The International Seismological Summary.

1936 April, May, June.

FORMERLY THE BULLETIN OF THE BRITISH ASSOCIATION SEISMOLOGY COMMITTEE.

The present quarter of the International Seismological Summary deals with 177 epicentres, classified as follows :—

N_1	11	R_1	17	X	61
N_2	20	R_2	15		
N_3	29	R_3	24		

Abnormal focal depth has been noted in the following cases :

	Date.	Epicentre.		Depth.
		°	°	
April	28d. 13h.	6·8S.	129·3E.	0·030
	30d. 17h.	31·5S.	65·0W.	0·030
May	6d. 3h.	8·3S.	74·0W.	0·025
	8d. 9h.	6·0S.	113·0E.	0·080
	8d. 17h.	61·2N.	153·0W.	0·0125
	19d. 7h.	5·9S.	112·5E.	0·080
	19d. 20h.	9·0S.	124·0E.	0·015
	20d. 0h.	13·4N.	121·5E.	0·025
	23d. 15h.	41·0S.	179·5W.	0·030
June	3d. 2h.	41·6N.	142·1E.	0·0075
	5d. 14h.	0·4N.	123·7E.	0·030
	10d. 8h.	5·5S.	147·0E.	0·0225
	25d. 16h.	32·4N.	138·0E.	0·060
	29d. 14h.	36·2N.	70·7E.	0·030

KEW OBSERVATORY,
Richmond, Surrey.

1947, May 27th.

Original 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 have been scanned and collected by SGA Storia Geofisica Ambiente (Bologna) thanks to funding provided by the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

1936 APRIL, MAY, JUNE.

April 1d. 2h. 9m. 22s. Epicentre 3°·6N. 126°·7E. (as on 1935 May 20d.). R.1.

A = −·5964, B = +·8002, C = +·0628; δ = −4;
D = +·802, E = +·598; G = −·038, H = +·051, K = −·998.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		7·4	168	i 2 0	P*	i 2 28	Pg	—	—
Palau		8·6	61	2 1	− 1	3 43	+ 4	—	—
Manila		12·3	334	i 2 50a	− 2	5 22	+12	6·3	—
Kosyun		19·3	344	4 16	− 6	7 56	+ 4	—	—
Takao		20·0	344	4 26	− 4	—	—	—	—
Tainan		20·4	344	4 31	− 3	8 10	− 4	—	—
Arisan		20·7	345	4 49	+12	8 48	SS	—	—
Isigakizima		20·9	355	4 31	− 8	8 20	− 4	—	—
Karenko		21·0	346	4 37a	− 3	—	—	—	—
Hokoto		21·1	344	4 33	− 8	—	—	—	—
Taityu		21·4	346	4 34	−10	8 39	+ 5	—	—
Malabar		21·9	243	5 0	+10	i 9 36	+52	10·6	—
Taihoku		22·0	347	i 4 52a	+ 1	8 44	− 2	—	12·8
Batavia		22·1	244	4 53	+ 1	i 9 1	+13	e 11·6	—
Hong Kong		22·3	329	4 56k	+ 2	5 59	?	—	13·1
Naha		22·6	2	4 58	+ 1	9 2	+ 5	—	—
Nake		24·9	7	5 23	+ 4	9 41	+ 2	—	—
Titizima		27·8	31	5 44	− 1	—	—	—	—
Medan		27·9	272	i 5 54	+ 8	i 11 6	+36	—	—
Zi-ka-wei	E.	28·0	351	e 5 46	− 1	i 10 23	− 9	—	—
	N.	28·0	351	i 5 56	+ 9	i 10 35	+ 3	—	—
Kagosima		28·2	7	5 42	− 7	—	—	—	—
Miyazaki		28·7	8	5 46	− 7	10 26	−17	—	—
Tomie		29·1	4	5 59	+ 2	—	—	—	—
Nagasaki		29·3	5	5 52	− 7	10 43	−10	—	—
Unzendake		29·3	6	6 1	+ 2	—	—	—	—
Kumamoto		29·4	6	5 54	− 6	10 40	−15	—	—
Nanking		29·4	347	5 53	− 7	10 38	−17	14·8	18·0
Simidu		29·8	12	6 29	+26	—	—	—	—
Ooita		30·0	8	6 11	+ 6	—	—	—	—
Uwazima		30·1	10	6 10	+ 4	—	—	—	—
Hukuoka		30·2	7	6 9	+ 2	10 58	− 9	—	17·0
Hukuoka B		30·2	7	5 58	− 9	10 59	− 8	e 15·8	17·0
Muroto		30·5	13	6 13	+ 4	—	—	—	—
Koti		30·6	12	6 12	+ 2	11 6	− 8	—	—
Matuyama		30·8	10	6 4	− 8	11 10	− 7	—	—
Siomisaki		31·0	15	6 10	− 4	11 8	−12	—	—
Hirosima		31·2	10	6 6	−10	11 13	−10	—	—
Tokusima		31·3	13	6 17	0	—	—	—	—
Tadotu		31·4	11	6 31	+14	—	—	—	—
Wakayama		31·6	14	6 13	− 6	11 8	−21	—	—
Husan		31·6	6	6 25	+ 6	11 16	−13	—	17·0
Sumoto		31·6	13	6 12	− 7	11 21	− 8	15·0	16·5
Hamada		31·7	9	6 21	+ 1	11 19	−12	—	—
Okayama		31·8	11	6 24	+ 3	—	—	—	—
Kobe		32·0	15	e 6 16	− 7	11 27	− 8	e 13·4	17·3
Hatidyozima		32·0	21	6 38	+15	—	—	—	—
Yagi		32·1	15	6 21	− 3	—	—	—	—
Osaka		32·1	14	6 13	−11	11 19	−18	—	—
Tu		32·4	15	6 14	−12	—	—	—	—
Sakai		32·5	9	6 26	− 1	—	—	—	—

Continued on next page.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Kyoto		32·5	14	6 23	− 4	11 29	−14	—	—
Kameyama		32·5	15	6 22	− 5	11 22	−21	—	—
Omaesaki		32·8	18	6 23	− 7	—	—	—	—
Toyooka		32·8	13	6 34	+ 4	11 38	−10	13·3	23·4
Hamamatu		32·8	17	6 22	− 8	11 24	−24	—	—
Nagoya		32·9	17	e 6 26	− 5	—	—	e 12·8	21·1
Miyadu		32·9	13	6 37	+ 6	—	—	—	—
Hikone		32·9	16	6 34	+ 3	11 41	− 8	—	—
Ibukisan		33·0	16	6 31	− 1	11 40	−11	—	—
Gihu		33·1	17	6 32	− 1	11 44	− 8	—	—
Ito		33·4	18	6 53	+18	—	—	—	—
Numadu		33·4	18	6 38	+ 3	—	—	—	—
Misima		33·5	18	6 35	− 1	—	—	—	—
Iida		33·5	18	6 40	+ 4	—	—	—	—
Mera		33·6	20	6 40	+ 3	12 1	+ 1	—	—
Hunatu		33·8	19	6 31	− 8	—	—	—	—
Kohu		33·9	19	6 33	− 6	11 41	−23	—	—
Zinsen		33·9	0	e 6 32	− 7	i 11 57	− 7	e 14·0	19·5
Yokohama		34·0	19	6 58	+18	—	—	—	—
Keizyo		34·0	1	e 6 42	+ 2	11 20	+14	15·0	—
Kanazawa		34·2	13	6 46	+ 4	—	—	—	—
Matumoto		34·2	16	6 45	+ 3	—	—	—	—
Tokyo		34·3	19	6 51	+ 8	—	—	—	—
Toyama		34·5	35	6 37	− 8	11 55	−19	—	—
Oiwake		34·5	18	6 39	− 6	12 4	−10	—	—
Husiki		34·5	14	6 39	− 6	—	—	—	—
Kumagaya		34·6	18	6 48	+ 2	—	—	—	—
Tyosi		34·7	21	6 44	+ 2	—	—	—	—
Nagano		34·7	17	6 49	+ 3	—	—	—	—
Maebasi		34·7	18	6 43	− 3	11 44	−33	—	—
Kakioka		34·9	19	6 47	− 1	11 58	−22	—	—
Tukubasan		34·9	19	6 46	− 2	11 51	−29	—	—
Wazima		35·1	15	6 52	+ 2	12 14	− 9	—	—
Takada		35·1	17	6 57	+ 7	—	—	—	—
Mito		35·2	19	6 57	+ 6	—	—	—	—
Heizyo		35·4	359	7 0	+ 7	12 27	0	—	17·5
Dairen		35·6	353	6 47	− 7	12 24	− 6	—	—
Aidu		36·1	19	7 1	+ 2	—	—	—	—
Niigata		36·2	17	7 15	+15	—	—	—	—
Hukusima		36·4	18	6 55	− 6	12 28	−14	—	—
Yamagata		36·8	19	7 9	+ 4	—	—	—	—
Sendai		37·0	18	7 1	− 5	12 43	− 7	—	—
Perth		37·0	196	7 38	+32	13 28	+37	—	41·6
Yingkow		37·3	355	6 14	−55	11 51	−65	—	—
Chiufeng		37·7	347	i 7 4a	− 8	i 12 46	−16	18·5	22·6
Mizusawa		37·9	19	e 7 15	+ 1	i 12 56	− 9	17·4	—
Akita		38·1	18	7 19	+ 3	13 5	− 3	—	—
Morioka		38·4	19	7 22	+ 4	13 5	− 7	—	—
Miyako		38·6	20	7 29	+ 9	13 17	+ 2	—	—
Aomori		39·3	18	7 29	+ 3	13 19	− 7	—	—
Adelaide		40·2	165	i 7 45	+11	i 13 47	+ 8	i 19·0	26·9
Hakodate		40·2	16	7 40	+ 6	—	—	—	—
Muroran		40·8	16	7 34	− 5	13 40	− 8	—	—
Urakawa		41·1	19	7 46	+ 5	13 52	− 1	—	—
Sapporo		41·6	17	7 40	− 5	13 54	− 6	—	—
Calcutta	E.	41·6	301	7 48	+ 3	14 17	+17	20·6	—
Obihiro		42·0	19	7 58	+ 9	—	—	—	—
Kusiro		42·4	20	7 17	−35	—	—	—	—
Asahigawa		42·5	17	7 55	+ 2	14 6	− 7	—	—

Continued on next page.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Haboro	42·9	17	7 29	−27	—	—	—	—
Nemuro	43·1	21	8 0	+ 2	14 16	− 6	—	—
Riverview	44·0	150	e 8 8	+ 3	i 14 45	+ 9	e 22·9	27·8
Sydney	44·0	150	i 8 5	0	i 14 46	+10	24·6	29·2
Melbourne	44·7	158	e 8 8	− 2	14 58	+12	21·1	28·9
Ootomari	45·3	16	8 15	0	—	—	—	—
Colombo	46·7	276	e 8 20	− 6	15 13	− 1	22·9	25·8?
Sikka	47·7	15	9 34	+60	—	—	—	—
Hyderabad	49·2	289	8 45	0	15 36	−14	20·5	27·1
Agra	52·0	302	8 57	− 9	i 16 21	− 7	25·0	28·2
Irkutsk	52·1	343	i 9 8	+ 1	16 20	−10	25·6	—
Dehra Dun	53·1	306	9 18	+ 3	16 58	+15	22·6	37·6
Bombay	54·7	291	e 9 24	− 2	17 6	+ 1	25·6	29·0
Semipalatinsk	60·9	329	10 4	− 7	18 23	+ 5	22·7	—
New Plymouth	61·0	139	10 3	− 8	i 19 59	(0)	31·6	—
Andijan	61·2	314	e 10 4	− 9	18 29	− 3	32·5	—
Arapuni	61·5	138	10 26	+11	18 50	+14	31·6	36·6
Christchurch	62·6	145	i 10 28	+ 6	i 18 58	+ 8	30·0	35·4
Wellington	62·6	142	10 28	+ 6	18 53	+ 3	32·6	33·6
Apia	63·4	108	e 10 42	+14	i 19 13	+13	29·6	—
Tashkent	63·5	315	i 10 21	− 8	18 54	− 7	—	36·6
Tchimkent	63·7	316	10 29	− 1	19 4	0	33·1	—
Samarkand	64·7	313	10 31	− 6	19 11	− 5	26·7	—
Sverdlovsk	74·0	329	i 11 27	− 8	20 59	− 9	38·8R	45·2
Honolulu	75·2	69	i 11 46	+ 5	i 21 20	− 2	34·4	—
Baku	77·6	312	i 11 52	− 3	i 21 58	+ 9	38·6	44·4
Grozny	80·9	314	12 13	0	i 22 15	−10	40·1	—
Tananarive	81·0	250	e 12 19k	+ 6	e 22 19	− 7	35·6	47·6
Tiflis	81·5	312	i 12 10	− 6	i 22 21	−11	e 37·6	70·6
Erevan	81·7	310	13 38	+81	23 54	+80	45·6	—
Piatigorsk	82·9	314	12 21	− 2	i 22 36	−10	39·6	—
College	84·8	26	e 12 27	− 5	i 22 53	[− 5]	e 35·0	—
Sotchi	85·3	314	12 33	− 2	23 1	[0]	36·1	—
Moscow	86·5	326	12 34	− 7	23 5	[− 5]	44·0	51·3
Theodosia	88·4	315	e 12 50	0	23 17	[− 6]	34·6	—
Ksara	88·6	303	i 12 46a	− 5	23 24	[0]	—	—
Simferopol	88·7	315	12 53	+ 2	i 23 25	[+ 1]	42·6	—
Yalta	89·2	314	e 12 52	− 2	i 23 23	[− 5]	43·6	—
Sebastopol	89·7	315	i 12 54	− 2	i 23 27	[− 4]	43·6	—
Pulkovo	90·1	330	e 12 51	− 7	23 18	[−15]	45·6R	51·1
Sitka	91·3	33	e 13 6	+ 3	i 23 38	[− 2]	i 42·6	—
Helwan	92·8	300	i 13 15	+ 5	i 23 43	[− 6]	—	62·4
Bucharest	95·0	315	e 13 26	+ 6	24 42	0	46·6	54·6
Lemberg	95·4	321	e 13 24	+ 2	e 24 8	[+ 5]	e 31·6	59·0
Königsberg	96·3	336	i 13 30	+ 4	i 24 9	[+ 1]	e 31·9	56·6
Upsala	96·3	331	i 13 28	+ 2	i 24 34	{+ 9}	e 43·6	59·8
Belgrade	98·8	316	i 13 38a	0	i 25 19	+ 3	e 51·5	64·8
Budapest	99·1	319	13 34	− 5	i 24 17	[− 4]	32·6	59·6
Copenhagen	100·3	329	i 13 47	+ 2	25 47	+18	42·6	—
Victoria	100·3	39	e 13 51	+ 6	i 24 29	[+ 2]	i 46·6	—
Vienna	100·6	320	e 13 49	+ 3	24 24	[− 5]	e 48·6	63·1
Seattle	101·1	40	—	—	e 24 24	[− 7]	e 41·8	—
Prague	101·2	323	e 13 49a	0	i 24 28	[− 4]	e 42·6	57·6
Graz	101·5	319	e 13 40	−10	i 24 27	[− 6]	e 37·3	66·3
Zagreb	101·6	318	e 13 45a	− 6	i 24 47	[+14]	e 51·0	60·5
Bergen	101·7	335	13 56	+ 5	24 33	[− 1]	46·1	59·0
Cheb	102·4	323	e 13 59	+ 4	e 24 33	[− 4]	e 48·6	63·5
Hamburg	102·4	327	e 13 51a	− 4	24 34	[− 3]	e 49·2	52·6
Laibach	102·5	318	e 15 9	+74	e 24 45	[+ 7]	e 44·1	58·2
Jena	102·6	334	i 13 58	+ 3	i 25 38	−11	45·6	65·6

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Hof		102·7	323	—	—	e 27 54	PS	e 45·6	63·6
Scoresby Sund		103·0	349	14 2k	+ 5	24 36	[− 4]	—	—
Ukiah		103·1	49	e 14 38	−20	26 18	+24	e 45·9	—
Triest		103·1	319	e 13 55a	− 3	i 24 35	[− 6]	i 49·9	54·0
Göttingen		103·3	305	i 13 58a	− 1	e 26 14	+19	e 44·6	55·2
Berkeley		104·1	50	e 13 57	− 5	i 24 42	[− 3]	—	—
Capodimonte	N.	104·3	314	e 14 8	+ 5	e 24 38	[− 8]	56·6	64·6
Padova		104·4	319	i 14 8	+ 4	24 49	[+ 2]	e 50·6	59·6
Stuttgart		104·9	323	e 14 0a	− 6	e 24 44	[− 5]	e 49·6	65·1
Karlsruhe		105·2	324	14 7	− 1	i 24 47	[− 4]	61·1	64·9
Florence		105·4	317	14 10	+ 1	26 43	+30	—	—
Chur		105·4	321	e 14 2k	− 7	e 24 45	[− 7]	—	—
De Bilt		105·7	327	i 14 13	+ 3	i 24 53	[0]	e 50·6	55·3
Zurich		105·8	322	e 14 13k	+ 3	e 24 49	[− 5]	—	—
Strasbourg		105·8	323	i 14 12a	+ 2	i 24 48	[− 6]	e 54·6	68·1
Basle		106·3	322	e 14 12	− 1	e 24 51	[− 5]	—	—
Uccle		106·8	327	e 14 15	0	i 24 58	[0]	51·6	66·2
Cape Town	E.	107·1	236	i 14 24	+ 7	25 5	[+ 5]	50·6	52·2
	N.	107·1	236	i 14 41	+24	i 26 30	+ 2	51·6	53·4
Tinemaha		107·4	50	e 14 17	− 1	i 25 3	[+ 2]	—	—
Lille		107·6	326	—	—	e 25 2	[0]	e 51·6	56·6
Durham		107·8	331	14 21	+ 1	25 1	[− 2]	—	61·1
Edinburgh		107·8	333	i 14 22	+ 2	i 25 1	[− 2]	48·6	66·4
Haiwee		107·9	50	e 18 11	[0]	e 25 1	[− 3]	—	—
Pasadena		108·4	52	i 14 34	+10	i 25 8	[+ 2]	44·2	—
Mount Wilson		108·5	52	e 14 28	+ 4	e 25 8	[+ 2]	—	—
Stonyhurst		108·7	331	i 14 30	+ 5	i 25 1	[− 6]	50·1	68·0
Paris		108·8	324	i 14 28	+ 3	e 25 4	[− 4]	42·6	57·6
Kew		109·0	328	i 14 27a	+ 1	i 25 7	[− 2]	48·6	61·9
Bozeman		109·1	39	e 17 58	[−17]	i 25 10	[+ 1]	e 44·9	—
Riverside		109·1	52	e 14 33a	+ 6	i 25 11	[+ 2]	—	—
Oxford		109·3	329	e 14 28	0	i 25 8	[− 2]	e 35·8	68·7
Bidston		109·3	331	i 14 30	+ 2	i 25 6	[− 4]	—	56·0
La Jolla		109·5	53	—	—	i 25 6	[− 5]	—	—
Puy de Dôme		110·0	321	e 14 35	+ 4	24 49	[−24]	—	—
Rathfarnham Castle		110·9	332	e 14 29	− 6	i 26 47	{+34}	47·6	63·1
Barcelona		112·5	318	19 27	PP	e 28 43	PS	e 38·3	60·8
Bagnères		113·0	320	e 19 20	PP	e 29 8	PS	e 53·1	61·1
Tortosa	N.	113·9	318	18 42	[+13]	29 12	PS	e 50·6	61·6
Algiers		113·9	313	e 14 39	−11	e 29 4	PS	i 51·6	70·6
Tucson		114·8	52	e 18 50	[+18]	25 36	[+ 3]	e 52·1	—
Ivigtut		115·1	357	14 53	− 3	25 50	[+16]	44·6	—
Almeria		117·8	315	i 18 47	[+ 7]	25 39	[− 4]	e 57·4	73·8
Granada		118·4	316	i 15 13	+ 2	—	—	—	—
Malaga		119·2	316	18 51	[+ 8]	25 35	[−13]	—	60·6
San Fernando		120·6	316	e 18 55	[+ 8]	i 25 52	[0]	58·1	65·6
Des Moines		121·8	35	—	—	e 25 48	[− 8]	e 51·6	—
Madison		123·1	30	e 20 38	PP	e 25 58	[− 2]	e 58·2	—
Chicago		125·0	32	e 19 8	[+11]	i 26 6	[+ 1]	51·2	—
Florissant		125·5	36	e 15 46	0	i 26 3	[− 4]	i 53·1	66·6
St. Louis		125·7	36	i 19 10	[+12]	i 26 6	[− 1]	i 57·9	—
Ann Arbor		126·5	28	e 21 2	PP	i 26 20	[+11]	e 54·7	78·1
Little Rock		126·9	41	e 19 0	[− 1]	e 26 12	[+ 2]	e 61·1	78·3
Ottawa		127·1	20	e 19 12	[+11]	e 26 6	[− 5]	e 52·6	—
Toronto		127·2	24	e 15 56?	+ 1	26 12	[+ 1]	60·4	—
Buffalo		128·1	24	i 19 11	[+ 8]	i 26 7	[− 7]	—	—
Vermont		128·7	18	i 19 3	[− 1]	e 26 16	[0]	55·9	—
Tacubaya	N.	129·4	61	18 52	[−14]	—	—	—	—
Ithaca		129·4	22	e 19 14	[+ 8]	i 26 38	[+20]	—	—
Pennsylvania		130·2	25	i 22 52	PKS	e 28 48	{+25}	e 70·6	83·6

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Oak Ridge		131·0	17	i 19 6	[− 3]	e 26 0	[−22]	e 56·6	—
Fordham		131·7	21	i 19 0	[−10]	—	—	—	—
Philadelphia		132·0	23	e 19 16	[+ 6]	e 28 21	{−13}	i 66·6	—
Georgetown		132·2	25	e 19 10	[− 1]	i 28 33	{− 3}	62·6	—
Charlottesville		132·3	28	e 19 22	[+11]	e 26 28	[+ 2]	e 54·4	—
Columbia		134·2	33	e 19 22	[+ 8]	i 28 44	{− 4}	e 54·6	—
Merida	N.	136·8	54	19 10	[− 7]	—	—	—	—
Santiago		146·1	153	e 20 1	[+25]	—	—	—	74·6
La Plata		148·4	172	19 56	[+16]	—	—	66·4	—
Balboa Heights		151·0	64	19 43	[0]	—	—	—	—
Port au Prince		151·0	40	i 19 56	[+13]	—	—	—	—
San Juan		154·7	29	i 19 58	[+10]	i 30 36	{−13}	i 73·4	—
Huancayo		156·7	111	i 20 8	[+18]	e 30 43	{−17}	e 70·6	—
Rio de Janeiro		158·4	206	i 20 7	[+16]	—	—	i 44·0	—
La Paz		160·6	133	i 20 7a	[+13]	i 26 52	SKS	72·6	79·6

Additional readings :—
Amboina iS_cS = +15m.40s.
Isigakizima S_cS = +16m.15s.
Batavia iPZ = +5m.1s., iPEN = +5m.4s.
Hong Kong ? = +4m.45s., +5m.12s. =PP +0s. and +5m.49s.
Zi-ka-wei iN = +6m.7s. and +6m.18s., PPN = +6m.33s., PPPN = +6m.43s., iE = +10m.41s., iN = +10m.53s., iE = +11m.47s., iN = +12m.13s., iE = +13m.19s. and +13m.47s., iN = +13m.57s., +14m.13s., +16m.45s., and +18m.9s.
Nanking iP = +6m.3s.
Simidu PP = +7m.13s.
Muroto PP = +7m.8s.
Koti S_cS = +16m.51s.
Sumoto eN = +7m.39s., eE = +7m.43s., eZ = +12m.5s.
Kobe iN = +7m.41s., iZ = +7m.47s., iE = +7m.50s., iNZ = +8m.54s., iE = +9m.2s.
Toyooka ePE = +6m.38s., iZ = +7m.47s., iE = +7m.54s.
Nagoya iP = +6m.35s.
Heizyo e = +9m.48s.
Perth SS = +15m.33s. =SSS +1s.
Chiufeng iPEZ = +7m.13s., iS_cSEN = +17m.30s. =S_cS +2s.
Adelaide i = +8m.0s., iPP = +8m.49s., iPPP = +9m.32s., i = +14m.3s., +14m.49s., +16m.59s., and +18m.7s.
Riverview ePEN = +8m.11s., iP = +8m.14s., iE = +17m.58s., iN = +18m.6s. = S_cS +0s.
Sydney SS = +18m.8s. =S_cS +2s., SSS = +21m.2s.
Melbourne iP = +8m.21s., PPP = +10m.21s., i = +14m.30s., SSS = +18m.18s. = S_cS +8s.
Colombo iP = +8m.31s.
Agra iEN = +9m.8s., iPPEN = +11m.8s., PPPEN = +11m.56s., SSN = +19m.59s., SSSEN = +21m.38s.
Bombay iPEN = +9m.30s., PPEN = +11m.39s., PPPEN = +12m.34s., PSEN = +17m.39s., SSEN = +20m.41s., SSSEN = +22m.38s.
Arapuni PP = +13m.2s., SS = +23m.38s.?
Christchurch P_cP = +11m.11s., PP = +12m.51s., P_cS = +15m.37s., S_cS = +20m.27s., SS = +23m.0s., P_cSS_cP = +26m.42s.
Wellington PP = +12m.43s., P_cS? = +15m.21s., S_cS? = +19m.28s., SS = +23m.23s., SSS? = +25m.38s.? L_q = +26m.38s.?
Apia PP = +12m.56s., PPP = +14m.27s.; T_o = 2h.9m.39s.
Sverdlovsk L_q = +33m.56s.
Honolulu iPP = +14m.44s.
Tananarive iE =eN = +12m.22s., eN = +15m.59s. and +19m.1s., EN = +22m.40s., SSE = +27m.10s., N = +34m.11s.
Tiflis i = +12m.19s., PS = +22m.58s.
College e = +12m.37s., +12m.57s., +13m.27s., and +16m.9s., ePP = +17m.51s., eSS = +27m.51s.
Moscow PP = +15m.50s.
Ksara ipP = +13m.1s., PP = +16m.11s., PS = +24m.18s., SS = +28m.16s.
Pulkovo S = +23m.41s., PS = +24m.43s., SS = +30m.8s., L_q = +41m.38s.
Sitka iP = +13m.11s., i = +13m.28s., iPP = +16m.52s., i = +19m.3s., iPS = +24m.51s., e = +26m.8s., eSSS = +33m.10s.
Helwan pP = +13m.38s., PP = +16m.30s., sS = +24m.23s.
Bucharest iE = +13m.32s., iN = +13m.42s. and +16m.38s., PPE = +17m.16s., PPPEN = +19m.40s., SKSEN = +23m.50s., SKKSE = +24m.38s., PPSEN = +26m.2s. and +26m.14s.

Continued on next page.

Königsberg iE = +13m.35s., eE = +15m.14s. and +16m.34s., ePPZ = +17m.24s., iN = +18m.10s., ePPPN = +19m.37s., eZ = +20m.33s., eN = +20m.55s., eZ = +22m.10s., iSKKSE = +24m.38s., iSN = +25m.7s., iN = +25m.37s., iPPSE = +26m.42s.
Upsala PP = +17m.25s., PPP = +19m.19s., iSKSE = +24m.1s., iSSE = +31m.33s.
Belgrade i = +17m.39s. = PP +5s., +19m.59s., and +26m.43s. = PS +11s.
Budapest i = +13m.46s.
Copenhagen e = +14m.1s. and +17m.26s., PP = +17m.48s., PPP = +19m.59s., +20m.21s., e = +21m.54s., eEN = +22m.32s., eE = +23m.2s., iSKS = +24m.27s., SKKS = +25m.8s., PS = +26m.38s., PPS = +27m.32s., SS = +31m.56s.
Vienna PP = +17m.58s., PPP = +20m.33s., PS = +26m.57s., PPS = +27m.48s., SSS = +37m.9s.
Seattle iSKS = +24m.38s., e = +27m.47s.
Prague ePP = +18m.0s., ePS = +26m.56s.
Graz iPP = +18m.2s., iPS = +25m.8s. = SKKS +4s., iSS = +29m.50s., iSSS = +34m.42s.
Zagreb ePEN = +13m.48s., ePcP = +13m.55s., ePP = +16m.52s., iPPP = +18m.7s., ePPPP = +19m.54s., eEZ = +21m.56s., eSKSNW = +24m.14s., iSKKS = +24m.32s., ePS = +26m.9s., ePPS = +27m.19s., i = +27m.55s., eNWZ = +33m.6s., e = +36m.57s., eZ = +37m.59s., e = +40m.3s., eNW = +42m.27s., eZ = +43m.38s.?
Bergen PP = +17m.56s., SKSE = +24m.28s., SKKSN = +25m.3s., SKKSE = +25m.8s., SN = +25m.27s., SE = +25m.38s.?, eN = +42m.26s.
Cheb e = +15m.58s., ePPP? = +18m.12s., ePSP? = +28m.5s.
Hamburg iZ = +13m.59s., eZ = +17m.13s., iPPZ = +18m.11s., iPPE = +18m.14s., iSKSN = +24m.38s., eSSE = +33m.50s., eSSSN = +37m.8s., iN = +37m.54s.
Laibach e = +17m.15s., +22m.36s., and +33m.11s.
Jena eE = +17m.46s., eNZ = +18m.2s. = PP +0s., iE = +18m.14s., eN = +20m.22s., eE = +20m.26s., iSE = +24m.37s. = SKS −1s., eE = +27m.38s. = PS +25s., i = +28m.8s., eN = +32m.38s. = SS +0s., eE = +33m.10s., iN = +37m.8s., iEZ = +37m.38s.
Hof eNE = +33m.38s., +37m.58s.
Scoresby Sund PKP = +17m.38s., iPP = +18m.18s., PPP = +20m.20s.
Ukiah SKS = +24m.43s., SKKS = +25m.44s., PS = +27m.37s., SS = +32m.45s.
Triest iP = +14m.1s., i = +17m.6s., iPP = +18m.14s., i = +24m.26s., +24m.47s. and +26m.24s., iPS = +27m.27s., i = +27m.57s., iPPS = +28m.25s., i = +28m.36s., i = +33m.10s., iSS = +33m.27s., iSL? = +34m.17s., i = +36m.24s. = SSS −11s., iSSS = +37m.25s., iN = +43m.3s.
Göttingen iPNZ = +14m.1s., iPcP?E = +14m.12s., iPPEZ = +18m.14s., iSKS = +24m.37s. = SKS −5s., eSKKSN = +25m.44s., ePSE = +27m.44s., ePPSN = +28m.44s., eSS?E = +32m.38s.?
Berkeley eE = +14m.16s., ePPZ = +16m.44s., iPKPZ = +17m.14s., eSKSZ = +24m.46s., ePSE = +27m.31s.
Padova eP = +14m.11s., i = +18m.26s. = PP +10s. and +18m.32s.
Stuttgart iP = +14m.9s., e = +16m.38s., iPP = +18m.29s., e = +25m.48s., eS = +26m.34s., ePS = +27m.28s., ePPS = +28m.38s., eSS = +33m.8s.
Chur e = +14m.11s., ePP = +18m.32s.
De Bilt ePP = +18m.33s., i = +27m.48s. = PS +6s.
Zurich ePP = +18m.29s., e = +26m.39s.
Strasbourg iPP = +18m.42s., iPPP = +21m.5s., iSKKS = +25m.28s., iS = +26m.0s., iPS = +28m.24s., SS = +33m.48s., SSS = +38m.48s.
Uccle iNZ = +14m.20s., iPPE = +18m.40s. and iPPN = +18m.47s., iPPPZ = +21m.3s., iSN = +26m.20s., iPSE = +28m.7s., iN = +29m.9s., iPPSE = +30m.37s., iE = +33m.3s., SSN = +33m.37s., iN = +34m.32s., SSSE = +37m.50s., SSSN = +38m.4s.
Cape Town iN. = +16m.34s., iE = +17m.2s., e = +17m.44s., iPPE = +18m.48s., iPPN = +18m.54s., ePPPN = +20m.44s., eN = +23m.11s., eE = +23m.47s., eN = +24m.44s., iPSE = +27m.52s., iPPSN = +28m.39s., iPPSE = +28m.47s., iN = +33m.39s., SSE = +34m.41s., eSSSN = +37m.58s., eSSSE = +38m.16s.
Tinemaha iZ = +18m.50s. = PP +12s., iPKKPZ = +29m.53s., iPKPPKPZ = +37m.44s.
Durham PP = +18m.48s., SS = +34m.12s.
Edinburgh i = +18m.53s., i = +25m.34s. = SKKS +17s., +26m.1s., +26m.22s., +26m.33s., +27m.5s., +28m.32s., +28m.44s., +34m.33s., +35m.13s., and +38m.44s.
Haiwee ePKPPKPZ = +37m.41s. = SSS −6s.
Pasadena iPKPNZ = +18m.38s. = PP −7s., iPPZ = +18m.56s., iSN = +26m.29s., iPSN = +28m.14s., iPPSNZ = +29m.19s., iPKKPZ = +30m.0s., iSSN = +34m.35s., iPKPPKPZ = +37m.43s.
Mount Wilson iPKPZ = +18m.37s.
Stonyhurst iPP = +18m.57s., PS = +28m.16s., SS = +34m.1s.
Paris S = +26m.34s., iPS = +28m.17s.

Continued on next page.

