		53.7	290	e 9 19	+ 1	—	—	—	—
Resolute Bay		57.3	16	i 9 41 <sub>a</sub>	- 3	e 9 58	pP	i 9 45	P
Victoria		61.8	48	10 7	- 7	—	—	—	—
Kiruna	z.	62.4	339	i 10 16	- 2	—	—	—	—
Poona	z.	62.9	271	i 10 22	0	—	—	—	—
Shasta		66.8	55	e 10 51	+ 4	—	—	—	—
Hungry Horse		67.0	44	i 10 51	+ 3	—	—	—	—
Mineral	z.	67.5	55	i 10 54	+ 3	—	—	—	—
Tiflis		69.0	307	11 0	- 1	—	—	—	—
Upsala	z.	69.1	334	i 11 0	- 1	—	—	—	—
Gori		69.2	308	e 11 5 <sup>?</sup>	+ 3	—	—	—	—
Lick	z.	69.3	57	e 11 3	+ 1	—	—	—	—
Borzhomi		69.7	308	e 11 7	+ 2	—	—	—	—
Fresno	z.	70.9	57	e 11 15	+ 3	—	—	—	—
Tinemaha	z.	71.6	57	i 11 29	pP	—	—	—	—
China Lake	z.	72.8	56	i 11 27	+ 4	—	—	—	—
Pasadena	z.	73.5	59	e 11 31	+ 3	—	—	—	—
Riverside	z.	74.1	59	i 11 34	+ 3	—	—	—	—
Palomar	z.	74.9	59	i 11 39	+ 3	—	—	—	—
Collmberg		77.5	331	e 11 48	- 2	—	—	—	—
Jena		78.3	331	e 11 54	- 1	—	—	e 12 16	pP
Tucson		79.4	56	e 12 3	+ 2	—	—	—	—
Stuttgart		81.0	331	e 12 8	- 1	—	—	e 20 7	? e 46.8
Triest	z.	81.8	327	e 12 7	- 6	—	—	i 12 13	P
Fayetteville	z.	86.0	43	i 12 36	+ 1	—	—	—	—
Morgantown		89.6	32	i 12 54	+ 2	—	—	—	—
Harvard		90.0	28	i 12 57 <sub>a</sub>	+ 3	—	—	—	—
Weston		90.2	28	i 12 56 <sub>k</sub>	+ 1	—	—	—	—
Tamanrasset	z.	104.7	319	18 6	PKP	—	—	—	—
Pretoria	z.	125.1	266	i 18 56	[+ 3]	—	—	—	—

June 3d. 18h. 49m. 15s. Epicentre 5°·8S. 154°·4E. Depth of focus 0·010.

A = -·8973, B = +·4299, C = -·1004;  $\delta = +4$ ;  $h = +7$ ;  
D = +·432, E = +·902; G = +·091, H = -·043, K = -·995.

		$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Guam		21.4	333	i 5 13	PP	e 9 11	SS	—	—
Brisbane		21.6	184	i 4 45 <sub>a</sub>	+ 2	i 8 40	+ 9	i 5 4	pP
Riverview		28.0	186	i 5 44 <sub>a</sub>	0	—	—	i 5 50	P
Auckland	N.	36.1	151	6 45 <sup>?</sup>	- 9	—	—	—	e 13.4
Karapiro	N.	37.3	152	e 7 3	- 1	—	—	—	—
Manila		38.8	302	e 7 32	+15	—	—	—	—
Tuai	N.	38.8	151	e 7 13	- 4	—	—	—	—
Cobb River	E.	38.8	157	e 7 16	- 1	—	—	e 7 41	pP
Kaimata	N.E.	39.6	160	e 7 28	+ 5	—	—	e 7 48	pP
Wellington		39.7	156	i 7 23	- 1	—	—	7 43	pP
Christchurch		40.9	159	i 7 33	- 1	—	—	7 55	pP
Hong Kong		48.3	307	e 8 33	0	e 15 27	+ 2	—	—
Zi-ka-wei	z.	48.4	322	8 33 <sub>a</sub>	- 1	e 15 28	+ 2	—	—
Nanking		50.7	320	i 8 51 <sub>a</sub>	- 1	16 0	+ 2	—	—
College		82.2	21	12 8	- 4	—	—	i 12 33	pP

Continued on next page.



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1952

476

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Poona	z.	82.9	290	i 12 16	+ 1	—	—	—	—
Bombay		83.9	290	—	—	e 22 37	+ 3	e 23 18	sS
Shasta		88.6	49	e 12 43	0	—	—	—	—
Lick	z.	88.7	52	e 12 44	0	—	—	i 13 10	pP
Mineral	z.	89.2	49	e 13 9	pP	—	—	—	—
Fresno	z.	90.1	53	e 12 49	- 1	—	—	e 13 15	pP
Reno	z.	90.4	50	e 13 10	pP	—	—	—	—
Pasadena		91.1	56	i 12 55	0	i 13 35	sP	i 13 19	pP
Tinemaha	z.	91.4	53	e 13 21	pP	—	—	—	—
Riverside	z.	91.7	56	i 12 58	0	i 13 40	sP	i 13 22	pP
Palomar	z.	92.1	57	i 13 0	0	—	—	i 13 25	pP
Boulder City		94.0	55	i 13 8	0	—	—	e 13 33	pP
Hungry Horse		95.3	42	e 13 40	pP	—	—	—	—
Pretoria		119.1	237	i 18 45?	[+ 7]	—	—	—	—
Triest	z.	127.7	327	e 19 16	pPKP	e 21 53	?	e 21 26	pPP
Stuttgart		128.0	332	e 19 20?	pPKP	e 19 35	sPKP	—	—
Tamanrasset	z.	145.6	304	i 19 27	[ ' 0]	e 22 51	PP	i 19 55	pPKP

June 3d. 23h. 24m. 32s. Epicentre 36°·7N. 70°·5E. Depth of focus 0·025. (as at 11h.).

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Khorog		1.2	48	i 0 30	- 1	i 0 54	- 1	—	—
Kulyab		1.3	335	—	—	e 1 2	+ 6	—	—
Obi-garm		2.1	342	e 0 45	+ 6	e 1 17	+ 7	—	—
Garm		2.3	356	i 0 43	+ 1	i 1 16	+ 2	—	—
Stalinabad		2.3	323	i 0 44	+ 2	i 1 17	+ 3	—	—
Dzhergetal		2.6	12	i 0 47	+ 2	e 1 22	+ 2	—	—
Murgab		3.2	59	e 0 54	+ 2	e 1 34	+ 1	—	—
Fergana		3.8	15	i 1 1	+ 1	i 1 46	0	—	—
Samarkand		4.1	319	i 1 6	+ 3	—	—	—	—
Andijan		4.3	20	i 1 7	+ 1	i 1 59	+ 2	—	—
Tashkent		4.7	349	i 1 13	+ 2	i 2 7	+ 1	—	—
Naryn		6.4	41	e 1 31	- 2	i 2 43	- 3	—	—
Frunse		6.9	26	i 1 41	+ 1	—	—	—	—
Quetta		7.1	205	i 1 41	- 1	i 2 57	- 5	—	—
Rybach'e		7.2	35	i 1 44	0	—	—	—	3.5
Almata		8.2	35	i 1 58	+ 1	i 3 30	+ 2	—	—
Almata II		8.4	37	i 1 59	0	—	—	—	—
Przhevalsk		8.4	44	1 58	- 1	—	—	—	—
Kurmenty		8.7	41	i 2 2	- 1	—	—	—	—
III		8.8	33	i 2 2	- 3	—	—	—	—
Ashkabad		9.8	281	—	—	e 4 4	- 1	—	—
New Delhi		9.8	143	e 2 12	- 6	4 5	0	3 41	Q
Kizyl-Arvat		11.5	286	—	—	4 39	- 6	—	—
Poona	z.	18.3	170	i 4 0	- 2	i 4 27	?	i 4 43	?
Sverdlovsk		21.2	345	4 34	+ 3	e 8 24	+ 14	—	—
Upsala	z.	40.7	321	i 7 23	0	—	—	—	—
Kiruna	z.	41.7	334	i 7 32 <sub>a</sub>	+ 1	—	—	—	—
Tamanrasset	z.	57.1	277	e 9 26	- 3	—	—	e 10 15	pP

June 4d. 0h. 53m. 2s. Epicentre 41°·6N. 142°·0E. Focus at base of superficial layers. (as on 1952, Jan. 29d.).

A = -·5910, B = +·4617, C = +·6614;  $\delta$  = -10;  $h$  = -2;  
D = +·616, E = +·788; G = -·521, H = +·407, K = -·750.

		$\Delta$	Az.	P.	O-C.	S.	O-C.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.
Urakawa		0.8	47	e 0 12	- 3	0 22	- 4
Hatinohe		1.1	198	0 20	+ 1	0 37	+ 4
Aomori		1.2	229	0 24	+ 4	0 40	+ 4
Mori	E.	1.2	295	0 18	- 2	0 34	- 2
Sapporo		1.6	342	e 0 19	- 7	0 35	- 11

Continued on next page.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1952

477

		$\Delta$	Az.	P.	O-C.	S.	O-C.
		°	°	m. s.	s.	m. s.	s.
Obi-hiro		1.6	34	e 0 23	- 3	0 39	- 7
Miyako		1.8	180	e 0 33	+ 4	0 58	+ 7
Morioka		2.0	198	e 0 32	0	0 59	+ 3
Kusiro		2.3	52	e 0 30	- 6	0 51	-13
Akita		2.4	229	—	—	e 1 11	+ 5
Mizusawa	E.	2.6	195	0 43	+ 2	1 16	+ 5
	N.	2.6	195	0 46	+ 5	1 18	+ 7
Isinomaki		3.2	189	e 0 45	- 4	—	—
Nemuro		3.2	57	e 0 55	+ 6	—	—
Sendai	E.	3.4	194	e 0 54	+ 2	1 44	+12
Hukusima		4.0	198	e 1 0	0	—	—
Inawasiro		4.3	200	e 0 59	- 6	—	—
Onahama		4.8	192	e 1 27	+15	—	—
Utunomiya		5.4	200	e 1 20	0	2 20	- 2
Mito		5.4	195	e 1 36	+16	—	—
Maebasi		5.7	205	—	—	e 2 44	+14
Kumagaya		5.8	201	e 1 35	+ 9	2 38	+ 6
Kohu		6.6	204	e 1 39	+ 2	—	—

June 4d. 6h. 19m. 52s. Epicentre 37°·5N. 78°·6E.

A = +·1572, B = +·7796, C = +·6062;  $\delta = -3$ ;  $h = -1$ ;  
D = +·980, E = -·198; G = +·120, H = +·594, K = -·795.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Murgab		3.8	285	e 1 3	+ 2	e 1 57	0*	—	—
Naryn		4.4	334	i 1 15	- 3*	i 2 9	+ 7	—	—
Rybach'e		5.3	340	e 1 24	+ 2	e 2 47	+ 6*	—	—
Khorog		5.6	272	1 27	0	2 37	+ 4	—	—
Andijan		5.8	306	i 1 30	+ 1	i 2 37	- 1	i 1 55	P <sub>r</sub>
Almata II		5.8	352	e 1 31	+ 2	e 2 29	- 9	e 1 41	P*
Almata		5.9	348	i 1 33	+ 2	—	—	—	—
Dzhergetal		6.0	288	e 1 33	+ 1	i 2 48	+ 5	—	—
Fergana		6.0	300	e 1 32	0	i 3 9	+ 7*	—	—
Frunse		6.2	332	i 1 37	+ 2	i 2 35	-13	i 1 50	P*
Ili		6.5	351	i 1 40	+ 1	—	—	—	—
Garm		6.7	286	e 1 41	- 1	—	—	—	—
Obi-garm		7.1	283	i 1 51	+ 3	—	—	—	—
Stalinabad		7.8	281	i 1 56	- 2	—	—	—	—
New Delhi		9.0	187	2 11	- 2	i 3 47	- 11	4 45	S <sub>r</sub>
Samarkand		9.3	287	2 20	+ 3	—	—	—	—
Quetta		12.1	236	e 2 50	- 7	e 4 52	-22	—	6.1
Ashkabad		16.0	278	i 3 46	- 2	—	—	—	—
Kizyl-Arvat		17.6	283	4 9	+ 1	—	—	—	—
Bombay		19.2	196	e 4 25	- 3	e 8 10	+11	—	9.4
Poona		19.3	192	i 4 29	0	7 52	-10	4 46	PP
Hyderabad	N.	20.0	180	4 33	- 4	8 21	+ 4	—	—
Baku		22.5	286	e 5 9?	+ 7	—	—	—	—
Sverdlovsk		22.7	334	e 5 5	+ 1	e 9 14	+ 5	i 5 10	P
Irkutsk		23.3	41	5 14	+ 4	e 9 24	+ 4	—	—
Shemakia		23.4	288	i 5 6	- 5	—	—	—	—
Lenkoran		23.4	282	e 5 10	- 1	—	—	—	—
Kyakhta		23.7	46	e 5 17	+ 3	e 9 28	+ 1	—	—
Makhach-Kala		24.3	292	i 5 20	0	—	—	—	—
Kabansk		24.5	42	e 9 43	S	(e 9 43)	+ 3	—	—
Kirovobad		25.1	288	5 27	- 1	—	—	—	—
Goris		25.3	285	i 5 30	0	—	—	—	—
Grozny		25.6	293	e 5 31	- 1	—	—	—	—
Tiflis		26.3	290	e 5 39?	0	—	—	—	—
Gori		26.8	290	e 5 46	+ 2	—	—	—	—
Leninakan		27.0	288	e 5 51	+ 6	—	—	—	—
Kodaikanal	E.	27.2	182	—	—	e 10 3	-22	—	—
Borzhomi		27.3	290	e 5 52	+ 4	—	—	—	—
Zugdidi		28.4	292	e 5 58	0	—	—	—	—
Moscow		32.9	317	e 6 36	- 2	—	—	—	—

Continued on next page.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1952

478

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Nanking	z.	33.3	86	e 6 45	+ 4	—	—	—	—
Istanbul		38.1	291	e 7 26	+ 4	—	—	—	e 25.1
Kiruna	z.	43.9	332	i 8 9 <sub>a</sub>	- 1	i 12 13	?	i 8 14	P
Upsala		44.1	320	i 8 10	- 2	e 18 19	SS	i 10 39	PPP
Prague		46.6	307	e 13 45	PcS	e 15 24	+ 3	e 18 47	SS
Copenhagen		47.0	315	i 8 34 <sub>k</sub>	- 1	—	—	i 8 39	P
Potsdam		47.1	310	e 8 35	0	—	—	—	e 35.1
Collmberg		47.3	308	e 8 35	- 2	—	—	e 8 40	P
Jena		48.2	308	e 8 43	- 1	—	—	e 8 47	P
Messina		48.9	291	e 8 48	- 2	e 15 58	+ 5	—	e 31.5
Rome		49.9	297	e 9 1	+ 4	e 16 6	- 1	—	—
Florence		50.2	299	e 9 3	+ 3	e 15 38	-33	—	—
Stuttgart		50.2	306	e 8 58 <sub>a</sub>	- 2	e 20 8	SS	e 9 3	P
Strasbourg		51.2	306	i 9 1	- 6	e 9 47	?	i 9 7	P
Pavia		51.2	302	—	—	e 21 1	SSS	—	—
De Bilt		51.9	311	e 9 16	+ 4	e 16 20	-15	—	—
Paris		54.5	308	e 9 29	- 3	—	—	i 9 35	P
Clermont-Ferrand		55.1	304	e 9 34	- 2	—	—	—	—
Kew		55.3	311	i 9 35	- 3	—	—	i 9 40	P
Rathfarnham C.	z.	58.2	315	e 9 56	- 2	—	—	—	—
Tamanrasset	z.	63.4	279	i 10 30 <sub>k</sub>	- 4	e 11 32	?	e 12 53	PP
College		71.7	19	11 23	- 3	—	—	—	—
Pretoria	z.	78.7	224	i 12 2	- 4	—	—	—	—
Kimberley	z.	83.0	225	i 12 25	- 3	—	—	—	—
Victoria		92.1	14	e 13 11	- 1	—	—	11 34	?
Hungry Horse		93.8	8	i 13 18	- 2	—	—	—	—
Huancayo		145.5	311	i 19 42	[+ 2]	—	—	—	—

June 4d. 20h. 31m. 20s. Epicentre 39°·1N. 24°·2E.

Intensity V at Argolasti in the Province of Volos, and at Skiathos and Skopelos in the Skiathos Islands; IV at Vasilika and Hag. Anna; and III at Adipsos and Oreoe in the Island of Euboea. Epicentre as adopted (Strasbourg).

A. Galanopoulos.

Seismological Institute Bulletin, 1952, Athens, 1953, p. 26.

A = +.7088, B = +.3185, C = +.6294;  $\delta$  = -2; h = -2;  
D = +.410, E = -.912; G = +.574, H = +.258, K = -.777;

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Athens		1.2	198	i 0 26 <sub>a</sub>	+ 2	i 0 43	+ 2	i 0 27	P <sub>g</sub>
Sofia		3.6	349	e 0 53	- 5	i 1 43	+ 1	e 1 3	P <sub>g</sub> *
Istanbul		4.2	61	e 1 17	+ 2*	e 2 2	+ 5	e 1 24	P <sub>g</sub>
Bucharest		5.4	15	e 1 22	- 2	e 2 24	- 4	i 2 59	S <sub>g</sub>
Taranto		5.5	286	1 30	+ 5	—	—	e 6 10	?
Belgrade		6.3	335	e 2 6 <sub>a</sub>	0 <sub>g</sub>	e 3 16	+ 5*	e 3 35	S <sub>g</sub>
Messina	z.	6.8	264	e 1 35	- 9	e 3 22	- 4*	e 2 44	?
Timisoara		6.9	343	e 2 45	+ 7 <sub>g</sub>	e 3 32	+ 3*	e 4 0	S <sub>g</sub>
Szeged		7.7	338	—	—	e 3 26	+ 1	4 19	S <sub>g</sub>
Kalossa		8.3	334	—	—	e 3 33	- 7	e 4 57	?
Budapest		9.1	337	—	—	e 5 5	+ 4 <sub>g</sub>	—	—
Rome		9.3	290	e 2 56	P <sub>g</sub>	e 5 2	- 5 <sub>g</sub>	—	—
Ogyalla		9.7	335	—	—	e 3 46	-29	—	—
Triest		10.0	313	e 2 31	+ 4	e 4 26	+ 4	e 3 22	?
Ksara		10.8	116	e 0 4	?	—	—	—	—
Prague		12.9	331	e 3 49	?	—	—	—	—
Kew		21.0	314	—	—	e 8 46	+ 9	—	—
Tamanrasset	z.	22.8	230	e 5 3	- 2	—	—	e 5 34	PP

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1952

479

June 4d. 21h. 30m. 47s. Epicentre 6°·0N. 77°·5W. (as on 1950, February 24d.).

A = +·2153, B = -·9710, C = +·1038;  $\delta = -3$ ;  $h = +7$ ;  
D = -·976, E = -·216; G = +·022, H = -·101, K = -·995.

	$\Delta$	Az.	P.		O - C.	S.		O - C.	Supp.		L.	
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.	
Chinchina	2·1	118	i 0	36	- 1	i 0	54	-10	i 1	52	?	—
Balboa Heights	3·6	326	i 0	55	- 3	i 1	38	- 4	—	—	—	—
Bogota	3·7	111	i 1	1	+ 1	i 1	57	+ 3*	—	—	—	—
Galerazamba	5·2	25	i 1	31	- 1*	i 2	31	- 7*	i 8	46	PcP	i 3·5
Kingston	11·9	3	e 3	13	+19	e 5	29	+20	—	—	—	—
Guantanamo Bay	14·0	9	i 3	55	+33	—	—	—	—	—	—	—
San Juan	16·6	41	e 3	51	- 5	i 7	14	+14	—	—	—	—
Roosevelt Roads	16·8	43	e 4	1	+ 3	i 7	19	+14	—	—	—	—
Huancayo	18·1	173	e 4	15	+ 1	e 7	39	+ 4	i 4	23	PP	—
Fort de France	18·3	61	e 4	26	+ 9	i 8	4	SS	—	—	—	—
Merida	18·9	323	e 4	24	0	—	—	—	—	—	—	—
Miami	20·0	354	i 4	57	PP	i 8	19	+ 2	—	—	—	—
La Paz	24·2	156	e 5	17	- 2	i 9	40	+ 5	10	24	SS	12·4
Columbia	28·1	354	e 5	52	- 3	—	—	—	—	—	—	—
Bermuda	28·8	23	i 6	0	- 2	e 10	46	- 5	—	—	—	e 16·0
Morgantown	33·6	357	i 6	43	- 1	e 11	47	-19	—	—	—	—
Fayetteville	z. 33·6	335	i 6	41	- 3	i 7	57	PP	i 9	26	PcP	—
Philadelphia	33·9	4	e 6	44	- 3	e 12	19	+ 8	—	—	—	—
Weston	36·6	8	i 7	9 <sub>a</sub>	- 1	—	—	—	—	—	—	—
Harvard	36·7	8	i 7	10 <sub>k</sub>	0	(e 14	55)	SS	—	—	—	e 14·9
Ottawa	39·3	3	i 7	30 <sub>k</sub>	- 2	13	43	+ 9	9	43	PPP	20·2
Shawinigan Falls N.	40·6	6	—	—	—	e 12	54	-60	—	—	—	22·8
Tucson	40·6	315	e 7	41	- 2	—	—	—	—	—	—	—
Kirkland Lake	z. 42·1	358	e 7	53	- 2	—	—	—	i 7	59	P	—
Boulder City	45·4	317	i 8	22	0	—	—	—	i 8	27	P	—
Palomar	z. 45·5	313	i 8	17	- 6	—	—	—	e 8	11	?	—
Riverside	z. 46·2	313	e 8	27	- 1	i 8	32	?	e 8	48	?	—
Pasadena	z. 46·9	313	e 8	34	0	—	—	—	i 8	38	P	—
China Lake	z. 47·3	316	e 8	35	- 2	—	—	—	i 8	40	P	—
Tinemaha	z. 48·3	316	e 8	48	+ 3	—	—	—	—	—	—	—
Fresno	z. 49·2	315	e 8	48	- 4	—	—	—	—	—	—	—
Lick	z. 50·8	315	e 9	4	0	—	—	—	—	—	—	—
Berkeley	z. 51·5	315	e 9	12	+ 3	—	—	—	—	—	—	—
Mineral	z. 52·2	319	i 9	18	+ 3	—	—	—	—	—	—	—
Hungry Horse	52·4	331	i 9	16	0	—	—	—	e 13	44	?	—
Shasta	52·9	319	e 9	18	- 2	—	—	—	—	—	—	—
Arcata	z. 54·1	317	e 9	37	+ 8	—	—	—	—	—	—	—
Victoria	57·5	326	9	52	- 1	—	—	—	—	—	—	—
Resolute Bay	69·4	355	e 11	12	0	—	—	—	—	—	—	—
Scoresby Sund	73·3	17	e 11	33	- 2	—	—	—	e 11	39	P	—
Malaga	73·4	53	i 11	29	- 7	—	—	—	i 11	37	pP	—
College	76·3	336	11	49	- 3	—	—	—	—	—	—	—
Paris	78·9	41	i 12	0	- 7	e 12	45	?	i 12	11	PcP	—
Clermont-Ferrand	79·2	45	—	—	—	e 22	12	+ 4	—	—	—	—
Tamanrasset	z. 81·3	68	i 12	19 <sub>k</sub>	- 1	i 12	25	PcP	e 15	24	PP	—
Witteveen	z. 81·7	36	i 12	22	0	—	—	—	i 12	28	PcP	—
Strasbourg	82·4	42	e 12	23	- 2	e 12	29	PcP	e 12	48	?	—
Karlsruhe	z. 82·8	41	e 12	27	0	—	—	—	e 12	19	?	—
Stuttgart	z. 83·4	42	e 12	28	- 2	—	—	—	e 12	34	PcP	—
Jena	84·8	39	e 12	35	- 2	—	—	—	e 12	41	PcP	—
Florence	85·0	46	e 12	41	+ 3	e 23	23	+16	—	—	—	—
Copenhagen	85·1	34	i 12	43 <sub>k</sub>	+ 4	23	14	+ 6	—	—	—	—
Potsdam	z. 85·6	38	e 12	46	+ 5	—	—	—	—	—	—	—
Collnberg	85·7	39	e 12	39	- 3	—	—	—	e 12	45	PcP	—
Rome	86·0	48	e 12	47	+ 4	e 23	17	0	e 29	13?	SS	—
Triest	z. 86·6	45	i 12	35 <sub>a</sub>	-11	—	—	—	—	—	—	—
Prague	86·7	40	e 12	45	- 2	e 14	37	?	e 12	55	PcP	—
Upsala	z. 87·4	30	i 12	48	- 2	—	—	—	i 12	53	PcP	—
Kiruna	z. 87·5	22	i 12	49 <sub>k</sub>	- 2	—	—	—	i 12	54	PcP	—
Messina	88·7	52	e 13	5	+ 8	e 24	53	PS	—	—	—	—
Taranto	89·8	50	e 14	13	+71	—	—	—	—	—	—	—

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1952

480

June 5d. 5h. 56m. 33s. Epicentre 6°·0N. 77°·5W. (as on 4d.).

Epicentre as given by U.S.C.G.S.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Chinchina	2·1	118	i 0 34	- 3	i 1 2	- 2	—	—
Balboa Heights	3·6	326	i 0 55	- 3	i 1 38	- 4	—	—
Bogota	3·7	111	i 1 2	+ 2	i 1 58	SS	—	—
Galerazamba	5·2	25	i 1 31	- 1*	i 2 20	- 2	i 3 15	?
Kingston	11·9	3	e 2 51	- 3	e 5 31	SS	—	—
Guantanamo Bay	14·0	9	i 3 27	+ 5	i 4 33	?	—	—
Roosevelt Roads	16·8	43	i 4 2	+ 4	e 7 14	+ 9	—	—
Huancayo	18·1	173	i 4 14	0	e 7 36	+ 1	i 4 17	?
Fort de France	18·3	61	i 4 26	+ 9	i 8 4	SS	—	—
Miami	20·0	354	i 4 41	+ 4	i 8 39	SS	—	—
La Paz	24·2	156	i 5 19 <sub>k</sub>	0	i 9 49	+14	6 7	PP
Columbia	28·1	354	i 5 55	0	i 10 47	+ 7	—	—
Bermuda	28·8	23	i 6 4	+ 2	—	—	e 9 45	?
Fayetteville z.	33·6	335	i 6 43	- 1	e 6 53	sP	e 6 47	pP
Morgantown	33·6	357	i 6 45	+ 1	e 12 10	+ 4	—	—
Philadelphia	33·9	4	e 6 47	0	e 12 9	- 2	—	—
Pennsylvania z.	34·6	359	e 6 56	+ 3	e 7 15	?	e 7 47	?
City College, N.Y.	34·8	6	i 6 58	+ 4	e 12 29	+ 4	—	—
Palisades	35·0	6	i 6 55	- 1	e 12 28	0	e 8 11	PP
Cleveland	35·5	355	i 7 0 <sub>a</sub>	0	e 12 37	+ 1	i 7 4	pP
Weston	36·6	8	i 7 11 <sub>a</sub>	+ 1	—	—	—	—
Buffalo (Larkin)	36·7	359	i 7 11	+ 1	—	—	—	—
Harvard	36·7	8	i 7 11 <sub>a</sub>	+ 1	i 12 57	+ 3	—	—
Ottawa	39·3	3	e 7 31	- 1	13 34	0	9 39	PcP
Shawinigan Falls N.	40·6	6	e 7 43	0	13 54	0	9 47	PPP
Tucson	40·6	315	i 7 42	- 1	e 13 47	- 7	—	—
Kirkland Lake z.	42·1	358	e 7 55	0	—	—	i 7 59	pP
La Plata	44·7	156	8 39	+23	13 39	?	—	—
Boulder City	45·4	317	e 8 22	0	—	—	i 8 27	pP
Palomar z.	45·5	313	e 8 24	+ 1	—	—	i 8 29	pP
Riverside z.	46·2	313	e 8 28	0	—	—	i 8 33	pP
Pasadena z.	46·9	313	e 8 34	0	e 9 9	?	i 8 39	pP
China Lake z.	47·3	316	e 8 35	- 2	—	—	i 8 40	pP
Tinemaha z.	48·3	316	e 8 46	+ 1	—	—	e 8 50	pP
Fresno z.	49·2	315	e 8 54	+ 2	—	—	—	—
Reno z.	50·6	319	e 9 1	- 1	—	—	—	—
Lick z.	50·8	315	e 9 5	+ 1	—	—	i 9 9	pP
Berkeley z.	51·5	315	e 9 10	+ 1	—	—	—	—
Mineral z.	52·2	319	i 9 13	- 2	—	—	—	—
Hungry Horse	52·4	331	e 9 14	- 2	—	—	—	—
Shasta	52·9	319	e 9 21	+ 1	—	—	e 9 52	?
Arcata z.	54·1	317	e 9 33	+ 4	—	—	—	—
Corvallis z.	55·4	322	e 9 38	0	—	—	—	—
Victoria	57·5	326	9 51	- 2	—	—	—	—
Resolute Bay	69·4	355	e 11 13 <sub>k</sub>	+ 1	e 20 13	- 5	e 11 26	pP
Scoresby Sund	73·3	17	e 11 34	- 1	e 21 7	+ 3	e 21 26	ScS
Malaga	73·4	53	i 11 32	- 4	—	—	—	—
Granada	73·6	53	i 11 36 <sub>a</sub>	- 1	21 9	+ 2	12 33	?
Almeria	74·5	53	11 38	- 4	21 0	-17	14 24	PP
Alicante	76·1	51	11 44	- 7	21 48	+13	26 50	SS
College	76·3	336	11 50	- 2	—	—	—	—
Kew	77·4	38	i 11 56	- 2	e 21 49	0	—	—
Paris	78·9	41	e 12 6	- 1	—	—	—	e 38·4
Tamanrasset z.	81·3	68	12 20 <sub>k</sub>	0	e 12 44	?	e 15 27	PP
Witteveen z.	81·7	36	i 12 23	+ 1	—	—	—	—
Strasbourg	82·4	42	e 12 21	- 4	e 22 42	+ 1	e 23 29	PS
Karlsruhe z.	82·8	41	e 12 27	0	—	—	e 12 35	PcP
Stuttgart	83·4	42	e 12 29	- 1	e 22 50	- 1	e 14 17	?
Jena	84·8	39	e 12 36	- 1	e 12 41	PcP	15 1	?
Florence	85·0	46	e 12 39	+ 1	e 23 17	+10	—	—

Continued on next page.



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1952

481

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Copenhagen	85.1	34	12 39	0	23 11	+ 3	—	—
Potsdam	85.6	38	e 12 44	+ 3	i 23 17	+ 4	—	e 43.4
Collnberg	z. 85.7	39	e 12 40	- 2	—	—	—	—
Rome	86.0	48	e 12 39	- 4	e 23 19	+ 2	e 24 20	PS
Triest	86.6	45	i 12 45 <sub>a</sub>	- 1	e 23 24	+ 1	e 24 15	PS
Upsala	z. 87.4	30	i 12 50 <sub>k</sub>	0	—	—	i 12 54	PcP
Kiruna	87.5	22	i 12 50	- 1	i 23 17	[ 0 ]	i 23 33	S
Messina	E. 88.7	52	e 13 34	+ 37	e 23 38	- 5	—	e 38.4
Apia	95.6	256	—	—	i 31 41	SSP	—	—
Ksara	105.7	54	e 18 39	PP	e 28 1	PS	—	—

June 5d. 9h. 13m. 32s. Epicentre 8°·7N. 126°·8E. (as on 1950, July 20d.).

Intensity IV at Surigao and Butuan ; III at Hinatuan ; and I at Cebu.  
Monthly Seismic Bulletin of Manila for June, 1952, pp. 1 and 3.

A = -·5922, B = +·7916, C = +·1503 ;  $\delta$  = -8 ; h = +7 ;  
D = +·801, E = +·599 ; G = -·090, H = +·120, K = -·989.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Manila	8.2	316	i 2 3	0	e 3 4	-34	—	i 4.1
Hong Kong	18.2	320	e 4 13	- 3	7 51	SS	—	e 9.1
Zi-ka-wei	z. 22.9	349	e 5 8	+ 2	i 9 12	- 1	5 13	P
Nanking	24.4	343	e 5 21	0	9 37	- 2	i 5 26	P
Djakarta	24.8	234	e 5 20	- 5	e 9 44	- 2	—	—
Brisbane	z. 44.0	146	i 8 21 <sub>a</sub>	+10	i 8 41	?	e 10 6	PcP
Poona	z. 52.2	287	i 9 19	+ 4	i 9 22	?	i 9 27	?
Kiruna	88.1	339	i 12 53	- 1	e 23 45	+ 8	e 24 44	PS
Upsala	z. 92.0	331	e 13 12	0	—	—	—	e 46.5
Tamanrasset	z. 114.6	301	19 36	PP	—	—	—	—
Fayetteville	z. 121.1	39	e 19 0	[+ 5]	—	—	—	—

June 6d. 2h. 42m. 33s. I } Epicentre 41°·4N. 44°·1E. (as on April 4d.).  
21h. 33m. 41s. II }

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.
I Gori	0.6	1	e 0 19	+ 4	i 0 31	+ 5	—
II	0.6	1	i 0 15	0	i 0 23	- 3	—
I Leninakan	0.6	199	0 7	- 8	0 13	-13	—
II	0.6	199	0 15	0	0 24	- 2	—
I Tiflis	0.6	59	e 0 17	+ 2	0 29	+ 3	—
II	0.6	59	e 0 14	- 1	0 24	- 2	—
I Tsikhli-Dzhvari	0.6	302	i 0 15	0	i 0 26	0	—
II	0.6	302	i 0 14	- 1	i 0 21	- 5	—
I Borzhomi	0.7	309	e 0 17	0	i 0 29	+ 1	—
II	0.7	309	i 0 16	- 1	i 0 25	- 3	—
I Abastumanj	1.0	290	0 21	0	0 35	- 1	—
II	1.0	290	i 0 21	0	0 35	- 1	—
I Erevan	1.2	166	—	—	0 36	- 5	—
I Kirovobad	1.8	111	0 36	0 <sub>g</sub>	1 4	+ 4 <sub>g</sub>	—
II	1.8	111	0 37	+ 1 <sub>g</sub>	—	—	—
I Zugdidi	2.0	304	0 41	+ 1 <sub>g</sub>	1 8	+ 2 <sub>g</sub>	1 12
II	2.0	304	—	—	i 1 4	- 2 <sub>g</sub>	—
I Grozny	2.3	32	—	—	e 1 14	- 2 <sub>g</sub>	—
II	2.3	32	—	—	1 16	0 <sub>g</sub>	—
I Goris	2.6	138	e 0 45	+ 1	e 1 25	- 1 <sub>g</sub>	—
II	2.6	138	—	—	e 1 22	+ 1*	—
I Platigorsk	2.7	344	—	—	1 35	+ 6 <sub>g</sub>	—
II	2.7	344	—	—	1 34	+ 5 <sub>g</sub>	—
II Makhach-Kala	3.0	58	—	—	1 39	0 <sub>g</sub>	—

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1952

482

June 6d. 10h. 27m. 33s. Epicentre 6°·8N. 35°·0W.

A = +·8135, B = -·5696, C = +·1176;  $\delta = +6$ ;  $h = +7$ ;  
D = -·574, E = -·819; G = +·096, H = -·067, K = -·993.

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.
Bermuda	37·6	317	—	—	—	e 13	0	- 8	—	—	e 15·5
La Paz	40·1	234	e 7	40	+ 1	—	—	—	—	—	21·4
Malaga	40·8	38	i 7	47	+ 2	—	—	—	—	—	—
Granada	41·6	38	i 7	54 <sub>a</sub>	+ 3	13	35	- 33	9	39	PP
Tamanrasset	z. 42·1	63	i 8	1k	+ 6	e 12	35	?	9	44	PP
Clermont-Ferrand	50·9	33	e 9	6	+ 1	16	30	+ 9	i 9	31	?
Paris	52·5	30	e 9	36	+ 19	—	—	—	—	—	e 26·4
Strasbourg	55·1	33	e 9	36	0	e 17	27	+ 9	—	—	22·4
Messina	55·3	47	e 13	5	?	e 17	30	+ 9	—	—	—
De Bilt	55·9	28	—	—	—	e 17	33	+ 4	—	—	e 23·4
Stuttgart	56·0	33	e 9	41?	- 2	e 17	32	+ 2	—	—	e 25·4
Triest	z. 57·1	38	i 9	49 <sub>a</sub>	- 1	e 10	12	?	e 10	35	PcP
Fayetteville	z. 61·2	308	e 10	13	- 5	—	—	—	—	—	—
Scoresby Sund	64·2	5	e 10	37	- 2	e 19	15	- 1	—	—	26·4
Upsala	z. 66·1	26	i 10	50k	- 1	—	—	—	—	—	—
Kiruna	71·2	20	i 11	21k	- 2	e 20	37	- 3	—	—	e 27·4
Palomar	z. 79·5	303	e 12	8	- 2	—	—	—	—	—	—
Riverside	z. 79·9	304	e 12	12	0	—	—	—	—	—	—
China Lake	z. 80·1	306	e 12	17	+ 4	—	—	—	e 16	25	PPP

June 7d. 16h. 1m. 23s. Epicentre 36°·7N. 70°·5E. Depth of focus 0·030.

(as on June 3d.).

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.	
	°	°	m.	s.	s.	m.	s.	s.	m.	s.
Garm	2·3	356	i 0	43	- 1	i 1	14	- 3	—	—
Stalinabad	2·3	323	i 0	43	- 1	i 1	15	- 2	—	—
Dzhergetal	2·6	12	e 0	46	- 1	—	—	—	—	—
Murgab	3·2	59	i 0	54	0	e 1	34	- 1	—	—
Fergana	3·8	15	i 1	1	0	1	45	- 3	—	—
Andijan	4·3	20	i 1	7	0	e 1	59	0	—	—
Tashkent	4·7	349	i 1	13	+ 1	e 2	7	- 1	—	—
Naryn	6·4	41	i 1	32	- 1	i 2	41	- 5	—	—
Frunse	6·9	26	i 1	41	+ 1	i 2	59	+ 1	—	—
Quetta	7·1	205	i 1	38	- 4	i 2	56	- 6	—	—
Rybach'e	7·2	35	i 1	43	- 1	—	—	—	—	—
Almata	8·2	35	i 1	58	+ 1	—	—	—	—	—
Almata II	8·4	37	i 1	59	0	—	—	—	—	—
Przhevalsk	8·4	44	1	58	- 1	—	—	—	—	—
Kurmenty	8·7	41	i 2	2	- 1	—	—	—	—	—
Ili	8·8	33	i 2	2	- 2	—	—	—	—	—
Chilisk	9·1	39	i 2	8	0	—	—	—	—	—
Ashkabad	9·8	281	i 2	19	+ 2	i 4	6	+ 1	—	—
New Delhi	9·8	143	i 2	3	- 14	3	19	?	2	21
Kizyl-Arvat	11·5	286	e 2	37	- 2	—	—	—	—	—
Goris	19·2	286	e 4	13	+ 4	—	—	—	—	—
Tiflis	20·5	293	e 4	25	+ 3	—	—	—	—	—
Sverdlovsk	21·2	345	4	33	+ 4	e 8	19	+ 13	—	—
Borzhom	21·5	293	e 4	37	+ 5	—	—	—	—	—
Zugdidi	22·7	294	e 4	45	+ 2	—	—	—	—	—
Upsala	z. 40·7	321	i 7	22	+ 2	i 8	28	sP	i 8	4
Kiruna	z. 41·7	334	i 7	30 <sub>a</sub>	+ 2	—	—	—	i 9	23
Collnberg	z. 42·8	309	e 7	38	+ 1	—	—	—	e 8	16
Jena	43·7	308	e 7	46	+ 1	—	—	—	e 10	13
Stuttgart	45·5	306	e 7	59	0	—	—	—	e 8	44
Strasbourg	46·4	306	e 8	0	- 6	e 8	26	?	e 8	52
Paris	49·8	307	e 9	18	pP	—	—	—	—	—
Scoresby Sund	56·7	337	e 9	25	+ 3	—	—	—	—	—
Tamanrasset	z. 57·1	277	i 9	25k	0	—	—	—	i 10	12
Resolute Bay	68·5	356	e 10	41k	+ 1	—	—	—	e 11	30
Pretoria	z. 73·8	220	i 11	11 <sub>a</sub>	- 1	—	—	—	—	—
Pietermaritzburg	z. 76·0	216	i 11	24	0	—	—	—	—	—
Kimberley	z. 78·0	220	i 11	33 <sub>a</sub>	- 2	—	—	—	—	—

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1952

483

June 7d. 18h. 8m. 17s. Epicentre 40°·6N. 77°·9E.

Given by stations of U.S.S.R.

A = +·1596, B = +·7445, C = +·6482;  $\delta = -8$ ;  $h = -2$ ;  
D = +·978, E = -·210; G = +·136, H = +·634, K = -·761.

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.
Naryn	1·7	300	e 0 29	- 2	i 0 49	- 5
Przhevalsk	1·9	11	0 34	0	0 59	0
Rybach'e	2·3	324	i 0 39	- 1	i 1 10	+ 1
Almata II	2·5	352	e 0 45	+ 2	e 1 21	- 2 <sub>g</sub>
Kurmenty	2·5	7	i 0 42	- 1	i 1 14	0
Almata	2·8	345	i 0 49	+ 2	i 1 26	+ 4
Chilisk	3·0	7	i 0 51	+ 1	i 1 32	- 1*
Frunse	3·4	314	e 0 55	0	i 1 42	+ 5
Ili	3·4	350	e 0 55	0		
Andijan	4·2	274	—	—	e 2 21	+ 2 <sub>g</sub>

June 8d. 12h. 42m. 20s. Epicentre 36°·3N. 69°·1E.

Epicentre as given by U.S.S.R.

A = +·2882, B = +·7546, C = +·5894;  $\delta = -13$ ;  $h = 0$ ;  
D = +·934, E = -·357; G = +·210, H = +·551, K = -·808.

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Kulyab	1·7	19	i 0 33	- 1 <sub>g</sub>	i 0 57	+ 1 <sub>g</sub>	—	—
Khorog	2·3	60	0 42	0*	i 1 8	- 1	—	—
Stalinabad	2·3	353	i 0 43	+ 1*	i 1 13	+ 1*	—	—
Obi-garm	2·4	11	i 0 44	0*	i 1 18	- 1 <sub>g</sub>	0 48	P <sub>g</sub>
Garm	2·6	19	i 0 49	+ 1	1 27	+ 3	—	—
Dzhergetal	3·4	29	e 0 57	+ 2	e 1 43	- 2*	—	—
Samarkand	3·8	334	1 7	- 1*	1 49	+ 2	—	—
Murgab	4·4	60	e 1 10	0	e 2 0	- 2	—	—
Fergana	4·6	26	i 1 13	+ 1	e 2 22	+ 2*	—	—
Tashkent	5·0	2	1 29	+ 1*	—	—	—	—
Andijan	5·1	29	1 32	+ 2*	2 23	+ 3	—	—
Quetta	6·3	196	—	—	e 3 7	- 4*	e 3 25	S <sub>g</sub>
Naryn	7·4	44	—	—	3 46	+ 2*	—	—
Frunse	7·8	31	i 1 56	- 2	3 28	0	—	—
Rybach'e	8·2	39	e 2 1	- 2	—	—	—	—
Almata	9·2	38	i 2 15	- 1	—	—	i 2 48	P*
Almata II	9·4	40	2 18	0	—	—	—	—
Przhevalsk	9·5	47	2 18	- 2	—	—	—	—
Ili	9·8	36	2 20	- 4	—	—	—	—
Kurmenty	9·8	44	2 20	- 4	—	—	—	—
Chilisk	10·2	42	2 30	- 1	—	—	—	—
New Delhi	10·3	136	e 2 31	- 1	4 49	SS	e 4 58	SSS
Kirovobad	18·3	291	4 19	+ 2	—	—	—	—
Upsala	40·3	324	i 8 16 <sub>a</sub>	+ 36	—	—	—	—

June 8d. 16h. 2m. 28s. Epicentre 25°·9S. 179°·7E. Depth of focus 0·050.

(as on 1940, Aug. 1d.).

A = -·9007, B = +·0047, C = -·4344;  $\delta = -1$ ;  $h = +3$ ;  
D = +·005, E = +1·000; G = +·434, H = -·002, K = -·901.

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.		
Karapiro	N.	12·5	195	2 54	+ 5	e 5 9	+ 6	e 3 38	PP
Tuai	N.	13·0	188	e 2 58	+ 3	e 5 18	+ 5	—	—
Wellington		15·9	196	3 27	0	e 6 12	- 1	e 4 6	PP
Cobb River	E.	16·2	199	e 3 31	+ 1	e 6 19	+ 1	e 6 30	?
Kaimata	N.E.	17·9	201	e 3 48	+ 1	6 48	- 2	e 4 37	PP

Continued on next page.

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1952

484

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
	°	°	m. s.	s.	m. s.	s.	m. s.
Christchurch	18.5	197	e 4 0	+ 7	e 6 58	- 4	—
Brisbane	z. 23.9	260	i 4 49k	+ 4	—	—	—
Lick	z. 83.6	43	i 11 49	- 2	—	—	—
Pasadena	83.9	48	i 11 51 <sub>a</sub>	- 1	—	—	—
Palomar	z. 84.3	49	i 11 53k	- 1	—	—	—
Riverside	z. 84.3	48	i 11 52k	- 2	—	—	—
Fresno	z. 84.4	45	e 11 54	- 1	—	—	—
China Lake	z. 85.3	46	i 11 57k	- 2	—	—	i 13 42 sP
Mineral	z. 85.6	41	e 11 58	- 3	—	—	—
Tinemaha	z. 85.6	46	i 11 59	- 2	—	—	—
Boulder City	87.2	48	e 12 7	- 1	—	—	—
Tucson	87.9	53	i 12 11	- 1	—	—	—
College	93.9	13	e 12 36	- 3	—	—	—
Kiruna	z. 136.2	349	i 18 38	[- 2]	—	—	—
Upsala	z. 143.9	345	i 18 50k	[- 4]	—	—	—
Collmberg	152.7	342	e 19 12	[+ 4]	e 21 5	?	e 19 26 PKP <sub>2</sub>
Jena	z. 153.4	342	e 19 7	[- 2]	e 19 15	PKP <sub>2</sub>	e 21 7 ?
Stuttgart	156.0	344	e 19 9	[- 3]	—	—	e 19 40 ?
Strasbourg	156.5	346	e 19 10	[- 3]	—	—	—
Tamanrasset	z. 173.9	—	e 19 26k	[- 1]	i 21 2	PKP <sub>2</sub>	e 28 7 PcP, P'

June 8d. 19h. 0m. 11s. Epicentre 39°·2N. 70°·7E. (as on May 2d.).

U.S.S.R. suggests epicentre 39°·2N. 70°·6E.

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	°	°	m. s.	s.	m. s.	s.
Dzhergetal	0.4	88	e 0 8	0 <sub>g</sub>	e 0 14	+ 1 <sub>g</sub>
Garm	0.4	237	0 7	- 1 <sub>g</sub>	0 11	- 2 <sub>g</sub>
Obi-garm	0.9	237	i 0 18	0 <sub>g</sub>	—	—
Fergana	1.4	31	e 0 28	+ 1	e 0 50	+ 4
Kulyab	1.5	209	e 0 30	0 <sub>g</sub>	—	—
Stalinabad	1.6	247	i 0 30	0	i 0 52	+ 1
Khorog	1.9	158	i 0 36	+ 1*	i 1 5	+ 2 <sub>g</sub>
Andijan	2.0	39	0 39	- 1 <sub>g</sub>	i 1 8	+ 2 <sub>g</sub>
Tashkent	2.4	334	e 0 44	0*	e 1 17	+ 2*
Murgab	2.7	108	—	—	e 1 29	0 <sub>g</sub>
Samarkand	2.9	279	—	—	1 33	- 3 <sub>g</sub>
Przhevalsk	6.7	58	e 2 1	+ 4*	—	—

June 8d. 21h. 26m. 20s. Epicentre 44°·2N. 5°·2E.

Intensity VII-VIII at Pierrelongue; V-VI at Mollans and Merindol les Oliviers; V at Buis les Baronnie, Propiac (Drôme), and Beaumont (Vaucluse). Strasbourg gives epicentre as adopted.

Annales de l'Institut de Physique du Globe de Strasbourg, 2e partie, Séismologie, 1952, Nouvelle série, Tome XVII, Strasbourg, 1957, p. 45.

$$A = +.7163, B = +.0652, C = +.6947; \quad \delta = -6; \quad h = -3;$$

$$D = +.091, E = -.996; \quad G = +.692, H = +.063, K = -.719.$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
	°	°	m. s.	s.	m. s.	s.	m. s.
Clermont-Ferrand	2.2	317	i 0 34	- 4	i 1 5	- 1	e 0 27 ?
Pavia	3.0	69	—	—	e 2 31	+ 58*	—
Neuchatel	3.1	23	e 0 51	0	—	—	—
Basle	3.7	26	e 1 5	- 1*	e 1 53	- 1*	—
Chur	4.0	47	e 1 6	+ 2	—	—	—
Zürich	4.0	36	e 1 6	+ 2	e 1 54	+ 2	—
Strasbourg	4.7	21	e 1 23	0*	e 2 39	+ 4 <sub>g</sub>	e 1 30 P <sub>g</sub>
Paris	5.0	339	e 1 20	+ 2	e 2 17	- 1	e 1 14 ?
Stuttgart	5.3	30	e 1 38?	+ 5*	e 2 56	+ 1 <sub>g</sub>	e 1 50 P <sub>g</sub>
Jena	8.0	30	e 3 56?	?	e 4 21	- 3 <sub>g</sub>	e 4 26 P <sub>g</sub>
Prague	8.6	44	e 2 48	- 2 <sub>g</sub>	e 4 35	- 9 <sub>g</sub>	e 4 0 S

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1952

485

June 9d. 14h. 48m. 32s. Epicentre 36°·4N. 27°·4E. (as on 1944, January 5d.).

Intensity V at Symi ; III at Kos.

A. Galanopoulos.

Seismo. Institute Bull., 1952, Athens, 1953, p. 26.

A = +·7163, B = +·3713, C = +·5908 ;  $\delta = -1$  ;  $h = 0$  ;  
D = +·460, E = -·888 ; G = +·525, H = +·272, K = -·807.

		$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
		°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.
Athens		3·3	299	e 0	59 <sub>a</sub>	0	i 1	48	- 1 <sub>g</sub>	e 1	38	S
Istanbul	z.	4·8	51	e 1	11	- 4	e 2	9	- 3	i 1	24	P*
Sofia		7·0	355	e 1	48	+ 2	e 3	52	+ 1 <sub>g</sub>	—	—	—
Helwan	z.	7·3	152	1	58	+ 8	e 3	18	+ 3	e 5	34	?
Bucharest		8·1	353	e 2	32	?	e 3	32	- 3	e 2	38	P <sub>g</sub>
Messina		9·6	284	e 2	24	+ 3	e 4	21	+ 9	e 6	59	?
Belgrade		9·9	330	e 4	1 <sub>a</sub>	?	e 4	21	+ 1	e 5	31	S <sub>g</sub>
Timisoara		10·4	335	—	—	—	e 4	16	- 16	e 4	28?	?
Rome		12·8	300	—	—	—	e 5	31	+ 1	—	—	e 7·3
Florence		14·4	306	e 3	44	+ 17	e 7	13	L.	—	—	(e 7·2)
Pavia		16·3	308	e 4	2	+ 10	e 6	22	- 31	—	—	e 9·9
Prague		16·6	330	e 3	57	+ 1	e 7	14	+ 14	e 4	7	PP
Collmberg		18·1	330	e 4	12	- 2	—	—	—	—	—	e 7·5
Stuttgart		18·2	319	e 4	14 <sub>a</sub>	- 2	e 7	46	+ 9	—	—	e 9·9
Jena		18·4	327	e 4	14	- 4	—	—	—	e 4	25	PP
Strasbourg		18·8	317	e 4	24	+ 1	—	—	—	e 4	48	PP
Potsdam		18·9	331	e 4	23	- 1	e 8	0	+ 7	e 8	4	S
Clermont-Ferrand		20·5	304	i 4	43	+ 1	—	—	—	e 8	47	PcP
Copenhagen		21·8	337	—	—	—	9	2	+ 10	—	—	12·5
Paris		22·0	312	e 4	53	- 5	e 5	21	PP	i 5	31	PPP
De Bilt		22·2	322	e 5	3	+ 3	e 9	28?	+ 28	—	—	—
Kew		24·8	317	—	—	—	e 10	6	+ 20	—	—	e 14·7
Kiruna		31·7	355	i 6	23	- 4	e 15	55	Q	—	—	e 17·9
Scoresby Sund		43·1	337	e 8	6	+ 2	—	—	—	—	—	—
Pretoria	z.	61·8	179	e 10	27	+ 4	—	—	—	—	—	—
Kimberley	z.	64·8	183	e 10	48	+ 5	—	—	—	—	—	—
Fayetteville	z.	89·8	316	e 12	49	- 13	—	—	—	—	—	—

June 9d. 23h. 30m. 6s. Epicentre 36°·7N. 70°·5E. Depth of focus 0·030 (as on 7d.).

	$\Delta$	Az.	P.		O-C.	S.		O-C.
	°	°	m.	s.	s.	m.	s.	s.
Khorog	1·2	48	i 0	33	- 1	i 0	59	- 1
Obi-garm	2·1	342	e 0	40	- 2	i 1	11	- 3
Garm	2·3	356	e 0	43	- 1	i 1	16	- 1
Stalinabad	2·3	323	i 0	41	- 3	i 1	13	- 4
Dzhergetal	2·6	12	i 0	46	- 1	e 1	22	- 1
Murgab	3·2	59	0	55	+ 1	e 1	38	+ 3
Fergana	3·8	15	e 1	2	+ 1	i 1	48	0
Samarkand	4·1	319	—	—	—	1	49	- 5
Andijan	4·3	20	1	7	0	12	0	+ 1
Tashkent	4·7	349	—	—	—	12	7?	- 1
Naryn	6·4	41	—	—	—	12	52	+ 6
Frunse	6·9	26	e 1	40	0	e 3	1	+ 3
Almata II	8·4	37	i 2	0	+ 1	—	—	—
Przhevalsk	8·4	44	e 2	2	+ 3	—	—	—



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1952

486

June 10d. 9h. 58m. 26s. Epicentre 15°·4S. 178°·6W.

A = -·9643, B = -·0236, C = -·2639;  $\delta = +7$ ;  $h = +6$ ;  
D = -·024, E = +1·000; G = +·264, H = +·006, K = -·965.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Apia		6·8	77	i 1 43	- 1	e 3 32	+ 6*	—	e 3·4
Auckland	N.	22·2	193	4 34?	-26	7 46?	?	e 10 22?	Q e 12·5
Karapiro	N.	23·0	192	e 5 9	+ 2	e 9 23	+ 9	e 5 43	PP e 11·5
Tual	N.	23·6	188	5 34?	+21	—	—	—	—
New Plymouth	E.	24·4	192	e 5 46	+25	e 11 4	Q	e 6 17	PP e 12·8
Wellington		26·4	191	e 5 41	+ 1	i 10 14	+ 2	e 6 28	PP e 12·9
Cobb River	E.	26·7	195	e 5 49	+ 6	—	—	—	—
Kaimata	N.E.	28·4	195	e 5 55	- 3	10 44	- 1	e 6 35	PP —
Brisbane		28·9	241	i 6 3 <sub>a</sub>	0	i 10 55	+ 2	i 6 52	PP i 16·5
Christchurch		29·0	193	e 6 3	- 1	e 10 45	- 9	e 7 22	PP e 13·8
Riverview		32·9	230	i 6 37 <sub>k</sub>	- 1	i 11 49	- 7	e 7 46	PP e 14·6
Melbourne	E.	39·1	228	—	—	i 13 32	+ 1	—	— e 16·3
Honolulu		41·8	30	e 8 6	+13	e 14 22	+11	—	—
Guam		46·2	307	i 8 28	0	i 11 53	PPP	—	—
Perth		61·4	242	9 52	-28	18 34	- 6	13 4	PP i 25·5
Kurilsk		67·6	335	11 0	- 1	—	—	—	—
Petropavlovsk		71·0	346	i 11 22	0	i 20 38	+ 1	—	—
Yuzno-Sakhlinsk		71·1	333	11 24	+ 2	20 46	+ 8	—	—
Bandong		72·6	268	e 11 29	- 2	e 21 2	+ 6	—	—
Uglegorsk		73·0	335	11 35	+ 2	21 7	+ 7	—	—
Djakarta		73·5	268	e 11 37	+ 1	—	—	—	—
Vladivostok		73·8	325	11 38	0	i 21 59	PPS	—	—
Zi-ka-wei		73·9	310	11 37 <sub>a</sub>	- 2	21 13	+ 3	—	—
Berkeley		74·8	43	i 11 47 <sub>a</sub>	+ 3	e 21 30	+10	e 31 9	Q e 34·5
Lick	Z.	74·9	43	e 12 46 <sub>a</sub>	+62	—	—	—	—
Hong Kong		75·7	299	11 51	+ 2	e 21 41	+11	—	—
Pasadena		75·7	48	e 11 50	+ 1	i 12 9	?	e 30 40	Q e 34·2
Fresno	Z.	75·9	45	e 12 51 <sub>a</sub>	+61	—	—	—	—
Palomar	Z.	76·2	49	i 11 53	+ 1	—	—	i 12 13	?
Riverside	Z.	76·2	48	e 11 52	0	—	—	i 12 12	?
Nanking		76·3	309	i 11 53 <sub>a</sub>	+ 1	21 32	- 5	i 21 43	SKS —
Shasta		76·3	41	i 11 53	+ 1	—	—	e 13 12	?
Mineral	Z.	76·6	42	e 12 55 <sub>a</sub>	+61	—	—	—	—
China Lake	Z.	76·9	47	e 11 56	0	—	—	i 12 17	?
Tinemaha	Z.	77·1	46	e 11 59	+ 2	—	—	i 12 27	?
Reno	Z.	77·3	43	e 12 0 <sub>a</sub>	+ 2	—	—	—	—
Boulder City		79·0	48	i 12 9	+ 2	—	—	i 12 12	?
Tucson		80·3	52	i 12 16	+ 2	e 22 28	+ 8	e 23 13	PS e 34·2
Victoria		80·3	34	12 17	+ 3	e 22 32	+12	—	—
Seattle		80·4	35	e 11 52	-23	e 21 58	-23	—	—
College		83·4	13	i 12 29	- 1	i 22 49	- 2	e 28 11	SS e 33·7
Butte		85·2	39	e 12 39	0	—	—	—	—
Hungry Horse		85·4	37	e 12 35	- 5	—	—	—	—
Saskatoon		91·4	36	e 13 4	- 5	24 14	+ 7	—	—
Kyakhta		92·4	322	13 14	0	e 24 22	+ 6	e 23 53	SKS —
Kabansk		92·9	323	13 16	0	e 24 28	+ 8	e 23 56	SKS —
Irkutsk		94·3	323	13 22	- 1	24 38	+ 6	e 17 7?	PP —
Fayetteville	Z.	94·5	54	i 13 24	+ 1	—	—	e 17 10	PP —
Huancayo		99·3	105	—	—	e 24 34	[+10]	i 27 0	PS e 42·5
Chicago		100·8	49	e 18 17	PP	e 27 2	PS	—	—
Colombo	E.	102·9	274	18 4	PP	e 30 54	?	—	— 53·6
Resolute Bay		103·1	15	e 14 2	0	e 25 46	0	e 24 41	SKS e 44·1
Chinchina		103·8	88	—	—	e 27 54	PS	—	— 49·6
La Paz		104·4	112	18 26	PP	24 50	[+ 2]	25 26	SKKS 49·4
Bogota		105·2	89	—	—	e 24 0	[-51]	e 28 2	PS —
Cleveland		105·3	51	e 18 0 <sub>k</sub>	[-23]	e 26 6	+ 1	e 33 38	SS —
Kodaikanal		106·0	277	e 17 58	?	—	—	—	—
Buffalo (Larkin)		107·5	49	e 18 50	PP	—	—	—	—
Pennsylvania		107·9	51	18 34?	[+ 5]	—	—	—	—
Ottawa		109·8	47	e 26 54	S	28 34	PS	34 42	SS 45·1

Continued on next page.