Kew iPP = +18m.59s., iSKKSEN = +25m.56s., iSN = +26m.39s., iSPEZ = +28m.12s., iPSN = +28m.19s., iPPSEN = +29m.27s., iSSN = +34m.17s., iEN = +34m.33s., iE = +35m.20s., iN = +35m.41s., iPPPE = +36m.55s., iSSSEN = +38m.17s., iSSSSN = +41m.25s., iE = +43m.57s., iN = +44m.35s.
Bozeman ePP = +19m.2s., e = +19m.26s. and +24m.3s., SKKS = +26m.2s., ePS = +28m.29s., ePPS = +30m.26s., eSS = +34m.56s., e = +38m.29s.
Oxford i = +19m.0s. = PP +8s., +29m.9s. and +34m.29s. = SS +20s.
Bidston iPP = +19m.2s., iSKKS = +25m.59s., iS = +26m.44s., iPPS = +29m.20s., iSS = +34m.16s., i = +34m.36s., and +35m.37s., iSSS = +37m.4s., iSSSS = +41m.29s.
Puy de Dôme iPP = +19m.9s.
Rathfarnham Castle i = +19m.15s. = PP +11s. and +25m.1s., iPS = +28m.21s., i = +34m.50s. = SS +39s. and +39m.33s.
Algiers ? = +16m.56s., iPP = +19m.37s.
Tucson ePP = +19m.30s., SKKS = +26m.48s., ePS = +29m.18s., eSS = +35m.38s., eSSS = +39m.26s.
Ivigtut PKP = +18m.21s., e = +19m.31s. = PP −3s., PP = +19m.39s., eZ = +23m.14s., SKKSN = +26m.38s., SN = +27m.26s., PS = +29m.13s., eN = +30m.26s., eE = +30m.56s. and +35m.2s., SS = +35m.32s., SSS = +39m.26s.
Almeria PP = +19m.1s., PS = +29m.55s., SS = +36m.29s.
Granada PP = +20m.6s.
Malaga pPKP? = +19m.49s., PP = +20m.7s., PPP = +22m.41s., i = +24m.6s., S = +28m.11s., i = +29m.17s., PS = +29m.49s., SS = +36m.35s.
San Fernando iPP = +20m.26s., SE = +28m.33s., SS = +36m.45s. and +37m.6s.
Des Moines eSKKS = +27m.0s., e = +32m.28s., eSSS = +39m.38s., e = +47m.58s.
Madison ePPP = +23m.28s., eSKKS = +27m.30s., eS = +28m.35s., ePS = +30m.28s., ePPS = +32m.3s., eSS = +36m.55s., e = +40m.3s.
Chicago ePP = +20m.58s., iSKKS = +27m.46s., eSKSP = +30m.20s., ePS = +30m.51s., e = +35m.58s. ,iSS = +36m.34s., iSSS = +42m.32s.
Florissant epPZ = +16m.4s., ePKPZ = +18m.57s., epPKPE = +19m.4s., ipPKPNZ = +19m.8s., iPPZ = +20m.52s., iPPEN = +20m.55s., ipPP = +21m.5s., iSKP = +22m.9s., iPPPZ = +24m.6s., isSKSZ = +26m.34s., isSKSE = +26m.36s., iSKKSEN = +27m.50s., iSEN = +28m.55s., iPSEN = +30m.55s., iPPSEN = +32m.21s., iEN = +34m.20s., iSSN = +38m.1s., iSSSEN = +42m.46s.
St. Louis iPPEN = +20m.54s., iSKPN = +22m.9s., esSKSEN = +26m.34s., iSKKSEN = +27m.49s., iPSEN = +30m.53s., ePPSN = +32m.31s., eSSN = +37m.57s., iEN = +40m.49s.
Ann Arbor iS = +28m.2s., iPS = +31m.26s., eSS = +38m.8s., eSSS = +43m.14s.
Little Rock ipPKPEN = +19m.14s., ePPEN = +21m.8s., iSKPEN = +22m.28s., eSKKSEN = +28m.0s., ePSE = +31m.1s., iPPSN = +32m.31s., ePPPSEN +33m.38s., eSSEN = +38m.52s.
Ottawa e = +21m.28s., eE = +38m.0s. = SS −3s.
Toronto ePKP = +19m.13s., PP = +21m.7s., S = +29m.22s., PS = +31m.15s., SS = +38m.7s. ; T_0 = 2h.9m.25s.
Buffalo iPP = +21m.0s., iPPP = +23m.55s., i = +24m.7s., iPPS = 32m.50s., iSS = +37m.50s.
Vermont ePP = +21m.3s., iPKS = +22m.15s., eSKKS = +27m.45s., ePS = +31m.10s., SS = +37m.47s.
Ithaca ePPN = +21m.32s., eEN = +21m.50s., iSKPEN = +22m.36s., iSKKSEN = +28m.8s.
Pennsylvania e = +41m.51s.
Oak Ridge eE = +19m.19s., iZ = +20m.49s., PP = +21m.31s., eN = +21m.49s., iSKPZ = +22m.38s., iSKPE = +22m.42s., iN = +24m.36s., eE = +26m.24s., iSKKS = +28m.24s., eE = +29m.40s., iSKSP = +31m.26s. = SKSP +6s., iSKSPN = +31m.43s. = PS +3s., eN = +34m.31s. and +39m.2s. = SS +10s., eSPS = +41m.20s.
Fordham iPP = +21m.46s., i = +21m.56s., eSKP = +22m.34s.
Philadelphia iPKP = +19m.20s., ePP = +21m.33s., iPKS = +22m.43s., eSS = +38m.42s.
Georgetown iPKP = +19m.16s., iPP = +21m.33s., i = +22m.2s., iSKP = +22m.42s., iPSKS = +31m.35s., iPPS = +33m.42s., iSS = +39m.9s.
Charlottesville ePP = +21m.38s., iPKS = +22m.38s., iSKKS = +28m.28s., ePS = +32m.8s., iSS = +39m.12s.
Columbia ePP = +21m.50s., iPKS = +22m.50s., eSKSP = +31m.43s., e = +33m.35s., eSS = +38m.57s., e = +40m.9s.
Santiago SS = +42m.23s.
Port au Prince SKP = +23m.11s., PP = +23m.24s., PPP = +26m.46s.
San Juan $iPKP_2$ = +20m.5s., i = +24m.10s., +24m.50s., +33m.24s., and, +34m.25s., iSS = +43m.0s., i = +48m.50s., +49m.30s., +61m.33s., +66m.0s., and +69m.30s.
Huancayo PKS = +24m.43s., e = +50m.38s.
La Paz $iPKP_2E$ = +20m.13s., ipPKP = +21m.23s., iSPKPZ = +22m.23s., SKP = +23m.43s., iSKKSE = +30m.22s., iSKKSN = +31m.20s., iSKSP = +34m.0s., iSKSPZ = +34m.54s., iPSN = +35m.38s., iPPSN = +38m.6s., iE = +39m.46s., SSE = +44m.48s.

April 1d. 5h. 26m. 10s. Epicentre 3°·6N. 126°·7E. (as at 2h.). X.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina	7·4	168	1 54	+ 9	—	—	—	—
Manila	12·3	334	2 58	+ 6	5 26	+16	—	—
Batavia	22·1	244	5 3	+11	9 35	SS	—	—
Nanking	29·4	347	e 5 54	− 6	—	—	—	—
Irkutsk	52·1	343	e 11 59	?	e 15 50?	−40	—	—
Frunse	60·5	318	e 10 9	+ 1	—	—	—	—
Andijan	61·2	314	e 10 7	− 6	—	—	—	—
Samarkand	64·7	313	e 10 28	− 9	—	—	—	—
Sverdlovsk	74·0	329	i 11 29	− 6	—	—	—	—
Tiflis	81·5	312	e 11 13	−63	e 21 25	−67	e 38·3	—
Moscow	86·5	326	i 12 35	− 6	—	—	e 44·3	53·4
La Paz	N. 160·6	133	e 19 20	[−34]	—	—	—	—

Long waves recorded at Kew.

April 1d. 19h. 56m. 16s. Epicentre 3°·2S. 150°·9E. N.2.
(as determined for 1936 April 2d. 6h.).

A = −·8724, B = +·4856, C = −·0558; δ = 0;
D = +·486, E = +·874; G = +·049, H = −·027, K = −·998.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina	22·7	269	4 50	− 8	9 10	+11	—	—
Riverview	30·6	180	—	—	e 10 56	−18	e 15·7	19·0
Sydney	30·6	180	—	—	e 12 29	SS	16·1	17·8
Melbourne	35·1	189	—	—	e 14 21	SS	16·2	20·2
Hukuoka B	41·6	334	e 7 46	+ 1	e 14 8	+ 8	—	—
Husan	43·5	334	e 8 0	− 1	14 34	+ 6	—	—
Wellington	43·7	154	—	—	e 17 44?	SS	—	—
Hong Kong	44·0	307	14 47	S	(14 47)	+11	—	—
Christchurch	44·7	158	e 14 41	S	(e 14 41)	− 5	—	—
Nanking	46·6	322	e 8 28	+ 3	i 15 20	+ 7	—	—
Vladivostok	49·4	342	i 8 51	+ 4	e 15 56	+ 4	—	—
Chiufeng	53·7	328	e 9 16	− 3	16 57	+ 5	—	—
Colombo	71·6	278	e 19 45	S	(e 19 45)	−55	—	—
Andijan	83·5	312	e 12 28	+ 2	—	—	—	—
Tashkent	85·8	312	—	—	e 23 5	[0]	—	—
Sverdlovsk	92·8	327	e 13 10	0	e 23 40	[− 9]	—	—
Ksara	112·4	305	e 14 46	+ 4	e 24 32	[−52]	—	—
Granada	138·7	329	e 21 29	?	—	—	—	—

Additional readings :—
Hong Kong PP = +15m.12s.
Christchurch PP = +17m.56s. =ScS −14s., PPP = +19m.49s., PPPP = +22m.4s.
Chiufeng eSN = +17m.1s. =PS +7s.
Tashkent i = +23m.15s. =SKS +10s., e = +24m.5s. =PS +4s.

April 1d. 20h. 10m. 58s. Epicentre 3°·6N. 126°·7E. (as at 2h.). R.1.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina	7·4	168	1 51	+ 6	1 3 3	− 6	—	—
Palau	8·6	61	2 4	+ 2	3 33	− 6	—	—
Manila	12·3	334	i 2 57 a	+ 5	5 43	S*	6·7	7·7
Kosyun	19·3	344	4 20	− 2	8 2	SS	—	—
Tainan	20·4	344	4 35	+ 1	—	—	—	—
Arisan	20·7	345	4 26	−11	—	—	—	—
Isigakizima	20·9	355	4 30	− 9	8 24	0	—	—
Karenko	21·0	346	4 36	− 4	—	—	—	—
Taityu	21·4	346	4 47	+ 3	—	—	—	—
Malabar	21·9	243	4 9	−41	8 25	−19	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Taihoku		22·0	347	4 48	− 3	e 8 48	+ 2	—	14·7
Batavia		22·1	244	i 4 55	+ 3	8 56	+ 8	—	—
Hong Kong		22·3	329	(4 51)	− 3	4 51	P	8·0	14·8
Naha		22·6	2	4 59	+ 2	9 5	+ 8	—	—
Phu-Lien		26·0	313	e 5 28	− 1	e 9 56	− 2	12·0	18·1
Titizima		27·8	31	5 37	− 8	10 37	+ 9	—	—
Medan		27·9	272	5 57	+11	i 10 44	+14	—	—
Zi-ka-wei	N.	28·0	351	e 5 46	− 1	10 13	−19	—	17·5
Kagosima		28·2	7	5 54	+ 5	—	—	—	—
Miyazaki		28·7	8	5 45	− 8	10 16	−27	—	—
Tomie		29·1	4	5 38	−19	—	—	—	—
Unzendake		29·3	6	5 41	−18	—	—	—	—
Nagasaki		29·3	5	5 56	− 3	—	—	—	—
Nanking		29·4	347	i 5 58	− 2	10 46	− 9	14·9	17·0
Simidu		29·8	12	5 58	− 5	11 5	+ 4	—	—
Ooita		30·0	8	5 56	− 9	—	—	—	—
Hukuoka		30·2	7	e 6 5	− 2	e 10 57	−10	—	—
Hukuoka B		30·2	7	e 6 3	− 4	e 11 3	− 4	18·4	21·4
Siomisaki		31·0	15	6 11	− 3	—	—	—	—
Hirosima		31·2	10	6 12	− 4	—	—	—	—
Wakayama		31·6	14	6 14	− 5	11 32	+ 3	—	—
Husan		31·6	6	e 6 56	+37	e 11 22	− 7	e 13·7	—
Sumoto	E.	31·6	13	i 6 19a	0	e 11 39	+10	e 15·9	18·1
	N.	31·6	13	i 6 16a	− 3	e 11 33	+ 4	—	20·9
Hamada		31·7	9	6 15	− 5	11 13	−18	—	—
Kobe	E.	32·0	15	e 6 34	+11	e 11 56	+21	e 13·3	18·4
		32·0	15	e 6 21	− 2	11 33	− 2	e 15·4	20·7
Osaka		32·1	14	6 19	− 5	—	—	—	—
Taikyu		32·3	4	6 23	− 2	11 39	− 1	16·3	—
Tu		32·4	15	6 23	− 3	—	—	—	—
Kyoto		32·5	14	6 36	+ 9	—	—	—	—
Kameyama		32·5	15	6 24	− 3	—	—	—	—
Omaesaki		32·8	18	6 27	− 3	—	—	—	—
Hamamatu		32·8	17	6 24	− 6	—	—	—	—
Hikone		32·9	16	6 28	− 3	—	—	—	—
Nagoya		32·9	17	e 6 29	− 2	e 8 2	?	—	—
Ibukisan		33·0	16	6 31	− 1	—	—	—	—
Gihu		33·1	17	6 40	+ 7	11 57	+ 5	—	—
Ito		33·4	18	7 45	PP	—	—	—	—
Numadu		33·4	18	6 23	−12	—	—	—	—
Misima		33·5	18	6 31	− 5	—	—	—	—
Mera		33·6	20	7 5	+28	—	—	—	—
Hunatu		33·8	19	6 17	−22	—	—	—	—
Kohu		33·9	19	6 35	− 4	—	—	—	—
Zinsen		33·9	0	e 6 40	+ 1	e 11 11	−53	e 14·3	—
Yokohama		34·0	19	7 17	+37	—	—	—	—
Keizyo		34·0	1	e 6 37	− 3	e 11 47	−19	e 15·7	—
Tokyo		34·3	19	6 57	+14	12 24	+13	—	—
Oiwake		34·5	18	6 46	+ 1	—	—	—	—
Kumagaya		34·6	18	6 43	− 3	—	—	—	—
Tyosi		34·7	21	6 59	+13	—	—	—	—
Maebasi		34·7	18	6 48	+ 2	—	—	—	—
Nagano		34·7	17	6 43	− 3	11 56	−21	—	—
Kakioka		34·9	19	6 42	− 6	—	—	—	—
Tukubasan		34·9	19	6 41	− 7	—	—	—	—
Wazima		35·1	15	6 45	− 5	12 31	+ 8	—	—
Niigata		36·2	17	7 13	+13	—	—	—	—
Hukusima		36·4	18	6 56	− 5	12 51	+ 9	—	—
Sendai		37·0	18	7 3	− 3	13 0	+ 9	—	—
Perth		37·0	196	e 8 32	PP	e 10 42	?	—	17·3

Continued on next page.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Chiufeng		37·7	347	i 7 10a	− 2	i 12 53	− 9	18·4	23·1
Mizusawa		37·9	19	e 7 11	− 3	e 13 10	+ 5	17·4	—
Akita		38·1	18	7 11	− 5	—	—	—	—
Vladivostok		39·8	7	7 25	− 5	e 13 31	− 2	16·2	29·2
Hakodate		40·2	16	7 41	+ 7	—	—	—	—
Adelaide		40·2	165	i 7 38	+ 4	i 13 41	+ 2	18·6	29·1
Sapporo		41·6	17	7 47	+ 2	14 7	+ 7	—	—
Calcutta	E.	41·6	301	7 51	+ 6	14 3	+ 3	19·6	30·9
Obihiro		42·0	19	7 53	+ 4	—	—	—	—
Riverview		44·0	150	i 8 7k	+ 2	i 14 37	+ 1	e 26·1	30·2
Sydney		44·0	150	—	—	e 13 32	−64	28·0	29·0
Melbourne		44·7	158	8 12	+ 2	14 58	+12	20·8	28·4
Colombo		46·7	276	i 8 28	+ 2	15 9	− 5	25·1	30·6
Hyderabad		49·2	289	8 52	+ 7	15 54	+ 4	24·9	32·9
Kodaikanal	E.	49·3	281	e 8 47	+ 1	i 15 42	− 9	28·7	33·5
Agra	E.	52·0	302	9 4	− 2	i 16 17	−11	24·5	36·5
Irkutsk		52·1	343	9 7	0	i 16 25	− 5	25·0	31·4
Dehra Dun		53·1	306	8 52	−23	15 22	−81	25·2	34·0
Bombay	N.	54·7	291	i 9 34	+ 8	i 17 10	+ 5	—	37·3
Almata		59·1	320	e 10 2	+ 4	—	—	—	—
Frunse		60·5	318	10 3	− 5	e 18 17	− 6	31·3	—
Semipalatinsk		60·9	329	10 21	+10	18 32	+ 4	—	—
Andijan		61·2	314	e 10 11	− 2	18 26	− 6	—	31·9
Arapuni		61·5	138	—	—	e 19 2?	PS	—	—
Christchurch		62·6	145	(10 22)	0	10 22	P	27·6	34·2
Wellington		62·6	142	—	—	i 18 47	− 3	23·0	—
Tashkent		63·5	315	e 12 50	PP	i 18 52	− 9	e 25·3	40·5
Tchimkent		63·7	316	10 29	− 1	18 58	− 6	20·9	—
Samarkand		64·7	313	10 34	− 3	19 7	− 9	—	—
Sverdlovsk		74·0	329	i 11 32	− 3	i 21 0	− 8	34·0	44·7
Honolulu		75·2	69	e 11 42	+ 1	e 21 14	− 8	e 34·8	—
Baku		77·6	312	12 0	+ 5	21 56	+ 7	39·6	47·4
Grozny		80·9	314	e 12 11	− 2	e 22 15	−10	33·5	—
Tiflis		81·5	312	12 16	0	i 22 22	−10	40·0	55·2
Erevan		81·7	310	e 13 34	+77	23 50	+76	—	—
Piatigorsk		82·9	314	e 12 31	+ 8	22 35	−11	41·0	—
Moscow		86·5	326	12 40	− 1	23 15	[+ 5]	45·5	53·4
Theodosia		88·4	315	e 12 48	− 2	23 14	[− 9]	—	—
Ksara		88·6	303	i 12 51a	0	23 24	[0]	—	—
Simferopol		88·7	315	e 12 53	+ 2	23 24	[0]	46·0	—
Yalta		89·2	314	12 52	− 2	23 21	[− 7]	49·0	—
Sebastopol		89·7	315	e 12 54	− 2	23 26	[− 5]	—	—
Pulkovo		90·1	330	12 55	− 3	23 45	−12	46·0R	52·4
Sitka		91·3	33	e 13 2	− 1	e 23 38	[− 2]	e 42·0	—
Helwan		92·8	300	13 8	− 2	23 40	[− 9]	—	—
Bucharest		95·0	315	13 38	+18	23 57	[− 4]	—	53·0
Königsberg		96·3	336	—	—	e 23 54	[−14]	e 53·1	57·1
Upsala		96·3	331	—	—	e 23 57	[−11]	e 46·0	54·4
Belgrade		98·8	316	e 13 34a	− 4	i 24 12	[− 8]	e 63·6	—
Budapest		99·1	319	13 36	− 3	24 15	[− 6]	e 53·0	62·0
Victoria		100·3	39	i 24 20	S	(i 24 20)	[− 7]	e 41·6	—
Copenhagen		100·3	329	13 43	− 2	i 24 23	[− 4]	49·0	—
Vienna		100·6	320	e 13 46	0	e 24 25	[− 4]	e 56·0	68·0
Prague		101·2	323	—	—	e 24 23	[− 9]	42·0	62·5
Graz		101·5	319	e 13 50	0	i 24 27	[− 6]	50·0	62·7
Zagreb		101·6	318	e 13 50	− 1	e 24 28	[− 5]	e 49·0	53·2
Bergen		101·7	335	—	—	e 26 45	PS	47·2	57·5
Cheb		102·4	323	e 13 2?	−53	e 24 37	[0]	e 52·0	64·0
Hamburg		102·4	327	e 14 2	+ 7	i 24 34	[− 3]	e 59·0	63·0
Jena		102·6	334	e 13 56	+ 1	e 24 2	[−36]	e 48·6	56·5

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Scoresby Sund		103·0	349	18 32	PP	24 42	[+ 2]	49·0	—
Triest		103·1	319	e 15 56	+118	i 24 35	[− 6]	—	55·9
Ukiah		103·1	49	—	—	e 24 38	[− 3]	—	—
Göttingen		103·3	305	e 21 38	?	i 24 36	[− 6]	e 50·0	61·0
Padova		104·4	319	19 2	?	—	—	—	—
Stuttgart		104·9	323	e 14 5	− 1	e 25 58	−12	e 49·0	65·0
Florence		105·4	317	e 14 2?	− 7	24 44	[− 8]	—	—
Chur		105·4	317	e 14 5	− 4	e 24 43	[− 9]	—	—
De Bilt		105·7	327	e 14 10	0	e 24 49	[− 4]	50·0	61·9
Zurich		105·8	322	e 14 2	− 8	e 24 43	[−11]	—	—
Strasbourg		105·8	323	e 19 2	PP	i 24 50	[− 4]	e 39·0	—
Basle		106·3	322	e 14 12	− 1	—	—	—	—
Uccle		106·8	327	19 2?	PP	24 55	[− 3]	48·0	66·7
Cape Town		107·1	236	e 19 33	PP	i 25 0	[0]	54·0	67·8
Tinemaha	Z.	107·4	50	e 14 16	− 2	—	—	—	—
Durham		107·8	331	—	—	25 37	{−14}	—	65·0
Edinburgh		107·8	333	—	—	e 25 10	[+ 7]	51·0	61·1
Pasadena	Z.	108·4	52	e 18 28	[+15]	i 28 7	PS	i 47·9	—
Mount Wilson	Z.	108·5	52	i 18 27	[+14]	—	—	—	—
Stonyhurst		108·7	331	—	—	(e 25 ·7)	[0]	54·0	61·8
Paris		108·8	324	e 14 23	− 2	e 25 0	[− 8]	48·0	64·0
Kew		109·0	328	e 19 4	PP	e 25 3	[− 6]	e 44·0	68·0
Riverside	Z.	109·1	52	e 18 50	PP	—	—	—	—
Oxford		109·3	329	e 19 43	PP	e 25 4	[− 6]	e 48·4	71·0
Bidston		109·3	331	—	—	e 25 4	[− 6]	e 44·0	—
Puy de Dôme		110·0	321	e 19 15	PP	—	—	—	—
Tortosa	N.	113·9	318	—	—	e 28 2?	?	e 49·0	71·9
Algiers		113·9	313	e 20 2?	?	32 32	?	50·0	—
Tucson		114·8	52	e 19 12	PP	e 29 18	PS	e 46·7	—
Ivigtut		115·1	357	19 32	PP	29 14	PS	43·0	—
Almeria		117·8	315	e 19 44	PP	—	—	e 63·3	—
Granada		118·4	316	e 18 44	[+ 2]	—	—	—	—
Malaga		119·2	316	18 50	[+ 7]	27 0	{−11}	57·0	—
San Fernando		120·6	316	19 15	[+28]	25 40	[−12]	65·0	75·5
Chicago		125·0	32	—	—	e 30 32	PS	e 50·8	—
Florissant		125·5	36	e 18 59	[+ 1]	i 26 5	[− 2]	e 45·9	65·3
St. Louis		125·7	36	e 19 9	[+11]	e 27 49	{− 5}	e 46·3	—
Little Rock		126·9	41	e 19 4	[+ 3]	—	—	—	—
Ottawa		127·1	20	e 22 2?	?	e 36 2?	?	e 54·0	—
Toronto		127·2	24	e 22 18	?	e 27 41	{−23}	53·0	—
Philadelphia		132·0	23	e 21 18	PP	e 28 20	{−14}	53·4	—
Columbia		134·2	33	e 22 45	PP	e 27 27	[+56]	e 66·0	—
La Plata		148·4	172	19 50	[+10]	—	—	82·3	—
San Juan		154·7	29	e 19 52	[+ 4]	—	—	e 69·0	—
Huancayo		156·7	111	e 19 52	[+ 2]	—	—	e 44·7	—
Rio de Janeiro		158·4	206	e 20 2	[+10]	—	—	e 44·0	—
La Paz		160·6	133	i 20 2a	[+ 8]	31 22	{ 0}	77·0	108·5

Additional readings and note :—
Amboina iS_cS = +15m.29s.
Hong Kong ? = +5m.36s., SS = +6m.0s.
Nanking iEN = +12m.30s., SS = +12m.59s.
Misima i = +7m.53s. = PPP +1s.
Chiufeng iSEZ = +12m.56s., S_cS = +17m.23s. = S_cS −5s.
Mizusawa eSN = +12m.53s.
Adelaide i = +9m.3s. = PP +2s., +9m.22s. = PPP +0s., +15m.10s., and +16m.52s.
Riverview iSE = +14m.42s., iE = +17m.52s.
Melbourne i = +18m.15s. = S_cS +5s.
Kodaikanal iPSE = +16m.22s., iSSE = +18m.40s. = S_cS +0s.
Agra PPE = +11m.2s., PPPE = +11m.47s., iN = +16m.23s. = PS −7s., PSE = +16m.52s., SSE = +19m.44s., SSSE = +21m.10s.
Christchurch SSS = +19m.17s., SSSS = +23m.47s.
Tashkent e = +17m.33s. and +19m.45s.

Continued on next page.

Honolulu e = +12m.7s. and +20m.7s.
Tiflis P_cP = +12m.37s., PP = +15m.20s., SSS = +32m.0s.
Moscow SKS = +23m.2s.
Ksara PP = +16m.16s., PS = +24m.20s.
Pulkovo SKS = +23m.23s., SS = +29m.56s., L_q = +43m.2s.
Bucharest SKKS = +24m.39s. =S −3s.
Königsberg iE = +14m.4s., iN = +24m.48s. =S −6s., +29m.46s., and +30m.57s., eE = +32m.57s., eN = +33m.5s., and +34m.54s. =SSS +4s.
Copenhagen PP = +18m.8s., eE = +25m.18s. =S −11s., PS = +26m.40s.
Vienna eEN = +18m.19s.
Zagreb ePP = +17m.45s., ePPPZ = +18m.38s.
Scoresby Sund e = +25m.44s. =S −9s. and +28m.3s.
Triest e = +17m.39s., PP = +18m.10s., e = +18m.49s., iSKKS? = +25m.38s. = S −16s., i = +27m.18s. =PS +0s. and +27m.29s., e = +32m.46s. =SS +2s., SS = +33m.19s., e = +50m.32s.?
Göttingen iEN = +25m.39s.
Stuttgart ePP = +18m.32s., eSKS = +24m.42s., e = +44m.2s.?
Chur ePP = +18m.22s.
De Bilt e = +18m.56s.
Strasbourg eSKKS = +26m.8s.
Uccle SKKS = +25m.44s., PS = +27m.50s., e = +34m.37s.
Cape Town eE = +19m.42s., iN = +26m.23s. and +27m.55s. =PS −5s., eE = +28m.57s., iN = +31m.30s., eN = +33m.52s. =SS +11s., eE = +33m.57s.
Tinemaha eZ = +18m.3s. =PKP −7s. and +29m.43s.
Edinburgh i = +26m.18s., +28m.26s. =PS +20s. and +35m.14s.
Pasadena eZ = +34m.32s., iZ = +38m.18s.
Stonyhurst ePS = +28m.16s. ; note, the SKS is given as PP.
Paris ePS = +28m.2s.
Kew iPS = +28m.11s, eSSE = +35m.6s.
Oxford e = +25m.59s. =SKKS −4s.
Bidston iPS = +28m.13s.
Algiers i? = +26m.2s.?
Tucson e = +30m.54s., eSS = +35m.26s., eSSS = +39m.38s.
Almeria ePP = +23m.32s.
Granada PPP = +22m.12s.
Malaga e = +20m.6s. =PP +3s., +21m.59s. and +22m.36s. =PPP +7s., PS = +29m.48s., e = +33m.10s.
San Fernando PP = +21m.33s., PS = +30m.15s., SS = +37m.40s., SSS = +41m.25s.
Chicago eSS = +37m.40s.
Florissant iPPNZ = +20m.47s., iSKPZ = +21m.56s., iSKKSN = +27m.37s., iPSNZ = +30m.59s., iSSN = +35m.18s., iSSE = +37m.26s.
St. Louis ePPE = +20m.55s.
Little Rock ePPE = +21m.2s.
Philadelphia iPP = +22m.34s., eSKKS = +29m.44s., e = +31m.44s., +34m.29s., +39m.2s., and +43m.15s.
Columbia ePKS = +23m.41s., e = +36m.16s., eSS = +38m.49s.
San Juan e = +22m.26s., ePKS = +24m.12s., e = +39m.15s.
Huancayo e = +21m.59s. and +25m.2s.
La Paz $iPKP_2$ = +20m.21s., ipPKPE = +21m.26s., iZ = +22m.6s., isPKP = +22m.26s., SKPE = +23m.26s., iPPZ = +24m.26s., iSKS? = +26m.26s., PPPZ = +26m.58s., SKSP = +34m.39s., PSE = +35m.38s., PPS = +38m.6s., iSSE = +45m.2s.
Long waves at Karlsruhe, Madison, and Oak Ridge.

April 1d. Readings also at 0h. (Phu-Lien), 1h. (Amboina and near Wellington) 2h. (Tiflis, Nanking, and near Phu-Lien), 3h. (Amboina, Andijan, and Samarkand), 4h. (Amboina, Samarkand, and Batavia), 6h. (Zagreb and near Triest), 7h. (near Samarkand), 8h. (near Mizusawa), 9h. (Manila), 11h. (Manila), 12h. (Sverdlovsk, Tashkent, Nagoya, and near Sumoto), 13h. (Tacubaya), 18h. (Sumoto), 20h. (La Paz), 21h. (Amboina, Mount Wilson, Pasadena, Riverside, and Tinemaha), 23h. (near Sumoto).

April 2d., 6h. 16m. 58s. Epicentre 3°·2S. 150°·9E. (as on 1d.). **R.1.**

$A = -\cdot8724$, $B = +\cdot4856$, $C = -\cdot0558$; $\delta = 0$;
$D = +\cdot486$, $E = +\cdot874$; $G = +\cdot049$, $H = -\cdot027$, $K = -\cdot998$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Palau		19·5	303	4 23	− 1	8 8	+12	—	—
Riverview		30·6	180	e 6 8	− 2	i 11 14	0	e 16·2	19·5
Sydney		30·6	180	e 7 5	PP	e 12 42	SS	15·5	18·5
Adelaide		33·7	199	e 6 30	− 8	i 12 0	− 1	15·5	20·0
Manila		34·6	301	i 6 56a	+10	11 34	−41	14·5	17·0
Melbourne		35·1	189	e 7 9	+19	12 20	− 3	15·9	20·5
Apia		38·3	109	—	—	e 13 17	+ 6	—	23·0
Siomisaki		39·3	340	7 17	− 9	—	—	—	—
Mera		39·5	340	7 53	+25	—	—	—	—
Miyazaki		39·7	333	7 35	+ 6	13 31	− 1	—	—
Misima		39·9	345	7 37	+ 6	—	—	—	—
Hamamatu		39·9	343	7 42	+11	—	—	—	—
Tokyo		40·3	47	8 7	+32	—	—	—	—
Wakayama		40·3	340	6 57	−38	—	—	—	—
Kameyama		40·4	342	7 30	− 5	—	—	—	—
Osaka		40·5	341	7 40	+ 4	—	—	—	—
Sumoto	E.	40·5	340	e 7 31	− 5	13 21	−23	—	17·4
	N.	40·5	340	e 7 34	− 2	13 4	−40	—	18·0
Kohu		40·5	345	7 40	+ 4	—	—	—	—
Kakioka		40·7	346	7 34	− 4	—	—	—	—
Tukubasan		40·7	346	7 41	+ 3	—	—	—	—
Kobe		40·7	341	7 40	+ 2	—	—	—	20·4
Mito		40·8	346	8 2	+23	—	—	—	—
Kumagaya		40·8	345	7 37	− 2	—	—	—	—
Maebasi		41·1	345	7 42	+ 1	—	—	—	—
Oiwake		41·2	345	7 40	− 2	—	—	—	—
Arapuni		41·6	151	—	—	13 2?	−58	—	23·0
Nagano		41·6	344	7 44	− 1	14 12	+12	—	—
Hukuoka		41·6	334	e 7 37	− 8	e 13 38	−22	—	—
Hukuoka B		41·6	334	e 7 28	−17	e 13 47	−13	e 19·5	—
Hamada		42·0	337	7 43	− 6	14 7	+ 1	—	—
Malabar		43·3	263	e 8 0	+ 1	—	—	—	—
Mizusawa	E.	43·3	350	8 4	+ 5	14 26	+ 1	—	—
	N.	43·3	350	8 9	+10	14 23	− 2	—	—
Husan		43·5	334	e 8 1	0	14 27	− 1	—	—
Perth		43·7	225	8 2	0	14 32	+ 1	28·0	—
Wellington		43·7	154	8 2	0	14 24	− 7	21·0	23·0
Batavia	Z.	44·0	265	8 3a	− 2	—	—	—	—
Hong Kong		44·0	307	8 8	+ 3	14 40	+ 4	20·8	22·4
Taikyu		44·3	334	e 8 8	+ 1	i 14 43	+ 3	—	—
Christchurch		44·7	158	i 8 10	0	e 14 44	− 2	i 21·7	24·8
Hakodate		45·9	350	8 30	+10	—	—	—	—
Keizyo		46·4	334	e 8 20	− 4	e 14 43	−27	—	—
Zinsen		46·5	333	e 8 30	+ 5	i 15 15	+ 3	—	—
Nanking		46·6	322	i 8 25	0	i 15 16	+ 3	e 21·2	25·0
Sapporo		47·1	351	8 30	+ 1	—	—	—	—
Phu-Lien		49·6	302	e 8 52	+ 4	e 15 55	0	21·0	—
Medan		52·6	278	e 9 17	+ 6	16 40	+ 3	—	—
Chiufeng		53·7	328	e 9 14	− 5	i 16 50	− 2	25·5	33·3
Honolulu		55·8	62	i 9 42	+ 8	i 17 26	+ 6	e 23·5	—
Calcutta	E.	66·1	297	10 49	+ 3	19 40	+ 6	31·5	—
Irkutsk		67·9	332	e 10 58	0	19 55	− 1	33·0	—
Colombo		71·6	278	e 10 56	−24	13 56	PP	21·5	21·6
Hyderabad		74·3	289	11 39	+ 3	21 21	+ 9	36·8	45·4
Kodaikanal	E.	74·3	282	i 11 37	+ 1	—	—	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Agra	E.	76·3	299	11 45	− 3	21 32	− 3	—	—
Bombay	N.	79·8	290	e 12 10	+ 3	i 21 47	−27	—	—
Semipalatinsk		80·3	323	12 15	+ 6	—	—	—	—
Almata		80·6	315	e 12 5	− 6	—	—	—	—
College		81·2	22	e 15 22	?	e 23 16	+48	33·5	—
Frunse		82·2	314	e 12 24	+ 5	—	—	—	—
Andijan		83·5	312	e 12 24	− 2	e 22 52	0	—	—
Sitka		84·0	32	e 12 32	+ 4	e 22 28	−30	e 34·0	—
Tchimkent		85·7	313	e 12 37	0	—	—	—	—
Tashkent		85·8	312	i 12 39	+ 2	i 23 11	− 5	35·3	50·6
Samarkand		87·4	310	12 39	− 6	23 7	[− 9]	—	—
Ukiah		88·9	51	—	—	e 23 26	[0]	—	—
Victoria		89·6	42	e 23 43	S	(e 23 43)	− 9	e 37·1	37·2
Seattle		90·2	43	—	—	(e 24 2)	+ 4	e 24·0	—
Tinemaha	z.	92·6	54	i 13 7	− 2	—	—	—	—
Pasadena		92·6	56	i 13 8	− 1	i 23 51	{− 5}	e 38·0	—
Mount Wilson	z.	92·7	56	i 13 5	− 5	—	—	—	—
Sverdlovsk		92·8	327	i 13 14	+ 4	i 24 21	− 1	45·3R	56·1
Riverside		93·2	56	i 13 9	− 3	e 23 53	[+ 2]	—	—
La Jolla	z.	93·3	58	e 13 12	− 1	—	—	—	—
Tucson		98·7	58	e 13 42	+ 4	e 24 50	{+13}	e 43·7	—
Baku		100·4	310	e 13 51	+ 6	25 30	0	49·0	60·6
Tiflis		104·1	312	e 14 2	0	24 42	[− 3]	47·5	68·3
Moscow		105·6	327	18 30	PP	e 26 6	S	e 48·5	61·2
Pulkovo		107·7	333	18 39	PP	25 36	{−14}	52·0	61·9
Ksara		112·4	305	e 14 14	−28	—	—	—	—
Scoresby Sund		112·6	358	—	—	29 2	PS	55·0	—
Florissant		114·1	49	e 19 40	PP	i 26 43	{+ 7}	i 48·6	65·4
St. Louis		114·3	49	e 19 11	PP	—	—	e 48·1	53·9
Chicago		115·2	45	—	—	e 29 12	PS	51·0	—
Copenhagen		117·9	335	20 0	PP	29 44	PS	55·0	—
Hamburg		120·3	334	e 20 18	PP	—	—	e 59·0	74·0
Prague		120·5	329	—	—	e 31 2?	?	e 58·0	71·0
Ottawa		121·4	37	—	—	e 28 2?	?	e 49·0	—
Cheb		121·5	330	e 21 2?	?	e 31 2?	?	e 59·0	69·0
Edinburgh		123·3	343	—	—	e 29 2?	?	e 58·0	73·0
De Bilt		123·4	335	e 20 42	PP	e 37 44	SS	e 55·0	62·7
Triest		123·5	335	e 18 59	[+ 5]	i 27 40	{ 0}	e 50·5	65·1
Stuttgart		124·0	330	e 20 26	PP	e 37 32	SS	e 60·0	73·0
Philadelphia		124·5	42	—	—	e 32 11	?	e 51·4	—
Uccle		124·7	335	e 20 52	PP	i 37 19	SS	e 60·0	—
Strasbourg		124·8	331	e 20 50	PP	(e 38 2?)	SS	38·0	—
Florence		126·0	324	18 13	[−46]	25 32	[−36]	—	—
Kew		126·1	338	e 23 2?	PPP	—	—	e 65·0	72·1
Paris		127·0	334	e 20 36	PP	e 27 2?	[+51]	62·0	70·0
Huancayo		131·6	109	i 22 47	PKS	e 26 12	[−12]	e 56·5	—
Tortosa		133·9	328	e 21 2?	PP	—	—	e 64·0	77·3
La Paz		136·7	119	e 19 26a	[+ 9]	26 25	SKS	66·0	76·6
Almeria		138·4	327	e 22 52	PKS	—	—	70·9	—
Granada		138·7	329	e 19 26	[+ 6]	—	—	—	—
San Fernando		140·6	329	e 20 6	[+44]	26 43	SKS	71·0	—
San Juan		140·7	65	e 22 39	PS	—	—	e 75·0	—
Rio de Janeiro		150·5	153	e 21 2	?	(e 41 2)	SS	e 41·0	—

Additional readings :—
Riverview iN = +7m.7s. =PP +5s., iE = +12m.51s. =SSS −4s. and +13m.52s.
Sydney PPP = +11m.32s.
Adelaide i = +7m.20s., +8m.32s., +13m.12s., and +18m.13s.
Melbourne i = +11m.54s. and +14m.30s. =SS +2s.
Apia e(sS?) = +15m.11s., SS = +16m.14s., S_cS = +17m.57s., sS_cS? = +19m.45s.
Husan PP = +9m.44s.
Perth P_cS = +13m.32s., SS = +17m.22s., SSS = +17m.42s., SSSS = +18m.42s., ? = +20m.2s.
Wellington PP? = +10m.7s., SS = +17m.52s.

Continued on next page.

Hong Kong PP = +9m.51s., PPP = +10m.28s., SS = +17m.13s., SSS = +17m.58s. = S_cS − 8s.
Christchurch i = +10m.23s. = PPP + 1s., iS = +14m.50s., iN = +18m.21s., iEZ = +18m.41s., i = +20m.19s.
Nanking iE = +18m.44s.
Chiufeng iP = +9m.22s.k, iEZ = +17m.11s., SSE = +20m.39s.
Calcutta PPE = +13m.19s.
Colombo iP = +11m.19s.
Agra PPE? = +14m.19s.
Tashkent eSS = +29m.50s., eSSS = +32m.50s.
College e = +18m.30s., eSS = +28m.14s.
Mount Wilson iZ = +16m.52s.
Sverdlovsk iSKS = +23m.43s., iPS = +25m.27s., iSS = +30m.26s., L_q = +39·1m.
Riverside iZ = +19m.13s.
Tucson ePS = +26m.22s., eSS = +31m.32s., e = +40m.50s.
Baku PPP = +20m.26s.
Tiflis PP = +18m.22s., e = +19m.51s., PS = +27m.36s., PPS = +28m.48s., SS = +33m.12s., e = +42m.8s.
Moscow PS = +27m.42s., SS = +33m.32s.
Pulkovo PS = +27m.55s., PPS = +29m.10s., SS = +33m.56s.
Ksara ePKP = +17m.54s., iPP = +18m.50s., PS = +29m.9s., PPS = +30m.18s.
Scoresby Sund +35m.20s.
Florissant iPPN = +19m.58s., iPPZ = +20m.1s., iPSE = +29m.18s., iSSE = +35m.21s.
St. Louis iPPN = +19m.50s., ePSE = +29m.4s.
Chicago eSS = +34m.38s.
Copenhagen SS = +36m.44s.
Ottawa e = +37m.2s.?
Triest e = +44m.7s.
Stuttgart eSSS = +42m.12s.
Philadelphia eSS = +37m.14s.
Huancayo eSKSP = +30m.52s., eSS = +39m.24s.
La Paz SKP = +22m.58s., PPPZ = +24m.42s., SKSE = +26m.32s., iNZ = +27m.27s., SSE = +40m.20s.
Granada PP = +22m.18s.
San Fernando ePP = +22m.34s., eSS = +40m.55s., SSS = +46m.29s.
San Juan eSS = +41m.50s.
Long waves at Cape Town, Madison, Oak Ridge, Columbia, Charlottesville, Bidston, Stonyhurst, Ivigtut, Upsala, Bergen, Göttingen, Jena, Zagreb, and Algiers.

April 2d. 12h. 3m. 27s. Epicentre 6°·1N. 124°·8E. (as on 1934 Jan. 16d.). X.

A = −·5675, B = +·8165, C = +·1063; δ = +3;
D = +·821, E = +·571; G = −·061, H = +·087, K = −·994.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Manila	9·3	336	2 40	+29	5 12	S_g	—	8·0
Amboina	10·3	161	e 1 45	−40	3 8	?	—	—
Hong Kong	19·2	329	4 40	+19	8 32	+42	—	14·0
Batavia	21·7	236	4 44	− 4	8 35	− 5	—	—
Nanking	26·6	349	—	—	e 10 29	+20	—	—
Chiufeng	34·9	349	e 6 51	+ 3	e 12 31	+11	i 17·1	21·8
Irkutsk	49·2	343	e 8 46	+ 1	e 15 33	−17	e 27·6	—
Frunse	57·4	318	e 9 51	+ 5	—	—	—	—
Tashkent	60·5	315	—	—	e 18 42	+19	e 25·8	38·0
Samarkand	61·6	312	e 10 15	− 1	18 52	+15	—	—
Sverdlovsk	70·9	329	i 11 15	− 1	20 35	+ 3	34·6	—
Tiflis	78·5	313	e 12 3	+ 3	e 21 59	0	e 37·6	—
Moscow	83·3	325	12 22	− 3	—	—	—	—
Ksara	85·7	303	e 12 35	− 2	e 23 20	+ 5	48·6	—
Pulkovo	87·0	330	12 39	− 4	23 20	− 7	51·6	—

Additional readings:—
Ksara PPS = +24m.47s., SS = +29m.25s.
Long waves were also recorded at Christchurch, Baku, Copenhagen, De Bilt, and Paris.

April 2d. Readings also at 0h. (Manila), 1h. (Sverdlovsk and Tashkent), 3h. (near Branner and Lick), 6h. (Mount Wilson, Pasadena, Riverside, Tinemaha, and near Amboina), 7h. (Amboina and near Piatigorsk), 8h. (Rathfarnham Castle, Almata, Andijan, Frunse, Tiflis, Tchimkent, and near Samarkand), 11h. (Amboina), 13h. (Tchimkent, Frunse, Samarkand, and near Andijan), 14h. (Drome), 16h. (Tacubaya), 18h. (Tiflis), 19h. (Andijan, Frunse, and Samarkand), 20h. (Amboina, Erevan, Granada, Toledo, near Malaga, and near Sumoto), 21h. (Kobe, near Hukuoka B, and near Amboina), 23h. (Andijan and Frunse).

April 3d. 14h. 48m. 53s. Epicentre 35°·2N. 135°·7E. (as on 1936 Feb. 5d.). X.

$A = -\cdot5848$, $B = +\cdot5707$, $C = +\cdot5764$; $\delta = -7$;
$D = +\cdot698$, $E = +\cdot716$; $G = -\cdot413$, $H = +\cdot403$, $K = -\cdot817$.

	Δ	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Kobe	0·7	219	0 8	− 2	0 16	− 2	0·3
Toyooka	0·8	295	0 12	+ 1	0 24	+ 3	0·4
Nagoya	1·1	92	i 0 16k	0	0 30	+ 2	0·5
Sumoto	1·1	218	0 15k	− 1	0 29	+ 1	0·5

April 3d. Readings also at 0h. (Andijan, Samarkand, Hong Kong, near Batavia, and Malabar), 1h. (Baku, Sverdlovsk, Tiflis (2), and Ksara), 2h. (Tiflis), 11h. (Christchurch, Huancayo, La Paz, Tacubaya, Tucson, Columbia, Mount Wilson, Pasadena, Riverside, Tinemaha, Sitka, and Honolulu), 13h. (Hastings and near Wellington), 17h. (Frunse, Samarkand, near Andijan (2), near Berkeley, Branner, and Lick), 18h. (near Capodimonte and near Nagoya), 19h. (near Branner, Lick, and near Manila), 23h. (Berkeley, San Francisco, near Branner, and Lick).

April 4d. Readings at 7h. (Tacubaya and near Reykjavik), 8h. (Tacubaya and near Reykjavik (2)), 9h. (Mizusawa), 14h. (Frunse, Samarkand, and near Andijan), 16h. (near Tananarive), 22h. (Frunse and near Andijan).

April 5d. 14h. 27m. 32s. Epicentre 28°·0N. 139°·5E. (as on 1934 May 25d.). X.

$A = -\cdot6714$, $B = +\cdot5734$, $C = +\cdot4695$; $\delta = 0$;
$D = +\cdot649$, $E = +\cdot760$; $G = -\cdot357$, $H = +\cdot305$, $K = -\cdot883$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Sumoto		7·4	329	1 47k	+ 2	2 59	−10	—	3·0
Nagoya		7·5	343	1 40	− 6	2 46	−25	—	2·9
Kobe	E.	7·6	332	e 1 49	+ 1	e 2 54	−20	—	3·5
	Z.	7·6	332	1 47	− 1	e 2 48	−26	—	3·4
Toyooka	E.	8·5	333	2 1	+ 1	3 19	−17	—	3·7
	N.	8·5	333	1 59	− 1	3 18	−18	—	3·5
Hukuoka B		9·6	308	e 2 35	+19	e 4 21	+18	—	—
Mizusawa	E.	11·2	6	e 2 42	+ 5	e 3 43	−60	—	—
Vladivostok		16·3	340	e 3 48	+ 3	(6 46)	+ 1	6·8	—
Nanking		18·4	288	e 4 30	+19	e 8 2	+29	—	—
Manila		21·8	237	5 44	+55	9 41	+59	—	—
Chiufeng		22·7	308	e 5 4	+ 6	e 9 0	+ 1	—	—
Sverdlovsk		60·9	322	i 10 12	+ 1	—	—	26·5	—
Tiflis		75·0	310	e 11 45	+ 5	e 21 13	− 7	43·5	47·3
Tinemaha	Z.	82·1	52	i 12 19	0	—	—	—	—
Pasadena	Z.	83·8	55	i 12 27	0	—	—	—	—
Mount Wilson	Z.	83·9	55	i 12 28	0	—	—	—	—
Riverside	Z.	84·4	55	i 12 29	− 1	—	—	—	—

Additional readings:—
Chiufeng eE = +5m.25s. = PP + 6s.
Tinemaha iZ = +12m.42s.
Mount Wilson iZ = +12m.51s.
Long waves were also recorded at Tashkent.

April 5d. Readings also at 0h. (Perth and near Nagoya), 1h. (Amboina), 3h. (Frunse, Samarkand, and near Andijan), 5h. (La Paz), 6h. (Alicante, Sverdlovsk, Nagoya, Mount Wilson, Pasadena, and Tinemaha), 8h. (near Tananarive), 9h. (Tashkent and Tiflis), 10h. (Sverdlovsk and Ksara), 12h. (near Tananarive), 13h. (Bombay, Tashkent, and Sverdlovsk), 14h. (Manila), 17h. (near Hukuoka B), 18h. (Frunse, Samarkand, Chur, Zurich, Florence, Padova, and near Triest), 19h. (Samarkand), 21h. (Sverdlovsk, Pulkovo, Manila, and near Malaga), 22h. (Tashkent).

April 6d. 0h. 1m. 6s. Epicentre 3°·6N. 126°·7E. (as on 1936 April 1d.). X.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Manila		12·3	334	2 48	− 4	i 5 20	+10	—	—
Batavia	z.	22·1	244	5 6	PP	—	—	—	—
Tashkent		63·5	315	—	—	e 25 12	SSS	e 34·2	37·0
Sverdlovsk		74·0	329	e 11 35	0	e 20 58	−10	35·4	—
Tiflis		81·5	312	15 50	PP	e 22 27	− 5	e 26·6	—

Tashkent gives also e = +32m.6s.

April 6d. 4h. 11m. 50s. Epicentre 31°·6N. 134°·4E. (as on 1931 Dec. 30d.) X.

A = −·5959, B = +·6085, C = +·5240; δ = −5;
D = +·714, E = +·700; G = −·367, H = +·374, K = −·852.

	Δ	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Sumoto	2·8	8	0 35	− 5	1 6	− 6	1·2
Kobe	3·2	12	0 49	+ 3	1 18	− 4	1·4
Hukuoka	3·9	301	e 0 59	+ 3	1 20	P_g	—
Hukuoka B	3·9	301	e 0 51	− 5	i 1 32	− 8	—
Toyooka	4·0	5	0 57	0	1 36	− 6	1·7
Nagoya	4·2	30	e 1 5	+ 5	2 4	S*	—

Sumoto gives also ePZ = +38s.

April 6d. Readings also at 1h. (near Amboina (4)), 2h. (near Amboina), 3h. (Huancayo, La Paz, Balboa Heights, San Juan, Mount Wilson, and Tinemaha), 4h. (Tucson, Philadelphia, Rio de Janeiro, and near Samarkand), 5h. (Cheb, near Amboina, and near Tananarive), 7h. (near Amboina (2)), 9h. (Tiflis), 12h. (La Paz and Manila), 15h. (La Plata), 16h. (Medan), 18h. (near Mizusawa), 19h. (Erevan), 23h. (Samarkand, near Andijan, and Frunse).

April 7d. 1h. 37m. 47s. Epicentre 21°·3S. 178°·6W. (as on 1935 July 15d.). X.

A = −·9314, B = −·0228, C = −·3633; δ = +1;
D = −·024, E = +1·000; G = +·363, H = +·009, K = −·932.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Apia		9·9	42	e 2 19	0	e 4 22	+11	—	—
Arapuni		17·5	195	—	—	e 7 13?	0	—	—
Wellington		20·8	194	4 38	0	8 28	+ 6	9·2	—
Riverview		29·5	238	e 7 31	?	—	—	e 13·4	15·0
Melbourne		35·5	234	e 6 3	−50	e 8 46	?	16·8	—
Batavia	z.	73·4	270	i 11 28	− 3	—	—	—	—
Vladivostok		78·8	325	—	—	e 22 23	+20	—	—
Santa Barbara		78·9	46	i 11 45	−17	—	—	—	—
La Jolla		79·7	48	e 11 54	−12	—	—	—	—
Pasadena		79·8	47	i 11 55a	−12	e 22 8	− 6	—	—
Mount Wilson		79·9	47	e 11 55	−12	—	—	—	—
Nanking		80·2	310	e 12 13	+ 4	e 22 27	+ 9	—	—
Riverside		80·3	47	i 11 58	−11	—	—	—	—
Haiwee	z.	81·1	45	i 12 0	−14	—	—	—	—
Tinemaha		81·4	45	i 12 4a	−11	e 22 14	−17	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tucson		84·0	52	—	—	(e 22 33)	−25	e 22·6	—
Chiufeng		86·3	316	e 12 39	− 1	i 23 0	[− 8]	—	—
Huancayo		97·7	106	—	—	e 23 41	[−34]	—	—
Florissant	E.	101·8	53	e 17 46	PP	i 24 10	[−24]	e 47·5	—
La Paz	N.	102·1	113	e 17 33	PP	24 48	[+12]	—	—
Tashkent		120·2	306	e 20 26	PP	i 25 37	[−14]	e 53·8	65·8
Sverdlovsk		124·4	326	—	—	e 25 48	[−15]	48·7	—
Tiflis		138·3	309	e 19 18	[− 1]	—	—	—	—
Theodosia		143·5	318	i 19 27	[− 2]	—	—	—	—
Simferopol		144·2	319	i 19 28	[− 4]	—	—	—	—
Yalta		144·4	318	19 31	[− 1]	—	—	—	—
Sebastopol		144·7	319	19 31	[− 2]	—	—	—	—
Ksara		147·1	299	e 19 38	[+ 1]	e 37 33	?	—	—
De Bilt		149·0	355	e 19 39	[− 1]	—	—	e 77·2	—
Granada		163·6	14	e 20 21	[+24]	i 24 29	PP	—	—

Additional readings :—
Wellington i = +7m.22s., S_cS = +15m.43s., sS_cS = +16m.23s.
Pasadena eZ = +14m.50s. = PP +12s.
Tinemaha iZ = +12m.31s. and +14m.45s., eZ = +38m.44s.
Florissant iE = +24m.47s. and +25m.16s.
Tashkent e = +27m.53s. and +36m.31s.
Sverdlovsk e = +27m.35s. and +37m.50s.
Tiflis ePKS = +22m.48s.
Long waves were also recorded at Perth, Pulkovo, Copenhagen, Paris, Kew, Stuttgart, and Uccle.

April 7d. Readings also at 0h. (Christchurch, Pasadena, and Tinemaha), 2h. (Malaga and near Granada), 3h. (Balboa Heights and Columbia), 5h. (Triest and near Capodimonte), 7h. (Irkutsk, Tashkent, Sverdlovsk, La Jolla, Mount Wilson, Pasadena, Riverside, and Tinemaha), 8h. (Strasbourg), 9h. (Christchurch, Samarkand, Pasadena, and Tinemaha), 10h. (Granada and Florissant), 11h. (La Paz, Haiwee, La Jolla, Pasadena, Riverside, and Tinemaha), 12h. (Nanking, Vladivostok, Irkutsk, Sverdlovsk, Tashkent, Pasadena, and Tinemaha), 13h. (Sverdlovsk, La Jolla, Mount Wilson, Pasadena, and Tinemaha), 14h. (Tashkent), 22h. (Lick and near Fresno (2)).

April 8d. 4h. 17m. 18s. Epicentre 41°·5N. 23°·0E. (as on 1933 Jan. 2d.). R.2.

Laiback suggests 41°·4N. 22°·7E.

A = +·6894, B = +·2926, C = +·6626 ; δ = −7 ;
D = +·391, E = −·921 ; G = +·610, H = +·259 K = −·749.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Sofia	1·2	12	e 0 19	+ 2	0 41	+10	—	—
Bucharest	3·6	36	e 0 58	P*	2 0	S_g	—	2·6
Belgrade	3·8	332	e 1 3a	P*	i 2 4	S_g	—	2·4
Budapest	6·6	336	1 42?	+ 8	3 28	S_g	3·6	—
Zagreb	6·7	312	e 1 34	− 1	2 52	+ 1	4·3	5·1
Laibach	7·6	310	e 0 45	−63	i 3 11	− 3	—	—
Graz	7·7	319	i 1 47	− 2	i 3 36	+20	4·5	4·7
Triest	7·9	305	i 1 51k	+ 1	i 3 30	+ 9	—	4·6
Vienna	8·2	328	e 2 40	P_g	e 4 32	S_g	—	5·7
Sebastopol	8·3	64	e 1 53	− 5	e 3 11	−20	—	—
Yalta	8·7	66	e 2 4	+ 1	e 3 24	−17	—	—
Simferopol	8·8	63	e 2 9	+ 4	e 3 35	− 9	—	—
Florence	8·9	289	0 18	?	—	—	—	5·2
Padova	9·0	300	e 4 19	?	5 35	?	—	—
Theodosia	9·6	64	—	—	3 51	−12	—	—
Prague	10·4	328	e 4 30	S	e 5 36	S_g	e 5·8	6·7
Chur	11·0	304	e 2 36	+ 1	—	—	e 6·3	—
Cheb	11·3	323	e 2 42?	+ 3	e 5 24	S*	e 6·3	6·9
Zurich	11·8	305	e 2 45	− 1	e 5 17	+19	—	—
Stuttgart	12·1	312	e 2 42	− 8	e 6 12	S_g	e 6·7	7·2

Continued on next page.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Basle	12·5	304	e 2 54	− 1	e 6 49	S_g	—	—
Neuchatel	12·7	302	e 2 58	0	e 7 23	S_g	—	—
Ksara	12·7	123	e 3 42?	+44	—	—	—	8·7
Karlsruhe	12·7	311	e 4 22	?	e 7 20	S_g	—	—
Strasbourg	12·9	309	i 3 15a	+14	7 33	S_g	—	—
Königsberg	13·4	354	—	—	e 7 31	S_g	—	—
Hamburg	14·9	329	e 3 24	− 3	—	—	e 8·4	9·7
Puy de Dôme	15·1	293	3 41	+11	—	—	—	—
Uccle	15·8	312	e 3 44	+ 5	—	—	8·2	—
Copenhagen	15·8	338	—	—	6 42	+ 8	7·7	—
Paris	16·1	304	e 3 44	+ 1	—	—	10·7	10·7
Tiflis	16·2	82	3 29	−15	e 6 23	−20	8·9	10·4
Moscow	17·1	29	4 2	+ 7	e 7 14	+10	—	10·9
Kew	18·8	310	e 4 17	+ 1	e 7 56	+14	e 9·7	10·9
Pulkovo	18·8	12	4 14	− 2	e 7 43	+ 1	9·9	11·6
Baku	20·2	84	—	—	e 8 25	SS	e 11·7	—
Stonyhurst	20·9	316	—	—	e 7 47	−37	11·9	12·1
Granada	21·0	267	e 4 38	− 2	—	—	10·4	—
Edinburgh	22·3	319	—	—	i 9 0	+ 8	12·7	13·2
Sverdlovsk	28·4	45	e 6 0	+ 9	e 10 34	− 4	17·7R	17·9
Tashkent	34·3	75	—	—	e 12 6	− 5	e 20·4	25·4
Irkutsk	53·6	49	—	—	e 20 42?	SS	e 28·7	—

Additional readings :—
Bucharest iP_gEN = +1m.8s. = P_g +2s. and +1m.16s., PP = +1m.20s., iE = +1m.29s. = S −3s., PPS = +1m.35s.
Belgrade i = +1m.10s. = P_g +2s., iP_g = +1m.19s., i = +1m.34s. = S −3s. and +1m.39s., iPPS = +1m.50s. = S* −1s.
Budapest P_g = +2m.6s., PS = +3m.17s. = S* +2s.
Zagreb P_g = +2m.4s., iPP = +2m.8s. = P_g +0s., sPP = +2m.14s., SPS = +3m.12s. = S* −5s., iPPS = +3m.28s., SS = +3m.50s., eZ = +4m.9s.
Laibach i = +1m.53s., +3m.22s., and +4m.11s. = S_g +6s.
Triest e = +2m.22s. = P* +10s., i = +2m.36s. = P_g +4s. and +4m.6s., S_g = +4m.20s., SS_g = +4m.31s., i = +4m.49s. and +5m.2s.
Yalta e = +4m.41s. = S_g +0s.
Simferopol e = +4m.47s.
Theodosia e = +4m.15s.
Strasbourg i = +8m.27s.
Königsberg iZ = +8m.8s. and +8m.15s.
Paris e = +9m.22s.
Sverdlovsk L_q = +15m.6s.
Tashkent e = +15m.0s.
Long waves at Bidston, De Bilt, Jena, San Fernando, Bergen, Upsala, Scoresby Sund, and Vladivostok.

April 8d. 15h. 47m. 57s. Epicentre 35°·5N. 140°·0E. (as on 1935 Aug. 11d.). R.3.

A = −·6236, B = +·5233, C = +·5807 ; δ = −7 ;
D = +·643, E = +·766 ; G = −·445, H = +·373, K = −·814.

	△	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Tokyo	0·3	312	0 8	+ 4	0 16	+ 8	0·3
Komaba	0·3	300	0 8	+ 4	0 17	+ 9	—
Kamakura	0·4	243	0 8	+ 2	0 17	+ 7	—
Kiyosumi	0·4	157	0 7	+ 1	0 16	+ 6	—
Mitaka	0·4	294	0 8	+ 2	0 18	+ 8	—
Tukubasan	0·7	11	0 8	− 2	0 18	0	—
Susaki	1·2	225	0 16	− 1	0 33	+ 2	—
Nagoya	2·5	263	0 36	0	1 9	+ 5	—
Mizusawa	3·7	14	e 0 50	− 3	e 1 30	− 5	—
Toyooka	4·2	273	e 1 0	0	2 4	S*	2·5

Toyooka gives also ePN = +1m.3s., ePZ = +1m.9s. = P* +0s.

April 8d. Readings also at 0h. (Amboina and near Sumoto), 2h. (Drôme), 4h. (Christchurch), 5h. (Drôme, Samarkand, near Almata, Frunse, and near Mizusawa (2)), 6h. (near Andijan), 7h., 8h., and 9h. (near Amboina), 10h. (Medan (2)), 11h. (Drôme), 12h. and 13h. (Manila), 18h. (La Paz), 19h. (Baku, Tashkent, Sverdlovsk, Tiflis, Andijan, Frunse, and Samarkand), 21h. (near Santiago), 23h. (Amboina).

April 9d. 0h. 53m. 5s. Epicentre 39°·0N. 73°·0E. (as on 1932 Aug. 16d.). R.3.

A = +·2272, B = +·7432, C = +·6293 ; δ = −2 ;
D = +·956, E = −·292 ; G = +·184, H = +·602, K = −·777.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Andijan	1·8	345	i 0 23	− 3	i 0 45	− 1	—	0·8
Tashkent	3·7	310	i 0 58	P*	—	—	i 1·9	2·3
Frunse	4·1	16	e 0 56	− 2	i 1 32	−13	—	1·9
Tchimkent	4·2	322	e 1 5	+ 5	e 1 58	S*	—	—
Samarkand	4·7	279	e 1 8	+ 1	e 2 12	S*	—	2·7
Almata	5·2	33	e 1 19	+ 5	e 2 27	S*	—	2·5
Semipalatinsk	12·5	21	e 2 52	− 3	e 5 14	− 1	—	—
Sverdlovsk	19·6	340	i 4 21	− 4	8 3	+ 5	11·5	11·6
Bombay	20·1	181	e 2 55?	?	—	—	—	—
Grozny	20·9	291	e 4 58	PP	e 8 45	SS	—	—
Tiflis	21·6	286	e 4 48	+ 2	e 9 5	SS	e 14·1	—
Erevan	21·9	282	e 5 35	PP	—	—	—	—
Irkutsk	25·3	48	e 5 23	0	e 9 49	+ 3	13·7	—
Moscow	28·8	217	—	—	e 12 21	SSS	e 17·4	—
Ksara	30·1	271	e 6 39	+33	e 12 37	SS	—	20·9
Pulkovo	33·8	322	i 6 38	− 1	e 9 25	P_cP	16·9	20·8

Additional readings :—
Andijan PP = +27s. = P* −1s. and +32s. = P_g +2s.
Frunse e = +58s., i = +1m.11s. = P* +6s., iP_g = +1m.2s., iS_g = +1m.42s.
Tchimkent i = +1m.18s. = P_g +0s., eSS = +2m.3s. = S* +0s.
Samarkand eP_g = +1m.21s. = P* +4s., ePS = +2m.4s. = S +4s.
Sverdlovsk L_q = +9·9m.
Tiflis e = +8m.47s. = P_cP +2s. and +10m.23s.
Moscow e = +15m.27s.
Long waves were also recorded at Hyderabad, Chiufeng, Baku, Copenhagen, Cheb, Kew, Paris, De Bilt, and Granada.

April 9d. 7h. Epicentre in the South Pacific. The observations made within approximately 90° of the origin are not in good enough agreement to form the basis for determination of an exact position :—

Adelaide e = 10m.22s., i = 11m.46s., 23m.35s. and 27m.20s., M = 34m.48s.
Apia eP = 13m.45s., eL = 16m.
Christchurch eP? = 16m.6s., S = 21m.30s., L = 25m.34s., M = 28m.30s.
Wellington P = 17m.32s., S? = 21m.15s., L = 22m.33s., M = 24m.
Riverview eN = 23m.0s., eL = 28m.18s., M = 30m.7s.
Pasadena ePZ = 23m.29s., eL = 49m.12s.
Riverside eZ = 23m.34s.
Tinemaha eZ = 23m.39s.
Vladivostok eP = 23m.53s., e = 35m.9s., L = 83m.42s.
Sydney e = 24m.18s., L = 29m.10s., M = 31m.20s.
Chiufeng PEN = 24m.35s., eSKSEN = 35m.3s., SN = 35m.21s., SE = 35m.31s.
Irkutsk e = 26m.33s., 29m.58s., 36m.7s., 38m.31s., and 44m.26s., eL = 66m., M = 68m.36s.
Tiflis e = 26m.35s., 30m.4s., and 31m.6s.
Melbourne iS = 31m.25s., i = 33m.0s., and 35m.13s.
Ksara iPKP = 31m.26s., iPP = 35m.11s., eSKKS = 41m.58s., eSKSP = 45m.34s., ePPS = +48m.27s., M = 99m.
Granada ePKP = 32m.36s., L = 90m.
Huancayo e = 34m.0s. and 56m.14s.
Nanking eL = 34m.26s.
La Paz SE = 35m.56s., L = 59m.54s., M = 70m.36s.
Florissant eN = 36m.47s. and 57m.21s., eL = 62m.11s.
Sverdlovsk e = 37m.50s., 39m.41s., and 41m.52s., L = 69m., M = 84m.48s.
Tashkent e = 42m.0s., 47m.44s., and 49m.28s., eL = 79m.18s.
Ukiah e = 43m.36s.
Perth P = 44m.0s.
Long waves were also recorded at Arapuni, Tucson, Chicago, Philadelphia, Cape Town, Baku, Scoresby Sund, and other European stations.

April 9d. 16h. 2m. 8s. Epicentre 11°·2S. 166°·0E. N.2.