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**1952**

**487**

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Philadelphia	109.9	52	—	—	e 26 57	S	e 28 7	PS
City College, N.Y.	110.9	51	e 21 16	?	e 27 0	S	—	—
Fordham	111.0	51	e 19 32	PP	e 28 50	PS	—	—
Palisades	111.0	51	e 19 7	[+32]	e 26 15	{+ 3}	e 28 52	PS
Naryn	111.5	309	e 19 17	PP	e 25 0	[-18]	—	e 50.1
Bombay	112.1	285	e 17 34	?	28 50	PS	19 17	PP
Frunse	112.6	311	i 19 25	PP	i 22 3	PKS	i 21 33	PPP
Harvard	112.7	50	e 19 28	PP	e 27 20	S	e 21 47	PPP
Weston	112.9	50	e 19 29 <sup>a</sup>	PP	e 35 25	SS	—	e 46.1
Murgab	113.0	306	e 19 28	PP	e 28 52	PS	35 10	SS
Andijan	114.2	308	e 19 33	PP	—	—	—	—
Fergana	114.7	308	e 18 58	[+16]	i 26 47	{+ 9}	e 19 42	PP
Khorog	114.8	305	—	—	e 29 34	PS	—	—
Dzhergetal	115.1	307	e 19 34	PP	—	—	—	—
Tashkent	116.6	309	e 19 53	PP	i 25 44	{+ 6}	i 26 58	SKKS
Stalinabad	117.0	307	e 20 1	PP	e 29 45	PS	—	—
Bermuda	118.1	61	i 20 11	PP	—	—	—	e 54.8
Halifax	118.4	47	—	—	e 30 20	PS	—	50.0
Samarkand	118.4	307	20 14	PP	—	—	—	—
Quetta	118.5	297	e 19 54	PP	e 26 14	{+29}	e 29 55	PS
Sverdlovsk	119.5	328	20 5	PP	—	—	36 28	SS
Scoresby Sund	123.1	9	e 20 38	PP	e 23 10	PPP	37 10	SS
Kiruna	126.2	351	i 19 8	[+ 3]	e 31 6	PS	e 21 0	PP
Kimberley	z. 130.6	207	e 19 16	[+ 3]	—	—	—	e 56.6
Pulkovo	130.9	341	e 21 28	PP	e 22 39	PKS	e 24 44	PPP
Baku	131.2	311	e 18 50	[-24]	e 22 46	PKS	—	—
Pretoria	z. 131.5	213	e 19 20	[+ 5]	—	—	—	—
Helsinki	132.1	345	e 21 41	PP	e 22 41	PKS	e 23 28	?
Makhach-Kala	132.1	305	i 19 27	[+11]	i 22 52	PKS	—	—
Lenkoran	132.4	308	e 22 0	PP	—	—	—	—
Grozny	133.1	316	19 25	[+ 7]	i 22 51	PKS	—	—
Kirovobad	133.6	312	19 22	[+ 3]	—	—	—	—
Upsala	134.0	350	i 21 51	PP	e 26 44	{+15}	e 22 50	PKS
Goris	134.1	311	19 24	[+ 4]	26 18	[-11]	21 54	PP
Tiflis	134.4	315	e 19 24	[+ 4]	—	—	—	—
Piatigorsk	134.6	318	e 19 21	[ 0]	i 26 14	[-16]	i 21 56	PP
Gori	134.8	315	e 19 23	[+ 2]	—	—	—	—
Erevan	135.2	312	e 19 26	[+ 4]	—	—	—	—
Borzhom	135.3	315	e 19 25	[+ 3]	—	—	—	—
Leninakan	135.4	314	—	—	i 22 53	PKS	—	—
Sotchi	137.0	319	19 31	[+ 6]	28 57	{- 6}	22 10	PP
Aberdeen	138.2	3	i 22 14	PP	i 26 32	[- 4]	i 30 32	S
Copenhagen	138.9	351	e 19 32	[+ 3]	40 40	SS	22 18	PP
Theodosia	138.9	323	19 35	[+ 6]	29 19	{+ 5}	22 21	PP
Simferopol	139.6	325	19 32	[+ 2]	23 5	PKS	—	—
Yalta	139.9	323	19 32	[+ 2]	e 29 32	{+12}	e 22 10	PP
Durham	140.6	3	i 23 14	PKS	i 32 46	PS	i 32 53	PS
Kishinev	141.1	331	19 34	[+ 2]	26 41	{ 0}	22 34	PP
Lwow	141.1	337	e 19 33	[+ 1]	e 26 45	{+ 4}	e 22 38	PP
Rathfarnham Castle	141.7	7	e 19 39	[+ 6]	e 29 14	[-17]	e 22 41	PP
Potsdam	142.0	349	e 19 40	[+ 6]	e 23 5	PP	e 30 5	SKKS
Raciborzu	142.8	343	e 19 35	[ 0]	e 23 14	PKS	e 24 51	?
Collmberg	143.0	348	e 19 33	[- 3]	e 22 58	PP	e 23 28	PKS
Skalnate Pleso	143.0	340	e 19 37	[+ 1]	e 26 48	{+ 4}	22 39	PP
De Bilt	143.3	357	e 19 34	[- 2]	e 35 4	PPS	e 22 48	PP
Jena	143.6	349	e 19 36	[- 1]	e 28 16	?	e 22 41	PP
Prague	143.8	346	e 19 36?	[- 1]	e 26 34?	[-11]	e 22 46	PP
Ksara	143.9	307	e 19 41	[+ 4]	35 32	PPS	22 49	PP
Kew	144.0	2	i 19 37	[ 0]	e 42 5	SS	e 22 28	PP
Bucharest	144.3	330	e 19 40	[+ 2]	e 29 39	{- 7}	e 23 10	PKS

Continued on next page.

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1952

488

		$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		I.
		°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.
Budapest	N.	144.8	339	e 20	55	?	e 22	58	PP	e 29	4	?
Ogyalla		144.8	340	e 19	43	[+ 4]	e 26	42	[- 5]	e 22	58	PP
Istanbul		144.9	323	e 19	39	[ 0]	e 23	31	PKS	e 42	2	SS
Szeged	E.	145.5	338	19	56	[+16]	23	26	PKS	—	—	—
Timisoara	E.	145.5	335	e 19	44	[+ 4]	—	—	—	e 19	53	PKP
Kalossa		145.7	339	19	46	[+ 6]	e 23	12	PKS	e 23	6	PP
Karlsruhe		146.0	352	e 19	43	[+ 2]	—	—	—	—	—	e 56.6
Stuttgart		146.1	351	e 19	44	[+ 3]	e 33	22	PSKS	e 22	54	PP
Belgrade		146.5	335	i 19	47k	[+ 5]	e 27	18	[+29]	e 23	9	PP
Strasbourg		146.5	353	e 19	45	[+ 3]	e 27	18	[+29]	e 23	36	PP
Paris		146.7	0	e 19	44	[+ 2]	30	4	{+ 4}	i 23	10	PP
Sofia		146.9	330	e 20	51	[+69]	—	—	—	—	—	—
Zürich		147.6	352	e 19	47	[+ 3]	—	—	—	e 22	56	PP
Chur		147.9	351	e 19	49k	[+ 5]	—	—	—	—	—	—
Neuchatel		148.2	353	e 19	50	[+ 5]	—	—	—	—	—	—
Salo	E.	148.9	348	e 20	3	[+17]	e 21	55	?	e 20	54	?
Helwan		149.0	303	e 19	52	[+ 6]	e 23	24	PKS	e 19	57	?
Pavia		149.6	350	e 19	55k	[+ 8]	e 37	19	PPS	e 28	20	?
Clermont-Ferrand		149.7	358	e 19	55	[+ 8]	—	—	—	62	34?	Q
Padova		149.7	346	e 19	59	[+12]	—	—	—	—	—	—
Bologna		149.8	346	e 19	55	[+ 8]	—	—	—	e 21	18	?
Prato		150.4	346	e 19	58	[+10]	e 34	10	PS	—	—	—
Florence		150.5	346	i 19	56k	[+ 8]	i 26	22	[-32]	e 23	24	PKS
Taranto		151.4	335	e 20	15	PKP <sub>2</sub>	e 24	45	PP	e 43	15	SS
Rome		151.9	343	e 20	3	PKP <sub>2</sub>	29	29	{-60}	e 24	21	PP
Rocca di Papa		152.0	343	e 20	2	PKP <sub>2</sub>	—	—	—	e 20	36	?
Coimbra		153.8	17	19	58	[+ 5]	—	—	—	—	—	77.8
Messina	E.	154.1	335	e 20	12	PKP <sub>2</sub>	e 32	9	?	e 24	25	PP
Tortosa		154.7	1	i 20	35	PKP <sub>2</sub>	e 31	23	{+39}	—	—	—
Lisbon		155.0	19	e 19	44	[-10]	34	41	PS	i 20	13	PKP <sub>2</sub>
Toledo		155.2	10	e 19	52	[- 3]	26	57	[- 3]	i 20	23	PKP <sub>2</sub>
Alicante		157.1	5	19	56	[- 1]	27	19	[+17]	20	37	PKP <sub>2</sub>
Granada		157.9	12	20	21k	PKP <sub>2</sub>	e 26	38	[-25]	20	35	PKP <sub>2</sub>
Malaga		158.1	13	i 20	6	[+ 7]	i 24	14	PP	i 20	34	PKP <sub>2</sub>
Almeria		158.4	9	i 20	11	[+12]	27	15	[+12]	20	51	PKP <sub>2</sub>
Algiers Univ.	z.	158.6	357	e 20	4	[+ 5]	e 27	13	[+10]	e 20	37	PKP <sub>2</sub>
Tamanrasset	z.	171.7	333	i 20	15a	[+ 5]	e 32	1	{-10}	i 21	34	PKP <sub>2</sub>

June 10d. 10h. 46m. 51s. Epicentre 35°·6N. 140°·0E. Depth of focus 0·005.  
(as on 1951, July 16d.).

Intensity IV at Mizukaido, Simodate; II-III at Tokyo, Hunatu, Sugito, Koshigaya, and Minato. Epicentre 35°·3N. 140°·0E. Depth 55km.

Seismo. Bull. Cent. Met. Obs., Japan, Tokyo, 1952, p.233, with macroseismic chart.

$$A = -.6243, B = +.5239, C = +.5795; \delta = +4; h = 0;$$

$$D = +.643, E = +.766; G = -.444, H = +.373, K = -.815.$$

		$\Delta$	Az.	P.		O-C.	S.		O-C.
		°	°	m.	s.	s.	m.	s.	s.
Tokyo	z.	0.2	298	i 0	10	- 1	0	19	0
Yokohama		0.3	240	i 0	11	- 1	0	21	+ 1
Tukubasan		0.6	7	0	11	- 3	0	21	- 4
Mera		0.7	191	0	16	+ 1	0	24	- 3
Tyosi	N.	0.7	79	i 0	14k	- 1	0	27	0
Kumagaya	z.	0.8	318	i 0	15	- 2	0	28	- 1
Titibu		0.8	297	e 0	18	+ 1	0	30	+ 1
Ajiro		0.9	233	0	23	+ 5	0	36	+ 5
Mito		0.9	26	0	16	- 2	0	27	- 4
Hunatu		1.0	264	0	18	- 1	0	35	+ 2
Misima		1.0	241	e 0	19	0	0	32	- 1
Osima		1.0	211	e 0	17	- 2	0	29	- 4
Utunomiya		1.0	354	e 0	17	- 2	0	31	- 2
Maebasi	z.	1.1	317	i 0	19k	- 1	0	35	- 1
Kohu		1.2	272	i 0	21	- 1	0	37	- 1

Continued on next page.

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1952

489

		$\Delta$	Az.	P.	O-C.	S.	O-C.
		°	°	m. s.	s.	m. s.	s.
Onahama		1.5	29	i 0 21	- 5	0 45	0
Shirakawa		1.5	7	e 0 27	+ 1	0 43	- 2
Matusiro		1.7	303	e 0 29	+ 1	—	—
Matumoto	E.	1.8	291	e 0 30	0	0 53	+ 1
Nagano	N.	1.8	306	e 0 31	+ 1	0 58	+ 6
Omaesaki		1.8	236	0 33	+ 3	—	—
Inawasiro		2.0	3	e 0 33	+ 1	0 57	0
Hokusima		2.2	10	e 0 40	+ 5	—	—
Hatidyojima		2.5	183	e 0 43	+ 4	—	—
Nagoya		2.5	260	e 0 44	+ 5	1 14	+ 5
Toyama	N.	2.5	296	e 0 51	+12	—	—
Gihu		2.6	266	e 0 46	+ 5	—	—
Sendai	N.	2.8	15	e 0 57	+13	1 28	+11
Morioka		4.2	13	e 1 2	- 1	—	—

June 10d. 14h. 22m. 52s. Epicentre 41°·0N. 49°·3E. Depth of focus 0·010.

Given by stations of U.S.S.R.

A = +·4936, B = +·5738, C = +·6535;  $\delta$  = -5; h = -2;  
D = +·758, E = -·652; G = +·426, H = +·495, K = -·757.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Shemakla	0.6	234	i 0 16	- 1	—	—	—	—
Baku	0.8	144	i 0 18	0	—	—	—	—
Kirovobad	2.3	263	i 0 40	+ 3	1 10	+ 5	—	—
Lenkoran	2.3	189	—	—	1 10	+ 5	—	—
Makhach-Kala	2.4	326	0 42	+ 4	i 1 12	+ 5	—	—
Goris	2.7	236	i 0 48	+ 5	1 26	+12	—	—
Grozny	3.5	313	e 0 58	+ 4	i 1 50	+16	—	—
Tiflis	3.5	284	e 0 56	+ 2	e 1 34	0	—	—
Erevan	3.8	259	—	—	e 1 50	+ 8	i 2 7	?
Gori	4.0	286	1 6	+ 6	e 1 55	+ 9	e 2 1	?
Borzhomi	4.5	283	1 14	+ 7	e 2 29	+30	—	—
Piatigorsk	5.5	306	—	—	2 26	+ 3	—	—
Kizyl-Arvat	5.7	108	e 1 18	- 6	e 2 19	- 9	—	—
Ashkabad	7.6	110	e 1 46	- 4	3 7	- 8	—	—
Yalta	11.7	293	e 2 48	+ 3	—	—	—	—
Simferopol	11.8	295	e 2 49	+ 3	—	—	—	—
Ksara	12.8	240	e 3 26	+26	e 5 58	+38	—	—
Samarkand	13.6	90	3 10	0	—	—	—	—
Stalinabad	15.2	93	3 29	- 1	e 6 14	- 2	—	—
Obi-garm	15.8	92	e 3 36	- 2	e 6 26	- 4	—	—
Kishinev	15.9	299	3 44	+ 5	—	—	—	—
Moscow	16.6	336	3 50	+ 2	—	—	—	—
Dzhergetal	16.9	89	e 3 47	- 5	6 47	- 8	—	—
Fergana	17.1	85	e 3 49	- 5	e 7 0	0	—	—
Andijan	17.4	83	i 3 54	- 4	e 7 9	+ 3	—	—
Sverdlovsk	17.5	21	e 3 54	- 5	e 6 56	-12	—	—
Khorog	17.6	92	e 3 59	- 1	7 6	- 5	—	—
Frunse	18.9	76	4 12	- 3	—	—	—	—
Murgab	19.1	89	e 4 18	0	i 7 46	+ 3	—	—
Rybach'e	20.0	77	e 4 30	+ 3	—	—	—	—
Naryn	20.1	80	e 4 30	+ 2	—	—	—	—
Almata	20.6	73	i 4 35	+ 2	e 8 20	+ 7	—	—
Ili	20.7	71	4 30	- 4	—	—	—	—
Przhevalsk	21.7	75	4 44	0	—	—	—	—
Upsala	27.8	324	i 5 39	- 3	i 10 47	+31	i 6 21	PP
Kiruna	31.1	340	i 6 13	+ 2	i 12 33	SS	—	—
Tamanrasset	z. 40.9	257	i 7 41 <sup>a</sup>	+ 7	—	—	—	—
Pretoria	z. 69.2	200	i 11 4	+ 6	—	—	—	—
Kimberley	z. 73.0	202	i 11 26 <sup>a</sup>	+ 5	—	—	—	—

e 19.4

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1952

490

June 11d. 0h. 31m. 37s. Epicentre 31°·5S. 68°·6W. (as on 1949, April 17d.).

Damage and casualties at San Juan in Argentina; Intensity V between 32° and 33°S. in Chile. Epicentre 32°·1S. 67°·9W. (Strasbourg).  
Seismological Notes, Bulletin of the Seismological Society of America, July, 1952, Vol. 42, No. 3, p.280.

F. Greve.  
Boletín del Año, 1952, Instituto Seismológico, Universidad de Chile, Santiago, p.13.

A = +·3117, B = -·7953, C = -·5199;  $\delta = -5$ ;  $h = +1$ ;  
D = -·931, E = -·365; G = -·190, H = +·484, K = -·854.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Santa Lucia	N.	2·2	223	i 0 45	+ 1 <sub>g</sub>	i 1 17	+ 4 <sub>g</sub>	—	—
Concepción	N.	6·5	214	e 1 19	-20	i 2 55	0	i 3 14	S*
Antofagasta	E.	8·0	348	e 2 11	+11	—	—	e 2 27	P*
Buenos Aires		9·0	112	2 12	- 1	4 7	+ 9	—	—
La Plata		9·6	114	2 31	+10	4 6	- 6	4 23	?
La Paz		15·0	4	i 3 40 <sub>a</sub>	+ 5	i 6 33?	+10	i 4 1	PP
Huancayo		20·3	341	i 4 44	+ 4	i 8 29	+ 6	—	i 10·0
Punta Arenas	N.	21·7	184	e 4 50	- 5	i 8 57	+ 6	13 23	?
Bogota		36·3	351	i 7 10	+ 3	i 13 3	+15	i 8 27	PP
Chinchina		36·9	349	i 7 5	- 7	i 13 15	+17	i 7 12	P
Balboa Heights		41·6	345	e 7 53	+ 2	—	—	—	—
Galerazamba		42·5	351	i 8 5	+ 6	i 14 30	+ 8	i 8 24	?
Fort de France		46·5	11	i 8 29	- 2	i 15 14	- 5	—	e 22·2
San Juan		49·7	4	i 8 54	- 2	i 16 3	- 1	—	—
Ciudad Trujillo		49·7	358	i 8 48	- 8	e 15 52	-12	—	—
Kingston		49·8	350	e 9 1	+ 5	e 16 22	+16	—	e 29·5
Oaxaca		55·3	328	i 9 43 <sub>a</sub>	+ 5	e 15 43	?	—	—
Merida		55·9	337	i 9 45	+ 3	e 17 37	+ 8	—	—
Vera Cruz		56·9	329	e 9 56	+ 7	e 17 53	+11	—	—
Puebla		57·7	326	i 9 59 <sub>a</sub>	+ 4	e 17 59	+ 9	—	—
Tacubaya		58·5	326	i 10 4	+ 4	i 18 12	+ 9	—	—
Guadalajara		61·7	322	e 10 29	+ 7	e 18 59	+15	—	—
Bermuda		63·6	5	i 10 34	- 1	i 19 10	+ 2	e 19 41	PPS
Mobile		64·6	342	i 10 20	-21	i 18 52	-29	—	e 26·2
Columbia		66·2	350	i 10 50	- 2	i 19 39	- 1	—	—
M'Bour		67·3	54	—	—	e 19 48	- 6	—	33·4
Washington, N.R.L.		70·4	354	i 11 14	- 4	i 20 29	- 1	—	—
Philadelphia		71·4	356	e 11 24	0	e 20 42	0	—	—
Morgantown		71·5	350	i 11 24	0	e 20 43	0	—	—
Cincinnati		71·8	346	i 11 27	+ 1	—	—	i 19 44	?
Lubbock		71·9	331	e 11 27	0	i 20 53	+ 5	—	—
City College, N.Y.		72·1	357	i 11 28	0	i 20 50	0	—	—
Fordham		72·2	357	i 11 29	0	i 20 55	+ 4	—	—
Palisades		72·3	357	i 11 27	- 2	i 20 54	+ 2	e 15 57	PPP
Pennsylvania		72·4	353	i 11 30	0	e 20 52	- 1	e 14 21	PP
Pittsburgh		72·4	351	i 11 29	- 1	i 20 47	- 6	—	—
Cleveland		73·6	350	i 11 36 <sub>a</sub>	- 1	i 21 10	+ 3	e 14 24	PP
Weston		73·6	358	i 11 36 <sub>k</sub>	- 1	e 21 12	+ 5	i 14 23	PP
Harvard		73·7	358	i 11 37 <sub>a</sub>	- 1	i 21 9	+ 1	e 12 53	?
Buffalo (Larkin)		74·6	353	i 11 42	- 1	e 21 12	- 6	—	e 39·7
Tucson		74·9	324	e 11 47	+ 3	e 21 28	+ 5	e 12 51	?
Chicago		75·0	345	e 11 44	- 1	e 21 18	- 5	—	e 33·8
Halifax		75·9	4	e 11 49	- 1	21 35	+ 3	22 5	ScS
Ottawa		76·8	355	i 11 54 <sub>a</sub>	- 1	21 41	- 1	14 43	PP
Grahamstown	z.	77·3	120	i 11 57	- 1	—	—	i 11 43	?
Shawinigan Falls	N.	77·8	358	e 12 1	0	21 52	- 1	14 59	PP
Kimberley	z.	78·2	116	i 12 2	- 1	—	—	—	—
Seven Falls	E.	78·3	359	e 12 7	+ 4	i 22 1	+ 2	27 3	SS
Palomar		79·0	321	i 12 7 <sub>a</sub>	0	i 22 12	+ 6	—	—
Riverside		79·7	320	i 12 12 <sub>a</sub>	+ 1	—	—	i 12 20	PcP

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1952

491

		$\Delta$	Az.	P.	O - C.	S.	O - C.	Supp.	L.
		o	o	m. s.	s.	m. s.	s.	m. s.	m.
Kirkland Lake	z.	79.9	352	i 12 12 <sub>a</sub>	0	—	—	—	—
Boulder City		79.9	323	i 12 12	0	e 22 22	+ 6	—	—
Pasadena		80.3	320	i 12 14 <sub>a</sub>	0	i 22 24	+ 4	i 12 19	PcP
China Lake		81.2	322	i 12 19 <sub>a</sub>	0	e 22 36	+ 7	e 39 2	P'P'
Pietermaritzburg	z.	82.0	119	i 12 24	+ 1	—	—	—	—
Pretoria	z.	82.3	114	i 12 24	- 1	—	—	i 12 38	PcP
Tinemaha		82.5	322	i 12 26 <sub>a</sub>	0	i 22 43	+ 1	e 22 56	ScS
Fresno		83.1	321	i 12 28 <sub>a</sub>	- 1	e 23 8	ScS	e 12 39	PcP
Lick	z.	84.5	320	i 12 37 <sub>a</sub>	+ 1	—	—	i 13 21	pP
Santa Clara		84.7	320	i 12 42	+ 5	i 23 12	+ 8	—	—
Reno		85.2	322	e 12 40 <sub>a</sub>	+ 1	e 23 7	- 2	—	—
Berkeley		85.3	320	i 12 40 <sub>a</sub>	0	e 23 0	[- 3]	e 13 21	pP
Christchurch		86.7	219	12 47	0	e 23 23	- 1	24 30	PS
Mineral	z.	86.7	321	i 12 46 <sub>a</sub>	- 1	—	—	i 13 19	pP
Butte		86.8	330	i 12 48	+ 1	e 23 24	- 1	—	—
Wellington		87.0	222	12 49	+ 1	i 23 14	[ 0]	23 25	S
Tuai	N.	87.1	225	e 12 57	+ 8	—	—	—	e 40.4
Shasta		87.4	321	i 12 48	- 2	—	—	—	—
Kaimata	N.E.	88.0	219	e 12 51	- 2	—	—	—	—
Cobb River	E.	88.2	221	e 12 56	+ 2	—	—	—	—
Arcata	z.	88.4	321	e 12 55 <sub>a</sub>	0	—	—	—	—
Karapiro	N.	88.7	225	e 12 57	0	—	—	—	—
Lisbon		89.1	42	i 13 3 <sub>k</sub>	+ 5	23 34	{ - 1}	13 17	pP
Tamanrasset	z.	89.1	62	i 12 59 <sub>k</sub>	+ 1	e 23 38	{ + 3}	e 30 36	PKKP
Hungry Horse		89.3	331	e 12 59	0	e 23 28	{ - 1}	e 16 35	PP
Saskatoon		89.7	337	—	—	e 23 39	{ - 1}	—	—
Coimbra		90.5	42	—	—	i 23 42	{ - 3}	—	47.3
Corvallis	z.	90.6	323	i 12 55	- 10	—	—	—	—
Malaga		90.6	46	i 13 8	+ 3	i 23 42	{ - 4}	i 16 54	PP
Granada		91.4	46	i 13 12	+ 3	23 48	{ - 4}	17 0	PP
Almeria		91.9	47	i 13 4	- 7	i 23 40	[- 4]	i 24 5	S
Seattle		92.4	326	i 13 13	- 1	e 24 19	+ 3	e 23 53	SKS
Toledo		92.8	44	e 13 16	0	e 23 51	[ + 2]	16 58	PP
Alicante		94.1	46	e 12 44	- 38	i 23 59	[ + 3]	25 46	PS
Algiers Univ.	z.	95.4	50	i 13 28 <sub>k</sub>	0	e 24 46	+ 4	e 17 18	PP
Tortosa		96.2	45	e 13 20	- 11	i 24 12	[ + 4]	—	—
Victoria		96.7	326	13 16	- 17	—	—	—	—
Barcelona		97.5	45	—	—	e 23 52	[- 22]	—	e 52.6
Jersey	E.	99.7	37	—	—	e 24 30	[ + 4]	—	54.4
Rathfarnham Castle		100.2	32	e 13 49	0	e 24 26	[- 2]	e 18 3	PP
Clermont-Ferrand		100.6	42	e 13 49	- 2	i 24 36	[ + 6]	e 20 14	PPP
Tananarive		100.9	120	e 27 9	PS	e 24 37	[ + 6]	32 32	SS
Paris		102.0	39	e 13 57	0	i 24 37	[ 0]	i 18 13	PP
Kew		102.0	36	i 14 2	+ 5	e 24 37	[ 0]	i 18 11	PP
Durham		103.3	33	e 14 26	+ 23	i 24 47	[ + 4]	—	e 43.4
Pavia		103.9	45	e 14 7	+ 1	e 24 52	[ + 7]	e 18 28	PP
Rome		104.3	48	e 14 11	+ 3	i 24 48	[ + 1]	i 27 42	PS
Florence		104.4	47	e 14 11	+ 3	i 24 50	[ + 2]	i 28 33	PPS
Aberdeen		104.5	30	e 14 28	+ 20	i 24 50	[ + 2]	i 18 31	PP
Messina		104.6	54	e 14 16	+ 7	24 44	[- 5]	e 33 38	SSP
Bologna		104.8	46	e 18 44	PP	—	—	e 21 16	?
Strasbourg		104.8	41	e 14 13	+ 3	e 24 47	[- 3]	e 20 45	PPP
Riverview		105.0	213	—	—	e 24 31	[- 20]	i 27 45	PS
De Bilt		105.2	37	e 14 12	0	e 24 54	[ + 3]	e 18 32	PP
Karlsruhe		105.4	41	e 14 13	0	—	—	e 18 36	PP
Stuttgart		105.7	42	e 14 13	- 1	e 24 52	[- 2]	e 26 13	S
Witteveen	z.	106.3	36	e 18 45	PP	—	—	—	e 47.4
Taranto		106.8	52	—	—	e 25 4	[ + 5]	e 33 40	SS
Triest		106.9	45	e 14 26	P	e 24 53	[- 6]	e 18 47	PP
Scoresby Sund		107.0	13	e 14 22	P	e 26 27	+ 8	i 25 7	SKS
Resolute Bay		107.3	353	e 18 20	PKP	e 26 25	+ 3	e 18 52	PP
Jena		108.1	40	e 14 31	P	e 24 59?	[- 5]	e 18 53	PP
Cheb		108.1	41	e 19 5	PP	i 25 13	[ + 9]	e 28 22?	PS
Collnberg		109.0	41	e 14 35	P	e 25 17	[ + 9]	e 19 7	PP
Prague		109.3	42	e 18 37	[ + 5]	e 25 10	[ + 1]	e 14 41	P

Continued on next page.

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1952

492

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
	$^{\circ}$	$^{\circ}$	m.	s.	s.	m.	s.	s.	m.	s.	m.
Bergen	109.5	30	—	—	—	e 28	37	PS	—	—	e 57.0
Potsdam	109.6	39	i 19	7	PP	i 25	12	[+ 1]	e 28	29	PS
Athens	110.2	57	e 19	10	PP	e 26	9	{+ 3}	i 19	19	?
Ogyalla	110.6	45	e 21	49	PPP	e 28	46	PS	e 29	46	PPS
Copenhagen	110.7	35	e 14	41	P	25	17	[+ 2]	19	12	PP
Belgrade	110.8	49	e 18	47 <sub>a</sub>	[+ 12]	e 25	17	[+ 2]	e 19	21	PP
Timisoara	111.7	48	e 19	30	PP	e 29	7	PS	e 20	17	?
Skalnate Pleso	112.4	44	e 18	37	[- 1]	e 25	42	[+ 21]	e 29	33	PS
Helwan	112.7	67	e 14	54	P	25	28	[+ 5]	e 19	29	PP
College	113.7	332	14	49 <sub>?</sub>	P	—	—	—	—	—	—
Bucharest	114.4	51	e 19	35	PP	e 25	33	[+ 3]	e 29	27	PS
Upsala	114.9	33	i 18	46	[+ 3]	e 25	25	[- 7]	e 26	43	SKKS
Lwow	114.9	45	e 18	47	[+ 4]	e 25	37	[+ 5]	e 19	50	PP
Istanbul	115.2	56	e 18	43 <sub>?</sub>	[ 0]	e 29	26	PS	e 19	49	PP
Kishinev	117.1	49	e 18	47	[ 0]	25	41	[+ 1]	26	57	SKKS
Ksara	117.8	65	i 14	55	P	e 29	51	PS	i 20	9	PP
Kiruna	118.4	25	i 18	49	[- 1]	e 25	47	[+ 3]	e 30	0	SKSP
Helsinki	118.5	33	e 29	53	PS	e 25	44	[- 1]	—	—	—
Yalta	119.9	53	18	52	[- 1]	e 25	48	[- 2]	20	18	PP
Simferopol	120.0	52	18	53	[ 0]	30	15	PS	20	20	PP
Theodosia	120.9	52	18	54	[ 0]	30	23	PS	20	24	PP
Pulkovo	121.0	35	20	27	PP	e 30	12	PS	—	—	—
Sotchi	123.5	55	19	1	[+ 1]	—	—	—	20	47	PP
Moscow	124.3	41	e 19	2	[+ 1]	e 26	7	[+ 3]	e 27	45	SKKS
Zugdidi	124.8	56	e 19	11	[+ 9]	—	—	—	—	—	—
Abastumanj	125.3	59	e 19	11	[+ 8]	—	—	—	—	—	—
Borzhome	125.8	59	e 19	4	[ 0]	—	—	—	—	—	—
Piatigorsk	126.0	55	e 19	6	[+ 2]	i 26	14	[+ 5]	i 23	48	PPP
Gori	126.3	58	e 19	8	[+ 3]	—	—	—	—	—	—
Tiflis	126.8	58	e 19	7	[+ 1]	—	—	—	—	—	—
Goris	127.5	61	19	7	[ 0]	26	17	[+ 4]	28	9	SKKS
Kirovobad	127.7	59	e 19	7	[- 1]	—	—	—	—	—	—
Grozny	127.8	57	19	9	[+ 1]	—	—	—	i 21	14	PP
Makhach-Kala	129.0	57	e 19	16	[+ 6]	e 26	24	[+ 7]	e 21	27	PP
Lenkoran	129.2	63	19	16	[+ 6]	e 26	23	[+ 5]	e 21	21	PP
Shemakla	129.4	60	e 19	14	[+ 3]	i 22	43	PKS	—	—	—
Baku	130.3	60	e 19	16	[+ 3]	i 22	38	PKS	e 21	32	PP
Kizyl-Arvat	134.9	63	19	22	[+ 1]	—	—	—	e 21	57	PP
Ashkabad	136.4	65	e 19	29	[+ 5]	e 23	5	PKS	—	—	—
Sverdlovsk	137.0	38	e 19	16	[- 9]	e 29	1	[- 2]	i 22	8	PP
Petropavlovsk	139.8	316	i 19	26	[- 4]	—	—	—	i 22	32	PP
Colombo	E. 141.7	122	20	7	[+ 34]	—	—	—	—	—	69.7
Quetta	N. 142.1	79	e 19	36	[+ 2]	e 26	16	[- 27]	e 40	56	SS
Bombay	143.1	99	e 19	37	[+ 1]	29	45	{+ 5}	22	52	PP
Samarkand	143.3	64	e 19	34	[- 2]	—	—	—	22	23	PP
Poona	E. 143.8	101	i 19	42	[+ 5]	—	—	—	—	—	—
Stalinabad	144.6	65	i 19	38	[ 0]	29	44	[- 4]	e 26	40	SKS
Tashkent	145.0	61	i 19	39	[ 0]	29	50	{ 0}	i 23	6	PP
Tchimkent	145.2	59	i 19	40	[ 0]	i 23	24	PKS	e 33	18	PS
Obi-garm	145.4	65	19	40	[ 0]	—	—	—	23	6	PP
Kulyab	145.4	67	19	42	[+ 2]	—	—	—	23	8	PP
Dzhergetal	146.6	64	i 19	46	[+ 4]	—	—	—	e 23	10	PP
Khorog	146.8	68	19	47	[+ 5]	—	—	—	23	13	PP
Fergana	146.9	62	i 19	43	[+ 1]	e 30	3	{+ 2}	i 23	8	PP
Frunse	148.2	58	i 19	47	[+ 2]	i 30	16	{+ 8}	i 23	23	PP
Murgab	148.7	66	e 19	43	[- 2]	e 23	11	PKS	—	—	—
Rybach'e	149.9	58	i 19	54	PKP <sub>2</sub>	i 30	22	{+ 4}	e 33	40	SKSP
Ulegorsk	151.0	316	e 19	50	[+ 1]	—	—	—	—	—	—
Yuzno-Sakhlinsk	151.5	312	e 19	49	[- 1]	—	—	—	e 23	40	PP
Przhevalsk	151.6	56	19	53	[+ 3]	—	—	—	—	—	—
Irkutsk	158.6	12	e 20	4	[+ 5]	—	—	—	—	—	—
Vladivostok	160.0	311	e 19	58	[- 3]	e 34	44	SKSP	e 20	41	PKP <sub>2</sub>
Manila	161.0	210	e 21	3	PKP <sub>2</sub>	—	—	—	—	—	—
Zi-ka-wei	Z. 171.4	—	19	57 <sub>a</sub>	[- 13]	i 24	40	?	i 25	9	PP
Nanking	Z. 173.7	—	i 20	12 <sub>a</sub>	[+ 1]	—	—	—	i 25	34	PP

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1952

493

June 11d. 3h. 0m. 33s. Epicentre 31°·5S. 68°·6W. (as at 0h.).

		$\Delta$	Az.	P.		O-C.	S.	O-C.	Supp.		L.	
		°	°	m.	s.	s.	m.	s.	m.	s.	m.	
Santa Lucia	N.	2·2	223	i 0	47	+ 3 <sub>z</sub>	i 0	54	-12	—	—	i 1·4
Copiapo	N.	4·4	339	e 1	13	+ 3	—	—	—	i 1	22	P*
Concepción	N.	6·5	214	e 1	25	-14	e 2	51	- 4	—	—	—
Antofagasta	E.	8·0	348	e 2	7	+ 7	e 3	33	0	e 4	8	S*
Buenos Aires		9·0	112	2	19	+ 6	4	14	+16	—	—	—
La Plata		9·6	114	2	27	+ 6	4	15	+ 3	4	27	?
La Paz		15·0	4	e 3	40	+ 5	i 6	31	+ 8	i 3	47	PP
Huancayo		20·3	341	e 4	44	+ 4	e 8	32	+ 9	—	—	e 10·6
Bogota	z.	36·3	351	i 7	8	+ 1	—	—	—	—	—	—
Fort de France		46·5	11	e 8	30	- 1	—	—	—	—	—	—
San Juan		49·7	4	i 8	53	- 3	—	—	—	—	—	—
Tacubaya		58·5	326	e 10	4	+ 4	—	—	—	—	—	—
Washington, N.R.L.		70·4	354	i 11	17	- 1	—	—	—	—	—	—
Morgantown		71·5	350	i 11	23	- 1	—	—	—	e 12	10	?
Lubbock		71·9	331	11	27	0	20	49	+ 1	—	—	—
City College, N.Y.		72·1	357	e 11	28	0	—	—	—	—	—	—
Pennsylvania	z.	72·4	353	e 11	31	+ 1	—	—	—	e 11	37	?
Cleveland	z.	73·6	350	i 11	35 <sub>a</sub>	- 2	—	—	—	—	—	—
Weston		73·6	358	i 11	36 <sub>a</sub>	- 1	—	—	—	—	—	—
Harvard		73·7	358	i 11	37 <sub>k</sub>	- 1	—	—	—	—	—	—
Tucson		74·9	324	i 11	44	0	—	—	—	—	—	—
Ottawa		76·8	355	i 11	53 <sub>a</sub>	- 1	—	—	—	—	—	—
Grahamstown	z.	77·3	120	i 11	58	0	—	—	—	—	—	—
Shawinigan Falls	N.	77·8	358	e 11	59	- 2	—	—	—	—	—	—
Kimberley	z.	78·2	116	i 12	2	- 1	—	—	—	—	—	—
Seven Falls	E.	78·3	359	e 12	7	+ 4	—	—	—	—	—	—
Palomar		79·0	321	i 12	6 <sub>a</sub>	- 1	—	—	—	—	—	—
Riverside	z.	79·7	320	i 12	11 <sub>a</sub>	0	—	—	—	—	—	—
Kirkland Lake	z.	79·9	352	e 12	11 <sub>a</sub>	- 1	—	—	—	—	—	—
Boulder City		79·9	323	i 12	13	+ 1	—	—	—	—	—	—
Pasadena		80·3	320	i 12	14 <sub>a</sub>	0	—	—	—	—	—	—
China Lake		81·2	322	i 12	18 <sub>a</sub>	- 1	—	—	—	—	—	—
Pretoria	z.	82·3	114	i 12	24 <sub>a</sub>	- 1	—	—	—	—	—	—
Tinemaha		82·5	322	i 12	26	0	—	—	—	—	—	—
Fresno	z.	83·1	321	e 12	27	- 2	—	—	—	—	—	—
Lick	z.	84·5	320	e 12	36	0	—	—	—	—	—	—
Reno	z.	85·2	322	e 12	39	0	—	—	—	—	—	—
Berkeley	z.	85·3	320	i 12	40	0	—	—	—	—	—	—
Mineral	z.	86·7	321	i 12	46	- 1	—	—	—	—	—	—
Butte		86·8	330	i 12	47	0	—	—	—	—	—	—
Shasta		87·4	321	i 12	48	- 2	—	—	—	—	—	—
Arcata	z.	88·4	321	e 12	55	0	—	—	—	—	—	—
Tamanrasset	z.	89·1	62	e 12	59	+ 1	—	—	—	e 13	49	?
Hungry Horse		89·3	331	e 13	2	+ 3	—	—	—	—	—	—
Algiers Univ.	z.	95·4	50	13	36	+ 8	—	—	—	—	—	—
College		113·7	332	e 18	39	[- 1]	—	—	—	—	—	—
Ksara		117·8	65	e 13	15	?	e 25	57	[+15]	e 17	21	?

June 12d. 0h. 3m. 34s. Epicentre 39°·9N. 142°·4E. Focus at Base of the Superficial Layers. (as on 1952, April 13d.).

Intensity IV at Sakari; II-III at Miyako and Hatinohe. Epicentre 40°·0N. 142°·5E. Depth 40km. Macro seismic radius 100-200km. Seismo. Bull. Cent. Met. Obs., Japan, for June, 1952, Tokyo, 1952, p.234, with macro seismic chart.

		$\Delta$	Az.	P.		O-C.	S.	O-C.
		°	°	m.	s.	s.	m.	s.
Miyako		0·4	230	e 0	11	+ 2	0	19
Hatinohe		0·9	314	0	14	- 2	0	24
Morioka		1·0	258	i 0	18	0	0	33
Mizusawa	N.	1·2	232	—	—	—	0	42
Aomori		1·5	307	0	25	+ 1	0	44

Continued on next page.

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1952

494

		$\Delta$	Az.	P.	O-C.	S.	O-C.
		°	°	m. s.	s.	m. s.	s.
Isinomaki		1.7	210	e 0 28	0	0 50	+ 1
Akita		1.8	264	e 0 30	+ 1	0 55	+ 4
Sendai	E.	2.0	215	e 0 35	+ 3	1 1	+ 5
Urakawa		2.3	7	e 0 34	- 2	1 3	- 1
Yamagata		2.3	224	—	—	e 1 7	+ 3
Hokusima		2.6	215	e 0 42	+ 1	1 20	+ 9
Mori	E.	2.6	328	e 0 43	+ 2	1 8	- 3
Inawasiro		2.9	217	e 0 52	+ 7	1 28	+ 9
Obihiro	N.	3.1	11	—	—	e 1 15	- 9
Onahama		3.2	202	—	—	e 1 31	+ 4
Sapporo		3.2	346	e 1 0	+11	—	—
Utunomiya		3.9	212	—	—	e 1 49	+ 5
Tukubasan		4.1	207	e 1 0	- 2	1 53	+ 4
Kumagaya		4.4	213	e 2 20	S	(e 2 20)	+23
Maebasi		4.4	218	e 2 3	S	(e 2 3)	+ 6
Oiwake		4.7	222	e 1 22	+12	—	—
Kohu		5.2	217	e 1 44	?	—	—

June 12d. 11h. 0m. 8s. Epicentre 34°·8N, 26°·2E. (as on 1950, Oct. 22d.).

A = +·7384, B = +·3633, C = +·5681;  $\delta = -4$ ;  $h = 0$ ;  
D = +·442, E = -·897; G = +·510, H = +·251, K = -·823.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Athens		3.2	328	e 1 4	0 <sub>x</sub>	e 2 10	?	i 2 21	i 2.5
Helwan	z.	6.6	137	e 1 42	+ 1	e 1 57	P*	i 2 37	—
Istanbul		6.7	20	e 1 43	+ 1	e 3 7	+ 7	e 3 44	e 4.4
Ksara		8.1	98	e 2 17	- 5*	—	—	—	e 5.2
Taranto		9.1	311	e 3 20	?	—	—	—	e 5.8
Messina	z.	9.2	294	e 2 19	+ 3	i 4 2	- 1	i 2 27	PP
Bucharest		9.6	358	e 2 33	PP	e 4 28	SS	e 3 0	?
Rome		12.9	307	e 3 11	+ 4	e 6 22	+49	e 6 59	?
Triest		14.4	327	e 3 34	+ 7	e 6 23	+14	e 4 13	?
Pavia		16.6	314	e 3 37	-19	e 7 27	SS	—	—
Chur		17.4	319	e 4 10	+ 4	—	—	—	—
Prague		17.5	334	e 4 7	0	e 8 14	?	e 4 33	PPP
Zürich		18.2	319	e 4 18 <sub>a</sub>	+ 2	e 7 53	+16	—	—
Stuttgart		18.8	323	e 4 23	0	e 8 14	SS	e 4 28	?
Algiers Univ.	z.	18.9	281	i 4 25 <sub>k</sub>	+ 1	i 4 42	PP	e 4 31	?
Collmberg	z.	19.1	332	e 4 26	- 1	—	—	—	—
Jena		19.3	332	e 4 28	- 1	e 8 15	+13	e 5 7	PPP
Strasbourg		19.4	320	i 4 32 <sub>k</sub>	+ 2	e 8 21	PP	i 4 52	PP
Clermont-Ferrand		20.7	308	i 4 46	+ 2	—	—	—	—
Alicante		21.7	288	5 1	+ 6	e 8 35	-16	—	—
Tamanrasset	z.	21.7	242	i 4 55 <sub>k</sub>	0	e 9 9	+18	i 5 25	PP
Paris		22.7	315	i 5 3	- 1	e 9 46	SS	i 5 36	PP
Witteveen	z.	22.8	328	e 5 5	0	—	—	—	—
Copenhagen		22.9	340	—	—	9 22	+ 9	—	—
De Bilt		22.9	326	e 4 58	- 8	e 9 17	+ 4	—	—
Almeria		23.3	283	i 5 12	+ 2	9 18	- 2	5 46	PP
Granada		24.2	284	i 5 24 <sub>k</sub>	+ 5	—	—	6 0	PP
Toledo		24.5	290	i 5 24	+ 2	e 9 53	+13	e 7 40	?
Malaga		24.9	284	i 5 26	0	e 9 41	- 6	—	—
Kew		25.3	319	—	—	e 10 9	+15	—	—
Upsala		25.7	349	i 5 31 <sub>a</sub>	- 2	i 10 4	+ 3	i 6 26	PPP
Rathfarnham Castle		29.4	319	e 6 12 <sub>?</sub>	+ 5	e 11 22	+21	e 13 4	ScP
Kiruna		33.2	356	i 6 38 <sub>a</sub>	- 2	i 6 46	?	e 16 45	Q
Scoresby Sund		44.0	339	i 8 11 <sub>k</sub>	0	—	—	—	—
Pretoria	z.	60.3	178	i 10 8	- 5	—	—	—	—
Kimberley	z.	63.2	181	i 10 27	- 5	—	—	—	—
Weston		72.4	309	i 11 30 <sub>a</sub>	0	—	—	—	—
Harvard		72.5	309	e 11 25	- 5	—	—	—	—
College		80.6	357	e 12 13	- 3	—	—	—	—

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1952

495

June 12d. 11h. 16m. 36s. Epicentre 36°·0N. 140°·1E. Depth of focus 0·005.  
(as on 1952, Jan. 28d.).

Intensity V at Mizukaido and Oyama; IV at Tukubasan, Utunomiya, Mito, Kumagaya, Kurisasi, Mitumine, Imai, and Moka.  
Epicentre 36°·2N. 140°·1E. Depth 55km. Macro seismic radius 100-200km.  
Seismo. Bull. Cent. Met. Obs., Japan, for June, 1952, Tokyo, 1952, p.235, with macro seismic chart.

A = -·6221, B = +·5202, C = +·5852;  $\delta = +8$ ;  $h = 0$ ;  
D = +·641, E = +·767; G = -·449, H = +·375, K = -·811.

		$\Delta$	Az.	P.	O-C.	S.	O-C.
		°	°	m. s.	s.	m. s.	s.
Kashiwa		0·2	216	e 0 9	- 2	0 15	- 4
Tukubasan		0·2	0	i 0 8	- 3	0 15	- 4
Tokyo		0·4	222	i 0 13 <sub>a</sub>	+ 1	0 22	0
Mito		0·5	38	0 12 <sub>a</sub>	- 1	0 19	- 4
Utunomiya		0·6	341	i 0 11 <sub>k</sub>	- 3	0 18	- 7
Kumagaya		0·6	233	i 0 13 <sub>k</sub>	- 1	0 22	- 3
Tyosi	N.	0·7	113	i 0 16	+ 1	0 26	- 1
Yokohama		0·7	213	0 16	+ 1	0 27	0
Titibu		0·8	269	e 0 15	- 2	0 27	- 2
Maebasi		0·9	296	i 0 17 <sub>k</sub>	- 1	0 30	- 1
Mera		1·1	191	e 0 25	+ 5	0 42	+ 6
Onahama		1·1	35	e 0 21	+ 1	0 33	- 3
Shirakawa		1·1	5	e 0 18	- 2	0 28	- 8
Ajiro		1·2	221	e 0 23	+ 1	0 38	0
Hunatu		1·2	245	e 0 24	+ 2	0 39	+ 1
Kohu		1·3	254	e 0 26	+ 3	0 43	+ 3
Misima	N.	1·3	227	e 0 25	+ 2	0 39	- 1
Oiwake		1·3	285	e 0 23	0	0 39	- 1
Osima		1·4	205	e 0 25	+ 1	0 42	- 1
Inawasiro		1·6	0	e 0 24	- 3	0 41	- 6
Matusiro		1·6	290	e 0 26	- 1	0 45	- 2
Matumoto	E.	1·7	278	e 0 30	+ 2	0 50	0
Nagano	N.	1·7	294	e 0 28	0	0 53	+ 3
Shizuoka		1·7	233	e 0 36	+ 8	0 56	+ 6
Hukusima		1·8	10	0 28	- 2	0 47	- 5
Iida		1·9	255	e 0 33	+ 2	0 58	+ 4
Takada		1·9	307	e 0 33	+ 2	0 53	- 1
Sendai	N.	2·3	16	e 0 38	+ 1	1 12	+ 8
Yamagata		2·3	5	e 0 35	- 2	1 1	- 3
Aikawa		2·4	324	e 0 37	- 1	—	—
Toyama		2·4	286	e 0 42	+ 4	—	—
Isinomaki		2·6	22	e 0 34	- 7	—	—
Nagoya		2·7	252	0 48	+ 6	1 15	+ 1
Hikone		2·9	257	0 58	+ 13	1 32	+ 13
Kameyama		3·2	249	e 0 56	+ 7	—	—
Mizusawa	E.	3·2	15	0 53	+ 4	1 26	- 1
Akita		3·7	359	e 1 14	+ 18	—	—
Kyoto		3·7	255	e 1 13	+ 17	—	—
Morioka		3·8	12	e 0 55	- 3	—	—
Osaka		4·0	252	—	—	e 1 51	+ 4
Sumoto	N.	4·6	251	—	—	e 2 18	+ 16
Aomori		4·8	6	e 1 12	0	—	—



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1952

496

June 13d. 1h. 7m. 22s. Epicentre 37°·3N. 22°·1E.

Intensity VIII at Perivolia, Potomia; VII at Chontalon, Veligosti, Kalyvia; VI at Neochorion, Aechalia, Charakopion, Skala, Lohanikos; V at Messina, Andritsaena, Zacharo; IV at Lechaena, Oetylos, and Argos; III at Nauplion, Patras, and Kalavryta. Epicentre as adopted, from Strasbourg.

A. Galanopoulos.

Seismo. Institute Bulletin, 1952, Athens, 1953, p.27.

A = +·7389, B = +·3000, C = +·6034;  $\delta = +6$ ;  $h = -1$ ;  
D = +·376, E = -·927; G = +·559, H = +·227, K = -·797.

		$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
				m.	s.		m.	s.		m.	s.	
Athens		1·5	62	i 0	28	0	i 0	45	- 4	i 0	42	?
Taranto		4·9	311	i 1	10	- 7	e 2	10	- 5	—	—	—
Messina		5·3	282	i 1	21 <sub>a</sub>	- 1	i 2	20	- 5	i 2	42	S*
Sofia		5·5	10	e 1	29	+ 4	e 2	33	+ 3	—	—	—
Istanbul	z.	6·6	53	e 1	38	- 3	e 2	56	- 2	e 2	12	P <sub>r</sub>
Belgrade	N.W.	7·6	351	e 2	2 <sub>k</sub>	+ 7	e 3	36	+13	e 3	59	S*
Bucharest		7·7	22	e 2	3	+ 7	e 3	2	?	—	—	3·7
Rocca di Papa		8·5	304	—	—	—	e 3	59?	+14	—	—	e 5·1
Timisoara		8·5	356	e 2	24?	P*	e 4	24	+ 8*	e 4	49	S <sub>r</sub>
Rome		8·7	305	e 2	27 <sub>a</sub>	P*	e 3	53	+ 3	e 4	27	S*
Budapest		10·4	349	e 3	17	?	e 4	20	-12	e 5	50	?
Triest		10·4	326	e 2	32	- 2	i 4	28	- 4	e 2	38	?
Florence		10·5	311	e 2	29	- 6	e 4	27	- 8	—	—	i 5·8
Padova		10·5	316	—	—	—	e 4	39	+ 4	—	—	e 6·4
Helwan	z.	10·7	131	e 2	34	- 4	e 4	27	-12	e 4	38	S
Kishinev		10·9	25	e 2	44	+ 4	4	50	+ 6	—	—	—
Ogyalla		10·9	346	—	—	—	e 5	26	?	—	—	e 6·4
Yalta		11·6	48	2	51	+ 1	—	—	—	—	—	—
Ksara		11·8	103	e 2	54	+ 1	e 7	20	?	—	—	—
Skalnate Pleso		12·0	354	e 3	2	+ 7	e 5	8	- 3	e 6	51	S <sub>r</sub>
Pavia		12·5	313	—	—	—	e 5	39	+16	—	—	e 7·4
Theodosia		12·6	48	e 3	6	+ 3	—	—	—	—	—	—
Lwow		12·7	6	e 3	4?	- 1	—	—	—	—	—	—
Raciborz		13·1	349	e 3	14	+ 4	e 5	37	- 1	e 3	21	PP
Chur		13·4	320	e 3	20	+ 6	—	—	—	—	—	—
Prague		13·9	339	e 3	20	- 1	e 5	48	- 9	e 3	33	PP
Zürich		14·2	320	e 3	30 <sub>k</sub>	+ 6	e 6	11	+ 7	—	—	e 7·8
Sotchi		14·8	59	e 3	36	+ 4	—	—	—	—	—	—
Stuttgart		14·8	325	e 3	29	- 3	e 6	21	+ 3	—	—	e 8·6
Algiers Univ.	z.	15·2	274	e 3	37	- 1	e 4	12	?	e 4	2	PP
Collmberg		15·4	338	e 3	36	- 4	e 6	48	+16	e 3	44	PP
Karlsruhe		15·4	324	e 3	44?	+ 4	e 7	2	?	e 3	50	PP
Strasbourg		15·4	322	e 3	38?	- 2	e 6	40	+ 8	e 3	48	PP
Jena		15·6	334	e 3	42	- 1	e 6	40?	+ 3	e 3	53	PP
Zugdidi		16·0	65	e 4	0	+12	—	—	—	—	—	—
Potsdam		16·4	340	e 3	56	+ 3	e 7	7	+11	i 7	22	SS
Clermont-Ferrand		16·5	307	e 3	46	- 8	—	—	—	—	—	—
Abastumanj		16·6	68	e 3	58	+ 2	—	—	—	—	—	—
Borzhomj		17·0	68	i 4	5	+ 4	e 7	20	+10	—	—	—
Piatigorsk		17·2	58	4	6	+ 3	7	27	+13	—	—	—
Erevan		17·7	72	e 4	12	+ 2	i 7	38	+12	—	—	—
Alicante		17·9	282	e 4	11	- 1	7	25	- 5	7	45	SS
Paris		18·3	316	i 4	16	- 1	e 7	46	+ 7	i 4	32	PP
Witteveen	z.	18·9	331	e 4	24	0	—	—	—	—	—	—
De Bilt		19·0	328	i 4	28 <sub>a</sub>	+ 2	e 8	8	+13	—	—	e 10·1
Grozny		19·0	63	e 4	26	0	8	5	+10	—	—	—
Goris		19·1	73	e 4	25	- 2	—	—	—	—	—	—
Kirovobad		19·1	70	e 4	26	- 1	—	—	—	—	—	—
Copenhagen		19·5	343	i 4	30 <sub>a</sub>	- 1	8	13	+ 7	—	—	10·6
Makhach-Kala		20·2	62	4	44	+ 5	—	—	—	—	—	—

Continued on next page.

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1952

497

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
		°	°	m. s.	s.	m. s.	s.	m. s.	m.	
Tamanrasset	z.	20.3	230	e 4 39	- 1	e 8 26	+ 3	e 5 0	PP	e 9.9
Granada		20.4	279	4 44 <sub>a</sub>	+ 3	—	—	4 52	PP	—
Shemakla		20.9	70	e 4 45	- 1	i 8 38	+ 3	—	—	—
Moscow		21.2	24	4 47	- 2	8 43	+ 2	—	—	—
Kew		21.3	320	e 4 48	- 2	e 8 51	+ 8	—	—	e 12.6
Baku		21.8	70	e 5 7?	+ 11	—	—	—	—	—
Upsala		22.8	353	i 5 3	- 2	i 9 11	0	i 6 51	?	e 14.1
Pulkovo		23.0	11	i 5 7	0	i 9 19	+ 5	—	—	—
Rathfarnham C.	z.	25.3	319	i 5 27	- 3	—	—	e 6 4	PP	e 13.3
Kizyl-Arvat		26.8	73	e 5 47	+ 3	—	—	—	—	—
Ashkabad		28.6	76	—	—	e 10 55	+ 7	—	—	—
Kiruna		30.6	359	i 6 15 <sub>k</sub>	- 3	e 11 22	+ 2	e 12 20	SS	e 15.3
Scoresby Sund		40.5	339	i 7 42 <sub>a</sub>	0	—	—	—	—	—
Kimberley	z.	65.7	177	e 10 38	- 10	—	—	—	—	—
Harvard		68.4	307	i 11 4 <sub>a</sub>	- 2	—	—	—	—	—
Morgantown		75.2	308	i 11 46	0	—	—	—	—	—
College		77.9	356	e 11 59	- 2	—	—	—	—	—
Fayetteville	z.	86.1	313	i 12 44	0	—	—	—	—	—
Hungry Horse		86.2	332	e 12 44	0	—	—	—	—	—
Butte		87.6	330	i 12 51	0	—	—	—	—	—
China Lake	z.	98.2	327	e 13 39	- 1	—	—	—	—	—

June 13d. 4h. 34m. 39s. Epicentre 39°·6N. 73°·8E. (as on 1951, Aug. 6d.).

A = +·2156, B = +·7419, C = +·6349;  $\delta = 0$ ;  $h = -2$ ;  
D = +·960, E = -·279; G = +·177, H = +·610, K = -·773.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
		°	°	m. s.	s.	m. s.	s.	m. s.
Murgab		1.2	175	e 0 24	0	e 0 42	+ 1	—
Andijan		1.6	316	e 0 28	- 2	i 0 49	- 2	—
Dzhergetal		2.0	259	0 38	+ 3	1 10	+ 4 <sub>g</sub>	—
Naryn		2.5	42	e 0 43	0	e 1 14	0	—
Khorog		2.7	219	e 0 49	0*	e 1 27	- 2 <sub>g</sub>	—
Garm		2.8	258	i 0 47	0	i 1 23	+ 1	i 1 32
Frunse		3.3	10	e 0 55	+ 2	i 1 41	- 1*	—
Rybach'e		3.3	31	e 0 53	0	—	—	—
Tashkent		3.9	298	e 1 7	- 3*	—	—	—
Stalinabad		4.0	257	e 1 6	+ 2	—	—	—
Almata		4.4	32	e 1 9	- 1	—	—	—
Almata II		4.5	35	e 1 13	+ 2	i 2 34	+ 5 <sub>g</sub>	—
Przhevalsk		4.5	49	e 1 10	- 1	—	—	—
Ili		5.0	28	e 1 15	- 3	—	—	—
Samarkand		5.2	273	1 34	+ 2*	2 21	- 1	—

June 13d. 5h. 15m. 7s. Epicentre 38°·1N. 73°·2E. (as on 1947, Oct. 14d.).

A = +·2280, B = +·7552, C = +·6145;  $\delta = -8$ ;  $h = -1$ ;  
D = +·957, E = -·289; G = +·178, H = +·588, K = -·789.

		$\Delta$	Az.	P.	O-C.	S.	O-C.
		°	°	m. s.	s.	m. s.	s.
Murgab		0.6	65	i 0 17	+ 2	—	—
Khorog		1.4	243	i 0 25	- 2	i 0 42	- 4
Dzhergetal		1.9	306	0 30	- 4	0 52	- 7
Garm		2.4	292	i 0 39	- 2	i 1 13	+ 1
Andijan		2.7	346	i 0 47	+ 2	i 1 22	+ 3
Obi-garm		2.8	282	i 0 46	- 1	i 1 20	- 2
Stalinabad		3.5	279	e 0 57	0	e 1 41	+ 1
Naryn		3.9	32	e 1 13	+ 3*	i 2 17	+ 8 <sub>g</sub>
Tashkent		4.4	318	—	—	e 2 9	+ 7
Frunse		4.9	12	e 1 26	- 1*	e 2 41	- 1 <sub>g</sub>
Rybach'e		4.9	26	e 1 33	- 5 <sub>g</sub>	—	—
Samarkand		5.1	290	1 30	0*	—	—
Almata		5.9	27	e 1 49	+ 5*	e 3 12	- 3 <sub>g</sub>
Przhevalsk		5.9	41	e 1 35	+ 4	—	—
Almata II		6.0	30	e 1 52	+ 7*	—	—
Ili		6.5	25	e 2 0	+ 6*	—	—

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1952

498

June 13d. 16h. 15m. 55s. Epicentre 41°·4N. 44°·1E. (as on 6d.).

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.
Gori	0·6	1	i 0 15	0	i 0 23	3
Leninakan	0·6	199	e 0 15	0	0 25	- 1
Tiflis	0·6	59	e 0 15	0	i 0 25	- 1
Tsikhlis-Dzhvari	0·6	59	i 0 15	0	i 0 24	- 2
Borzhomi	0·7	309	0 17	0	i 0 27	- 1
Abastumanj	1·0	290	e 0 22	+ 1	—	—
Erevan	1·2	166	—	—	e 0 44	+ 3
Kirovobad	1·8	111	0 37	+ 1 <sub>g</sub>	—	—
Zugdidi	2·0	304	—	—	e 1 8	+ 2 <sub>g</sub>

June 13d. 17h. 0m. 12s. Epicentre 40°·6N. 142°·3E. Depth of focus 0·005.  
(as on 1951, Sept. 3d.).

Intensity V at Okunakayama; IV at Hatinohe, Noheji, Sambongi, Misawa; II-III at Miyako, Morioka, and Hukusima. Epicentre 40°·7N. 142°·3E. Depth of focus 50km. Macro seismic radius 300km. Seismo. Bull. Cent. Met. Obs., Japan, for 1952, Tokyo, 1952, p.236, with macro seismic chart.

$$A = -\cdot6025, B = +\cdot4657, C = +\cdot6482; \quad \delta = +5; \quad h = -2;$$

$$D = +\cdot612, E = +\cdot791; \quad G = -\cdot513, H = +\cdot396, K = -\cdot761.$$

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.
Hatinohe	0·6	263	0 17	+ 3	0 26	+ 1
Miyako	1·0	194	0 17	- 2	0 29	- 4
Aomori	1·2	281	0 22	0	0 42	+ 4
Morioka	1·2	224	i 0 22 <sub>a</sub>	0	0 37	- 1
Mizusawa	N. 1·7	211	0 29	+ 1	0 49	- 1
Akita	1·9	242	0 35	+ 4	0 58	+ 4
Mori	E. 2·0	327	e 0 44	+12	1 17	+20
Isinomaki	2·3	198	e 0 34	- 3	—	—
Obihiro	2·4	16	e 0 41	+ 3	1 2	- 5
Sapporo	2·6	344	e 0 40	- 1	1 10	- 2
Sendai	E. 2·6	205	e 0 39	- 2	1 10	- 2
Kusiro	2·9	33	e 0 46	+ 1	1 16	- 3
Hukusima	3·2	206	e 0 48	- 1	1 26	- 1
Inawasiro	3·5	210	e 0 52	- 2	1 42	+ 8
Niigata	3·7	224	—	—	e 1 49	+10
Nemuro	3·8	42	e 1 15	+17	—	—
Onahama	3·8	196	e 1 1	+ 3	e 1 44	+ 2
Shirakawa	3·8	205	e 0 59	+ 1	—	—
Mito	4·5	199	e 1 6	- 1	1 59	0
Utunomiya	4·5	205	e 1 6	- 1	1 56	- 3
Tukubasan	4·7	202	e 1 10	0	—	—
Maebasi	Z. 4·9	211	e 1 20	+ 7	2 25	+16
Kumagaya	5·0	208	e 1 15	+ 1	2 18	+ 6
Nagano	N. 5·1	221	e 1 18	+ 2	—	—
Matusiro	5·2	219	e 2 18	S	(e 2 18)	+ 1
Oiwake	5·2	216	e 1 24	+ 7	—	—
Tokyo	5·3	203	e 1 18	- 1	—	—
Matumoto	5·5	219	e 1 53	+32	—	—
Toyama	5·6	227	e 1 27	+ 4	—	—
Yokohama	5·6	202	1 35	+12	—	—
Kohu	5·7	211	e 1 27	+ 3	—	—
Hunatu	5·8	209	—	—	e 2 47	+15
Iida	6·2	216	e 1 56	?	—	—
Osima	6·3	203	e 1 28	- 4	2 38	- 6
Nagoya	6·8	219	e 1 43	+ 4	3 40	+44

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1952

499

June 13d. 21h. 52m. 1s. Epicentre 38°·9N. 67°·5E.

Given by stations of U.S.S.R.

A = +·2986, B = +·7209, C = +·6254;  $\delta = -2$ ;  $h = -1$ ;  
D = +·924, E = -·383; G = +·239, H = +·587, K = -·780.

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.	
			m.	s.	s.	m.	s.	m.	s.	
Samarkand	0·9	324	i 0	19	- 1	0	31	- 3	—	—
Stalinabad	1·1	110	i 0	22	0	i 0	46	+ 7	—	—
Obi-garm	1·7	47	i 0	33	+ 2	e 0	53	- 1	—	—
Kulyab	2·0	119	i 0	36	+ 1	i 1	2	0	—	—
Garm	2·2	87	i 0	39	+ 1	i 1	8	+ 2	—	—
Tashkent	2·8	29	i 0	46	- 1	1	21	- 1	i 1	32
Dzhergetal	2·9	84	e 0	52	0*	e 1	30	0*	—	—
Khorog	3·5	113	e 1	1	+ 4	e 1	43	+ 3	—	—
Fergana	3·6	65	e 0	59	+ 1	e 1	49	- 2*	—	—
Tchimkent	3·7	25	e 1	3	+ 3	—	—	—	—	—
Andijan	4·2	62	1	6	- 1	i 1	54	- 3	—	—
Murgab	5·1	94	—	—	—	e 2	18	- 2	—	—
Frunse	6·7	51	i 1	41	- 1	—	—	—	—	—
Naryn	7·0	66	e 1	45	- 1	—	—	—	—	—
Almata II	8·6	57	e 2	8	- 1	—	—	—	—	—
Quetta	E. 8·7	183	—	—	—	e 4	9	+19	—	—
Ili	8·8	52	e 2	9	- 2	—	—	—	—	—
New Delhi	13·0	139	e 3	10	+ 1	e 5	30	- 5	—	—

June 14d. 2h. 5m. 38s. Epicentre 59°·2N. 152°·4W. Depth of focus 0·005.

(as on 1945, July 11d.).

A = -·4560, B = -·2384, C = +·8574;  $\delta = -9$ ;  $h = -9$ ;  
D = -·463, E = +·886; G = -·760, H = -·397, K = -·515.

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L. m.
			m.	s.	s.	m.	s.	m.	s.		
College	6·1	19	1	39	+ 9	—	—	—	—	—	
Victoria	20·0	108	4	27k	- 3	—	—	—	—	—	
Seattle	21·1	108	i 4	40	- 1	e 8	32	+ 5	i 4	52	
Corvallis	z. 22·9	115	i 4	57	- 2	—	—	—	—	—	
Hungry Horse	24·8	97	i 5	16	- 1	—	—	—	—	—	
Resolute Bay	25·8	29	i 5	46a	pP	e 10	25	sS	i 6	9	
Shasta	26·4	120	i 5	28	- 4	e 12	25	ScP	—	—	
Mineral	z. 27·0	119	i 5	34k	- 4	—	—	—	i 5	47	
Butte	27·1	99	i 5	38	- 1	—	—	—	—	—	
Reno	z. 28·5	116	e 5	48k	- 3	e 11	1	sS	e 6	2	
Berkeley	28·8	123	i 5	50k	- 4	e 11	14	sS	e 6	1	
Lick	z. 29·5	123	i 5	56k	- 4	—	—	—	i 6	16	
Fresno	z. 30·8	120	i 6	8k	- 4	e 6	27	sP	e 6	19	
Tinemaha	31·2	119	i 6	14k	- 1	i 12	43	ScP	i 6	19	
China Lake	32·6	119	i 6	23k	- 5	i 12	46	ScP	i 6	37	
Boulder City	33·7	115	i 6	34	- 3	—	—	—	i 6	54	
Pasadena	33·7	121	i 6	32k	- 5	i 6	51	?	i 6	46	
Riverside	z. 34·2	121	i 6	37k	- 4	i 6	56	?	i 6	51	
Palomar	35·0	120	i 6	43k	- 5	e 12	55	ScP	i 6	57	
Tucson	38·6	115	i 7	16	- 2	e 13	9	ScP	i 7	36	
Kirkland Lake	z. 42·2	72	e 7	50k	+ 2	—	—	—	—	—	
Fayetteville	z. 43·8	95	i 7	58	- 3	i 9	43	PcP	i 8	10	
Scoresby Sund	45·9	21	i 8	23k	+ 5	e 15	10	+13	—	—	
Ottawa	46·2	71	i 8	21k	+ 1	—	—	—	—	—	
Cleveland	46·2	79	i 8	21k	+ 1	i 8	42	sP	i 8	34	
Buffalo (Larkin)	46·6	76	i 8	25	+ 2	—	—	—	—	—	
Shawinigan Falls	N. 46·8	67	e 8	26	+ 1	—	—	—	—	—	
Seven Falls	E. 47·3	66	e 8	32	+ 3	15	30	+13	18	21	
Morgantown	48·4	80	i 8	37	0	—	—	—	e 10	15	
Harvard	50·4	71	i 8	54k	+ 1	—	—	—	—	—	

Continued on next page.

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1952

500

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Palisades	50.4	74	i 8 52	- 1	—	—	i 9 1	e 24.1
Washington	50.4	78	i 8 53	0	—	—	i 9 10	—
City College, N.Y.	50.6	74	i 8 54	0	—	—	i 9 10	—
Weston	50.6	71	i 8 56k	+ 2	—	—	i 10 44	—
Kiruna z.	53.2	3	i 9 16k	+ 2	i 9 41	sP	—	—
Upsala z.	61.0	6	i 10 11a	+ 2	i 10 39	sP	—	—
Bermuda	61.7	73	i 10 13	- 1	—	—	—	—
Copenhagen	64.8	9	i 10 36a	+ 2	—	—	—	—
Witteveen z.	67.1	13	i 10 52	+ 3	—	—	—	—
De Bilt	67.6	14	e 10 55	+ 3	e 19 52	+10	—	e 34.4
Potsdam z.	68.2	10	e 10 59	+ 3	—	—	—	—
Collmberg z.	69.2	9	e 11 3	+ 1	—	—	—	—
Jena	69.5	10	e 11 6	+ 2	e 20 15?	+10	e 11 22	pP
Paris	70.4	18	e 11 10	+ 1	e 20 28	+13	e 21 36	ScS
Prague	70.6	8	i 11 13	+ 3	e 13 38	PP	e 11 30	pP
Raciborz z.	70.8	6	e 11 12	0	—	—	—	—
Karlsruhe z.	71.0	13	11 16	+ 3	—	—	—	—
Stuttgart	71.3	12	e 11 17a	+ 2	e 20 39	+13	e 11 33	pP
Strasbourg	71.4	13	e 11 13	- 2	e 20 39	+12	e 11 33	pP
Zürich	72.7	13	e 11 25a	+ 2	e 20 49	+ 7	e 11 39	pP
Chur	73.3	12	e 11 29	+ 3	—	—	—	—
Belgrade	76.2	5	e 11 45a	+ 2	e 22 16	PPS	e 12 40	?
Florence	76.5	12	e 11 47k	+ 2	e 21 39	+15	e 26 2	SS
Rome	78.5	11	e 20 17	?	e 21 57	+12	—	—
Istanbul	80.1	359	e 12 5	+ 1	e 22 22?	+20	—	—
Malaga	80.8	25	i 12 15	+ 7	e 22 23	+13	—	—
Almeria	81.1	24	12 27	pP	22 49	sS	15 41	PP
Algiers Univ. z.	82.2	19	i 12 7k	- 8	—	—	i 12 33	pP
Ksara	87.1	353	i 12 43	+ 3	e 24 13	PS	13 6	sP
Huancayo	93.1	107	e 13 9	+ 1	—	—	—	—
Tamanrasset z.	96.3	21	e 13 29	+ 7	e 14 36	?	e 17 12	PP
Pretoria z.	146.6	359	i 19 34	[+ 1]	—	—	—	—
Kimberley z.	149.5	4	i 19 41	[+ 4]	—	—	e 19 36	?
Pietermaritzburg z.	150.4	354	i 19 43	[+ 4]	—	—	—	—
Grahamstown z.	154.1	2	e 19 22	[- 22]	—	—	—	—

June 14d. 7h. 55m. 51s. Epicentre 39°·5N. 142°·9E.

Intensity IV at Odate and Yasumiya; II-III at Miyako, Morioka, Shibutami, and Iwate-yama. Epicentre 39°·1N. 143°·0E. Macroseismic radius 200-300km.

The Seismo. Bull. Cent. Met. Obs., Japan, for June, 1952, Tokyo, 1952, p. 237, with macroseismic chart.

$$A = -0.6171, B = +0.4667, C = +0.6335; \quad \delta = -6; \quad h = -1;$$

$$D = +0.603, E = +0.798; \quad G = -0.505, H = +0.382, K = -0.774.$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Miyako	0.7	281	i 0 23a	+ 6	0 39	+11	—	—
Mizusawa	1.4	255	0 30	+ 3	0 50	+ 4	0 53	?
Morioka	1.4	279	i 0 30a	+ 3	0 54	+ 8	—	—
Hatinohe	1.5	315	e 0 33a	+ 5	0 57	+ 8	—	—
Isinomaki	1.6	229	0 28a	- 2	0 49	- 2	—	—
Sendai z.	2.0	232	i 0 34a	- 1	1 3	+ 1	—	—
Aomori	2.1	309	e 0 43	+ 1g	1 25	+16g	—	—
Akita	2.2	276	0 46	+ 2g	1 18	+ 5g	—	—
Yamagata	2.3	238	0 42	+ 2	1 14	- 2g	—	—
Sakata	2.5	255	0 47	+ 2*	1 22	- 1g	—	—
Hokusima	2.6	228	0 44	0	1 27	+ 1g	—	—
Urakawa	2.6	358	e 0 53	+ 1g	1 25	- 1g	—	—
Inawastro	2.9	229	e 0 44a	- 4	—	—	—	—
Onahama	3.0	213	e 0 50	0	1 34	+ 1*	—	—
Shirakawa	3.2	222	e 0 51	- 1	1 29	- 3	—	—

Continued on next page.



The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1952		501									
		$\Delta$	Az.	P.		O-C.	S.	O-C.	Supp.		L.
		$^{\circ}$	$^{\circ}$	m.	s.	s.	m.	s.	m.	s.	m.
Niigata	z.	3.4	244	0	59	+ 4	1 47	+ 2*	—	—	—
Obihiro		3.4	3	e 1	16	+ 8 <sub>g</sub>	1 58	+ 6 <sub>g</sub>	—	—	—
Kusiro		3.7	17	e 1	6	+ 0*	1 49	+ 4	—	—	—
Sapporo		3.8	342	e 1	20	+ 4 <sub>g</sub>	3 12	?	—	—	—
Utunomiya		3.8	220	e 0	58	- 3	1 37	-10	—	—	—
Aikawa		3.9	250	e 1	8	- 2*	2 9	0 <sub>g</sub>	—	—	—
Tukubasan		4.0	215	0	59	- 5	1 42	-10	—	—	—
Tyosi	e.	4.1	204	e 0	58	- 7	—	—	—	—	—
Asahigawa		4.3	355	e 1	37	+11 <sub>g</sub>	—	—	—	—	—
Kashiwa		4.3	214	e 1	4	- 4	—	—	—	—	—
Maebasi		4.3	226	i 1	3	- 5	2 1	+ 1	—	—	—
Nemuro		4.3	27	e 1	7	- 1	1 55	- 5	—	—	—
Kumagaya	z.	4.4	221	1	7	- 3	2 7	+ 5	—	—	—
Takada		4.4	238	e 1	16	- 2*	2 23	- 2 <sub>g</sub>	—	—	—
Abashiri		4.6	12	1	16	+ 4	2 8	+ 1	—	—	—
Titibu		4.6	222	i 1	12	0	2 18	- 2*	—	—	—
Tokyo	z.	4.6	214	i 1	8	- 4	2 15	- 5*	—	—	—
Matusiro		4.7	233	i 1	15 <sub>a</sub>	+ 1	2 8	- 2	—	—	—
Nagano		4.7	234	e 1	15	+ 1	—	—	—	—	—
Oiwake		4.7	229	e 1	11	- 3	—	—	—	—	—
Yokohama		4.8	214	1	21	- 4*	2 27	+ 1*	—	—	—
Matumoto	N.	5.1	232	e 1	19	- 1	2 30	- 5*	—	—	—
Hunatu		5.2	221	1	20	- 1	2 29	+ 7	—	—	—
Kohu		5.2	223	e 1	20	- 1	2 29	+ 7	—	—	—
Mera		5.2	209	1	22	+ 1	2 28	+ 6	—	—	—
Wazima		5.2	248	e 1	23	+ 2	2 38	0*	—	—	—
Toyama	z.	5.3	240	1	24 <sub>a</sub>	+ 2	—	—	—	—	—
Ajiro		5.4	216	e 1	30	- 5*	2 52	- 6 <sub>g</sub>	—	—	—
Misima	N.	5.4	217	e 1	19	- 5	2 31	+ 3 <sub>g</sub>	—	—	—
Osima		5.5	212	e 1	19	- 6	2 35	+ 5	—	—	—
Iida		5.6	227	e 1	27	0	—	—	—	—	—
Takayama		5.6	235	e 1	27	0	—	—	—	—	—
Kanazawa		5.8	241	e 1	32	+ 3	—	—	—	—	—
Shizuoka		5.8	220	e 1	29	0	2 33	- 5	—	—	—
Wakkanai		6.0	352	—	—	—	e 3 24	+ 6 <sub>g</sub>	—	—	—
Omaesaki		6.2	217	e 1	48	- 1*	3 20	- 5 <sub>g</sub>	—	—	—
Hamamatu		6.3	223	e 1	42	+ 6	3 15	+ 4*	—	—	—
Gihu		6.4	232	1	35	- 3	3 5	- 9*	—	—	—
Nagoya		6.4	230	1	39	+ 1	3 3	+10	—	—	—
Tsuruga		6.6	237	e 1	41	0	2 55	- 3	—	—	—
Hatidyojima		6.8	202	e 2	37	+53	—	—	—	—	—
Hikone		6.8	234	1	44	0	3 13	+10	—	—	—
Kameyama		6.9	230	1	55	- 6*	3 19	-10*	—	—	—
Maizuru		7.2	238	1	51	+ 2	3 24	+11	—	—	—
Kyoto		7.3	234	e 1	53	+ 3	3 42	+ 1*	—	—	—
Toyooka		7.5	241	e 1	54	+ 1	—	—	—	—	—
Osaka		7.6	233	e 1	55	0	3 31	+ 8	—	—	—
Owase		7.6	227	e 1	41	-14	—	—	—	—	—
Kobe		7.8	235	e 1	57	- 1	—	—	—	—	—
Sumoto		8.2	234	e 2	2	- 1	—	—	—	—	—
Siomisaki		8.3	226	e 2	2	- 2	—	—	—	—	—
Takamatu		8.8	237	2	10	- 1	—	—	—	—	—
Koti		9.6	235	e 2	21	0	—	—	—	—	—
Hamada		9.8	245	e 2	16	- 8	—	—	—	—	—
Hirosima		9.8	242	e 2	29	+ 5	4 33	+16	—	—	—
Matuyama		9.9	238	e 2	31	+ 6	—	—	—	—	—
Ooita		11.0	239	e 2	41	- 1	—	—	—	—	—
Hukuoka		11.6	243	e 2	55	+ 5	—	—	—	—	—
Saga		11.9	242	e 2	21	-33	—	—	—	—	—
Zi-ka-wei	z.	19.3	252	i 4	29 <sub>k</sub>	0	e 8 24	SS	—	—	—
Nanking		20.9	257	i 4	48 <sub>k</sub>	+ 2	e 8 37	+ 2	—	—	—
College		46.4	33	i 8	28	- 2	—	—	18 49	?	—
Kiruna		64.6	339	i 10	41 <sub>a</sub>	0	i 13 3	PP	1 10 50	?	e 33.2
Shasta		68.7	54	e 11	5	- 2	—	—	—	—	—
Mineral	z.	69.4	54	i 11	13	+ 1	—	—	—	—	—

Continued on next page.

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1952

502

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Scoresby Sund	69.8	355	i 11 14 <sub>k</sub>	0	—	—	—	—
Berkeley	z. 70.4	57	e 11 19 <sub>a</sub>	+ 1	—	—	—	—
Reno	z. 71.0	54	e 11 24	+ 2	—	—	—	—
Lick	z. 71.1	57	e 11 23	+ 1	—	—	—	—
Upsala	z. 71.3	334	i 11 22	- 1	—	—	i 11 31	?
Butte	71.4	45	e 11 27	+ 3	—	—	—	—
Fresno	z. 72.7	56	e 11 45	PcP	—	—	—	—
Tinemaha	z. 73.5	55	e 11 38	+ 2	—	—	—	—
China Lake	z. 74.6	55	e 11 44	+ 1	—	—	—	—
Mount Wilson	z. 75.3	57	e 11 48	- 1	—	—	—	—
Riverside	z. 75.9	57	e 11 50	0	—	—	—	—
Copenhagen	76.2	334	i 11 52	0	—	—	i 12 1	PcP
Boulder City	76.3	54	e 11 54	+ 2	—	—	—	—
Prague	80.0	329	e 12 12	- 1	e 12 21	PcP	e 13 15	?
Jena	E. 80.4	330	e 12 15	0	—	—	e 13 51	?
Witteveen	z. 80.5	335	i 12 16 <sub>a</sub>	+ 1	—	—	—	—
Ksara	80.6	306	e 12 18	+ 2	e 23 18	PS	—	—
Tucson	81.2	55	e 12 18	- 1	—	—	—	—
Stuttgart	83.0	331	e 12 28	0	e 22 49	+ 2	e 12 38	PcP
Strasbourg	83.7	332	e 12 32	0	—	—	e 12 50	PcP
Paris	85.3	335	i 12 39	- 1	i 12 56	sP	i 12 49	pP
Taranto	86.3	321	e 16 21	PP	—	—	—	—
Fayetteville	z. 88.2	43	i 12 50	- 4	—	—	—	—
Tamanrasset	z. 106.3	319	e 18 41	PP	—	—	—	—
Santa Lucia	E. 152.4	88	e 24 27	PP	—	—	i 24 56	?

June 15d. 4h. 15m. 34s. Epicentre 38°.4N. 72°-2E. (as on 1950, November 19d.).

A = +.2402, B = +.7481, C = +.6186;  $\delta$  = +2;  $h$  = -1;  
D = +.952, E = -.306; G = +.189, H = +.589, K = -.786.

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.
Dzhergetal	1.1	318	i 0 18	- 4	0 31	- 5 <sub>g</sub>	—
Murgab	1.4	90	i 0 28	+ 1	i 0 50	+ 4	—
Garm	1.6	292	i 0 30	0	i 0 52	- 1 <sub>g</sub>	—
Kulyab	2.0	266	e 0 37	0*	i 1 7	+ 1 <sub>g</sub>	—
Obi-garm	2.0	279	i 0 34	- 1	i 1 3	0*	—
Fergana	2.0	351	e 0 37	0*	e 1 3	0*	—
Andijan	2.3	3	i 0 43	+ 1*	1 14	+ 2*	1 21
Stalinabad	2.7	273	—	—	e 1 18	- 1	—
Samarkand	4.3	289	e 1 16	0*	e 2 6	+ 6	—
Tchimkent	4.4	334	—	—	1 55	- 7	—

June 15d. 14h. 53m. 2s. Epicentre 39°-5N. 142°-9E. (as on 14d.).

Intensity V at Iwaizuma; IV at Semmaya; II-III at Kesenuma. Epicentre 39°-0N. 143°-5E. Macro seismic radius 100-200km.  
Seismo. Bull. Cent. Met. Obs., Japan, for June, 1952, Tokyo, 1952, p. 239, with macro seismic chart.

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.
Miyako	0.7	281	0 22 <sub>a</sub>	+ 5	0 36	+ 8
Mizusawa	E. 1.4	255	0 30	+ 3	0 47	+ 1
Morioka	1.4	279	i 0 30 <sub>a</sub>	+ 2 <sub>g</sub>	0 54	+ 8
Hatinohe	1.5	315	e 0 33	+ 3 <sub>g</sub>	0 55	+ 5 <sub>g</sub>
Isinomaki	1.6	229	e 0 27	- 3	—	—
Sendai	z. 2.0	232	i 0 35 <sub>a</sub>	0	0 59	- 3
Aomori	2.1	309	0 48	+ 6 <sub>g</sub>	1 17	+ 8 <sub>g</sub>
Akita	2.2	276	e 0 42	- 2 <sub>g</sub>	1 16	+ 3 <sub>g</sub>
Yamagata	2.3	238	e 0 40	0	1 8	- 1
Sakata	2.5	255	0 56	+ 6 <sub>g</sub>	1 29	+ 6 <sub>g</sub>

Continued on next page.

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1952

503

		$\Delta$	Az.	P.	O-C.	S.	O-C.
		°	°	m. s.	s.	m. s.	s.
Hukusima		2.6	228	e 0 42	- 2	1 18	+ 1
Urakawa		2.6	358	e 0 54	+ 2 <sub>g</sub>	1 24	- 2 <sub>g</sub>
Inawasiro		2.9	229	e 0 49	+ 1	1 26	+ 2
Onahama		3.0	213	e 1 4	+ 4 <sub>g</sub>	—	—
Mori	E.	3.2	325	e 1 6	+ 2 <sub>g</sub>	1 46	0 <sub>g</sub>
Shirakawa		3.2	222	e 0 48	- 4	1 24	- 8
Obi-hiro	E.	3.4	3	e 1 20	+ 12 <sub>g</sub>	2 6	+ 14 <sub>g</sub>
Niigata	E.	3.4	244	e 1 3	+ 2*	1 51	- 1 <sub>g</sub>
Mito		3.7	213	e 0 58	- 2	1 42	- 3
Kusiro		3.7	17	e 1 2	+ 2	1 41	- 4
Utunomiya		3.8	220	e 0 59	- 2	1 39	- 8
Sapporo		3.8	342	e 1 14	- 2 <sub>g</sub>	2 4	- 2 <sub>g</sub>
Aikawa		3.9	250	e 1 3	+ 1	—	—
Tukubasan		4.0	215	1 4	0	1 47	- 5
Tyosi	N.	4.1	204	e 1 1	- 4	—	—
Asahigawa		4.3	355	e 1 47	S	(e 1 47)	- 13
Nemuro		4.3	27	e 1 9	+ 1	1 56	- 4
Maebasi	Z.	4.3	226	i 1 5	- 3	—	—
Kumagaya		4.4	221	e 1 11	+ 1	2 6	+ 4
Takada		4.4	238	e 1 40	+ 12 <sub>g</sub>	—	—
Abashiri		4.6	12	—	—	e 1 53	- 14
Titibu		4.6	222	i 1 8	- 4	2 8	+ 1
Tokyo	E.	4.6	214	e 1 10	- 2	—	—
Oiwake		4.7	229	e 1 10	- 4	2 43	+ 8 <sub>g</sub>
Matusiro		4.7	233	i 1 14 <sub>a</sub>	0	2 11	+ 1
Nagano	N.	4.7	234	e 1 15 <sub>a</sub>	+ 1	2 9	- 1
Yokohama		4.8	214	1 17	+ 2	2 24	- 2*
Matumoto	N.	5.1	232	e 1 30	0*	2 38	+ 3*
Wazima		5.2	248	e 1 19	- 2	—	—
Kohu		5.2	223	e 1 20	- 1	2 28	+ 6
Hunatu		5.2	221	e 1 21	0	2 15	- 7
Mera		5.2	209	1 22	+ 1	—	—
Toyama		5.3	240	e 1 24	+ 2	2 47	+ 6*
Misima	N.	5.4	217	e 1 22	- 2	—	—
Ajiro		5.4	216	e 1 42	- 6 <sub>g</sub>	—	—
Osima		5.5	212	e 1 20	- 5	2 24	- 6
Iida		5.6	227	e 1 35	- 4*	2 56	+ 6*
Kanazawa		5.8	241	e 1 38	- 4*	—	—
Shizuoka		5.8	220	e 1 29	0	2 26	- 12
Omaesaki		6.2	217	e 1 50	+ 1*	—	—
Nagoya		6.4	230	e 1 46	- 6*	3 2	+ 9
Gihu		6.4	232	e 1 39	+ 1	2 56	+ 3
Hikone		6.8	234	e 1 43	- 1	—	—
Kameyama		6.9	230	2 8	+ 7*	3 34	+ 5*
Osaka		7.6	233	e 2 23	- 9 <sub>g</sub>	—	—
Sumoto		8.2	234	e 2 14	+ 11	—	—
Siomisaki		8.3	226	e 2 33	P*	4 19	+ 9*
Kiruna	Z.	64.6	339	i 10 40	- 1	—	—
Collmberg	Z.	79.5	330	e 12 9	- 1	—	—
Stuttgart		83.0	331	e 12 27	- 1	—	—
Fayetteville	Z.	88.2	43	i 12 53	- 1	—	—

June 15d. 15h. 12m. 40s. Epicentre 65°·7N. 134°·5W.

A = -·2901, B = -·2952, C = +·9103;  $\delta$  = -5;  $h$  = -11;  
D = -·713, E = +·701; G = -·638, H = -·649, K = -·414.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
College	5.6	268	1 25	- 2	—	—	—	—
Sitka	8.2	183	i 2 35	- 9 <sub>g</sub>	i 4 23	- 8 <sub>g</sub>	—	—
Resolute Bay	15.8	39	i 3 41 <sub>a</sub>	- 4	i 6 31	- 11	i 4 46	? i 8.3
Victoria	18.2	154	4 12	- 4	7 45	+ 8	—	—
Seattle	19.2	153	i 4 28	0	e 8 6	+ 7	e 4 42	PP

Continued on next page.

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1952

504

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Saskatoon		19.6	120	—	—	e 7 55	-13	—	10.5
Hungry Horse		20.5	137	i 4 46	+ 4	e 9 14	SSS	—	—
Shasta		26.0	158	e 5 35	- 1	—	—	—	—
Mineral	z.	26.4	157	i 5 39 <sub>a</sub>	- 1	—	—	—	—
Reno	z.	27.5	154	e 5 50 <sub>a</sub>	0	—	—	—	—
Lick	z.	29.4	158	i 6 6 <sub>a</sub>	- 1	—	—	—	—
Fresno	z.	30.3	156	e 6 14 <sub>a</sub>	- 1	—	—	—	—
China Lake	z.	31.5	153	e 6 25	- 1	—	—	i 6 30	?
Boulder City		32.0	148	e 6 31	+ 1	—	—	—	—
Pasadena		33.1	155	i 6 42	+ 2	—	—	—	e 17.4
Kirkland Lake	z.	33.2	94	e 6 40	0	—	—	—	i 17.2
Palomar	z.	34.1	153	e 6 47	- 1	—	—	—	—
Tucson		36.4	144	e 7 10	+ 2	—	—	—	—
Ottawa		37.1	93	e 7 14	0	—	—	e 19 5	Q
Shawinigan Falls	N.	37.4	89	e 7 21	+ 5	—	—	e 18 43	Q
Seven Falls	E.	37.8	87	—	—	e 14 57	SS	—	19.6
Fayetteville	z.	37.9	121	i 7 20	0	e 8 42	PP	i 7 14	P
Buffalo (Larkin)		38.0	98	i 7 21	0	e 15 33	SS	—	—
Cleveland	z.	38.0	103	e 7 20 <sub>a</sub>	- 1	—	—	—	—
Morgantown		40.2	103	i 7 39	- 1	(e 16 4)	SS	—	e 16.1
Harvard		41.2	92	i 7 48 <sub>k</sub>	0	—	—	—	i 21.2
Kiruna		45.6	13	i 8 23 <sub>a</sub>	- 1	e 17 20?	?	—	—
Upsala		53.0	18	i 9 20	- 1	i 9 25	P	e 12 28	PPP
Rathfarnham Castle		54.9	35	i 9 28	- 7	e 17 16	0	—	e 27.3
Collmberg	z.	60.7	24	e 10 18	+ 3	—	—	—	—
Paris		61.1	31	e 10 17	- 1	e 18 34	- 3	e 15 2	ScP
Prague	N.	62.1	22	e 10 26	+ 1	e 10 45	?	e 11 12	PcP
Strasbourg		62.4	27	e 10 26 <sub>k</sub>	- 1	e 10 51	?	e 11 20	PcP
Stuttgart		62.5	26	e 10 27	- 1	—	—	e 10 32	P
Clermont-Ferrand		64.1	32	e 10 39	+ 1	—	—	—	—
Toledo		68.0	40	e 11 4	+ 1	—	—	—	—
Istanbul	z.	72.8	14	e 11 33	+ 1	e 20 20	-38	—	—
Tamanrasset	z.	86.7	37	i 12 48 <sub>k</sub>	+ 1	—	—	—	—
Grahamstown	z.	145.6	29	i 19 40	[ 0]	—	—	—	—

June 15d. 15h. 15m. 59s. Epicentre 31°·5N. 91°·0E.

$$A = -0.0149, B = +0.8541, C = +0.5199; \quad \delta = 0; \quad h = +2;$$

$$D = +1.000, E = +0.017; \quad G = -0.009, H = +0.520, K = -0.854.$$

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Shillong	E.	6.0	172	e 1 34	+ 2	i 2 39	- 4	1 44	P*
Calcutta	N.	9.2	195	i 2 18	+ 2	i 3 59	- 4	2 27	P*
Dehra Dun	N.	11.2	267	e 2 43	- 1	e 4 33	-19	—	e 5.6
New Delhi		12.3	260	e 2 55	- 4	i 5 12	- 6	5 37	SS
Przhevalsk		14.9	321	3 35?	+ 1	—	—	—	—
Kurmenty		15.3	322	e 3 41	+ 2	—	—	—	—
Murgab		15.6	301	e 3 42	- 1	6 37	0	—	—
Naryn		15.6	314	e 3 44	+ 1	—	—	—	—
Rybach'e		16.1	317	i 3 52	+ 3	e 6 57	+ 8	—	—
Almata		16.2	320	i 3 51	+ 1	i 6 55	+ 4	—	—
Ili		16.6	322	e 3 54?	- 2	—	—	—	—
Khorog		17.1	297	i 4 0	- 2	7 11	- 1	—	—
Frunse		17.3	315	i 4 8?	+ 4	i 7 35?	+19	—	—
Andijan		17.6	306	e 4 10	+ 2	i 7 36	+13	—	—
Dzhergetal		17.9	302	i 4 12	0	7 31	+ 1	—	—
Fergana		17.9	305	e 4 12	0	e 7 33	+ 3	—	—
Hyderabad		18.0	222	4 10	- 3	i 7 43	+11	—	9.5
Garm		18.5	300	e 4 17	- 2	—	—	—	—
Kulyab		18.6	296	4 19	- 2	7 53	+ 7	—	—
Obi-garm		18.8	300	i 4 22	- 1	e 7 51	+ 1	—	—

Continued on next page.

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1952

505

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
	$^{\circ}$	$^{\circ}$	m.	s.	s.	m.	s.	s.	m.	s.	m.
Stalinabad	19.5	299	i 4	31	0	i 8	11	+ 5	—	—	—
Tashkent	20.0	306	i 4	37	0	i 8	24	+ 7	—	—	—
Tchimkent	20.2	308	i 4	39	0	i 8	28	+ 7	—	—	—
Poona	20.2	234	4	39	0	i 8	31	+10	5	11	PP
Semipalatinsk	20.5	341	i 4	43	+ 1	e 8	39	+12	—	—	—
Quetta	20.6	273	i 4	41	- 2	i 8	34	+ 5	—	—	11.0
Bombay	20.7	237	e 4	44	0	8	38	+ 7	5	12	PP
Hong Kong	22.6	108	5	6	+ 3	9	13	+ 6	—	—	—
Irkutsk	22.9	20	5	9	+ 3	e 9	23	+10	—	—	—
Kabansk	23.5	22	5	16	+ 4	e 9	35	+12	—	—	—
Nanking	23.6	82	i 5	15 <sub>a</sub>	+ 2	i 9	29	+ 4	—	—	—
Kodaikanal	E. 24.6	215	e 5	31	+ 8	i 10	10	+28	—	—	12.3
Zi-ka-wei	Z. 26.0	82	i 5	45 <sub>k</sub>	+ 9	e 10	12	+ 6	10	19	?
Sverdlovsk	32.9	330	e 6	32?	- 6	11	59?	+ 3	—	—	—
Baku	34.2	297	i 6	51?	+ 2	—	—	—	—	—	—
Lenkoran	35.0	294	6	57	+ 1	—	—	—	—	—	—
Shemakla	35.1	297	i 6	59	+ 2	12	24	- 6	—	—	—
Makhach-Kala	36.1	302	i 7	6	+ 1	—	—	—	—	—	—
Kirovobad	36.9	298	i 7	12	0	—	—	—	—	—	—
Goris	36.9	296	7	13	+ 1	—	—	—	—	—	—
Grozny	37.4	302	i 7	16	0	—	—	—	—	—	—
Tiflis	38.1	299	7	23	+ 1	—	—	—	—	—	—
Erevan	38.3	296	e 7	25	+ 1	—	—	—	—	—	—
Gori	38.6	299	e 7	30	+ 4	e 13	26	+ 3	—	—	—
Leninakan	38.8	298	e 7	31	+ 3	—	—	—	—	—	—
Borzhomi	39.1	299	e 7	32	+ 1	e 13	33	+ 2	—	—	—
Piatigorsk	39.4	303	7	33	0	13	35	0	—	—	—
Abastumanj	39.5	299	7	38	+ 4	—	—	—	—	—	—
Sotchi	41.8	302	e 7	52	- 1	—	—	—	—	—	—
Ulegorsk	41.9	50	e 7	47	- 7	—	—	—	—	—	—
Yuzno-Sakhlinsk	42.2	53	e 7	56	0	—	—	—	—	—	—
Moscow	44.2	319	i 8	12	0	e 14	51	+ 5	—	—	—
Theodosia	44.9	304	8	17	- 1	—	—	—	—	—	—
Simferopol	45.8	304	i 8	25	0	—	—	—	—	—	—
Yalta	45.8	303	i 8	25?	0	15	5?	- 4	—	—	—
Ksara	46.0	288	i 8	28	+ 1	e 15	39	PPS	—	—	—
Pulkovo	48.7	324	i 8	47	- 1	—	—	—	—	—	—
Kishinev	49.3	308	i 8	51	- 2	—	—	—	—	—	—
Istanbul	49.9	300	e 8	57	0	e 16	17	- 6	e 10	55	PP
Helwan	Z. 50.8	285	e 9	1	- 3	e 16	37	PPS	e 11	3	PP
Lwow	52.2	311	i 9	15	0	—	—	—	—	—	—
Kiruna	53.9	333	i 9	26 <sub>k</sub>	- 1	—	—	—	i 10	31	PcP
Upsala	55.1	324	i 9	36 <sub>k</sub>	0	e 17	21	+ 3	i 10	37	PcP
Belgrade	Z. 55.4	306	e 9	37 <sub>k</sub>	- 1	—	—	—	e 11	25	PP
Prague	58.3	313	i 9	59	0	e 18	11	+10	e 12	8	PP
Copenhagen	58.4	320	i 9	59	- 1	18	13	+11	—	—	—
Potsdam	58.6	316	e 10	0	- 1	e 23	1	?	—	—	e 31.0
Taranto	58.8	302	10	55	PcP	e 15	55	?	—	—	—
Collmberg	58.9	314	e 10	1	- 2	e 10	8	P	e 13	25?	PPP
Jena	59.9	314	e 10	10	0	e 18	37?	+16	e 12	20?	PP
Triest	60.2	308	i 10	5 <sub>a</sub>	- 7	e 18	19	- 6	e 12	13	PP
Messina	60.7	300	i 10	14 <sub>k</sub>	- 1	e 18	31	- 1	e 13	9	?
Rome	61.8	304	i 10	20 <sub>a</sub>	- 3	e 18	38	- 8	e 12	37	PP
Stuttgart	61.9	312	i 10	23 <sub>k</sub>	- 1	e 18	55	+ 8	e 12	40	PP
Florence	62.1	307	i 9	23 <sub>a</sub>	- 62	e 18	11	- 38	i 13	34	PPP
Witteveen	Z. 62.3	318	i 10	26 <sub>a</sub>	0	—	—	—	—	—	—
Chur	62.3	310	e 10	24	- 2	—	—	—	—	—	—
Karlsruhe	Z. 62.4	313	e 10	26	- 1	—	—	—	—	—	—
Zürich	62.7	311	e 10	27	- 2	—	—	—	—	—	—
Strasbourg	62.9	313	i 10	29	- 1	e 18	59	- 1	e 11	8	PcP

Continued on next page.



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1952

506

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Pavia		63.0	309	e 10 31	0	e 26 21	SSS	—	e 32.0
De Bilt		63.4	307	i 10 32	- 2	e 17 9	?	—	e 29.0
Paris		66.1	314	i 10 49	- 2	—	—	i 10 54	P
Clermont-Ferrand		66.8	310	i 10 56	0	27 1?	SSS	—	—
Kew		66.8	318	i 10 55k	- 1	e 19 54	+ 6	—	e 36.0
Scoresby Sund		67.8	341	e 10 59	- 3	27 37	SSS	—	—
Algiers Univ.	z.	70.5	302	e 11 16	- 2	—	—	e 11 33	PcP
College		73.7	23	i 11 37	- 1	—	—	—	—
Toledo		74.1	307	i 11 40k	0	e 12 52	?	e 13 9	?
Almeria		74.4	304	i 11 38	- 4	20 48	-28	14 20	PP
Tamanrasset	z.	74.8	288	i 11 44a	0	i 11 55	PcP	e 14 28	PP
Malaga		75.8	305	i 11 46	- 4	e 21 36	+ 5	—	—
Pretoria	z.	82.7	234	i 12 26	- 1	—	—	—	—
Kimberley	z.	86.9	233	i 12 47	- 1	—	—	—	—
Pennsylvania	z.	107.3	352	e 15 7	P	e 18 21	PKP	e 19 25	?
China Lake	z.	107.9	24	e 18 46	PP	—	—	—	—
Boulder City		108.6	22	e 18 38	PP	—	—	—	—
Mount Wilson	z.	109.1	25	e 18 51	PP	—	—	—	—
Fayetteville	z.	112.6	5	i 14 19	P	e 15 1	?	i 16 25	?
Tucson		113.3	20	e 18 39?	[- 1]	—	—	—	—
Huancayo		156.9	324	i 20 32	PKP <sub>1</sub>	—	—	—	—

June 15d. 16h. 20m. 18s. Epicentre 39°·5N. 142°·9E. (as at 14h.).

Intensity IV at Kesennuma and Semmaya ; II-III at Miyoka, Morioka, Sendai, Ichinoseki, and Yabukawa.

Epicentre 39°·0N. 143°·0E. Depth about 20km. Macroseismic radius 200-300km.

Seismo. Bull. Cent. Met. Obs., Japan, for June, 1952, Tokyo, 1952, p.240, with macroseismic chart.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Miyako		0.7	281	i 0 21k	+ 4	0 36	+ 8	—	—
Mizusawa		1.4	255	0 30	+ 3	0 48	+ 2	—	—
Morioka		1.4	279	i 0 31a	+ 3 <sub>g</sub>	0 54	+ 8	—	—
Hatinohe		1.5	315	i 0 32	+ 2 <sub>g</sub>	1 4	+14 <sub>g</sub>	—	—
Isinomaki		1.6	229	0 27a	- 3	0 46	- 5	—	—
Sendai	z.	2.0	232	i 0 36a	+ 1	0 59	- 3	—	—
Aomori		2.1	309	0 45	+ 3 <sub>g</sub>	1 25	+16 <sub>g</sub>	—	—
Akita	e.	2.2	276	i 0 42	- 2 <sub>g</sub>	1 18	+ 5 <sub>g</sub>	—	—
Yamagata		2.3	238	0 41	+ 1	1 10	+ 1	—	—
Sakata		2.5	255	0 48	- 2 <sub>g</sub>	1 35	+12 <sub>g</sub>	—	—
Hokusima		2.6	228	i 0 42a	- 2	1 17	0	—	—
Urakawa		2.6	358	e 0 51	- 1 <sub>g</sub>	1 39	+13 <sub>g</sub>	—	—
Inawasiro		2.9	229	e 0 48	0	1 35	- 1 <sub>g</sub>	—	—
Onahama		3.0	213	e 0 47	- 3	1 33	0*	—	—
Mori	n.	3.2	325	e 1 5	+ 1 <sub>g</sub>	—	—	—	—
Shirakawa		3.2	222	e 0 49	- 3	—	—	—	—
Obihiro	n.	3.4	3	i 1 4	+ 3*	1 54	+ 2 <sub>g</sub>	—	—
Niigata	z.	3.4	244	i 0 57a	+ 2	1 45	0*	—	—
Mito		3.7	213	e 0 58	- 2	1 51	- 3*	—	—
Kusiro		3.7	17	e 1 1	+ 1	1 40	- 5	—	—
Utunomiya		3.8	220	e 0 58	- 3	1 42	- 5	—	—
Sapporo		3.8	342	e 1 14	- 2 <sub>g</sub>	2 9	+ 3 <sub>g</sub>	—	—
Aikawa		3.9	250	e 1 3	+ 1	1 48	- 2	—	—
Tukubasan		4.0	215	1 2	- 2	1 45	- 7	—	—
Tyosi		4.1	204	e 1 2	- 3	—	—	—	—
Ashaigawa		4.3	355	e 1 45	S	(e 1 45)	-15	—	—
Nemuro		4.3	27	e 1 8	0	1 55	- 5	—	—
Kumagaya		4.4	221	1 7k	- 3	2 2	0	—	—
Takada		4.4	238	e 1 19	+ 1*	2 26	+ 1 <sub>g</sub>	—	—
Abashiri		4.6	12	e 1 12	0	2 6	- 1	—	—

Continued on next page.

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1952

507

		$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
				m.	s.		m.	s.		m.	s.	
Titibu		4.6	222	i 1	12	0	2	2	- 5	—	—	—
Tokyo	N.	4.6	214	e 1	8 <sup>k</sup>	- 4	2	0	- 7	—	—	—
Oiwake		4.7	229	e 1	12	- 2	2	19	- 5*	—	—	—
Matusiro		4.7	233	i 1	15 <sup>a</sup>	+ 1	2	11	+ 1	—	—	—
Nagano	E.	4.7	234	e 1	15	+ 1	2	14	+ 4	—	—	—
Yokohama		4.8	214	1	15	0	—	—	—	—	—	—
Matumoto	N.	5.1	232	e 1	21	+ 1	2	32	- 3*	—	—	—
Wazima		5.2	248	e 1	21	0	—	—	—	—	—	—
Kohu		5.2	223	1	20	- 1	2	25	+ 3	—	—	—
Hunatu		5.2	221	e 1	20	- 1	2	29	+ 7	—	—	—
Mera		5.2	209	1	19	- 2	2	39	+ 1*	—	—	—
Toyama		5.3	240	e 1	24	+ 2	3	4	+ 9 <sup>k</sup>	—	—	—
Misima	N.	5.4	217	e 1	20	- 4	2	32	+ 4	—	—	—
Osima		5.5	212	e 1	21	- 4	—	—	—	—	—	—
Iida		5.6	227	e 1	30	+ 3	2	49	- 1*	—	—	—
Kanazawa		5.8	241	e 1	31	+ 2	—	—	—	—	—	—
Shizuoka		5.8	220	e 1	29	0	2	36	- 2	—	—	—
Omaesaki		6.2	217	1	39	+ 4	3	12	+ 4 <sup>k</sup>	—	—	—
Nagoya		6.4	230	e 1	37	- 1	2	54	+ 1	—	—	—
Gihu		6.4	232	1	38	0	2	55	+ 2	—	—	—
Tsuruga		6.6	237	e 1	41	0	2	57	- 1	—	—	—
Hatidyozima		6.8	202	e 1	42	- 2	—	—	—	—	—	—
Hikone		6.8	234	1	45	+ 1	3	2	- 1	—	—	—
Kameyama		6.9	230	1	54	- 7*	3	30	+ 1*	—	—	—
Kyoto		7.3	234	e 1	49	- 1	—	—	—	—	—	—
Toyooka		7.5	241	e 1	54	+ 1	—	—	—	—	—	—
Owase		7.6	227	e 1	44	- 11	—	—	—	—	—	—
Osaka		7.6	233	e 2	5	- 8*	3	58	+ 8*	—	—	—
Kobe		7.8	235	e 2	6	+ 8	3	9,	- 19	—	—	—
Sumoto	N.	8.2	234	e 2	14	+ 11	—	—	—	—	—	—
Siomisaki		8.3	226	e 2	4	0	4	2	- 8*	—	—	—
Takamatu		8.8	237	2	10	- 1	—	—	—	—	—	—
Koti		9.6	235	e 2	26	+ 5	4	32	- 17*	—	—	—
Hamada	N.	9.8	245	e 2	25	+ 1	—	—	—	—	—	—
Hirosima		9.8	242	e 2	34	+ 10	4	26	+ 9	—	—	—
Ooita		11.0	239	e 2	44	+ 2	—	—	—	—	—	—
Hukuoka	E.	11.6	243	e 3	6	+ 16	—	—	—	—	—	—
Zi-ka-wei		19.3	252	i 4	31 <sup>k</sup>	+ 2	e 8	26	SS	—	—	—
College		46.4	33	i 8	28	- 2	—	—	—	—	—	—
Resolute Bay	Z.	59.9	15	e 10	8 <sup>a</sup>	- 2	—	—	—	—	—	—
Kiruna		64.6	339	i 10	40 <sup>a</sup>	- 1	—	—	—	—	—	e 36.7
Shasta		68.7	54	e 11	5	- 2	—	—	—	—	—	—
Reno	Z.	71.0	54	e 11	21	- 1	—	—	—	—	—	—
Upsala	Z.	71.3	334	i 11	22	- 1	i 11	32	?	i 18	0	?
Butte		71.4	45	e 11	27	+ 3	—	—	—	—	—	—
China Lake	Z.	74.6	55	e 11	40	- 3	—	—	—	e 11	47	P
Mount Wilson	Z.	75.3	57	e 11	46	- 1	—	—	—	e 12	24	?
Copenhagen		76.2	334	i 11	52	0	—	—	—	—	—	e 39.7
Boulder City		76.3	54	e 11	51	- 1	—	—	—	e 11	58	PcP
Raciborzu	Z.	78.4	327	e 12	5	+ 1	—	—	—	e 12	14	PcP
Collmberg		79.5	330	e 12	9	- 1	—	—	—	e 12	18	PcP
Istanbul		79.7	315	e 12	11	0	—	—	—	—	—	50.7
Prague		80.0	329	i 12	13	0	e 20	8	?	e 12	22	PcP
Jena		80.4	330	e 12	15	0	—	—	—	e 12	24	PcP
Ksara		80.6	306	e 12	18	+ 2	—	—	—	—	—	—
Tucson		81.2	55	e 12	23	+ 4	—	—	—	—	—	—
Stuttgart		83.0	331	e 12	28	0	—	—	—	—	—	e 47.7
Strasbourg		83.7	332	e 12	31	- 1	—	—	—	—	—	—
Paris		85.3	335	i 12	40	0	—	—	—	—	—	e 52.7
Fayetteville	Z.	88.2	43	i 12	52	- 2	—	—	—	—	—	—
Harvard		92.6	25	e 13	31	+ 16	—	—	—	—	—	—
Tamanrasset	Z.	106.3	319	e 18	41	PP	—	—	—	—	—	—

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1952

508

June 16d. 3h. 38m. 21s. Epicentre 23°48. 179°3W. Depth of focus 0.070.

A = -0.9186, B = -0.0112, C = -0.3949;  $\delta = -10$ ;  $h = +4$ ;  
D = -0.012, E = +1.000; G = +0.395, H = +0.005, K = -0.919.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Apia		11.9	38	i 2 33	- 6	i 4 32	-14	—	—
Auckland	N.	14.4	199	2 59	- 6	e 5 34	0	—	—
Karapiro	N.	15.1	196	3 12	0	6 1	+14	—	—
Tuai	N.	15.7	190	e 3 12	- 6	i 6 1	+ 3	—	—
New Plymouth	E.	16.6	198	3 33	+ 6	6 26	+11	—	—
Wellington		18.5	195	3 45	- 1	6 51	+ 3	i 14 22	ScS
Cobb River	E.	18.9	200	3 48	- 2	6 57	+ 2	e 4 49	PPP
Kaimata	N.E.	20.6	200	i 4 4	- 2	i 7 28	+ 4	e 5 24	PP
Christchurch		21.2	197	4 10	- 2	7 38	+ 4	—	—
Brisbane		25.3	255	4 49k	0	i 8 41	+ 1	e 11 3	SS
Riverview	N.	27.9	241	—	—	i 15 5	ScS	—	—
Djakarta		72.8	271	—	—	e 19 11	-16	—	—
Mitchell Field		75.0	2	i 10 51	- 2	—	—	i 12 47	pP
Yuzno-Sakhlinsk		78.0	334	11 10	+ 1	e 20 27	+ 4	12 56	pP
Petropavlovsk		78.6	346	i 11 9	- 3	—	—	—	—
Ulegorsk		80.0	336	11 19	- 1	20 48	+ 4	e 13 1	pP
Vladivostok		80.0	326	e 11 16	- 4	i 20 47	+ 3	—	—
Nanking	z.	80.9	310	i 11 24	0	i 20 55	+ 2	—	—
Berkeley		81.1	42	i 11 26a	0	e 20 56	+ 1	e 13 3	pP
Lick	z.	81.2	42	i 11 27a	+ 1	i 14 39	PP	13 11	pP
Pasadena		81.5	47	i 11 28a	0	i 21 2	+ 3	i 13 16	pP
Arcata	z.	82.0	39	11 31a	+ 1	—	—	e 13 23	pP
Fresno	z.	82.0	44	i 11 30a	0	e 14 41	PP	e 13 19	pP
Palomar		82.0	48	i 11 30a	0	e 21 12	+ 8	i 13 16	pP
Riverside		82.0	47	i 11 20a	-10	—	—	i 13 17	pP
Shasta		82.8	40	i 11 35	+ 1	—	—	i 11 55	?
China Lake		82.9	46	i 11 35a	0	e 38 6	P'P'	i 13 24	pP
Mineral	z.	83.1	41	i 11 35a	- 1	—	—	e 13 29	pP
Tinemaha		83.2	45	i 11 37a	+ 1	i 11 46	PcP	i 13 27	pP
Reno	z.	83.7	42	e 11 39a	0	e 21 27	+ 6	e 13 31	pP
Boulder City		84.8	47	i 11 45	+ 1	—	—	i 13 36	pP
Corvallis	z.	84.8	37	i 11 44	0	—	—	—	—
Tucson		85.6	52	i 11 49	+ 1	—	—	i 13 36	pP
Seattle		87.3	35	i 11 55	- 1	e 21 54	- 1	—	—
Victoria		87.3	34	11 55	- 1	—	—	—	—
College		91.3	13	e 12 10	- 5	i 22 28	- 2	i 14 4	pP
Butte		91.7	39	i 12 17	+ 1	—	—	i 14 3	pP
Fayetteville	z.	99.7	55	i 12 52	- 1	i 17 0	PP	e 14 43	pP
Cleveland	z.	110.7	53	e 18 21a	PP	i 28 51	PPS	—	—
Rybach'e		115.9	307	e 19 9	PP	i 23 45	[- 8]	e 28 1	SKSP
Palisades		116.3	54	e 28 0	PS	—	—	—	—
Harvard		118.2	53	i 17 52a	[ 0]	—	—	—	—
Andijan		118.4	305	17 54	[+ 2]	24 4	[+ 2]	—	—
Grahamstown	z.	118.4	204	i 17 55	[+ 3]	—	—	—	—
Weston		118.4	53	i 17 53k	[+ 1]	—	—	—	—
Fergana		118.8	305	e 17 53	[ 0]	e 24 5	[+ 1]	e 25 28	SKKS
Pietermaritzburg	z.	120.0	210	e 19 27?	pPKP	—	—	—	—
Tchimkent		120.7	307	e 17 57	[ 0]	e 24 9	[- 1]	—	—
Bermuda		122.3	65	i 18 0	[ 0]	e 19 44	PP	i 20 51	SKP
Samarkand		122.4	303	e 18 8	[+ 8]	—	—	—	—
Kimberley	z.	123.2	205	i 15 3	[+ 2]	—	—	—	—
Sverdlovsk		125.7	324	18 7	[ 0]	e 26 11	SKKS	e 36 27	SS
Kiruna	z.	133.9	349	i 18 41?	[+19]	i 21 41	PKS	—	—
Baku		135.5	304	e 21 7	PP	—	—	—	—
Shemakla		136.4	305	e 18 27	[ 0]	21 17	PP	—	—
Lenkoran		136.5	302	e 21 17	PP	—	—	—	—
Reykjavik	z.	136.6	14	i 21 14	PP	i 21 22	?	i 21 32	?
Moscow		137.8	330	e 21 19	PP	e 27 26	SKKS	—	—
Kirovobad		138.1	306	18 23	[- 7]	—	—	—	—
Goris		138.3	304	e 21 23	PP	—	—	—	—

Continued on next page.