$A = -\cdot 9518$, $B = +\cdot 2373$, $C = -\cdot 1942$; $\delta = -5$;
$D = +\cdot 242$, $E = +\cdot 970$; $G = +\cdot 188$, $H = -\cdot 047$, $K = -\cdot 981$.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Riverview		26·4	209	e 5 28	− 5	i 10 5	0	e 16·1	16·7
Sydney		26·4	209	e 5 34	+ 1	i 10 12	+ 7	14·4	15·7
New Plymouth		28·8	169	6 52?	PP	—	—	—	—
Wellington		31·1	169	6 15	0	11 12	− 9	15·9	23·9
Melbourne		32·6	213	e 6 28	0	11 37	− 8	16·2	19·6
Christchurch		32·8	172	i 6 30a	0	i 11 46	− 2	—	—
Adelaide		34·4	222	e 6 45	+ 1	i 12 8	− 4	15·9	20·9
Honolulu		48·1	47	—	—	e 17 12	?	e 20·1	—
Perth		50·5	238	8 22	−33	i 16 12	+ 4	35·7	37·4
Manila		51·5	298	9 4a	+ 1	i 16 30	+ 8	26·9	31·9
Batavia	Z.	58·6	269	i 9 54	− 1	—	—	—	—
Hong Kong		60·8	303	9 57	−13	18 33	+ 7	—	—
Nanking		62·5	315	10 20	− 2	i 18 46	− 2	—	—
Vladivostok		62·6	332	i 10 22	0	e 18 53	+ 3	—	—
Medan		68·6	279	e 10 9	−53	19 4	−60	—	—
Chiufeng		69·0	321	11 3a	− 2	20 9	0	—	38·5
Irkutsk		82·5	327	e 12 18	− 3	22 29	−13	37·9	43·3
Calcutta	E.	83·1	295	12 24	0	22 54	+ 6	—	40·6
College		83·5	18	e 14 23	?	—	—	e 41·0	—
Pasadena	Z.	84·9	54	e 12 33	0	—	—	e 38·9	—
Mount Wilson	Z.	85·0	54	e 12 35	+ 2	—	—	—	—
Riverside	Z.	85·4	54	e 12 44	+ 9	—	—	—	—
Tinemaha	Z.	85·7	51	e 12 41	+ 4	—	—	—	—
Colombo		87·6	277	12 47	+ 1	(23 20)	[+ 3]	23·3	24·1
Tucson		90·3	57	—	—	e 23 58	− 1	e 37·7	—
Kodaikanal	E.	90·6	280	e 13 3	+ 3	—	—	—	—
Hyderabad		91·0	287	—	—	(23 38)	[− 1]	—	23·6
Bombay	N.	96·6	288	e 13 52?	+24	—	—	—	—
Tashkent		102·4	311	e 18 16	PP	i 24 37	[0]	—	55·7
Sverdlovsk		107·7	327	—	—	i 24 58	[− 5]	47·9	60·2
Huancayo		114·8	109	e 23 52	?	e 29 12	PS	e 53·6	—
Baku		117·0	310	e 20 4	PP	e 29 3	PS	e 54·9	60·9
Scoresby Sund		120·5	4	—	—	25 47	[+ 5]	63·9	—
Tiflis		120·6	312	e 20 21	PP	—	—	81·9	85·5
Ksara		129·3	304	19 10	[+ 4]	—	—	—	—
San Juan		129·3	75	e 22 39	PPP	—	—	—	—
Helwan		134·0	300	e 21 37	PP	—	—	—	—
Cheb		135·5	336	e 22 54	PKS	—	—	—	—
De Bilt		136·2	343	e 19 20	[+ 4]	—	—	e 83·9	—
Zagreb	Z.	137·0	329	e 19 22	[+ 4]	—	—	—	—
Uccle		137·6	344	e 22 10	PP	—	—	—	—
Stuttgart		137·8	337	e 19 10	[− 9]	—	—	e 82·9	—
Kew		138·2	347	—	—	i 23 1	PKS	e 75·9	—
Triest		138·2	331	e 19 43	[+24]	—	—	—	—
Strasbourg		138·3	338	e 21 52?	PP	—	—	e 57·9	—
Paris		140·0	343	e 19 49	[+28]	—	—	75·9	—
Florence		140·8	331	e 21 35	PP	—	—	—	—
Algiers		150·1	332	e 19 52?	[+10]	—	—	—	—
Granada		152·4	343	i 19 55	[+10]	—	—	—	—
Malaga		153·0	343	e 19 29	[−17]	—	—	—	—
San Fernando		153·8	346	e 20 17	[+30]	e 27 17	PPP	—	—
Dakar		175·2	44	i 9 46	?	—	—	i 90·6	—

Additional readings :—
Riverview eZ = +5m.32s., iSN = +10m.9s., iE = +14m.23s., iN = +14m.55s.
Wellington i = +7m.7s. =PP +4s., +7m.35s., +11m.38s. and +13m.52s.?, L_q = +15·7m.
Melbourne i = +7m.34s. =PP +4s. and +14m.1s.

Continued on next page.

Christchurch pP = +7m.4s., sS = +12m.54s., S_cSZ = +16m.18s.
Adelaide i = +7m.4s., +15m.1s., +15m.25s., and +16m.29s., iS_cS = +17m.7s.
Honolulu eSS = +19m.24s.
Perth ? = +8m.37s., PP = +10m.22s. = P_cP +4s., PPP = +11m.42s., ? = +18m.52s. = S_cS +4s., SS = +20m.27s., SSS = +21m.27s.
Nanking iN = +20m.15s. = S_cS +5s.
Medan iS = +19m.38s.
Chiufeng pP = +11m.22s., iEN = +20m.30s. = PS +5s., iS_cSE = +21m.1s., iS_cSN = +21m.9s.
Irkutsk ePP = +15m.38s., eSS = +28m.16s.
Calcutta SS = +28m.40s.
College e = +17m.23s. = PPP +6s. and +27m.19s., eSS = +32m.2s.
Tucson e = +29m.40s. = SS −4s.
Tashkent iSKKS = +25m.3s., PS = +27m.25s.
Sverdlovsk iPS = +28m.6s., SS = +34m.16s.
Scoresby Sund +41m.52s.?
Ksara pPKP = +19m.31s., PP = +21m.20s., pPP = +21m.41s., PPS = +34m.5s.
De Bilt eZ = +22m.3s. = PP +5s. and +22m.56s. = PKS −2s.
Zagreb e = +22m.2s. = PP −1s. and +22m.58s. = PKS −2s.
Uccle i = +23m.5s. = PKS +3s.
Stuttgart ePP = +22m.13s., PKS = +23m.0s.
Triest i = +23m.1s. = PKS −3s., i = +29m.11s. = SKKS −2s.
Strasbourg i = +23m.7s. = PKS +3s.
Paris iPP = +23m.9s. = PKS +0s.
Granada PP = +23m.40s.
Malaga e = +20m.1s. = PKP_2 −11s., +20m.25s., and +21m.54s.
San Fernando ePKP_2 = +20m.29s., ePP = +24m.13s., eSS = +43m.28s.
Dakar iP = +47m.2s. = SS −4s., PP = +48m.13s., ePPP = +48m.38s., iPPPP = +50m.46s.
Long waves were also recorded at Apia, Arapuni, Sitka, Florissant, Samarkand, Copenhagen, Pulkovo, Edinburgh, and Cape Town.

April 9d. Readings also at 1h. (Almata, Samarkand, near Andijan, and Frunse), 2h. (near Sumoto), 4h. (Huancayo, La Paz, and Tucson), 5h. (Nagoya and near Mizusawa), 6h. (near Taihoku), 12h. (Cape Town), 13h. (Ksara), 16h. (La Paz, Mount Wilson, Pasadena, Riverside, Tinemaha, Philadelphia, near Mizusawa, and Nagoya), 17h. (Ksara, Tiflis, Basle, Triest, Zurich, Zagreb, Toledo, Malaga, Granada, Algiers, and Dakar), 18h. (Amboina (2), Edinburgh, and near Andijan), 19h. (Vladivostok, near Mizusawa, and Nagoya), 20h. (Bombay, Pasadena, Riverside, Tinemaha, La Plata, Sverdlovsk, Tashkent, near Santiago (2), and near San Javier), 22h. (near Malaga), 23h. (near Tananarive).

April 10d. 15h. 29m. 54s. Epicentre 40°·0N. 17°·0E. N.3.

A = +·7326, B = +·2240, C = +·6428; δ = +7;
D = +·292, E = −·956; G = +·615, H = +·188, K = −·766.

		Δ	Az.	P.	O−C.	S.	O−C.	M.
		°	°	m. s.	s.	m. s.	s.	m.
Capodimonte	N.	2·3	292	e 0 36	+ 3	e 0 50	− 9	1·1
Zagreb		5·9	353	e 1 23	−1	e 2 28	− 3	—
Triest		6·2	338	e 1 27	− 1	2 33	− 5	—
Vienna		8·3	357	e 3 36?	S	(e 3 36?)	+ 5	—
Zurich		9·6	323	e 3 16	?	—	—	—
Cheb		10·6	344	—	—	e 4 6?	−22	—

Additional readings:—
Zagreb eP_g = +1m.33s. = P* −5s., eNEZ = +2m.47s. = S* −7s.
Triest PP = +1m.55s. = P_g −3s., S_g = +2m.50s.

April 10d. 16h. 53m. 43s. Epicentre 6°·5N. 126°·0E. (as on 1933 Sept. 7d.). R.3.

$A = -\cdot5840$, $B = +\cdot8038$, $C = +\cdot1132$; $\delta = -4$;
$D = +\cdot809$, $E = +\cdot588$; $G = -\cdot066$, $H = +\cdot092$, $K = -\cdot994$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Manila		9·5	330	2 17 a	+ 3	4 33	S*	5·2	—
Amboina		10·4	168	2 29	+ 3	—	—	—	—
Hong Kong		19·5	326	4 20	− 4	7 51	− 5	9·4	12·0
Batavia		22·9	237	4 56	− 4	8 57	− 6	—	—
Phu-Lien		23·6	309	e 5 2	− 4	e 9 12	− 4	—	—
Zi-ka-wei	Z.	25·0	351	e 5 23	+ 3	9 51	+10	—	17·2
Nanking		26·4	346	e 5 31	− 2	10 17	+12	13·7	—
Medan		27·3	266	5 35	− 6	i 11 1	SS	—	—
Chiufeng		34·8	347	e 6 46	− 1	12 14	− 4	e 17·5	22·6
Vladivostok		37·0	7	e 7 14	+ 8	e 13 0	+ 9	e 18·2	—
Perth		39·6	194	13 17?	S	(13 17?)	−13	—	—
Calcutta	E.	39·7	299	e 9 1	PP	—	—	—	—
Irkutsk		49·1	344	e 9 21	+37	e 15 42	− 6	23·3	26·5
Frunse		58·0	317	e 9 59	+ 9	—	—	—	—
Tashkent		61·1	316	e 10 47	+35	18 20	−10	—	38·7
Samarkand		62·2	313	e 10 16	− 4	—	—	—	—
Sverdlovsk		71·2	330	i 11 10	− 8	i 20 21	−14	30·8	—
Baku		75·2	312	e 11 18	−23	e 21 20	− 2	36·3	45·8
Tiflis		79·1	313	e 11 47	−16	e 21 58	− 8	e 44·3	—
Moscow		83·7	326	e 12 23	− 4	—	—	—	—
Ksara		86·5	305	i 12 37	− 4	e 23 15	[+ 5]	—	—
Pulkovo		87·2	331	—	—	e 23 16	[+ 1]	49·3	—
Strasbourg		102·4	321	—	—	(e 31 17?)	SSS	e 31·3	—

Additional readings :—
Chiufeng SN = +12m.28s.
Irkutsk e = +10m.41s.
Tashkent e = +22m.53s.
Tiflis e = +13m.4s.
Ksara ePP = +15m.55s., ePS = +24m.9s., eSS = +29m.5s.
Long waves were also recorded at Copenhagen, Edinburgh, Kew, De Bilt, Paris and Stuttgart.

April 10d. 20h. 1m. 2s. Epicentre 41°·7N. 106°·1E. N.2.

$A = -\cdot2071$, $B = +\cdot7174$, $C = +\cdot6652$; $\delta = +4$;
$D = +\cdot961$, $E = +\cdot277$; $G = -\cdot184$, $H = +\cdot639$, $K = -\cdot747$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Chiufeng		7·7	98	2 8k	P*	3 0	−16	—	4·4
Irkutsk		10·6	354	e 2 29	0	e 4 46	+18	i 5·4	5·7
Yingkow		12·2	89	3 20	?	—	—	—	—
Nanking		14·0	129	6 19	+ 4	7 11	?	7·8	9·1
Hsinking		14·2	74	—	—	6 42	+46	—	—
Heizyo		15·2	93	—	—	7 34	?	—	—
Zi-ka-wei	Z.	16·2	126	—	—	e 6 40	− 3	—	10·4
Zinsen		16·3	98	e 3 43	− 2	e 8 26	?	—	—
Keizyo		16·6	97	e 3 51	+ 2	8 22	?	—	—
Vladivostok		19·0	77	e 4 14	− 5	e 7 49	+ 3	e 9·8	—
Husan		19·1	103	—	—	e 9 52	?	e 11·1	—
Semipalatinsk		19·8	305	4 37	PP	e 8 24	SS	—	—
Hong Kong		20·5	159	4 31	− 4	8 20	+ 4	—	13·2
Hukuoka B		20·8	105	e 4 36	− 2	e 8 5	−17	—	—
Phu-Lien		20·9	179	e 4 51	PP	e 11 12	L	(e 11·2)	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Almata		21·5	285	4 44	− 1	e 8 50	+14	—	12·0
Frunse		23·2	283	e 5 2	− 1	—	—	e 12·4	—
Calcutta	E.	24·2	224	e 5 1	−11	9 41	+14	—	15·8
Andijan		25·2	279	e 5 18	− 4	—	—	e 13·6	—
Tashkent		27·3	282	i 5 42	+ 1	i 10 44	+24	i 14·7	17·6
Samarkand		29·4	280	e 6 3	+ 3	—	—	e 15·6	—
Manila		30·0	150	5 20	−45	12 30	SS	—	—
Sverdlovsk		32·5	314	i 6 25	− 2	e 12 51	+68	i 19·8	20·4
Medan		38·7	192	7 27	+ 6	—	—	—	—
Baku		41·6	288	—	—	e 15 0	+60	22·0	31·1
Grozny		43·5	293	e 8 3	+ 2	—	—	—	—
Tiflis		44·7	292	e 8 11	+ 1	e 18 29	(+19)	e 25·0	—
Moscow		45·3	312	e 8 12	− 3	e 14 17	−38	e 22·5	27·3
Erevan		45·5	290	i 8 38	+21	—	—	—	—
Pulkovo		48·2	319	i 8 36	− 2	—	—	23·0	29·2
Theodosia		49·9	299	e 9 26	+35	—	—	—	—
Simferopol		50·7	300	8 58	+ 1	—	—	—	—
Yalta		50·9	300	e 9 18	+20	—	—	—	—
Sebastopol		51·2	300	e 8 49	−11	—	—	—	—
Ksara		54·5	286	i 9 26	+ 1	e 17 29	+27	—	—
Cheb		61·4	314	—	—	e 23 58?	?	e 32·0	38·0
Tinemaha		91·4	34	i 13 1	− 3	—	—	—	—
Mount Wilson	z.	93·9	36	i 13 12	− 3	—	—	—	—
Pasadena	z.	94·0	36	e 13 12	− 4	—	—	—	—

Additional readings :—
Chiufeng P*N = +2m.20s., P_g? = +2m.31s., S* = +3m.16s. =S +0s., S_g = +3m.54s.
Calcutta E. SSE = +10m.54s.
Sverdlovsk e = +15m.12s., iL_q = +17·5m.
Baku e = +18m.2s.
Tiflis e = +14m.53s. =S +7s. and +20m.53s.
Moscow ePP = +9m.58s., e = +17m.40s. =SS −16s.
Pulkovo PP = +10m.28s.
Theodosia e = +11m.2s.
Simferopol e = +10m.54s. =PP +8s.
Yalta e = +12m.4s.
Ksara ePP = +11m.28s.
Long waves were also recorded at Taikyu, Hyderabad, and other European stations.

April 10d. Readings also at 0h. (Manila), 1h. (Pasadena, Riverside, and Tinemaha), 5h. (Triest, Branner, Fresno, and Lick), 10h. (Amboina), 12h. (Haiwee, Pasadena (2), Riverside, Tinemaha (2), La Jolla, Neuchatel, and Zurich), 13h. (near Mizusawa, near Batavia, and Malabar), 14h. (Basle, Neuchatel, and near Zurich), 15h. (Bagnères (2)), 16h. (Bagnères, Pasadena, Riverside, Tinemaha, and near Manila), 18h. (La Paz), 20h. (near Sotchi), 22h. (near Amboina), 23h. (Batavia, Samarkand, Medan, and near Fresno).

April 11d. 23h. 38m. 6s. Epicentre 11°·5N. 125°·3E. N.2.

A = −·5663, B = +·7998, C = +·1994 ; δ = +14 ;
D = +·816, E = +·578 ; G = −·115, H = +·163, K = −·980.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Manila	5·2	307	i 1 17a	+ 3	i 2 24	+11	—	—
Palau	10·0	114	2 37	+16	4 33	+20	—	—
Hong Kong	15·2	318	3 29	− 2	6 23	+ 3	7·7	8·9
Miyazaki	21·2	13	4 42	0	8 22	− 8	—	—
Nanking	21·4	344	i 4 44	0	8 40	+ 6	11·9	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Nagasaki		21·6	10	4 46	0	8 34	− 4	—	—
Kumamoto		21·9	12	4 48	− 2	—	—	—	—
Hukuoka B		22·6	12	5 3	+ 6	8 45	−12	—	—
Wakayama		24·4	21	5 15	+ 1	9 25	− 5	—	—
Sumoto		24·5	21	i 5 14	− 1	e 9 28	− 4	—	—
Taikyu		24·5	7	5 15	0	e 9 23	− 9	—	—
Osaka		24·9	21	5 24	+ 5	9 46	+ 7	—	—
Kameyama		25·5	22	5 24	− 1	—	—	—	—
Hikone		25·8	21	5 27	0	—	—	—	—
Nagoya		25·9	24	e 5 25	− 3	—	—	—	—
Gihu		26·1	24	5 31	+ 1	9 58	− 2	—	—
Oiwake		27·6	24	5 55	+11	—	—	—	—
Nagano		27·7	22	5 41	− 3	10 28	+ 1	—	—
Chiufeng		29·7	346	i 6 1a	− 1	11 0	+ 1	—	—
Vladivostok		32·1	9	e 6 22	− 2	e 11 26	−11	i 16·0	21·3
Calcutta	E.	36·8	292	7 11	+ 6	12 52	+ 4	—	—
Irkutsk		44·1	342	8 4	− 2	e 14 18	−19	21·9	—
Agra	E.	47·0	297	8 26	− 3	i 15 31	+12	—	—
Bombay	E.	51·0	285	i 8 3	−56	—	—	—	—
Semipalatinsk		53·5	327	e 9 18	0	—	—	—	—
Frunse		53·8	315	e 10 18	(−12)	—	—	—	—
Andijan		54·7	312	e 9 26	0	e 17 26	+21	—	—
Tashkent		57·1	312	i 9 44	0	i 17 52	+14	e 27·2	37·1
Samarkand		58·4	310	9 54	+ 1	18 7	+12	—	—
Sverdlovsk		66·7	328	i 10 45	− 5	19 44	+ 3	31·9	40·1
Baku		71·5	309	11 21	+ 1	20 58	+19	35·9	45·9
Tiflis		75·3	311	i 11 43	+ 1	e 21 37	+13	39·9	49·5
Erevan		75·6	309	e 12 19	+35	—	—	—	—
Piatigorsk		76·5	313	e 11 48	− 1	—	—	—	—
Moscow		79·2	325	e 12 3	− 1	e 22 9	+ 2	40·4	43·6
Theodosia		81·8	315	12 19	+ 2	22 42	+ 7	—	—
Pulkovo		82·6	330	i 12 21	0	22 46	+ 3	45·9	48·4
Simferopol		82·7	315	12 24	+ 2	22 55	+11	—	—
Yalta		82·8	315	e 12 23	+ 1	22 53	+ 8	—	—
Ksara		83·1	303	i 12 27a	+ 3	e 22 58	+10	—	—
Sebastopol		83·2	315	12 25	+ 1	22 57	+ 8	—	—
Helwan		87·7	301	—	—	e 23 27	− 7	—	—
Copenhagen		92·9	329	—	—	23 24	[−25]	49·9	—
Zagreb		94·8	319	e 13 22	+ 2	e 24 11	[+11]	—	—
Cheb		95·3	324	—	—	e 23 54?	[− 8]	e 55·9	59·9
Triest		96·3	320	e 13 37	+11	e 24 15	[+ 7]	—	54·7

Additional readings :—
Hong Kong PP = +3m.39s.
Calcutta PPPE = +8m.40s.
Irkutsk ePP = +9m.47s., SS = +17m.54s.
Agra iPPE = +10m.19s., PPPE = +11m.5s., iSSE = +18m.41s., SSSE = +20m.2s.
Bombay eEN = +9m.47s.
Tiflis e = +30m.28s.
Pulkovo L_Q = +40·9m.
Ksara ePP = +15m.44s., ePS = +23m.44s., ePPS = +24m.10s., eSS = +28m.42s.
Helwan i = +23m.46s.
Copenhagen e = +24m.6s., +24m.36s., and +25m.30s. =PS +4s.
Triest SKS = +23m.56s., i = +24m.59s. =S +5s.
Long waves were also recorded at Pasadena, Scoresby Sund, and other European stations.

April 11d. Readings also at 1h. (Grozny, Piatigorsk, and Tiflis), 2h. (near Nagoya (2)), 3h. (Alicante, Almeria, San Fernando, Toledo, near Granada, Malaga, and near Samarkand), 4h. (Baku, Ksara, Tiflis, Sverdlovsk, Tashkent, Samarkand, Agra, Bombay, Hyderabad, and Kodaikanal), 9h. (La Paz, Frunse, near Andijan, Samarkand, and near Wellington), 10h. (Samarkand and near Wellington), 12h. (Dakar), 14h. (Sotchi, Piatigorsk, near Erevan, Grozny, and Tiflis), 16h. (Mizusawa, Sumoto, and near Tiflis), 18h. (La Paz), 21h. (near Branner), 23h. (Triest and Zagreb).

April 12d. 2h. 37m. 11s. Epicentre 8°·0N. 137°·5E. N.3.
(forerunner of large shock of 12d. 20h.).

$A = -·7301$, $B = +·6690$, $C = +·1392$; $\delta = -2$;
$D = +·676$, $E = +·737$; $G = -·103$, $H = +·094$, $K = -·990$.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Manilá	17·5	294	4 0k	0	7 21	+ 8	9·2	10·8
Hong Kong	26·6	306	—	—	10 19	+10	—	17·3
Nanking	29·7	327	—	—	(e 11 13)	+14	e 11·2	—
Vladivostok	35·5	354	e 8 14	PP	—	—	—	21·2
Chiufeng	37·3	334	e 7 20	+11	e 13 22	+26	—	25·4
Tashkent	68·4	312	—	—	e 20 7	+ 5	e 34·3	44·4
Sverdlovsk	76·1	328	e 11 37	−10	e 21 55	PS	37·8	—
Tiflis	86·7	312	—	—	e 22 55	[−16]	e 50·3	—
Ksara	95·1	304	e 15 16	?	e 25 40	PS	59·8	—
Cheb	105·0	327	—	—	e 28 49?	?	e 62·8	68·8

Additional readings :—
Chiufeng eN = +7m.22s.
Long waves were also recorded at Baku, Moscow, Pulkovo, Copenhagen, De Bilt, Stuttgart, Paris, and Granada.

April 12d. 17h. 25m. 12s. Epicentre 43°·5N. 85°·5E. (as on 1925 July 21d.). X.

$A = +·0569$, $B = +·7231$, $C = +·6884$; $\delta = +1$;
$D = +·997$, $E = -·078$; $G = -·054$, $H = +·686$, $K = -·725$.

Very rough.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Almata	6·2	270	e 1 26	− 2	e 2 12	−26	—	2·4
Semipalatinsk	7·8	334	e 2 29	P_g	e 3 12	− 7	—	—
Frunse	8·0	269	e 1 52	− 1	i 3 3	S*	—	—
Andijan	10·1	259	e 2 55	+33	e 4 44	+28	e 5·4	—
Tchimkent	11·7	269	—	—	e 4 53	− 2	—	—
Samarkand	14·3	261	e 4 8	+49	e 5 48	−10	—	—
Sverdlovsk	20·5	319	e 4 43	+ 8	e 8 23	+ 7	11·1	—

Additional readings :—
Almata eP_g = +1m.36s. =P* −7s., i = +2m.30s. and +2m.52s. =S* −11s.
Semipalatinsk e = +3m.45s. =S* −5s.
Frunse eP_g = +2m.4s. =P* −10s.
Tchimkent e = +5m.12s.
Samarkand e = +6m.40s.
Long waves were also recorded at Tiflis, Moscow, Pulkovo, and Copenhagen.

April 12d. 20h. 51m. 5s. Epicentre 8°·0N. 137°·5E. (see shock at 2h.). N.1.

$A = -·7301$, $B = +·6690$, $C = +·1392$; $\delta = -2$;
$D = +·676$, $E = +·737$; $G = -·103$, $H = +·094$, $K = -·990$.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Palau	3·1	257	0 42	− 2	1 14	− 6	—	—
Amboina	15·0	219	e 3 24	− 4	i 6 29	SS	—	—
Manila	17·5	294	i 4 3a	+ 3	i 7 34	SS	—	—
Titizima	19·6	13	4 25	0	—	—	—	—
Isigakizima	20·7	325	4 37	0	8 35	+15	—	—
Kosyun	21·4	314	4 50	+ 6	8 28	− 6	—	—
Taito	21·6	316	4 47	+ 1	8 47	+ 9	—	—
Nake	21·7	342	4 58	+10	9 16	SS	—	—
Karenko	22·1	321	4 59k	+ 7	9 6	+18	—	—
Arisan	22·3	320	4 59	+ 5	—	—	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tainan		22·4	316	4 56	+ 1	—	—	—	—
Taityu		22·8	320	5 3	+ 4	—	—	—	—
Taihoku		22·9	320	4 59	− 1	9 13	+10	—	9·6
Kagosima		24·4	346	5 18	+ 4	—	—	—	—
Miyazaki		24·6	348	5 17	+ 1	9 30	− 4	—	—
Simidu		25·1	352	5 19	− 2	—	—	—	—
Hatidyozima		25·2	6	5 52	PP	—	—	—	—
Siomisaki		25·5	359	5 24	− 1	—	—	—	—
Unzendake		25·6	348	5 19	− 6	—	—	—	—
Kumamoto		25·6	349	5 25	0	—	—	—	—
Nagasaki		25·7	347	5 27	+ 1	—	—	—	—
Ooita		25·8	349	6 28	+61	—	—	—	—
Matuyama		26·2	352	5 38	+ 7	10 13	+11	—	—
Wakayama		26·3	358	5 28	− 4	—	—	—	—
Hukuoka		26·4	348	5 32	− 1	9 56	− 9	—	—
Hukuoka B		26·4	348	5 34	+ 1	10 19	+14	—	—
Sumoto	z	26·5	358	e 5 35k	+ 1	10 8	+ 1	13·5	14·4
Hong Kong		26·6	306	5 32k	− 3	10 13	+ 4	13·1	16·7
Hamamatu		26·7	2	5 40	+ 5	—	—	—	—
Kobe		26·8	358	e 5 13	−23	(e 10 22)	+10	e 10·4	13·7
Kameyama		26·9	1	5 36	− 1	10 33	+19	—	—
Okayama		26·9	354	5 41	+ 4	10 22	+ 8	—	—
Nagoya		27·2	0	e 5 46	+ 6	—	—	11·2	—
Hikone		27·3	359	5 41	0	—	—	—	—
Gihu		27·4	0	6 2	+20	11 20	SS	—	—
Hukusan		27·4	359	5 43	+ 1	—	—	—	
Hunatu		27·5	4	5 46	+ 3	—	—	—	—
Zi-ka-wei	z.	27·6	331	5 44	0	8 48	?	13·2	13·7
Toyooka		27·6	357	5 43	− 1	—	—	11·3	15·1
Kohu		27·7	4	5 40	− 4	—	—	—	—
Tokyo		27·8	4	6 6	+21	—	—	—	—
Tyosi		27·9	7	5 49	+ 3	—	—	—	—
Kumagaya		28·2	3	5 49	0	—	—	—	—
Husan		28·2	346	6 3	+14	—	—	12·2	—
Kakioka		28·3	6	5 53	+ 3	—	—	—	—
Tukubasan		28·3	6	5 50	0	—	—	—	—
Oiwake		28·3	3	5 51	+ 1	10 52	+15	—	—
Maebasi		28·4	3	6 5	+14	—	—	—	—
Nagano		28·7	1	5 59	+ 6	11 15	+32	—	—
Toyama		28·7	0	6 3	+10	—	—	—	—
Taikyu		29·0	346	5 58	+ 2	10 43	− 5	15·3	—
Wazima		29·4	0	5 59	− 1	—	—	—	—
Nanking		29·7	327	i 6 0k	− 2	i 10 54	− 5	14·0	15·0
Hukusima		29·9	6	6 6	+ 2	11 9	+ 6	—	—
Sendai		30·4	7	6 8	− 1	11 13	+ 3	—	—
Zinsen		31·1	343	6 10	− 5	e 8 50	?	e 11·5	—
Keizyo		31·1	344	e 6 22	+ 7	e 11 21	0	—	—
Mizusawa	E.	31·3	6	e 6 23	+ 6	e 11 42	+18	—	—
	N.	31·3	6	e 6 19	+ 2	e 11 30	+ 6	e 14·9	—
Morioka		31·9	5	6 20	− 2	11 36	+ 2	—	—
Aomori		32·9	5	6 32	+ 1	12 2	+13	—	—
Batavia		33·7	247	i 6 42	+ 4	i 12 18	+17	e 16·9	—
Hakodate		33·9	5	6 49	+10	—	—	—	—
Sapporo		35·2	6	6 51	0	—	—	—	—
Obihiro		35·3	8	6 51	− 1	—	—	—	—
Vladivostok		35·5	354	i 6 54	+ 1	e 12 20	− 9	16·4	19·6
Chiufeng		37·3	334	i 7 8	− 1	i 12 46	−10	18·0	19·6
Medan		38·8	267	7 24	+ 2	i 13 28	+10	—	—
Ootomari		38·9	6	7 12	−11	—	—	—	—
Adelaide		42·9	179	7 55	− 1	i 14 37	+18	—	27·6
Riverview		43·8	164	e 8 5	+ 2	i 14 39	+ 6	e 22·8	28·6
Perth		45·0	207	8 25	+12	14 55	+ 5	23·3	—
Melbourne		46·4	173	e 8 31	+ 7	15 13	+ 3	22·1	26·3
Calcutta	E.	49·3	293	8 47	+ 1	15 54	+ 3	23·6	27·9
Irkutsk		51·9	335	9 4	− 2	16 35	+ 8	23·9	27·9

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Colombo		57·1	273	9 40	− 4	17 34	− 4	31·1	38·6
New Plymouth		58·0	147	10 55?	?	—	—	—	—
Arapuni		58·2	146	—	—	e 17 55?	+ 3	—	—
Hyderabad		58·2	286	9 53	+ 1	18 20	+28	27·8	37·3
Kodaikanal	E.	59·2	278	i 9 58	− 1	i 18 3	− 2	33·2	38·8
Agra	E.	59·3	297	9 54	− 6	18 16	+ 9	—	—
Dehra Dun		59·7	301	10 15	+13	18 35	+23	27·2	32·9
Wellington		60·0	149	10 11	+ 7	18 16	0	33·9	35·9
Christchurch		60·6	152	i 10 16a	+ 7	i 18 28	+ 4	28·8	—
Semipalatinsk		63·3	324	e 10 26	− 1	e 18 58	− 1	31·9	—
Almata		63·3	316	e 10 27	0	—	—	—	—
Honolulu		63·6	70	e 10 27	− 2	i 19 15	+13	i 26·1	—
Bombay		63·7	288	10 24	− 6	i 19 0	− 4	30·9	43·1
Frunse		64·8	314	e 10 29	− 8	—	—	34·1	—
Andijan		66·0	311	e 10 47	+ 2	e 19 53	+21	(e 20·0)	—
Tchimkent		68·3	313	e 10 57	− 3	—	—	—	—
Samarkand		69·9	309	e 11 10	0	e 20 20	0	25·3	—
Sverdlovsk		76·1	328	i 11 41	− 6	i 21 25	− 8	i 37·2	44·3
College		76·3	25	e 11 46	− 2	e 21 27	− 8	e 30·4	—
Sitka		81·8	34	e 12 13	− 4	e 22 30	− 5	e 33·9	—
Baku		83·0	311	i 12 23	0	23 45	PS	43·9	55·1
Grozny		85·8	314	12 42	+ 5	23 22	+ 6	42·9	—
Tiflis		86·7	312	i 12 40	− 2	23 14	[+ 3]	43·4	56·1
Erevan		87·1	310	e 13 3	+19	—	—	—	—
Piatigorsk		87·6	315	e 11 55	−51	e 23 12	[− 5]	41·9	—
Moscow		88·9	327	e 12 47	− 5	23 19	[− 7]	44·4	54·3
Victoria		90·0	41	e 12 58	+ 1	i 23 48	− 8	e 42·1	43·8
Sotchi		90·1	315	e 13 20	+22	—	—	—	—
Ukiah		91·2	50	e 13 7	+ 4	e 23 43	[+ 3]	e 41·9	—
Pulkovo		91·5	332	13 1	− 3	23 35	[− 6]	41·9	53·3
Theodosia		92·8	316	—	—	e 24 15	− 7	56·9	—
Berkeley		93·1	51	e 13 7k	− 5	i 23 59	{− 1}	—	—
Simferopol		93·7	316	e 17 2	PP	e 24 33	+ 3	58·9	—
Yalta		93·8	315	—	—	e 24 26	− 5	58·9	—
Sebastopol		94·1	316	—	—	e 26 18	PS	59·9	—
Ksara		95·1	304	e 13 18	− 3	—	—	46·9	—
Tinemaha		96·3	51	i 13 26	0	—	—	i 44·3	—
Pasadena		97·2	53	e 13 29	− 2	e 24 55	− 7	i 44·7	—
Mount Wilson	z.	97·2	53	e 13 30	− 1	—	—	i 44·6	—
Upsala		97·3	333	e 13 32	+ 1	26 22	PS	e 42·9	61·5
Riverside		97·8	53	e 13 37	+ 4	—	—	—	—
Königsberg		98·3	328	e 17 32	PP	e 24 14	[− 3]	e 35·7	58·3
Bozeman		98·8	41	—	—	e 24 15	[− 5]	e 39·1	—
Bucharest		99·2	317	e 13 55	+15	24 22	[0]	50·9	57·9
Helwan		99·8	301	13 44	+ 1	26 52	PS	—	—
Scoresby Sund		100·3	353	13 49	+ 4	24 29	[+ 2]	50·9	—
Copenhagen		101·9	331	13 55	+ 3	24 28	[− 7]	44·9	—
Bergen		102·0	338	e 14 55	?	e 24 9	[−26]	51·1	—
Budapest		102·5	322	e 18 5	PP	e 27 8	PS	e 53·9	65·4
Belgrade		102·8	319	e 18 49	?	e 27 13	PS	e 59·1	—
Tucson		103·6	54	e 14 5	+ 5	e 25 52	− 6	e 47·9	—
Vienna		103·7	323	e 16 57	?	27 25	PS	e 57·4	67·4
Prague		103·9	326	e 16 19	?	e 28 25	?	e 43·9	65·9
Hamburg		104·2	331	e 17 31	PP	e 27 45	PS	e 49·5	64·9
Graz		104·8	323	e 19 37	?	e 29 25	?	e 53·9	68·2
Cheb		105·0	327	e 14 8	+ 7	e 24 58	[+ 8]	e 50·9	65·6
Zagreb		105·1	321	e 18 17	PP	e 28 42	?	e 53·9	58·3
Göttingen		105·4	329	e 18 43	PP	e 27 55?	PS	e 46·9	53·9
Triest		106·6	322	e 14 45	+31	i 24 57	[0]	54·9	67·8
De Bilt		107·4	331	e 14 19	+ 1	e 28 2	PS	e 49·9	59·3