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1952

509

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.	
Tiflis	139.1	307	e 18 29	[- 3]	—	—	e 21 29	PP	—
Gori	139.5	307	e 21 39	PP	—	—	—	—	—
Piatigorsk	139.7	311	e 21 25	PP	i 21 55	PKS	—	—	—
Leninakan	140.0	307	e 18 34	[+ 1]	—	—	—	—	—
Borzhomi	140.1	308	e 21 29	PP	—	—	—	—	—
Abastumanj	140.5	308	e 18 34	[ 0]	e 21 32	PP	—	—	—
Zugdidi	141.0	310	e 18 34	[- 1]	e 21 32	PP	—	—	—
Upsala	z. 141.7	346	i 18 31	[- 6]	i 21 28	SKP	i 21 43	PP	—
Theodosia	144.5	316	18 42	[ 0]	28 10	SKKS	20 35	pPKP	—
Simferopol	145.3	317	18 44	[+ 1]	28 13	SKKS	20 37	pPKP	—
Yalta	145.5	316	18 45	[+ 2]	e 28 14	SKKS	20 38	pPKP	—
Copenhagen	146.7	348	i 18 47	[+ 2]	—	—	—	—	—
Kishinev	147.4	324	i 18 49	[+ 3]	—	—	i 20 41	pPKP	—
Ksara	147.5	296	18 49	[+ 3]	21 30	sPKP	20 43	pPKP	—
Lwow	147.9	331	i 18 52	[+ 5]	e 18 54	PKP <sub>2</sub>	21 25	?	—
Cernauti	148.1	327	i 18 53	[+ 6]	—	—	—	—	—
Potsdam	149.6	346	e 18 56	[+ 7]	—	—	e 20 49	pPKP	—
Witteveen	150.3	353	i 18 57 <sup>k</sup>	[+ 7]	—	—	i 20 52	pPKP	—
Istanbul	150.4	314	e 18 52	[+ 2]	i 18 58	PKP <sub>2</sub>	e 40 39	?	—
Collmberg	150.6	344	e 18 50	[- 1]	e 18 57	PKP <sub>2</sub>	e 20 50	pPKP	—
De Bilt	151.2	354	i 18 59	[+ 8]	—	—	e 21 45	?	—
Jena	151.2	345	e 19 1	[+10]	23 21	PP	e 21 8	pPKP	—
Prague	151.3	342	e 18 55	[+ 3]	e 21 44	sPKP	20 57	pPKP	—
Helwan	z. 151.9	290	e 19 1	[+ 8]	19 15	PKP <sub>2</sub>	e 32 21	SKSP	—
Kew	z. 152.0	2	i 18 54	[+ 1]	i 19 11	PKP <sub>2</sub>	i 19 1	?	—
Belgrade	z. 153.2	327	e 19 18 <sup>a</sup>	PKP <sub>2</sub>	—	—	e 20 47	pPKP	—
Stuttgart	153.8	347	e 18 56	[+ 1]	28 58	SKKS	21 4	pPKP	—
Strasbourg	154.2	349	e 18 56	[ 0]	—	—	e 19 21	PKP <sub>2</sub>	—
Paris	154.6	358	e 18 58	[+ 2]	i 19 23	PKP <sub>2</sub>	e 23 2	PP	—
Zürich	155.2	348	e 18 59	[+ 2]	i 19 26	PKP <sub>2</sub>	—	—	—
Chur	155.5	346	e 18 54	[- 3]	i 19 27	PKP <sub>2</sub>	—	—	—
Clermont-Ferrand	157.6	356	e 19 36	PKP <sub>2</sub>	e 23 21	PP	e 32 39 <sup>?</sup>	?	—
Florence	157.9	339	18 58	[- 3]	29 15	SKKS	23 10	PP	—
Rome	159.1	335	e 19 41	PKP <sub>2</sub>	e 29 26	SKKS	e 46 9	?	—
Messina	160.5	323	i 19 48 <sup>k</sup>	PKP <sub>2</sub>	e 23 38	PP	e 42 25	?	—
Toledo	163.1	13	i 20 1	PKP <sub>2</sub>	e 23 32	PP	e 22 39	sPKP	—
Malaga	166.0	17	i 19 10	[+ 1]	25 50	[+24]	i 23 58	PP	—
Algiers Univ.	z. 166.5	351	e 20 14	PKP <sub>2</sub>	e 20 38	?	—	—	—
Tamanrasset	z. 175.5	—	e 19 17	[+ 3]	e 30 56	SKKS	e 20 58	PKP <sub>2</sub>	—

June 16d. 16h. 25m. 18s. Epicentre 0°·8N. 119°·7E.

Intensity III-IV to the east of Borneo at Tg Palas. Epicentre 1°·0N. 119°·5E. (Strasbourg ; 0°lat. 121°·1E. (U.S.S.R.).

Earthquakes in Indonesia for the years 1948-1955, Meteorological and Geophysical Institute, Djakarta, Series A, No. 45, p.35.

A = -·4954, B = +·8685, C = +·0138 ;  $\delta$  = -10 ; h = +7 ;  
D = +·869, E = +·495 ; G = -·007, H = +·012, K = -1·000.

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.	
Manila	13.7	5	i 3 26	+ 8	e 5 30	- 22	—	—	—
Bandong	14.3	237	e 3 26	0	6 26	SS	—	—	—
Djakarta	14.6	241	e 7 59	?	i 11 47	?	—	—	—
Hong Kong	22.0	346	e 4 55	- 3	e 8 56	0	—	—	—
Zi-ka-wei	30.3	4	6 22 <sup>k</sup>	+ 7	e 11 28	+13	i 10 47	?	—
Nanking	31.1	358	i 6 22 <sup>k</sup>	0	i 11 27	- 1	—	—	—
Brisbane	z. 42.6	134	i 8 3	+ 4	—	—	18 18	?	—
Vladivostok	43.5	13	8 7	0	e 14 36	0	—	—	—
Yuzno-Sakhlinsk	50.2	21	8 59	- 1	—	—	—	—	—
Uglegorsk	51.8	19	9 12	0	16 36	+ 3	—	—	—

Continued on next page.

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1952

510

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Kabansk	52.2	349	e 9 13	- 2	---	---	---	---
Irkutsk	52.9	348	e 9 18	- 2	---	---	---	---
Murgab	56.2	317	e 9 42	- 2	e 17 29	- 4	---	---
Naryn	56.5	321	e 9 44	- 2	i 17 38	+ 1	---	---
Almata II	56.7	324	e 9 47	- 1	---	---	---	---
Almata	56.9	324	e 9 48	- 1	i 17 44	+ 2	---	---
Rybach'oe	57.0	322	e 9 46	- 4	i 17 41	- 2	---	---
Ili	57.2	325	e 9 49	- 2	---	---	---	---
Khorog	57.3	316	e 9 50	- 2	e 17 46	- 1	---	---
Frunse	58.1	322	e 9 59	+ 1	i 17 57	- 1	---	---
Andijan	58.4	319	i 9 58	- 2	i 18 0	- 2	---	---
Dzhergetal	58.4	318	e 10 0	0	18 0	- 2	---	---
Fergana	58.6	319	e 9 58	- 3	e 18 1	- 3	---	---
Kulyab	58.8	315	e 10 1	- 1	e 18 2	- 5	---	---
Garm	59.0	316	e 10 0?	- 4	---	---	---	---
Obi-garm	59.2	316	e 10 4	- 1	e 18 8	- 4	---	---
Stalinabad	59.8	316	e 10 7	- 2	e 18 15	- 5	---	---
Tashkent	60.7	318	e 10 14	- 1	e 18 27	- 5	---	---
Tchimbkent	61.0	320	e 10 16	- 2	i 18 35	0	---	---
Samarkand	61.6	315	10 22	0	---	---	---	---
Ashkabad	67.2	311	e 10 58	0	---	---	---	---
Kizyl-Arvat	69.1	312	e 11 9	- 1	i 20 9	- 6	---	---
Sverdlovsk	72.9	331	i 11 31	- 2	i 20 54	- 5	---	---
Baku	74.2	312	e 11 43	+ 3	e 21 9	- 5	---	---
Goris	76.7	310	e 11 53	- 2	e 21 38	- 3	---	---
Kirovobad	76.9	311	e 11 54	- 2	---	---	---	---
Grozny	77.8	314	e 11 59	- 2	21 49	- 4	---	---
Leninakan	78.8	311	e 12 12	+ 6	---	---	---	---
Borzhome	79.3	312	e 12 9	0	---	---	---	---
Abastumanj	79.7	312	e 12 15	+ 4	---	---	---	---
Piatigorsk	79.8	315	12 10	- 2	22 8	- 6	---	---
Zugdidi	80.5	313	e 12 17	+ 2	---	---	---	---
Sotchi	82.2	313	e 12 21	- 3	22 29	-10	---	---
Ksara	84.4	304	e 12 37?	+ 1	e 23 21	+20	---	---
Moscow	84.9	326	e 12 36	- 2	22 58	- 8	23 13	ScS
Theodosia	85.4	315	12 40	0	23 7	- 4	---	---
Yalta	86.3	314	12 43	- 2	23 14	- 6	---	---
Istanbul	z. 90.0	311	e 13 21	+18	---	---	---	---
Pretoria	z. 91.7	245	e 13 9	- 1	---	---	---	---
Kiruna	92.8	337	i 13 13	- 3	e 24 17	- 2	23 50	SKS e 47.7
Kimberley	z. 94.7	241	i 13 23	- 1	---	---	---	---
China Lake	z. 115.5	48	e 18 51	[+ 7]	---	---	---	---
Pasadena	z. 115.7	51	e 19 7	[+23]	---	---	---	---
Palomar	z. 117.0	51	e 18 42	[- 5]	---	---	e 19 25	?
Fayetteville	z. 131.6	37	e 19 10	[- 5]	i 19 37	?	i 22 38	?
Palisades	136.6	14	e 22 57	PP	---	---	---	e 58.2
Bermuda	146.7	6	i 19 47	[+ 5]	---	---	---	---

June 17d. 4h. 7m. 35s. Epicentre 24°0S. 175°0W. (as on 1939, March 13d.).

A = -.9111, B = -.0797, C = -.4045;  $\delta = +8$ ;  $h = +4$ ;  
D = -.087, E = +.996; G = +.403, H = +.035, K = -.915.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Apia	10.6	17	i 2 22	-14	e 3 51	-46	---	e 4.4
Wellington	19.2	205	---	---	8 11	+12	e 10 5	Q e 10.9
Cobb River	E. 19.9	210	---	---	e 8 21	+ 6	---	e 10.4
Kaimata	N.E. 21.6	209	---	---	e 9 8	+19	---	---
Brisbane	29.0	258	i 6 10a	+ 6	---	---	17 9	PP e 14.1
Riverview	31.1	244	i 6 22	0	---	---	---	e 14.5
Santa Clara	78.8	41	e 12 11k	+ 5	i 23 6	+62	---	e 33.4
Berkeley	79.0	41	e 12 5	- 2	e 22 2	- 4	e 32 25	Q e 37.4
Lick	z. 79.0	41	e 12 8k	+ 1	---	---	---	---
Pasadena	79.1	46	e 12 9	+ 1	---	---	---	e 37.5

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1952

511

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Palomar	z.	79.5	47	e 12 8	- 2	—	—	—	—
Riverside	z.	79.5	46	e 12 10	0	—	—	—	—
Fresno	z.	79.7	43	e 12 11k	0	—	—	—	—
China Lake	z.	80.5	35	e 12 15	0	—	—	—	—
Tinemaha	z.	80.9	43	e 12 18	+ 1	—	—	e 12 41	?
Mineral	z.	81.0	39	e 12 17k	- 1	—	—	—	—
Reno	z.	81.5	41	e 12 21k	0	—	—	—	—
Zi-ka-wei	z.	81.9	310	e 12 21a	- 2	e 22 36	0	—	—
Boulder City		82.4	46	e 12 26	+ 1	—	—	—	—
Tucson		82.9	51	e 12 29	+ 1	e 38 12	Q	—	(e 38.2)
Nanking		84.3	309	i 12 36a	+ 1	23 2	+ 2	—	—
Seattle		85.6	34	e 12 42	+ 1	e 23 13	0	—	—
Butte		89.7	39	e 13 2	+ 1	—	—	—	—
College		91.0	11	i 13 4	- 3	—	—	—	—
Fayetteville	z.	96.8	54	e 13 35	+ 1	—	—	—	—
La Paz		98.1	112	e 17 58	PP	—	—	32 17	SS
Chinchina		100.6	89	e 21 13	?	—	—	—	—
Bogota		101.8	90	e 18 15	PP	e 26 35	+60	e 20 52	PPP e 44.4
Galerazamba		103.1	84	e 24 40	SKS	(e 24 40) [- 2]	—	—	e 44.4
Ottawa		113.0	49	—	—	e 29 5	PS	e 35 41	SS e 55.4
Palisades		113.8	54	e 19 53	PP	e 29 14	PS	(e 39 17)	SSS e 39.3
Weston		115.6	53	e 15 9a	P	—	—	—	—
Sern Falls	E.	116.6	48	—	—	e 29 28	PS	e 36 23	SS 59.2
Bermuda		119.0	65	e 10 45	?	e 29 53	PS	—	e 63.9
Scoresby Sund		130.9	12	e 22 42	PKS	37 37	?	41 31	? 59.4
Kiruna		135.1	351	i 22 54	PKS	e 39 43	SS	e 34 2	PPS e 54.4
Aberdeen	E.	146.5	7	—	—	e 38 25?	?	—	—
Copenhagen		147.9	353	i 19 48	[+ 4]	—	—	—	52.4
Potsdam		151.0	351	e 19 57	[+ 8]	—	—	e 20 1	PKP <sub>2</sub> e 82.4
Witteveen	z.	151.2	358	i 20 11	PKP <sub>2</sub>	—	—	—	—
Ksara		151.3	297	19 57	[+ 8]	33 46	PSKS	—	—
De Bilt		152.0	359	e 19 55	[+ 5]	e 33 45	PSKS	e 23 35	PP e 73.4
Collmborg	E.	152.1	348	e 20 4	[+13]	—	—	—	—
Kew		152.3	7	e 23 40	PP	e 28 29	?	e 42 16	SS e 77.4
Jena		152.7	349	e 20 1	[+10]	e 23 57?	PP	e 20 10	PKP <sub>2</sub> —
Prague		153.0	347	e 19 57	[+ 5]	e 23 8	PP	e 20 11	PKP <sub>2</sub> —
Istanbul		153.7	317	e 20 2?	[+ 9]	e 23 25?	PKS	e 20 25?	PKP <sub>2</sub> —
Stuttgart		155.1	352	e 20 0?	[+ 5]	e 24 1	PP	e 27 13	PPP —
Paris		155.2	4	e 20 10	PKP <sub>2</sub>	e 43 37	SS	e 48 32	SSS e 84.4
Strasbourg		155.4	354	e 20 6	[+11]	e 20 25	PKP <sub>2</sub>	e 51 25?	? e 59.4
Clermont-Ferrand		158.2	3	e 20 42	PKP <sub>2</sub>	e 47 25?	?	—	— 85.4
Florence		159.4	347	—	—	e 43 35	SS	—	—
Rome		161.1	342	e 20 7	[+ 5]	e 26 27	[-39]	e 44 25?	SS —
Messina	E.	163.2	331	e 20 19	[+15]	e 27 29	[+22]	e 51 25	SSS —
Granada		164.9	28	21 0a	[+54]	i 24 51	PP	21 34	PKP <sub>2</sub> 87.1
Alicante		165.0	18	20 9	[+ 3]	25 1	PP	21 0	PKP <sub>2</sub> 78.6
Malaga		165.0	20	i 20 37	[+31]	i 24 51	PP	i 21 7	PKP <sub>2</sub> 91.6
Almeria		165.7	24	21 5	PKP <sub>2</sub>	46 7	SS	25 43	PP 88.0
Tamanrasset	z.	178.7	—	e 20 19	[+ 7]	e 26 7	PP	e 22 13	PKP <sub>2</sub> —

June 17d. 10h. 24m. 1s. Epicentre 36°·3N. 69°·1E. (as on 8d.).

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.
Kulyab	1.7	19	i 0 31	0	i 0 56	+ 2
Khorog	2.3	60	i 0 39	- 1	i 1 6	- 3
Stalinabad	2.3	353	e 0 41	+ 1	i 1 11	+ 2
Obi-garm	2.4	11	e 0 44	+ 3	e 1 16	+ 4
Garm	2.9	19	i 0 47	- 1	e 1 25	+ 1
Dzhergetal	3.4	29	0 55	0	1 42	+ 5
Murgab	4.4	60	e 1 10	0	—	—
Fergana	4.6	26	e 1 11	- 1	—	—
Andijan	5.1	29	i 1 19	- 1	—	—
Almata II	9.4	40	e 2 16	- 2	—	—

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1952

512

June 17d. 12h. 3m. 44s. Epicentre 5°·0S. 124°·0E. (as on 1951, Sept. 13d.).

Intensity IV-V at Kolaka, South of Celebes. Suggested Epicentres 4°·5S. 125°·0E. (Strasbourg); 4°·0S. 128°·5E. (U.S.S.R.).

The observations do not afford an approximate epicentre and the observations are referred to the origin of the earthquake on 1951, Sept. 13d.

"Earthquakes in Indonesia, 1948-1955," Meteorological and Geophysical Institute, Djakarta, Series A, No.45, p.35.

$$A = -.5571, B = +.8259, C = -.0866; \quad \delta = -3; \quad h = +7;$$

$$D = +.829, E = +.559; \quad G = +.048, H = -.072, K = -.996.$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Bandong	16.4	262	e 4 6	+13	e 7 24	+28	—	—
Djakarta	17.1	265	i 4 13 <sub>a</sub>	+11	e 7 34	+22	—	—
Manila	19.7	351	i 4 35	+ 1	e 8 33	+23	e 4 59	PP e 10.5
Perth	27.9	195	—	—	i 10 46	+ 9	i 11 22	SS i 15.9
Hong Kong	28.8	341	e 6 34	+32	—	—	—	—
Brisbane	35.5	132	e 6 44 <sub>a</sub>	-16	i 14 9	SS	i 7 46	PP e 18.7
Zi-ka-wei	z. 36.1	357	e 6 59 <sub>k</sub>	- 6	e 12 29	-16	—	—
Nanking	37.2	353	i 7 12 <sub>k</sub>	- 3	12 58	- 4	—	—
Riverview	38.2	142	i 7 22	- 1	i 13 0	-17	e 15 40	SS e 18.1
Calcutta	h. 44.3	310	i 7 58	-15	i 15 2	+14	10 48	PPP
Hyderabad	50.2	298	e 8 34	-26	16 20	+ 9	10 30	PP 26.8
Poona	z. 54.7	297	e 8 50	-43	i 17 25	+12	—	—
Bombay	55.7	297	—	—	e 17 16	-10	—	—
New Delhi	56.1	310	e 9 43	0	i 17 35	+ 3	19 31	ScS
Quetta	64.7	307	e 10 32	-10	—	—	e 11 29	?
Ksara	91.2	304	e 14 9	+61	e 25 29	PS	—	—
Pretoria	z. 93.1	244	e 13 15?	- 2	—	—	—	—
Helwan	z. 94.8	299	e 20 10	PPP	—	—	—	—
Kimberley	z. 95.7	241	i 13 39 <sub>a</sub> ?	+10	—	—	—	—
Istanbul	97.0	311	e 17 16?	?	e 24 4	[- 8]	—	—
Kiruna	99.7	337	i 13 44 <sub>a</sub>	- 3	e 24 23	[- 3]	e 25 4	SKKS e 49.3
Copenhagen	106.2	327	—	—	26 16?	+ 4	—	—
Prague	106.3	321	e 19 19	PP	e 25 36	-37	e 28 38	PPS
Potsdam	106.7	324	—	—	e 26 16?	0	—	e 51.3
Resolute Bay	106.8	10	e 17 58	?	e 28 3	PS	e 18 26	PP
Collmberg	z. 106.9	322	e 18 52?	PP	—	—	—	—
Stuttgart	110.0	320	e 19 16	PP	e 29 16	PS	e 31 46	? e 56.3
Strasbourg	110.9	320	e 28 59	PS	e 29 58	PPS	e 35 16	SS e 52.3
Scoresby Sund	111.0	349	—	—	e 27 59	?	e 28 57	PS 53.3
De Bilt	111.4	325	—	—	e 29 4	PS	—	e 56.3
Mineral	z. 111.7	48	e 18 40 <sub>k</sub>	[+ 3]	—	—	—	—
Santa Clara	112.1	51	—	—	e 28 6	PS	e 55 48	Q e 72.7
Lick	z. 112.3	51	e 18 41 <sub>k</sub>	[+ 3]	—	—	—	—
Kew	114.8	326	—	—	e 25 45	[+14]	e 29 18	PS e 56.3
Tinemaha	z. 115.0	51	e 18 50	[+ 7]	—	—	—	—
Pasadena	z. 115.7	54	e 18 49	[+ 5]	—	—	—	—
China Lake	z. 115.8	52	e 18 48	[+ 3]	—	—	—	—
Riverside	z. 116.4	54	e 18 58	[+12]	—	—	—	—
Palomar	z. 117.0	55	e 18 51	[+ 4]	—	—	—	—
Rathfarnham Castle	117.1	330	e 29 38	PS	—	—	—	—
Tamanrasset	z. 118.2	293	e 20 49	PP	—	—	—	—
Granada	122.5	312	—	—	e 26 16	[+18]	—	69.4
Fayetteville	z. 133.2	43	e 19 6	[-12]	—	—	i 19 22	PKP
Morgantown	139.3	29	e 19 26	[- 3]	—	—	—	—
Palisades	140.7	21	e 19 30	[- 2]	—	—	—	e 66.8
Huancayo	154.4	132	e 20 0	[+ 6]	—	—	—	—

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1952

513

June 17d. 22h. 37m. 20s. Epicentre 36°·7N. 11°·8W.

Intensity III-IV at Lisbon and Monte Estoril; II at Coimbra and Evora. Epicentre as adopted.

Observações Macrosísmicas, 1952, Anuario sísmológico de Portugal, No. 6, 1952, Lisbon, September, 1955, p. 2.

A = +·7867, B = -·1643, C = +·5951;  $\delta = +4$ ;  $h = 0$ ;  
D = -·204, E = -·979; G = +·582, H = -·122, K = -·804.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Lisbon	2·9	46	i 0 47k	- 1	i 1 17	- 7	i 0 49	P*
Coimbra	4·4	36	i 1 8k	- 2	1 52	-10	1 19	P <sub>r</sub>
Malaga	5·9	87	i 1 25	- 6	i 2 43	+ 3	—	—
Granada	6·6	83	1 38 <sub>a</sub>	- 3	3 25	+ 5*	2 10	P <sub>r</sub>
Toledo	6·9	60	i 1 41	- 4	i 2 52	-13	—	—
Almeria	7·5	86	1 42	-11	3 22	+ 2	2 8	P*
Alicante	9·2	76	2 14	- 2	3 50	-13	2 55	P <sub>r</sub>
Tortosa	10·4	63	i 2 41	+ 7	i 4 16	-16	—	—
Barcelona	11·8	62	—	—	e 5 46	S <sub>r</sub>	—	e 6·7
Algiers Univ.	z. 11·9	85	e 2 54	0	—	—	—	—
Clermont-Ferrand	14·4	46	—	—	i 5 50	-19	7 41	L
Paris	16·0	36	i 3 47	- 1	i 6 45	- 1	i 3 58	PP
Rathfarnham Castle	17·0	11	e 4 4?	+ 3	i 7 7	- 3	e 4 25	PP
Zürich	18·5	47	e 4 21	+ 2	e 7 56	+12	—	—
Strasbourg	18·6	44	e 4 22	+ 1	e 7 52	+ 6	e 4 48	PP
Florence	18·9	60	i 3 14	-70	e 6 56	-57	—	—
Karlsruhe	19·2	42	e 4 29	+ 1	—	—	—	i 10·2
De Bilt	19·5	32	e 4 32	+ 1	e 8 16	+10	—	e 9·2
Rome	19·5	66	e 4 30	- 1	e 8 10	+ 4	—	e 9·7
Stuttgart	19·5	45	e 4 31	0	e 8 10	+ 4	—	e 9·7
Tamanrasset	z. 20·4	127	i 4 39k	- 2	e 8 28	+ 3	i 5 19	PP
Witteveen	z. 20·7	32	e 4 46	+ 2	—	—	—	e 9·8
Triest	z. 21·1	56	i 4 46 <sub>a</sub>	- 2	e 8 41	+ 2	i 5 13	PP
Messina	21·7	76	e 4 51	- 4	e 8 51	0	e 5 15	PP
Jena	21·9	42	e 4 57	0	e 8 34?	-20	e 5 23	PP
Collmberg	22·9	43	e 5 8	+ 2	e 9 16	+ 3	e 6 28?	—
Prague	23·1	45	e 5 10	+ 2	e 9 17	+ 1	e 5 48	PP
Potsdam	23·5	39	e 5 18	+ 6	e 9 34	+11	—	e 12·9
Copenhagen	25·1	32	—	—	9 52	+ 1	10 7	?
Raciborzu	z. 25·4	47	e 5 26	- 5	e 11 9	SS	e 6 10	PP
Belgrade	z. 25·6	61	e 5 34k	+ 2	—	—	—	—
Upsala	z. 29·9	30	i 6 12	0	—	—	i 6 17	?
Istanbul	31·9	68	e 6 28	- 1	—	—	—	e 15·7
Scoresby Sund	34·3	354	—	—	e 12 46	+29	—	—
Kiruna	36·0	20	i 7 7	+ 2	e 12 45	+ 1	—	e 18·4
Ksara	38·7	79	e 5 55	?	e 10 59	?	—	—
Weston	45·4	297	i 8 29 <sub>a</sub>	+ 7	—	—	—	—
Harvard	45·6	297	i 8 30k	+ 6	—	—	—	—
Morgantown	52·5	295	i 9 22	+ 5	—	—	—	—
Fayetteville	z. 64·2	297	i 10 43	+ 4	e 10 50	?	e 13 54	PP
Butte	71·2	314	e 11 28	+ 5	—	—	—	—
Pretoria	z. 72·7	142	i 11 31	- 1	—	—	—	—
College	73·1	343	11 38	+ 4	—	—	—	—
Kimberley	z. 73·6	146	e 11 12	-25	—	—	—	—
Boulder City	78·4	306	e 12 9	+ 5	—	—	—	—
Reno	z. 79·3	311	e 12 15	+ 6	—	—	—	—
Mineral	z. 79·9	313	i 12 17	+ 5	—	—	—	—
Tinemaha	z. 79·9	309	i 12 18	+ 6	—	—	—	—
China Lake	z. 80·3	308	i 12 20 <sub>a</sub>	+ 6	—	—	i 12 27	?
Fresno	z. 81·1	310	e 12 24	+ 6	—	—	—	—
Palomar	z. 81·3	305	e 12 26	+ 6	—	—	—	—
Riverside	z. 81·3	306	i 12 25	+ 5	—	—	—	—
Pasadena	z. 81·7	306	i 12 28	+ 6	—	—	—	—
Lick	z. 81·8	311	i 12 27	+ 5	—	—	—	—

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1952

514

June 18d. 0h. 59m. 37s. Epicentre 16°·4N. 61°·8W. Depth of focus 0·010.

Intensity II at Morne des Cadets. Epicentre 16°·5N. 61°·5W. Depth about 100km. (U.S.C.G.S.).

Bulletin séismique mensuel de Morne des Cadets, juin, 1952.

A = +·4536, B = -·8459, C = +·2806;  $\delta$  = +4;  $h$  = +5;  
D = -·881, E = -·473; G = +·133, H = -·247, K = -·960.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Fort de France	1·8	159	i 0 33	+ 3	i 0 55	+ 2	i 0 39	?
San Juan	4·6	296	i 1 10	+ 1	i 2 4	+ 3	—	—
Bermuda	16·1	351	i 3 41	- 1	i 6 22	-15	(e 6 53)	SS
Bogota	16·8	227	i 3 53	+ 3	i 7 1	+ 8	—	e 6·9
Fordham	26·5	340	i 6 9	sP	i 10 40	sS	—	—
Palisades	26·7	340	i 6 10	sP	—	—	—	e 12·4
Weston	27·1	345	e 5 36	0	e 10 43	sS	i 6 3	pP
Harvard	27·3	345	i 6 17 <sub>a</sub>	sP	e 10 47	sS	—	—
Morgantown	28·0	328	e 5 45	+ 1	—	—	e 6 30	PP
Huancayo	31·3	206	e 6 12	- 1	—	—	—	e 13·6
Fayetteville	z. 34·8	310	i 6 44	+ 1	—	—	e 8 2	PP
Tucson	47·0	299	e 8 24	+ 1	—	—	e 8 54	pP
Boulder City	50·8	303	i 8 53	+ 1	—	—	—	—
Butte	51·4	317	e 8 58	+ 1	—	—	—	—
Palomar	z. 52·2	300	i 9 2	- 1	i 10 13	PcP	i 9 33	pP
Riverside	z. 52·6	301	e 9 7	+ 1	e 10 14	PcP	e 9 36	pP
China Lake	z. 53·0	303	e 9 8	- 1	e 10 16	PcP	e 9 37	pP
Pasadena	z. 53·3	301	e 9 11	0	—	—	i 9 41	pP
Tinemaha	z. 53·6	304	e 9 14	+ 1	—	—	e 9 49	sP
Lick	z. 56·4	305	e 9 33	- 1	—	—	—	—
Mineral	z. 56·6	308	i 9 37	+ 2	—	—	—	—
Shasta	57·3	308	i 9 37	- 3	—	—	—	—
Victoria	59·1	317	9 51	- 1	—	—	—	—
Paris	60·9	43	i 10 5	0	—	—	i 10 34	pP
Tamanrasset	z. 63·3	72	i 10 22 <sub>a</sub>	+ 1	—	—	i 10 50	pP
Witteveen	z. 64·1	38	i 10 27	+ 1	—	—	—	—
Strasbourg	64·4	43	e 10 27	- 1	—	—	e 11 0	pP
Stuttgart	65·3	43	e 10 33	- 1	—	—	e 11 2	pP
Jena	67·0	41	e 10 44	- 1	—	—	e 11 13	pP
Collmburg	z. 67·9	41	e 10 49	- 1	—	—	—	—
Triest	z. 68·4	47	i 10 51 <sub>k</sub>	- 2	—	—	e 11 20	pP
Prague	68·8	42	e 10 56	0	—	—	e 11 27	pP
Upsala	z. 70·7	32	i 11 6	- 1	—	—	—	—
Kiruna	z. 72·0	24	i 11 15 <sub>k</sub>	0	—	—	i 11 46	pP
College	73·6	334	11 24	0	—	—	i 11 53	pP
Brisbane	z. 146·0	245	i 19 31 <sub>a</sub>	[+ 3]	—	—	—	—

June 18d. 6h. 57m. 12s. Epicentre 39°·5N. 71°·9E. (as on 1943, October 2d.).

A = +·2404, B = +·7354, C = +·6335;  $\delta$  = -7;  $h$  = -1;  
D = +·951, E = -·311; G = +·197, H = +·602, K = -·774.

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	°	°	m. s.	s.	m. s.	s.
Dzhergetal	0·6	242	0 9	- 3 <sub>g</sub>	0 16	- 4 <sub>g</sub>
Fergana	0·9	354	e 0 17	- 1 <sub>g</sub>	i 0 32	+ 2 <sub>g</sub>
Andijan	1·3	16	i 0 27	+ 1 <sub>g</sub>	i 0 48	+ 4
Garm	1·3	248	i 0 22	- 3	i 0 39	- 3*
Obi-garm	1·9	245	i 0 34	0	e 0 57	- 2
Murgab	1·9	126	i 0 34	0	e 1 2	- 1 <sub>g</sub>
Khorog	2·0	187	e 0 32	- 3	—	—
Stalinabad	2·6	249	i 0 47	0*	i 1 22	+ 1*
Tashkent	2·7	313	i 0 50	+ 1*	i 1 28	- 1 <sub>g</sub>
Tchimkent	3·3	330	e 0 57	- 2*	i 1 51	+ 2 <sub>g</sub>

Continued on next page.

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1952

515

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.
Naryn	3.7	57	e 0 54	- 6	—	—
Samarkand	3.8	275	i 1 8	0*	1 53	- 4*
Frunse	3.9	30	e 1 7	- 3*	e 1 59	- 1*
Rybach'e	4.3	46	e 1 13	- 3*	—	—
Almata	5.3	43	e 1 26	+ 4	—	—
Almata II	5.6	46	e 1 30	+ 3	—	—
Przhevalsk	5.7	57	1 30	+ 2	—	—
Ili	5.9	39	e 1 32	+ 1	—	—
Kurmenty	6.0	51	i 1 36	+ 4	—	—

June 18d. 16h. 42m. 35s. Epicentre 43°·5N. 12°·2E. (as on 1948, June 13d.).

Felt in the Florence district. Epicentre 43°·7N. 11°·8E.  
Monthly Bulletin of the I.N.G. Rome, June, 1952, p. 14.

A = +·7113, B = +·1538, C = +·6859;  $\delta$  = +6;  $h$  = -2;  
D = +·211, E = -·977; G = +·670, H = +·145, K = -·728.

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.
Florence	0.7	294	i 0 15	0*	i 0 21	- 4*	—
Prato	0.9	296	i 0 16	- 2 <sub>g</sub>	i 0 21	P <sub>g</sub>	—
Triest	2.4	27	e 0 46	- 2 <sub>g</sub>	e 1 15	0*	i 1 23
Stuttgart	5.6	340	e 1 31?	+ 4	e 3 5	0 <sub>g</sub>	e 1 56
Strasbourg	5.9	330	—	—	e 2 46	+ 6	e 3 8
Karlsruhe	z.	6.1	336	—	e 3 25	+ 3 <sub>g</sub>	—
Jena	k.	7.4	357	e 3 8?	S	- 5 <sub>g</sub>	e 3 28

June 18d. 19h. 1m. 36s. Epicentre 39°·2N. 70°·7E. (as on 8d.).

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.
Garm	0.4	237	i 0 8	0 <sub>g</sub>	—	—	—
Dzhergetal	0.4	88	e 0 8	0 <sub>g</sub>	0 12	- 1 <sub>g</sub>	—
Obi-garm	0.9	237	e 0 19	- 1	e 0 32	+ 1*	—
Fergana	1.4	31	e 0 28	0 <sub>g</sub>	e 0 48	+ 2	—
Stalinabad	1.6	247	i 0 33	+ 1 <sub>g</sub>	i 0 56	+ 3 <sub>g</sub>	—
Khorog	1.9	158	e 0 36	+ 1*	e 1 5	+ 2 <sub>g</sub>	—
Andijan	2.0	39	i 0 39	+ 2*	i 1 9	+ 3 <sub>g</sub>	i 0 40
Tashkent	2.4	334	i 0 46	- 2 <sub>g</sub>	i 1 21	+ 2 <sub>g</sub>	—
Murgab	2.7	108	e 0 49	0*	e 1 29	0 <sub>g</sub>	—
Samarkand	2.9	279	0 59	+ 1 <sub>g</sub>	1 44	+ 8 <sub>g</sub>	—
Tchimkent	3.1	345	e 1 0	- 2 <sub>g</sub>	i 1 30	+ 1	—
Frunse	4.7	38	e 1 19	- 4*	i 2 17	+ 7	i 2 35
Rybach'e	5.2	50	—	—	3 0	+ 8 <sub>g</sub>	—
Almata	6.2	47	e 1 52	+ 3*	i 3 22	- 3 <sub>g</sub>	—
Almata II	6.4	49	i 1 42	+ 4	—	—	—

June 18d. 23h. 35m. 31s. Epicentre 42°·2N. 72°·9E. (as suggested by U.S.S.R.).

A = +·2185, B = +·7102, C = +·6692;  $\delta$  = -5;  $h$  = -3;  
D = +·956, E = -·294; G = +·197, H = +·640, K = -·743.

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.
Frunse	1.4	61	e 0 27	0	i 0 46	0	—
Andijan	1.5	195	i 0 27	- 1	i 0 43	- 5*	—
Fergana	2.0	204	e 0 35	0	i 1 3	+ 1	—
Naryn	2.4	108	—	—	i 1 21	+ 2 <sub>g</sub>	—
Rybach'e	2.4	84	e 0 44	0*	i 1 20	+ 1 <sub>g</sub>	i 0 47
Tchimkent	2.4	272	e 0 41	0	e 1 14	- 1*	—
Almata	3.2	68	—	—	i 1 42	+ 3*	—
Dzhergetal	3.2	203	i 0 52	0	i 1 37	- 2*	—
Almata II	3.5	69	e 1 2	- 1*	i 1 59	+ 3 <sub>g</sub>	—
Murgab	3.9	168	—	—	e 2 16	+ 7 <sub>g</sub>	—
Kurmenty	4.1	76	e 1 17	+ 4*	—	—	—
Przhevalsk	4.1	84	—	—	2 16	0 <sub>g</sub>	—
Obi-garm	4.3	216	—	—	e 2 0	0	—
Stalinabad	4.8	222	—	—	e 2 12	0	—
Samarkand	5.1	243	—	—	e 2 24	+ 4	2 54



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1952

516

June 19d. 0h. 22m. 59s. Epicentre 41°·3N. 21°·0E. (as on May 20d.).

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Sofia		2·2	51	e 1 13	$S_g$	e 1 38	?	e 2 8	?
Taranto		2·9	254	0 46	- 2	1 14	-10	—	—
Belgrade		3·5	354	e 1 25 <sub>a</sub>	?	e 1 44	+ 4	e 2 41	?
Athens		3·9	147	e 1 18	0 <sub>g</sub>	e 1 37	-13	e 2 8	?
Timisoara		4·4	2	e 1 44	?	e 2 17	+ 2*	e 3 11	?
Bucharest		4·8	49	—	—	e 2 14	+ 2	e 2 45	$S_g$
Szeged	N.	5·0	353	—	—	e 2 35	+ 3*	2 49	$S_g$
Messina	Z.	5·2	235	1 19	- 2	i 2 3	-19	e 1 29	$P_g$
Kalossa	E.	5·4	345	—	—	e 2 47	+ 3*	—	—
Istanbul		6·0	91	e 2 9	0 <sub>g</sub>	e 4 1?	?	—	e 3·6
Rocca di Papa		6·2	273	e 1 35	0	e 2 37	-11	—	e 3·2
Budapest		6·3	348	—	—	e 2 48	- 2	e 3 1	$S^*$
Rome		6·4	278	e 1 41	+ 3	e 2 51	- 2	—	—
Triest		6·8	312	i 1 48 <sub>a</sub>	+ 4	e 3 5	+ 2	e 2 21	$P_g$
Ogyalla		6·9	344	—	—	e 3 55	+ 7 <sub>g</sub>	e 5 31	?
Padova		7·4	299	—	—	e 3 25	+ 7	—	—
Florence		7·6	292	e 1 56	+ 1	e 3 7	-16	—	—
Vienna		7·7	336	e 2 52	?	e 4 5	- 9 <sub>g</sub>	e 5 5	?
Prato		7·8	293	e 2 9	- 7*	1 4 1	+ 5*	—	—
Skalnate Pleso		7·9	357	—	—	e 4 47	?	e 5 22	?
Pavia		9·4	298	—	—	e 4 46	+ 3*	e 5 44	?
Chur		9·9	308	e 2 19 <sub>k</sub>	- 6	e 4 23	+ 3	—	—
Prague		9·9	335	e 2 42	+17	e 4 33	+13	e 5 15	$S_g$
Zürich		10·8	309	e 2 48	PP	e 4 56	SS	—	—
Stuttgart		11·2	316	e 2 49	+ 5	—	—	—	e 6·2
Collmberg		11·4	334	e 3 9?	?	—	—	—	e 7·0
Jena		11·6	329	e 3 4	PP	e 4 56	- 5	e 5 28	SS
Strasbourg		11·9	312	i 3 32	?	e 5 34	SSS	e 12 27	$P_cS$
Ksara		14·0	118	e 3 35	PP	—	—	—	e 9·4
Paris		15·1	306	e 3 44?	+ 8	—	—	e 3 48	PP
Upsala	Z.	18·7	355	i 4 40	PP	—	—	—	—
Tamanrasset	Z.	22·6	220	e 5 3	0	e 6 23	?	e 7 8	?
Kiruna		26·6	0	e 6 17	PP	—	—	i 6 32	PPP

June 19d. 12h. 2m. 49s. Epicentre 17°·1S. 177°·6W.

A = -·9555, B = -·0401, C = -·2922;  $\delta = -3$ ;  $h = +5$ ;  
D = -·042, E = +·999; G = +·292, H = +·012, K = -·956.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Apia		6·5	61	—	—	i 2 55	0	—	—
Wellington		25·0	194	i 5 26	- 1	—	—	—	—
Cobb River	E.	25·3	197	e 5 32	+ 2	e 9 1	-52	—	—
Kaimata	N.E.	27·0	198	e 5 44	- 1	e 9 30	-52	e 6 4	?
Christchurch		27·6	195	e 5 50	- 1	—	—	—	—
Brisbane	Z.	29·0	244	i 6 5 <sub>k</sub>	+ 1	i 6 22	?	i 6 50	PP
Lick	Z.	75·5	42	i 11 49	+ 1	—	—	—	—
Pasadena		76·1	47	i 11 51	0	—	—	—	—
Fresno	Z.	76·4	44	e 11 53	0	—	—	—	—
Palomar	Z.	76·6	48	e 11 53	- 1	—	—	—	—
Riverside	Z.	76·6	47	e 11 44	-10	—	—	—	—
Mineral	Z.	77·3	40	e 11 57	- 1	—	—	—	—
China Lake	Z.	77·4	45	e 11 58	0	—	—	e 14 9	?
Tinemaha	Z.	77·6	44	e 12 0	0	—	—	—	—
Tucson		80·5	52	i 12 16	+ 1	—	—	—	—
College		84·8	12	12 33	- 4	—	—	e 14 50	?
Chinchina		102·9	89	e 13 47	-14	e 29 28	?	—	e 55·2
Kiruna		128·0	352	i 20 57	PP	i 22 34	PKS	—	—
Upsala		135·9	350	e 22 14	PP	—	—	—	—
Collmberg		144·8	349	e 19 29	[-10]	—	—	—	—
Jena	Z.	145·5	350	e 19 33	[- 7]	—	—	e 19 53	?
Stuttgart		147·9	353	e 19 32?	[-12]	—	—	e 19 38	PKP
Strasbourg		148·7	354	e 19 31	[-14]	—	—	i 19 37	PKP

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1952

517

June 19d. 12h. 12m. 56s. Epicentre 22°·6N. 99°·7E.

A = -·1557, B = +·9109, C = +·3821;  $\delta = -2$ ;  $h = +4$ ;  
D = +·986, E = +·168; G = -·064, H = +·377, K = -·924.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Shillong	E. 7·7	294	i 1 54	- 2	3 53	0*	2 15	3·6
Calcutta	E. 10·5	272	i 2 32	- 3	i 4 32	- 3	2 40	4·9
Hong Kong	13·4	89	3 8	- 6	—	—	—	—
Nanking	19·4	56	i 4 25 <sup>a</sup>	- 5	i 8 5	+ 1	—	—
Dehra Dun	N. 20·8	296	e 4 46	+ 1	i 8 34	+ 1	—	11·6
New Delhi	21·1	291	i 4 46	- 2	i 8 39	0	5 8	10·2
Zi-ka-wei	Z. 21·2	61	e 4 45 <sup>a</sup>	- 4	e 8 43	+ 2	i 4 49	—
Manila	21·7	107	i 4 54	- 1	e 8 14	- 37	e 5 21	e 9·2
Poona	24·5	265	i 5 25	+ 3	i 9 48	+ 8	5 55	11·8
Kodaikanal	E. 24·6	245	i 5 23	0	i 9 50	+ 8	5 59	12·0
Colombo	E. 24·7	234	5 24	0	9 54	+ 10	—	15·2
Bombay	25·4	267	e 5 35	+ 4	i 10 0	+ 4	6 12	11·9
Przhevalsk	26·6	326	i 5 42	0	10 22	+ 6	—	—
Murgab	27·1	312	e 5 45	- 1	10 25	+ 1	—	—
Naryn	27·4	318	i 5 49	0	—	—	—	—
Tomie	27·5	61	e 6 0	+ 10	—	—	—	e 13·4
Almata II	27·7	324	i 5 53?	+ 1	—	—	—	—
Almata	27·9	324	i 5 54?	0	—	—	—	—
Rybach'e	27·9	320	i 5 52?	- 2	e 10 46?	+ 9	—	—
Ili	28·3	325	e 5 55?	- 2	—	—	—	—
Khorog	28·4	308	i 5 58	0	10 44	- 1	—	—
Yakusima	28·6	66	e 6 3	+ 3	—	—	—	—
Saga	28·9	61	e 6 6	+ 3	—	—	—	e 16·0
Frunse	29·1	320	i 6 4?	0	—	—	—	—
Hukuoka	29·1	61	e 6 6	+ 2	e 11 37	?	—	14·3
Kumamoto	29·2	62	e 6 5	0	—	—	—	15·2
Andijan	29·3	314	i 6 6	0	—	—	—	—
Djakarta	29·4	165	e 6 9	+ 2	e 11 12	+ 11	—	—
Dzhergetal	29·4	312	i 6 6	- 1	i 11 1	0	—	—
Fergana	29·5	313	i 6 6?	- 2	e 11 8?	+ 6	—	—
Irkutsk	29·8	5	i 6 14	+ 3	11 11	+ 4	—	—
Garm	29·9	310	e 6 12	0	—	—	—	—
Kabansk	29·9	7	i 6 14	+ 2	11 13	+ 4	—	—
Ooita	30·0	61	e 6 24	+ 12	e 11 54	?	—	e 14·9
Obi-garm	30·2	310	i 6 14	0	e 11 14	+ 1	—	—
Quetta	30·2	292	i 6 16	+ 2	i 11 18	+ 5	—	15·1
Bandong	30·3	163	e 6 6	- 9	e 11 15	0	—	—
Stalinabad	30·8	309	i 6 19	- 1	i 11 26	+ 3	—	—
Tashkent	31·6	313	i 6 26	0	i 11 38	+ 3	—	—
Semipalatinsk	31·7	337	e 6 26	- 1	—	—	—	—
Tchimkent	31·9	315	i 6 28	- 1	i 11 45	+ 5	—	—
Takamatu	32·2	60	e 6 40	+ 8	e 11 50	+ 5	e 16 24	Q e 17·8
Samarkand	32·5	309	i 6 36	+ 2	—	—	—	—
Kobe	33·2	60	e 6 42	+ 2	—	—	—	e 18·2
Vladivostok	33·6	45	e 6 40	- 4	e 12 7	+ 1	—	—
Hikone	34·2	59	6 49	0	—	—	—	18·7
Kameyama	34·3	60	6 51	+ 1	12 19	+ 2	—	14·6
Gihu	34·6	59	6 52	- 1	—	—	—	e 17·8
Nagoya	34·7	60	e 6 54	0	—	—	e 16 59	Q 19·2
Toyama	35·2	57	e 6 58	0	e 14 37	SS	e 18 54	Q e 19·4
Iida	35·5	59	e 7 4	+ 4	—	—	—	i 19·6
Matumoto	35·8	58	e 7 4	+ 1	—	—	e 17 53	Q e 18·8
Shizuoka	35·9	61	7 4	0	12 44	+ 2	8 34	PP 18·0
Matusiro	36·0	57	e 7 3	- 2	e 12 38	- 6	8 49	PPP 18·8
Nagano	36·0	57	e 7 3	- 2	e 13 9	PcS	—	18·8
Kohu	36·1	59	e 7 6	+ 1	—	—	—	e 19·6
Oiwake	36·2	58	e 7 7	+ 1	—	—	—	—
Hunatu	36·3	59	e 7 3	- 4	—	—	—	e 20·1
Titibu	36·6	58	e 7 10	0	—	—	—	e 20·2
Maebasi	36·7	58	e 7 12	+ 2	—	—	—	e 18·8

Continued on next page.

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1952

518

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.	
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.	
Tokyo	37.0	59	e 7	7	- 6	12	50	- 9	e 8	30	PP	15.6
Utunomiya	37.3	58	e 7	14	- 2	—	—	—	e 19	34	Q	e 22.6
Ashkabad	38.5	303	i 7	29	+ 3	i 13	24	+ 2	—	—	—	—
Mizusawa	38.8	55	e 7	27	- 1	e 13	24	- 2	e 13	20	S	19.4
Kizyl-Arvat	40.3	305	7	41	+ 1	13	52	+ 3	—	—	—	—
Yuzno-Sakhlinsk	42.2	44	e 7	55	- 1	e 14	12	- 5	—	—	—	—
Uglegorsk	42.5	40	7	59	0	14	25	+ 3	—	—	—	—
Sverdlovsk	44.5	331	i 8	15	0	i 14	52	+ 1	—	—	—	—
Baku	45.4	305	e 8	24	+ 2	—	—	—	—	—	—	—
Lenkoran	46.1	303	8	28	0	—	—	—	—	—	—	—
Shemakla	46.4	306	i 8	31	+ 1	i 15	24	+ 6	—	—	—	—
Makhach-Kala	47.5	309	i 8	38	0	i 15	36	+ 2	—	—	—	—
Goris	48.0	304	i 8	41	- 2	—	—	—	—	—	—	—
Kirovobad	48.1	306	i 8	42	- 1	i 15	46	+ 4	—	—	—	—
Tiflis	49.4	306	8	53	0	16	2	+ 2	—	—	—	—
Erevan	49.5	304	e 8	44	- 10	—	—	—	—	—	—	—
Leninakan	50.0	305	9	1	+ 3	16	17	+ 8	—	—	—	—
Borzhomj	50.4	306	9	2	+ 1	e 16	16	+ 2	—	—	—	—
Abastumanj	50.8	306	e 9	6	+ 2	—	—	—	—	—	—	—
Piatigorsk	50.9	309	9	2	- 3	16	17	- 4	—	—	—	—
Zugdidi	51.6	308	e 9	12	+ 2	e 16	34	+ 3	—	—	—	—
Sotchi	53.2	309	9	18	- 4	e 16	50	- 2	—	—	—	—
Petropavlovsk	53.7	39	i 9	26	0	i 17	2	+ 3	—	—	—	—
Klyuchi	55.5	36	e 9	38	- 1	—	—	—	—	—	—	—
Moscow	55.9	323	i 9	39	- 3	17	28	- 1	—	—	—	—
Perth	56.4	163	i 11	2	PcP	i 17	39	+ 3	i 17	54	PPS	i 29.3
Theodosia	56.4	310	9	44	- 1	17	33	- 3	—	—	—	—
Ksara	56.6	296	i 9	48	+ 1	i 17	46	+ 8	—	—	—	—
Simferopol	57.3	310	9	50	- 2	17	45	- 2	—	—	—	—
Yalta	57.3	309	9	49	- 3	17	42	- 5	—	—	—	—
Kishinev	60.9	313	10	14	- 3	—	—	—	—	—	—	—
Helwan	61.0	292	e 10	14	- 4	18	26	- 9	12	28	PP	—
Istanbul	61.2	305	e 10	17	- 2	e 18	41	+ 3	e 12	32	PP	32.1
Bucharest	63.0	310	e 10	32	+ 1	i 19	5	+ 4	e 18	10	?	31.1
Helsinki	63.1	327	e 10	35	+ 3	e 19	2	0	e 21	4	?	—
Lwow	63.9	316	i 10	37	0	i 19	14	+ 2	—	—	—	—
Kiruna	65.2	335	i 10	43	- 2	i 19	28	0	e 20	36	ScS	e 32.1
Sofia	65.2	308	e 10	45	0	19	32	+ 4	—	—	—	—
Tananarive	65.6	235	—	—	—	e 19	35	+ 2	e 20	34	ScS	e 33.4
Athens	65.7	302	e 10	45 <sub>a</sub>	- 3	e 19	29	- 5	i 19	34	S	—
Timisoara	66.3	312	e 11	6?	+ 14	e 19	49	+ 7	—	—	—	e 34.6
Skalnate Pleso	66.5	315	e 10	16	- 38	19	9	- 35	e 11	22	PcP	e 32.1
Upsala	66.8	327	i 10	55 <sub>a</sub>	- 1	e 19	46	- 2	i 11	22	PcP	e 32.1
Belgrade	67.0	310	e 10	58 <sub>k</sub>	+ 1	i 19	53	+ 3	e 13	14	PP	e 38.0
Szeged	67.0	313	10	56	- 1	e 19	29	- 21	15	43	PcS	—
Budapest	67.5	314	e 11	1	+ 1	e 20	4	+ 8	24	4	SS	35.1
Kalossa	67.7	313	e 11	10	+ 9	e 20	3	+ 5	e 11	25	PcP	e 35.1
Raciborzu	67.7	317	e 11	2	+ 1	e 20	5	+ 7	e 11	26	PcP	37.1
Ogyalla	68.0	314	e 11	10	+ 7	e 20	4	+ 2	e 20	34	PPS	—
Vienna	69.2	315	e 11	11	+ 1	e 13	24	PP	e 15	13	PPP	—
Prague	70.0	317	e 11	16	+ 1	e 20	26	0	e 14	0	PP	e 36.6
Copenhagen	70.1	323	e 11	19	+ 3	20	29	+ 2	28	16	SSS	32.1
Taranto	70.1	306	11	25	+ 9	20	30	+ 3	31	20	Q	37.2
Potsdam	70.4	320	e 11	17?	- 1	i 20	31	+ 1	i 28	29	SSS	e 35.1
Collmberg	70.7	318	e 11	19	- 1	e 20	31	- 3	e 21	22	ScS	e 38.6
Cheb	71.3	318	e 11	21	- 2	e 20	41	0	e 11	42	PcP	—
Triest	71.5	313	e 11	20	- 4	i 20	38	- 5	e 14	9	PP	—
Brisbane	71.6	131	e 11	24	- 1	e 20	47	+ 3	i 11	42	PcP	i 34.0
Jena	71.6	318	e 11	25	0	e 20	45	+ 1	e 21	29	PPS	e 37.1
Messina	72.0	305	e 11	26 <sub>a</sub>	- 2	e 20	48	- 1	i 11	46	PcP	e 36.5
Bergen	72.8	329	e 11	32	0	e 20	55	- 3	e 29	9	Q	e 33.1
Rocca di Papa	73.1	308	e 11	38	+ 4	e 21	42	PPS	—	—	—	—
Rome	73.3	308	e 11	37	+ 2	e 21	4	0	e 26	28	SS	e 37.1
Bologna	73.4	312	e 11	37	+ 1	e 21	12	+ 7	e 25	59	SS	—
Florence	73.6	311	e 11	36	- 1	e 21	3	- 4	—	—	—	—

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1952

519

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Prato		73.7	311	e 11 36	- 2	e 20 48	-20	—	—
Salo		73.7	313	e 11 44	+ 6	e 22 8	PPS	e 18 49	?
Stuttgart		73.7	317	e 11 36	- 2	e 21 8	0	e 26 22	SS
Chur		74.0	314	e 11 38	- 1	e 21 13	+ 2	—	—
Karlsruhe		74.1	317	e 11 40	0	e 21 13	+ 1	e 21 24	PS
Witteveen	z.	74.1	322	e 11 40	0	—	—	—	—
Riverview		74.5	137	i 11 53	PcP	e 21 7	-10	i 21 40	ScS
Zürich		74.5	315	e 11 40	- 2	e 21 16	- 1	e 12 15	?
Strasbourg		74.6	317	e 11 41	- 2	e 21 18	0	i 11 58	PcP
Pavia		74.7	313	e 11 42	- 1	e 21 28	+ 9	e 26 57	SS
De Bilt		75.2	321	i 11 50	+ 4	e 21 29	+ 4	e 14 34	PP
Oropa		75.4	314	e 11 38	- 9	e 21 4	-23	—	—
Neuchatel		75.6	315	e 11 47	- 1	—	—	—	—
Aberdeen		77.4	327	i 14 47	PP	i 21 54	+ 5	i 26 55	SS
Paris		77.9	318	i 11 56	- 5	e 21 52	- 2	i 22 36	ScS
Durham		78.1	324	i 10 24	?	i 21 59	+ 3	i 27 6	SS
Clermont-Ferrand		78.6	315	e 12 4	- 1	i 22 5	+ 3	e 27 4?	SS
Kew		78.6	321	e 12 5	0	e 22 0	- 2	e 27 8	SS
Scoresby Sund		78.6	343	e 12 6	+ 1	i 22 3	+ 1	i 26 57	SS
College		78.8	24	e 12 4	- 2	i 21 59	- 5	i 22 44	ScS
Jersey	E.	80.5	319	e 15 38	PP	e 22 31	+ 9	—	—
Barcelona		80.8	311	—	—	e 21 37	-48	—	—
Rathfarnham Castle		81.2	324	e 12 41	+22	e 22 22	- 7	e 15 32	PP
Algiers Univ.	z.	81.8	306	e 12 25	+ 3	e 15 38	PP	e 13 44	?
Tortosa		82.1	310	12 43	+19	i 22 30	- 8	—	—
Resolute Bay		82.5	4	e 12 24k	- 2	e 22 39	- 3	e 27 39	SS
Alicante		83.8	309	e 12 28	- 4	i 22 55	0	15 38	PP
Pretoria	z.	84.3	239	i 12 34?	- 1	—	—	—	—
Tamanrasset	z.	85.1	292	i 12 39k	0	e 23 13	+ 5	e 17 59	PPP
Toledo		85.7	311	e 12 33	- 9	e 23 15	+ 1	28 35	SS
Almeria		85.9	308	i 12 52	+ 9	i 23 14	- 2	16 10	PP
Granada		86.5	309	i 13 2	+16	i 23 9	[- 2]	13 35	PP
Malaga		87.3	309	i 12 47	- 3	i 22 45	[- 31]	17 29	?
Sitka		88.2	27	e 12 56	+ 2	e 23 23	[+ 1]	—	—
Kimberley	z.	88.4	238	i 12 52	- 3	—	—	—	—
Lisbon		89.7	312	e 13 13	PcP	e 23 49	- 3	16 32	PP
Christchurch		93.7	136	—	—	e 30 54	SS	—	—
Wellington		94.1	133	—	—	e 30 34	SS	—	—
Victoria		99.4	27	24 32	SKS	(24 32)	[+ 8]	—	—
Seattle		100.5	27	—	—	e 24 36	[+ 7]	e 25 14	S
Butte		105.3	22	e 18 34	PP	—	—	—	—
Mineral	z.	106.5	30	e 18 41	PP	—	—	—	—
Reno	z.	108.0	30	e 18 58	PP	—	—	—	—
Berkeley	z.	108.1	33	e 19 1	PP	—	—	—	—
Santa Clara		108.6	33	—	—	e 27 11	?	e 34 36	SS
Tinemaha	z.	110.7	31	e 19 41	PP	—	—	—	—
Halifax		111.4	346	—	—	e 25 51	{ - 24 }	—	—
China Lake	z.	112.0	30	e 18 44	[+ 7]	—	—	e 19 25	PP
Ottawa		112.2	355	e 19 25	PP	25 21	[ 0 ]	26 26	SKKS
Pasadena		113.1	32	e 19 31	PP	e 28 58	SP	e 34 58	SS
Riverside	z.	113.6	32	e 19 40	PP	—	—	—	—
Palomar	z.	114.3	32	e 19 42	PP	—	—	—	—
Weston		114.8	351	e 14 15	P	e 35 14	SS	—	—
Cleveland		116.2	0	i 19 56 <sub>a</sub>	PP	e 29 26	PS	e 30 25	PPS
Palisades		116.4	352	e 19 51 <sub>a</sub>	PP	e 29 36	PS	e 40 24	SSS
City College, N.Y.		116.6	352	—	—	e 26 45	{ - 6 }	e 29 49	PS
Fordham		116.6	352	—	—	e 26 54	{ + 3 }	e 40 20	SSS
Pennsylvania	E.	116.9	357	—	—	32 4	?	—	—
Morgantown		118.1	358	e 20 6	PP	—	—	—	—
Tucson		118.1	28	e 18 53	[+ 4]	e 30 7	PS	—	—
Fayetteville	z.	120.2	12	i 18 52	[- 1]	—	—	e 20 12	PP
Fort de France		138.4	329	—	—	e 38 17	?	—	—
La Paz		167.0	296	20 14	[+ 7]	i 31 48	{ 0 }	21 8	PKP <sub>2</sub>
Huancayo		168.5	335	e 20 19	[+ 11]	e 35 24	SKSP	e 25 13	PP

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1952

520

June 19d. 19h. 11m. 42s. Epicentre 42°·5N. 143°·7E. (as on 1952, March 1d.).