Continued on next page.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Stuttgart		107·5	327	e 14 17	− 2	e 28 25	PS	e 51·9	67·2
Strasbourg		108·3	327	e 19 1	PP	e 28 15	PS	e 57·9	—
Edinburgh		108·3	337	e 14 55?	+32	i 25 35	[+30]	48·9	70·7
Durham		108·5	336	—	—	28 25	PS	—	68·9
Uccle		108·7	331	e 14 19	− 6	i 25 5	[− 2]	e 49·9	64·0
Florence		109·0	321	17 55	[−20]	28 25	PS	54·9	—
Stonyhurst		109·6	336	e 19 5	PP	e 27 50	PS	54·9	69·4
Bidston		110·1	336	e 14 27	− 5	i 28 38	PS	51·9	68·1
Kew		110·4	333	e 14 33	0	i 28 42	PS	51·9	55·4
Ivigtut		110·6	2	19 13	PP	28 36	PS	44·9	—
Paris		110·9	329	e 13 42	+ 7	28 47	PS	49·9	67·9
Rathfarnham Castle		111·5	337	i 16 38	?	e 30 22	?	52·2	71·7
Madison		113·5	35	—	—	e 28 55?	PS	—	—
Chicago		115·4	36	e 19 37	PP	e 29 14	PS	e 52·1	—
Florissant		115·5	40	e 15 0	− 3	e 25 44	[+ 9]	i 53·4	64·8
St. Louis	N.	115·7	40	—	—	e 29 17	PS	e 49·7	—
Barcelona		115·9	324	—	—	e 29 33	PS	—	61·7
Bagnères		115·9	326	—	—	e 29 55?	PS	e 59·9	71·9
Little Rock		116·4	45	e 19 47	PP	e 29 29	PS	e 50·3	59·5
Ann Arbor		117·2	32	e 21 13	?	e 29 37	PS	e 55·1	—
Tortosa		117·2	324	—	—	e 26 55?	{− 2}	e 55·9	86·0
Algiers		118·2	319	e 20 2	PP	i 29 50	PS	58·9	68·9
Cape Town		118·4	235	i 20 5	PP	i 29 49	PS	44·9	62·8
Toronto		118·5	29	i 19 31	PP	i 28 35	?	51·9	—
Ottawa		118·9	25	e 20 5	PP	e 29 43	PS	e 47·9	—
Toledo		120·4	326	19 59	PP	—	—	—	—
Almeria		121·6	322	e 20 13	PP	30 21	PS	e 64·1	—
Granada		122·0	323	e 19 58	PP	27 12	{−18}	—	—
Charlottesville		123·0	33	e 23 59	?	e 29 55	SKSP	e 55·9	—
Oak Ridge		123·0	24	i 20 45	PP	e 30 39	PS	e 63·9	—
Philadelphia		123·3	29	e 20 35	PP	e 30 15	SKSP	e 51·7	—
San Fernando		124·0	324	e 15 15	−24	30 54	PS	61·9	83·4
Columbia		124·4	38	e 21 19	PP	e 31 11	PS	e 57·9	—
San Juan		144·8	40	e 19 29	[− 4]	e 33 11	SKSP	e 68·9	—
Huancayo		147·4	100	i 19 39	[+ 1]	—	—	e 44·2	—
La Plata		149·6	154	18 25	[−76]	—	—	70·1	—
La Paz		153·6	111	i 19 55k	[+ 9]	i 26 29	SKS	73·9	91·1
Rio de Janeiro		165·1	177	e 19 55	[− 4]	—	—	—	—

Additional readings :—
Amboina iP = +3m.31s. =PP −2s.
Taihoku PE = +5m.5s.
Sumoto SE = +10m.14s.
Hong Kong PP = +6m.25s., P_cP = +8m.52s.
Kobe ePZ = +5m.34s., iZ = +5m.41s., eN = +7m.34s., eE = +7m.38s.
Zi-ka-wei PPZ = +5m.55s., iZ = +6m.12s., +6m.25s. =PP +0s. and +6m.46s., SSZ = +9m.16s., iZ = +9m.40s. and +10m.52s.
Toyooka ePE = +6m.20s. =PP −5s.
Nanking iPP = +7m.3s.
Chiufeng PPZ = +8m.28s., iP_cP = +8m.45s., iP_cSEN = +13m.2s.
Medan i = +13m.6s.
Adelaide e = +10m.43s., iS = +16m.37s.
Riverview iPN = +8m.8s., eN = +9m.47s. =PP +8s., eN = +17m.45s. = SS +17s., iEN = +18m.2s. =S_cS −3s.
Perth PP = +10m.5s. =P_cP +7s., P_cP = +10m.45s., PPP = +10m.55s., PPPP = +11m.25s., ? = +17m.55s., SS = +18m.30s.
Melbourne iP = +9m.18s., i = +10m.44s., PP = +12m.54s., SS = +18m.43s., i = +20m.27s.
Calcutta PPE = +10m.35s., SSE = +19m.12s.
Kodaikanal iPP = +13m.21s.
Agra PPE = +12m.6s., iSS?E = +21m.46s.
Wellington P_cS? = +14m.5s., i = +18m.45s., e = +21m.20s., SS = +23m.7s., SSS = +25m.25s.
Christchurch iPPZ = +12m.31s., PPP = +13m.55s., iPS = +18m.44s., iSS = +22m.29s.
Honolulu i = +15m.12s., +15m.37s., and +24m.15s.
Bombay SSEN = +23m.28s., SSSEN = +25m.36s.
College e = +11m.55s., ePP = +15m.17s., eSS = +26m.37s.

Continued on next page.

Tiflis i = +12m.46s., PP = +16m.16s., PS = +24m.16s., SS = +29m.6s., SSS = +32m.45s.
Moscow PP = +16m.26s., PS = +24m.44s., SS = +29m.43s., SSS = +32m.55s.
Pulkovo PP = +16m.35s., PPP = +18m.35s., PS = +25m.17s., SS = +30m.7s., SSS = +33m.49s.
Ukiah ePP = +16m.55s.
Berkeley eZ = +17m.5s., eE = +17m.13s., eZ = +17m.31s., eN = +23m.18s.
Ksara iPP = +17m.18s., PKKP = +29m.32s.
Tinemaha eZ = +16m.46s.
Pasadena eZ = +17m.12s.
Mount Wilson iZ = +17m.42s.
Upsala PPE = +17m.35s.
Königsberg eN = +21m.15s., eE = +21m.37s., eN = +22m.54s., eE = +26m.35s. =PS +8s. and +28m.11s., eN = +28m.53s., eE = +32m.4s.
Bozeman e = +26m.32s. =PS +0s.
Bucharest eEN = +17m.43s. =PP +6s.
Helwan e = +14m.37s., +19m.57s. =PPP +15s. and +27m.35s.
Scoresby Sund e = +17m.19s., +17m.55s. =PP +10s., PPP = +20m.1s., PS = +27m.1s., SS = +32m.25s.
Copenhagen eZ = +17m.46s. =PP −11s., PP = +18m.7s., PPP = +20m.18s., e = +23m.25s., PS = +27m.7s., SS = +32m.55s., SSS = +36m.31s.
Bergen e = +26m.55s.? and +32m.55s.? =SS +26s.
Belgrade e = +20m.32s.
Tucson ePP = +18m.36s., ePS = +27m.35s., eSS = +33m.5s.
Vienna PP = +21m.9s., e = +33m.25s.
Prague e = +33m.13s. =SS +18s.
Hamburg eEN = +33m.13s. =SS +13s.
Cheb ePP = +18m.23s., ePS? = +28m.37s., eSS? = +33m.37s.
Zagreb $ePcP$ = +18m.35s. =PP +13s., e = +33m.23s. =SS +12s.
Göttingen eEN = +33m.37s. =SS +21s.
Triest PP = +18m.45s., ePPP? = +20m.58s., iPS = +27m.59s., iPPS = +28m.47s., i = +29m.52s., iSS = +33m.53s., iSSS = +37m.51s., i = +41m.44s., +44m.46s.
De Bilt ePP = +18m.39s.
Stuttgart ePP = +18m.47s., eSS = +34m.7s.
Strasbourg ePPS? = +29m.12s.
Edinburgh i = +18m.55s.? =PP +10s., +22m.3s., +28m.25s. =PS +13s., +29m.21s., and +34m.19s. =SS +24s.
Uccle ePPEN = +18m.55s., iPSEN = +28m.16s., iEN = +28m.32s., iPPSZ = +29m.15s., iSS = +34m.20s., SSS = +38m.34s.
Stonyhurst i = +29m.35s.
Bidston iPP = +19m.3s., iPPP = +21m.29s., iPPS = +29m.35s., iSS = +34m.38s., eSSS = +38m.59s.
Kew iPP = +19m.9s., iPPPEZ = +21m.33s., iPPPN = +21m.37s., iSPPZ = +29m.31s., iPPSEN = +29m.39s., iSSE = +34m.39s., iSSN = +34m.49s., iSSZ = +34m.57s., eSSSEN = +39m.4s.
Ivigtut SS = +34m.55s.
Paris PP = +19m.10s., e = +29m.47s., SS = +35m.5s.
Rathfarnham Castle e = +20m.15s. and +35m.56s., i = +36m.13s. and +36m.56s.
Madison e = +32m.55s.?
Chicago eSS = +35m.26s.
Florissant ePKPZ = +18m.38s., ePPZ = +19m.32s., i = +19m.47s., eSKKSE = +26m.52s., iPSEN = +29m.20s., iPPSEN = +30m.21s., eSSE = +35m.34s.
St. Louis eN = +39m.15s. =SSS.
Little Rock ePPN = +19m.51s., eSSEN = +35m.48s.
Ann Arbor eE = +30m.1s., e = +32m.31s., eN = +36m.31s.
Algiers iPP = +22m.30s. =PPP +9s., eSSS = +36m.26s. =SS +18s.
Cape Town e = +23m.47s., i = +29m.54s. =PS +6s., eN = +36m.24s. =SS +13s., iE = +36m.54s.
Toronto iE = +39m.38s.
Ottawa SS = +37m.19s.
Almeria SS = +37m.19s.
Charlottesville eSS = +37m.19s., e = +50m.9s.
Oak Ridge eZ = +23m.32s., eSKPZ = +26m.59s., ePPSE = +38m.2s., e = +63m.55s.?
Philadelphia eSS = +37m.7s., e = +48m.55s.
San Fernando eE = +19m.58s., PP = +23m.29s., SS = +39m.12s.
Columbia e = +25m.11s., eSS = +37m.20s.
San Juan ePP = +23m.10s. =PKS −9s., ePPP = +26m.3s., eSS = +41m.8s.
Huancayo i = +19m.52s., ePP = +22m.13s., e = +25m.3s.
La Paz $iPKP_2$ = +20m.14s. =PKP_2 +0s., ipPKP = +21m.41s., isPKP = +22m.37s., iSKPZ = +23m.17s., iSKPE = +23m.35s., iPPZ = +23m.54s., iZ = +24m.41s., iE = +25m.31s., iZ = +25m.59s., iPPPZ = +26m.59s., iPPPE = +27m.23s., SKKSZ = +29m.51s., SKSPZ = +33m.27s., iE = +34m.18s., iPPSZ = +37m.5s., iZ = +38m.27s., iSSE = +44m.15s., iSSSE = +48m.37s., iSSSS = +52m.17s.
Long waves at Tashkent, Karlsruhe, and Malaga.

April 12d. 21h. 22m. 30s. Epicentre 25°·5N. 128°·0E. N.3.

A = −·5557, B = +·7112, C = +·4305; δ = −6;
D = +·788, E = +·616; G = −·265, H = +·339, K = −·903.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Taihoku		5·9	267	1 20	− 4	e 1 40	P*	—	1·8
Hukuoka		8·3	14	1 58	0	3 52	+21	—	—
Hukuoka B		8·3	14	1 58	0	4 16	S*	—	—
Husan		9·6	5	e 2 23	+ 7	(3 24)	−39	3·4	—
Nanking		10·4	311	2 21	− 5	5 44	+21	8·9	—
Taikyu		10·4	3	2 58	+32	i 5 0	S*	—	—
Sumoto		10·6	33	i 2 27	− 2	—	—	—	—
Keizyo		12·1	356	—	—	e 5 26	+21	e 10·0	—
Zinsen		12·1	341	e 3 4	+14	e 5 14	+ 9	e 6·4	—
Nagoya		12·3	36	(2 54)	+ 2	2 54	P	—	—
Mizusawa	E.	17·5	36	e 4 0	0	e 7 21	+ 8	9·8	—
Grozny		67·4	308	e 10 54	0	—	—	—	—
Tiflis		68·5	307	e 11 0	− 1	—	—	—	—
Erevan		69·3	305	e 11 36	(− 6)	—	—	—	—
Sotchi		71·6	310	i 10 59	−21	—	—	—	—
Simferopol		74·9	313	e 11 35	− 5	—	—	—	—
Yalta		75·0	312	e 11 33	− 7	—	—	—	—
Sebastopol		75·4	313	i 11 29	−14	—	—	—	—
Vienna		84·3	321	e 12 29	− 1	—	—	—	—
Zagreb		85·8	320	e 12 35	− 2	—	—	—	—

Additional reading and notes :—
Nagoya gives P as S, also P = +1m.8s.

April 12d. Readings also at 6h. (near Granada), 13h. (Ksara, Tiflis, and near Amboina), 15h. (Amboina), 16h. (Tashkent), 21h. (Moscow, Sverdlovsk, Pulkovo, and Heizyo).

April 13d. 0h. 28m. 35s. Epicentre 8°·0N. 137°·5E. (as on 12d.). X.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina	15·0	219	i 3 20	− 8	—	—	—	—
Manila	17·5	294	i 4 2a	+ 2	i 7 31	+18	9·4	11·4
Hong Kong	26·6	306	—	—	10 29	+20	—	16·2
Vladivostok	35·5	354	e 6 50	− 3	—	—	—	20·8
Chiufeng	37·3	334	e 7 9	0	e 12 53	− 3	—	—
Sverdlovsk	76·1	328	11 44	− 3	e 21 26	− 7	36·4	—
Grozny	85·8	314	e 12 41	+ 4	—	—	—	—
Tiflis	86·7	312	—	—	e 21 58	?	50·4	56·9
Pulkovo	91·5	332	—	—	e 38 40	?	56·4	—

Additional readings :—
Vladivostok e = +8m.14s. = PPP −4s.
Chiufeng ePE = +7m.12s.
Long waves were also recorded at Nanking, Copenhagen, Cheb, De Bilt, and Stuttgart.

April 13d. Readings also at 2h. (near Triest and Zagreb), 3h. (Sverdlovsk, Tiflis, Ksara, De Bilt, Granada, Cape Town, Rio de Janeiro, La Paz, near Kobe, Sumoto, and near Apia), 4h. (Baku, Pulkovo, and Copenhagen), 5h. (Bagnères), 7h. (Nanking, Hong Kong, Manila, Chiufeng, Tashkent, Tiflis, Sverdlovsk, Mount Wilson, Pasadena, and Tinemaha), 8h. (Copenhagen, De Bilt, and Stuttgart), 9h. (Amboina), 12h. (Huancayo, Rio de Janeiro, near Kobe, and Sumoto), 13h. (De Bilt and Stuttgart), 14h. (near San Javier, near Triest, and Zagreb), 15h. (near San Javier), 16h. (near Triest), 19h. (Tiflis), 20h. (Tiflis, near Branner, Lick, and near Wellington), 21h. (Apia, Christchurch, Mount Wilson, Pasadena, Riverside, Tinemaha, Ksara, Stuttgart, De Bilt, and Paris).

April 14d. 15h. 34m. 15s. Epicentre 1°·0S. 129°·0E. (as on 1935 Sept. 27d.). X.

$A = -\cdot6292$, $B = +\cdot7770$, $C = -\cdot0174$; $\delta = -8$;
$D = +\cdot777$, $E = +\cdot629$; $G = +\cdot011$, $H = -\cdot014$, $K = -1\cdot000$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		2·8	198	i 0 43	+·3	i 1 15	+ 3	—	—
Manila		17·5	333	i 4 35a	+35	8 27	L	10·5	—
Batavia		22·7	256	4 56	− 2	8 48	−11	—	—
Frunse		64·1	319	e 10 41	+ 8	—	—	—	—
Andijan		66·0	316	e 10 46	+ 1	—	—	—	—
Tashkent		68·4	316	—	—	i 20 2	0	—	37·4
Samarkand		69·5	313	11 10	+ 2	e 20 10	− 5	—	—
Sverdlovsk		79·2	330	i 12 1	− 3	i 21 57	−10	—	—
Simferopol		94·1	315	e 12 1	−75	—	—	—	—
Pulkovo		95·2	331	e 14 42	+81	i 17 14	PP	—	—
Tinemaha	z.	108·6	51	e 21 22	PPP	—	—	—	—
Pasadena	z.	109·3	54	i 21 23	PPP	—	—	e 85·2	—

Additional readings :—
Amboina $iS_cS = +14m.40s.$
Tashkent $e = +21m.33s.$

April 14d. Readings also at 1h. (Husan, near Hukuoka, Hukuoka B, Sumoto, and near Semipalatinsk), 2h. (Sumoto, Chiufeng, Almata, Andijan, Samarkand, Tchimkent, Irkutsk, and Sverdlovsk), 3h. (near Nagoya and Sumoto), 6h. 6h. (Grozny, Piatigorsk, and Malaga), 9h. (Florissant), 12h. (Wellington and near Sumoto), 15h. (Copenhagen, Prague, Andijan, Tashkent, Samarkand, Frunse, near Almata, near Hastings, Wellington, and near Budapest), 16h. (Adelaide, Arapuni, Christchurch, Wellington, Pulkovo, Ksara, Tashkent, and near Samarkand), 17h. (Baku, Sverdlovsk, Copenhagen, De Bilt, Paris, Stuttgart, and College), 20h. (Columbia, Oak Ridge, St. Louis, Florissant, Ann Arbor, Toronto, Tucson, Scoresby Sund, De Bilt, Triest, and Tiflis), 21h. (Little Rock and near Samarkand), 22h. (Madison and near Branner), 23h. (near San Javier).

April 15d. 6h. 5m. 58s. Epicentre 8°·7S. 111°·0E. (as on 1926 July 7d.). R.2.

$A = -\cdot3542$, $B = +\cdot9228$, $C = -\cdot1513$; $\delta = -9$;
$D = +\cdot934$, $E = +\cdot358$; $G = +\cdot054$, $H = -\cdot141$, $K = -\cdot988$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Malabar	3·7	293	i 1 3	P*	i 1 50	S*	—	—
Batavia	4·8	300	i 1 19	P*	i 2 29	S_g	—	—
Medan	17·4	315	e 4 2?	+ 3	—	—	—	—
Amboina	17·8	75	e 4 3	− 1	7 23	+ 3	—	—
Perth	23·7	170	8 2	?	i 9 32	+14	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Hong Kong		31·2	5	7 30	PP	11 32	+ 9	—	18·2
Adelaide		36·4	140	—	—	e 11 32	−70	—	18·7
Nanking		41·4	9	i 7 48k	+ 4	14 8	+11	—	—
Agra	E.	48·0	319	e 8 35	− 1	i 15 30	− 3	—	—
Chiufeng		49·0	5	e 8 45	+ 1	e 15 51	+ 4	—	31·3
Mizusawa	E.	55·4	78	(e 9 34)	+ 2	e 9 34	P	—	—
Almata		60·5	332	e 10 14	+ 6	—	—	—	—
Andijan		60·9	327	e 10 11	0	—	—	—	—
Frunse		61·3	330	e 10 11	− 3	e 18 33	0	—	—
Tashkent		63·0	325	e 10 26	+ 1	18 50	− 5	e 32·0	43·6
Samarkand		63·2	323	e 10 25	− 2	18 57	0	—	—
Semipalatinsk		64·9	339	10 40	+ 2	—	—	—	—
Sverdlovsk		77·3	334	i 11 47	− 7	i 21 38	− 8	36·0	—
Grosny		78·6	317	e 12 1	+ 1	—	—	—	—
Tiflis		78·6	315	11 56	− 4	e 21 52	− 8	e 44·0	—
Piatigorsk		80·7	317	11 26	−46	21 30	−53	—	—
Ksara		82·7	305	i 12 19	− 3	e 22 47	+ 3	—	50·0
Theodosia		86·2	316	e 12 21	−18	—	—	—	—
Yalta		86·9	315	e 12 30	−13	23 1	[−12]	—	—
Simferopol		87·0	316	e 12 40	− 3	—	—	—	—
Sebastopol		87·3	316	e 12 42	− 3	e 23′ 22	[+ 7]	—	—
Pulkovo		92·9	330	—	—	e 25 26	PS	48·0	—
Pasadena		128·3	53	i 18 53	[−11]	—	—	—	—
Mount Wilson	Z.	128·4	53	i 18 57	[− 7]	—	—	—	—
Oak Ridge		146·1	2	i 19 32	[− 4]	—	—	—	—
Tacubaya	N.	148·9	66	33 32	SKSP	—	—	—	—

Additional readings :—
Batavia iE = +2m.41s.
Nanking e = +17m.22s. =SSS +3s.
Agra PSE = +16m.7s., eSSE = +18m.30s. =S_cS −2s.
Chiufeng iZ = +8m.57s., eS?Z = +16m.1s.
Tiflis eSS = +27m.4s.
Ksara ePP = +15m.33s., PS = +23m.33s., SS = +28m.32s.
Pasadena eZ = +21m.1s. =PP −5s. and +22m.9s.
Long waves at Christchurch, Sydney, Wellington, Granada, and Copenhagen.

April 15d. 16h. 3m. 7s. Epicentre 38°·0N. 20°·5E. (as on 1935 Sept. 3d.). R.3.

A = +·7381, B = +·2760, C = +·6157 ; δ = +5 ;
D = +·350, E = −·937 ; G = +·577, H = +·216, K = −·788.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Sofia		5·1	24	e 1 4	− 9	—	—	—	—
Belgrade		6·8	0	e 1 27	−10	e 2 49	− 4	—	3·7
Bucharest	N.	7·7	32	e 1 53	+ 4	e 3 5	−11	—	—
Zagreb		8·5	338	e 1 55	− 5	e 3 22	−14	—	5·7
Florence		9·0	313	2 43	+36	4 23	S*	—	6·4
Triest		9·1	329	e 2 6	− 3	3 34	−17	i 4·8	4·9
Laibach		9·2	333	e 3 26	+76	i 3 49	− 5	i 4·8	5·3
Budapest		9·5	355	e 3 24	+70	e 4 28	+27	5·6	5·9
Graz		9·8	340	e 2 30	+12	e 3 48	−20	4·9	5·4
Padova		9·8	322	e 3 25	+67	5 17	S_e	—	—
Vienna		10·6	345	e 3 14	+45	e 5 35	S_e	—	6·9
Chur		12·0	321	e 2 50	+ 2	—	—	—	—
Prague		12·8	342	e 4 40	?	e 6 5	S*	e 6·3	7·4
Ksara		13·1	104	e 3 1	− 2	—	—	—	8·9
Cheb		13·4	337	—	—	e 4 53?	−44	e 7·0	7·7

Continued on next page.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Stuttgart		13·5	327	—	—	e 5 29	−10	e 7·3	8·5
Strasbourg		14·0	323	—	—	7 43	S_g	e 8·6	—
Sotchi		15·5	63	i 4 18	+43	—	—	—	—
Uccle		17·2	323	—	—	e 7 5	− 1	e 9·2	—
Hamburg		17·2	339	—	—	e 7 53?	+47	—	—
De Bilt		17·7	328	e 4 4	+ 1	e 7 22	+ 5	e 9·4	10·4
Copenhagen		18·5	346	—	—	7 31	− 5	9·9	—
Tiflis		18·9	71	e 4 22	+ 5	e 7 50	+ 6	10·9	11·9
Granada		19·1	275	e 5 58	?	—	—	—	—
Kew		19·8	319	e 4 30	+ 3	e 8 6	+ 4	10·9	—
Grozny		19·8	66	e 4 19	− 8	—	—	—	—
Pulkovo		22·6	13	4 56	− 1	8 46	−11	10·9	13·0
Edinburgh		23·8	326	—	—	e 8 53?	−26	—	—

Additional readings :—
Belgrade e = +2m.16s. = P_g +6s.
Bucharest eEN = +2m.41s., eE = +3m.2s., iEN = +3m.36s., +3m.59s., and +4m.5s. = S_g −3s., iE = +5m.53s.
Zagreb eP_gNE = +2m.8s., eNW = +2m.11s., eNE = +2m.44s., eNW = +3m.13s., +3m.39s. = S +0s. +3m.56s. and +4m.13s. = S* +2s.
Triest i = +4m.56s., +5m.11s., and +5m.34s.
Long waves at Göttingen, Paris, Moscow, Sverdlovsk, and Tashkent.

April 15d. 18h. 55m. 47s. Epicentre 8°·0N. 137°·5E. (as on 12d.). R.2.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		15·0	219	3 50	+22	e 6 31	+16	e 9·2	—
Manila		17·5	294	e 3 59a	− 1	7 42	+29	9·7	—
Sumoto		26·5	358	e 5 3	−31	—	—	e 14·0	15·6
Hong Kong		26·6	306	5 36	+ 1	·10 14	+ 5	13·1	16·8
Zi-ka-wei	z.	27·6	331	e 4 55	−49	—	—	—	—
Nanking		29·7	327	6 6	+ 4	11 4	+ 5	e 17·5	—
Vladivostok		35·5	354	e 6 57	+ 4	e 12 45	+16	17·2	20·9
Chiufeng		37·3	334	7 11a	+ 2	13 5	+ 9	e 18·7	21·4
Adelaide		42·9	179	—	—	e 14 16	− 3	22·5	27·0
Irkutsk		51·9	335	e 9 8	+ 2	e 16 35	+ 8	27·2	—
Agra	E.	59·3	297	e 9 54	− 6	i 18 4	− 3	—	—
Frunse		64·8	314	e 10 34	− 3	—	—	—	—
Andijan		66·0	311	e 10 45	0	—	—	—	—
Tashkent		68·4	312	i 15 20	PPPP	i 20 5	+ 3	e 33·4	38·5
Sverdlovsk		76·1	328	11 42	− 5	21 26	− 7	35·2	45·1
Baku		83·0	311	e 12 24	+ 1	e 22 45	− 2	e 39·2	—
Tiflis		86·7	312	12 41	− 1	23 24	0	—	—
Moscow		88·9	327	—	—	23 19	[− 7]	e 49·7	58·0
Pulkovo		91·5	332	e 13 59	+55	23 37	[− 4]	51·2	58·0
Ksara		95·1	304	e 13 46	+25	—	—	—	62·2
Copenhagen		101·9	331	—	—	24 37	[+ 2]	52·2	—
De Bilt		107·4	331	e 21 7	?	—	—	e 58·2	—
Paris		110·9	329	—	—	e 28 13?	PS	64·2	73·2

Additional readings :—
Sumoto PN = +5m.38s., PE = +5m.44s.
Hong Kong PP = +6m.15s., P_cP = +9m.5s., SS = +11m.31s.
Nanking PP = +7m.2s., SS = +11m.34s.
Chiufeng iPP = +8m.44s. = PPP +2s.
Adelaide e = +19m.52s.
Tashkent e = +21m.10s. and +26m.49s.
Tiflis SKS = +23m.9s., e = +26m.33s., eSS = +29m.31s.
Moscow PS = +24m.44s., SS = +29m.43s.
Pulkovo PP = +16m.47s., PS = +25m.13s., SS = +30m.37s.
Ksara ePP = +17m.36s., ePS = +26m.17s., eSS = +31m.45s.
Copenhagen +25m.37s. = S −6s.
Long waves were also recorded at Christchurch, Scoresby Sund, and other European stations.

April 15d. 19h. 18m. 43s. Epicentre 41°·5N. 143°·1E. (as on 1935 Oct. 30d.). R.1.

$A = -\cdot5989$, $B = +\cdot4497$, $C = +\cdot6626$; $\delta = -5$;
$D = +\cdot600$, $E = +\cdot800$; $G = -\cdot530$, $H = +\cdot398$, $K = -\cdot749$.

There have been several epicentres adopted in the I.S.S. near the position suggested by the Japanese stations for this shock, 41°·4N. 142°·9E. The above is the nearest and also the most recently used.

		△	Az.	P.	O−C.	S.	O−C.	L.
		°	°	m. s.	s.	m. s.	s.	m.
Urakawa		0·7	340	0 24	+14	0 38	+20	—
Obihiro		1·4	3	0 31	+11	0 49	+13	—
Hakodate		1·8	279	0 31a	P_g	0 50	S*	—
Muroran		1·8	298	0 29	P*	0 49	+ 3	—
Kusiro		1·8	33	0 22	− 4	0 47	+ 1	—
Aomori		1·9	249	0 26k	− 2	0 44	− 5	—
Miyako		2·0	204	0 29	0	0 50	− 1	—
Sapporo		2·0	320	0 38k	P_g	0 59	S_g	—
Asahigawa		2·3	347	0 44	P_g	1 14	S_g	—
Morioka		2·3	219	0 32k	− 1	0 52	− 7	—
Nemuro		2·6	45	0 52	P_g	1 21	S_g	—
Mizusawa		2·8	212	i 0 40	0	i 1 7	− 5	—
Akita		2·9	231	0 43	+ 2	1 11	− 3	—
Haboro		3·1	340	1 10	S	(1 10)	−10	—
Yamagata		3·9	214	0 55	− 1	—	—	—
Hukusima		4·3	210	0 59	− 2	1 43	− 7	—
Mito		5·5	203	1 16	− 2	2 14	− 6	—
Kakioka		5·8	205	1 18	− 4	2 24	− 4	—
Tukubasan		5·8	205	1 19	− 3	2 19	− 9	—
Takada		5·8	222	1 28	+ 6	—	—	—
Maebasi		6·0	213	1 28	+ 3	2 36	+ 3	—
Tyosi		6·0	197	1 27	+ 2	2 49	+16	—
Kumagaya		6·1	210	1 28	+ 1	2 38	+ 2	—
Nagano		6·2	220	1 29	+ 1	2 49	+11	—
Oiwake		6·2	216	1 30	+ 2	2 43	+ 5	—
Wazima		6·3	232	1 31	+ 1	2 40	− 1	—
Tokyo		6·4	205	1 33	+ 2	2 52	+ 9	—
Toyama		6·6	226	1 34	0	—	—	—
Yokohama		6·6	206	1 36	+ 2	2 43	− 5	—
Kohu		6·8	213	1 39	+ 2	2 58	+ 5	—
Mera		7·1	202	1 46	+ 5	3 10	+ 9	—
Misima		7·2	208	1 43	+ 1	—	—	—
Numadu		7·2	209	2 17	P_g	3 17	+13	—
Gihu		7·9	221	1 54	+ 2	3 25	+ 4	—
Ibukisan		8·0	223	1 54	+ 1	3 28	+ 4	—
Nagoya		8·0	219	e 1 53	0	3 37	+13	—
Kameyama		8·4	220	2 15	P*	—	—	—
Sumoto	E.	9·6	225	e 2 35	+19	e 4 28	S*	—
	N.	9·6	225	e 2 18	+ 2	e 4 24	S*	—
Grozny		67·4	308	e 11 11	+17	—	—	—
Piatigorsk		68·5	311	e 10 47	−14	—	—	—
Tiflis		68·9	308	11 13	+ 9	—	—	11·5
Sotchi		70·7	312	e 11 33	+18	—	—	—
Mount Wilson	Z.	73·9	58	e 11 52	+18	—	—	—
Pasadena	Z.	73·9	58	e 11 52	+18	—	—	—

Long waves also at Zi-ka-wei.

April 15d. Readings also at 0h. (Hong Kong and near La Paz), 1h. (La Paz), 2h. (Medan), 3h. (Andijan and near Manila), 4h. (Amboina), 6h. (near Manila (2) and near Nagoya), 7h. (St. Louis), 11h. (near Tananarive), 13h. (Ukiah and near Ferndale), 14h. (Frunse, Samarkand, Tiflis, Ksara, De Bilt, Granada, Rio de Janeiro, near Andijan, near Sebastopol, Simferopol, Theodosia, and Yalta), 15h. (Pasadena, Tinemaha, and near Tananarive), 18h. (near Tananarive), 20h. (Manila, Nanking (2), Hong Kong (3), Vladivostok, Tashkent, Sverdlovsk, and New Plymouth), 21h. (Pasadena, Mount Wilson, Tinemaha, Haiwee, Riverside, Tucson, Balboa Heights, Sverdlovsk, and Tashkent), 22h. (Mount Wilson, Pasadena, Sverdlovsk (2), Ksara, Vladivostok and near Mizusawa), 23h. (Tashkent and Tiflis).

16d. 0h. 58m. 10s. Epicentre 8°·0N. 137°·5E. (as on 15d.). R.3.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Manila		17·5	294	i 4 0a	0	8 36	L	(8·6)	—
Hukuoka B,		26·4	348	e 5 20	−13	—	—	15·6	+
Sumoto		26·5	358	e 5 37	+ 3	—	—	14·9	—
Hong Kong		26·6	306	5 29	− 6	10 8	− 1	13·0	17·3
Zi-ka-wei	z.	27·6	331	e 5 44	0	—	—	—	—
Nanking		29·7	327	6 9	+ 7	11 9	+10	e 17·2	—
Vladivostok		35·5	354	e 6 54	+ 1	—	—	—	—
Chiufeng		37·3	334	i 7 8a	− 1	13 2	+ 6	e 18·6	21·4
Tashkent		68·4	312	e 10· 20	−41	i 20 1	− 1	e 34·0	35·8
Sverdlovsk		76·1	328	i 11 41	− 6	21 24	− 9	35·8	45·1
Baku		83·0	311	e 12 25	+ 2	e 22 48	+ 1	42·4	—
Grozny		85·8	314	e 12 37	0	—	—	—	—
Tiflis		86·7	312	e 12 42	0	e 23 9	[− 2]	51·8	55·4
Moscow		88·9	327	—	—	23 18	[− 8]	e 50·7	58·2
Pulkovo		91·5	332	16 50	PP	23 36	[− 5]	48·8	58·2
Ksara		95·1	304	e 13 15	− 6	—	—	—	60·8
Copenhagen		101·9	331	—	—	25 50?	+ 7	49·8	—
Triest		106·6	322	e 22 11	PPPP	e 24 54	[− 3]	e 57·8	67·7
De Bilt		107·4	331	e 21 8	PPP	—	—	e 57·8	—
Paris		110·9	329	—	—	e 28 50?	PS	64·8	—

Additional readings :—
Sumoto ePE = +5m.43s., eZ = +12m.50s., eEN = +13m.55s.
Hong Kong SS = +11m.0s.
Nanking PP = +7m.3s.
Vladivostok PP = +8m.17s. =PPP −1s.
Chiufeng iPP = +8m.43s. =PPP +1s., i = +9m.57s.
Tashkent e = +20m.8s. =PS −9s.
Tiflis e = +23m.24s. and +26m.33s.
Moscow SS = +29m.50s.
Pulkovo PS = +25m.14s.
Ksara ePS = +26m.20s., ePPS = +26m.56s.
Triest e = +33m.48s. =SS +16s.
Long waves were also recorded at Sydney, Scoresby Sund, and other European stations.

April 16d. 13h. 59m. 37s. Epicentre 38°·0N. 20°·5E. (as on 15d.). X.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Sofia	5·1	24	e 1 14	+ 1	—	—	—	—
Belgrade	6·8	0	e 2 0a	P*	i 3 17	S*	—	3·8
Bucharest	7·7	32	2 49	P_g	—	—	—	—
Zagreb	8·5	338	e 2 0	0	e 4 8	S*	—	4·7
Triest	9·1	329	e 2, 9	0	e 3 36	−15	—	—
Laibach	9·2	333	—	—	e 3 55	+ 1	—	—
Budapest	9·5	355	—	—	e 4 23?	+22	5·4	—
Vienna	10·6	345	e 4 39	S	(e 4 39)	+11	—	—
Prague	12·8	342	—	—	e 5 59	+37	e 6·4	7·4
Ksara	13·1	104	—	—	e 7 11	S_g	—	—
Cheb	13·4	337	e 4 23?	?	—	—	e 7·2	7·5
Stuttgart	13·5	327	—	—	e 7 17	S_g	—	—
Strasbourg	14·0	323	—	—	e 7 56	S_g	—	—
Kew	19·8	319	—	—	e 7 23?	−39	—	—
Moscow	21·1	27	e 4 47	+ 6	e 7 55	−33	e 11·5	13·0
Pulkovo	22·6	13	4 57	0	e 8 47	−10	11·4	14·6

Additional readings :—
Belgrade e = +2m.12s. =P_g +2s.
Bucharest PPE = +3m.13s., PPSEN = +3m.53s. =S* +6s.
Triest iS = +3m.40s., i = +4m.52s. =S_g −3s. and +5m.41s.
Laibach e = +4m.54s. =S_g −4s. and +5m.8s.
Vienna eS = +5m.48s. =S_g +4s.
Ksara e = +9m.19s. and +11m.27s.
Moscow e = +9m.13s.
Long waves were also recorded at Sverdlovsk, Tashkent, Tiflis, and othe European stations.

April 16d. 14h. 3m. 42s. Epicentre 24°·0N. 125°·0E. N.3.

A = −·5240, B = +·7483, C = +·4067 ; δ = −7 ;
D = +·819, E = +·574 ; G = −·233, H = +·333, K = −·914.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Taihoku		3·3	290	e 0 44	− 3	1 17	− 8	—	2·0
Zi-ka-wei	z.	7·9	337	e 2 44	P_g	—	—	—	6·5
Nanking		9·8	328	e 2 32	+14	—	—	e 5·7	—
Hong Kong		10·1	263	4 21	S	(4 21)	+ 5	5·9	7·2
Manila		10·2	203	2 24	0	4 28	+10	—	—
Hukuoka B		10·7	25	e 2 25	− 6	e 7 1	?	—	—
Husan		11·6	17	—	—	e 6 8	S_g	e 10·5	—
Zinsen		13·6	5	—	—	e 6 34	S*	e 9·8	—
Keizyo		13·7	7	e 7 15	S_g	—	—	—	—
Chiufeng		17·7	337	e 4 11	+ 8	e 7 35	+18	e 9·1	13·0
Vladivostok		19·9	15	e 1 18	?	—	—	10·4	15·2
Sverdlovsk		56·1	324	e 9 53	+16	—	—	26·3	30·8
Tiflis		67·3	307	—	—	e 28 28	?	38·8	43·8

Additional readings :—
Taihoku SN? = +1m.45s. = S_g +2s.
Hong Kong S? = +5m.16s.
Sverdlovsk e = +12m.56s.
Long waves were also recorded at Calcutta, Baku, Taikyu, Phu-Lien, and some European stations.

April 16d. Readings also at 3h. (College and near Santiago), 5h. (Mount Wilson, Pasadena, Riverside, and Manila), 6h. (Sverdlovsk, Tashkent, and Vladivostok), 7h. (Mount Wilson, Pasadena, Sverdlovsk, Tashkent, near Manila, and near Sumoto), 8h. (Apia, Arapuni, Christchurch, Wellington, Sydney, Ksara, Mount Wilson, Pasadena, and Tinemaha), 9h. (Sebastopol, Simferopol, Theodosia, Yalta, Tiflis, Pulkovo, Sverdlovsk, Tashkent, Huancayo, and Tucson), 10h. (Stuttgart, Paris, De Bilt, Copenhagen, and Scoresby Sund), 11h. (Nanking and near Taihoku), 13h. (Mizusawa), 16h. (Cape Town, La Paz, Ksara, Tashkent, Sverdlovsk, and near Manila), 17h. (Andijan, Frunse, Samarkand, Baku, Stuttgart, De Bilt, Copenhagen, and La Paz), 18h. (Calcutta, Vladivostok, Manila, and Sverdlovsk), 20h. (Chiufeng, Nanking, Phu-Lien, Taihoku, Hong Kong, Husan, Hukuoka B, Keizyo, Manila, Zi-ka-wei, Zinsen, Vladivostok, Tiflis, Baku, Sverdlovsk, Tashkent, Calcutta, Pulkovo, De Bilt, Copenhagen, Strasbourg, Moscow, and Uccle), 21h. (Kew, Edinburgh, Scoresby Sund, Paris, Stuttgart, near Andijan, Frunse, and Samarkand).

April 17d. 3h. 19m. 11s. Epicentre 46°·0N. 6°·0E. (as given by Strasbourg). N.3.

A = +·6909, B = +·0726, C = +·7193 ; δ = +1 ;
D = +·105, E = −·995 ; G = +·715, H = +·075, K = −·695.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Neuchatel	1·2	33	e 0 18	+ 1	e 0 30	− 1	—	—
Besançon	1·3	359	i 0 18	0	i 0 35	+ 2	—	—
Drôme	1·8	208	e 0 7	−19	i 0 33	−13	—	—
Basle	1·9	35	e 0 28	0	i 0 56	S*	—	—
Zurich	2·3	52	e 0 32	− 1	i 1 11	S_g	—	—
Chur	2·6	71	e 0 39	+ 2	e 1 19	S_g	—	—
Strasbourg	2·9	25	e 0 52	P_g	e 1 32	S_g	—	—
Ravensburg	3·0	54	e 1 13	?	e 1 34	S_g	—	—
Stuttgart	3·5	37	e 1 4	P_g	e 1 50	S_g	—	—
Paris	3·7	322	—	—	e 1 46	S*	2·8	2·8
Uccle	4·9	348	e 1 32	P_g	e 2 35	S_g	—	—

Additional readings :—
Drôme i = +10s.
Basle eP_g = +31s.
Zurich e = +38s. = P* +2s., iP_g = +40s.
Chur e = +45s. = P_g −1s.
Strasbourg e = +1m.24s. = SS −1s., eSS = +2m.2s., e = +2m.36s.
Paris e = +2m.1s. = P* −1s.

April 17d. 22h. 15m. 21s. Epicentre 28°·0N. 55°·7E. N.2.

$A = +·4976$, $B = +·7294$, $C = +·4695$; $\delta = +6$;
$D = +·826$, $E = -·564$; $G = +·265$, $H = +·388$, $K = -·883$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Baku		13·3	341	3 8	+ 2	5 43	+ 9	8·6	—
Samarkand		15·0	36	3 31	+ 3	e 7 31	+76	e 11·4	—
Erevan		15·3	326	4 19	+47	—	—	e 9·0	—
Tiflis		16·3	330	3 51	+ 6	6 55	+10	i 9·2	10·8
Grozny		17·3	335	3 52	− 6	—	—	—	—
Tashkent		17·3	37	i 3 58	0	e 7 21	+12	9·4	12·0
Ksara		17·9	294	i 4 5k	0	i 7 35	+13	—	—
Bombay		18·1	116	i 4 7	− 1	—	—	—	—
Tchimkent		18·2	34	e 4 13	+ 4	—	—	—	—
Andijan		18·7	43	e 4 16	+ 1	—	—	e 10·1	—
Piatigorsk		19·0	331	e 4 19	0	e 7 39	− 7	—	—
Sotchi		20·2	325	4 35	+ 3	—	—	—	—
Frunse		21·3	40	e 4 49	+ 6	e 9 1	SS	—	—
Helwan		21·4	281	4 49	+ 5	8 41	+ 7	—	14·5
Almata		22·9	42	e 5 5	+ 5	—	—	—	—
Theodosia		23·5	322	4 59	− 6	9 15	+ 1	—	—
Yalta		23·8	319	e 5 7	− 1	9 24	+ 5	—	—
Simferopol		24·1	320	e 5 12	+ 1	9 32	+ 7	—	—
Sebastopol		24·2	319	5 13	+ 1	9 35	+ 8	—	—
Sverdlovsk		29·0	6	e 5 54	− 2	e 10 48	0	18·6	18·8
Calcutta	E.	30·0	92	—	—	e 11 44	+40	i 16·7	20·9
Moscow		30·6	339	e 6 10	0	e 11 9	− 5	—	—
Pulkovo		36·2	339	e 6 59	− 1	e 12 37	− 2	15·2	18·0
Copenhagen		41·4	324	—	—	14 3	+ 6	20·6	—

Additional readings :—
Tiflis e = +7m.29s. and +8m.9s.
Ksara SS = +10m.6s., P_cS = +12m.10s., S_cS = +15m.42s.
Sverdlovsk L_q = +15·8m.
Long waves were also recorded at Scoresby Sund and Stuttgart.

April 17d. Readings also at 0h. (La Paz, near Nagoya, and Sumoto), 2h. (near Tashkent), 6h. (near Apia), 10h. (Samarkand), 11h. (Oaxaca and Tacubaya), 12h. (Amboina), 13h. (near Tiflis), 14h. (La Paz, Pasadena, Riverside, and Tinemaha), 15h. (La Paz, La Plata, La Jolla, Mount Wilson, Pasadena, Riverside, and Tinemaha), 16h. (Alicante and San Juan), 17h. (Manila, Sverdlovsk, Tashkent, Tiflis, and Moscow), 18h. (Copenhagen and Tiflis).

April 18d. 17h. 11m. 58s. Epicentre 35°·5N. 140°·0E. X.
(as on 1936 April 8th, and near position suggested by Tokyo : 35°·54N. 140°·07E.)

$A = -·6236$, $B = +·5233$, $C = +·5807$; $\delta = -7$;
$D = +·643$, $E = +·766$; $G = -·445$, $H = +·373$, $K = -·814$.

		Δ	Az.	P.	O−C.	S.	O−C.
		°	°	m. s.	s.	m. s.	s.
Komaha		0·3	300	0 5	+ 1	0 15	+ 7
Tokyo		0·3	312	0 4	0	0 13	+ 5
Kamakura		0·4	243	0 9	+ 3	0 19	+ 9
Kiyosumi		0·4	157	0 4	− 2	0 12	+ 2
Mitaka		0·4	294	0 7	+ 1	0 17	+ 7
Tukubasan		0·7	11	0 7	− 3	0 17	− 1
Susaki		1·2	225	0 16	− 1	0 32	+ 1
Nagoya		2·5	262	0 39	+ 3	1 15	S*
Mizusawa	E.	3·7	14	—	—	e 1 7	P_e

April 18d. Readings also at 0h. (Apia, La Paz, Arapuni, Wellington, Christchurch, Huancayo, Ksara (2), Sverdlovsk, Moscow, Tiflis, Copenhagen, Stuttgart, and San Fernando), 1h. (Melbourne, College, Sitka, Scoresby Sund, Pulkovo, Tashkent, Tiflis, Copenhagen, and Baku), 2h. (Stuttgart and San Fernando), 5h. (Andijan, Christchurch, Mount Wilson, Pasadena, Riverside, and Tinemaha), 8h. (Drôme), 11h. (La Paz), 16h. (near San Javier), 17h. (La Paz), 19h. (Amboina, near Nagoya, and Sumoto), 20h. (near Triest (2) and Zagreb (2)), 22h. (La Paz).

April 19d. 5h. 7m. 19s. Epicentre 7°·5S. 156°·5E. N.1.

$A = -\cdot 9092$, $B = +\cdot 3953$, $C = -\cdot 1305$; $\delta = -6$;
$D = +\cdot 399$, $E = +\cdot 917$; $G = +\cdot 120$, $H = -\cdot 052$, $K = -\cdot 991$.

See Note at end.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Palau	26·5	303	5 35	+ 1	10 39	+32	—	—
Riverview	26·8	190	i 5 36	0	i 10 1	−11	—	26·1
Sydney	26·8	190	i 5 41	+ 5	i 10 11	− 1	12·7	21·0
Amboina	28·4	276	5 9	−42	e 9 41	−57	16·7	—
Apia	31·8	104	i 6 23	+ 2	11 41	+ 9	e 15·2	—
Adelaide	32·0	209	i 6 26	+ 3	i 11 11	−24	15·0	27·4
Melbourne	32·1	197	e 6 24	0	11 39	+ 2	14·7	23·2
Arapuni	35·1	154	6 41	− 9	12 16	−, 7	16·7	17·7
New Plymouth	35·3	156	7 2	+10	—	—	20·7	—
Titizima	37·3	339	7 7	− 2	—	—	—	—
Wellington	37·5	158	7 8	− 3	12 46	−13	19·7	24·7
Christchurch	38·7	162	i 7 20a	− 1	i 13 17	0	—	—
Manila	41·6	302	i 7 45a	0	13 59	− 1	19·0	—
Hatidyozima	43·6	340	8 0	− 2	—	—	—	—
Naha	43·8	321	8 5	+ 2	14 54	+21	—	—
Nake	44·4	326	8 7a	− 1	14 43	+ 2	—	—
Isigakizima	44·8	317	8 7	− 4	—	—	—	—
Perth	45·0	232	i 8 16	+ 3	14 56	+ 6	21·9	38·7
Mera	45·2	341	8 14	0	15 2	+ 8	—	—
Siomisaki	45·4	336	8 16	0	14 42	−14	—	—
Ito	45·5	341	8 18	+ 1	—	—	—	—
Omaesaki	45·5	339	8 34	+17	—	—	—	—
Tyosi	45·7	343	8 20	+ 2	—	—	—	—
Misima	45·7	341	8 19	+ 1	—	—	—	—
Hamamatu	45·8	339	8 5	−14	—	—	—	—
Yokohama	45·8	341	8 33	+14	—	—	—	—
Kosyun	45·8	311	8 17	− 2	15 20	+18	—	—
Muroto	45·9	333	8 30	+10	—	—	—	—
Tokyo	46·0	341	8 24	+ 3	—	—	—	—
Simidu	46·1	332	8 19	− 2	—	—	—	—
Miyazaki	46·1	330	8 23	+ 2	—	—	—	—
Kohu	46·3	341	8 27	+ 4	—	—	—	—
Kakioka	46·3	343	8 23	0	—	—	—	—
Kagosima	46·3	329	8 21	− 2	—	—	—	—
Tu	46·3	338	8 21	− 2	—	—	—	—
Tukubasan	46·4	343	8 23	− 1	—	—	—	—
Wakayama	46·4	336	8 22	− 2	—	—	—	—
Yagi	46·4	337	8 16	− 8	—	—	—	—
Kameyama	46·4	338	8 20	− 4	15 19	+ 9	—	—
Karenko	46·4	314	8 27a	+ 3	15 14	+ 4	—	—
Mito	46·4	343	8 22	− 2	15 12	+ 2	—	—
Kumagaya	46·5	342	8 28	+ 3	—	—	—	—
Koti	46·5	333	8 24	− 1	15 23	+11	—	—
Iida	46·5	340	8 35	+10	—	—	—	—
Nagoya	46·5	339	8 23	− 2	—	—	e 18·6	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Osaka		46·6	336	8 16	− 9	—	—	—	—
Sumoto		46·6	336	8 21a	− 4	—	—	e 18·4	20·4
Arisan		46·7	313	8 29	+ 3	—	—	—	—
Kobe		46·7	336	8 25	− 1	e 14 3	−71	e 18·3	20·6
Tainan		46·8	313	8 29	+ 2	—	—	—	—
Maebasi		46·8	342	8 33	+ 6	—	—	—	—
Kyoto		46·8	338	8 27	0	—	—	—	—
Hikone		46·8	338	8 29	+ 2	—	—	—	—
Gihu		46·8	339	8 24a	− 3	—	—	—	—
Ibukisan		46·9	339	8 34	+ 6	—	—	—	—
Oiwake		47·0	340	8 25	− 4	15 21	+ 2	—	—
Tadotu		47·0	335	8 34	+ 5	—	—	—	—
Matuyama		47·1	333	8 29a	0	15 17	− 3	—	—
Taihoku		47·1	314	8 27a	− 2	15 16	− 4	19·0	25·2
Matumoto		47·1	340	8 30	+ 1	15 20	0	—	—
Kumamoto		47·2	341	8 30a	0	—	—	—	—
Okayama		47·3	336	8 26	− 5	—	—	—	—
Takayama		47·3	340	8 37	+ 6	—	—	—	—
Unzendake		47·4	330	8 33	+ 1	15 34	+10	—	—
Nagano		47·4	340	8 34	+ 2	—	—	—	—
Miyadu		47·5	335	8 32	0	—	—	—	—
Toyooka		47·6	335	8 33	0	15 24	− 3	20·6	28·7
Nagasaki		47·6	330	8 31	− 2	15 28	+ 1	—	—
Hukusima		47·7	343	8 39a	+ 5	—	—	—	—
Toyama		47·7	339	8 33	− 1	—	—	—	—
Kanazawa		47·8	339	8 25	−10	15 19	−11	—	—
Takada		47·8	341	8 47	+12	—	—	—	—
Tomie		48·0	327	8 36	0	—	—	—	—
Sendai		48·0	344	8 36	0	15 28	− 5	—	—
Hukuoka		48·0	341	e 7 5a	−91	15 29	− 4	26·4	29·4
Hukuoka B		48·0	341	i 8 34a	− 2	15 32	− 1	19·1	21·2
Niigata		48·3	342	8 31	− 7	—	—	—	—
Hamada		48·3	334	8 37	− 1	15 33	− 4	—	—
Wazima		48·3	340	8 38	0	—	—	—	—
Malabar		48·5	267	8 42	+ 2	i 15 40	0	—	—
Mizusawa	E.	48·8	344	e 8 53	+11	e 14 24	−80	19·8	—
	N.	48·8	344	e 8 42	0	e 14 15	−89	e 19·5	—
Batavia		49·3	268	i 8 42	− 4	i 17 53	?	e 22·7	—
Morioka		49·3	344	8 47	+ 1	15 52	+ 1	—	—
Akita		49·6	343	9 0	+12	16 30	+35	—	—
Husan		49·9	330	8 50	− 1	16 0	+ 1	—	—
Aomori		50·4	345	8 59	+ 5	16 27	+21	—	—
Taikyu		50·7	331	8 58	+ 1	16 13	+ 2	21·0	—
Hong Kong		51·1	307	8 58k	− 2	16 22	+ 6	23·7	27·4
Urakawa		51·2	348	9 9	+ 9	16 24	+ 6	—	—
Zi-ka-wei	z.	51·2	321	i 9 1k	+ 1	16 23	+ 5	26·7	35·6
Hakodate		51·4	345	8 41	−21	—	—	—	—
Nemuro		51·8	351	9 3	− 2	16 46	+21	—	—
Sapporo		52·4	347	9 10	+ 1	—	—	—	—
Keizyo		52·8	331	9 13	+ 1	16 38	− 1	—	24·2
Asahigawa		52·9	348	9 25	+12	—	—	—	—
Zinsen		52·9	330	i 9 14a	+ 1	i 16 40	− 1	e 19·9	—
Honolulu		53·3	57	i 9 17	+ 1	i 17 3	+17	24·4	—
Nanking		53·5	319	i 9 8a	−10	i 16 43	− 6	25·4	28·4
Haboro		53·6	348	9 31	+13	—	—	—	—
Heizyo		54·6	331	e 9 29	+ 3	e 15 11	?	21·3	26·2
Vladivostok		55·3	339	i 9 33	+ 2	i 17 16	+ 3	—	32·9
Phu-Lien		56·6	331	i 9 40	0	17 32	+ 1	24·7	30·8
Sikka		57·9	351	11 55	PP	—	—	—	—
Medan		58·7	279	e 9 54	− 1	—	—	e 32·7	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Chiufeng		60·4	326	i 10 5a	− 2	i 20 3	(+ 8)	23·5	30·9
Calcutta	E.	73·1	297	11 29	0	20 53	− 5	31·7	44·0
Colombo		77·8	278	11 54	− 3	21 46	− 6	42·7	45·6
Kodaikanal		80·7	282	i 12 11	− 1	22 26	+ 3	37·7	—
Hyderabad		81·0	289	12 12	− 1	22 19	− 7	38·4	51·9
College		83·2	21	e 11 19	−65	e 21 47	−62	e 34·7	—
Agra		83·3	299	12 21	− 4	i 22 37	−13	39·3	—
Dehra Dun		83·9	302	12 21	− 7	—	—	29·5	37·7
Sitka		84·8	31	i 12 34	+ 2	e 22 55	[− 3]	e 38·7	—
Bombay		86·5	290	i 12 41	0	i 23 15	[+ 5]	41·7	50·6
Semipalatinsk		87·2	322	12 44	0	e 23 6	[− 8]	31·7	—
Ukiah		87·3	51	e 12 43	− 2	e 23 46	+16	e 39·7	—
Almata		87·6	315	i 12 47	+ 1	e 23 22	[+ 5]	35·7	—
Berkeley		87·8	53	e 12 45	− 2	i 23 15	[− 4]	—	—
Lick	E.	88·1	53	e 12 49	+ 1	e 24 58	PS	—	—
Frunse		89·2	314	12 53	− 1	i 23 41	− 7	37·8	—
Victoria		89·2	41	e 12 46	− 8	i 23 38	−10	e 40·8	45·1
Fresno	N.	89·5	53	e 12 54	− 1	e 23 44	− 7	—	—
Seattle		89·7	43	—	—	e 23 23	[− 8]	e 41·7	—
Pasadena		90·4	56	i 12 59a	0	e 23 35	[0]	31·1	—
Mount Wilson		90·5	56	i 13 0a	0	e 23 56	− 5	—	—
Tinemaha		90·7	53	i 13 1	0	—	—	—	—
Haiwee	N.	90·8	54	e 13 4	+ 3	e 23 56	− 8	—	—
La Jolla		90·9	58	e 13 0	− 2	—	—	—	—
Riverside		91·0	56	i 13 2	0	e 24 12	+ 7	—	—
Samarkand		94·4	309	13 13	− 5	e 23 59	[+ 1]	e 46·2	—
Tucson		96·2	58	e 13 26	0	e 24 49	− 4	e 44·6	—
Bozeman		97·1	45	e 13 24	− 6	e 23 54	[−18]	e 44·9	—
Sverdlovsk		99·5	327	i 13 32	− 9	i 25 13	− 9	51·3R	57·5
Tananarive		105·2	248	—	—	25 3	[+12]	48·1	56·1
Tacubaya	N.	105·9	72	14 3	− 8	—	—	—	—
Baku		107·5	310	i 14 16	− 3	24 57	[− 5]	—	—
Des Moines		109·8	48	—	—	e 28 41	PS	e 59·7	—
Grozny		110·2	313	e 14 39	+ 7	—	—	—	—
Tiflis		111·1	312	14 33	− 3	25 41	[+23]	—	71·0
Erevan		111·6	310	e 19 17	PP	e 25 41	[+21]	—	—
Little Rock		111·6	56	e 18 39	[+16]	26 20	{+ 2}	e 46·3	56·4
Piatigorsk		112·0	315	e 20 20	?	—	—	52·2	—
Moscow		112·2	327	e 14 34	− 6	e 25 55	[+32]	e 48·2	63·0
Madison		112·6	46	e 19 17	PP	e 25 31	[+ 6]	e 52·7	59·7
Florissant		112·7	52	e 14 39	− 5	i 25 15	[−10]	i 52·3	62·4
St. Louis	E.	112·8	52	e 19 17	PP	e 28 48	PS	e 49·4	—
Pulkovo		114·0	334	i 14 43	− 7	—	—	52·7	61·8
Chicago		114·2	47	i 19 30	PP	e 25 33	[+ 2]	e 50·8	—
Ann Arbor		116·9	46	e 19 53	PP	—	—	e 50·6	75·0
Scoresby Sund		117·0	359	14 57	P	e 25 13	[−28]	46·7	—
Theodosia		117·0	317	e 18 42	[+ 4]	i 25 35	[− 6]	40·7	—
Cincinnati		117·1	50	i 19 49	PP	e 29 41	PS	62·7	—
Simferopol		117·9	318	e 18 54	[+14]	e 30 21	PS	35·7	—
Yalta		118·0	317	e 18 53	[+12]	i 25 46	[+ 2]	39·7	—
Sebastopol		118·4	318	e 18 55	[+13]	e 30 11	PS	41·4	—
Upsala		119·2	337	e 20 4	PP	i 36 27	SS	e 50·7	60·4
Santiago		119·4	136	—	—	e 27 41	{+29}	—	—
Ksara		119·5	306	i 15 9a	− 9	30 4	PS	—	—
Toronto		119·5	44	20 6	PP	29 22	PS	57·7	—
Columbia		120·9	55	e 20 53	PP	e 29 45	PS	e 59·7	—
Königsberg		121·2	332	i 20 23	PP	e 27 14	{−10}	e 55·0	—
Ottawa		121·3	41	e 20 21	PP	i 30 21	PS	e 55·7	—
Charlottesville		121·9	50	e 20 21	PP	e 26 27	[+31]	e 50·1	—
Ithaca		121·9	44	e 19 53	PP	—	—	e 58·7	—

Continued on next page.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Lemberg	122·1	325	e 19 6	[+16]	e 32 58	?	e 46·1	68·9
Cape Town	122·6	221	i 20 36	PP	i 30 19	PS	—	64·7
Georgetown	122·7	48	e 18 55	[+ 3]	—	—	—	—
Bergen	122·9	343	e 15 23	−10	—	—	e 53·7	76·2
Ivigtut	123·2	14	20 31	PP	30 31	PS	52·7	—
Vermont	123·3	41	i 20 36	PP	e 31 4	PS	i 57·3	—
Bucharest	123·4	320	e 20 37	PP	e 25 57	[− 3]	51·7	59·7
Philadelphia	123·7	47	e 20 26	PP	e 25 45	[−16]	56·8	—
Copenhagen	124·1	336	18 57	[+ 2]	e 26 41	[+39]	52·7	—
Helwan	124·1	301	e 15 26	−13	i 19 34	?	—	—
Fordham	124·3	45	e 20 46	PP	e 28 25	{+40}	62·2	—
Huancayo	124·9	111	e 18 58	[+ 2]	—	—	e 64·8	—
Oak Ridge	125·2	43	i 19 0	[+ 3]	i 27 40	{−10}	e 60·7	—
Budapest	126·1	325	e 19 1	[+ 2]	30 53	PS	e 54·7	71·2
La Plata	126·6	145	20 59	PP	—	—	65·7	—
Hamburg	126·6	336	e 19 1	[+ 1]	—	—	e 53·7	63·7
Belgrade	126·7	321	e 19 0	[− 1]	—	—	e 57·9	—
Prague	127·0	330	e 18 58	[− 3]	e 27 47	{−15}	e 52·7	63·7
Vienna	127·2	327	e 19 3	[+ 2]	—	—	e 57·7	65·7
Jena	127·8	332	e 19 3	[0]	—	—	e 55·7	80·7
Cheb	128·0	332	e 21 8	?	e 32 54	?	e 59·7	63·7
Göttingen	128·1	334	i 19 3	[0]	e 25 5	[−69]	e 52·7	64·7
Graz	128·4	326	e 19 4	[0]	e 31 12	PS	63·7	81·2
Zagreb	128·8	325	e 19 5	[0]	—	—	e 53·0	67·8
Edinburgh	129·0	345	e 20 26	?	i 27 17	[+61]	54·7	81·3
Laibach	129·5	326	e 19 15	[+ 9]	e 27 27	[+69]	e 63·7	—
De Bilt	129·6	337	e 15 59	− 5	—	—	e 55·7	61·5
Durham	129·6	343	21 18	PP	—	—	—	74·7
La Paz	129·7	120	i 19 8a	[+ 2]	i 26 4	[−14]	64·0	115·3
Triest	130·2	326	e 18 59k	[− 8]	i 26 25	[+ 5]	i 54·0	63·1
Stuttgart	130·4	332	19 8a	[0]	—	—	e 59·7	81·7
Stonyhurst	130·6	344	i 21 28	PP	i 31 10	PS	56·7	65·2
Karlsruhe	130·6	333	21 10	PP	e 32 10	PS	e 62·7	—
Uccle	130·9	337	19 9	[0]	i 26 19	[− 3]	e 55·7	61·3
Strasbourg	131·2	333	i 19 8a	[− 1]	e 26 5	[−18]	e 52·7	82·7
Bidston	131·2	344	i 21 30	PP	e 27 52	{−37}	—	71·9
Port au Prince	131·3	72	e 21 32	PP	e 26 19	[− 4]	—	—
Padova	131·3	327	e 22 20	PKS	35 40	?	e 64·7	67·7
Chur	131·6	331	e 19 9	[− 1]	—	—	—	—
Zurich	131·7	332	e 19 18	[+ 8]	—	—	—	—
Basle	132·0	332	e 19 10	[0]	—	—	—	—
Kew	132·1	340	i 19 11	[+ 1]	e 28 9	{−26}	64·7	72·2
Neuchatel	132·7	332	e 19 12	[+ 1]	—	—	—	—
Florence	132·7	325	18 36	[−35]	—	—	—	—
Besançon	133·0	333	e 22 41?	PKS	—	—	e 52·7	—
Paris	133·2	337	e 16 8	−15	33 26	PS	54·7	60·7
San Juan	137·2	71	e 19 21	[+ 3]	e 32 56	PS	e 57·7	—
Bagnères	138·8	333	e 18 35	[−45]	—	—	e 54·7	90·7
Barcelona	139·2	331	e 19 1	[−19]	—	—	e 57·9	71·4
Algiers	142·0	324	e 19 29	[+ 5]	25 33	SKS	58·7	78·7
Rio de Janeiro	144·0	148	i 19 29	[− 2]	(i 41 1)	SS	i 41·0	—
Almeria	145·0	331	i 19 31	[− 3]	26 38	SKS	e 65·4	105·9
Granada	145·2	332	i 19 34	[0]	—	—	—	—
Malaga	146·0	332	19 37	[+ 1]	—	—	66·7	—
San Fernando	147·0	334	i 19 40	[+ 3]	26 47	SKS	66·2	77·7

Additional readings :—
Riverview i = +5m.44s., iEN = +10m.29s., iN = +11m.48s., iE = +11m.56s., +12m.43s., +13m.26s., and +14m.40s., iN = +12m.46s., +15m.40s., and +17m.29s.
Amboina iE = +10m.2s., +10m.11s., and +13m.35s.
Apia PP = +7m.32s., P_cP = +9m.4s., iSS = +13m.45s. ; T_0 = 5h.7m.12s.
Adelaide iPP = +7m.15s., iSS = +12m.8s., i = +14m.7s.
Melbourne i = +7m.23s. = PP −1s., +7m.37s., and +11m.23s., SS = +13m.36s.