Intensity V at Kusiro, Turui, Akankohan, Nakasibetu, and Attoko; IV at Toro, Nisisumbetu, Kenebetu, and Hombetu.

Epicentre 42°·0N. 145°·0E. Depth 70km. ca. Macroseismic radius 100-200km.

Seismo. Bull. Cent. Met. Obs., Japan, for June, 1952, Tokyo, 1952, p.242, with macroseismic chart.

$$A = -.5960, B = +.4378, C = +.6731; \quad \delta = -5; \quad h = -3;$$

$$D = +.592, E = +.806; \quad G = -.542, H = +.398, K = -.740.$$

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	
		°	°	m. s.	s.	m. s.	s.	m.	s.
Kusiro		0·7	47	i 0 18	+ 1	0 30	+ 2	—	—
Urakawa		0·8	243	e 0 29	+11	0 48	+17	—	—
Abashiri		1·6	15	e 0 33	+ 3	0 57	+ 6	—	—
Nemuro		1·6	59	e 0 25	- 5	0 40	-11	—	—
Aomori		2·8	229	0 57	+ 1 <sub>g</sub>	1 52	+30	—	—
Miyako		3·1	205	0 50	- 1	1 26	- 3	—	—
Morioka		3·4	215	i 0 57	+ 2	1 36	- 1	—	—
Akita		3·9	226	e 1 9	- 1*	—	—	—	—
Mizusawa	N.	3·9	211	1 2	0	1 46	- 4	—	—
Hukushima		5·3	209	e 1 23	+ 1	2 26	+ 1	—	—
Inawasiro		5·6	210	e 1 27	0	2 36	+ 3	—	—
Onahama		6·0	202	e 1 44	- 1*	—	—	—	—
Mito		6·6	204	e 1 36	- 5	2 48	-10	—	—
Utunomiya		6·6	208	e 1 39	- 2	2 48	-10	—	—
Kumagaya		7·2	209	e 1 50	+ 1	3 7	- 6	—	—
Nagano	E.	7·2	218	e 1 58	+ 9	—	—	—	—
Matusiro		7·3	217	e 1 48	- 2	—	—	—	—
Oiwake		7·3	215	e 1 45	- 5	—	—	—	—
Wazima		7·3	228	e 1 55	+ 5	—	—	—	—
Titibu		7·4	210	e 2 13	+ 4*	—	—	—	—
Tokyo		7·5	206	e 1 53	0	3 12	- 8	—	—
Matumoto		7·7	217	e 1 51	- 5	—	—	—	—
Kohu		7·9	212	e 2 2	+ 3	—	—	—	—
Hunatu		8·0	211	e 2 0	0	3 26	- 7	—	—
Misima	E.	8·2	208	e 2 3	0	—	—	—	—
Iida		8·3	215	e 2 0	- 4	—	—	—	—
Osima		8·4	205	e 2 4	- 2	—	—	—	—
Nanking		22·3	252	5 4	+ 3	e 9 8	+ 6	—	—
College		43·6	34	8 2	- 6	—	—	i 8 13	?
Resolute Bay		56·9	16	i 9 43 <sub>a</sub>	- 6	i 9 54	?	i 10 3	?
Kiruna	Z.	62·0	339	i 10 23 <sub>a</sub>	- 1	—	—	—	—
Shasta		66·5	55	e 10 48	- 6	—	—	—	—
Mineral	Z.	67·2	55	e 11 0	+ 2	—	—	—	—
Reno	Z.	68·8	55	e 11 13	+ 5	—	—	—	—
Upsala	Z.	68·8	334	i 11 8	0	—	—	i 11 25	0
Lick	Z.	69·0	58	e 11 4	- 5	—	—	—	—
Tinemaha	Z.	71·3	57	e 11 38	PcP	—	—	—	—
China Lake	Z.	72·5	56	e 11 22	- 8	—	—	i 11 35	?
Pasadena	Z.	73·2	59	e 11 39	+ 4	—	—	—	—
Riverside	Z.	73·8	59	e 11 41	+ 3	—	—	—	—
Palomar	Z.	74·5	59	e 11 46	+ 4	—	—	e 11 55	?
Collmberg	Z.	77·2	331	e 11 56	- 1	—	—	—	—
Jena	Z.	78·0	331	e 12 0	- 2	—	—	—	—
Tucson		79·0	56	e 12 13	+ 6	—	—	—	—
Stuttgart		80·7	331	e 12 15	- 1	—	—	—	—
Fayetteville	Z.	85·6	43	i 12 36	- 5	—	—	i 12 42	P



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1952

521

June 19d. 20h. 57m. 6s. Epicentre 15°·3S. 172°·5W. (as on 1951, May 16d.).

A = -·9567, B = -·1260, C = -·2622;  $\delta$  = -10;  $h$  = +6;  
D = -·131, E = +·991; G = +·260, H = +·034, K = -·965.

	$\Delta$	Az.	P.		O-C.	S.	O-C.	Supp.	L.
	°	°	m.	s.	s.	m. s.	s.	m. s.	m.
Apia	1·6	19	i 0	29	- 1	i 0 48	- 3	—	—
Pasadena	z. 71·3	46	i 11	25	+ 2	—	—	—	—
Fresno	z. 71·7	42	e 11	28	+ 2	—	—	—	—
Palomar	z. 71·8	47	e 11	29	+ 3	—	—	—	—
Riverside	z. 71·8	46	e 11	29	+ 3	—	—	e 11 52	PcP
Shasta	72·5	38	e 11	31	+ 1	—	—	—	—
China Lake	z. 72·7	44	e 11	33	+ 1	—	—	—	—
Mineral	z. 72·8	39	e 11	38	+ 6	—	—	—	—
Tinemaha	z. 72·9	43	e 11	34	+ 1	e 11 46	PcP	e 12 43	?
Reno	z. 73·4	40	e 11	37	+ 1	—	—	—	—
Boulder City	74·6	46	e 11	45	+ 2	e 26 56	?	—	—
Tucson	75·6	51	e 11	51	+ 3	—	—	—	—
Zi-ka-wei	z. 78·4	307	e 12	2	- 2	e 21 54	- 6	—	—
Butte	81·4	38	e 12	22	+ 2	—	—	—	—
College	82·1	10	12	23	- 1	—	—	—	—
Fayetteville	z. 89·7	52	i 13	4	+ 3	—	—	—	—
La Paz	99·0	110	i 17	38	PP	i 25 10	- 2	i 24 38	SKKS
Bogota	99·3	88	—	—	—	i 31 12	SS	—	—
Cleveland	100·7	50	—	—	—	e 26 35	+69	—	—
Resolute Bay	101·4	14	—	—	—	e 27 50	PPS	—	e 41·9
Ottawa	105·4	46	—	—	—	26 34	+29	35 34	?
Harvard	108·2	49	—	—	—	e 34 47	SSP	—	e 40·3
Scoresby Sund	122·0	12	e 27	36	SKKS	(e 27 36)	{+ 9}	e 36 32	SS
Kiruna	126·8	353	e 19	8	[+ 2]	—	—	—	—
Copenhagen	139·5	356	—	—	—	29 9	{- 9}	—	—
Durham	E. 140·0	8	—	—	—	e 36 27	?	—	—
Potsdam	142·7	354	—	—	—	e 28 54	{- 43}	—	—
De Bilt	143·4	1	e 27	54	?	—	—	—	—
Collmberg	z. 143·8	355	e 19	28?	[- 9]	—	—	—	—
Jena	144·3	354	e 19	39?	[+ 1]	—	—	e 19 57	?
Prague	144·9	352	e 19	40	[+ 1]	e 30 5	{+16}	e 42 8	SS
Cheb	145·1	354	—	—	—	e 32 43	?	—	—
Paris	146·3	6	e 19	45	[+ 4]	e 30 38	{+40}	e 33 54	PS
Stuttgart	146·6	357	e 19	43	[+ 1]	e 30 18	{+18}	e 36 12	PPS
Strasbourg	146·8	358	i 19	49 <sub>a</sub>	PKP <sub>2</sub>	e 35 10	?	e 37 56	?
Bucharest	147·0	335	e 31	18	?	e 43 24	SSP	—	—
Istanbul	148·2	328	e 19	47	[+ 2]	e 37 54?	?	e 44 54?	?
Ksara	148·4	311	19	52	[+ 7]	35 20	PPS	—	66·9
Triest	149·3	351	e 19	49	[+ 3]	i 30 40	{+26}	e 35 17	PSKS
Clermont-Ferrand	149·4	6	e 19	55	PKP <sub>2</sub>	—	—	—	—
Florence	151·4	355	—	—	—	e 38 42	?	—	—
Lisbon	152·4	28	—	—	—	30 43	{+12}	50 21	Q
Rome	153·1	351	—	—	—	e 38 48	?	e 46 34	?
Taranto	153·5	344	—	—	—	e 46 8	?	—	—
Toledo	153·5	20	e 20	16	PKP <sub>2</sub>	—	—	—	—
Helwan	z. 153·7	308	e 20	16	PKP <sub>2</sub>	e 23 51	PP	e 24 48	?
Alicante	156·0	15	19	54	[- 2]	43 20	SS	—	59·3
Granada	156·1	22	21	11 <sub>k</sub>	[+75]	27 2	{+ 1}	44 5	SS
Malaga	156·1	24	i 20	26	PKP <sub>2</sub>	30 22	{-30}	24 18	PP
Messina	156·1	345	—	—	—	e 43 26	SS	e 56 20	?
Almeria	156·8	20	21	12	[+75]	31 48	{+52}	43 20	SS
Algiers Univ.	z. 158·2	10	—	—	—	26 44	[-19]	35 56	?
Tamanrasset	z. 172·3	14	e 20	13	[+ 2]	e 21 47	PKP <sub>2</sub>	e 25 5	PP

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1952

522

June 19d. 21h. 5m. 24s. Epicentre 54°·2S. 54°·7W.

A = +·3395, B = -·4795, C = -·8092;  $\delta = -1$ ;  $h = -7$ ;  
D = -·816, E = -·578; G = -·468, H = +·660, K = -·588.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Punta Arenas	N.	9·7	269	3 25	?	i 3 59	-16	—	i 4·9
La Plata		19·4	353	i 4 26	- 4	8 6	+ 2	5 36	9·4
Buenos Aires		19·8	352	4 31	- 4	8 10	- 3	—	—
Concepción	N.	21·5	322	e 5 22	PP	e 9 24	SS	e 7 51	?
Santa Lucia	E.	23·7	325	5 35	PP	e 9 18	- 9	e 10 12	SS
Copiapo	N.	29·2	331	—	—	e 10 40	-18	—	—
La Paz		39·1	340	i 7 31 <sub>k</sub>	0	i 13 27	- 4	i 9 9	PP
Huancayo		45·2	331	i 8 22	+ 2	e 14 54	- 7	e 18 7	ScS
Grahamstown	Z.	58·9	105	i 10 5	+ 2	—	—	i 11 36	?
Bogota		60·8	338	e 10 23	+ 7	i 18 38	+ 5	i 13 44	PPP
Kimberley	Z.	61·2	100	i 10 18	- 1	—	—	—	—
Chinchina	Z.	61·5	337	e 10 20	- 1	i 18 11	-31	—	—
Pretoria	Z.	65·5	100	i 10 46 <sub>?</sub>	- 1	—	—	—	—
Galerazamba		67·0	339	—	—	i 19 48	- 2	i 24 15	SS
Fort de France		68·9	354	e 11 45	PcP	i 20 9	- 4	—	e 36·0
Kingston		74·3	339	—	—	i 21 30	+15	—	e 33·6
Wellington		75·9	216	—	—	e 26 54	SS	e 27 38	?
Riverview		89·5	201	i 25 7	PS	i 23 33	[+ 3]	i 23 48	S
Tamanrasset	Z.	92·4	53	e 13 18	+ 4	e 25 44	PS	—	—
Brisbane	Z.	95·2	205	e 14 5	?	—	—	—	—
Morgentown		96·0	341	e 13 32	+ 2	—	—	e 17 26	PP
Fayetteville	Z.	96·2	329	e 13 30	- 1	—	—	—	—
Palisades		96·3	346	e 13 42	+10	e 24 20	{- 7}	e 26 29	PS
Pittsburgh	N.W.	96·7	341	—	—	i 24 24	{- 7}	—	e 45·4
Harvard		97·4	348	—	—	e 23 59	[-15]	e 24 24	SKKS
Cleveland		98·1	340	26 44	PS	e 24 10	[- 8]	e 25 14	S
Halifax		98·8	353	—	—	e 24 16	[- 5]	e 32 19	SSP
Malaga		100·4	39	18 6	PP	—	—	—	46·2
Lisbon		100·5	35	—	—	31 50	SS	—	52·4
Ottawa		100·8	345	—	—	e 24 44	[+13]	e 32 44	SSP
Granada		101·1	39	18 2 <sub>a</sub>	PP	24 47	[+15]	27 23	PS
Almeria		101·2	40	—	—	24 26	[- 7]	25 54	S
Riverside	Z.	103·1	311	e 18 47	PP	—	—	—	54·4
Toledo		103·3	38	e 18 24	PP	e 24 52	[+ 9]	e 32 37	SS
Pasadena		103·6	311	e 27 36	PS	i 24 55	[+11]	e 32 18	?
China Lake	Z.	104·7	312	e 18 36	PP	—	—	e 18 46	?
Tortosa		105·8	41	e 14 15	+ 1	e 24 6	[-48]	—	—
Tinemaha	Z.	106·0	312	e 18 15	PKP	—	—	—	—
Santa Clara		107·9	310	—	—	e 25 20	[+17]	e 33 52	SS
Messina		110·0	52	e 19 22	PP	e 29 16	PPS	e 38 34	SSS
Rome		111·6	48	e 19 18	PP	e 29 4	PS	e 34 36	SS
Florence		112·6	46	e 19 25	PP	e 29 5	PS	—	e 50·6
Taranto		112·6	52	e 19 10	PP	e 29 36	PS	—	e 51·1
Pavia		112·9	43	e 19 45 <sub>a</sub>	PP	e 29 10	PS	—	e 48·1
Paris		113·4	37	e 19 48	PP	i 29 26	PS	—	e 56·9
Kew		114·7	34	e 19 41	PP	e 29 40	PS	—	e 51·8
Strasbourg		115·1	41	e 20 0	PP	e 29 16	PS	e 35 56	SSP
Triest		115·2	46	i 20 2	PP	e 30 0	PS	e 35 57	SSP
Stuttgart		115·8	42	e 20 1	PP	e 25 48	[+13]	e 29 21	PS
De Bilt		117·1	37	i 20 26	PP	e 30 6	PS	e 36 6	SS
Durham		117·1	32	—	—	e 25 54	[+14]	i 30 5	PS
Cheb		118·1	41	—	—	e 29 54	PS	—	—
Prague	N.	118·9	43	e 30 6	PS	e 25 43	[- 3]	e 31 58	PPS
Aberdeen		119·0	29	—	—	e 25 36	[-10]	i 30 24	PS
Bucharest	E.	119·8	55	—	—	e 30 8	PS	—	e 49·1
Potsdam		120·2	41	—	—	e 26 2	[+11]	e 41 30	SSS
Copenhagen		122·3	38	20 51	PP	27 51	{+22}	—	e 50·6
Scoresby Sund		126·3	13	e 21 9	PP	38 24	SS	43 12	SSS
Upsala		127·6	37	—	—	e 28 3	{- 1}	e 31 35 <sub>?</sub>	PS
Resolute Bay		131·3	346	e 19 21	[+ 7]	e 22 55	PKS	e 22 41	PP
Quetta		132·3	95	e 22 46	PP	—	—	—	66·6
Kiruna		133·7	31	e 19 27	[+ 8]	i 22 53	PKS	e 22 8	PP
New Delhi	N.	136·9	107	e 22 33	PP	i 40 7	SS	—	e 64·2
Zi-ka-wei	Z.	156·8	172	e 20 18	PKP	—	—	—	—
Nanking		157·4	165	e 20 4	[+ 6]	—	—	—	—

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1952

523

June 20d. 5h. 46m. 15s. Epicentre 23°·9N. 121°·7E. (as on 1951, November 3d.).

A = -·4809, B = +·7787, C = +·4029;  $\delta$  = -3; h = +4;  
D = +·851, E = +·525; G = -·212, H = +·343, K = -·915.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Hong Kong	7·1	258	i 1 45	- 3	—	—	—	—
Nanking	8·5	343	i 2 3 <sub>a</sub>	- 4	i 3 31	-14	—	—
Manila	9·3	184	e 2 24	+ 7	—	—	—	—
Yakusima	10·2	49	e 2 28	- 3	e 4 43	SS	—	—
Unzendake	11·6	39	2 54	+ 4	e 5 25	SS	—	—
Kumamoto	11·9	40	i 2 58	+ 4	—	—	—	—
Hukuoka	12·3	36	i 3 3	+ 4	—	—	—	i 7·0
Ooita	12·7	41	e 3 8	+ 3	—	—	—	e 7·7
Matuyama	13·9	42	e 3 35	PP	e 6 25	SSS	e 5 16	i 8·1
Koti	14·1	44	e 3 20	- 3	e 6 21	SS	i 3 27	PP 9·1
Hamada	14·2	37	i 3 28	+ 4	e 6 11	+ 7	i 3 45	PPP
Muroto	14·4	47	i 3 31	+ 4	i 5 59	-10	—	e 7·4
Yonago	15·3	39	e 3 47	+ 8	e 6 45	+15	—	e 8·5
Siomisaki	15·6	49	3 48	+ 5	i 6 2	-35	—	e 8·2
Saigo	15·9	37	e 3 50	+ 3	e 7 3	SS	—	e 7·6
Osaka	16·1	45	e 3 57	PP	e 9 42	PcP	e 4 27	PPP
Matsuro	19·0	42	i 4 23	- 3	i 7 53	- 2	5 8	PPP 10·2
Nagano	E. 19·1	43	e 4 27	0	e 7 47	-10	5 6	PPP e 10·2
Kumagaya	19·5	46	e 4 30	- 1	—	—	e 9 27	SSS e 11·0
Maebasi	19·5	45	e 4 32	+ 1	—	—	—	e 10·0
Tokyo	19·6	48	e 4 26	- 6	e 8 1	- 7	e 4 58	PPP e 8·7
Utunomiya	20·1	46	e 4 33	- 5	—	—	e 11 38	? e 12·6
Sendai	21·8	44	e 4 54	- 2	e 8 56	+ 4	11 20	Q 13·1
Mizusawa	22·4	42	5 0	- 2	9 4	0	9 0	S 12·7
Guam	24·1	110	—	—	i 16 3	ScS	—	—
Shillong	E. 27·1	282	i 5 46	0	i 10 26	+ 2	6 8	PP 12·9
Yuzno-Sakhlinsk	28·5	30	e 5 58	- 1	10 38	- 8	—	—
Ulegorsk	29·8	28	i 6 12	+ 1	11 4	- 3	—	—
Kabansk	30·4	342	i 6 14	- 2	11 12	- 4	—	—
Calcutta	30·7	275	i 6 19	0	i 11 25	+ 4	9 12	PcP 14·1
Djakarta	33·2	208	e 6 41	+ 1	—	—	e 8 2	PPP
Bandong	33·6	206	i 6 47	+ 3	e 12 5	- 1	—	—
Dehra Dun	N. 39·2	290	e 8 27	+56	e 14 3	+31	—	e 21·8
New Delhi	40·0	287	i 6 36	-62	i 13 37	- 7	9 8	PP 18·4
Przhevsk	40·2	308	i 7 40	0	—	—	—	—
Petropavlovsk	40·3	33	i 7 38?	- 2	—	—	—	—
Kurmenty	40·4	309	i 7 44	+ 3	—	—	—	—
Hyderabad	N. 40·9	270	7 44	- 2	13 56	- 2	17 13	SSS 19·8
Almata	41·4	310	i 7 50	0	i 14 8	+ 3	—	—
Ill	41·5	311	i 7 49	- 1	—	—	—	—
Semipalatinsk	41·5	321	i 7 49	- 1	e 14 3	- 4	—	—
Naryn	41·7	307	i 7 54	+ 2	—	—	—	—
Rybach'e	41·9	308	i 7 53	- 1	—	—	—	—
Murgab	42·9	302	8 2	0	14 37	+10	—	—
Frunse	43·0	309	i 8 3	0	e 14 32	+ 3	—	—
Klyuchi	43·1	31	e 8 2?	- 2	—	—	—	—
Kodaikanal	E. 44·2	261	i 8 26	+14	i 14 56	+10	—	—
Fergana	44·7	304	i 8 16	0	e 14 54	0	—	—
Khorog	44·7	299	i 8 17	+ 1	i 14 55	+ 1	—	—
Poona	44·8	273	i 8 19	+ 2	i 14 58	+ 3	10 9	PP 21·6
Dzhergetal	45·1	303	i 8 20	0	i 15 3	+ 4	—	—
Bombay	45·6	274	i 8 25	+ 1	i 15 7	+ 1	10 18	PP 19·1
Garm	45·8	302	i 8 25	0	—	—	—	—
Kulyab	46·1	301	i 8 29	+ 1	i 15 18	+ 4	—	—
Obi-garm	46·2	302	i 8 28	0	i 15 16	+ 1	—	—
Tchimkent	46·6	307	i 8 29	- 3	i 15 19	- 2	—	—
Tashkent	46·7	306	i 8 33	+ 1	i 15 21	- 1	—	—
Stalinabad	46·9	302	i 8 35	+ 1	i 15 29	+ 4	—	—
Quetta	48·7	291	i 8 49	+ 1	i 15 53	+ 3	—	25·8
Sverdlovsk	54·6	324	i 9 30	- 2	17 8	- 3	—	—

Continued on next page.

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1952

524

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.
Ashkabad	55.2	301	i 9	38	+ 1	i 17	25	+ 5	—	—	—
Kizyl-Arvat	56.7	303	i 9	48	0	e 17	42	+ 2	—	—	—
Brisbane	59.4	147	10	8	+ 2	e 18	20	+ 5	e 18	0	?
Baku	61.4	305	i 10	22	+ 2	e 18	45	+ 5	—	—	—
Lenkoran	62.5	303	i 10	26	- 2	—	—	—	—	—	—
Makhach-Kala	62.8	309	i 10	29	- 1	i 18	59	+ 1	—	—	—
Riverview	63.9	153	i 10	39 <sub>a</sub>	+ 2	e 19	19	+ 7	e 23	15	SS e 28.6
Grozny	64.0	309	—	—	—	19	2	- 11	—	—	—
Kirovobad	64.0	306	i 10	36	- 2	i 19	17	+ 4	—	—	—
Goris	64.3	304	10	38	- 1	i 19	21	+ 4	—	—	—
Tiflis	65.0	307	i 10	44	0	e 19	24	- 2	—	—	—
Erevan	65.5	305	i 10	48	+ 1	19	32	0	—	—	—
Gori	65.5	307	e 10	48	+ 1	19	36	+ 4	—	—	—
Leninakan	65.9	307	10	52	+ 2	19	42	+ 5	—	—	—
Piatigorsk	65.9	310	10	48	- 2	19	37	0	—	—	—
Borzhomi	66.0	307	e 10	50	0	e 19	40	+ 2	—	—	—
Abastumanj	66.4	307	e 10	52?	- 1	e 19	48?	+ 5	—	—	—
Zugdidi	67.0	309	e 10	57	0	e 19	54	+ 4	—	—	—
Moscow	67.3	323	i 10	56	- 3	i 19	49	- 5	—	—	—
Sotchi	68.3	310	11	2	- 3	20	1	- 5	—	—	—
College	68.8	27	i 11	6	- 2	i 20	5	- 6	e 24	24	SS e 27.8
Pulkovo	70.3	328	i 11	16	- 1	—	—	—	—	—	—
Theodosia	71.0	312	i 11	19	- 3	20	35	- 2	—	—	—
Simferopol	71.9	312	i 11	24	- 3	20	45	- 3	—	—	—
Yalta	72.0	312	11	25	- 3	20	46	- 3	—	—	—
Kiruna	72.2	337	i 11	26 <sub>a</sub>	- 3	i 20	47?	- 4	e 14	1	PP e 33.4
Helsinki	72.8	330	e 11	31	- 1	e 20	50	- 8	e 11	51	pP
Ksara	73.8	300	i 11	39	+ 1	21	17	+ 8	—	—	—
Kishinev	74.8	315	i 11	42	- 2	21	13	- 7	—	—	—
Iasi	75.5	317	e 11	48	0	e 21	24	- 4	—	—	—
Upsala	76.4	331	i 11	51 <sub>a</sub>	- 2	i 21	33	- 5	i 16	30	PPP e 35.8
Istanbul	76.6	310	i 11	53	- 1	e 21	40	0	i 14	49	PP
Lwow	76.8	319	i 11	57	+ 2	—	—	—	—	—	—
Sitka	77.0	33	i 11	56	0	i 21	45	0	—	—	—
Bucharest	77.5	313	—	—	—	e 21	49	- 1	e 21	55	S 42.8
Helwan	z. 78.8	298	i 12	5 <sub>a</sub>	- 1	22	15	+ 11	15	17	PP
Resolute Bay	78.9	10	e 12	3 <sub>a</sub>	- 4	e 21	58	- 7	i 15	0	PP e 31.4
Skalnate Pleso	79.4	320	e 12	4	- 5	e 22	2	- 8	e 15	49	PP
Sofia	79.6	312	e 12	13	+ 3	e 22	14	+ 2	—	—	—
Timisoara	E. 80.1	316	e 12	17	+ 4	—	—	—	—	—	—
Raciborzu	80.2	321	e 12	15?	+ 1	e 22	38	ScS	e 15	15?	PP 48.8
Szeged	80.6	318	e 12	18	+ 2	22	27	+ 4	22	39	ScS
Copenhagen	80.7	328	i 12	15 <sub>a</sub>	- 1	22	21	- 3	—	—	41.8
Budapest	80.8	318	i 12	18	+ 1	e 22	24	- 1	e 15	1	PP 40.2
Belgrade	81.0	315	e 12	17 <sub>k</sub>	- 1	e 23	7	PS	e 15	25	PP e 51.6
Ogyalla	81.1	319	12	21	+ 3	e 22	35	+ 7	e 14	32	?
Kalossa	81.2	318	e 12	21	+ 2	23	1	PS	e 15	55	PP e 40.8
Wellington	81.4	143	—	—	—	e 22	45?	ScS	—	—	e 34.8
Bergen	81.5	334	—	—	—	e 22	30	- 2	—	—	e 40.9
Potsdam	82.0	325	i 12	22	- 1	i 22	37	0	i 15	33	PP e 40.8
Prague	82.1	322	e 12	23 <sub>a</sub>	- 1	e 22	38	0	e 15	45?	PP e 45.2
Vienna	82.1	321	e 12	24	0	e 23	17	PS	e 15	33	PP 42.8
Scoresby Sund	82.4	349	i 12	24	- 1	i 22	39	- 2	i 23	16	PS 37.8
Collmberg	82.6	324	e 12	24	- 2	e 22	39	- 4	e 15	36	PP
Cheb	83.5	323	e 12	33	+ 2	e 22	58	+ 6	e 15	57	PP e 43.6
Jena	83.5	323	i 12	30	- 1	e 23	6	+ 14	e 23	50	PS e 45.8
Triest	84.9	318	12	37?	- 1	i 22	59	- 7	i 16	8	PP
Taranto	85.0	313	12	23	- 15	22	53	- 14	—	—	—
Witteveen	z. 85.1	327	i 12	41	+ 2	—	—	—	—	—	—
Stuttgart	86.0	323	i 12	42 <sub>a</sub>	- 1	e 23	5	- 12	e 16	3	PP e 46.8

Continued on next page.

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1952

525

		$\Delta$	Az.	P.		O-C.	S.	O-C.	Supp.		L.
		$^{\circ}$	$^{\circ}$	m.	s.	s.	m.	s.	m.	s.	m.
De Bilt		86.3	327	i 12	44 <sub>a</sub>	- 1	i 23 19	- 1	i 16 5	PP	e 42.8
Karlsruhe		86.3	324	e 12	44	- 1	—	—	e 16 5	PP	e 45.8
Aberdeen		86.5	333	i 12	47	+ 1	i 23 21	- 1	i 16 11	PP	e 43.6
Chur		86.7	322	e 12	45	- 2	e 23 28	+ 4	e 16 7	PP	e 53.2
Bologna		86.9	319	e 12	49 <sub>k</sub>	+ 1	e 24 37	PS	e 16 17	PP	—
Salo	E.	86.9	320	e 12	48	0	19 48	?	14 26	?	—
Strasbourg		86.9	323	i 12	47 <sub>a</sub>	- 1	e 23 27	+ 1	i 16 7	PP	e 40.6
Zürich		87.1	322	e 12	45 <sub>a</sub>	- 4	e 23 19	- 9	e 16 7	PP	—
Messina		87.3	311	i 12	49 <sub>k</sub>	- 1	i 23 29	0	e 13 28	pP	—
Florence		87.4	317	i 12	49	- 1	e 23 28	- 2	i 13 18	pP	—
Prato		87.4	317	e 12	20	-30	e 23 28	- 2	—	—	—
Rocca di Papa		87.4	314	e 12	49	- 1	—	—	e 16 6	PP	—
Rome		87.5	314	i 12	49 <sub>a</sub>	- 2	e 23 31	0	e 13 15	pP	e 46.2
Victoria		87.5	37	12	50 <sub>a</sub>	- 1	23 28	- 3	—	—	—
Durham		87.8	331	i 12	53	+ 1	i 23 31	- 3	i 23 54	ScS	—
Pavia		87.9	320	i 12	53 <sub>a</sub>	0	e 23 35	0	e 16 20	PP	e 46.9
Neuchatel		88.2	322	e 12	53	- 1	—	—	—	—	—
Oropa		88.4	320	e 12	55	0	e 23 41	+ 1	e 16 20	PP	—
Seattle		88.5	38	i 12	57	+ 1	i 23 46	+ 5	e 16 16	PP	—
Kew		89.4	328	i 13	1	+ 1	e 23 50	+ 1	i 16 31	PP	e 41.8
Paris		89.6	325	i 12	59	- 2	e 23 43	{+ 4}	i 13 28	pP	e 51.8
Corvallis	Z.	89.7	41	i 13	2	+ 1	e 23 54	+ 2	—	—	—
Clermont-Ferrand		91.2	322	i 13	9	+ 1	e 25 10	PS	e 16 42	PP	—
Jersey	E.	91.7	327	e 13	11	+ 1	e 24 18	+ 8	e 23 0	?	—
Shasta		92.4	43	i 13	14	0	—	—	—	—	—
Hungry Horse		92.5	33	i 13	15	+ 1	e 24 19	+ 2	e 15 59	?	—
Mineral	Z.	93.1	44	i 13	17 <sub>a</sub>	0	i 16 54	PP	e 13 37	pP	—
Berkeley		94.1	46	e 13	22 <sub>a</sub>	0	e 24 0	{+ 4}	e 13 43	pP	e 38.8
Santa Clara		94.6	46	i 13	24 <sub>k</sub>	0	e 24 12	{+ 13}	—	—	e 45.1
Reno	Z.	94.7	42	e 13	25 <sub>a</sub>	+ 1	—	—	e 17 16	PP	—
Butte		94.8	34	i 13	25	0	—	—	—	—	—
Lick	Z.	94.8	46	e 13	25 <sub>a</sub>	0	i 13 41	PcP	e 17 7	PP	—
Tortosa		95.6	319	e 13	25	- 3	—	—	17 20	PP	—
Fresno	Z.	96.3	45	e 13	33	+ 1	—	—	e 16 45	PP	—
Algiers Univ.	Z.	96.4	314	e 13	31	- 1	—	—	i 17 25	PP	—
Tinemaha	Z.	97.2	44	e 13	37	+ 1	i 13 47	PcP	e 17 38	PP	—
Alicante		97.7	319	13	41	+ 3	e 24 56	- 5	17 32	PP	46.1
China Lake	Z.	98.3	44	e 13	40	- 1	i 13 55	?	e 17 39	PP	—
Toledo		98.9	320	e 13	45	+ 2	—	—	e 17 45	PP	53.6
Pasadena		99.0	47	i 13	44	0	—	—	e 17 42	PP	—
Riverside	Z.	99.6	47	e 13	48	+ 2	—	—	—	—	—
Almeria		99.9	318	i 13	47	- 1	24 25	{- 2}	17 53	PP	56.8
Boulder City		100.0	43	e 13	48	0	—	—	e 17 44	PP	—
Palomar	Z.	100.3	42	i 13	52	+ 2	—	—	i 17 54	PP	—
Granada		100.4	319	13	50	0	i 24 19	{- 10}	i 17 49	PP	50.4
Malaga		101.2	319	i 13	53	- 1	24 5	{- 28}	17 41	PP	54.8
Lisbon		102.6	323	18	12	PP	34 18	?	—	—	42.8
Tamanrasset	Z.	102.6	302	e 14	1	+ 1	e 29 49	PKKP	e 18 4	PP	—
Tucson		104.9	44	e 14	12	+ 2	e 27 49	PS	e 18 21	PP	e 48.4
Kirkland Lake	Z.	105.7	15	e 18	35	PP	33 59	SS	28 17	PS	—
Chicago		108.7	23	e 19	0	PP	e 28 20	PS	—	—	—
Lubbock		109.4	39	e 17	24	?	—	—	e 18 57	PP	—
Buffalo (Larkin)		111.0	18	e 19	6	PP	—	—	—	—	—
Fayetteville	Z.	111.4	30	e 18	37	{+ 1}	e 14 33	P	e 19 15	PP	—
Cleveland		111.5	19	e 19	18 <sub>k</sub>	PP	e 28 42	PS	—	—	—
Harvard		112.8	10	e 28	55	PS	—	—	—	—	e 50.6
Pittsburgh	N.W.	112.9	17	e 29	0	PS	—	—	—	—	—
Morgantown		113.6	18	e 19	31	PP	—	—	—	—	—
Palisades		113.8	13	e 14	46	P	e 25 48	{+ 21}	i 19 34	PP	e 59.6
City College, N.Y.		114.0	13	—	—	—	e 26 58	{+ 25}	e 29 1	PS	—
Chinchina		146.7	32	e 19	45	{+ 3}	e 30 38	{+ 38}	—	—	—
Bogota		147.7	29	e 19	47	{+ 3}	e 30 29	{+ 24}	e 23 13	PP	65.8
Huancayo		160.0	57	e 20	6	{+ 5}	e 44 53	SS	i 24 25	PP	72.3
La Paz		168.2	53	i 20	12 <sub>a</sub>	{+ 4}	i 32 13	{+ 19}	i 25 5	PP	82.8
La Plata		169.0	182	—	—	—	(31 51)	{- 7}	—	—	31.8



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1952

526

June 20d. 9h. 38m. 5s. Epicentre 39°·7N. 82°·2W.

Intensity VI near the epicentre at Zanesville; V at Corning; IV at Buchtel, Cumberland, Lancaster, and Somerset. Macroseismic area 10,000 sq.m.

E. J. Walter.

"The Zanesville Earthquake." Earthquake Notes, Vol. XXVI, No. 2, pp.13-16.

L. M. Murphy, W. K. Cloud.

United States Earthquakes, 1952, U.S.C.G.S., Serial 773, Washington, 1954, p.9.

A = +·1047, B = -·7644, C = +·6362;  $\delta = +2$ ;  $h = -2$ ;  
D = -·991, E = -·136; G = +·086, H = -·630, K = -·772.

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Morgantown	1·7	92	i 0 31	0	i 0 52	- 2	—	—
Cincinnati	1·9	253	i 0 36	+ 2	i 1 3	0 <sub>g</sub>	—	—
Pittsburgh	1·9	71	i 0 40	+ 2 <sub>g</sub>	i 1 4	+ 1 <sub>g</sub>	—	—
Buffalo	4·1	37	—	—	i 2 5	- 1*	i 2 42	?
Buffalo (Larkin)	4·1	39	—	—	e 2 5	- 1*	—	—
Washington	4·1	99	e 2 2	S*	(e 2 2)	- 4*	—	—
Chicago	4·6	299	—	—	e 2 29	- 3 <sub>g</sub>	—	—
Palisades	6·4	75	i 2 46	S	(i 2 46)	- 7	i 3 21	S*
Fordham	6·5	77	e 1 59	+ 5*	i 3 21	+ 4*	—	—
Ottawa	7·4	38	i 2 9	0*	3 40	- 4*	—	—
Harvard	8·5	67	e 1 59	- 8	e 4 32	- 9 <sub>g</sub>	—	—
Kirkland Lake	8·6	9	e 3 38	S	(e 3 38)	- 10	e 4 26	S*
Shawinigan Falls	9·7	42	—	—	e 4 18	+ 3	—	—
Fayetteville	10·1	253	i 2 30	+ 1	e 4 20	- 5	i 3 12	?

June 20d. 15h. 55m. 14s. Epicentre 37°·1N. 71°·2E. Depth of focus 0·025.  
(as on May 11d.).

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.
Khorog	0·5	41	e 0 26	0	e 0 50	+ 3
Kulyab	1·4	305	e 0 33	+ 1	i 1 1	+ 3
Garm	2·0	340	i 0 39	+ 1	i 1 11	+ 3
Obi-garm	2·0	324	e 0 39	+ 1	i 1 11	+ 3
Dzhergetal	2·1	0	e 0 40	+ 1	i 1 13	+ 3
Stalinabad	2·4	307	e 0 43	0	e 1 18	+ 2
Murgab	2·5	60	—	—	e 1 17	- 1
Fergana	3·3	7	e 0 53	0	e 1 37	+ 2
Andijan	3·8	13	0 58	- 2	i 1 46	0

June 20d. 16h. 42m. 54s. Epicentre 35°·7N. 0°·7W. (as on 1949, Nov. 4d.).

Felt throughout the district of St. Leu. Intensity V at Port aux Poules and at St. Leu; IV at Arzeu, Damesme, Jean Memoz, Fornaka, St. Aoud, and Ste. Léonie.  
Epicentre near 35°·8N. 0°·2W.

Annales de l'Institut de Physique du Globe de Strasbourg, 2e partie Séismologie, 1952, Nouvelle série, Tome XVII, Strasbourg, 1957, p.48.

A = +·8139, B = -·0099, C = +·5810;  $\delta = +9$ ;  $h = 0$ ;  
D = -·012, E = -1·000; G = +·581, H = -·007, K = -·814.

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.
Almeria	1·8	309	i 0 54	S	(i 0 54)	- 2	1 0
Alicante	2·6	4	0 43	- 1	1 21	+ 4	0 53
Granada	2·8	302	0 52 <sub>a</sub>	+ 1*	1 19	- 3	1 7
Algiers Univ.	3·2	71	e 0 46	- 6	e 1 18	- 14	1 2
Malaga	3·2	289	i 0 53	+ 1	i 1 31	- 1	i 1 43
Toledo	4·9	328	e 1 18	+ 1	e 2 22	+ 7	1 36
Tortosa	5·2	10	—	—	i 2 22	0	—
Tamanrasset	14·0	156	—	—	5 54	- 5	—

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1952

527

June 21d. 6h. 28m. 57s. Epicentre 46°·7N. 153°·7E.

A = -·6170, B = +·3050, C = +·7255;  $\delta = +6$ ;  $h = -5$ ;  
D = +·443, E = +·896; G = -·650, H = +·321, K = -·688.

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.
Kurilsk	4·3	252	1	11	+ 3	2	3	+ 3	—	—	—
Nemuro	6·6	243	e 1	41	0	e 2	57	- 1	—	—	—
Petropavlovsk	7·2	25	1	51	+ 2	3	14	+ 1	—	—	—
Abashiri	7·2	251	e 1	51	+ 2	3	19	+ 6	—	—	—
Yuzno-Sakhlinsk	7·5	276	1	57	+ 4	—	—	—	—	—	—
Kusiro	7·6	244	e 1	53	- 2	i 3	23	0	—	—	—
Ulegorsk	8·2	291	i 2	7	+ 4	3	47	+ 9	—	—	—
Urakawa	9·0	244	i 2	15	+ 2	e 3	56	- 2	i 2	37	P*
Sapporo	9·5	252	e 2	21	+ 1	e 4	16	+ 6	e 2	42	?
Klyuchi	10·6	22	e 2	35	- 1	e 4	46	+ 9	—	—	—
Hatinohe	10·7	239	e 2	32	- 6	e 4	27	- 12	—	—	—
Miyako	11·1	235	e 2	38	- 5	4	38	- 11	—	—	—
Mizusawa	11·9	235	2	55	+ 1	5	2	- 7	e 3	1	P
Sendai	12·6	233	e 3	2	- 1	e 5	17	- 9	—	—	e 8·4
Hokusima	13·2	232	e 3	10	- 1	e 5	33	- 7	—	—	—
Onahama	13·6	229	e 3	33	+ 16	e 6	4	+ 14	—	—	e 7·4
Kumagaya	15·0	231	e 3	38	+ 3	e 6	24	+ 1	—	—	—
Tokyo	15·2	229	e 3	40	+ 2	e 6	33	+ 5	i 6	50	SS
Matsuro	15·4	234	i 3	39	- 1	6	30	- 2	—	—	8·3
Hunatu	15·8	230	e 3	49	+ 4	e 6	41	- 1	—	—	7·3
Kohu	15·8	231	e 3	48	+ 3	e 6	36	- 6	—	—	—
Zi-ka-wei	z.	249	i 6	6 <sub>a</sub>	+ 1	e 10	59	+ 1	—	—	—
Nanking	30·4	254	i 6	16 <sub>a</sub>	0	i 11	16	0	—	—	—
Kabansk	30·7	299	6	16	- 3	e 11	15	- 6	—	—	—
Irkutsk	32·0	299	e 6	28	- 2	—	—	—	—	—	—
College	35·9	37	i 7	3	- 1	i 12	39	- 3	—	—	e 14·4
Hong Kong	40·1	246	e 7	40	+ 1	e 13	44	- 2	—	—	—
Sitka	43·0	78	i 8	8	+ 5	e 14	30	+ 1	—	—	—
Semipalatinsk	46·9	303	e 8	29	- 5	—	—	—	—	—	—
Resolute Bay	50·8	18	i 9	3 <sub>a</sub>	- 1	e 16	17	- 3	e 11	1	PP
Przhevalsk	51·9	295	e 9	12	0	—	—	—	—	—	—
III	51·9	297	i 9	10	- 2	—	—	—	—	—	—
Almata II	52·1	296	i 9	14	0	—	—	—	—	—	—
Almata	52·4	296	i 9	15	- 1	—	—	—	—	—	—
Victoria	53·2	55	9	0	- 22	—	—	—	—	—	—
Rybach'e	53·3	295	i 9	21	- 2	—	—	—	—	—	—
Naryn	53·9	294	e 9	27	0	—	—	—	—	—	—
Frunse	54·0	297	i 9	27	- 1	—	—	—	—	—	—
Sverdlovsk	54·1	317	9	26	- 3	17	0	- 5	—	—	—
Seattle	54·3	55	i 9	31	+ 1	i 17	8	+ 1	i 19	18	ScS
Andijan	56·6	295	i 9	46	- 1	—	—	—	—	—	—
Murgab	57·0	292	i 9	51	+ 1	—	—	—	—	—	—
Fergana	57·2	295	i 9	49	- 2	i 19	45	ScS	—	—	—
Tashkent	58·1	298	i 9	56	- 2	e 17	57	- 1	—	—	—
Dzhgertal	58·2	295	i 9	57	- 1	—	—	—	—	—	—
Shasta	58·2	62	e 9	58	0	—	—	—	—	—	—
Hungry Horse	58·5	51	e 9	55	- 5	—	—	—	—	—	—
Mineral	z.	62	e 10	3	0	—	—	—	—	—	—
Khorog	59·0	293	i 10	5	+ 1	—	—	—	—	—	—
Obi-garm	59·5	295	i 10	5?	- 2	e 18	15?	- 1	—	—	—
Kulyab	59·9	294	i 10	11	+ 1	e 18	41	+ 20	—	—	—
Berkeley	60·0	65	e 10	15	+ 4	e 18	20	- 3	e 20	0	ScS
Stalinabad	60·1	296	i 10	9	- 2	—	—	—	—	—	e 25·2
Kiruna	60·5	340	i 10	11	- 3	i 18	30	+ 1	e 20	10	ScS
Reno	60·5	61	e 10	15	+ 1	e 18	31	+ 2	—	—	e 29·0
Santa Clara	60·5	65	e 10	19 <sub>k</sub>	+ 5	e 18	35	+ 6	e 22	25	SS
Lick	z.	65	e 10	17	+ 2	—	—	—	—	—	e 26·8
Butte	60·7	52	e 10	15	0	—	—	—	—	—	—
New Delhi	n.	282	i 10	15	- 2	e 17	35	- 59	11	3	PcP
Fresno	z.	62·2	64	e 10	27	+ 1	—	—	—	—	—

Continued on next page.

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1952

528

		$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
		$^{\circ}$	$^{\circ}$	m.	s.	s.	m.	s.	s.	m.	s.	m.
Tinemaha	z.	63.0	63	e 10	35	+ 4	—	—	—	—	—	—
Scoresby Sund		63.1	358	i 10	31 <sub>a</sub>	- 1	i 19	1	- 1	i 19	8	PS
China Lake	z.	64.2	63	e 10	38	- 1	i 10	49	?	i 11	6	PcP
Pulkovo		64.3	332	i 10	38	- 1	—	—	—	—	—	—
Moscow		64.7	326	10	40	- 2	19	22	0	—	—	—
Pasadena		64.9	66	e 10	46	+ 3	i 19	24	0	i 11	9	PcP
Riverside	z.	65.5	66	i 10	47	0	—	—	—	—	—	e 27.6
Boulder City		65.8	62	e 10	49	0	—	—	—	—	—	—
Palomar	z.	66.3	65	i 10	53	+ 1	—	—	—	i 11	8	PcP
Quetta		66.6	289	e 10	57	+ 3	—	—	—	—	—	38.0
Ashkabad		66.8	301	i 10	56	0	e 19	49	+ 1	—	—	—
Kizyl-Arvat		67.3	303	i 10	58	- 1	i 19	59	+ 5	—	—	—
Upsala		67.9	338	i 11	1 <sub>a</sub>	- 1	i 19	56	- 5	e 13	43	PP
Makhach-Kala		69.4	311	i 11	11	- 1	—	—	—	—	—	e 32.0
Baku		69.9	308	i 11	16	+ 1	—	—	—	—	—	—
Grozny		70.1	312	i 11	15	- 1	—	—	—	—	—	—
Bergen		70.2	344	—	—	—	e 20	13	- 15	—	—	e 34.6
Bombay		70.3	277	i 11	19	+ 2	e 20	29	0	—	—	—
Shemakla		70.5	309	11	19	+ 1	20	30	- 2	—	—	—
Tucson		70.8	62	e 11	19	- 1	e 20	37	+ 2	e 12	37	? e 33.3
Piatigorsk		70.9	314	11	19	- 2	20	31	- 5	—	—	—
Kirovobad		71.6	310	i 11	25	0	—	—	—	—	—	—
Lenkoran		71.7	307	11	26	0	20	40	- 5	—	—	—
Tiflis		71.7	312	i 11	26	0	—	—	—	—	—	—
Gori		71.9	312	e 11	27	0	—	—	—	—	—	—
Borzhomj		72.3	312	i 11	31	+ 2	—	—	—	—	—	—
Goris		72.5	308	i 11	30	0	—	—	—	—	—	—
Zugdidi		72.6	314	11	32	+ 1	—	—	—	—	—	—
Abastumanj		72.7	312	e 11	30	- 2	—	—	—	—	—	—
Sotchi		72.8	316	i 11	28	- 4	e 20	52	- 6	—	—	—
Leninakan		72.9	311	e 11	37?	+ 4	—	—	—	—	—	—
Copenhagen		72.9	338	i 11	32	- 1	20	56	- 3	i 11	42	PcP
Erevan		73.0	310	i 11	34	+ 1	20	58	- 2	—	—	36.0
Theodosia		73.7	319	e 11	37	- 1	e 21	3	- 5	—	—	—
Brisbane	z.	73.8	181	e 11	44	+ 6	—	—	—	—	—	—
Lwow		74.4	328	i 11	41	- 1	e 21	13	- 3	—	—	—
Simferopol		74.4	320	i 11	41	- 1	—	—	—	—	—	—
Kirkland Lake	z.	74.6	34	e 11	41 <sub>a</sub>	- 2	—	—	—	—	—	—
Yalta		74.7	319	i 11	43	0	e 21	16	- 3	—	—	—
Kishinev		74.9	325	11	43	- 1	21	15	- 7	—	—	—
Iasi		75.3	326	e 11	47	0	—	—	—	—	—	—
Potsdam		75.7	336	i 11	49 <sub>a</sub>	0	i 21	28	- 2	e 22	6	PS
Raciborzu		76.2	332	i 11	52	0	e 21	42	+ 6	e 12	6	PcP
Skalnate Pleso		76.3	330	11	55 <sub>a</sub>	+ 3	e 21	40	+ 3	e 22	52	?
Collnberg		76.7	335	e 11	52 <sub>a</sub>	- 3	e 12	45	?	e 12	2	PcP
Witteveen	z.	76.9	320	i 11	58	+ 2	—	—	—	—	—	—
Prague		77.4	334	e 11	57 <sub>a</sub>	- 1	e 21	40	- 9	e 14	49	PP
Jena		77.4	336	i 11	57	- 1	e 21	42	- 7	e 15	10	PP
Fayetteville	z.	77.6	50	i 11	58	- 2	—	—	—	e 12	9	PcP
De Bilt		77.9	320	i 12	2	+ 1	e 21	53	- 1	e 18	3	? e 36.0
Cheb		78.0	336	e 12	7	+ 5	e 21	54	- 1	—	—	—
Bucharest	N.	78.2	324	e 11	54	- 9	e 21	56	- 1	—	—	—
Ottawa		78.5	33	—	—	—	e 21	55	- 6	30	39	SSS
Shawinigan Falls	N.	78.6	30	—	—	—	e 21	56	- 6	—	—	40.4
Seven Falls	E.	78.8	29	—	—	—	e 21	59	- 5	31	5	SSS
Rathfarnham Castle		78.9	348	e 12	1?	- 6	e 22	3	- 2	—	—	e 39.6
Timisoara	E.	78.9	328	e 12	8	+ 1	—	—	—	—	—	—
Cleveland		79.4	39	i 12	7 <sub>a</sub>	- 2	i 21	47	- 23	—	—	—
Buffalo (Larkin)		79.5	36	i 12	8	- 2	—	—	—	—	—	—
Kew		79.7	343	i 12	13 <sub>a</sub>	+ 2	e 22	13	0	e 15	10	PP e 36.0

Continued on next page.

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1952

529

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.	
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.	
Istanbul	79.7	320	e 12	10	- 1	e 22	11	- 2	41	3	Q	48.0
Belgrade	80.0	328	e 12	13 <sub>a</sub>	0	e 22	14	- 3	e 13	27	?	e 51.6
Stuttgart	80.0	337	i 12	13 <sub>a</sub>	0	e 22	13	- 4	i 12	19	PcP	41.0
Karlsruhe	80.0	338	e 12	12	- 1	e 12	19	PcP	e 15	5?	PP	e 41.0
Strasbourg	80.6	338	i 12	15	- 1	e 22	27	+ 4	e 23	5	PS	38.0
Zürich	81.5	337	e 12	19 <sub>a</sub>	- 2	e 22	29	- 3	—	—	—	—
Pennsylvania	81.5	37	e 12	20	- 1	e 22	30	- 2	e 12	28	PcP	—
Paris	81.6	341	i 12	21	0	i 22	33	0	i 22	44	ScS	e 41.0
Morgantown	81.6	39	i 12	21	0	e 22	30	- 3	—	—	—	—
Neuchatel	82.2	337	e 12	24	0	—	—	—	—	—	—	—
Ksara	82.3	311	i 12	24	- 1	e 22	52?	ScS	—	—	—	—
Harvard	82.5	31	i 12	25 <sub>a</sub>	- 1	—	—	—	—	—	—	e 44.0
Weston	82.7	31	i 12	25 <sub>a</sub>	- 2	e 22	45	+ 1	—	—	—	—
Palisades	83.0	34	i 12	26	- 2	i 22	45	- 2	e 15	39	PP	e 50.5
Fordham	83.1	34	e 12	28	- 1	e 22	44	- 4	—	—	—	—
City College, N.Y.	83.1	34	e 12	28	- 1	e 22	43	- 5	—	—	—	—
Pavia z.	83.3	335	i 12	30 <sub>a</sub>	0	—	—	—	—	—	—	—
Washington	83.4	37	e 12	33	+ 3	—	—	—	—	—	—	—
Florence	84.0	333	i 12	35 <sub>a</sub>	+ 2	e 23	6	+ 9	e 13	37	pP	—
Clermont-Ferrand	84.4	339	e 12	35	- 1	e 22	3	- 58	e 13	28	?	43.0
Mobile	84.9	49	i 12	39	+ 1	i 23	6	0	—	—	—	—
Rome	85.3	331	i 12	39 <sub>a</sub>	- 1	e 23	8	- 2	e 13	33	pP	—
Milton	85.6	48	—	—	—	i 23	12?	- 1	—	—	—	—
Messina	87.5	327	e 12	48	- 3	e 23	32	+ 1	e 13	44	pP	e 47.5
Helwan z.	87.7	312	12	51	- 1	e 23	33	0	e 13	12	?	—
Tortosa	89.6	339	—	—	—	i 24	3	+ 12	i 25	7	PS	—
Granada	94.0	342	16	54 <sub>k</sub>	PP	23	34	[- 22]	26	2	PS	51.2
Tamanrasset z.	105.1	329	e 17	44	?	—	—	—	e 18	30	PP	—
Bogota	113.8	54	e 20	41	?	e 35	38	SS	—	—	—	61.0
La Paz	134.2	63	e 19	18	[- 2]	28	46	{ 0}	i 22	49	SKP	—

June 21d. 8h. 46m. 27s. Epicentre 36°·3N. 69°·1E. (as on 17d.).

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	
Kulyab	1.7	19	i 0	33	- 1 <sub>g</sub>	i 0	53	- 1	—	—	
Stalinabad	2.3	353	i 0	42	0*	i 1	10	+ 1	—	—	
Khorog	2.3	60	i 0	44	- 2 <sub>g</sub>	i 1	19	+ 3 <sub>g</sub>	—	—	
Obi-garm	2.4	11	i 0	44	0*	i 1	14	- 1*	—	—	
Garm	2.9	19	e 0	49	+ 1	e 1	26	+ 2	—	—	
Dzhergetal	3.4	29	e 0	57	+ 2	i 1	46	+ 1*	1	35	S
Murgab	4.4	60	i 1	17?	- 1*	e 2	16?	+ 1*	—	—	
Fergana	4.6	26	1	14	+ 2	e 2	20	0*	—	—	
Tashkent	5.0	2	e 1	17?	- 1	—	—	—	—	—	
Andijan	5.1	29	i 1	21	+ 1	e 2	16	- 4	—	—	
Quetta	6.3	196	e 2	35	+ 59	e 2	44	- 6	—	—	
Naryn	7.4	44	e 1	52	0	—	—	—	—	—	
Frunse	7.8	31	i 1	57	- 1	3	23	- 5	—	—	
Rybach'e	8.2	39	i 2	3	0	—	—	—	—	—	
Ashkabad	8.7	284	e 2	24	P*	—	—	—	—	—	
Almata	9.2	38	i 2	17	+ 1	—	—	—	—	—	
Almata II	9.4	40	e 2	20	+ 2	—	—	—	—	—	
Przhevalsk	9.5	47	e 2	21	+ 1	—	—	—	—	—	
Ili	9.8	36	e 2	22	- 2	—	—	—	—	—	
New Delhi	10.3	136	i 2	36	+ 4	e 4	41	+ 11	2	51	PPP
Sempalatinsk	16.3	26	e 3	47	- 5	—	—	—	—	—	
Makhach-Kala	17.9	298	e 4	15	+ 3	—	—	—	—	—	
Grozny	19.2	299	e 4	33	+ 5	—	—	—	—	—	
Piatigorsk	21.3	299	4	52	+ 2	—	—	—	—	—	
Sverdlovsk	21.3	347	e 4	48	- 2	—	—	—	—	—	

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1952

530

June 21d. 16h. 30m. 56s. Epicentre 22°·6S. 68°·8W. Focus at Base of Superficial Layers.  
(as on 1950, Feb. 22d.).