Continued on next page.

Arapuni SS = +14m.41s.?, iL$_q$? = +15m.45s.
Wellington P = +7m.32s., PP? = +8m.49s., SS = +15m.47s., L$_q$ = +17m.21s.
Manila iE = +15m.0s.
Perth PP = +9m.41s., PPP = +10m.21s., SS = +17m.53s., i = +18m.3s. = S$_c$S −9s., +18m.21s.
Sumoto e = +12m.35s.
Kobe ePE = +8m.4s., eSZ = +14m.19s., eN = +15m.8s., eE = +15m.11s.
Toyooka eSE = +15m.39s.
Malabar i = +18m.37s. =S$_c$S +2s.
Husan PPP? = +12m.29s.
Hong Kong P$_c$P = +9m.43s., ? = +17m.8s., SS = +18m.54s., SSS = +22m.8s.
Zi-ka-wei iZ = +9m.51s., PPZ = +11m.15s., PPPZ = +12m.13s., PPPPZ = +12m.37s., iZ = +12m.56s. and +19m.59s., SSZ = +20m.23s., SSSZ = +22m.1s., SSSSZ = +22m.39s.
Keizyo iEN = +13m.15s.
Honolulu i = +12m.17s. =PPP +7s. and +12m.53s., eSS = +19m.32s.
Nanking iSE = +16m.51s., PSN = +17m.13s., SS = +19m.59s., SSS = +22m.53s.
Chiufeng PP = +11m.39s., iSZ = +16m.41s., iSEN = +16m.49s.
Calcutta PPPE = +15m.45s. =PPP +3s., SSSE = +28m.25s.
Kodaikanal SSS? = +32m.58s.
College ePP = +15m.56s., ePS = +22m.41s., eSS = +26m.48s.
Agra PPE = +15m.30s., PPPE = +17m.24s., SSEN = +28m.4s., SSSE = +31m.38s.
Sitka iPP = +15m.48s., eSS = +28m.59s.
Bombay PSEN = +24m.1s., SSEN = +29m.1s., SSSE = +32m.19s.
Ukiah e = +21m.26s., ePS = +24m.38s., e = +35m.59s.
Berkeley eE = +23m.27s. =S −8s., ePSN = +24m.7s.
Lick eN = +12m.54s.
Fresno eN = +17m.29s.
Seattle eS = +23m.59s., eSS = +29m.43s.
Pasadena iPPE = +16m.57s., iPPPN = +18m.44s., eE = +24m.0s. =S +0s., iSNZ = +24m.9s., ePSE = +25m.5s.
Mount Wilson iZ = +15m.12s.
Tinemaha iZ = +15m.50s., eN = +17m.23s.
Riverside eE = +23m.27s. =SKS −12s.
Tucson ePP = +17m.29s., ePS = +26m.22s., eSS = +31m.53s., e = +40m.11s.
Bozeman ePP = +17m.20s., e = +24m.16s. =SKS +4s., PS = +26m.27s., SS = +31m.55s., SSS = +35m.29s.
Sverdlovsk iPP = +17m.39s., iSKS = +24m.13s., iPS = +26m.39s., iPPS = +27m.29s., iSS = +32m.17s., L$_q$ = +41m.35s.
Tananarive SKKS = +25m.39s., eN = +29m.41s., SSN = +33m.17s., SSE = +33m.26s., SSSE = +37m.13s., SSSN = +37m.21s. and N = +43m.17s.
Baku PP = +18m.54s., PS = +28m.0s.
Des Moines eSS = +34m.53s., eSSS = +39m.31s., e = +56m.41s.
Grozny e = +19m.7s. =PP +8s.
Tiflis e = +16m.10s., iPP = +19m.10s., PPP = +22m.6s., PS = +28m.36s., e = +36m.11s.
Little Rock iPPE = +19m.14s., ePPPE = +21m.41s., eSEN = +27m.2s., eE = +27m.23s., iPSE = +28m.48s., ePSN = +28m.52s., ePPSE = +29m.51s., eE = +32m.5s., eN = +32m.18s., eSSE = +35m.18s.
Moscow ePP = +19m.11s., ePS = +28m.38s., SS = +34m.47s.
Madison ePS = +28m.54s., ePPS = +30m.1s., eSS = +35m.31s., e = +37m.55s., eSSS = +39m.31s.
Florissant ePKPZ = +18m.28s., iPPEZ = +19m.19s., iSKPEZ = +21m.0s., iPPPE = +21m.58s., iE = +26m.11s., iSKKSEN = +26m.27s., iSEN = +27m.28s., iPSE = +28m.47s., iPSZ = +28m.50s., iPPSN = +29m.43s., iPPPSEN = +30m.56s., iSSE = +35m.0s., iSSSE = +39m.21s.
Pulkovo iPP = +19m.25s., SS = +35m.29s., L$_q$ = +45m.41s.
Chicago ePS = +29m.8s., iSS = +36m.0s., eSSS = +39m.48s., e = +41m.44s.
Ann Arbor ePP = +21m.11s., e = +29m.41s., ePS = +31m.5s., eSS = +36m.59s., eSSS = +40m.59s.
Scoresby Sund iPP = +19m.51s., eNZ = +21m.15s., +22m.5s. =PPP −6s., e = +26m.23s., eZ = +28m.35s., PS = +29m.41s., PPS = +30m.53s., SS = +36m.35s., SSS = +40m.41s.
Ksara PKP = +18m.44s., PP = +20m.6s., PPS = +31m.20s., SS = +36m.34s.
Toronto SS = +36m.14s.
Columbia eSS = +35m.49s., e = +49m.53s. and +50m.58s.
Königsberg iN = +23m.15s., iE = +28m.2s., eE = +29m.25s. and +30m.1s. = SKSP −3s., eN = +30m.25s. =PS +13s., iE = +31m.39s., eE = +34m.54s., eN = +37m.4s., eE = +37m.35s., iN = +38m.35s., eN = +42m.57s., iN = +45m.44s., eE = +48m.12s., eN = +48m.57s.
Ottawa e = +37m.41s. ?
Charlottesville e = +28m.55s., ePS = +30m.16s., eSS = +36m.59s.
Cape Town e = +4m.50s., i = +11m.59s., +12m.46s., e = +23m.36s., N = +27m.28s. =SKKS −6s., i = +29m.7s., iE = +31m.1s., N = +31m.53s., +33m.21s., e = +37m.22s. =SS +17s., +41m.41s. =SSS +14s., eE = +45m.7s., eN = +45m.21s.

Continued on next page.

Georgetown iPP = +20m.30s.
Bergen iPP = +20m.31s., e = +32m.28s. and +50m.3s.
Ivigtut eE = +22m.11s., eN = +24m.53s. =PPPP +5s., SS = +37m.23s., +38m.11s., SSS = +41m.41s., +42m.35s.
Bucharest eN = +21m.1s. and +23m.45s., eEN = +26m.41s., eE = +26m.55s.
Vermont e = +30m.24s., eSS = +37m.26s., e = +40m.41s., +49m.29s., and +53m.41s.
Philadelphia iPP = +20m.36s., iPS = +30m.23s., i = +34m.15s., iSS = +37m.33s.
Copenhagen PP = +20m.36s., e = +21m.27s., +22m.5s., PSN = +30m.21s., eE = +30m.35s., SS = +36m.41s. ?, SSS = +42m.11s.
Fordham iPS = +30m.43s., e = +38m.15s., +54m.15s.
Huancayo e = +19m.13s., ePP = +20m.50s., e = +22m.49s., eSS = +37m.49s.
Oak Ridge iPPEZ = +20m.48s., iZ = +20m.57s., iSKPZ = +22m.8s., PPPP = +23m.19s. =PPP +0s., iZ = +25m.36s. and +26m.35s., eE = +27m.16s., SKKS = +27m.40s., eSSN = +31m.14s., ePPSN = +32m.13s., ePPSZ = +32m.18s., eE = +33m.22s., eSPSE = +34m.37s., eSPSN = +34m.41s., eN = +38m.24s., eE = +38m.30s.
Hamburg eEN =iZ = +21m.0s. =PP +6s., iE = +36m.51s., eE = +46m.59s.
Belgrade e = +20m.53s. =PP −2s., +23m.43s. =PPP +12s., +34m.21s., and +38m.30s. =SS +33s.
Prague ePP = +20m.53s., ePS = +31m.11s., ePPS = +32m.41s., eSS = +38m.23s. eSSS = +43m.29s.
Vienna PP = +21m.43s., SKP = +22m.38s., PPP = +24m.59s.
Jena ePN = +19m.11s., e = +20m.56s. =PP −7s., iE = +21m.8s., e = +32m.41s.
Göttingen eE = +19m.23s., eN = +20m.41s., eEZ = +21m.11s. =PP +8s.
Zagreb ePNW = +19m.11s., eNEZ = +21m.20s. =PP +1s., eP = +22m.23s., ePPZ = +25m.15s., eZ = +32m.57s., ePSNE = +34m.3s., ePPSZ = +35m.29s., eSS = +39m.35s., eSPS = +40m.15s.
Edinburgh i = +29m.50s., +30m.42s., +34m.8s., +38m.36s. =SS +9s., and +38m.46s.
Laibach i = +22m.29s. =PKS and +23m.44s.
De Bilt iZ = +19m.7s. =PKP +1s., e = +21m.16s. =PP +1s., iEN = +22m.31s. =PKS.
La Paz iN = +19m.31s., iEZ = +19m.51s., iPPEZ = +21m.18s., iSKPE = +22m.31s., iPPPN = +23m.41s., iSKSZ = +25m.53s., iSKKS = +28m.8s., iSKSP = +31m.5s., iPPS = +33m.37s., iZ = +34m.21s., iSSZ = +39m.37s., iSSSZ = +44m.24s., iSSSS = +47m.34s.
Triest i = +19m.14s., iPP = +21m.20s., i = +21m.53s., iSKP = +22m.30s., i = +23m.5s., +23m.9s., +23m.45s., +25m.22s., +25m.27s., +27m.15s., +32m.52s., and +34m.7s., iSS = +39m.3s., i = +40m.9s. and +43m.13s.
Stuttgart ePZ = +15m.59s., ePKP = +19m.47s., ePP = +21m.23s., ePKS = +22m.33s., ePPS = +33m.9s., eSSEN = +38m.53s.
Stonyhurst i = +22m.25s. =PKS −11s., eSS = +39m.10s., i = +41m.36s.
Karlsruhe ePP = +24m.35s.
Uccle iPP = +21m.25s., iPKSEN = +22m.35s., iE = +26m.28s., iPPSN = +33m.21s.
Strasbourg iPP = +21m.25s., iSKP = +22m.35s., iSKKS = +28m.25s., i = +33m.13s., iSS = +39m.28s., SSS = +43m.39s., SSSS = +48m.1s.
Bidston iPKS = +22m.19s., iSKSP = +31m.22s., iPPS = +32m.57s., eSS = +38m.52s., iSSS = +45m.52s.
Port au Prince eSKP = +22m.33s., ePPP = +24m.47s.
Chur ePP = +22m.33s. =PKS −7s.
Zurich ePP = +22m.37s. =PKS −4s., e = +23m.24s.
Basle ePP = +22m.38s. =PKS −4s.
Kew eP = +16m.6s., iPP = +21m.35s., iPKS = +22m.39s., iEN = +23m.25s., iSKSPEN = +31m.39s., iPPSEN = +33m.28s., eSSEN = +39m.11s., iSKSPE = +41m.25s., iSSSEN = +45m.47s., iSSSZ = +45m.51s., eN = +49m.43s.
Neuchatel ePP = +22m.35s. =PKS −10s.
Paris iPKP = +19m.12s., PP = +21m.39s.
San Juan ePP = +22m.33s., ePPP = +26m.11s., eSS = +38m.28s.
Bagnères e? = +17m.27s., e = +22m.11s. =PP −3s. and +24m.2s. =PKS −4s.
Algiers PP = +21m.29s., SKKS = +27m.22s., PPS = +32m.32s., SSS? = +41m.9s. =SS +3s.
Almeria PP = +21m.43s.
Granada SKP = +23m.15s.
Malaga i = +20m.3s., +20m.11s., and +21m.27s., PP = +22m.28s., e = +34m.35s. and +36m.52s., SS = +40m.45s., SSS = +46m.7s.
San Fernando iPP = +21m.53s., PPP = +25m.23s., SS = +40m.22s.
Long waves at Guadalajara, Pennsylvania, Sotchi, and Hof.

NOTE.—The epicentre was deduced by comparison with 7°·8S. 156°·3E. of 1935 March 20d. The position is not an approximate one, although the latitude and longitude happen to be exact multiples of half a degree.

April 19d. 9h. 4m. 5s. Epicentre 10°·5N. 92°·5E. (as on 1925 May 13d.). R. .

$A = -·0429$, $B = +·9823$, $C = +·1822$; $\delta = -5$;
$D = +·999$, $E = +·044$; $G = -·008$, $H = +·182$ $K = -·983$.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Medan		9·2	138	2 14	+ 4	i 4 6	+12	—	—
Calcutta	E.	12·7	342	e 3 2	+ 4	5 32	+12	6·3	12·0
Colombo		13·0	255	3 2	0	6 12	S*	7·1	7·8
Kodaikanal	E.	14·8	270	i 4 27	+61	8 22	?	—	—
Hyderabad		15·3	299	3 35	+ 3	7 12	+50	10·3	14·6
Phu-Lien		17·0	51	3 54	0	e 7 2	0	7·9	—
Bombay		20·8	296	i 4 45	+ 7	i 8 54	SS	11·4	17·1
Agra		21·5	322	4 45	0	i 8 46	+10	10·6	13·0
Batavia		22·0	139	5 4	+13	—	—	e 10·9	—
Malabar		23·2	139	e 5 35	PP	—	—	e 11·9	—
Hong Kong		23·9	58	5 7a	− 2	9 10	−11	11·7	17·0
Dehra Dun		24·0	327	5 25	+15	10 5	SS	12·1	14·9
Manila		28·1	78	5 45k	− 3	10 56	+22	14·4	—
Tainan		29·3	61	6 12	+13	—	—	—	—
Kosyun		29·4	63	5 59	− 1	—	—	—	—
Arisan		29·9	61	6 13	+ 9	—	—	—	—
Taito		30·0	62	5 38	−27	—	—	—	—
Karenko		30·8	61	7 31	PP	—	—	—	—
Nanking		32·4	44	6 18	− 8	11 28	−13	16·1	17·5
Zi-ka-wei	z.	33·9	47	e 6 37	− 2	12 3	− 1	19·4	29·9
Andijan		35·1	332	e 6 52	+ 2	e 12 31	+ 8	e 19·6	—
Almata		35·4	340	e 6 55	+ 2	e 12 28	+ 1	19·4	—
Frunse		36·0	336	6 58	0	e 12 38	+ 2	20·4	—
Chiufeng		36·2	30	e 6 58	− 2	i 12 35	− 4	17·0	23·5
Samarkand		36·9	325	e 7 6	0	—	—	19·9	—
Tashkent		37·0	329	i 7 6	0	e 12 24	−27	20·1	19·7
Tchimkent		37·6	331	e 7 19	+ 7	—	—	—	—
Amboina		38·2	109	6 33	−44	12 17	−52	e 16·9	—
Nake		39·0	57	7 18	− 6	—	—	—	—
Zinsen		40·8	42	e 7 40	+ 1	e 13 42	− 6	e 19·7	—
Nagasaki		40·9	51	7 36	− 4	—	—	—	—
Keizyo		41·1	43	e 7 42	+ 1	13 55	+ 2	20·3	—
Semipalatinsk		41·2	348	e 7 39	− 3	e 13 53	− 1	17·6	—
Unzendake		41·2	51	7 41	− 1	—	—	—	—
Husan		41·3	46	e 7 27	−16	e 13 54	− 2	e 19·7	—
Taikyu		41·4	45	e 7 22	−22	e 13 54	− 3	e 32·2	—
Hukuoka		41·7	50	e 10 52	?	—	—	—	—
Hukuoka B		41·7	50	e 7 58	+12	e 14 10	+ 8	—	—
Matuyama		43·5	51	8 13	+12	—	—	—	—
Hamada		43·5	49	8 4	+ 3	—	—	—	—
Sumoto		45·4	51	—	—	e 16 33	?	e 24·5	28·4
Kobe		45·7	51	e 8 17	− 1	e 15 14	+14	e 19·7	31·2
Vladivostok		47·2	39	e 8 31	+ 1	e 15 22	+ 1	22·8	31·4
Baku		48·0	317	i 8 38	+ 2	15 47	+14	24·4	—
Nagano		48·7	49	8 58	+17	—	—	—	—
Erevan		51·7	313	9 50	+46	—	—	28·9	—
Tiflis		52·0	315	i 9 8	+ 2	e 16 33	+ 5	26·1	37·6
Grozny		52·0	317	9 13	+ 7	16 36	+ 8	33·4	—
Sverdlovsk		52·4	340	i 9 6	− 3	i 16 31	− 3	25·9	33·1
Tananarive		53·2	237	—	—	16 37	− 8	e 22·4	28·6
Sotchi		56·2	316	e 9 40	+ 3	—	—	—	—
Ksara		56·6	302	i 9 42a	+ 2	18 0	+29	28·9	35·6
Theodosia		59·6	316	e 10 1	− 1	18 13	+ 2	35·9	—
Helwan		59·9	298	e 10 5	+ 1	—	—	—	37·6
Yalta		60·3	315	i 10 3	− 4	e 18 17	− 3	23·9	—

Continued on next page.

		Δ	Az.	P.	O−C,	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Simferopol		60·4	316	10 7	0	e 18 23	+ 2	25·9	—
Sebastopol		60·7	315	10 9	0	e 18 57	PS	—	—
Moscow		62·1	328	e 10 16	− 3	e 18 39	− 4	e 34·4	39·8
Adelaide		63·0	138	e 13 6	?	i 18 46	− 9	27·6	39·8
Bucharest		65·9	316	e 10 43	− 2	11 25	PcP	—	37·9
Pulkovo		67·2	332	i 10 50	− 3	i 19 41	− 6	37·4	41·6
Melbourne		68·8	137	—	—	e 19 51	−16	34·0	43·9
Königsberg		71·0	325	—	—	i 20 31	− 2	e 40·3	—
Budapest		71·1	317	e 10 55?	−22	e 19 55?	−39	e 39·9	42·9
Riverview		71·1	131	—	—	i 20 30	− 4	e 32·9	43·7
Vienna		73·0	320	e 11 27	− 2	e 20 42	−15	e 41·9	—
Zagreb		73·1	315	e 11 27	− 2	e 25 55?	SS	—	41·9
Upsala		73·4	329	e 11 28	− 3	e 20 55?	− 6	e 35·9	44·7
Graz		73·5	315	i 11 27	− 5	e 20 55	− 8	e 29·9	51·6
Prague		74·3	319	—	—	e 21 1	−11	e 39·9	52·9
Triest		74·7	314	e 11 31	− 8	21 16	− 1	—	42·8
Cheb		75·6	319	e 11 47	+ 3	e 20 38	−49	e 43·9	45·9
Copenhagen		75·7	325	11 47	+ 3	21 12	−16	37·9	—
Padova		76·0	315	e 11 51	+ 5	21 55	PS	—	—
Jena		76·1	320	e 11 49	+ 2	e 21 26	− 7	e 38·9	47·9
Florence		76·5	313	11 35	−14	—	—	—	—
Hamburg		77·2	324	e 11 50a	− 3	e 21 42	− 3	e 39·9	43·9
Göttingen		77·2	321	e 11 43	−10	e 21 37	− 8	e 39·9	43·9
Chur		77·6	316	e 11 52	− 3	—	—	—	—
Stuttgart		77·7	318	e 11 54a	− 2	e 21 44	− 7	e 42·9	—
Zurich		78·2	316	e 11 56	− 2	—	—	—	—
Strasbourg		78·7	319	i 12 0a	− 1	i 21 51	−11	e 35·9	—
Basle		78·9	316	e 12 0	− 2	—	—	—	—
Bergen		79·5	330	—	—	21 47	−23	e 39·9	47·9
De Bilt		80·1	322	12 8	0	22 10	− 7	e 43·9	47·0
Uccle		80·7	321	12 17a	+ 5	22 15	− 8	e 32·9	—
Paris		82·1	320	e 12 16	− 3	e 22 28	− 9	45·9	53·9
Cape Town		83·0	233	i 12 28	+ 5	i 22 46	− 1	35·9	42·4
Algiers		83·3	306	e 12 24	− 1	e 27 10	SS	46·4	48·9
Kew		83·5	321	e 12 25	− 1	e 22 41	[− 7]	e 39·9	48·7
Durham		83·8	325	—	—	22 50	[0]	—	58·9
Edinburgh		84·5	326	e 13 55?	+84	i 23 3	0	42·9	54·1
Bidston		84·9	323	e 11 11	−82	e 22 16	[−42]	—	—
Rathfarnham Castle		86·8	324	e 11 37	−65	i 23 20	− 5	—	55·9
Almeria		87·5	309	e 12 42	− 3	e 23 31	− 1	e 56·1	—
Scoresby Sund		88·0	343	12 52a	+ 4	23 49	+12	40·9	—
Granada		88·4	309	e 12 32	−18	22 56	[−27]	—	—
Malaga		89·2	308	12 53	− 1	23 41	− 7	40·4	—
San Fernando		90·7	309	—	—	23 59	− 4	47·9	—
Wellington		91·1	132	—	—	i 23 49	[+10]	42·9	53·9
College		92·4	22	—	—	e 22 31	[−76]	e 44·4	—
Bozeman		120·0	19	—	—	e 34 1	?	e 58·0	—
Ottawa		123·1	350	—	—	e 28 25	?	e 52·9	—
Vermont		123·5	348	—	—	e 28 15	PS	e 42·2	—
Tinemaha	Z.	124·3	30	e 18 55	[0]	—	—	—	—
Mount Wilson	Z.	126·7	32	i 19 0	[0]	—	—	—	—
Pasadena		126·7	32	e 18 59	[− 1]	—	—	—	—
Riverside	Z.	127·2	31	e 19 1	[0]	—	—	—	—
Philadelphia		128·3	348	—	—	i 37 59	SS	e 52·5	—
Florissant	N.	130·6	3	e 21 24	PP	i 28 16	{− 9}	e 54·2	72·3
St. Louis	E.	130·8	3	i 22 29	PKS	—	—	—	—
Tucson		131·8	27	e 22 28	PKS	—	—	e 63·9	—
Little Rock	E.	134·5	6	e 21 36	PP	—	—	e 81·9	—
Rio de Janeiro		136·0	248	e 22 8	PP	(e 39 55)	SS	e 39·9	—
San Juan		144·2	324	e 19 30	[− 2]	—	—	e 71·9	—
La Paz		160·3	250	i 20 3k	[+ 9]	i 27 5	SKS	80·3	88·5
Huancayo		168·0	261	e 20 5	[+ 3]	e 31 34	{−27}	e 46·1	—

For Notes see next page.

NOTES TO APRIL 19d. 9h. 4m. 5s.

Additional readings :—
Medan iN = +5m.46s. and +8m.17s., iE = +8m.20s.
Bombay iPPEN = +5m.9s., SSEN = +9m.54s.
Hong Kong PP = +5m.32s., P_cP = +8m.47s., SS = +9m.51s.? = +10m.41s.
Nanking iPPP = +7m.36s., iSSE = +11m.56s.
Zi-ka-wei iZ = +8m.5s. and +12m.37s.
Chiufeng iPPZ = +8m.29s., iZ = +12m.42s.
Tashkent ePP = +8m.16s., i = +13m.40s., e = +16m.22s.
Sumoto eN = +16m.51s., eZ = +27m.24s.
Kobe ePN = +8m.46s., eN = +13m.15s.
Tiflis i = +10m.50s. = PP −8s., ePP = +11m.8s., e = +16m.49s. and +19m.38s.
Tananarive E = +17m.7s.
Ksara PP = +11m.59s., PS = +18m.36s., SS = +22m.8s. = SSS −4s.
Adelaide e = +14m.13s. = PPP +12s., +16m.42s., and +20m.7s. = S_cS −7s.
Pulkovo L_q = +33m.55s.
Melbourne L = +20m.25s.?
Königsberg iE = +20m.36s., eE = +25m.51s. and +28m.57s., eN = +32m.0s., eE = +32m.35s., eN = +37m.34s.
Prague e = +20m.31s., +25m.55s.? = SS +8s., +29m.55s.? and +31m.55s.?
Triest SS = +26m.5s. and +26m.40s.
Copenhagen +26m.25s. = SS +17s., +29m.55s.
Jena eSE = +21m.31s.
Hamburg ePPN = +14m.38s., eSS = +30m.13s.
Göttingen eZ = +9m.43s.
Stuttgart ePP = +14m.43s., ePS = +22m.33s.
Strasbourg e = +25m.55s.?
Bergen SS = +27m.0s.
Uccle PPN = +15m.19s.
Cape Town eE = +20m.10s., +23m.44s. = PS +17s.
Kew eSSEN = +28m.31s.
Bidston eSS = +28m.11s.
Rathfarnham Castle e = +15m.57s. = PP −3s. and +19m.3s., i = +29m.3s. = SS +10s.
Scoresby Sund +23m.32s. = SKS +12s., +29m.49s., eE = +35m.55s.
Malaga e = +14m.37s. and +15m.39s., SKS = +23m.13s., PS = +24m.39s.
Ottawa eN = +30m.55s.? eE = +37m.25s. = SS +13s.
Vermont eSS = +37m.20s.
Pasadena iZ = +19m.6s., iE = +21m.21s.
Philadelphia e = +43m.35s. and +46m.14s. = SSS −10s.
Florissant iSKPEN = +22m.34s., iPSN = +31m.40s., iSSE = +38m.44s., iN = +41m.20s.
St. Louis iE = +22m.42s. = PKS +5s.
Tucson e = +40m.25s., eSS = +44m.49s.
La Paz iPKP$_2$E = +20m.45s. = PKP$_2$ +0s., iPPE = +24m.13s., iSKKS = +31m.13s., iSKSP = +34m.55s., PPSE = +38m.5s., eSSE = +44m.31s., iSSE = +44m.55s., iSSSE = +49m.9s., eE = +55m.39s.
Long waves at Toyooka, Arapuni, Christchurch, Sydney, Victoria, Ann Arbor, Sitka, Madison, Ivigtut, and Stonyhurst.

April 19d. 22h. 21m. 0s. Epicentre 48°·4N. 8°·9E. (as on 1933 Feb. 26d.). R.3.

A = +·6559, B = +·1027, C = −·7478 ; δ = −4 ;
D = +·155, E = −·988, G = +·739, H = +·116, K = −·664.

	Δ	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Ebingen	0·2	169	e 0 4	+ 1	i 0 10	+ 5
Stuttgart	0·4	28	e 0 1	− 5	i 0 7	− 3
Karlsruhe	0·7	333	(0 6)	− 4	(0 16)	− 2
Ravensburg	0·7	142	e 0 11	+ 1	0 23	+ 5
Strasbourg	0·8	284	i 0 11a	0	i 0 21	0
Zurich	1·1	192	e 0 16	0	e 0 34	S*
Basle	1·2	225	e 0 22	+ 5	e 0 40	S_g
Chur	1·6	164	e 0 31k	+ 8	e 0 54	S_g
Neuchatel	2·0	223	e 0 34	P_g	i 1 0	S_g
Cheb	2·8	53	—	—	e 1 0?	−12
Göttingen	3·2	12	—	—	i 1 32	S*

Additional readings and note :—
Stuttgart e = +5s.
Karlsruhe readings have been *diminished* by 1m.
Strasbourg PS = +27s. = S* +5s.

April 19d. Readings also at 0h. (near Tiflis), 1h. (Agra), 2h. (near Berkeley), 3h. (Chur, near Basle, Neuchatel, and Zurich), 5h. (Tananarive, Mount Wilson, Pasadena, Riverside, and Tinemaha), 6h. (Mount Wilson, Pasadena, Riverside, and Tinemaha), 7h. (Amboina, Melbourne, Mount Wilson (4), Pasadena (4), Riverside (2), and Tinemaha (4)), 8h. (Grozny, near Tiflis, and near Erevan), 9h. (Mount Wilson, Riverside, and Tinemaha), 10h. (Erevan, Grozny, and near Tiflis), 11h. (Tiflis), 13h. (La Paz), 14h. (Tiflis), 15h. (La Paz), 16h. (Cheb), 18h. (near Apia), 19h. (Andijan, Frunse, Riverside, Ebingen (2), and Stuttgart (2)), 20h. (Fresno, Lick, near Santiago, and San Javier), 21h. (Lick and Tiflis), 22h. (Ebingen and Stuttgart), 23h. (Andijan and Frunse).

April 20d. 10h. 50m. 55s. Epicentre 24°·4N. 120°·6E. (as on 1935 Dec. 31d.). **X.**

$A = -\cdot4636$, $B = +\cdot7839$, $C = +\cdot4131$; $\delta = +8$;
$D = +\cdot861$, $E = +\cdot509$; $G = -\cdot210$, $H = +\cdot356$, $K = -\cdot911$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Taihoku		1·1	45	i 0 17a	+ 1	i 0 30	+ 2	—	0·5
Hong Kong		6·2	252	2 49	S	(2 49)	+11	3·7	4·2
Zi-ka-wei	E.	6·8	6	e 2 11	P_g	—	—	—	—
Nanking		7·8	351	1 50	− 1	4 0	S*	—	—

Hong Kong gives also S? = +3m.25s. = S_g +7s.
Long waves were also recorded at Chiufeng, Phu-Lien, Sverdlovsk, and Tashkent.

April 20d. Readings at 0h. (Tiflis), 1h. (Grozny), 2h. (Erevan, Grozny, Piatigorsk, and near La Paz), 3h. (Mount Wilson, Pasadena, Riverside, and near Apia), 4h. (Mount Wilson and Pasadena), 8h. (Mount Wilson, Pasadena, Riverside, Sverdlovsk, and Tashkent), 9h. (La Paz), 10h. (Apia, Mount Wilson, and Pasadena), 12h. (Tananarive), 13h. (Mount Wilson, Pasadena, Riverside, and Tinemaha), 16h. (near Branner and near Santiago), 17h. (Graz), 18h. (Agra, Bombay, Calcutta, Colombo, Batavia, Medan, Frunse, Hong Kong, Chiufeng, Nanking, Phu-Lien, Tashkent, Sverdlovsk, Samarkand, and Ksara), 19h. (Drôme, Andijan, Tchimkent, Port au Prince, Frunse, Samarkand, Nagoya, and Tashkent), 21h. (Toledo (2), near Granada (2), and Malaga (2)), 22h. (Jena).

April 21d. 2h. 14m. 50s. Epicentre 28°·0N. 55°·7E. (as on April 17d.). **R.2.**

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Baku		13·3	341	i 3 14	+ 8	i 5 52	+18	9·2	12·0
Samarkand		15·0	36	3 32	+ 4	6 37	+22	—	—
Tiflis		16·3	330	i 3 53	+ 8	7 3	+18	9·2	10·9
Tashkent		17·3	37	i 4 16	+18	i 7 27	+18	e 9·4	12·6
Ksara		17·9	294	1 4 2a	− 3	i 7 33	+11	—	—
Andijan		18·7	43	4 21	+ 6	8 5	+25	—	—
Agra	E.	19·8	87	4 24	− 3	8 17	+15	10·2	—
Frunse		21·3	340	e 4 50	+ 7	e 9 0	+28	—	—
Helwan		21·4	281	4 30	−14	i 8 50	+16	—	15·0
Almata		22·9	42	e 5 6	+ 6	—	—	—	—
Theodosia		23·5	322	e 5 6	+ 1	9 22	+ 8	16·2	—
Yalta		23·8	319	i 5 9	+ 1	9 26	+ 7	16·2	—
Simferopol		24·1	320	5 10	− 1	9 30	+ 5	—	—
Sebastopol		24·2	319	5 13	+ 1	9 35	+ 8	—	—
Sverdlovsk		29·0	6	5 59	+ 3	10 56	+ 8	19·1	19·4
Moscow		30·6	339	6 17	+ 7	11 23	+ 9	17·7	18·6
Belgrade		32·6	340	—	—	e 14 10	?	e 20·1	—
Zagreb		35·9	310	e 6 56	− 1	e 12 39	+ 4	—	—
Pulkovo		36·2	339	7 1	+ 1	12 43	+ 4	22·2	—
Triest		37·4	310	i 7 12	+ 2	12 56	− 1	e 21·2	22·2

Continued on next page.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Cheb	39·4	316	—	—	e 12 10?	−77	—	27·2
Chur	40·5	311	e 7 32k	− 4	e 13 40	− 4	—	—
Stuttgart	41·1	313	e 7 40	− 1	e 17 10	SS	e 23·2	—
Zurich	41·2	311	e 7 38a	− 4	e 13 51	− 3	—	—
Copenhagen	41·4	324	—	—	14 2	+ 5	21·2	—
Basle	41·9	311	e 7 44	− 4	e 14 4	− 1	—	—
Neuchatel	42·2	311	e 7 47	− 3	—	—	—	—
Uccle	44·6	315	e 8 9	− 1	e 14 54	+10	e 24·2	—
Kew	47·6	316	e 8 30	− 3	e 18 45	SS	e 28·2	—
Granada	50·0	297	—	—	e 18 30	(−15)	29·7	—
Scoresby Sund	59·6	338	—	—	16 10?	?	—	—

Additional readings and notes :—
Ksara P_cP = +8m.26s., S_cS = +15m.36s.
Agra PPPE = +4m.57s., SSE = +9m.8s.
Sverdlovsk L_q = +16m.22s.
Belgrade e = +17m.9s. = S_cS +11s.
Triest i = +7m.19s., e = +15m.53s.
Uccle eE = +18m.37s.
Long waves were also recorded at Hyderabad, Chiufeng, Nanking, Cape Town, Upsala, Edinburgh, De Bilt, Hamburg, Graz, Paris, Strasbourg, and San Fernando.