A = +·3342, B = -·8616, C = -·3821;  $\delta = +4$ ;  $h = +4$ ;  
D = -·932, E = -·361; G = -·138, H = +·356, K = -·924.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
		°	°	m. s.	s.	m. s.	s.	m. s.	m.	
Antofagasta	E.	1·8	235	e 0 31	+ 2	(i 0 49)	- 2	i 0 46	?	i 0·8
Copiapo	N.	4·9	196	e 1 23	+10	i 2 35	+25	—	—	—
La Paz		6·1	5	i 1 41 <sub>a</sub>	+11	i 2 51	+11	i 1 52	?	—
Huancayo		12·2	328	e 3 5	+11	e 5 4	- 6	—	—	e 6·2
Bogota		27·5	348	e 5 50	+ 5	e 10 38	+16	—	—	—
Morgantown		62·8	351	i 10 24	0	—	—	—	—	—
Fayetteville	Z.	63·1	337	i 10 25	- 1	i 10 41	sP	i 10 35	pP	—
Weston		64·7	358	i 10 39 <sub>a</sub>	+ 2	—	—	—	—	—
Harvard		64·8	358	i 10 40 <sub>k</sub>	+ 2	—	—	i 10 51	pP	—
Buffalo (Larkin)		65·8	352	i 10 45	+ 1	—	—	—	—	—
Tucson		67·7	322	i 10 55	- 1	—	—	—	—	—
Kirkland Lake	Z.	71·1	352	e 11 18 <sub>a</sub>	+ 1	—	—	—	—	—
Palomar	Z.	72·1	319	e 11 22	- 1	—	—	e 11 32	pP	—
Boulder City		72·7	322	i 11 27	+ 1	—	—	i 11 38	pP	—
Riverside	Z.	72·8	319	i 11 27	0	—	—	i 11 39	pP	—
Pasadena	Z.	73·4	319	i 11 31	+ 1	—	—	i 11 42	pP	—
China Lake	Z.	74·2	321	i 11 35	0	—	—	i 11 46	pP	—
Tinemaha	Z.	75·5	321	e 12 0	pP	—	—	—	—	—
Fresno	Z.	76·1	320	e 11 56	pP	—	—	—	—	—
Lick	Z.	77·6	319	e 11 50	- 4	—	—	i 12 6	pP	—
Reno	Z.	78·0	322	e 11 58	+ 1	—	—	e 12 10	pP	—
Butte		79·0	331	i 12 3	+ 1	—	—	i 12 14	pP	—
Mineral	Z.	79·6	322	e 12 5	0	—	—	e 12 16	pP	—
Tamanrasset	Z.	85·2	63	e 12 46	pP	i 12 58	sP	e 16 1	PP	—
Apia		96·4	252	—	—	i 23 36	[-24]	—	—	—

June 22d. 3h. 32m. 37s. Epicentre 27°·0S. 177°·0W. Focus at Base of Superficial Layers.  
(as on 1952, April 22d.).

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
		°	°	m. s.	s.	m. s.	s.	m. s.	m.	
Apia		14·0	21	(e 3 23?)	+ 5	e 3 23?	P	—	—	—
Wellington	Z.	15·8	203	e 3 40	- 2	6 19	-17	—	—	—
Cobb River	E.	16·4	208	e 4 21	+32	e 6 39	-10	—	—	—
Kaimata	N.E.	18·2	208	e 4 23	PP	e 7 24	- 7	e 7 36	S	—
Christchurch		18·5	204	e 4 14	- 1	e 7 36	- 1	—	—	e 9·4
Brisbane	Z.	26·6	261	i 5 41	+ 4	i 5 59	sP	i 5 53	pP	—
Riverview		28·2	247	i 5 55	+ 3	—	—	—	—	e 13·8
Berkeley		82·4	41	e 12 20 <sub>a</sub>	0	e 22 39	+ 6	e 12 27	pP	—
Lick	Z.	82·4	41	i 12 20 <sub>a</sub>	0	i 12 33	sP	i 12 27	pP	—
Pasadena		82·5	46	i 12 20	- 1	—	—	i 12 26	pP	—
Palomar	Z.	82·8	47	i 12 20	- 2	—	—	i 12 32	pP	—
Riverside	Z.	82·9	46	e 12 22	- 1	—	—	i 12 35	pP	—
Fresno	Z.	83·2	43	e 12 24 <sub>a</sub>	0	—	—	—	—	—
China Lake	Z.	83·9	44	i 12 27	- 1	i 12 34	?	i 12 41	pP	—
Shasta		84·3	38	i 12 29	- 1	—	—	—	—	—
Tinemaha		84·3	43	e 12 29	- 1	i 12 37	?	i 12 42	pP	—
Mineral	Z.	84·5	39	e 12 30 <sub>a</sub>	- 1	—	—	e 12 37	pP	—
Reno	Z.	85·0	40	e 12 23 <sub>a</sub>	-10	—	—	—	—	—
Boulder City		85·8	45	i 12 38	+ 1	—	—	—	—	—
Tucson		86·2	50	i 12 39	0	—	—	i 12 52	pP	—
Seattle		89·1	33	i 12 54	+ 1	—	—	—	—	—
Victoria		89·1	32	i 12 52	- 1	—	—	—	—	—
Butte		93·2	39	i 13 11	- 1	—	—	—	—	—
College		94·3	11	i 13 17	0	(e 23 25) [-23]	—	—	—	e 23·4
Fayetteville	Z.	100·0	55	e 13 45	+ 2	—	—	e 17 31	PP	—

Continued on next page.



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1952

531

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Kimberley	z.	120.8	202	i 18 50 <sub>a</sub>	[+ 1]	—	—	—	—
Kiruna		137.8	350	i 19 20	[- 1]	—	—	i 19 32	pPKP <sub>2</sub> e 76.4
Upsala	z.	145.6	347	i 19 35 <sub>a</sub>	[ - 0]	—	—	i 19 40	PKP <sub>2</sub>
Copenhagen		150.5	349	e 19 48	[+ 5]	—	—	i 20 2	PKP <sub>2</sub>
Ksara		150.9	291	19 54	[+11]	—	—	23 36 <sub>f</sub>	PP
Collnberg	z.	154.6	345	e 19 53	[+ 4]	e 19 57	?	e 20 26	PKP <sub>2</sub>
Jena		155.2	346	e 19 49	[ 0]	e 23 54	PP	e 19 59	pPKP
Prague		155.4	342	e 20 11	PKP <sub>2</sub>	e 20 32	?	e 22 34	?
Stuttgart		157.7	349	e 19 52	[- 1]	e 31 3	SKKS	e 20 25	PKP <sub>2</sub>
Paris		158.2	1	e 29 37	?	—	—	i 29 57	?
									e 86.4
Triest		159.5	340	e 19 53	[- 2]	e 34 22	PSKS	e 21 24	?
Clermont-Ferrand		161.3	0	e 25 25	?	e 27 9	[+12]	—	—
Rome		163.2	335	—	—	e 51 48	SSS	—	—
Tamanrasset	z.	175.2	209	i 20 8 <sub>k</sub>	[+ 2]	e 25 41	PP	e 20 31	rPKP

June 22d. 4h. 7m. 56s. Epicentre 1°·5S. 80°·5W.

Epicentre suggested by U.S.C.G.S.

A = +.1650, B = -.9860, C = -.0260;  $\delta$  = +10;  $h$  = +7;  
D = -.986, E = -.165; G = -.004, H = +.026, K = -1.000.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Chinchina		8.1	37	i 1 54	- 8	i 3 34	- 1	—	—
Bogota		8.8	46	i 2 12	+ 1	i 3 52	- 1	i 4 25	S*
Balboa Heights		10.4	5	i 2 37	+ 3	—	—	—	—
Huancayo		11.7	154	i 2 52	+ 1	i 5 5	+ 1	—	i 5.8
La Paz		19.2	140	i 4 31 <sub>k</sub>	+ 3	8 10	+11	i 4 50	PP
Fayetteville	z.	39.5	343	i 7 34	0	c 7 50	sP	i 7 45	pP
Morgantown		40.9	1	i 7 45	- 1	—	—	—	—
Tucson		44.2	322	i 8 14	+ 2	—	—	—	—
Harvard		44.5	10	i 8 16 <sub>a</sub>	+ 1	—	—	—	—
Weston		44.5	10	i 8 16 <sub>k</sub>	+ 1	—	—	—	e 21.6
Ottawa		46.9	5	i 8 30	- 4	—	—	—	—
Shawinigan Falls	N.	48.3	8	e 8 45	0	—	—	—	—
Palomar	z.	48.7	319	e 8 48	0	—	—	e 9 13	?
Boulder City		49.1	323	e 8 53	+ 2	—	—	—	—
Kirkland Lake	z.	49.4	1	e 8 52	- 1	—	—	—	—
Riverside	z.	49.5	319	e 8 56	+ 2	—	—	—	—
Pasadena	z.	50.1	319	e 8 59	0	—	—	—	—
China Lake	z.	50.7	322	e 9 6	+ 3	—	—	e 9 19	?
Tinemaha	z.	51.9	322	e 9 14	+ 2	—	—	—	—
Lick	z.	54.2	320	e 9 32	+ 3	—	—	—	—
Reno	z.	54.4	324	e 9 33	+ 2	—	—	—	—
Butte		55.1	334	e 9 36	0	—	—	—	—
Mineral	z.	56.0	323	e 9 43	0	—	—	—	—
Victoria		62.1	330	10 26	+ 1	—	—	—	—
Tamanrasset	z.	86.9	67	e 12 49	+ 1	e 13 1	?	e 13 27	?

June 22d. 5h. 44m. 9s. Epicentre 39°·3N. 74°·7E. (as on 1952, April 19d.).

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Murgab		1.1	212	e 0 27	+ 5	e 0 45	+ 6	—	—
Andijan		2.3	307	i 0 41	+ 1	i 1 9	0	e 1 18	S <sub>g</sub>
Naryn		2.4	25	i 0 42	+ 1	i 1 11	- 1	—	—
Fergana		2.5	296	e 0 44	+ 1	i 1 15	+ 1	—	—
Dzhergetal		2.7	268	e 0 50	+ 1*	e 1 28	- 1 <sub>g</sub>	—	—
Khorog		3.0	233	i 0 59	- 1 <sub>g</sub>	—	—	—	—
Rybach'e		3.3	17	i 0 55	+ 2	i 1 40	- 2	—	—
Garm		3.4	267	i 0 58	+ 3	i 1 56	+ 4 <sub>g</sub>	—	—
Frunse		3.6	359	i 0 59	+ 1	i 1 47	- 4*	—	—
Obi-garm		3.9	263	e 1 7	- 3*	e 2 16	+ 7 <sub>g</sub>	—	—

Continued on next page.

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1952

532

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Kulyab		4.1	252	1 10	- 3*	e 2 22	+ 6 <sub>g</sub>	—	—
Przhevalsk		4.2	40	i 1 10	+ 3	i 2 15	- 4 <sub>g</sub>	—	—
Almata		4.3	22	i 1 11	+ 3	i 2 9	- 3*	i 1 17	P*
Almata II		4.4	25	1 11	+ 1	e 2 24	- 1 <sub>g</sub>	—	—
Tashkent		4.6	298	e 1 12	0	i 2 21	+ 1*	i 2 30	S <sub>g</sub>
Stalinabad		4.7	262	i 1 17	+ 3	i 2 29	- 6 <sub>g</sub>	—	—
Chilisk		5.1	32	i 1 21	+ 1	—	—	—	—
Quetta		11.1	217	—	—	e 5 5	SS	—	—
Semipalatinsk		11.8	18	e 2 49	- 4	—	—	—	—
Kizyl-Arvat		14.3	275	e 3 30	+ 4	e 6 2	- 4	—	—
Sverdlovsk		19.8	337	4 31	- 4	—	—	—	—
Makhach-Kala		20.8	289	e 4 45	0	—	—	—	—
Grozny		22.1	290	e 4 57	- 2	—	—	—	—
Piatigorsk		24.0	292	5 5	-12	—	—	—	—
Kiruna		40.9	332	i 7 42	- 4	—	—	—	e 21.8
Collnberg	z.	43.8	307	e 8 6	- 3	—	—	—	—
Jena	z.	44.7	307	e 8 15	- 1	—	—	—	—
Stuttgart		46.7	304	e 8 30	- 2	—	—	—	—
Strasbourg		47.7	304	e 8 41	+ 1	—	—	—	—
Tamanrasset	z.	60.2	276	e 9 39	-33	—	—	—	—

June 22d. 10h. 8m. 13s. Epicentre 46°·7N. 153°·7E. (as on 21d.).

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Kurilsk		4.3	252	1 12	+ 4	2 4	+ 4	—	—
Nemuro		6.6	243	e 1 43	+ 2	e 2 57	- 1	—	—
Abashiri		7.2	251	e 1 45	- 4	3 9	- 4	—	—
Petropavlovsk		7.2	25	1 50	+ 1	3 13	0	—	—
Yuzno-Sakhlinsk		7.5	276	1 58	+ 5	e 3 34?	SS	—	—
Kusiro		7.6	244	e 1 56	+ 1	i 3 22	- 1	—	—
Ulegorsk		8.2	291	2 7	+ 4	3 47	SS	—	—
Urakawa		9.0	244	e 2 17	+ 4	e 3 58	0	i 2 32	PP
Sapporo		9.5	252	e 2 24	+ 4	e 4 21	SS	e 4 30	SSS
Mori		10.5	249	e 2 38	+ 3	e 3 55	-40	—	—
Mizusawa		11.9	235	3 3	PP	5 2	- 7	4 59	S
Sendai		12.6	233	e 3 1	- 2	5 23	- 3	—	8.4
Utunomiya		14.5	230	e 3 27	- 1	e 6 9	- 2	—	—
Kumagaya		15.0	231	e 3 34	- 1	e 6 28	+ 5	—	—
Matusiro		15.4	234	i 3 40	0	6 31	- 1	—	e 7.3
Vladivostok		15.8	265	3 48	+ 3	6 41	- 1	—	—
Osima		16.1	227	e 3 55	+ 6	e 6 56	+ 7	—	—
Nanking		30.4	254	i 6 18 <sub>a</sub>	+ 2	i 11 15	- 1	—	—
Kabansk		30.7	299	e 6 17	- 2	e 11 13	- 8	—	—
Irkutsk		32.0	299	e 6 25	- 5	—	—	—	—
College		35.9	37	i 7 4	0	12 39	- 3	—	e 14.2
Sitka		43.0	78	i 8 8	+ 5	e 14 35	+ 6	—	—
Resolute Bay		50.8	18	i 9 3	- 1	e 16 20	0	e 11 8	PP
Ili		51.9	297	i 9 11	- 1	—	—	—	e 24.8
Przhevalsk		51.9	295	i 9 13	+ 1	—	—	—	—
Almata II		52.1	296	e 9 14	0	—	—	—	—
Almata		52.4	296	i 9 15	- 1	—	—	—	—
Victoria		53.2	55	11 23	PP	—	—	—	—
Rybach'e		53.3	295	i 9 22	- 1	—	—	—	—
Naryn		53.9	294	e 9 28	+ 1	—	—	—	—
Frunse		54.0	297	i 9 28	0	—	—	—	—
Sverdlovsk		54.1	317	i 9 28	- 1	17 0	- 5	—	—
Seattle		54.3	55	e 9 32	+ 2	i 17 11	+ 4	i 10 34	PcP
Corvallis	z.	55.4	60	e 9 40	+ 2	—	—	—	—
Andijan		56.6	295	9 47	0	—	—	—	—

Continued on next page.

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1952

533

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
	<sup>o</sup>	<sup>a</sup>	m.	s.	s.	m.	s.	s.	m.	s.	m.
Murgab	57.0	292	e 9	50?	0	—	—	—	—	—	—
Fergana	57.2	295	9	49	- 2	e 17	43	- 3	—	—	—
Tashkent	58.1	298	i 9	55	- 3	—	—	—	—	—	—
Dzhergetal	58.2	295	i 9	59	+ 1	—	—	—	—	—	—
Shasta	58.2	62	e 9	59	+ 1	—	—	—	—	—	—
Hungry Horse	58.5	51	e 10	2	+ 2	—	—	—	—	—	—
Mineral	58.9	62	e 10	0 <sub>a</sub>	- 3	—	—	—	—	—	—
Khorog	59.0	293	e 9	52?	- 12	—	—	—	—	—	—
Obi-garm	59.5	295	i 10	8	+ 1	—	—	—	—	—	—
Kulyab	59.9	294	i 10	12	+ 2	—	—	—	—	—	—
Berkeley	60.0	65	e 10	15 <sub>a</sub>	+ 4	e 18	25	+ 2	—	—	—
Stalinabad	60.1	296	i 10	9	- 2	i 18	17	- 7	—	—	—
Kiruna	60.5	340	i 10	12 <sub>a</sub>	- 2	e 18	25	- 4	i 13	59	PPP e 27.8
Reno	60.5	61	e 10	19	+ 5	—	—	—	—	—	—
Santa Clara	60.5	65	—	—	—	e 18	33	+ 4	e 25	29	? e 30.2
Butte	60.7	52	e 10	15	0	—	—	—	—	—	—
New Delhi	60.9	282	10	16	- 1	e 18	28	- 6	—	—	—
Fresno	62.2	64	e 10	30	+ 4	—	—	—	—	—	—
Tinemaha	63.0	63	e 10	33	+ 2	—	—	—	e 10	50	? e 30.8
Scoresby Sund	63.1	358	i 10	31	- 1	i 19	4	+ 2	e 13	0	PP
China Lake	64.2	63	e 10	39	0	i 10	42	P	e 11	5	PcP
Pulkovo	64.3	332	i 10	37	- 2	e 19	14	- 3	—	—	—
Moscow	64.7	326	10	41	- 1	—	—	—	—	—	—
Pasadena	64.9	66	i 10	45	+ 2	i 19	25	+ 1	—	—	e 26.9
Riverside	65.5	66	e 10	51	+ 4	—	—	—	e 11	14	PcP
Boulder City	65.8	62	i 10	51	+ 2	—	—	—	i 10	54	? e 32.8
Palomar	66.3	65	e 10	56	+ 4	—	—	—	—	—	—
Ashkabad	66.8	301	i 10	57	+ 1	—	—	—	—	—	—
Kizyl-Arvat	67.3	303	i 10	59	0	—	—	—	—	—	—
Upsala	67.9	338	i 11	2 <sub>a</sub>	0	e 19	51	- 10	e 11	31	PcP
Makhach-Kala	69.4	311	i 11	12	0	—	—	—	—	—	—
Baku	69.9	308	i 11	17	+ 2	e 20	27	+ 3	—	—	—
Grozny	70.1	312	i 11	15	- 1	—	—	—	—	—	—
Bombay	70.3	277	e 11	27	+ 10	e 20	39	+ 10	e 21	26	ScS
Shemakla	70.5	309	i 11	20	+ 2	—	—	—	—	—	—
Tucson	70.8	62	e 11	21	+ 1	e 20	37	+ 2	e 14	2	PP
Platigorsk	70.9	314	11	23	+ 2	—	—	—	—	—	—
Kirovobad	71.6	310	i 11	26	+ 1	—	—	—	—	—	—
Tiflis	71.7	312	i 11	26	0	—	—	—	—	—	—
Lenkoran	71.7	307	11	26	0	20	47	+ 2	—	—	—
Gori	71.9	312	11	27	0	—	—	—	—	—	—
Borzhomi	72.3	312	11	29	0	—	—	—	—	—	—
Goris	72.5	308	i 11	32?	+ 2	i 20	50?	- 4	—	—	—
Zugdidi	72.6	314	11	32	+ 1	—	—	—	—	—	—
Abastumanj	72.7	312	11	31	- 1	—	—	—	—	—	—
Sotchi	72.8	316	i 11	30	- 2	e 20	52	- 6	—	—	—
Copenhagen	72.9	338	i 11	33 <sub>a</sub>	0	20	56	- 3	—	—	35.8
Erevan	73.0	310	i 11	35	+ 2	—	—	—	—	—	—
Theodosia	73.7	319	i 11	38?	0	e 21	4?	- 4	—	—	—
Brisbane	73.8	181	e 11	46	+ 8	—	—	—	—	—	—
Lwow	74.4	328	11	43	+ 1	21	17	+ 1	—	—	—
Simferopol	74.4	320	i 11	41	- 1	—	—	—	—	—	—
Kirkland Lake	74.6	34	e 11	42	- 1	—	—	—	—	—	—
Yalta	74.7	319	i 11	43	0	e 21	16	- 3	—	—	—
Kishinev	74.9	325	11	44	0	21	16	- 6	—	—	—
Potsdam	75.7	336	i 11	49	0	i 21	28	- 2	i 22	2	PS e 37.8
Raciborzu	76.2	332	i 11	54 <sub>a</sub>	+ 2	e 21	33	- 3	i 12	4	PcP
Collnberg	76.7	335	11	53	- 2	e 24	53?	?	e 12	3	PcP e 41.8?
Witteveen	76.9	320	i 11	57	+ 1	—	—	—	—	—	—
Jena	77.4	336	i 11	59	+ 1	21	50?	+ 1	12	7	PcP

Continued on next page.

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1952

534

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.	
Prague		77.4	334	e 11 57	- 1	e 21 35?	-14	e 14 54	PP	e 41.3
Fayetteville	z.	77.6	50	i 11 59	- 1	—	—	i 12 7	pP	—
De Bilt		77.9	320	e 12 5	+ 4	e 21 47	- 7	—	—	e 38.8
Ogyalla		78.1	331	e 12 9	PcP	e 13 6	?	e 14 48	PP	—
Budapest		78.2	324	12 3	0	22 5	+ 8	22 20	ScS	e 43.8
Ottawa		78.5	33	e 12 1	- 3	21 51	-10	—	—	—
Shawinigan Falls N.		78.6	30	e 12 6	+ 1	21 55	- 7	—	—	—
Seven Falls	E.	78.8	29	—	—	22 2	- 2	31 5	SSS	36.2
Rathfarnham Castle		78.9	348	e 11 55	-12	e 22 6	+ 1	e 15 22	PP	e 39.8
Timisoara		78.9	328	e 12 11	+ 4	—	—	—	—	—
Kalossa		79.0	330	e 12 12	+ 5	e 22 37	PS	e 12 29	?	—
Cleveland		79.4	39	i 12 10 <sub>a</sub>	+ 1	e 22 8	- 2	—	—	—
Buffalo (Larkin)		79.5	36	i 12 10	0	—	—	—	—	—
Istanbul		79.7	320	e 12 11	0	e 22 13	0	e 15 6	PP	44.8
Kew		79.7	343	i 12 11 <sub>k</sub>	0	i 22 12	- 1	—	—	e 41.8
Belgrade		80.0	328	e 12 13 <sub>a</sub>	0	e 22 15	- 2	—	—	e 51.8
Karlsruhe		80.0	338	e 12 14 <sub>a</sub>	+ 1	e 12 19	PcP	e 15 13	PP	e 46.8
Stuttgart		80.0	337	i 12 13 <sub>a</sub>	0	e 22 15	- 2	i 12 20	PcP	e 38.8
Strasbourg		80.6	338	i 12 17 <sub>a</sub>	+ 1	e 22 19	- 4	i 12 38	pP	e 40.8
Pennsylvania		81.5	37	e 12 20	- 1	e 22 31	- 1	e 12 55	?	—
Triest		81.5	333	e 12 18	- 3	e 22 23?	- 9	—	—	42.5
Zürich		81.5	337	e 12 20 <sub>a</sub>	- 1	—	—	e 12 54	?	—
Morgantown		81.6	39	i 12 21	0	e 22 31	- 2	—	—	—
Paris		81.6	341	i 12 23	+ 2	i 22 31	- 2	i 12 29	PcP	e 41.8
Ksara		82.3	311	i 12 28 <sub>a</sub>	+ 3	24 21	PPPS	—	—	—
Harvard		82.5	31	e 12 27 <sub>a</sub>	+ 1	—	—	—	—	e 39.5
Weston		82.7	31	i 12 28 <sub>k</sub>	+ 1	e 22 41	- 3	—	—	47.8
Palisades		83.0	34	i 12 27	- 1	e 22 37	-10	e 23 5	ScS	e 43.5
City College, N.Y.		83.1	34	e 12 30	+ 1	e 22 52	+ 4	—	—	—
Fordham		83.1	34	e 12 30	+ 1	e 22 50	+ 2	—	—	—
Oropa		83.2	337	e 12 22	- 7	—	—	—	—	—
Bologna		83.3	334	e 12 53	+23	—	—	—	—	—
Pavia		83.3	335	i 12 29 <sub>a</sub>	- 1	e 22 52	+ 2	—	—	e 47.9
Florence		84.0	333	i 12 37 <sub>a</sub>	+ 4	e 23 9	+12	e 13 36	pP	—
Clermont-Ferrand		84.4	339	e 12 36	0	—	—	—	—	44.8
Mobile		84.9	49	i 12 41	+ 3	i 23 7	+ 1	—	—	—
Rome		85.3	331	i 12 41 <sub>a</sub>	+ 1	e 23 6	[+ 3]	e 13 36	pP	—
Messina		87.5	327	i 12 50 <sub>k</sub>	- 1	e 23 32	+ 1	e 13 40	?	—
Helwan	z.	87.7	312	12 52	0	e 13 5	PcP	e 14 12	?	—
Toledo		91.5	343	i 13 10 <sub>k</sub>	0	—	—	e 21 11	?	49.6
Alicante		92.2	340	14 20	+67	23 12	?	29 51	SS	43.0
Granada		94.0	342	e 14 4 <sub>k</sub>	+43	24 34	{+23}	25 58	PS	i 51.3
Almeria		94.1	341	13 56	+34	25 4	+33	26 28	PPS	52.6
Tamanrasset	z.	105.1	329	e 18 29	PP	—	—	—	—	—
Bogota		113.8	54	—	—	e 25 26	[- 1]	e 35 27	SS	e 66.2
La Paz		134.2	63	e 19 23	[+ 3]	—	—	—	—	—

June 22d. 10h. 19m. 14s. Epicentre 10°·0S. 161°·1E. (as on 1950, July 9d.).

A = -·9319, B = +·3191, C = -·1725;  $\delta$  = +2;  $h$  = +7;  
D = +·324, E = +·946; G = +·163, H = -·056, K = -·985.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.	
Brisbane		19.0	202	i 4 22	- 4	i 7 59	+ 4	i 4 37	PP	i 9.3
Riverview		25.4	199	i 5 27 <sub>a</sub>	- 4	i 9 53	- 3	i 6 8	PP	e 11.7
Cobb River	E.	32.6	163	e 6 32	- 3	—	—	—	—	—
Wellington		33.4	162	6 39	- 3	—	—	—	—	e 16.1
Kaimata	N.E.	33.6	165	e 6 46	+ 2	—	—	—	—	—
College		83.8	19	i 12 31	- 1	—	—	i 12 45	pP	—
Berkeley	z.	85.7	50	e 12 47 <sub>a</sub>	+ 5	—	—	—	—	—
Lick	z.	86.1	50	e 12 44 <sub>a</sub>	0	—	—	—	—	—
Shasta		86.4	47	i 12 45	0	—	—	—	—	—
Corvallis	z.	86.9	44	e 12 48	0	—	—	—	—	—

Continued on next page.

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1952

585

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Mineral	z.	86.9	48	e 12 48 <sub>a</sub>	0	—	—	—	—
Pasadena		88.0	54	i 12 52	- 1	—	—	—	e 40.2
Reno		88.0	49	e 12 54 <sub>a</sub>	+ 1	e 23 37	+ 1	—	—
Seattle		88.4	41	i 12 56	+ 1	—	—	—	—
Riverside	z.	88.6	54	i 12 56 <sub>a</sub>	0	—	—	i 13 2	PcP
Tinemaha	z.	88.6	51	i 12 56	0	i 13 3	PcP	i 13 10	?
China Lake	z.	88.8	53	i 12 57	0	i 13 3	PcP	i 13 10	?
Palomar	z.	88.9	56	i 12 57	- 1	—	—	—	—
Boulder City		91.1	53	i 13 8	0	—	—	i 16 43	PP
Tucson		93.6	57	e 13 19	0	—	—	—	—
Butte		94.6	43	e 13 24	0	—	—	—	—
Kiruna	z.	116.7	344	i 18 43	[- 3]	—	—	—	—
Weston		124.1	45	e 19 0 <sub>a</sub>	[- 1]	—	—	—	—
Tamanrasset	z.	153.4	302	e 19 54	[+ 2]	e 20 1	?	e 21 55	?

June 22d. 14h. 48m. 54s. Epicentre 38°·8N. 69°·7E. (as on 1952, Feb. 9d.).

A = +·2711, B = +·7328, C = +·6240;  $\delta$  = -13;  $h$  = -1;  
D = +·938, E = -·347; G = +·217, H = +·585, K = -·781.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Obi-garm		0.1	—	i 0 0	- 2 <sub>g</sub>	—	—	—	—
Garm		0.5	67	i 0 9	- 1 <sub>g</sub>	—	—	—	—
Stalinabad		0.8	251	i 0 14	- 2 <sub>g</sub>	i 0 26	0 <sub>g</sub>	—	—
Dzhergetal		1.2	71	i 0 23	0*	—	—	—	—
Khorog		2.0	132	i 0 34	- 1	1 0	- 2	—	—
Fergana		2.3	45	i 0 41	+ 1	1 12	0*	—	—
Andijan		2.8	46	0 49	+ 2	1 22	0	i 1 33	S <sub>g</sub>
Murgab		3.3	96	0 56	+ 3	—	—	—	—
Frunse		5.5	41	e 1 28	+ 3	—	—	i 1 45	P <sub>g</sub>
Naryn		5.5	60	—	—	3 1	- 1 <sub>g</sub>	2 24	S
Rybach'e		6.1	51	—	—	2 45	0	—	—
Almata		7.0	49	i 1 47	+ 1	i 3 36	+ 4*	i 2 13	P <sub>g</sub>
Almata II		7.3	50	i 1 51	+ 1	—	—	—	—
Ili		7.6	45	e 1 52	- 3	—	—	—	—
Przhevalsk		7.6	58	e 1 55	0	—	—	—	—
Quetta		8.9	195	e 2 40	P*	e 4 45	- 9 <sub>g</sub>	—	—
Ashkabad		9.0	268	e 2 13	0	e 3 48	- 10 <sub>g</sub>	—	—
Kizyl-Arvat		10.5	275	—	—	4 27	- 8	—	—
Semipalatinsk		13.8	29	e 3 15	- 4	—	—	—	—
Kirovobad		18.0	284	4 10	- 3	—	—	—	—
Grozny		18.6	292	i 4 24	+ 3	i 7 55	+ 9	—	—
Tiflis		19.2	287	e 4 29	+ 1	e 8 5	+ 6	—	—
Gori		19.7	287	e 4 34	0	—	—	—	—
Borzhomi		20.3	287	e 4 40	0	—	—	—	—
Piatigorsk		20.6	293	4 42	- 1	—	—	—	—
Upsala	z.	38.6	321	i 7 25	- 1	—	—	i 8 44	PP
Kiruna		39.6	333	i 7 33	- 2	i 9 17	PP	e 19 51	Q e 21.5

June 22d 20h. 55m. 16s. Epicentre 41°·4N. 44°·1E. (as on June 13d.).

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	°	°	m. s.	s.	m. s.	s.
Gori	0.6	1	0 18	+ 3	i 0 29	+ 3
Leninakan	0.6	199	0 12	0 <sub>g</sub>	0 19	- 1 <sub>g</sub>
Tiflis	0.6	59	e 0 18	+ 3	i 0 31	+ 5
Tsikhlis-Dzhvari	0.6	302	i 0 13	0*	i 0 21	0*
Borzhomi	0.7	309	i 0 15	0*	i 0 25	0*
Abastumanj	1.0	290	0 19	- 1 <sub>g</sub>	0 31	- 2 <sub>g</sub>
Kirovobad	1.8	111	0 38	+ 2 <sub>g</sub>	—	—
Zugdidi	2.0	304	e 0 38	+ 1*	1 4	+ 1*
Grozny	2.3	32	—	—	i 1 24	+ 8 <sub>g</sub>
Goris	2.6	138	—	—	1 31	+ 5 <sub>g</sub>



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1952

536

June 22d. 21h. 41m. 53s. Epicentre 46°·7N. 153°·7E. (as at 10h.).

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.
Kurilsk	4·3	252	1	11	+ 3	—	—	—	—	—	—
Nemuro	6·6	243	e 1	40	- 1	e 2	56	- 2	—	—	—
Abashiri	7·2	251	e 1	50	+ 1	3	18	+ 5	—	—	—
Petropavlovsk	7·2	25	1	48	- 1	3	12	- 1	—	—	—
Yuzno-Sakhlinsk	7·5	276	1	58	+ 5	—	—	—	—	—	—
Kusiro	7·6	244	e 1	56	+ 1	i 3	19	- 4	—	—	—
Uglegorsk	8·2	291	2	7	+ 4	—	—	—	—	—	—
Urakawa	9·0	244	e 2	15	+ 2	e 3	59	+ 1	e 2	31	PPP
Sapporo	9·5	252	i 2	21	+ 1	e 4	12	+ 2	e 4	24	SS
Klyuchi	10·6	22	i 2	27?	- 9	4	37?	0	—	—	e 5·7
Hatinohe	10·7	239	e 2	35	- 3	4	33	- 6	—	—	6·8
Morioka	11·5	237	e 2	47	- 1	e 4	50	- 9	—	—	—
Mizusawa	11·9	235	2	55	+ 1	4	58	-11	4	55	S
Sendai	12·6	233	e 3	0	- 3	e 5	29	+ 3	—	—	e 6·0
Yamagata	13·0	234	e 3	7	- 2	e 5	30	- 5	—	—	e 7·0
Hukusima	13·2	232	3	12	+ 1	e 5	37	- 3	—	—	—
Inawasiro	13·6	233	e 3	12	- 5	e 5	41	- 9	(e 12	21)	PcS
Kumagaya	15·0	231	3	34	- 1	e 6	20	- 3	—	—	e 12·4
Tokyo	15·2	229	3	39	+ 1	e 6	33	+ 5	i 6	45	SS
Matusiro	15·4	234	3	39	- 1	6	25	- 7	—	—	e 7·2
Wazima	15·5	239	e 3	44	+ 2	e 6	38	+ 3	—	—	e 7·1
Kohu	15·8	231	e 3	48	+ 3	e 6	39	- 3	—	—	e 7·7
Vladivostok	15·8	265	3	46	+ 1	—	—	—	—	—	—
Shizuoka	16·4	230	3	56	+ 3	6	56	0	e 4	3	PP
Kameyama	17·6	234	4	10	+ 2	7	25	+ 2	7	51	SS
Saigo	18·5	242	e 4	21	+ 2	e 7	43	- 1	—	—	—
Kofu	20·2	236	i 4	40	+ 1	i 8	18	- 3	i 8	48	SS
Zi-ka-wei	29·2	249	i 6	6 <sub>a</sub>	+ 1	—	—	—	—	—	10·2
Nanking	30·4	254	i 6	16	0	—	—	—	—	—	—
Kabansk	30·7	299	6	16	- 3	11	16	- 5	—	—	—
Irkutsk	32·0	299	6	29	- 1	—	—	—	—	—	—
College	35·9	37	7	3	- 1	i 12	41	- 1	—	—	—
Hong Kong	40·1	246	7	39	0	—	—	—	12	24	?
Sitka	43·0	78	e 8	7	+ 4	i 14	35	+ 6	—	—	—
Honolulu	46·6	105	e 8	14	-18	—	—	—	—	—	—
Semipalatinsk	46·9	303	e 8	31	- 3	—	—	—	—	—	—
Resolute Bay	50·8	18	e 9	2 <sub>a</sub>	- 2	e 16	21	+ 1	e 11	2	PP
Kurmenty	51·6	295	i 9	10	0	—	—	—	—	—	e 22·1
Przhevalsk	51·9	295	9	11	- 1	—	—	—	—	—	—
Almata II	52·1	296	i 9	13	- 1	—	—	—	—	—	—
Almata	52·4	296	i 9	15	- 1	—	—	—	—	—	—
Shillong	52·8	270	i 9	19	0	i 16	58	+11	11	24	PP
Victoria	53·2	55	9	22	0	16	55	+ 3	—	—	e 28·7
Rybach'e	53·3	295	i 9	22	- 1	—	—	—	—	—	—
Naryn	53·9	294	i 9	29	+ 2	—	—	—	—	—	—
Frunse	54·0	297	i 9	27	- 1	—	—	—	—	—	—
Sverdlovsk	54·1	317	i 9	29	0	17	9	+ 4	—	—	—
Seattle	54·3	55	i 9	32	+ 2	i 17	10	+ 3	i 10	31	PcP
Murgab	57·0	292	i 9	51	+ 1	e 17	42	- 1	—	—	—
Arcata	57·1	63	e 9	52	+ 2	e 17	47	+ 2	—	—	—
Calcutta	57·2	269	i 9	55	+ 4	i 17	45	- 1	19	43	ScS
Fergana	57·2	295	i 9	50	- 1	—	—	—	—	—	26·5
Tchimkent	57·4	299	i 9	52	- 1	—	—	—	—	—	—
Tashkent	58·1	298	e 9	57	- 1	—	—	—	—	—	—
Shasta	58·2	62	i 9	58	0	—	—	—	—	—	—
Dzhergetal	58·2	295	i 9	57	- 1	18	1	+ 2	—	—	—
Hungry Horse	58·5	51	i 10	1	+ 1	e 18	0	- 3	e 19	46	ScS
Garm	58·9	295	i 10	2	- 1	—	—	—	—	—	—
Mineral	58·9	62	e 10	3 <sub>k</sub>	0	—	—	—	e 10	17	pP
Khorog	59·0	293	i 10	3	- 1	—	—	—	—	—	—

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1952

537

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
		°	°	m. s.	s.	m. s.	s.	m. s.	m.	
Dehra Dun	N.	59.2	283	e 8 19	P	e 16 37	S	e 22 31	SS	e 30.3
Kulyab		59.9	294	i 10 10	0	—	—	—	—	—
Berkeley		60.0	65	e 10 12k	+ 1	e 18 21	- 2	e 14 54	PcS	e 27.9
Saskatoon		60.0	44	10 8	- 3	i 18 19	- 4	i 19 51	ScS	—
Stalinabad		60.1	296	i 10 11	0	i 18 30	+ 6	—	—	—
Kiruna		60.5	340	i 10 12a	- 2	i 18 23	- 6	11 2	PcP	e 28.1
Reno		60.5	61	e 10 14k	0	e 18 31	+ 2	—	—	—
Santa Clara		60.5	65	e 10 16a	+ 2	e 18 7?	- 22	—	—	—
Butte		60.7	52	e 10 16	+ 1	e 18 36	+ 4	—	—	—
Lick	Z.	60.7	65	10 17k	+ 2	e 11 30	?	i 10 29	pP	—
New Delhi	N.	60.9	282	i 10 13	- 4	18 29	- 5	14 59	PcS	—
Bozeman		61.2	52	e 10 25	+ 6	i 18 46	+ 8	—	—	—
Fresno		62.2	64	e 10 27k	+ 1	e 18 52	+ 1	e 10 39	pP	—
Tinemaha		63.0	63	e 10 33	+ 2	i 18 58	- 3	—	—	—
Scoresby Sund		63.1	358	i 10 30a	- 2	i 19 0	- 2	i 23 6	SS	28.6
China Lake	Z.	64.2	63	e 10 38	- 1	e 19 25	+ 9	e 39 29	P'P'	—
Pulkovo		64.3	332	i 10 37	- 2	i 19 15	- 2	—	—	—
Moscow		64.7	326	10 40	- 2	—	—	—	—	—
Pasadena		64.9	66	i 10 34	- 9	i 19 23	- 1	e 39 27	P'P'	—
Riverside	Z.	65.5	66	e 10 47	0	e 13 29	PP	e 39 32	P'P'	—
Helsinki		65.6	335	e 10 46	- 2	19 26	- 7	e 13 10	PP	—
Boulder City		65.8	62	i 10 50	+ 1	e 19 36	+ 1	—	—	—
Palomar		66.3	65	i 10 52	0	i 19 37	- 5	i 11 1	?	—
Quetta		66.6	289	i 10 53	- 1	i 19 44	- 1	i 15 24	PcS	35.1
Ashkabad		66.8	301	i 10 56	0	e 19 51	+ 3	—	—	—
Djakarta		67.0	232	e 10 56	- 1	e 19 50	0	—	—	—
Bandong	N.	67.2	230	e 10 53	- 5	e 19 53	+ 1	—	—	—
Kizyl-Arvat		67.3	303	i 10 58	- 1	19 55	+ 1	—	—	—
Hyderabad	N.	67.5	272	11 0	0	19 57	+ 1	13 37	PP	31.8
Apia		67.7	142	e 17 32	?	e 18 47	?	—	—	e 20.1
Upsala		67.9	338	i 11 2a	0	i 19 57	- 4	i 11 29	PcP	e 32.1
Makhach-Kala		69.4	311	i 11 11	- 1	—	—	—	—	—
Reykjavik		69.4	358	e 11 12	0	e 21 37	ScS	e 15 21	PPP	e 37.6
Baku		69.9	308	i 11 17	+ 2	—	—	—	—	—
Poona		69.9	276	i 11 17	+ 2	i 20 23	- 1	24 57	SS	32.4
Grozny		70.1	312	11 15	- 1	—	—	—	—	—
Bergen		70.2	344	i 11 7	- 10	e 20 27	- 1	e 11 36	PcP	i 33.2
Bombay		70.3	277	i 11 18	+ 1	i 20 33	+ 4	14 1	PP	33.1
Shemakla		70.5	309	i 11 21	+ 3	—	—	—	—	—
Tucson		70.8	62	i 11 20	0	i 21 18	PPS	—	—	—
Piatigorsk		70.9	314	11 21	0	20 37	+ 1	—	—	—
Kirovobad		71.6	310	i 11 25	0	—	—	—	—	—
Tiflis		71.7	312	i 11 26	0	e 20 43	- 2	—	—	—
Lenkoran		71.7	307	i 11 25	- 1	—	—	—	—	—
Gori		71.9	312	e 11 28	+ 1	—	—	—	—	—
Borzhomi		72.3	312	11 27	- 2	—	—	—	—	—
Goris		72.5	308	i 11 34	+ 4	i 20 58	+ 4	—	—	—
Zugdidi		72.6	314	11 33	+ 2	—	—	—	—	—
Abastumanj		72.7	312	e 11 32	0	—	—	—	—	—
Sotchi		72.8	316	i 11 28	- 4	e 20 52	- 6	—	—	—
Copenhagen		72.9	338	i 11 32a	- 1	20 56	- 3	21 35	PPS	34.1
Leninakan		72.9	311	i 11 37?	+ 4	—	—	—	—	—
Erevan		73.0	310	i 11 33	0	—	—	—	—	—
Kodaikanal	E.	73.2	268	i 11 35	0	i 21 8	+ 6	14 20	PP	34.5
Theodosia		73.7	319	e 11 38	0	21 7	- 1	—	—	—
Brisbane		73.8	181	i 11 39	+ 1	i 21 12	+ 3	i 25 57	SS	—
Colombo	E.	73.9	263	12 7	PcP	21 35	ScS	—	—	45.4
Lwow		74.4	328	i 11 41	- 1	i 21 14	- 2	—	—	—
Simferopol		74.4	320	i 11 41	- 1	—	—	—	—	—
Aberdeen		74.5	347	i 11 39	- 3	i 21 15	- 2	i 14 31	PP	40.0
Kirkland Lake	Z.	74.6	34	e 11 42a	- 1	—	—	—	—	—
Yalta		74.7	319	i 11 42	- 1	e 21 19	0	—	—	—
Kishinev		74.9	325	11 43	- 1	21 16	- 6	—	—	—
Cernauti		75.0	326	11 45	0	21 22	- 1	—	—	—
Lubbock		75.2	56	11 48	+ 2	21 27	+ 2	—	—	—

Continued on next page.

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1952

538

	$\Delta$	Az.	P.	O - C.	S.	O - C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Iasi	75.3	326	e 11 47	0	e 21 22	- 4	—	—
Potsdam	75.7	336	i 11 48 <sub>a</sub>	- 1	i 21 30	0	i 22 20	PPS e 37.1
Edinburgh	75.9	347	—	—	21 33	+ 1	22 3	ScS —
Bacau	76.1	326	e 11 52	+ 1	e 21 34	- 1	—	—
Raciborzu	76.2	332	i 11 52 <sub>a</sub>	0	e 21 34	- 2	12 6	PcP e 36.1
Chicago	76.4	43	e 11 55	+ 2	e 21 35	- 3	—	—
Collmborg	76.7	335	e 11 52	- 3	e 21 40	- 1	e 14 33	PP e 35.1
Durham	76.8	346	i 11 55	0	i 21 40	- 2	i 14 48	PP —
Witteveen	76.9	320	i 11 57	+ 1	—	—	—	—
Jena	77.4	336	i 11 57	- 1	e 21 44	- 5	i 12 4	PcP e 36.6
Prague	77.4	334	e 11 57 <sub>a</sub>	- 1	i 21 53	+ 4	i 12 5	PcP e 40.1
Fayetteville	77.6	50	i 11 57	- 3	i 12 12	PcP	i 12 21	? —
St. Louis	77.6	46	e 11 58	- 2	i 21 46	- 5	—	—
De Bilt	77.9	320	i 12 1 <sub>a</sub>	0	i 21 56	+ 2	i 15 4	PP e 40.1
Cheb	78.0	336	12 3	+ 1	21 53	- 2	e 26 29	SS e 35.6
Ogyalla	78.1	331	e 12 3?	+ 1	e 21 55	- 1	e 27 9	SS e 40.6
Bucharest	78.2	324	e 12 6	+ 3	e 21 56	- 1	e 22 58	PPS 37.1
Budapest	78.2	330	12 4	+ 1	21 59	+ 2	15 4	PP 38.6
Vienna	78.4	333	e 12 3	- 1	e 22 3	+ 3	e 15 8	PP —
Ottawa	78.5	33	i 12 2	- 2	21 55	- 6	15 7	PP 42.8
Shawinigan Falls N.	78.6	30	e 12 6	+ 1	21 57	- 5	15 11	PP 44.6
Seven Falls	78.8	29	e 12 13	+ 7	22 4	0	27 13	SS 35.2
Rathfarnham Castle	78.9	340	e 12 6	- 1	e 22 3	- 2	e 22 51	PS e 37.6
Szeged	78.9	329	12 7	0	21 59	- 6	22 47	PS e 38.6
Timisoara	78.9	328	e 12 10	+ 3	i 22 6	+ 1	e 15 4	PP e 40.1
Kalossa	79.0	330	e 12 11	+ 4	e 22 5	- 1	12 15	PcP e 37.6
Cleveland	79.4	39	i 12 10 <sub>a</sub>	+ 1	i 22 6	- 4	e 15 14	PP —
Buffalo (Larkin)	79.5	36	e 12 10	0	e 22 7	- 4	—	—
Istanbul	79.7	320	i 12 11	0	e 22 13	0	e 28 7	SS 36.1
Kew	79.7	343	i 12 11 <sub>a</sub>	0	i 22 12	- 1	e 27 14	SS e 33.1
Belgrade	80.0	328	e 12 14 <sub>k</sub>	+ 1	i 22 15	- 2	e 15 18	PP e 45.3
Cincinnati	80.0	42	i 12 12	- 1	i 22 12	- 5	—	—
Karlsruhe	80.0	338	i 12 14	+ 1	i 22 20	+ 3	i 12 19	PcP e 37.1
Stuttgart	80.0	337	i 12 13 <sub>a</sub>	0	i 22 16	- 1	i 12 19	PcP e 38.1
Riverview	80.2	182	i 12 18 <sub>k</sub>	+ 4	i 22 15	- 4	i 23 6	PS e 33.5
Strasbourg	80.6	338	i 12 15 <sub>a</sub>	- 1	i 22 24	+ 1	i 23 7	PS e 37.1
Sofia	80.7	325	12 19	+ 3	22 24	0	e 13 19	? —
Pennsylvania	81.5	37	i 12 23	+ 2	e 22 34	+ 2	e 15 20	PP —
Triest	81.5	333	i 12 17 <sub>a</sub>	- 4	i 22 28	- 4	i 23 26	PS 45.0
Zürich	81.5	337	e 12 20 <sub>a</sub>	- 1	e 22 32	0	e 15 23	PP —
Paris	81.6	341	i 12 22	+ 1	i 22 33	0	i 22 45	ScS i 39.3
Chur	81.7	335	e 12 23	+ 1	e 22 38	+ 4	e 12 28	PcP —
Jersey	82.2	344	e 12 27	+ 3	e 22 39	0	—	— 43.1
Neuchatel	82.2	337	e 12 24	0	e 22 37	- 2	—	—
Ksara	82.3	311	i 12 27 <sub>a</sub>	+ 2	22 47	+ 7	—	—
Harvard	82.5	31	i 12 25	- 1	i 22 40	- 2	e 15 44	PP e 31.8
Salo	82.5	334	e 12 30	+ 4	e 22 45	+ 3	e 12 40	? —
Weston	82.7	31	e 12 26 <sub>a</sub>	- 1	i 22 42	- 2	—	—
Palisades	83.0	34	i 12 27 <sub>a</sub>	- 1	i 22 45	- 2	i 15 39	PP e 43.1
City College, N.Y.	83.1	34	e 12 28	- 1	e 22 42	- 6	—	—
Padova	83.1	333	e 12 28	- 1	22 38	-10	—	—
Fordham	83.1	34	e 12 28	- 1	e 22 41	- 7	—	—
Oropa	83.2	337	e 12 26	- 3	e 23 3	ScS	e 13 2	? 40.1
Bologna	83.3	334	e 12 32 <sub>a</sub>	+ 2	e 22 55	+ 5	e 12 38	PcP —
Pavia	83.3	335	i 12 31 <sub>a</sub>	+ 1	i 23 51	PS	e 15 43	PP e 42.4
Prato	83.9	333	e 12 35	+ 2	i 22 42	-14	—	—
Florence	84.0	333	e 12 28	- 5	e 23 9	ScS	i 13 19	pP —
Clermont-Ferrand	84.4	339	i 12 34	- 2	i 23 15	ScS	i 13 14	pP 41.1
Athens	84.5	322	e 12 33	- 3	i 22 58	- 4	i 23 58	PS —
Mobile	84.9	49	12 41	+ 3	22 59	- 7	—	—
Taranto	84.9	328	12 53	PcP	22 11	-55	15 9	? 43.6
Auckland	85.3	163	13 7?	+27	—	—	—	—
Rocca di Papa	85.3	331	e 12 40	0	e 23 9	- 1	—	—
Rome	85.3	331	i 12 39 <sub>a</sub>	- 1	i 23 7	- 3	13 10	pP e 40.1
Perth	85.4	211	—	—	i 23 7	[+4]	i 28 9	? i 36.3

Continued on next page.

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1952

539

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.	
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.	
Messina	87.5	327	e 12	50k	- 1	e 23	11	[- 6]	i 13	25	pP	—
Helwan	87.7	312	i 12	51a	- 1	23	22	[+ 3]	23	36	S	—
Barcelona	88.7	339	e 12	55	- 2	23	42	- 1	24	52	PS	e 45.4
Tortosa	89.6	339	i 13	4	+ 3	i 24	54	PS	—	—	—	—
Wellington	89.6	164	13	13	+12	e 23	52	+ 1	i 23	24	SKS	37.1
Christchurch	91.4	167	e 13	15	+ 6	i 23	39	[- 2]	e 16	34	PP	e 38.1
Toledo	91.5	343	e 13	8	- 2	e 23	45	[+ 3]	16	47	PP	44.0
Coimbra	92.0	346	—	—	—	24	25	+13	43	7	Q	48.0
Alicante	92.2	340	13	17	+ 4	e 23	49	[+ 3]	16	55	PP	43.2
Algiers Univ.	92.8	337	e 13	16	0	—	—	—	e 16	33	PP	—
Miami	92.8	47	16	29	PP	e 23	59	(- 3)	—	—	—	—
Lisbon	93.6	347	13	17k	- 2	23	56	[+ 3]	30	46	SS	46.9
Bermuda	94.0	32	i 13	21	0	e 24	28	- 2	i 17	7	PP	—
Bermuda (Navy)	94.0	32	e 13	28	+ 7	i 24	28	- 2	—	—	—	—
Granada	94.0	342	i 13	22a	+ 1	i 23	57	[+ 1]	13	45	pP	i 47.5
Almeria	94.4	341	i 13	22	0	i 24	32	+ 1	23	54	SKS	43.9
Malaga	94.7	342	i 13	25	+ 1	i 24	37	+ 1	19	15	PPP	54.4
Angra do Heroismo	95.1	1	i 13	23	- 3	i 24	50	+11	—	—	—	i 37.1
Guantanamo Bay	100.5	46	e 14	23	+32	—	—	—	—	—	—	—
Tamanrasset	105.1	329	i 14	13a	+ 2	e 18	22	PP	20	47	PPP	—
Fort de France	111.3	36	e 19	17	PP	e 28	47	PS	—	—	—	—
Chinchina	112.6	55	e 19	23	PP	e 25	11	[-12]	e 29	7	PS	49.1
Bogota	113.8	54	i 19	41	PP	i 35	28	SS	—	—	—	—
Huancayo	126.3	66	e 19	9	[+ 4]	e 27	55	(- 1)	21	4	PP	e 50.1
Pretoria	132.4	277	e 19	18?	[+ 1]	—	—	—	—	—	—	—
Pietermaritzburg	133.3	271	i 19	2	[-16]	—	—	—	—	—	—	—
La Paz	134.2	63	i 19	23a	[+ 3]	26	27	[- 2]	i 21	55	PP	65.8
Kimberley	136.6	276	e 19	17	[- 7]	—	—	—	—	—	—	—
Grahamstown	138.1	270	e 19	6	[-21]	—	—	—	—	—	—	e 73.6
La Plata	153.5	74	20	7	[+14]	30	37	{ 0}	34	13	SKSP	72.1

June 22d. 22h. 0m. 4s. Epicentre 46°·7N. 153°·7E. (as at 21h.).

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.	
	°	°	m.	s.	s.	m.	s.	s.	m.	s.
Mizusawa	E. 11.9	235	e 3	10	+16	e 4	5	?	—	—
College	35.9	37	i 7	3	- 1	—	—	—	—	—
Shasta	58.2	62	i 9	58	0	e 21	5	?	—	—
Hungry Horse	58.5	51	e 10	10	+10	—	—	—	—	—
Mineral	z. 58.9	62	e 10	3a	0	—	—	—	—	—
Kiruna	60.5	340	i 10	13a	- 1	—	—	—	—	—
Reno	z. 60.5	61	e 10	15a	+ 1	—	—	—	e 10	25
Butte	60.7	52	i 10	16	+ 1	—	—	—	e 10	26
Lick	z. 60.7	65	e 10	18a	+ 3	—	—	—	e 10	27
Fresno	z. 62.2	64	e 10	26a	0	—	—	—	e 10	37
Tinemaha	z. 63.0	63	e 10	33	+ 2	—	—	—	i 10	43
Scoresby Sund	63.1	358	e 10	30	- 2	—	—	—	—	—
China Lake	z. 64.2	63	e 10	39	0	e 11	9	PcP	i 10	51
Pasadena	z. 64.9	66	i 10	43	0	—	—	—	i 10	54
Riverside	z. 65.5	66	e 10	54	+ 7	—	—	—	—	—
Boulder City	65.8	62	e 10	50	+ 1	—	—	—	i 11	1
Palomar	z. 66.3	65	e 10	53	+ 1	—	—	—	i 11	3
Upsala	67.9	338	i 11	2a	0	i 21	11	?	i 11	15
Reykjavik	z. 69.4	358	i 11	14k	+ 2	—	—	—	—	—
Tucson	70.8	62	e 11	19	- 1	—	—	—	—	—
Copenhagen	72.9	338	i 11	33a	0	—	—	—	—	—
Kirkland Lake	z. 74.6	34	e 11	42	- 1	—	—	—	—	—
Potsdam	z. 75.7	336	i 11	50	+ 1	—	—	—	—	—
Raciborzu	76.2	332	e 11	56	+ 4	e 12	3	PcP	e 13	53
Collnberg	z. 76.7	335	e 11	54	- 1	e 12	0	PcP	e 24	20
Jena	77.4	336	e 11	59	+ 1	—	—	—	e 12	3
Prague	77.4	334	e 12	0	+ 2	e 12	10	PcP	e 14	49
Fayetteville	z. 77.6	50	i 11	58	- 2	e 21	7	-44	i 12	10
Cleveland	79.4	39	i 12	9k	0	—	—	—	—	—
Istanbul	79.7	320	e 12	13	+ 2	—	—	—	—	—

Continued on next page.

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1952

540

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.
Belgrade	z.	80.0	328	e 12 16k	+ 3	—	—	e 13 6 ?
Karlsruhe	z.	80.0	338	e 12 13	0	—	—	—
Stuttgart		80.0	337	e 12 12	- 1	—	—	i 12 16 PcP
Strasbourg		80.6	338	e 12 16	0	e 12 40	?	e 13 14 ?
Triest	z.	81.5	333	i 12 19a	- 2	—	—	e 14 10 ?
Zürich		81.5	337	e 12 20	- 1	e 22 45	+13	—
Paris		81.6	341	i 12 23	+ 2	i 12 31	PcP	i 12 41 ?
Chur		81.7	335	e 12 27	+ 5	—	—	—
Neuchatel		82.2	337	e 12 26	+ 2	—	—	—
Ksara		82.3	311	i 12 31	PcP	—	—	—
Harvard		82.5	31	e 12 26	0	—	—	—
Weston		82.7	31	e 12 27	0	—	—	—
Palisades		83.0	34	i 12 41	+13	—	—	—
Florence	z.	84.0	333	e 12 34a	+ 1	—	—	—
Granada		94.0	342	12 38a	-43	—	—	—
Tamanrasset	z.	105.1	329	e 14 3	- 8	—	—	e 18 14 PKP

June 22d. 22h. 12m. 39s. Epicentre 46°·7N. 153°·7E. (as at 0m.4s.).

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.
College		35.9	37	e 7 2	- 2	—	—	—
Kiruna	z.	60.5	340	i 10 3	-11	i 10 12	P	—
Scoresby Sund		63.1	358	e 10 41	+ 9	—	—	—
China Lake	z.	64.2	63	e 10 49	+10	e 11 5	PcP	—
Pasadena	z.	64.9	66	e 11 18	PcP	e 11 35	?	—
Riverside	z.	65.5	66	e 11 13	PcP	—	—	—
Upsala	z.	67.9	338	i 11 1	- 1	i 11 12	?	—
Fayetteville	z.	77.6	50	e 11 57	- 3	i 12 8	PcP	—
Stuttgart		80.0	337	e 12 11	- 2	—	—	—
Strasbourg		80.6	338	e 12 17	+ 1	—	—	—
Paris		81.6	341	e 12 24	+ 3	—	—	—
Weston		82.7	31	e 12 25	- 2	—	—	—
Messina	z.	87.5	327	e 19 8	?	—	—	e 19 12 ?

June 23d. 10h. 56m. 58s. Epicentre 21°·4S. 176°·2W. (as on April 18d.).

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Auckland	N.	17.3	205	—	—	e 8 2?	+46	—	9.4
Wellington		21.2	200	—	—	8 3	-38	—	e 13.2
Cobb River	E.	21.8	204	—	—	e 8 27	-25	—	—
Brisbane		28.6	252	i 6 3	+ 3	—	—	—	—
Riverview		31.3	239	i 6 22a	- 2	11 25	- 6	i 17 4 ScS	—
Berkeley	z.	77.7	42	e 11 59	- 1	—	—	—	—
Lick	z.	77.8	42	e 11 59a	- 2	—	—	—	—
Pasadena	z.	77.1	46	e 12 0	- 2	—	—	e 12 35 ?	—
Palomar	z.	78.5	47	e 12 3	- 1	—	—	—	—
Riverside	z.	78.5	46	e 12 12	+ 8	—	—	—	—
China Lake	z.	79.4	45	e 12 6	- 3	—	—	—	—
Mineral	z.	79.7	39	e 12 10k	- 1	—	—	—	—
Tinemaha	z.	79.8	44	e 12 12	0	—	—	—	—
Reno	z.	80.3	41	e 12 14k	0	—	—	—	—
Boulder City		81.4	46	e 12 20	0	—	—	—	—
Tucson		82.2	51	e 12 22	- 2	—	—	—	—
Seattle		84.0	33	e 12 37	+ 4	—	—	—	—
Butte		88.4	38	e 12 55	0	—	—	—	—
College		88.7	12	i 12 57	0	—	—	—	—
Copenhagen		145.2	352	e 20 2	[+22]	—	—	—	—
Collmberg	z.	149.3	349	e 19 32	[-14]	—	—	—	—
Jena		149.9	350	e 19 53	[+ 6]	e 20 13	?	e 20 35 ?	—
Karlsruhe	z.	152.2	355	e 20 1?	[+10]	—	—	e 20 12 PKP,	—
Stuttgart		152.4	354	e 19 57?	[+ 6]	—	—	e 20 23 PKP,	—
Strasbourg		152.7	355	e 20 22	PKP,	—	—	—	—
Triest	z.	154.5	345	i 20 20k	PKP,	—	—	e 20 31 ?	—
Tamanrasset	z.	177.9	—	e 20 22	[+10]	i 26 0	PP	e 22 6 PKP,	—



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1952

541

June 23d. 12h. 3m. 8s. Epicentre 24°·3N. 122°·3E. (as on 1951, June 8d.).

A = -·4876, B = +·7713, C = +·4092;  $\delta = +10$ ;  $h = +4$ ;  
D = +·845, E = +·534; G = -·219, H = +·346, K = -·912.

		$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
		°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.
Zi-ka-wei	Z.	6·9	354	i 1	41 <sup>a</sup>	- 4	3	0	- 5	—	—	—
Hong Kong		7·7	257	1	57	+ 1	—	—	—	—	—	—
Nanking		8·3	339	i 2	0 <sup>a</sup>	- 4	3	34	- 6	—	—	—
Manila		9·7	188	e 2	39	+17	e 4	4	-11	—	—	i 5·0
Mizusawa		21·7	43	e 5	3	+ 8	e 8	54	+ 3	—	—	—
Guam		23·8	113	e 5	22	+ 7	19	35	+ 7	—	—	—
Shillong	E.	27·6	281	i 5	49	- 2	i 10	29	- 3	6	38	PP 11·6
Yuzno-Sakhlinsk		27·9	30	5	56	+ 2	—	—	—	—	—	—
Uglegorsk		29·2	27	e 6	7	+ 2	—	—	—	—	—	—
Kurilsk		29·4	38	e 6	18 <sup>?</sup>	+11	—	—	—	—	—	—
Kabansk		30·2	330	6	14	0	e 11	11	- 2	—	—	—
Irkutsk		31·1	338	6	21	- 1	11	22	- 6	—	—	—
Calcutta	E.	31·2	274	i 6	9	-14	i 11	30	+ 1	e 13	29	SS e 15·2
Petropavlovsk		39·7	33	e 7	42	+ 6	e 13	46	+ 6	—	—	—
New Delhi	N.	40·4	287	e 7	39	- 2	i 13	40	-10	9	30	PcP e 16·6
Hyderabad	N.	41·4	269	e 9	33	PP	14	4	- 1	17	19	SS 19·7
Semipalatinsk		41·6	320	i 7	50	- 1	e 14	1	- 7	—	—	—
Rybach'e		42·1	308	e 7	56	+ 1	i 14	13	- 3	—	—	—
Frunse		43·2	308	i 8	4	0	i 14	30	- 2	—	—	—
Murgab		43·2	301	i 8	4	0	i 14	31	- 1	—	—	—
Andijan		44·6	304	i 8	15	- 1	14	51	- 1	—	—	—
Khorog		44·9	299	i 8	19	+ 1	e 14	52	- 4	—	—	—
Fergana		45·0	304	i 8	18	- 1	i 14	54	- 4	—	—	—
Dzhergetal		45·3	302	e 8	22	+ 1	e 14	52 <sup>?</sup>	-10	—	—	—
Poona		45·3	273	e 8	21	0	i 14	56	- 6	8	53	PP 20·5
Garm		46·0	302	i 8	26	- 1	—	—	—	—	—	—
Bombay		46·1	274	e 8	18	-10	e 15	4	-10	18	16	SS —
Kulyab		46·4	299	i 8	32 <sup>?</sup>	+ 2	i 15	13 <sup>?</sup>	- 5	—	—	—
Obi-garm		46·5	302	i 8	30	- 1	i 15	16	- 3	—	—	—
Tchimkent		46·8	306	i 8	33	0	i 15	23	- 1	—	—	—
Tashkent		46·9	305	i 8	32	- 2	i 15	20	- 5	—	—	—
Stalinabad		47·2	301	i 8	35	- 1	i 15	26	- 3	—	—	—
Quetta		49·1	291	i 8	51	0	i 15	56	0	i 15	52	S 25·9
Sverdlovsk		54·6	324	i 9	30	- 2	i 17	4	- 7	—	—	—
Ashkabad		55·4	300	i 9	39	+ 1	—	—	—	—	—	—
Kizyl-Arvat		57·0	303	i 9	48	- 2	—	—	—	—	—	—
Brisbane	Z.	59·4	148	e 10	4	- 2	i 10	19	?	i 10	33	? —
Baku		61·6	305	i 10	23	+ 1	—	—	—	—	—	—
Shemakla		62·6	305	i 10	28 <sup>?</sup>	0	—	—	—	—	—	—
Lenkoran		62·7	303	e 10	27	- 2	18	51	- 6	—	—	—
Makhach-Kala		63·0	308	i 10	30	- 1	—	—	—	—	—	—
Riverview		64·0	153	—	—	—	i 19	27	+14	—	—	e 30·7
Grozny		64·2	308	i 10	39	0	i 19	13	- 3	—	—	—
Goris		64·5	304	i 10	39	- 2	—	—	—	—	—	—
Tiflis		65·2	307	e 10	44	- 1	—	—	—	—	—	—
Erevan		65·7	305	i 10	45	- 3	—	—	—	—	—	—
Gori		65·7	307	e 10	47	- 1	—	—	—	—	—	—
Piatigorsk		66·0	310	10	50 <sup>?</sup>	0	—	—	—	—	—	—
Leninakan		66·1	306	e 10	47	- 4	—	—	—	—	—	—
Borzhomi		66·2	306	i 10	53	+ 1	—	—	—	—	—	—
Abastumanj		66·7	306	10	55	0	—	—	—	—	—	—
Zugdidi		67·2	308	e 10	58	0	—	—	—	—	—	—
Moscow		67·4	323	10	56	- 3	19	45	-10	—	—	—
College		68·2	27	i 11	4	0	i 19	59	- 5	—	—	e 27·1
Sotchi		68·5	309	i 11	4	- 2	—	—	—	—	—	—
Pulkovo		70·3	328	e 11	15	- 2	e 20	20	- 9	—	—	—
Theodosia		71·1	312	i 11	20	- 2	e 20	34	- 4	—	—	—
Simferopol		72·0	312	i 11	26	- 2	e 20	45	- 4	—	—	—
Kiruna		72·1	337	i 11	26 <sup>a</sup>	- 2	i 20	44	- 6	i 11	43	PcP e 36·9
Yalta		72·1	311	i 11	26	- 2	e 20	46	- 4	—	—	—

Continued on next page.

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1952		542										
		$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
		°	°	m. s.		s.	m. s.		s.	m. s.		m.
Helsinki		72.8	330	—	—	—	e 20	52	- 6	—	—	—
Ksara		74.1	300	i 11	41	+ 1	e 21	51	+ 39	—	—	—
Kishinev		74.9	316	e 11	42	- 2	e 21	14	- 8	—	—	—
Sitka		76.2	33	e 8	28	?	—	—	—	—	—	—
Upsala		76.3	330	i 11	51 <sub>a</sub>	- 1	e 21	29	- 8	i 14	30	PP e 35.9
Istanbul		76.8	309	i 11	54	- 1	e 21	38	- 4	e 14	49	PP —
Lwow		76.9	319	i 11	55	- 1	—	—	—	—	—	—
Bucharest		77.6	313	e 12	0	0	e 21	48	- 3	—	—	—
Resolute Bay		78.4	10	e 12	3	- 1	e 21	54	- 6	e 12	52	? e 37.4
Uzhgorod		78.4	318	e 12	6	+ 2	e 21	59	- 1	—	—	—
Helwan	z.	79.1	298	i 12	7 <sub>a</sub>	- 1	e 14	14	?	e 17	7	PPP —
Raciborzu		80.2	321	e 12	16	+ 2	e 22	16	- 3	e 12	27	PcP —
Copenhagen		80.7	327	—	—	—	i 22	19	- 5	—	—	40.9
Belgrade		81.1	315	e 11	50 <sub>k</sub>	- 28	e 23	35	PS	—	—	e 51.8
Potsdam		82.0	324	e 12	27	+ 4	i 22	36	- 1	e 22	40	S e 41.9
Scoresby Sund		82.2	348	e 12	24	0	e 22	34	- 5	e 15	32	PP 38.9
Prague		82.4	322	e 12	25	0	e 22	32	- 9	e 15	24	PP e 43.9
Collnberg		82.6	323	e 12	26	0	e 15	34	PP	e 39	4	Q e 44.9
Jena		83.5	323	e 12	29	- 2	e 22	47	- 5	e 12	45	pP —
Triest		85.0	319	e 12	39	+ 1	i 23	4	- 3	e 23	55	PS 46.5
Taranto		85.2	312	e 15	54	PP	e 23	4	- 5	—	—	—
Stuttgart		86.0	322	e 12	42	- 1	e 23	12	- 5	e 12	59	pP e 44.9
De Bilt		86.2	327	e 12	49	+ 5	e 22	59	[- 10]	—	—	e 41.9
Karlsruhe	z.	86.3	323	e 12	42	- 3	e 16	3	PP	e 12	54	pP —
Aberdeen		86.4	333	—	—	—	—	—	—	e 35	52	Q e 42.1
Victoria		86.8	37	e 12	48	+ 1	—	—	—	—	—	—
Strasbourg		86.9	323	e 12	46	- 2	e 23	21	- 5	i 13	3	pP e 45.9
Zürich		87.1	322	e 12	51	+ 2	e 23	6	[- 9]	e 16	10	PP —
Florence		87.4	317	e 12	54	+ 4	e 23	14	[- 3]	e 16	18	PP —
Messina		87.4	311	e 12	53	+ 3	e 23	25	- 5	e 16	20	PP —
Rome		87.6	316	e 12	52	+ 1	e 23	29	- 3	e 16	5	PP —
Seattle		87.9	38	i 12	56	+ 3	e 23	39	+ 4	i 23	21	SKS —
Kew		89.3	328	e 16	30	PP	e 23	44	- 4	—	—	e 41.9
Paris		89.6	325	e 13	1	0	e 23	49	- 2	e 16	31	PP e 48.9
Rathfarnham Castle		90.8	332	e 12	59	- 7	e 24	7	+ 5	e 16	33	PP e 46.9
Clermont-Ferrand		91.1	322	e 13	7	- 1	e 24	7	+ 3	e 16	26	PP 49.4
Jersey	E.	91.7	327	e 13	49	+ 39	e 24	31	+ 21	—	—	47.9
Shasta		91.8	44	i 13	13	+ 2	—	—	—	—	—	—
Hungry Horse		91.9	34	i 13	13	+ 2	—	—	—	—	—	—
Mineral	z.	92.5	44	e 13	14 <sub>k</sub>	0	—	—	—	—	—	—
Berkeley		93.4	46	e 13	20 <sub>a</sub>	+ 2	e 23	51	[- 1]	—	—	—
Santa Clara	E.	93.9	46	e 23	58	SKS	(e 23 58)	[+ 3]	—	—	—	—
Lick	z.	94.1	46	e 13	24	+ 2	—	—	—	—	—	—
Reno	z.	94.1	43	e 13	21 <sub>k</sub>	- 1	e 23	47	[- 9]	—	—	—
Butte		94.2	35	i 13	24	+ 2	—	—	—	e 14	36	? —
Fresno	z.	95.7	45	e 13	30 <sub>a</sub>	+ 1	—	—	—	—	—	—
Tinemaha	z.	96.5	45	e 13	35	+ 3	—	—	—	—	—	—
China Lake	z.	97.7	45	i 13	41	+ 3	—	—	—	—	—	—
Pasadena	z.	98.3	47	i 13	44	+ 3	—	—	—	—	—	—
Riverside	z.	98.9	47	e 13	46 <sub>k</sub>	+ 3	—	—	—	—	—	—
Toledo		98.9	321	e 16	59	?	—	—	—	e 17	39	PP 54.6
Boulder City		99.3	44	e 13	49	+ 4	—	—	—	—	—	—
Palomar	z.	99.6	47	e 13	50	+ 4	—	—	—	—	—	—
Granada		100.4	319	e 23	22	?	e 25	57	+ 33	—	—	55.0
Tamanrasset	z.	102.8	303	e 13	57	- 4	e 19	48	?	e 18	12	PP —
Tucson		104.3	45	e 14	11	+ 3	—	—	—	—	—	—
Fayetteville	z.	110.7	32	e 14	54	P	e 15	44	?	e 19	12	PKP —
Huancayo		159.3	57	e 20	4	[+ 4]	—	—	—	i 20	41	? —
La Paz		167.5	53	e 20	8	[ 0]	i 20	18	?	e 25	2	PP —

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1952

543

June 24d. 3h. 15m. 49s. Epicentre 14°·5S. 168°·5E.

A = -·9491, B = +·1931, C = -·2488;  $\delta = -2$ ;  $h = +6$ ;  
D = +·199, E = +·980; G = +·244, H = -·050, K = -·969.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Brisbane		19·4	227	e 4 28 <sub>a</sub>	- 2	i 8 12	+ 8	i 4 37	i 9·2
Auckland	N.	23·0	167	—	—	9 11?	- 3	—	—
Karapiro	N.	24·1	167	i 5 21?	+ 3	—	—	—	—
Riverview		24·8	217	i 5 25 <sub>a</sub>	0	i 10 41	SS	i 10 8	i 11·0
Tuai	N.	25·4	165	5 31	0	—	—	—	—
Wellington		27·2	170	5 47	0	e 11 21	SS	—	e 14·8
Kaimata	N.E.	28·0	176	e 5 52	- 3	e 7 24	?	—	—
Christchurch		29·2	174	—	—	e 12 26	SS	—	e 16·2
Berkeley		83·1	49	i 12 29 <sub>a</sub>	0	e 22 53	+ 5	—	e 38·2
Lick	Z.	83·4	49	i 12 30 <sub>a</sub>	0	—	—	—	—
Shasta		84·2	46	i 12 34	0	—	—	—	—
Fresno	Z.	84·5	50	e 12 35 <sub>a</sub>	- 1	—	—	—	—
Pasadena		84·8	53	i 12 36	- 1	—	—	—	—
Riverside	Z.	85·3	53	i 12 39 <sub>a</sub>	- 1	—	—	—	—
Palomar	Z.	85·5	55	i 12 41 <sub>a</sub>	0	—	—	—	—
Reno	Z.	85·6	48	e 12 41 <sub>a</sub>	0	—	—	—	—
College		85·7	18	i 12 38	- 4	e 23 2	[- 4]	—	e 32·5
China Lake		85·8	52	i 12 43	+ 1	—	—	—	—
Tinemaha	Z.	85·8	51	i 12 43	+ 1	i 12 49	?	i 13 0	?
Victoria		86·9	39	12 47	- 1	—	—	—	—
Seattle		87·2	40	i 12 48	- 1	i 13 47	?	i 13 56	?
Boulder City		88·0	53	i 12 54	+ 1	—	—	—	—
Tucson		89·9	57	i 13 3	+ 1	—	—	—	—
Butte		92·8	43	e 13 19	+ 3	—	—	—	—
Palisades		120·1	51	—	—	e 30 9	PS	—	e 58·9
Kiruna	Z.	122·8	346	i 18 54	[- 4]	—	—	i 19 0	PKP
Kimberley	Z.	124·5	219	i 19 1	[ 0]	—	—	—	—
Ksara		133·1	303	e 19 20	[ + 2]	e 29 36	PKKP	—	—
Collmberg	Z.	138·3	336	e 35 19	?	—	—	—	—
Jena		139·1	337	e 19 16	[- 13]	e 22 17	PP	e 19 29	PKP
Stuttgart		141·8	338	e 19 27?	[- 7]	e 22 29	PP	e 19 31	PKP
Strasbourg		142·5	339	e 19 36	[ + 1]	e 23 22	PKS	e 22 38	PP
Paris		143·9	345	e 19 49	[ + 12]	—	—	—	—
Florence		144·9	331	e 19 36 <sub>k</sub>	[- 3]	—	—	e 20 21	?
Rome		145·7	328	e 19 41	[ + 1]	—	—	—	—
Messina	Z.	146·4	320	e 19 39	[- 3]	e 20 6	?	e 20 24	?
Clermont-Ferrand		146·5	342	i 19 42	[ 0]	—	—	—	—
Tamanrasset	Z.	161·9	301	e 20 3	[ 0]	e 24 32	PP	e 20 48	PKP <sub>1</sub>

June 24d. 3h. 21m. 14s. (I) } Epicentre 37°·8N. 72°·4E. Depth of focus 0·020.  
19h. 31m. 14s. (II) } (as on April 10d.).

		$\Delta$	Az.	P.	O-C.	S.	O-C.
		°	°	m. s.	s.	m. s.	s.
I	Khorog	0·7	242	e 0 24	0	e 0 41	- 1
II		0·7	242	e 0 24	0	i 0 46	+ 4
I	Murgab	1·3	65	e 0 30	+ 1	e 0 50	- 1
II		1·3	65	e 0 32	+ 3	e 1 0	+ 9
I	Dzhergetal	1·7	327	i 0 34	+ 1	i 0 58	0
II		1·7	327	e 0 35	+ 2	i 1 4	+ 6
I	Garm	2·0	306	i 0 36	0	i 1 3	- 1
II		2·0	306	0 36	0	i 1 6	+ 2
I	Kulyab	2·1	267	—	—	e 1 6	0
II		2·1	267	e 0 38	+ 1	i 1 8	+ 2
I	Obi-garm	2·3	293	e 0 40	0	e 1 9	- 1
II		2·3	293	i 0 40	0	e 1 12	+ 2
I	Fergana	2·6	350	e 0 43	0	1 17	0
II		2·6	350	—	—	1 24	+ 7
I	Andijan	3·0	0	e 0 48	- 1	1 24	- 2
II		3·0	0	—	—	i 1 31	+ 5
I	Stalinabad	3·0	285	—	—	e 2 24	+ 58
II		3·0	285	e 0 45	- 4	e 1 22	- 4
II	Tchimbkent	5·0	355	e 1 12	- 2	i 2 11	- 1

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1952

544

June 24d. 15h. 22m. 45s. Epicentre 42°·3N. 143°·0E. Depth of focus 0·005.  
(as on 1952, February 14d.).

Intensity IV at Obihiro, Urakawa, Ogifushi, Biratori, Erimomisaki, Kuttari, Simidu, Memuro, Kamibisei, and Yatiyo. Epicentre 42°·2N. 143°·1E. Depth of focus 55km. Macroseismic radius 200-300km. Seismo. Bull. Cent. Met. Obs., Japan, June, 1952, Tokyo, 1952, p. 242, with macroseismic chart p. 242.

A = -·5925, B = +·4465, C = +·6706;  $\delta = +12$ ;  $h = -3$ ;  
D = +·602, E = +·799; , G = -·536, H = +·404, K = -·742.

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	°	°	m. s.	s.	m. s.	s.
Urakawa	0·2	227	i 0 10 <sup>a</sup>	- 1	0 17	- 2
Obihiro	N. 0·6	13	e 0 14	0	0 24	- 1
Kusiro	1·2	56	i 0 25	+ 3	0 41	+ 3
Sapporo	E. 1·4	302	e 0 24	0	0 43	0
Mori	E. 1·8	264	0 31	+ 1	0 55	+ 3
Abashiri	2·0	28	0 40	+ 8	—	—
Hatinohe	2·1	212	0 34	0	0 57	- 2
Aomori	2·2	229	0 41	+ 6	1 5	+ 3
Nemuro	2·2	61	e 0 33	- 2	0 57	- 5
Morioka	3·0	208	e 0 45	- 2	1 18	- 4
Sendai	4·3	202	—	—	e 1 50	- 4
Hokusima	4·9	204	e 1 11	- 2	—	—
Mito	6·2	199	e 2 28	+ 57	—	—
Tokyo	7·1	202	—	—	e 2 58	- 6

June 24d. 16h. 29m. 3s. Epicentre 46°·7N. 153°·7E. (as on 22d.).

Intensity II-III at Kusiro. Epicentre 46°·5N. 152°·5E. Macroseismic radius >300km. Seismo. Bull. Cent. Met. Obs., Japan, June, 1952, Tokyo, 1952, p.243, with macroseismic chart.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Kurilsk	4·3	252	1 9	+ 1	—	—	—	—
Nemuro	6·6	243	1 41	0	2 53	- 5	—	—
Abashiri	7·2	251	1 52	+ 3	3 14	+ 1	—	—
Petropavlovsk	7·2	25	1 47	- 2	3 14	+ 1	—	—
Yuzno-Sakhlinsk	7·5	276	i 1 56	+ 3	e 3 37	+17	—	—
Kusiro	7·6	244	e 2 7	+12	2 18	?	—	—
Uglegorsk	8·2	291	2 7	+ 4	3 54	+16	—	—
Obi-hiro	E. 8·4	247	e 2 6	0	3 10	-33	—	—
Wakkanai	8·5	266	e 2 14	+ 7	—	—	—	—
Urakawa	9·0	244	e 2 16	+ 3	3 57	- 1	—	—
Sapporo	9·5	252	e 2 23	+ 3	4 23	+13	—	—
Mori	N. 10·5	249	e 2 41	+ 6	4 45	+10	—	—
Klyuchi	10·6	22	e 2 46	+10	4 52	+15	—	—
Hatinohe	10·7	239	—	—	e 4 24	-15	—	—
Aomori	11·0	242	e 2 57	+15	4 50	+ 3	—	—
Morioka	11·5	237	—	—	e 4 47	-12	—	—
Mizusawa	11·9	235	4 56	S	(4 56)	-13	e 5 30	?
Akita	12·1	240	—	—	e 5 7	- 7	—	—
Sendai	12·6	233	—	—	e 5 5	-21	—	—
Yamagata	13·0	234	—	—	e 5 31	-4	—	—
Hokusima	13·2	232	e 3 15	+ 4	—	—	—	—
Inawasiro	13·6	233	e 3 22	+ 5	6 7	+17	—	—
Onahama	13·6	229	—	—	e 5 42	- 8	—	—
Shirakawa	13·9	231	—	—	e 5 38	-19	—	—
Utunomiya	14·5	230	e 3 39	+11	—	—	—	—
Nagano	15·3	235	3 33	- 6	—	—	—	—
Oiwake	15·3	233	e 3 50	+11	—	—	—	—
Matusiro	z. 15·4	234	3 38	- 2	6 24	- 8	—	—
Kohu	15·8	231	e 3 56	+11	—	—	—	—
Vladivostok	15·8	265	3 43	- 2	—	—	—	—

Continued on next page.

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1952

545

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Takamatu	19.3	236	e 4 27	- 2	8 8	+ 6	---	---
Hamada	20.1	241	e 4 35	- 3	8 22	+ 3	---	---
Koti	20.2	236	e 4 36	- 3	8 23	+ 2	---	---
Ooita	21.5	239	e 4 57	+ 5	---	---	---	---
Hukuoka	22.0	240	e 4 58	0	---	---	---	---
Zi-ka-wei	z. 29.2	249	e 6 4 <sup>a</sup>	- 1	e 10 56	- 2	---	---
Nanking	30.4	254	i 6 15 <sup>a</sup>	- 1	i 11 18	+ 2	---	---
Kabansk	30.7	299	e 6 15	- 4	e 11 15	- 6	---	---
Irkutsk	32.0	299	6 28	- 2	---	---	---	---
College	35.9	37	i 7 3	- 1	i 12 39	- 3	---	i 15.4
Sitka	43.0	78	e 8 3	0	e 14 35	+ 6	---	---
Semipalatinsk	46.9	303	e 8 32	- 2	---	---	---	---
Resolute Bay	50.8	18	e 9 1	- 3	e 16 19	- 1	e 10 57	PP e 20.4
Ili	51.9	297	e 9 9	- 3	---	---	---	---
Przhevalsk	51.9	295	e 9 12	0	---	---	---	---
Almata II	52.1	296	e 9 13	- 1	---	---	---	---
Rybach'e	53.3	295	i 9 21	- 2	---	---	---	---
Naryn	53.9	294	e 9 27	0	---	---	---	---
Frunse	54.0	297	i 9 27	- 1	---	---	---	---
Sverdlovsk	54.1	317	i 9 26	- 3	e 17 7	+ 2	---	---
Seattle	54.3	55	---	---	e 17 4	- 3	---	---
Andijan	56.6	295	9 39	- 8	---	---	---	---
Murgab	57.0	292	e 9 50	0	e 17 50	+ 7	---	---
Fergana	57.2	295	i 9 49	- 2	---	---	---	---
Tchimkent	57.4	299	i 9 50	- 3	---	---	---	---
Dzhergetal	58.2	295	9 57	- 1	18 2	+ 3	---	---
Shasta	58.2	62	e 9 56	- 2	---	---	---	---
Mineral	z. 58.9	62	i 10 12	+ 9	---	---	---	---
Khorog	59.0	293	e 10 4 <sup>?</sup>	0	18 8 <sup>?</sup>	- 2	---	---
Obi-garm	59.5	295	10 8	+ 1	e 18 25	+ 9	---	---
Kulyab	59.9	294	e 10 8	- 2	i 18 19	- 2	---	---
Berkeley	60.0	65	---	---	e 18 18	- 5	---	---
Stalinabad	60.1	296	i 10 9	- 2	i 18 27	+ 3	---	---
Kiruna	60.5	340	i 10 11 <sup>a</sup>	- 3	e 18 28	- 1	e 14 1	PPP e 29.0
Reno	z. 60.5	61	e 10 16	+ 2	---	---	---	---
Santa Clara	60.5	65	e 10 15	+ 1	e 18 30	+ 1	---	e 25.8
Lick	z. 60.7	65	e 10 14	- 1	---	---	---	---
Scoresby Sund	63.1	358	e 10 31	- 1	i 19 4	+ 2	e 14 54	PPP 31.0
China Lake	z. 64.2	63	i 10 37	- 2	---	---	i 10 47	?
Pulkovo	64.3	332	e 10 36	- 3	e 19 11 <sup>?</sup>	- 6	---	---
Moscow	64.7	326	e 10 40	- 2	---	---	---	---
Pasadena	64.9	66	e 10 43	0	e 20 28	ScS	---	e 27.4
Riverside	z. 65.5	66	i 10 48	+ 1	---	---	---	---
Boulder City	65.8	62	e 10 48	- 1	---	---	---	---
Quetta	66.6	289	e 10 55	+ 1	---	---	e 11 0	P 40.0
Ashkabad	66.8	301	i 10 55	- 1	---	---	---	---
Kizyl-Arvat	67.3	303	i 10 59	0	e 20 0	+ 6	---	---
Upsala	67.9	338	i 11 1	- 1	---	---	i 11 16	PcP e 32.0
Makhach-Kala	69.4	311	i 11 12	0	---	---	---	---
Baku	69.9	308	i 11 16	+ 1	---	---	---	---
Grozny	70.1	312	e 11 13	- 3	---	---	---	---
Bombay	70.3	277	e 11 24	+ 7	e 20 20	- 9	---	---
Shemakla	70.5	309	i 11 18	0	---	---	---	---
Tucson	70.8	62	e 11 22	+ 2	---	---	---	---
Piatigorsk	70.9	314	11 19	- 2	---	---	---	---
Kirovobad	71.6	310	i 11 25	0	---	---	---	---
Tiflis	71.7	312	e 11 23	- 3	---	---	---	---
Gori	71.9	312	e 11 25	- 2	---	---	---	---
Borzhomi	72.3	312	e 11 29	0	---	---	---	---
Goris	72.5	308	i 11 30	0	21 0	+ 6	---	---
Abastumanj	72.7	312	e 11 33	+ 1	---	---	---	---
Sotchi	72.8	316	i 11 30	- 2	e 20 55	- 3	---	---
Copenhagen	72.9	338	i 11 33	0	20 51	- 8	---	36.0
Leninakan	72.9	311	e 11 31	- 2	---	---	---	---
Erevan	73.0	310	i 11 34	+ 1	---	---	---	---

Continued on next page.



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1952

546

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Theodosia		73.7	319	i 11 36	- 2	e 21 9	+ 1	—	—
Yalta		74.7	319	i 11 42	- 1	e 21 19	0	—	—
Kishinev		74.9	325	11 43	- 1	e 21 20	- 2	—	—
Potsdam		75.7	336	i 11 47	- 2	e 21 30	0	e 11 51	P e 40.0
Uzhgorod		76.1	329	11 54	+ 3	21 39	+ 4	—	—
Raciborz	z.	76.2	332	e 11 52	0	—	—	e 12 1	PcP —
Collmberg		76.7	335	e 11 54	- 1	e 21 21	-20	e 26 9	SS e 34.0
Witteveen	z.	76.9	320	e 11 56	0	—	—	—	—
Jena	k.	77.4	336	e 12 0?	+ 2	e 14 44	PP	e 12 21	PcP —
Prague		77.4	334	e 11 59	+ 1	e 21 51	+ 2	e 29 57	SSS e 42.0
Fayetteville	z.	77.6	50	i 11 57	- 3	e 14 55	PP	i 12 11	pP —
De Bilt		77.9	320	e 11 59	- 2	e 21 57	+ 3	e 14 51	PP e 41.0
Bucharest		78.2	324	e 12 3	0	—	—	—	—
Ottawa		78.5	33	—	—	e 21 57	- 4	—	—
Rathfarnham Castle		78.9	348	e 12 9?	+ 2	e 22 7	+ 2	e 12 39	? e 38.0
Cleveland		79.4	39	e 12 7 <sub>a</sub>	- 2	e 22 10	0	—	—
Istanbul		79.7	320	e 12 9	- 2	e 22 9?	- 4	—	—
Kew		79.7	343	e 12 10	- 1	e 22 10	- 3	e 15 13	PP e 41.0
Karlsruhe	z.	80.0	338	e 12 13	0	e 12 44	?	e 13 1	? —
Stuttgart		80.0	337	i 12 11 <sub>a</sub>	- 2	e 22 15	- 2	e 15 13	PP e 40.0
Strasbourg		80.6	338	e 12 14	- 2	e 22 8	-15	e 12 26	PcP e 40.0
Triest		81.5	333	e 12 19	- 2	e 22 27?	- 5	e 23 17	PS 48.6
Zürich		81.5	337	e 12 19	- 2	e 22 30	- 2	—	—
Morgantown		81.6	39	i 12 20	- 1	—	—	e 13 24	? —
Paris		81.6	341	e 12 20	- 1	e 22 32	- 1	i 23 10	PS e 41.0
Ksara		82.3	311	i 12 26	+ 1	e 23 7	+27	—	—
Harvard		82.5	31	e 12 30	+ 4	i 22 40	- 2	—	—
Weston		82.7	31	e 12 25 <sub>a</sub>	- 2	—	—	—	—
Palisades		83.0	34	e 12 25	- 3	i 22 42	- 5	e 13 17	? e 51.6
City College, N.Y.		83.1	34	—	—	e 21 57?	-51	e 32 34	SSS —
Oropa		83.2	337	e 13 13	+44	—	—	—	—
Bologna		83.3	334	e 12 59	+29	e 23 21	PS	—	—
Clermont-Ferrand		84.4	339	e 12 35	- 1	e 23 3	+ 2	—	46.0
Taranto		84.9	328	e 11 40	-58	—	—	e 20 30	? —
Rome		85.3	331	i 12 39 <sub>a</sub>	- 1	e 23 5	[+2]	13 7	pP —
Messina	k.	87.5	327	e 12 50	- 1	e 23 34	+ 3	—	—
Helwan	z.	87.7	312	e 12 53	+ 1	e 13 17	?	e 14 38	? —
Tortosa		89.6	339	e 16 22	PP	i 25 5	PS	—	—
Bermuda		94.0	32	—	—	e 24 30	0	e 30 51	SS e 44.4
Granada		94.0	342	17 10 <sub>k</sub>	PP	24 52	+22	25 58	PS 51.0
La Paz	z.	134.2	63	19 21	[+ 1]	—	—	22 9	PP —

June 24d. 23h. 52m. 32s. Epicentre 39°·3N, 72°·6E.

Given by the stations of U.S.S.R.

A = +·2320, B = +·7405, C = +·6308;  $\delta = +7$ ;  $h = -1$ ;  
D = +·954, E = -·299; G = +·189, H = +·602, K = -·776.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
	°	°	m. s.	s.	m. s.	s.	m. s.
Dzhergetal	1.1	266	0 18	- 4	0 33	- 6	—
Fergana	1.3	330	—	—	0 36	- 8	—
Murgab	1.4	132	0 27	0	0 45	- 1	—
Andijan	1.5	353	i 0 26	- 2	0 46	- 3	—
Garm	1.8	260	0 31	- 1	1 0	+ 4	—
Khorog	2.0	203	e 0 35	0	e 1 1	- 1	—
Obi-garm	2.3	255	i 0 40	0	i 1 15	- 1 <sub>g</sub>	—
Kulyab	2.6	238	—	—	i 1 26	0 <sub>g</sub>	—
Stalinabad	3.1	256	i 0 54	+ 3	i 1 36	0*	—
Naryn	3.4	50	e 1 1	0*	—	—	—
Tchimkent	3.8	324	—	—	e 2 6	0 <sub>g</sub>	—
Frunse	3.9	22	—	—	1 56	+ 6	i 2 5 S <sub>g</sub>
Almata II	5.3	41	e 1 25	+ 3	—	—	—
Przhevalsk	5.4	52	e 1 25	+ 1	—	—	—

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1952

547

June 25d. 12h. 10m. 39s. Epicentre 60°·3N. 141°·1W.

A = -·3875, B = -·3127, C = +·8672;  $\delta = -3$ ;  $h = -9$ ;  
D = -·628, E = +·778; G = -·675, H = -·545, K = -·498.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
College		5·5	329	i 1 28	+ 3	—	—	—	—
Seattle		16·7	131	e 3 58	+ 1	i 4 12	PP	i 4 19	PPP
Hungry Horse		19·6	114	e 4 28	- 4	—	—	—	—
Resolute Bay		21·9	30	e 5 2	+ 5	e 12 30	PcS	—	e 10·4
Shasta		22·8	140	e 5 5	0	—	—	—	e 11·6
Mineral	Z.	23·4	139	i 5 11k	0	—	—	—	—
Reno	Z.	24·7	136	e 5 23	- 1	—	—	—	—
Lick	Z.	26·1	143	e 5 37k	0	—	—	—	—
Fresno	Z.	27·2	139	e 5 51	+ 4	—	—	—	—
Tinemaha	Z.	27·5	137	e 5 50	0	—	—	—	—
Mount Wilson	Z.	30·1	139	e 6 12	- 1	e 6 19	P	e 5 58	?
Riverside	Z.	30·5	139	i 6 16	- 1	—	—	—	—
Tucson		34·4	130	e 6 51	0	—	—	—	—
Fayetteville	Z.	38·4	107	i 7 22	- 3	—	—	i 7 28	P
Upsala	Z.	59·0	12	i 10 2	- 2	—	—	—	—
Pretoria	Z.	144·7	17	i 18 48 <sub>a</sub> ? [-51]	—	—	—	—	—
Kimberley	Z.	147·0	23	e 19 47? [+4]	—	—	—	—	—

June 25d. 23h. 19m. 51s. Epicentre 30°·1N. 102°·2E.

A = -·1831, B = +·8470, C = +·4990;  $\delta = -6$ ;  $h = +1$ ;  
D = +·977, E = +·211; G = -·105, H = +·488, K = -·867.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		°	°	m. s.	s.	m. s.	s.	m. s.	m.
Shillong	E.	10·2	246	i 2 25	- 6	i 4 25	- 2	2 42	PP
Hong Kong		13·3	123	3 6	- 7	5 23	- 19	—	—
Nanking		14·4	78	i 3 24k	- 3	e 6 15	+ 6	i 6 30	SS
Calcutta	E.	14·5	242	i 3 31	+ 3	i 6 27	SS	6 57	Q
Zi-ka-wei	Z.	16·6	81	i 3 56k	0	e 7 5	+ 5	i 7 19	SS
Dehra Dun		20·9	277	e 4 51	+ 5	—	—	e 6 57	i
New Delhi		21·8	272	e 4 52	- 4	i 8 47	- 5	5 19	PP
Irkutsk		22·2	2	5 2	+ 2	9 16	+ 16	—	—
Kabansk		22·2	4	e 5 1	+ 1	i 9 13	+ 13	—	—
Przhevalsk		22·7	310	i 5 5	+ 1	i 9 23	+ 14	—	—
Kurmenty		23·1	311	i 5 9?	+ 1	—	—	—	—
Manila		23·2	128	i 5 12	+ 3	e 9 21	+ 3	e 5 39	PP
Nagasaki		23·8	76	e 5 19	+ 4	e 15 7	ScS	—	e 10·5
Almata II		23·8	311	i 5 17	+ 2	—	—	—	—
Almata		24·0	311	e 5 13?	- 4	—	—	—	—
Naryn		24·0	305	e 5 17	0	—	—	—	—
Hukuoka		24·2	74	5 20	+ 1	9 43	+ 8	—	e 13·2
Rybach'e		24·3	307	i 5 21?	+ 1	i 9 50?	+ 13	—	—
Kumamoto		24·4	76	e 5 22	+ 1	9 53	+ 14	—	14·2
Murgab		24·7	297	e 5 26	+ 2	e 9 54	+ 10	—	—
Hyderabad	N.	25·1	245	i 5 26	- 2	i 9 55	+ 4	—	—
Oolta		25·2	75	e 5 30	+ 1	i 9 58	+ 6	—	e 16·3
Frunse		25·5	307	i 5 33	+ 1	i 10 11?	+ 14	—	—
Hirosima		25·9	72	e 5 39	+ 4	10 21	+ 17	—	14·4
Matuyama		26·1	73	e 5 42	+ 5	e 10 20	+ 13	e 11 46	SSS
Semipalatinsk		26·1	327	e 5 36?	- 1	—	—	—	—
Simidu		26·3	76	e 5 35	- 4	—	—	—	15·3
Andijan		26·4	301	e 5 39	- 1	—	—	—	—
Khorog		26·4	294	5 42	+ 2	i 10 17	+ 5	—	—
Fergana		26·8	301	e 5 44	0	—	—	—	—
Dzhergetal		27·0	299	i 5 47	+ 2	10 28	+ 6	—	—
Vladivostok		27·0	53	5 46	+ 1	10 28	+ 6	—	—
Takamatu		27·2	72	e 5 50	+ 3	e 10 46	+ 21	e 12 23	Q
Kulyab		27·9	295	i 5 56?	+ 2	i 10 48?	+ 11	—	e 15·2
Obi-garm		28·0	297	i 5 57	+ 2	e 10 47	+ 9	—	—

Continued on next page.

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1952

548

	$\Delta$	Az.	P.		O - C.	S.		O - C.	Supp.		L.	
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.	
Poona	28.2	252	e 5	59	+ 3	i 10	55	+14	12	46	PcS	13.8
Stalinabad	28.7	297	i 6	3	+ 2	i 10	54	+ 4	—	—	—	—
Tchimbkent	28.8	304	e 5	59	- 3	—	—	—	—	—	—	—
Tashkent	28.8	302	e 6	3	+ 1	e 10	51	0	—	—	—	—
Bombay	28.9	254	i 6	3	0	i 10	48	- 5	12	18	SS	13.4
Quetta	30.3	281	i 6	18	+ 3	i 11	20	+ 5	—	—	—	17.2
Kodaikanal	30.4	236	—	—	—	e 11	28	+12	—	—	—	—
Matusiro	30.6	67	6	17	- 1	11	17	- 3	14	52	Q	16.2
Colombo	31.2	227	—	—	—	11	37	+ 8	e 17	29	Q	23.4
Uglegorsk	35.6	46	e 7	3	+ 2	12	47	+ 9	—	—	—	—
Djakarta	36.3	172	e 7	5	- 2	e 12	44	- 4	—	—	—	—
Ashkabad	36.9	294	e 7	14	+ 2	—	—	—	—	—	—	—
Bandong	37.2	170	e 7	4	-11	e 12	49	-13	—	—	—	—
Kizyl-Arvat	38.5	297	e 7	30?	+ 4	13	29?	+ 7	—	—	—	—
Kurilsk	38.6	54	7	28	+ 2	—	—	—	—	—	—	—
Sverdlovsk	39.4	325	7	27	- 6	13	33	- 2	—	—	—	—
Guam	42.6	104	i 7	59	0	i 14	22	- 1	—	—	—	—
Baku	43.4	299	e 8	13	+ 7	e 14	42	+ 7	—	—	—	—
Shemakla	44.3	299	i 8	17	+ 4	—	—	—	—	—	—	—
Lenkoran	44.3	296	8	17	+ 4	14	55	+ 7	—	—	—	—
Makhach-Kala	45.1	303	e 8	21	+ 1	i 15	3	+ 4	—	—	—	—
Kirovobad	46.0	300	8	25	- 2	—	—	—	—	—	—	—
Goris	46.2	298	i 8	29	+ 1	i 15	15	0	—	—	—	—
Grozny	46.3	303	8	33?	+ 4	15	19?	+ 3	—	—	—	—
Petropavlovsk	46.6	43	8	32	0	15	21	0	—	—	—	—
Tiflis	47.1	301	e 8	37	+ 2	15	35?	+ 7	—	—	—	—
Erevan	47.5	299	i 8	41	+ 3	i 15	40	+ 6	—	—	—	—
Gori	47.6	301	e 8	39	0	—	—	—	—	—	—	—
Piatigorsk	48.2	304	8	44	0	15	46	+ 3	—	—	—	—
Borzhome	48.2	301	e 8	45	+ 1	—	—	—	—	—	—	—
Zugdidi	49.2	303	e 8	52	0	e 16	2	+ 4	—	—	—	—
Sotchi	50.7	304	e 9	5	+ 2	e 16	17?	- 1	—	—	—	—
Moscow	51.5	319	e 9	7	- 2	16	31	+ 2	—	—	—	—
Theodosia	53.6	306	e 9	27	+ 2	e 17	0	+ 2	—	—	—	—
Yalta	54.5	305	e 9	33	+ 1	e 17	9?	- 1	—	—	—	—
Simferopol	54.5	306	i 9	29	- 3	e 17	10	0	—	—	—	—
Pulkovo	55.5	324	e 9	37	- 2	e 17	24	0	—	—	—	—
Ksara	55.5	292	e 9	42	+ 3	18	4	+40	—	—	—	—
Kishinev	57.7	310	9	51	- 4	e 17	54	+ 1	—	—	—	—
Istanbul	58.9	303	e 10	6	+ 3	e 18	9?	+ 1	e 23	9?	?	29.2
Kiruna	59.4	334	i 10	4	- 2	i 18	19	+ 4	i 12	21	PP	e 28.2
Bucharest	60.2	307	10	21	+ 9	20	15	ScS	—	—	—	—
Lwow	60.3	313	e 10	10	- 3	e 18	31	+ 5	—	—	—	—
Helwan	60.4	289	e 10	13	0	—	—	—	e 10	23	?	—
Uzhgorod	61.7	312	i 10	20	- 2	e 18	49	+ 5	—	—	—	—
Upsala	61.8	325	i 10	20	- 3	e 18	47	+ 1	i 12	38	PP	e 28.2
Skalnate Pleso	62.9	313	—	—	—	e 17	22	?	—	—	—	—
Timisoara	63.2	310	e 10	39?	+ 7	e 20	9?	ScS	e 11	39?	?	—
Raciborz	63.9	315	e 10	37	0	e 19	30	PS	e 11	17	PcP	e 35.2
Ogyalla	64.5	312	e 13	33	PP	e 21	16	?	—	—	—	—
Copenhagen	65.6	322	i 10	46	- 2	19	36	+ 3	—	—	—	—
Prague	66.2	316	e 10	53	+ 1	e 19	42	+ 2	e 20	52	ScS	e 36.0
Potsdam	66.3	318	e 10	53	+ 1	i 19	47	+ 5	e 27	3	SSS	e 32.2
Collberg	66.7	317	e 10	51	- 4	e 19	27	-19	e 21	9	ScS	e 35.6
Cheb	67.5	316	—	—	—	e 19	25	-31	—	—	—	—
Taranto	67.6	305	—	—	—	19	52	- 5	e 27	42	SSS	38.2
Jena	67.6	317	e 10	56	- 5	e 19	56	- 1	e 11	4	P	—
Triest	68.2	311	i 11	4k	0	i 20	8	+ 4	e 20	33	SP	38.0
Messina	69.7	303	e 11	13	- 1	e 20	22	0	e 24	55	SS	e 38.6
Stuttgart	69.9	315	e 11	12	- 3	e 20	27	+ 3	e 11	34	PcP	e 34.2
Rome	70.4	308	e 11	18	0	e 20	30	0	e 24	59	SS	e 38.2
Florence	70.5	310	e 11	19	+ 1	e 20	31	- 1	—	—	—	—
Strasbourg	70.8	316	e 11	18?	- 2	e 20	34	- 1	e 21	21	PPS	e 35.2
De Bilt	70.9	320	e 11	15	- 6	e 20	41	+ 5	e 28	9?	SSS	e 34.2
College	71.1	25	i 11	21	- 1	20	37	- 1	—	—	—	e 27.7

Continued on next page.

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1952

549

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Pavia	71.3	312	e 12 10	+47	—	—	—	—
Scoresby Sund	72.2	343	e 11 28	- 1	i 20 54	+ 3	e 13 33	PP
Durham	73.3	324	—	—	i 21 7	+ 3	e 21 24	PS
Paris	73.9	318	e 11 35	- 4	i 21 13	+ 3	e 14 22	PP
Kew	74.2	321	e 11 40	0	e 21 15	+ 1	—	e 37.2 e 30.2
Resolute Bay	74.9	5	i 11 45 <sub>a</sub>	+ 1	e 21 24	+ 2	e 26 9	SS
Clermont-Ferrand	74.9	314	e 11 48	+ 4	e 21 31	+ 9	e 22 10	PPS
Tortosa	79.0	311	—	—	e 22 13	+ 7	—	e 40.1
Alicante	80.9	309	e 12 15	- 2	e 22 33	+ 7	—	37.6
Toledo	82.4	312	e 12 30	+ 5	—	—	e 15 45	PP
Almeria	83.0	309	i 12 31	+ 3	22 48	+ 1	15 43	PP
Granada	83.6	310	e 13 3 <sub>a</sub>	+32	i 22 55	+ 2	24 9	PPS
Tamanrasset	z. 84.3	293	e 12 33	- 2	e 12 37	PcP	e 15 58	PP
Pretoria	z. 90.0	241	e 13 11?	+ 8	—	—	—	—
Kimberley	z. 94.2	240	e 13 22	0	—	—	—	—
Hungry Horse	95.4	24	e 13 32	+ 4	—	—	—	—
Ottawa	104.8	359	e 28 47	PPS	e 37 23	SSS	—	—
Palisades	109.2	357	i 28 26	PS	—	—	—	e 53.6
Fayetteville	z. 112.4	15	e 19 4	PP	—	—	—	e 54.5
Bermuda	116.6	348	—	—	e 36 1	SS	—	—
Bogota	145.3	354	e 19 44	[+ 4]	e 24 53	?	e 19 54	PKP <sub>2</sub>
La Paz	z. 163.8	325	20 14	[+ 9]	—	—	20 57	PKP <sub>2</sub>

June 26d. 3h. 43m. 23s. Epicentre 38°·6N. 70°·5E. (as on 1952, May 26d.).

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
	°	°	m. s.	s.	m. s.	s.	m. s.
Garm	0.4	339	i 0 11	+ 1*	i 0 18	+ 2*	—
Obi-garm	0.6	279	i 0 13	0*	e 0 21	0*	—
Dzhergetal	0.8	42	i 0 17	- 1	0 29	+ 1*	—
Kulyab	0.9	219	i 0 17	- 1 <sub>g</sub>	e 0 29	- 1 <sub>g</sub>	—
Stalinabad	1.4	268	i 0 25	- 2*	i 0 43	- 3	—
Khorog	1.4	142	i 0 29	+ 1 <sub>g</sub>	i 0 46	0	—
Fergana	2.0	29	i 0 40	0 <sub>g</sub>	i 1 10	+ 4 <sub>g</sub>	—
Andijan	2.6	34	e 0 48	+ 1*	1 36	+ 10 <sub>g</sub>	i 0 52
Murgab	2.7	95	i 0 53	- 1 <sub>g</sub>	e 1 35	+ 6 <sub>g</sub>	—
Tashkent	2.9	341	e 0 55	- 3 <sub>g</sub>	i 1 29	- 1*	—
Tchimkent	3.8	352	e 1 6	- 2*	—	—	—
Naryn	5.1	54	e 1 23	+ 3	i 2 51	+ 3 <sub>g</sub>	—
Frunse	5.3	35	—	—	2 24	- 1	—
Rybach'e	5.7	46	—	—	i 3 15	+ 7 <sub>g</sub>	—
Almata	6.8	44	e 1 43	- 1	—	—	—
Almata II	7.0	46	e 1 49	+ 3	—	—	—
III	7.3	41	e 1 49	- 1	—	—	—

June 26d. 10h. 42m. 55s. Epicentre 39°·6N. 71°·3E. (as on 1952, April 4d.).

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
	°	°	m. s.	s.	m. s.	s.	m. s.
Dzhergetal	0.4	190	i 0 9	+ 1 <sub>g</sub>	i 0 13	0 <sub>g</sub>	—
Fergana	0.9	25	e 0 18	0 <sub>g</sub>	i 0 30	0 <sub>g</sub>	—
Garm	1.0	232	i 0 18	- 2 <sub>g</sub>	i 0 31	- 2 <sub>g</sub>	—
Andijan	1.4	35	i 0 29	+ 2*	0 49	+ 3	i 0 31
Obi-garm	1.5	234	e 0 30	0 <sub>g</sub>	e 0 50	0 <sub>g</sub>	P <sub>g</sub>
Kulyab	2.1	215	e 0 38	+ 1	i 1 8	- 1 <sub>g</sub>	—
Khorog	2.1	172	0 39	0*	e 1 11	+ 2 <sub>g</sub>	—
Stalinabad	2.2	242	i 0 42	- 2 <sub>g</sub>	i 1 13	0 <sub>g</sub>	—
Tashkent	2.3	318	e 0 44	- 2 <sub>g</sub>	e 1 17	+ 1 <sub>g</sub>	—
Murgab	2.4	121	e 0 47	- 1 <sub>g</sub>	e 1 23	+ 4 <sub>g</sub>	—
Tchimkent	3.0	335	e 0 58	- 2 <sub>g</sub>	1 30	+ 3	i 0 39
Rybach'e	4.6	50	—	—	e 2 39	+ 7 <sub>g</sub>	—
III	6.1	43	(e 1 33)	- 1	e 1 33	P	—

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1952

550

June 26d. 13h. 6m. 52s. Epicentre 37°·5N. 25°·4W.

Felt at San Miguel. Intensity VII at Povoação, Ponta Garça, and Agua de Pau; III-IV Nordeste, Fenais da Ajuda, Mosteiros, Capelas, Ginetes, Feteiras, Ponta Delgada, Canaviais de San Pedro and Almagreira; I-II at Angra (Terceira). Epicentre 37°·7N. 25°·3W. (Angra do Heroísmo). Foreshock of 15h.

Observações Macrossismicas (1952), Anuario Sismologico de Portugal, No. 6, 1952, Lisbon, Sept., 1955, p. 5.

$$A = +.7184, B = -.3411, C = +.6062; \quad \delta = -7; \quad h = -1; \\ D = -.429, E = -.903; \quad G = +.548, H = -.260, K = -.795.$$

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.
Ponta Delgada N.	0.3	316	i-0	10	-16 <sub>g</sub>	i-0	6	-16 <sub>g</sub>	—	—	—
Angra do Heroísmo	1.9	308	i 0	31	- 3	i 0	54	- 5	—	—	—
Malaga	16.8	86	i 3	56	- 2	i 7	18	+13	—	—	—
Toledo	16.8	76	e 3	56	- 2	e 5	50	?	e 6	49	?
Granada	17.3	82	4	8 <sub>a</sub>	+ 4	7	30	+14	—	—	8.6
Almeria	18.3	83	4	9	- 8	7	31	- 8	—	—	9.2
Alicante	19.7	77	4	43	+ 9	8	33	SS	5	12	PPP
Kew	22.6	42	—	—	—	e 8	8	?	—	—	—
Algiers Univ. z.	22.7	82	—	—	—	e 7	5	?	—	—	—
Clermont-Ferrand	22.8	58	e 5	7	+ 2	—	—	—	—	—	12.1
Paris	23.2	50	e 5	8	- 1	—	—	—	e 6	8	?
Strasbourg	26.5	52	e 5	35	- 6	e 5	39	P	e 6	17	PP
Stuttgart	27.4	52	e 5	51?	+ 2	e 10	20	- 8	—	—	e 14.1
Tamanrasset z.	30.3	108	e 6	17	+ 2	e 6	35	?	e 7	17	PP
Kiruna z.	39.5	25	i 7	34	0	—	—	—	—	—	—
Fayetteville z.	53.9	291	i 9	26	- 1	—	—	—	—	—	—
Butte	62.5	308	e 10	25	- 3	—	—	—	—	—	—
College	68.5	337	e 11	6	0	—	—	—	—	—	—
Boulder City	68.8	300	i 11	8	0	—	—	—	—	—	—
Bombay	85.0	70	e 12	35	- 3	—	—	—	—	—	—

June 26d. 15h. 33m. 1s. Epicentre 37°·5N. 25°·4W. (as at 13h.).

Felt in San Miguel. Intensity VII at Povoação, Ponta Garça, and Agua de Pau; VI-VII at Nordeste; VI at Faial; V-VI at Fenais de Ajuda, Mosteiros, Capelas, Ginetes, and Feteiras; V at Furnas; II-III at Vila do Porto Outeiro in Santa Maria. Followed by several aftershocks in the next few weeks. Epicentre 37°42'N. 25°17'W. (Angra do Heroísmo).

Observações macrossismicas 1952, Anuario sismologico de Portugal, No. 6, 1952, Lisbon, Sept., 1955, p.5, with macroseismic chart on p.12.

A. A. Mendoca Dias.

Os sismos de 26 de Junho de 1952, e a sismicidade da Ilha de San Miguel, Lisbon, 27 October, 1952.

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.
Ponta Delgada N.	0.3	316	i-0	6	-12 <sub>g</sub>	i-0	2	-12 <sub>g</sub>	—	—	—
Angra do Heroísmo	1.9	308	i 0	37	- 1 <sub>g</sub>	i 0	59	- 1*	—	—	i 1.2
Malaga	16.8	86	i 3	57	- 1	i 7	17	+12	—	—	9.4
Toledo	16.8	76	4	1	+ 3	—	—	—	3	8	?
Granada	17.3	82	i 4	3 <sub>a</sub>	- 1	i 7	32	+16	4	15	PP
Almeria	18.3	83	i 4	8	- 9	7	32	- 7	4	32	PP
Alicante	19.7	77	i 4	55	PP	e 8	17	+ 7	12	9	PcS
Tortosa	20.3	71	i 4	52	+12	i 8	35	+12	—	—	—
Rathfarnham Castle	20.6	32	i 4	45 <sub>k</sub>	+ 2	e 8	38	+ 9	e 9	39	SSS
Kew	22.6	42	e 4	33	-30	e 9	14	+ 7	—	—	e 10.6
Algiers Univ. z.	22.7	82	i 5	3 <sub>a</sub>	- 1	e 9	18	+ 9	e 5	37	PP
Clermont-Ferrand	22.8	58	e 5	6	+ 1	9	21	+10	—	—	11.0
Paris	23.2	50	e 5	7	- 2	i 9	22	+ 4	e 5	39	PP
Aberdeen	25.0	29	—	—	—	i 9	59	+10	—	—	—
De Bilt	25.9	44	i 5	4	-31	e 10	14	+10	—	—	e 12.0
Strasbourg	26.5	52	i 5	42	+ 1	e 10	12	- 2	e 12	54	PcS
Pavia	26.9	60	e 7	46	?	—	—	—	—	—	—
Karlsruhe	27.0	51	e 5	53	+ 8	—	—	—	—	—	e 14.0
Stuttgart	27.4	52	e 5	50	+ 1	e 10	29	+ 1	e 9	16	PcP
Florence	28.4	64	e 7	2	PPP	e 10	35	-10	—	—	—

Continued on next page.



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1952

551

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.	
		°	°	m. s.	s.	m. s.	s.	m. s.	m.	
Jena	E.	29.4	50	e 6 8	+ 1	e 6 22	?	e 6 54	PP	—
Triest		30.2	60	e 6 17	+ 3	i 11 11	- 2	e 6 32	?	16.1
Tamanrasset	Z.	30.3	108	i 6 18k	+ 3	e 7 19	PP	e 7 30	PPP	—
Potsdam		30.6	47	—	—	e 11 29	+ 9	(e 12 59)	SS	e 13.0
Prague		31.0	51	e 6 21	0	e 11 26	0	e 10 6	?	—
Copenhagen		31.2	40	—	—	11 35	+ 6	—	—	15.0
Messina	E.	32.2	74	e 7 45	PP	—	—	—	—	—
Scoresby Sund		33.1	2	e 6 40	0	12 6	+ 7	14 11	SSS	15.0
Upsala		35.2	37	i 7 0	+ 2	e 14 45	SS	i 11 36	?	e 18.0
Ottawa		38.0	299	—	—	e 13 19	+ 5	—	—	17.2
Kiruna		39.5	25	i 7 36	+ 2	e 13 34	- 3	e 16 19	SS	e 19.7
Istanbul	Z.	41.7	67	—	—	e 15 59	?	—	—	—
Morgantown		42.2	290	e 7 57	+ 1	—	—	—	—	—
Ksara		49.2	74	e 8 48	- 4	—	—	e 4 38	?	—
Fayetteville	Z.	53.9	291	i 9 22	- 5	—	—	—	—	—
La Paz		67.1	224	e 10 35	- 22	—	—	—	—	35.5
College		68.5	337	e 11 6	0	—	—	—	—	—
Boulder City		68.8	300	e 11 7	- 1	—	—	—	—	—
Tinemaha	Z.	70.6	302	e 11 20	+ 1	—	—	i 11 10	P	—
Mineral	Z.	71.0	306	e 11 24	+ 2	—	—	—	—	—
Riverside	Z.	71.7	299	e 11 26	0	—	—	—	—	—
Lick	Z.	72.7	304	e 11 31	- 1	—	—	—	—	—
Pretoria	Z.	80.6	132	e 8 51?	?	—	—	—	—	—

June 26d. 20h. 6m. 12s. Epicentre 23°48S. 179°3W. Depth of focus 0.070.  
(as on 16d.).

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
		°	°	m. s.	s.	m. s.	s.	m. s.
Karapiro	N.	15.1	196	e 3 17	+ 5	e 5 57	+ 10	—
Tuai	N.	15.7	190	—	—	i 5 56	- 2	—
Wellington		18.5	195	3 45	- 1	e 6 46	- 2	—
Cobb River	E.	18.9	200	e 3 49	- 1	e 6 50	- 5	—
Kaimata	N.E.	20.6	200	e 4 6	0	e 6 34	- 50	e 4 49 PP
Pasadena		81.5	47	i 11 28	0	—	—	—
Riverside	Z.	82.0	47	e 11 30	0	—	—	—
Palomar	Z.	82.0	48	i 11 32k	+ 2	—	—	—
Shasta		82.8	40	e 11 34	0	—	—	—
Tinemaha	Z.	83.2	45	i 11 37	+ 1	e 9 5	?	e 10 54 ?
College		91.3	13	i 12 11	- 4	—	—	—
Upsala	Z.	141.7	346	i 18 29	[- 8]	—	—	—
Collmberg		150.6	344	e 18 54	[+ 3]	—	—	e 19 3 PKP,

June 26d. 21h. 0m. 29s. Epicentre 35°4N. 136°6E. Focus at Base of Superficial Layers.  
(as on 1943, Jan. 28d.).

Intensity V at Imazu, Mandokoro, Setagawa, Kitakomatsu, Ichiba, and Toyokoyama;  
IV at Gihu, Nagoya, Tsuruga, and Kameyama.  
Epicentre 35°5N. 136°6E. Depth 30km. Macro seismic radius 100-200km. (Tokyo).  
Seismo. Bull. Cent. Met. Obs., Japan, for June, 1952, Tokyo, 1952, p.244, with macro seismic chart.

$$A = -.5936, B = +.5613, C = +.5767; \quad \delta = 0; \quad h = 0;$$

$$D = +.687, E = +.727; \quad G = -.419, H = +.396, K = -.817.$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	°	°	m. s.	s.	m. s.	s.
Gihu	0.2	90	i 0 4k	- 3	0 9	- 4
Nagoya	0.3	128	i 0 8k	0	0 15	0
Hikone	0.3	245	0 16	S	(0 16)	+ 1
Tsuruga	0.5	300	0 9a	- 1	0 16	- 2
Kameyama	0.6	191	i 0 11	- 1	0 21	0
Kyoto	0.8	242	e 0 13	- 2	0 25	- 1
Maizuru	0.9	274	0 17a	+ 1	0 30	+ 2
Takayama	0.9	35	e 0 21	+ 5	0 34	+ 6
Iida	1.0	83	e 0 16	- 2	0 27	- 4
Kanazawa	1.1	2	e 0 21	+ 2	0 34	+ 1

Continued on next page.

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1952

552

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	°	°	m. s.	s.	m. s.	s.
Osaka	1.1	229	e 0 25	+ 6	0 42	+ 9
Kobe	1.3	238	e 0 23	+ 1	0 42	+ 4
Toyama	z. 1.4	21	0 22	- 1	0 41	0
Matumoto	N. 1.4	53	0 23k	0	0 40	- 1
Owase	1.4	194	i 0 23	0	0 43	+ 2
Shizuoka	1.5	104	i 0 16k	- 8	0 34	-10
Toyooka	1.5	275	e 0 23	- 1	0 41	- 3
Omaesaki	1.6	121	e 0 27	+ 1	0 48	+ 2
Kohu	1.6	82	i 0 27	+ 1	0 46	0
Matusiro	E. 1.7	49	0 26	- 2	—	—
Wakayama	1.7	225	i 0 24	- 4	0 43	- 6
Hunatu	1.8	87	0 30	+ 1	0 55	+ 4
Nagano	E. 1.8	46	e 0 28	- 1	0 55	+ 4
Sumoto	1.8	233	i 0 28k	- 1	0 49	- 2
Oiwake	1.9	59	e 0 29	- 2	—	—
Tottori	1.9	273	e 0 34	+ 3	1 3	+ 9
Himeji	2.0	243	e 0 35	+ 3	—	—
Wazima	2.0	7	e 0 30	- 2	—	—
Misima	2.0	98	e 0 29	- 3	0 53	- 3
Ajiro	2.1	100	0 33	0	0 58	- 1
Tokusima	2.1	231	e 0 39	+ 6	1 6	+ 7
Titibu	2.1	74	e 0 35	+ 2	0 59	0
Siomisaki	2.1	199	0 32	- 1	1 1	+ 2
Takada	2.2	38	e 0 51	S	(e 0 51)	-10
Okayama	2.3	251	0 40	+ 4	1 15	+11
Maebasi	2.3	63	i 0 36a	0	1 3	- 1
Takamatu	2.4	242	0 37	- 1	—	—
Kumagaya	2.4	72	e 0 38	0	1 9	+ 3
Osima	2.4	106	e 0 36	- 2	1 4	- 2
Yokohama	2.5	89	0 41	+ 2	—	—
Tokyo	N. 2.6	83	e 0 45	+ 4	1 17	+ 6
Saigo	N. 2.8	287	e 1 2	+19	—	—
Utunomiya	2.9	67	e 0 44	- 1	1 28	+ 9
Koti	3.1	234	e 1 0	+12	—	—
Mito	3.3	73	e 0 56	+ 5	1 38	+ 9
Inawasiro	3.6	51	e 0 43	-12	—	—
Hirosima	3.6	254	e 1 4	+ 9	1 49	+12
Matuyama	3.6	244	e 1 3	+ 8	—	—
Hamada	3.8	264	e 1 13	+15	1 51	+ 9
Simidu	4.0	230	0 57	- 3	1 39	- 8
Sendai	4.5	49	e 1 3	- 5	—	—
Ooita	4.7	244	e 1 22	+12	—	—
Hukuoka	5.4	253	1 39	+19	—	—

June 27d. 2h. 29m. 18s. Epicentre 38°·3N. 69°·1E.

(as suggested in U.S.S.R. station bulletin).

A = +·2807, B = +·7350, C = +·6172;  $\delta = -5$ ;  $h = -1$ ;  
D = +·934, E = -·357; G = +·220, H = +·577, K = -·787.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
	°	°	m. s.	s.	m. s.	s.	m. s.
Stalinabad	0.4	314	i 0 8	0 <sub>g</sub>	i 0 14	+ 1 <sub>g</sub>	—
Obi-garm	0.6	49	i 0 13	0*	—	—	—
Kulyab	0.7	127	i 0 14	0 <sub>g</sub>	—	—	—
Garm	1.2	53	i 0 23	0*	0 37	- 3 <sub>g</sub>	—
Dzhergetal	1.9	61	e 0 35	+ 1	i 1 3	0 <sub>g</sub>	—
Khorog	2.1	113	i 0 40	+ 3	i 1 8	+ 2*	—
Fergana	2.9	45	e 0 51	+ 3	e 1 30	0*	—
Tashkent	3.0	3	0 59	- 1 <sub>g</sub>	i 1 43	+ 4 <sub>g</sub>	—
Andijan	3.5	45	—	—	i 1 56	0 <sub>g</sub>	—
Murgab	3.8	88	e 1 4	+ 3	i 2 0	+ 3*	—
Frunse	6.2	41	e 1 48	- 1*	e 3 10	+ 2*	3 30
Naryn	6.2	58	e 1 33	- 2	e 3 3	- 5*	—
Rybach'e	6.7	50	e 2 1	+ 4*	i 3 47	+ 6 <sub>g</sub>	—
Almata II	8.0	49	i 1 50	-10	—	—	—
Ili	8.3	44	e 2 1	- 3	—	—	—

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1952

553

June 27d. 13h. 9m. 18s. Epicentre 40°·7N. 23°·5E.

Felt in the provinces of Thessalonika (intensity VI at Askos, Sochos, and Zagliverion, V at Vasilika, Stavros, Ornylia, Vavdos, etc.), Kilkis (IV at Kilkis), Kavalla (IV at Eleutheroupolis, Kallirachi, etc.), Serrae (IV at Rodolivos, Hag, Preuma, etc.), and Larissa (III at Elasson), and on the island of Thasos (III at Thasos). Epicentre as adopted.

A. Galanopoulos.

Seismological Institute Bulletin, 1952, Athens, 1953, p. 28.

A = +·6972, B = +·3032, C = +·6495;  $\delta = -13$ ;  $h = -2$ ;  
D = +·399, E = -·917; G = +·596, H = +·259, K = -·760.

	$\Delta$	Az.	P.		O - C.	S.		O - C.	Supp.		L.
	°	°	m.	s.	s.	m.	s.	s.	m.	s.	m.
Sofia	2·0	356	0	38	+ 3	i 1	4	+ 2	i 1	6	—
Athens	2·7	176	e 0	45 <sub>a</sub>	0	e 1	21	+ 2	e 1	26	—
Bucharest	4·2	26	e 1	13	- 2*	i 2	16	- 3 <sub>g</sub>	e 1	25	—
Istanbul	4·2	83	i 1	24	0 <sub>g</sub>	i 2	9	0*	i 2	19	—
Belgrade	4·7	332	e 1	29 <sub>a</sub>	+ 6*	i 2	36	+ 1 <sub>g</sub>	i 1	38	—
Taranto	4·8	269	e 0	50?	?	e 2	0	?	e 1	3	—
Timisoara	5·3	342	e 1	39	+ 6*	e 2	46	+ 5*	i 3	3	—
Szeged	6·1	337	e 1	48	+ 1*	3	22	0 <sub>g</sub>	2	2	—
Bacau	6·3	22	e 1	54	+ 4*	e 2	57	+ 7	e 3	7	—
Messina	z.	6·6	e 1	39	- 2	e 2	50	- 8	i 1	54	—
Kalossa	6·7	332	e 1	44	+ 2	e 2	54	- 6	3	44	—
Iasi	7·1	23	e 1	48	0	e 2	49	?	e 2	54	i 4·0
Budapest	7·5	336	e 2	19	+ 11*	3	25	+ 5	4	8	—
Rome	8·4	282	e 2	54	P <sub>g</sub>	e 4	17	+ 4*	e 4	34	e 5·1
Triest	8·7	308	e 2	6	- 4	i 4	1	+ 11	e 3	22	—
Padova	9·4	298	e 2	55	+ 37	—	—	—	—	—	e 5·1
Florence	9·6	293	e 2	51	+ 30	e 4	14	+ 2	—	—	—
Prato	9·7	293	e 2	50	+ 28	i 4	57	+ 5*	—	—	—
Raciborzu	10·1	340	e 2	44	PPP	e 4	27	+ 2	e 8	41	—
Prague	11·3	329	e 2	45	- 1	e 4	15	?	e 5	33	e 5·8
Chur	11·8	306	e 2	19	- 34	—	—	—	—	—	e 6·7
Ksara	12·0	121	—	—	—	e 6	23	?	i 7	47	—
Helwan	z.	12·6	e 3	1	- 2	e 5	22	- 4	—	—	—
Zürich	12·6	307	e 3	0	- 3	e 5	37	SS	—	—	—
Collnberg	12·9	329	e 3	7	0	e 5	48	SS	e 3	18	PP
Stuttgart	13·0	313	e 3	5 <sub>a</sub>	- 4	e 6	6	+ 31	e 3	19	PP
Jena	13·2	325	e 3	20?	+ 9	e 6	3	SS	e 3	28	PPP
Karlsruhe	13·5	313	e 3	12 <sub>a</sub>	- 3	e 3	19	?	e 4	6	?
Potsdam	13·7	332	—	—	—	e 6	0	+ 8	—	—	e 7·7
Strasbourg	13·7	310	e 3	18?	0	e 6	10	SS	i 3	31	PP
Clermont-Ferrand	15·7	296	e 3	48	+ 4	—	—	—	—	—	—
Algiers Univ.	z.	16·4	e 3	51	- 2	—	—	—	—	—	—
Copenhagen	16·7	338	—	—	—	7	13	+ 10	—	—	9·7
Witteveen	z.	16·7	e 4	0	+ 3	—	—	—	—	—	—
Paris	16·9	306	e 4	0?	+ 1	e 7	12	+ 5	e 4	28	PPP
De Bilt	17·0	318	e 4	7	+ 6	e 7	32	SS	—	—	e 9·2
Upsala	19·5	350	i 4	30	- 1	i 12	20	PcS	i 4	48	PP
Kew	19·6	311	e 4	38	+ 6	—	—	—	—	—	e 10·7
Granada	21·3	269	—	—	—	10	0	?	—	—	12·4
Tamanrasset	z.	23·4	e 5	13	+ 2	e 9	27	+ 6	e 5	42	PP
Rathfarnham Castle	23·7	312	e 5	32	?	—	—	—	—	—	e 13·5
Kiruna	27·2	358	i 5	46	- 1	e 10	47	+ 22	e 14	1	?
Scoresby Sund	37·7	337	i 7	20	+ 1	—	—	—	—	—	i 15·8
Bombay	n.	47·3	e 8	58	+ 21	e 17	34	?	—	—	—
Morgantown	74·0	308	i 11	38	- 1	—	—	—	—	—	—
College	74·6	356	e 11	42	- 1	—	—	—	—	—	—
Hungry Horse	83·7	333	i 12	32	0	—	—	—	—	—	—
Fayetteville	z.	84·6	i 12	36	0	—	—	—	—	—	—

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1952

554

June 28d. 0h. 56m. 11s. Epicentre 37°·6N. 71°·6E. Depth of focus 0·030.  
(as on 2d.).

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	°	°	m. s.	s.	m. s.	s.
Khorog	0·1	180	e 0 26	- 3	i 0 46	- 6
Kulyab	1·5	282	i 0 37	+ 1	i 1 4	0
Dzhergetal	1·6	349	e 0 37	0	e 1 5	- 1
Garm	1·7	324	i 0 38	0	i 1 6	- 1
Obi-garm	1·9	306	i 0 40	0	e 1 10	0
Murgab	2·0	67	—	—	e 1 5	- 7
Stalinabad	2·4	293	i 0 46	+ 1	i 1 21	+ 2
Fergana	2·8	3	e 0 49	0	e 1 27	0
Andijan	3·2	11	—	—	1 35	0
Tchimkent	4·9	343	—	—	i 2 16	+ 4
Frunse	5·8	23	—	—	e 2 33	+ 1

June 28d. 5h. 1m. 36s. Epicentre 54°·6N. 163°·5E. (as on 1949, June 26d.).

A = -·5579, B = +·1653, B = +·8133;  $\delta = +3$ ;  $h = -7$ ;  
D = +·284, E = +·959; G = -·780, H = +·231, K = -·582.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
College	25·9	47	i 5 31	- 4	—	—	—	—
Victoria	43·9	66	8 10 <sup>a</sup>	0	—	—	—	—
Seattle	45·1	66	i 8 21	+ 1	—	—	—	—
Hungry Horse	49·0	61	i 8 48	- 2	—	—	—	—
Shasta	49·5	74	i 8 54	0	—	—	—	—
Mineral	z. 50·2	74	i 8 59 <sup>a</sup>	- 1	—	—	—	—
Butte	51·2	62	i 9 9	+ 2	—	—	—	—
Reno	z. 51·7	74	e 9 12 <sup>a</sup>	+ 1	—	—	—	—
Lick	z. 52·2	77	i 9 15 <sup>a</sup>	0	—	—	—	—
Fresno	z. 53·7	76	e 9 26 <sup>a</sup>	0	—	—	—	—
Tinemaha	z. 54·4	75	i 9 31 <sup>a</sup>	0	—	—	e 9 42	pP
Kiruna	z. 54·8	344	i 9 36	+ 2	i 9 49	?	i 10 8	?
Scoresby Sund	55·2	3	e 9 37	0	e 17 16	- 4	—	—
Pasadena	56·5	77	i 9 47 <sup>a</sup>	+ 1	—	—	i 9 56	pP
Boulder City	57·0	73	i 9 51	+ 1	—	—	—	—
Riverside	z. 57·1	77	i 9 50 <sup>a</sup>	0	—	—	e 10 1	pP
Palomar	z. 57·8	76	i 9 53 <sup>a</sup>	- 2	—	—	—	—
Tucson	62·0	73	i 10 25	+ 1	—	—	—	—
Upsala	62·7	342	i 10 31	+ 2	—	—	i 10 44	?
Kirkland Lake	z. 64·5	42	e 10 52	+11	—	—	—	—
Fayetteville	z. 67·9	58	i 11 0	- 2	—	—	—	—
Ottawa	68·5	41	i 11 3 <sup>k</sup>	- 3	—	—	—	—
Shawinigan Falls	N. 68·6	38	e 11 4	- 3	—	—	—	—
Collmberg	z. 71·6	341	e 11 28	+ 3	—	—	e 11 41	?
Morgantown	71·6	47	i 11 24	- 1	—	—	—	—
Jena	E. 72·2	342	e 11 33	+ 4	—	—	e 11 45	?
Harvard	72·5	39	e 11 30	0	—	—	—	—
Weston	72·7	39	i 11 30 <sup>a</sup>	- 2	—	—	—	—
Stuttgart	74·8	343	e 11 46 <sup>?</sup>	+ 2	—	—	—	—
Strasbourg	75·2	344	e 12 3	+17	—	—	—	—

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1952

555

June 28d. 12h. 7m. 4s. Epicentre 42°·7N. 145°·1E. Focus at Base of Superficial Layers.

Intensity V at Kenebetu and Attoko ; IV at Kusiro, Nemuro, Chana , Akkeshi, Teshkaga, Nuibetu, Akubetu, and Nishishumbetu. Epicentre as adopted. Depth 40km. Macro-seismic radius 100-200km.

Seismo. Bull. Cent. Met. Obs., Japan, June, 1952; Tokyo, 1952, p. 245, with macroseismic chart.

$$A = -.6046, B = +.4218, C = +.6757; \quad \delta = +3; \quad h = -3; \\ D = +.572, E = +.820; \quad G = -.554, H = +.387, K = -.737.$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	°	°	m. s.	s.	m. s.	s.
Kusiro	0.6	299	i 0 11k	- 1	0 19	- 2
Nemuro	0.7	29	e 0 14	+ 1	0 22	- 1
Abashiri	1.4	336	0 21	- 2	0 39	- 2
Obihiro	1.4	279	e 0 24	+ 1	0 41	0
Urakawa	1.8	252	e 0 32	+ 3	0 56	+ 5
Sapporo	2.8	278	e 0 42	- 1	1 14	- 2
Aomori	3.7	241	1 6	+10	—	—
Morioka	4.2	226	e 1 2	- 1	1 48	- 4
Mizusawa	4.7	221	—	—	2 0	- 5
Hokusima	6.1	217	—	—	e 2 32	- 8

June 28d. 16h. 27m. 52s. Epicentre 17°·2N. 97°·6W.

$$A = -.1264, B = -.9474, C = +.2939; \quad \delta = -8; \quad h = +5; \\ D = -.991, E = +.132; \quad G = -.039, H = -.291, K = -.956.$$

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	I.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Lubbock	16.8	348	4 4	+ 6	7 20	SS	—	—
Fayetteville	z. 19.1	8	i 4 26	- 1	—	—	e 5 13	PPP e 9.1
Tucson	19.2	324	i 4 30	+ 2	e 8 14	+15	—	e 9.8
Galerazamba	22.6	102	—	—	e 9 43	SS	e 10 37	SSS
Palomar	z. 23.7	317	i 5 16	+ 2	—	—	—	—
Boulder City	24.2	324	i 5 21	+ 2	—	—	—	—
Riverside	z. 24.4	317	e 5 22	+ 1	—	—	—	—
Cincinnati	24.7	24	i 5 24	0	9 54	+10	—	—
Pasadena	25.0	317	i 5 23	- 4	e 10 6	+17	i 9 10	PcP
Bogota	26.2	114	i 5 48	+10	i 10 14	+ 5	—	—
Tinemaha	z. 26.9	322	i 5 47	+ 2	—	—	i 5 51	P
Morgantown	27.1	30	i 5 46	0	e 11 13	+49	—	—
Fresno	z. 27.6	320	e 5 52	+ 1	—	—	—	—
Cleveland	27.9	25	i 5 55	+ 1	e 10 40	+ 3	—	—
Lick	z. 29.3	319	e 6 6k	0	—	—	—	—
Reno	z. 29.5	324	e 6 8	0	—	—	—	e 15.8
Berkeley	29.9	319	e 6 16	+ 4	e 12 8	+59	—	e 16.7
Mineral	z. 31.0	323	e 6 23	+ 2	—	—	—	—
Palisades	31.3	36	i 6 23a	- 1	e 11 35	+ 4	i 6 26	pP e 17.6
Bermuda	33.3	56	i 6 40	- 1	—	—	—	e 15.2
Ottawa	33.5	28	i 6 42a	- 1	12 11	+ 6	7 55	PP
Harvard	33.6	35	i 6 44a	0	—	—	—	e 20.4
Weston	33.7	35	i 6 43a	- 2	—	—	—	—
Hungry Horse	33.8	341	e 6 47	+ 1	—	—	—	—
Kirkland Lake	z. 34.1	21	e 6 47	- 1	—	—	—	—
Shawinigan Falls N.	35.8	29	e 7 5	+ 2	—	—	—	—
Seattle	36.5	332	e 7 14	+ 5	—	—	—	e 20.1
Victoria	37.7	332	7 19	0	—	—	—	—
La Paz	44.3	136	e 8 14	+ 1	—	—	9 44	PP
Resolute Bay	57.5	1	e 9 50	- 3	—	—	—	e 31.1
College	58.2	337	9 57	- 1	—	—	—	—
Granada	82.9	53	e 13 6k	+38	e 23 42	PS	—	e 45.6
Paris	83.7	41	e 12 32	0	—	—	—	e 48.1
Kiruna	z. 84.2	20	e 12 34	0	—	—	i 13 44	?
Witteveen	z. 84.8	36	e 12 38	+ 1	—	—	—	—
Alicante	84.9	51	12 34	- 4	23 14	+ 8	—	42.5
Clermont-Ferrand	85.1	44	i 12 41	+ 2	—	—	—	—
Strasbourg	87.0	40	e 12 48	0	—	—	—	—
Upsala	z. 87.2	27	i 12 49a	0	i 13 45	?	i 13 1	?
Stuttgart	87.8	39	e 12 50	- 2	—	—	—	—



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1952

556

June 28d. 19h. 5m. 52s. Epicentre 0°·2N. 125°·2E. (as on 1951, Sept. 21d.).

A = -·5764, B = +·8171, C = +·0035;  $\delta = -10$ ;  $h = +7$ ;  
D = +·817, E = +·576; G = -·002, H = +·003, K = -1·000.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Manila	14·9	344	e 3 29	- 5	e 3 59	?	—	—
Brisbane	z. 38·4	138	i 7 27 <sub>a</sub>	+ 2	e 13 20	0	i 8 58	PP
Riverview	N. 41·7	147	—	—	i 14 19	+ 9	i 17 33	ScS
Vladivostok	43·2	7	7 54	-10	e 14 9	-23	—	—
Yuzno-Sakhlinsk	49·0	15	i 8 41	- 9	e 15 31	-24	—	—
Kurilsk	49·1	21	8 41	-10	—	—	—	—
Ulegorsk	50·8	15	i 8 56	- 8	16 2	-18	—	—
Kabansk	54·0	347	9 22	- 6	e 16 49	-14	—	—
Przhevalsk	59·4	322	i 10 5	- 1	—	—	—	—
Petropavlovsk	59·6	22	9 57	-11	—	—	—	—
Murgab	60·4	315	e 10 16?	+ 3	e 18 22?	- 6	—	—
Naryn	60·4	318	e 10 15	+ 2	—	—	—	—
Almata II	60·5	322	e 10 13	- 1	—	—	—	—
Almata	60·7	322	e 10 13	- 2	—	—	—	—
Rybach'e	60·9	320	i 10 16	- 1	—	—	—	—
Khorog	61·7	313	e 10 22	0	e 18 41	- 3	—	—
Frunse	62·0	320	e 10 23	- 1	i 18 42	- 6	—	—
Andijan	62·5	317	i 10 26?	- 2	e 18 51?	- 3	—	—
Dzhergetal	62·7	315	10 29?	0	e 18 49?	- 8	—	—
Fergana	62·8	317	e 10 28	- 2	—	—	—	—
Semipalatinsk	62·9	330	e 10 26	- 4	—	—	—	—
Kulyab	63·2	313	i 10 26	- 6	e 18 48	-15	—	—
Obi-garm	63·6	314	i 10 33	- 2	e 19 3	- 5	—	—
Stalinabad	64·2	314	i 10 39	0	e 19 10	- 6	—	—
Tashkent	64·9	317	e 10 43	0	e 19 16	- 8	—	—
Tchimkent	65·1	317	e 10 43	- 2	e 19 21	- 6	—	—
Ashkabad	71·8	310	e 11 27	+ 1	—	—	—	—
Sverdlovsk	76·3	330	i 11 55	+ 3	—	—	—	—
Goris	81·3	310	12 22	+ 2	—	—	—	—
Kirovobad	81·4	311	12 21	+ 1	—	—	—	—
Grozny	82·2	314	e 12 26	+ 2	22 34	- 5	—	—
Tiflis	82·7	312	i 12 30	+ 3	e 22 40	- 4	—	—
Erevan	82·8	310	e 12 29	+ 2	22 39	- 6	—	—
Gori	83·2	312	e 12 26	- 3	—	—	—	—
Leninakan	83·3	311	e 12 35?	+ 5	—	—	—	—
Abastumanj	84·2	312	e 12 38	+ 4	—	—	—	—
Piatigorsk	84·2	314	12 30	- 4	22 57	ScS	—	—
Zugdidi	84·9	313	12 42	+ 4	—	—	—	—
College	88·5	26	12 48	- 8	—	—	—	—
Moscow	88·5	326	12 55	- 1	23 33	- 8	—	—
Ksara	89·3	304	i 13 4	+ 5	24 0	+12	—	—
Pulkovo	92·3	330	—	—	e 23 46	[ 0]	—	—
Istanbul	94·5	312	e 13 24	+ 1	—	—	—	—
Kiruna	z. 95·4	338	i 13 23 <sub>a</sub>	- 5	i 16 5	?	i 16 43	PP
Upsala	z. 98·6	331	i 13 36	- 6	i 17 42	PP	i 16 37	PP ? e 53·1
Collmberg	z. 103·6	323	e 14 6?	+ 2	—	—	—	—
Victoria	103·9	39	14 0	- 6	—	—	—	—
Jena	E. 104·5	323	e 18 45?	PP	e 19 23	?	e 19 36	?
Shasta	106·7	47	e 14 12	P	—	—	—	—
Stuttgart	106·7	322	e 18 8	?	—	—	e 18 43	PP
Strasbourg	107·7	323	e 18 58?	PP	—	—	—	—
Hungry Horse	109·8	37	e 14 28	P	—	—	e 18 34	PKP
Paris	110·8	324	e 19 14?	PP	—	—	—	—
Kirkland Lake	z. 127·1	21	e 19 6	[ 0]	—	—	—	—
Fayetteville	z. 128·6	41	i 19 9	[ 0]	—	—	e 21 4	PP
Ottawa	131·0	19	e 19 13	[- 1]	—	—	—	—
Morgantown	134·2	27	i 19 20	[ 0]	—	—	e 22 41	PP
Weston	135·1	17	e 19 27	[+ 5]	—	—	—	—
Bermuda	146·9	15	i 19 41	[- 1]	—	—	—	—

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1952

557

June 28d. 20h. 9m. 58s. Epicentre 36°·8N. 71°·4E. Depth of focus 0·015.  
(as on 1950, Aug. 28d.).

A = +·2560, B = +·7607, C = +·5964;  $\delta = -11$ ;  $h = 0$ ;  
D = +·948, E = -·319; G = +·190, H = +·565, K = -·803.

	$\Delta$	Az.	P.	O-C.	S.	O-C.
	°	°	m. s.	s.	m. s.	s.
Khorog	0·7	13	e 0 20	- 1	i 0 38	+ 2
Kulyab	1·7	311	e 0 28	- 3	i 0 52	- 2
Obi-garm	2·3	325	e 0 38	0	i 1 8	+ 1
Dzhergetal	2·4	357	e 0 42	+ 2	e 1 14	+ 4
Garm	2·4	338	i 0 40	0	i 1 10	0
Murgab	2·5	52	—	—	e 1 17	+ 5
Stalinabad	2·7	310	i 0 41	- 3	i 1 14	- 3
Fergana	3·6	5	e 0 58	+ 2	e 1 42	+ 4
Andijan	4·0	11	—	—	e 1 55	+ 8

June 29d. 8h. 4m. 46s. Epicentre 52°·1N. 171°·2W. (as on 1948, Oct. 8d.).

A = -·6096, B = -·0944, C = +·7871;  $\delta = +5$ ;  $h = -6$ ;  
D = -·153, E = +·988; G = -·778, H = -·120, K = -·617.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
College	17·5	34	i 4 9	+ 2	—	—	—	e 7·6
Hungry Horse	36·0	71	e 7 4	- 1	e 13 15	PcS	i 9 32	PcP
Tinemaha	z. 39·7	91	e 7 37	+ 1	—	—	e 7 55	?
Pasadena	z. 41·6	93	e 8 8	+17	—	—	—	—
Riverside	z. 42·2	93	e 7 57	+ 1	—	—	e 8 15	?
Boulder City	42·5	89	e 8 0	+ 1	—	—	—	—
Palomar	z. 43·0	93	e 8 3	0	—	—	—	—
Fayetteville	z. 55·0	73	i 9 33	- 2	—	—	—	—
Kiruna	z. 60·1	354	i 10 11	0	—	—	—	—
Morgantown	60·7	61	i 10 14	- 1	—	—	—	—
Palisades	62·9	56	e 10 30	0	—	—	—	e 34·4
Harvard	63·0	54	e 10 30	- 1	—	—	—	—
Weston	63·2	54	e 10 32 <sub>a</sub>	0	—	—	—	—
Upsala	z. 68·2	355	i 11 5	+ 1	—	—	i 11 25	PcP
Copenhagen	72·5	358	i 11 32	+ 2	—	—	—	—
Collmberg	z. 76·9	357	e 11 57	+ 1	—	—	—	—
Pretoria	z. 149·9	323	i 19 55 <sub>a</sub> ?	PKP <sub>2</sub>	—	—	—	—

June 29d. 9h. 56m. 40s. Epicentre 8°·2N. 73°·0W. Depth of focus 0·020.

A = +·2894, B = -·9466, C = +·1417;  $\delta = -12$ ;  $h = +7$ ;  
D = -·956, E = -·292; G = +·041, H = -·136, K = -·990.

	$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
	°	°	m. s.	s.	m. s.	s.	m. s.	m.
Galerazamba	3·4	319	i 0 56	+ 2	i 1 36	+ 1	—	—
Bogota	3·7	196	i 0 57	0	i 1 40	- 2	—	—
Chinchina	4·1	219	i 0 59	- 4	i 1 52	+ 1	—	—
Balboa Heights	6·5	277	i 1 34	0	i 2 47	- 1	—	—
Kingston	10·4	340	(e 3 47)	?	—	—	—	e 3·8
Fort de France	13·3	60	e 3 0	- 3	e 5 36	+ 8	—	—
Huancayo	20·3	186	i 4 24	- 1	e 8 2	+ 4	i 5 12	?
La Paz	25·0	167	i 5 10	0	i 10 26	SS	i 5 44	PP
Bermuda	25·3	16	i 5 14	+ 1	—	—	—	—
Morgantown	31·9	350	i 6 12	0	—	—	—	—
Palisades	32·7	0	i 6 19	0	e 15 34	?	—	—
Fayetteville	z. 33·8	329	i 6 28	- 1	e 11 41	+ 1	i 7 0	pP
Weston	34·1	3	i 6 30 <sub>k</sub>	- 1	—	—	i 7 4	pP
Harvard	34·2	3	i 6 32 <sub>k</sub>	0	—	—	i 7 6	pP
Buffalo (Larkin)	34·9	353	i 6 38	0	—	—	—	—

Continued on next page.

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1952

558

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Ottawa		37.1	357	i 6 56 <sub>a</sub>	0	12 34	+ 4	8 24	PP
Shawinigan Falls N.		38.2	1	e 7 6	0	—	—	8 38	PP
Kirkland Lake	z.	40.3	353	i 7 23 <sub>a</sub>	0	—	—	e 7 58	pP
Tucson		42.5	310	i 7 41	0	e 13 8	ScP	i 8 15	pP
Boulder City		47.1	313	i 8 12	- 5	—	—	—	—
Palomar	z.	47.6	309	i 8 21	0	—	—	1 8 57	pP
Riverside	z.	48.2	310	e 8 26	0	—	—	e 9 2	pP
Pasadena	z.	48.9	310	e 8 30	- 1	—	—	—	—
Tinemaha	z.	50.0	312	i 8 40	0	—	—	e 9 14	pP
Fresno	z.	51.0	312	e 8 46	- 1	—	—	—	—
Reno	z.	52.1	315	i 8 56	0	—	—	e 9 23	pP
Lick	z.	52.6	312	i 8 59	0	—	—	e 9 34	pP
Hungry Horse		52.9	327	i 9 1	- 1	—	—	—	—
Mineral	z.	53.7	315	i 9 6 <sub>k</sub>	- 1	—	—	i 9 43	pP
Victoria		58.3	323	9 39	- 1	—	—	e 10 16	pP
Alicante		71.3	52	14 57	PPP	—	—	—	—
College		76.2	335	i 11 31	- 1	—	—	i 12 9	pP
Stuttgart		78.7	42	e 12 23	pP	—	—	—	—
Jena	E.	80.4	40	e 12 32	pP	e 12 45	sP	—	—
Collmberg		81.2	40	e 11 59	0	—	—	e 12 35	pP
Upsala	z.	83.3	31	i 12 9	- 1	—	—	i 12 47	pP
Kiruna	z.	83.8	23	i 12 11 <sub>k</sub>	- 1	—	—	i 12 50	pP

June 29d. 15h. 52m. 20s. Epicentre 41°·6N. 142°·0E. Depth of focus 0·015.  
(as on 4d.).

Intensity IV at Urakawa, Hatinohe, Aomori, Ogihusi, Misono, Biratori, Yatiyo, Tomakomai, Hobetu, and Mukawa. Epicentre 41°·9N. 142°·2E. Depth 90-95km. Macro-seismic radius 200-300km.  
Seismo. Bull. Cent. Met. Obs., Japan, for June, 1952, Tokyo, 1952, p. 246, with macro-seismic chart.

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.
Urakawa		0.8	47	e 0 16	- 6	0 28	-10	—
Hatinohe		1.1	198	0 21	- 3	0 40	- 3	—
Aomori		1.2	229	0 25	0	0 46	+ 1	—
Mori	E.	1.2	295	0 22	- 3	0 39	- 6	—
Sapporo	z.	1.6	342	i 0 22 <sub>a</sub>	- 8	0 40	-12	—
Obihiro	E.	1.6	34	e 0 25	- 5	0 42	-10	—
Miyako		1.8	180	i 0 29	- 3	0 54	- 2	—
Morioka		2.0	198	i 0 34 <sub>a</sub>	0	1 0	0	—
Asahigawa		2.2	7	e 0 30	- 7	0 55	-10	—
Kusiro		2.3	52	i 0 31	- 7	0 53	-14	—
Akita		2.4	229	0 43	+ 3	1 13	+ 3	—
Mizusawa		2.6	195	0 43	+ 1	1 15	+ 1	—
Abashiri		2.9	35	e 0 46	0	1 13	- 8	—
Isinomaki		3.2	189	e 0 48	- 2	—	—	—
Nemuro		3.2	57	e 0 55	+ 5	—	—	—
Sendai		3.4	194	e 0 52 <sub>a</sub>	- 1	1 33	0	—
Yamagata		3.6	201	e 0 55	- 1	1 39	+ 1	—
Hokusima		4.0	198	e 1 5	+ 4	1 50	+ 3	—
Inawasiro		4.3	200	e 1 5	0	—	—	—
Niigata		4.3	213	e 1 15	+10	2 11	+16	—
Aikawa		4.6	220	e 1 9	0	2 3	+ 1	—
Shirakawa		4.7	198	e 2 12	+62	—	—	—
Onahama		4.8	192	e 1 13	+ 1	2 1	- 6	—
Mito		5.4	195	e 1 19	- 1	2 21	0	—
Utunomiya		5.4	200	e 1 18	- 2	2 15	- 6	—
Tukubasan		5.6	196	e 1 22	0	2 24	- 2	—
Kumagaya		5.8	201	e 1 31	+ 6	2 32	+ 1	—
Nagano	E.	5.8	213	e 1 26	+ 1	2 36	+ 5	—
Wazima		5.8	225	e 1 31	+ 6	2 37	+ 6	—
Matusiro		5.9	211	1 27	+ 1	2 34	+ 1	—

Continued on next page.

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1952

559

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.	
	$^{\circ}$	$^{\circ}$	m.	s.	s.	m.	s.	s.	m.	s.
Oiwake	5.9	208	e 1	31	+ 5	—	—	—	—	—
Kashiwa	6.0	196	1	25	- 3	—	—	—	—	—
Matumoto	N. 6.2	212	e 1	35	+ 5	—	—	—	—	—
Tokyo	6.2	198	e 1	31	+ 1	2	39	- 2	—	—
Toyama	6.2	218	e 1	12	-18	—	—	—	—	—
Yokohama	6.5	198	e 1	45	+10	—	—	—	—	—
Kohu	6.6	204	e 1	38	+ 2	2	53	+ 3	—	—
Iida	6.9	209	e 2	0	+20	—	—	—	—	—
Misima	N. 6.9	201	e 1	46	+ 6	—	—	—	—	—
Osima	7.1	198	e 1	42	- 1	3	0	- 2	—	—
Nagoya	7.5	213	e 2	4	+16	3	38	+26	—	—
Omaesaki	7.6	204	1	24	-25	—	—	—	—	—
Kameyama	8.0	215	e 1	48	- 7	3	27	+ 3	—	—
College	45.0	34	i 8	3	- 1	—	—	—	—	—
Kiruna	Z. 62.4	338	i 10	10	- 1	—	—	—	i 10	22
Victoria	63.0	48	10	13	- 3	—	—	—	—	—
Upsala	Z. 69.1	334	i 10	53 <sup>a</sup>	- 1	—	—	—	i 11	1
Tinemaha	Z. 72.8	56	e 11	17	+ 1	—	—	—	—	—
Pasadena	Z. 74.7	58	i 11	27	0	—	—	—	—	—
Riverside	Z. 75.3	58	e 11	30	- 1	—	—	—	—	—
Boulder City	75.6	54	i 11	32	0	—	—	—	e 11	43
Palomar	Z. 76.1	57	e 11	34	- 1	—	—	—	—	—
Collmberg	77.4	330	e 11	41	- 1	—	—	—	e 11	48
Jena	E. 78.2	330	e 11	46	- 1	—	—	—	e 11	54
Tucson	80.6	56	e 12	1	+ 1	—	—	—	—	—
Stuttgart	80.9	330	e 12	1	0	—	—	—	e 12	10
Fayetteville	Z. 87.1	42	i 12	32	0	—	—	—	i 13	1
Harvard	91.0	24	i 12	52 <sup>k</sup>	+ 1	—	—	—	—	—
Weston	91.2	24	e 12	52	0	—	—	—	—	—

June 29d. 16h. 43m. 52s. Epicentre 55°·6N. 162°·0E. Depth of focus 0·005.  
(as on 1949, June 7d.).

A = -·5398, B = +·1754, C = +·8233;  $\delta$  = -3;  $h$  = -7;  
D = +·309, E = +·951; G = -·783, H = +·254, K = -·568.

	$\Delta$	Az.	P.		O-C.	S.		O-C.	Supp.		L.
	$^{\circ}$	$^{\circ}$	m.	s.	s.	m.	s.	s.	m.	s.	m.
Klyuchi	1.0	316	i 0	24	+ 5	0	42	+ 9	—	—	—
Petropavlovsk	3.2	220	i 0	48	- 1	i 1	24	- 3	—	—	—
Kurilsk	13.7	227	e 3	17	+ 4	—	—	—	—	—	—
Uglegorsk	13.8	250	3	18	+ 4	e 5	56	+10	—	—	—
Yuzno-Sakhlinsk	14.8	242	3	29	+ 2	6	16	+ 6	—	—	—
College	25.9	48	i 5	28	0	e 9	20	?	—	—	e 13.6
Kabansk	32.1	289	e 6	24	+ 1	—	—	—	—	—	—
Victoria	44.3	66	8	6	+ 1	—	—	—	—	—	—
Hungry Horse	49.2	61	e 8	46	+ 2	—	—	—	e 10	7	P <sub>C</sub> P
Shasta	50.1	73	e 8	51	0	—	—	—	i 9	9	pP
Mineral	Z. 50.7	73	e 8	56	+ 1	—	—	—	i 9	14	pP
Reno	Z. 52.3	73	e 9	8	+ 1	—	—	—	—	—	—
Lick	Z. 52.8	77	i 9	14	+ 3	—	—	—	—	—	—
Kiruna	Z. 53.6	343	i 9	16 <sup>a</sup>	- 1	—	—	—	i 9	34	pP
Fresno	Z. 54.3	75	e 9	18	- 4	—	—	—	—	—	—
Tinemaha	Z. 54.9	74	e 9	27	+ 1	—	—	—	e 9	46	pP
Pasadena	Z. 57.1	76	e 9	41	- 1	i 9	55	?	i 10	0	pP
Boulder City	57.6	72	e 9	45	- 1	—	—	—	—	—	—
Riverside	Z. 57.7	76	e 9	47	+ 1	—	—	—	e 10	5	pP
Tchimkent	57.7	299	e 9	48	+ 2	—	—	—	—	—	—
Fergana	58.0	296	e 9	50	+ 2	—	—	—	—	—	—
Palomar	Z. 58.4	76	e 9	51	0	—	—	—	e 10	9	pP
Pulkovo	58.7	334	i 9	52	- 1	—	—	—	—	—	—
Dzhergetal	59.2	296	e 9	59	+ 2	—	—	—	—	—	—
Obi-garm	60.3	297	e 10	4	0	—	—	—	—	—	—

Continued on next page.

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1952

560

		$\Delta$ °	Az. °	P. m. s.		O-C. s.	S. m. s.	O-C. s.	Supp. m. s.		L. m.
Upsala	z.	61.5	341	i 10	12 <sub>a</sub>	0	i 11 25	?	i 10 26	pP	—
Tucson		62.6	72	e 10	20	0	—	—	—	—	—
Kirkland Lake	z.	64.3	41	e 10	30	-1	—	—	—	—	—
Fayetteville	z.	68.1	58	i 10	54	-1	—	—	i 11 12	pP	—
Piatigorsk		68.2	318	10	56	0	—	—	—	—	—
Tiflis		69.4	315	11	4	+1	—	—	—	—	—
Gori		69.5	316	e 11	4	0	—	—	—	—	—
Collnberg		70.4	340	e 11	9	0	—	—	—	—	—
Jena	E.	71.0	340	e 11	14	+1	e 11 58	?	e 11 22	pP	—
Morgantown		71.5	46	i 11	16	0	—	—	e 11 31	pP	—
Harvard		72.3	38	i 11	20 <sub>k</sub>	0	—	—	—	—	—
Weston		72.4	38	e 11	21 <sub>a</sub>	0	—	—	—	—	—
Stuttgart		73.5	342	e 11	28	0	—	—	—	—	—
Strasbourg		74.0	343	i 11	31 <sub>a</sub>	+1	—	—	e 11 45	PcP	—

June 30d. 6h. 0m. 58s. Epicentre 42°·5N. 144°·4E. (as on 1952, March 5d.).

Intensity V at Shiranuka and Akankoban; IV at Kusiro, Nuibetsu, Attoko, Otu, and Oda; II-III at Obihiro, Urakawa, Ogihushi, Akkeshi, Tsurui, Nishishumbetu, Nishiashoro, and Yachiyo. Epicentre 42°·4N. 144°·9E. Focal depth 20km.

Seismo. Bull. Cent. Met. Obs., Japan, 1952, Tokyo, 1952, p. 247, with macroseismic chart.

A = -·6013, B = +·4305, C = +·6731;  $\delta = -4$ ;  $h = -3$ ;  
D = +·582, E = +·813; G = -·547, H = +·392, K = -·740.

		$\Delta$ °	Az. °	P. m. s.		O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	
Kusiro		0.5	0	i 0	15 <sub>k</sub>	+1	0 24	+1	—	—
Obihiro		1.0	295	e 0	25	+4	0 43	+7	—	—
Nemuro		1.2	46	i 0	22 <sub>k</sub>	-2	0 36	-5	—	—
Urakawa		1.3	254	i 0	29	+4	0 50	+6	—	—
Abashiri		1.5	357	0	29	+1	0 50	+1	—	—
Asahigawa		2.0	311	e 0	43	+8	1 12	+10	—	—
Sapporo		2.3	284	e 0	44	+4	1 17	+8	—	—
Hatinohe		2.9	228	0	49	+1	1 23	-1	—	—
Aomori		3.2	238	0	57	+5	—	—	—	—
Miyako		3.4	214	e 0	52	-3	1 28	-9	—	—
Morioka		3.7	222	e 0	57	-3	1 36	-9	—	—
Mizusawa	N.	4.2	218	e 1	3	-4	1 46	-11	—	—
Akita		4.3	231	—	—	—	e 1 48	-12	—	—
Sendai		5.0	214	e 1	11	-7	2 10	-8	—	—
Yamagata		5.2	218	2	16	S	(2 16)	-6	—	—
Hokusima		5.6	214	e 1	31	+4	2 29	-4	—	—
Inawasiro		5.9	215	1	28	-3	2 34	-6	—	—
Onahama		6.2	207	e 2	5	+1 <sub>g</sub>	—	—	—	—
Shirakawa		6.3	212	e 1	48	-2 <sub>g</sub>	—	—	—	—
Mito		6.8	208	e 1	38	-6	2 53	-10	—	—
Utunomiya		6.9	213	e 1	39	-6	—	—	—	—
Tukubasan		7.1	210	e 1	44	-4	2 58	-12	—	—
Maebasi		7.4	216	e 2	17	+8 <sub>g</sub>	—	—	—	—
Kumagaya		7.4	213	e 1	52	0	3 10	-8	—	—
Nagano	E.	7.5	222	e 2	0	+7	—	—	—	—
Kashiwa		7.5	209	e 2	2	+9	—	—	—	—
Oiwake		7.6	218	e 1	58	+3	—	—	—	—
Matsuro		7.6	221	—	—	—	e 3 12	-11	—	—
Tokyo		7.7	210	e 1	56	0	3 12	-13	—	—
Toyama		8.0	226	e 2	26	+6 <sub>g</sub>	—	—	—	—
Kohu		8.2	215	e 2	2	-1	—	—	—	—
Misima	N.	8.5	212	e 2	38	+9 <sub>g</sub>	—	—	—	—
Iida		8.6	218	e 2	50	-2 <sub>g</sub>	—	—	—	—
Nagoya		9.3	221	e 2	17	0	—	—	—	—
College		43.3	35	i 7	58	-7	—	—	—	—

Continued on next page.



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1952

561

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.
Kiruna	z.	62.2	339	i 10 20 <sub>a</sub>	- 6	—	—	—
Shasta		66.1	57	e 10 57	+ 6	—	—	—
Hungry Horse		66.3	46	i 10 47	- 5	—	—	—
Reno	z.	68.3	56	e 11 12	+ 7	—	—	—
Lick	z.	68.5	59	e 11 13	+ 7	—	—	—
Upsala	z.	69.0	335	i 11 4 <sub>a</sub>	- 5	i 11 15	? i 11 27	PcP
Tinemaha	z.	70.8	58	e 11 22	+ 2	—	e 11 29	PcP
Mount Wilson	z.	72.8	59	e 11 38	+ 6	—	—	—
Riverside	z.	73.3	59	e 11 35	0	—	e 11 41	PcP
Boulder City		73.6	56	e 11 32	- 5	—	i 11 45	PcP
Palomar	z.	74.1	59	e 11 47	+ 7	—	—	—
Collmberg	z.	77.5	332	e 11 54	- 5	—	e 12 6	PcP
Tucson		78.6	57	e 12 1	- 4	—	—	—
Stuttgart		80.9	332	e 12 14	- 3	—	—	—
Fayetteville	z.	85.3	46	i 12 35	- 5	—	—	—
Ottawa		85.5	27	e 12 35	- 6	—	—	—
Morgantown		88.9	33	i 12 52	- 6	—	—	—
Weston		89.4	26	e 12 56	- 4	—	—	—

June 30d. 21h. 4m. 28s. Epicentre 0°·3S. 30°·1E.

Felt at Entebbe, Fort Portal, Kilembe, and Kampala, in Uganda, and at Kakamega in Kenya. Epicentre 0°·25S. 30°·0E. (Strasbourg).

J. P. Henderson.

Some notes on earth tremors in East African Meteorological Department, Technical Memorandum, No. 4, 1953, pp.9 and 17.

$$A = +.8651, B = +.5015, C = -.0052; \quad \delta = -7; \quad h = +7;$$

$$D = +.502, E = -.865; \quad G = -.004, H = -.003, K = -1.000.$$

		$\Delta$	Az.	P.	O-C.	S.	O-C.	Supp.	L.
		$^{\circ}$	$^{\circ}$	m. s.	s.	m. s.	s.	m. s.	m.
Pretoria	z.	25.4	184	i 5 31 <sub>a</sub>	0	—	—	—	i 13.4
Johannesburg		25.8	184	e 5 33	- 1	—	—	—	i 13.5
Kimberley	z.	28.7	190	i 6 1 <sub>a</sub>	0	—	—	—	i 15.0
Pietermaritzburg	z.	29.2	179	i 6 5 <sub>a</sub>	0	—	—	—	i 15.2
Helwan	z.	30.0	2	6 12	0	—	—	e 6 51	PP i 14.8
Grahamstown	z.	33.0	185	i 6 39	0	—	—	e 14 47	Q i 17.1
Tamanrasset	z.	33.2	316	i 6 37 <sub>k</sub>	- 3	e 12 3	+ 3	e 8 1	PP —
Ksara		34.4	8	e 6 54	+ 3	12 50	+31	8 12	PP —
Athens		38.5	352	e 7 24	- 2	e 13 26	+ 4	e 17 28	ScS e 17.8
Messina		40.6	343	e 7 45	+ 2	e 13 45	- 9	—	— 23.3
Istanbul		41.2	359	e 7 50	+ 2	e 13 57	- 5	e 17 8	SS 20.5
Taranto		42.2	345	6 41	-75	e 14 32	+15	—	— 24.2
Goris		42.3	18	e 8 0	+ 3	e 14 24	+ 5	—	— —
Erevan		42.4	16	e 8 0	+ 2	—	—	—	— —
Lenkoran		42.5	23	8 3	+ 4	14 28	+ 6	—	— —
Kirovobad		43.4	17	8 4	- 2	—	—	—	— —
Tiflis		43.9	15	e 8 8	- 2	—	—	—	— —
Baku		44.3	21	e 8 18	+ 5	e 15 0	+12	—	— —
Sotchi		44.5	10	e 8 14	- 1	—	—	—	— —
Algiers Univ.	z.	44.6	329	e 8 17	+ 1	e 14 41	-11	e 9 59	PP e 22.6
Yalta		44.7	4	i 8 17	+ 1	—	—	—	— —
Rome		44.9	342	e 8 19	+ 1	e 14 49	- 7	10 5	PP e 24.0
Simferopol		45.2	4	i 8 20	0	—	—	—	— —
Theodosia		45.4	5	e 8 21	- 1	e 15 1	- 3	—	— —
Grozny		45.6	16	8 26	+ 2	—	—	—	— —
Piatigorsk		45.6	13	—	—	15 5	- 1	—	— —
Belgrade	z.	45.7	351	e 8 15 <sub>a</sub>	- 9	e 10 5	PP	e 10 47	PPP —
Makhach-Kala		45.8	17	i 8 28	+ 3	—	—	—	— —
Kizyl-Arvat		45.9	28	e 8 24 <sub>?</sub>	- 2	e 15 14 <sub>?</sub>	+ 3	—	— —
Florence		47.0	342	—	—	e 14 49	-37	e 18 25	SS e 22.8

Continued on next page.

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1952

562

	$\Delta$ °	Az. °	P. m. s.	O-C. s.	S. m. s.	O-C. s.	Supp. m. s.	L. m.
Kishinev	47.1	358	e 8 37	+ 2	—	—	—	—
Alicante	47.7	328	e 8 53	+13	e 15 55	PPS	13 55	PcS 23.6
Almeria	47.7	325	e 8 50	+10	16 2	PPS	10 10	PcP 26.0
Triest	48.0	345	e 8 38	- 5	15 28?	-13	e 10 34	PP
Granada	48.6	324	i 8 50k	+ 3	i 15 56	+ 7	11 20	PPP i 24.8
Malaga	48.8	323	e 8 44	- 5	e 15 50	- 2	i 10 40	PP 25.2
Pavia	48.9	341	—	—	e 20 22	SSS	—	e 28.5
Tortosa	49.0	331	e 9 48	+58	i 15 57	+ 2	—	—
Uzhgorod	49.2	354	e 9 1	+ 9	—	—	—	—
Lwow	50.2	355	e 8 53	- 7	—	—	—	—
Toledo	50.7	326	i 9 0 <sup>a</sup>	- 3	e 16 27	+ 9	e 14 28	PcS 26.7
Zürich	51.1	342	e 9 4	- 2	—	—	—	—
Raciborz	51.2	350	e 9 5	- 2	e 16 42	PPS	e 12 7	PPP
Clermont-Ferrand	51.7	336	e 9 14	+ 3	—	—	—	27.5
Prague	51.9	348	e 9 14	+ 2	e 16 32	- 3	e 12 11	PPP e 29.0
Stuttgart	52.1	343	e 9 14	0	e 16 32	- 6	e 11 14	PP e 27.5
Strasbourg	52.4	342	e 9 9	- 7	e 16 58	PPS	e 11 20	PP e 26.3
Stalinabad	52.5	38	i 9 15	- 2	i 16 42	- 1	—	—
Karlsruhe	52.6	342	e 9 15	- 3	—	—	—	—
Obi-garm	53.2	38	e 9 20	- 2	e 16 52	0	—	—
Collmberg	53.4	347	e 9 17	- 7	—	—	—	e 26.5
Jena	53.4	346	e 9 17	- 7	e 9 23	P	e 11 24	PP
Khorog	53.6	41	e 9 25	0	—	—	—	—
Dzhergetal	54.4	38	i 9 31	0	i 17 8	- 1	—	—
Paris	54.4	338	i 9 25	- 6	e 17 11	+ 2	e 10 40	PcP e 27.5
Potsdam	54.4	347	e 8 31	-60	e 21 8	SS	—	e 29.5
Tashkent	54.5	36	e 9 34	+ 2	e 17 11	+ 1	—	—
Tchimkent	55.3	35	e 9 38	0	e 17 20	- 1	—	—
Murgab	55.7	42	e 9 41	+ 1	—	—	—	—
Andijan	56.0	38	i 9 39	- 4	—	—	—	—
Moscow	56.2	5	9 44	0	17 36	+ 3	—	—
De Bilt	56.3	343	i 9 43	- 2	i 17 27	- 7	—	e 25.5
Witteveen	56.4	344	i 9 41	- 4	—	—	—	—
Jersey	56.6	336	e 8 17	?	e 19 56	ScS	—	—
Kew	57.6	339	e 10 32?	+38	—	—	—	—
Frunse	58.6	37	i 9 57	- 4	i 18 3	- 1	—	—
Naryn	58.7	40	e 9 56	- 6	—	—	—	—
Rybach'e	59.3	39	i 10 8	+ 2	—	—	—	—
Pulkovo	59.9	0	e 10 12	+ 2	e 18 24	+ 3	—	—
Durham	60.7	340	i 8 47	-88	—	—	—	—
Upsala	60.8	353	i 10 10	- 6	—	—	i 11 4	PcP
Rathfarnham Castle	61.4	337	e 9 12?	-68	—	—	e 9 38	?
Sverdlovsk	62.0	19	i 10 21	- 3	18 44	- 4	—	e 34.5
Kiruna	68.3	357	i 11 0	- 5	e 19 58	- 8	i 11 8	P e 36.5
Scoresby Sund	78.4	345	e 12 10	+ 6	e 22 8	+ 8	—	37.5
Kabansk	82.0	37	e 12 20	- 3	—	—	—	—
Nanking	89.1	58	13 4	+ 6	e 23 29	[+ 2]	23 57	S
Resolute Bay	99.1	347	—	—	24 29	[+ 6]	—	40.6
Hungry Horse	123.0	333	i 18 58	[ 0]	—	—	e 20 40	PP
Tucson	131.4	315	e 19 16	[+ 1]	—	—	—	—
Boulder City	131.8	322	i 19 17	[+ 2]	—	—	—	—
Reno	132.2	328	e 19 15	[- 1]	—	—	—	—
Tinemaha	133.2	325	e 19 20	[+ 2]	—	—	—	—
China Lake	133.6	323	e 19 19	[ 0]	—	—	—	—

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained as part of a global earthquake relocation project (Villaseñor et al., 1997) initiated with funding from the US National Science Foundation through grant EAR-9725140 and collected by SGA [Storia Geofisica Ambiente](#) (Bologna) on behalf of the [Istituto Nazionale di Geofisica e Vulcanologia](#) (Rome), in the frame of [Euroseismos](#) project.

A digital hypocenter file of the ISS (Villaseñor and Engdahl, 2005) can be obtained from the USGS web site: <http://earthquake.usgs.gov/scitech/iss/>

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Villaseñor, A., and E.R. Engdahl, *A digital hypocenter catalog for the International Seismological Summary*, Seism. Res. Lett., vol. 76, no. 5, pp. 554-559, 2005.

Villaseñor, A., E.A. Bergman, T.M. Boyd, E.R. Engdahl, D.W. Frazier, M.M. Harden, J.L. Orth, R.L. Parkes, and K.M. Shedlock, *Toward a comprehensive catalog of global historical seismicity*, Eos Trans. AGU, vol. 78, no. 50, pp. 581, 583, 588, 1997.