April 21d. Readings also at 1h. (Chiufeng, Hong Kong, Manila, Nanking, Phu-Lien, Almata, Tashkent, Baku, Sverdlovsk, Agra, Bombay, Calcutta, Hyderabad, Kodaikanal, Medan, Ksara, and La Paz), 2h. (Moscow, Copenhagen, De Bilt, Granada (2), Toledo, near Malaga, and San Fernando), 3h. (Granada), 4h. (Toledo, near Malaga, near Fresno, near Mizusawa, Nagoya, and Sumoto), 6h. (Tchimkent), 7h. (near Balboa Heights), 8h. and 9h. (near Sumoto), 10h. (Kodaikanal and Oak Ridge), 11h. (Almata, Frunse, Erevan, Tiflis (2), Ksara, Sverdlovsk, Baku, and Granada), 15h. (Nagoya and near Mizusawa), 17h. (Göttingen, Tchimkent, and near Santiago), 18h. (near Medan), 21h. and 23h. (near Wellington).

April 22d. 9h. 58m. 54s. Epicentre 0°·3N. 18°·2W. N.2.

A = +·9500, B = −·3123, C = +·0052 ; δ = +6 ;
D = −·312, E = −·950 ; G = +·005, H = −·002, K = 1·000.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Rio de Janeiro	33·6	225	e 11 57	S	(e 11 57)	+12	e 14·1	—
San Fernando	37·8	15	e 7 19	+ 6	i 13 11	+ 8	20·6	—
Granada	39·3	18	i 7 18	− 8	13 2	−24	—	—
Basle	52·3	22	e 9 10	+ 1	—	—	—	—
Chur	52·5	22	e 9 11	+ 1	—	—	—	—
Zurich	52·5	22	e 9 11a	+ 1	—	—	—	—
Strasbourg	53·2	21	—	—	(e 13 6?)	?	e 13·1	—
Triest	53·4	27	i 9 16a	− 1	16 51	+ 4	—	29·1
Stuttgart	53·9	22	e 9 11	−10	e 17 1	+ 7	e 27·1	—
Zagreb	54·5	29	e 9 27	+ 2	—	—	—	—
De Bilt	55·4	17	—	—	17 22	+ 7	e 27·1	31·8
Cheb	56·2	23	—	—	e 17 48	+23	e 28·1	32·1
Hamburg	58·2	18	e 9 51	− 1	—	—	e 29·1	38·1
Ksara	60·6	51	i 10 10	+ 1	18 31	+ 7	—	—
Copenhagen	60·7	19	10 10	+ 1	18 30	+ 5	25·1	—
Sebastopol	63·6	38	e 12 6	+97	—	—	—	—
Yalta	63·9	40	e 10 28	− 3	—	—	—	—
Simferopol	64·1	38	e 10 45	+12	—	—	—	—
Theodosia	65·0	39	e 10 38	− 1	—	—	—	—
Erevan	69·3	46	e 11 49	(+19)	—	—	—	—

Continued on next page.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tiflis		70·0	45	11 9	− 2	e 20 23	+ 2	31·9	42·9
Scoresby Sund		70·2	358	—	—	20 32	+ 8	31·1	—
Pulkovo		70·2	24	11 9	− 3	e 20 14	−10	34·1	41·0
Grozny		71·2	44	e 11 20	+ 2	—	—	—	—
Baku		73·3	47	11 30	− 1	e 21 6	+ 6	36·1	—
Florissant		76·0	310	—	—	i 21 23	− 9	e 36·0	—
Sverdlovsk		83·7	33	i 12 26	− 1	22 48	[− 1]	40·1	—
Samarkand		86·1	50	12 45	+ 6	e 26 7	?	—	—
Tashkent		87·9	49	—	—	e 23 13	[− 6]	e 47·1	58·5
Andijan		90·2	49	e 12 59	+ 1	e 27 23	?	—	—
Frunse		91·8	47	e 13 20	+14	—	—	—	—
Agra	E.	95·4	63	—	—	i 36 28	?	—	—

Additional readings :—
San Fernando ePP = +9m.31s. = P_cP −4s.
Zagreb eP_cPNW = +10m.38s., ePP = +11m.16s., ePPP = +12m.27s.
Ksara iPP = +12m.26s., SS = +22m.38s.
Florissant eE = +21m.54s. = PS −4s., eN = +26m.31s.
Sverdlovsk PS = +23m.38s., eSS = +28m.12s.
Tashkent i = +24m.28s. = PS +1s. and +33m.12s., e = +33m.45s.
Long waves were also recorded at La Paz, Algiers, Almeria, Paris, Uccle, Belgrade, Kew, Edinburgh, and Ivigtut.

April 22d. Readings also at 0h. (Hong Kong and near Taihoku), 2h. (Mount Wilson, Pasadena, and Riverside), 4h. (Erevan), 5h. (Erevan and Victoria), 8h. (Andijan and near Samarkand), 9h. (Branner, Lick, near Mizusawa, near Santiago, and San Javier), 10h. (Grozny, Tiflis, Ksara, and La Paz), 14h. (Lick and Tiflis), 15h. (Tchimkent, Ebingen, Ravensburg, Stuttgart, near Chur, and Zurich), 16h. (near Mizusawa), 18h. (Baku, Tashkent, Sverdlovsk, Tiflis, and Ksara), 19h. (Oaxaca and Tacubaya), 22h. (La Paz), 23h. (near San Javier).

April 23d. 23h. 14m. 27s. Epicentre 50°·1N. 178°·7E. R.1.
(as on 1928 Feb. 28d.).

A = −·6413, B = +·0146, C = +·7672; δ = +7;
D = +·023, E = +1·000; G = +·767, H = +·017, K = −·641.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
College		22·8	36	e 5 1	+ 2	e 9 2	+ 1	e 11·6	—
Nemuro		23·5	266	5 4	− 1	9 31	+17	—	—
Asahigawa		25·3	271	5 35	+12	—	—	—	—
Sapporo		26·3	270	5 27	− 5	—	—	—	—
Hakodate		27·3	266	5 5	−36	—	—	—	—
Sitka		27·6	58	i 5 43	− 1	e 10 27	+ 2	e 16·6	—
Mizusawa	E.	28·5	261	e 5 52	0	e 11 3	+23	—	—
	N.	28·5	261	e 5 56	+ 4	e 11 7	+27	—	—
Kumagaya		31·4	258	6 25	+ 8	—	—	—	—
Maebasi		31·5	258	6 14	− 4	—	—	—	—
Nagano		31·8	260	6 28	+ 7	—	—	—	—
Oiwake		31·8	259	6 28	+ 7	—	—	—	—
Vladivostok		32·3	275	i 6 31	+ 6	11 48	+ 8	—	23·6
Gihu		33·5	258	6 36	0	—	—	—	—
Honolulu		34·1	139	—	—	e 12 11	+ 3	e 14·1	—
Osaka		34·8	262	6 44	− 3	12 25	+ 7	—	—
Kobe		35·0	262	e 6 14	−35	e 12 22	+ 1	e 14·1	19·9
Wakayama		35·3	262	6 55	+ 3	—	—	—	—
Sumoto		35·4	262	6 55	+ 2	e 15 7	?	—	19·4
Victoria		36·9	70	i 7 4	− 2	i 12 51	+ 1	e 16·6	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Seattle		37·9	70	—	—	e 13 1	− 4	—	—
Husan		38·7	266	7 24	+ 3	13 27	+10	—	—
Zinsen		38·8	271	e 7 25	+ 3	e 13 21	+ 3	—	—
Ferndale		40·2	80	e 7 45	+11	e 14 1	+22	—	—
Ukiah		41·7	81	e 7 36	−10	e 14 2	0	e 20·4	—
Berkeley		42·8	85	e 7 56k	+ 1	i 14 20	+ 2	—	—
San Francisco	N.	42·9	84	e 7 53	− 3	e 14 14	− 5	e 19·5	—
Branner		43·3	84	e 7 59	0	e 14 18	− 7	e 20·5	—
Lick		43·6	85	e 8 1	− 1	e 14 30	0	—	—
Chiufeng		44·0	282	i 8 8k	+ 3	i 14 45	+ 9	21·3	23·8
Saskatoon		44·8	57	e 8 40	+29	e 15 19	+32	—	—
Bozeman		45·6	67	e 8 10	− 8	e 14 53	− 6	e 20·8	—
Tinemaha		46·0	82	i 8 20k	− 1	e 15 3	− 1	—	—
Santa Barbara		46·7	85	i 8 25k	− 1	—	—	—	—
Haiwee	z.	46·8	83	e 8 24	− 3	—	—	—	—
Nanking		47·2	270	i 7 53?	−37	i 14 51?	−30	23·2	—
Mount Wilson		47·9	85	i 8 34k	− 1	i 15 34	+ 3	—	—
Pasadena		47·9	85	i 8 34k	− 1	i 15 31	0	e 21·0	—
Riverside		48·5	85	i 8 38k	− 2	e 15 28	−12	—	—
La Jolla		49·3	86	i 8 44k	− 2	e 15 53	+ 2	—	—
Tucson		53·8	82	9 19	− 1	16 55	+ 2	e 25·0	—
Hong Kong		56·9	266	9 46	+ 4	17 43	+ 8	28·6	29·9
Semipalatinsk		57·9	311	e 9 53	+ 3	e 14 44	?	—	—
Manila		58·5	255	9 55	+ 1	17 33	−23	—	—
Scoresby Sund		58·5	385	i 9 55a	+ 1	—	—	27·6	—
Madison		59·4	60	i 10 1	+ 1	e 18 10	+ 2	—	—
Chicago		61·4	59	e 10 12	− 2	e 18 31	− 3	e 33·6	—
Sverdlovsk		61·5	327	i 10 16	+ 1	18 38	+ 2	34·6	35·8
Florissant		61·8	62	i 10 14	− 3	e 18 34	− 5	e 29·4	38·9
St. Louis		62·0	62	i 10 16	− 2	e 18 37	− 5	e 39·2	—
Iwigtut		62·5	24	i 10 21	− 1	—	—	33·6	—
Phu-Lien		62·8	270	e 10 3	−21	e 18 56	+ 4	—	—
Ann Arbor		63·0	55	e 10 21	− 4	e 18 57	PS	e 39·6	—
Little Rock		63·4	67	e 10 28	0	e 18 58	− 2	—	—
Toronto		64·2	52	10 32	− 2	i 19 8	− 2	30·2	35·1
Almata		64·5	307	10 46	+11	—	—	—	—
Ottawa		64·8	49	e 10 35	− 2	e 19 13	− 4	e 30·6	—
Buffalo		65·1	52	i 10 39	0	i 19 23	+ 2	—	—
Frunse		66·0	308	10 45	0	e 19 36	+ 4	—	—
Ithaca		66·6	49	—	—	e 19 15	−25	—	—
Pennsylvania		67·1	52	—	—	e 20 43	(− 1)	—	—
Pulkovo		67·2	344	i 10 51	− 2	19 46	− 1	33·6	41·6
Andijan		68·6	308	e 11 5	+ 3	e 20 14	+10	—	—
Charlottesville		68·8	55	e 10 57	− 6	e 19 33	−34	e 33·4	—
Oak Ridge		69·0	47	i 11 2	− 3	i 20 7	− 2	e 35·6	—
Fordham		69·1	49	i 11 7	+ 2	i 20 13	+ 3	28·0	—
Philadelphia		69·1	51	i 11 4	− 1	i 20 9	− 1	e 31·0	—
Upsala	N.	69·1	350	i 11 2	− 3	i 20 8	− 2	e 36·6	—
Moscow		69·3	337	i 11 7	+ 1	i 20 16	+ 3	34·4	41·0
Tashkent		69·7	311	i 11 9	0	i 20 23	+ 5	e 34·8	39·0
Columbia		70·6	59	e 11 9	− 5	e 20 21	− 7	e 34·0	—
Samarkand		72·1	311	11 18	− 5	e 16 8	?	—	—
Calcutta	E.	73·1	284	e 12 7	+38	i 20 56	− 2	—	—
Copenhagen		73·5	353	11 31	− 1	21 7	+ 4	33·6	—
Agra	E.	75·9	295	11 46	+ 1	21 28	− 2	—	—
Hamburg		75·9	354	i 11 45k	0	i 22 31	PS	e 46·6	—
De Bilt		77·6	355	i 11 56k	+ 1	21 52	+ 3	e 36·6	47·8
Grozny		78·0	326	i 12 3	+ 6	e 21 59	+ 5	—	—
Piatigorsk		78·3	328	i 12 9	+10	22 7	+10	—	—
Kew		78·4	359	i 11 59	0	e 22 36	+38	e 33·6	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Jena	N.	78·4	350	e 11 57	− 2	—	—	—	—
Prague		78·9	349	—	—	e 21 27	−37	e 38·6	47·6
Uccle		79·0	356	i 12 3	0	i 22 5	0	36·6	—
Cheb		79·1	350	—	—	e 22 33?	PS	—	59·6
Baku		79·1	323	12 6	+ 3	22 12	+ 6	38·6	47·2
Theodosia		79·7	334	e 12 3	− 3	—	—	—	—
Tiflis		79·7	326	i 12 8	+ 2	i 22 14	+ 2	39·6	47·0
Simferopol		80·1	335	i 12 9	+ 1	—	—	—	—
Yalta		80·5	334	i 12 9	− 1	—	—	—	—
Vienna		80·5	349	e 12 13	+ 3	e 22 33?	+12	—	—
Stuttgart		80·7	352	12 10k	− 2	e 22 21	− 2	e 40·6	—
Strasbourg		81·0	354	i 12 13k	0	—	—	e 35·6	—
Paris		81·1	358	i 12 15k	+ 1	—	—	48·6	49·6
Erevan		81·2	335	13 5	+51	e 23 17	PS	—	—
Basle		82·1	353	e 12 19	0	e 22 35	− 3	—	—
Zurich		82·2	353	e 12 19k	0	e 22 35	− 4	—	—
Chur		82·6	353	e 12 22	+ 1	e 22 33	−10	—	—
Neuchatel		82·6	353	e 12 22	+ 1	—	—	—	—
Zagreb		82·9	347	e 12 25	+ 2	e 22 47	+ 1	—	—
Hyderabad		83·1	299	12 23	− 1	22 44	− 4	—	54·6
Batavia		83·3	251	12 20	− 5	22 41	− 9	—	—
Belgrade		83·3	345	i 12 24a	− 1	e 22 48	− 2	e 49·3	—
Triest		83·4	349	i 12 25k	0	i 22 55	+ 4	e 41·0	48·6
Bombay		85·3	294	12 38	+ 3	23 13	+ 2	—	—
Kodaikanal	E.	89·2	285	e 12 33?	−21	—	—	—	—
Ksara		89·8	330	i 12 58k	+ 2	23 47	− 7	—	—
San Juan		91·0	58	e 12 59	− 3	e 23 33	[− 6]	e 45·0	—
Granada		92·6	2	i 13 9	0	e 24 16	− 4	—	—
Malaga		93·1	250	13 13	+ 1	25 32	PS	—	—
San Fernando		93·3	4	e 16 43	PP	i 23 57	{− 4}	46·6	—

Additional readings :—
Kobe eZ = +11m.12s.
Chiufeng PPEN = +9m.56s., SSEN = +18m.5s. = S_cS −1s.
Bozeman eS_cS = +18m.13s.
Nanking SS = +17m.56s.?, SSS = +19m.3s.?
Hong Kong SS? = +21m.37s.
Sverdlovsk L_g = +28·6m.
Florissant ipP = +10m.36s., iSPEZ = +10m.52s., iPP = +12m.32s., eSSN = +19m.17s., iS_cSN = +20m.8s., isS_cSN = +20m.57s., iS_cP_cSN = +26m.2s.
St. Louis ipP = +10m.29s., iSEN = +18m.44s.
Ann Arbor e = +12m.39s. = PP +11s., eN = +25m.45s., eE = +34m.15s.
Little Rock iN = +10m.43s., eS_cSN = +20m.27s.
Ottawa SSE = +23m.39s. ; T_o = 23h.14m.36s.
Charlottesville ePS = +20m.8s. = S +1s., e = +28m.45s.
Fordham +22m.3s.
Philadelphia e = +15m.23s., eSS = +24m.41s.
Copenhagen +16m.9s.
De Bilt eSSN = +27m.15s.
Jena iZ = +12m.0s., eE = +12m.3s.
Uccle SSN = +27m.36s.
Tiflis e = +14m.6s., ePP = +15m.14s., SKS = +22m.23s.
Stuttgart ePS = +23m.15s ; T_o = 23h.14m.27s.
Belgrade e = +14m.15s.
Triest i = +23m.36s. = PS +5s., iPS = +23m.45s.
Bombay PPEN = +16m.3s.
Ksara PP = +16m.33s., SS = +29m.59s.
San Fernando SS = +30m.57s.
Long waves were also recorded at Wellington and Cape Town.

April 23d. Readings also at 0h. (Tiflis and near Balboa Heights), 1h. (Tiflis and near Wellington), 2h. (Tiflis), 9h. (Manila), 10h. (Helwan), 11h. (near Amboina), 13h. (Columbia), 14h. (near Taihoku), 15h. (Sumoto), 17h. (near Amboina), 18h. (Baku, Ksara, Tiflis, Sverdlovsk, Cape Town, near Mizusawa, and near Nagoya), 19h. (Tashkent and near Santiago), 21h. (La Paz), 22h. (Medan and near Amboina), 23h. (Andijan, Samarkand, Batavia, Hong Kong, Manila, Tiflis, La Paz, and near Santiago).

April 24d. 12h. 42m. 5s. Epicentre 9°·2S. 124°·5E. N.3.

$A = -·5591$, $B = +·8135$, $C = -·1599$; $\delta = -6$;
$D = +·824$, $E = +·566$; $G = +·091$, $H = -·132$, $K = -·987$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		6·6	34	e 1 33	− 1	2 48	0	—	—
Batavia		17·7	279	4 4	+ 1	—	—	—	—
Manila		24·1	352	5 13	+ 2	9 38	+13	12·7	—
Adelaide		28·8	156	—	—	e 10 39	− 6	i 14·0	19·5
Melbourne		34·1	150	—	—	i 12 4	− 4	e 17·6	20·0
Riverview		34·8	140	e 12 14	S	(e 12 14)	− 4	e 22·9	—
Christchurch		54·0	138	e 16 18	S	(e 16 18)	−38	28·3	31·9
Tashkent		71·5	319	—	—	e 19 33	−66	e 34·1	43·4
Sverdlovsk		84·0	331	12 25	− 3	22 50	− 8	34·9	—
Grozny		88·3	314	e 12 51	+ 2	—	—	—	—
Tiflis		88·6	313	e 12 50	− 1	e 23 34	− 9	e 40·4	—
Ksara		94·0	303	e 14 19	+63	e 25 50	PS	46·9	55·9
Tinemaha	z.	117·2	53	i 18 44	[+ 6]	i 22 18	PPP	—	—
Pasadena	z.	117·7	57	i 18 44	[+ 5]	i 22 18	PPP	—	—
Mount Wilson	z.	117·8	57	i 18 45	[+ 5]	i 22 19	PPP	—	—

Additional readings :—
Adelaide e = +13m.38s.
Melbourne i = +16m.1s.
Riverview eN = +18m.32s.
Christchurch P_cPZ = +18m.22s., P_cSZ = +22m.4s., eS = +22m.35s.
Tashkent e = +30m.7s.
Sverdlovsk e = +22m.43s.
Long waves were also recorded at Wellington, Medan, Kodaikanal, Copenhagen, Baku, and Pulkovo.

April 24d. 14h. 35m. 42s. Epicentre 14°·5N. 92°·6W. (as on 1935 Dec. 14d.). X.

$A = -·0439$, $B = -·9672$, $C = +·2504$; $\delta = +10$;
$D = -·999$, $E = +·045$; $G = -·011$, $H = -·250$, $K = -·968$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.
		°	°	m. s.	s.	m. s.	s.	m.
Oaxaca	N.	4·8	303	1 7	− 1	—	—	—
Merida	N.	7·1	23	1 35	− 6	—	—	—
Tacubaya	N.	8·0	390	1 53	0	—	—	—
Little Rock		20·3	51	e 4 38	+ 5	e 8 22	+10	—
Columbia		22·1	25	—	—	e 8 36	−12	—
Tucson		24·3	320	e 5 9	− 4	e 9 50	+22	e 13·2
San Juan		25·7	77	—	—	e 10 18	+25	—
Ann Arbor	N.	28·8	13	—	—	e 12 48	?	e 19·2
Philadelphia		29·7	28	—	—	e 11 18	+19	e 15·5
Mount Wilson	z.	30·3	315	e 6 8	0	—	—	—
Pasadena	z.	30·3	315	e 6 7	− 1	—	—	e 19·3
Tinemaha		32·1	319	i 6.24	0	—	—	—

Additional readings :—
Little Rock iN = +4m.55s., iEN = +5m.24s.
Mount Wilson iZ = +6m.27s., eZ = +9m.2s. = P_cP −9s.
Pasadena iZ = +9m.6s. = P_cP −5s.
Tinemaha iZ = +9m.8s. = P_cP −8s.
Long waves are also recorded at Huancayo, Oak Ridge, Sverdlovsk, and Tashkent.

April 24d. Readings also at 0h. (Andijan, Samarkand, near Almata, and Frunse), 4h. (near Tiflis), 5h. (Nagoya), 7h. (near San Javier), 9h. (Alicante and Amboina), 10h. (Granada, Malaga, Toledo, near San Fernando, and near Wellington), 12h. (Sebastopol, Simferopol, Theodosia, and near Yalta), 13h. (Sebastopol, Simferopol, Theodosia, Yalta, Tiflis, Mount Wilson, Pasadena, Riverside, and Tinemaha), 14h. (Erevan, Grozny, Piatigorsk, near Ksara, and near Tiflis (2)), 15h. (Amboina), 16h. (Toledo and near Medan), 17h. (Toledo, Alicante, near Almeria, Malaga, Granada, and San Fernando), 18h. (Grozny, Samarkand, near Andijan, and Frunse), 19h. (near Fresno and Lick), 20h. and 21h. (near Tiflis).

April 25d. 4h. 36m. 17s. Epicentre 9°·9N. 125°·7E. (as on 1931 May 24d.). X.

A = −·5749, B = +·8000, C = +·1719 ; δ = +6 ;
D = +·812, E = +·584 ; G = −·100, H = +·140, K = −·985.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Manila		6·6	316	i 1 35a	+ 1	2 45	− 3	—	—
Hong Kong		16·6	320	3 48	− 1	6 52	0	8·6	11·0
Batavia		24·8	230	5 16	− 2	9 33	− 4	—	—
Chiufeng		31·4	346	e 6 25	+ 8	e 11 38	+12	—	18·8
Vladivostok		33·6	9	—	—	e 12 31	+31	15·0	—
Agra	E.	48·1	298	—	—	e 15 19	−15	—	—
Tashkent		58·5	314	—	—	e 18 31	PS	e 27·4	37·0
Sverdlovsk		68·2	328	—	—	e 19 58	− 1	33·7	—
Tiflis		76·7	311	—	—	e 21 44	+ 5	e 45·1	—
Pulkovo		84·2	330	e 12 49	+20	e 22 56	[+ 3]	45·7	48·7
Ksara		84·4	303	e 12 36	+ 6	e 23 22	PS	47·7	52·7

Long waves were recorded also at Baku, Copenhagen, De Bilt, and Paris.

April 25d. 22h. 36m. 10s. Epicentre 29°·0S. 73°·0W. (as on 1927 June 25d.). X.

A = +·2557, B = −·8364, C = −·4848 ; δ = −2 ;
D = −·956, E = −·292 ; G = −·142, H = +·464, K = −·875.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Santiago		4·8	157	1 8	0	2 22	S*	—	—
San Javier		6·7	171	e 1 40	+ 5	3 20	S*	—	—
La Paz		13·3	21	e 3 6	0	6 36	S*	7·1	8·9
La Plata		14·1	118	3 8	− 9	•5 20	−33	6·0	—
Pasadena	z.	76·2	323	i 11 50	+ 3	—	—	—	—
Tinemaha	z.	78·6	325	i 12 3	+ 3	—	—	—	—

Long waves were also recorded at Rio de Janeiro.

April 25d. Readings also at 1h. (Sverdlovsk and Tashkent), 4h. (Nagoya), 6h. (Alicante, Malaga, near Almeria, Granada, and San Fernando), 11h. (Bagnères (2), Alicante, and near Tortosa), 14h. (Bagnères), 17h. (Samarkand), 19h. (Nagoya), 20h. (Amboina), 21h. (Bagnères, Malaga, near Granada, near Tortosa, and Phu-Lien).

April 26d. 7h. 15m. 32s. Epicentre 1°·0N. 126°·0E. (as on 1926 July 12d.). X.

A = −·5877, B = +·8089, C = +·0175 ; δ = +2 ;
D = +·809, E = +·588 ; G = −·010, H = +·014, K = +1·000.

	△	Az.	P.	O−C.	S.	O−C.	L.
	°	°	m. s.	s.	m. s.	s.	m.
Manila	14·5	340	i 3 15a	− 7	6 6	+ 3	7·7
Nanking	31·8	348	e 6 23	+ 2	—	—	e 17·0
Chiufeng	40·1	349	e 7 33	0	e 13 20	−18	—
Andijan	62·6	316	e 10 24	+ 2	—	—	—
Samarkand	66·0	313	e 10 58	+13	e 17 1	?	—
Sverdlovsk	76·0	330	—	—	e 21 20	−12	35·5

Manila gives also iPZ = +3m.18s.
Long waves were also recorded at Hong Kong and Pulkovo.

April 26d. 8h. 43m. 38s. Epicentre 7°·0S. 148°·0E. (as on 1934 March 1d.). X.

A = −·8417, B = +·5260, C = −·1219 ; δ = −6 ;
D = +·530, E = +·848 ; G = +·103, H = −·065, K = −·993.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		20·0	278	4 33	+ 3	—	—	e 12·4	—
Riverview		27·0	174	i 6 14k	PP	i 10 29	+14	e 13·3	17·2
Sydney		27·0	174	e 10 47	S	(e 10 47)	+32	16·2	17·5
Adelaide		29·3	196	e 6 0	+ 1	i 11 2	+ 9	15·5	19·9
Melbourne		30·9	185	—	—	i 11 34	+16	15·0	19·1
Manila		34·4	309	6 37	− 7	11 34	−38	15·0	—
Batavia	z.	40·9	269	7 59	+19	—	—	—	—
Wellington		41·8	149	e 7 22?	−25	i 14 8	+ 5	22·4	—
Nagoya		43·5	348	e 7 47	−14	—	—	—	—
Hukuoka B		43·9	339	e 7 59	− 5	e 14 22	−12	—	—
Hong Kong		44·3	312	10 48	?	14 39	− 1	—	19·7
Nanking		48·0	325	e 8 39	+ 3	e 15 31	− 2	e 24·0	—
Vladivsotok		52·2	345	e 9 8	0	(16 22)	− 9	16·4	—
Chiufeng		55·5	331	e 9 31	− 1	17 6	−10	27·2	30·7
Frunse		82·9	314	e 12 45	+22	—	—	—	—
Andijan		83·9	312	e 12 49	+21	e 17 21	PPP	—	—
Tashkent		86·3	312	i 18 11	PPP	—	—	e 37·0	46·8
Samarkand		87·6	310	e 12 47	+ 1	e 16 42	?	—	—
Sitka		88·7	32	—	—	e 23 22	[− 2]	e 39·4	—
Sverdlovsk		94·4	327	e 13 36	+18	—	—	37·4	48·2
Pasadena		97·0	56	i 13 31	+ 1	—	—	—	—
Mount Wilson	z.	97·2	56	i 13 32	+ 1	—	—	—	—
Baku		100·7	310	e 18 10	PP	e 27 12	PS	44·4	—
Tiflis		104·5	311	e 17 29	?	—	—	56·6	60·1
Pulkovo		109·8	332	e 18 57	PP	e 28 27	PS	51·4	62·2
Ksara		112·2	303	e 19 2	PP	—	—	59·4	65·4
Scoresby Sund		116·2	357	—	—	29 22?	PS	58·4	—
Florissant	E.	118·8	50	—	—	e 29 47	PS	e 55·4	—
Copenhagen		120·0	333	—	—	28 22?	{+66}	58·4	—
Ottawa		126·1	37	—	—	e 33 22?	?	e 58·4	—
Philadelphia		129·3	317	—	—	e 50 58	?	e 56·9	—

Additional readings :—
Riverview iEN = +10m.48s.
Sydney iS = +14m.22s.
Adelaide e = +6m.59s., i = +11m.40s., and +14m.11s.
Wellington iSS? = +17m.38s. = S_cS −15s.
Nanking eSS = +19m.21s.
Vladivostok e = +11m.36s. and +12m.24s.
Tashkent i = +18m.37s., e = +18m.57s., and +28m.34s. = SS −8s.
Tiflis e = +18m.26s. = PP +10s. and +28m.4s.
Ksara ePKKP = +27m.16s., ePS = +29m.10s.
Scoresby Sund e = +36m.22s.?
Florrissant eE = +41m.8s.
Long waves were also recorded at Hyderabad, Moscow, Cape Town, Oak Ridge, Tucson, Ukiah, and at other European stations.

April 26d. 14h. 55m. 16s. Epicentre 34°·0N. 134°·8E. (as on 1935 Nov. 25d.). X.

A = −·5842, B = +·5883, C = +·5592 ; δ = +9 ;
D = +·710, E = +·705 ; G = −·394, H = +·397, K = −·829.

	Δ	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Sumoto	0·4	11	i 0 4	− 2	i 0 8	− 2	0·1
Kobe	0·7	25	e 0 10	0	i 0 18	0	0·4
Toyooka	1·6	0	0 25	+ 2	0 44	+ 3	0·8
Nagoya	2·1	57	0 30	0	1 1	S*	—
Hukuoka B	3·7	269	e 1 14	P*	e 2 10	?	—

Toyooka gives also PEN = +28s.

April 26d. 23h. 59m. 11s. Epicentre 28°·7N. 103°·2E. R.1.
(as on 1935 Dec. 19d. 13h.).

$A = -·2003$, $B = +·8540$, $C = +·4802$; $\delta = +3$;
$D = +·974$, $E = +·228$; $G = -·110$, $H = +·468$, $K = -·877$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Phu-Lien		8·5	157	i 1 56	− 4	i 4 23	S_g	—	6·1
Hong Kong		11·8	120	2 43	− 3	3 52	−66	—	6·0
Nanking		13·9	72	i 3 9	− 5	5 42	− 7	7·1	9·2
Calcutta	E.	14·7	248	3 31	+ 6	6 39	+31	7·8	10·2
Chiufeng		15·6	40	e 3 29	− 7	i 6 27	− 2	7·6	11·8
Hokoto		15·6	106	3 37	+ 1	—	—	—	—
Zi-ka-wei		16·0	77	e 3 39	− 2	6 46	+ 8	—	11·2
Taityu		16·3	102	3 51	+ 6	7 1	+16	—	—
Tainan		16·3	106	3 48	+ 3	—	—	—	—
Takao		16·5	108	3 52	+ 4	—	—	—	—
Arisan		16·6	104	3 48	− 1	—	—	—	—
Taihoku		16·8	98	3 50	− 2	7 7	+10	—	10·7
Karenko		17·2	102	3 58	+ 1	7 11	+ 5	—	—
Taito		17·2	106	3 57	0	—	—	—	—
Dairen		18·3	51	4 1	− 9	7 30	− 1	—	—
Isigakizima		19·2	98	4 15	− 6	7 53	+ 3	—	—
Heizyo		21·3	55	4 52	+ 9	8 40	+ 8	11·4	13·4
Zinsen		21·4	60	e 4 44	0	e 8 41	+ 7	e 10·8	12·2
Manila		21·7	127	i 4 49k	+ 1	i 9 3	SS	i 11·8	—
Keizyo		21·7	61	e 4 44	− 4	e 8 46	+ 6	e 11·2	12·2
Naha		21·8	91	4 59	+10	8 54	+12	—	—
Dehra Dun		21·9	280	5 39	+49	9 9	SS	12·1	12·8
Tomie		22·3	73	4 54	0	8 58	+ 6	—	—
Agra	N.	22·3	271	e 4 57	+ 3	i 9 6	SS	—	—
Taikyu		22·6	65	4 55	− 2	9 0	+ 3	—	12·6
Husan		22·8	67	5 0	+ 1	9 4	+ 3	12·4	17·1
Nake		23·0	83	5 0	− 1	9 15	+10	—	—
Nagasaki		23·2	74	5 1	− 2	9 15	+ 7	—	—
Unzendake		23·5	73	5 10	+ 5	9 23	+ 9	—	—
Hukuoka		23·7	72	4 52	−15	9 22	+ 4	12·4	14·5
Hukuoka B		23·7	72	e 5 12	+ 5	9 22	+ 4	i 12·4	15·2
Kagosima		23·8	77	5 1	− 7	—	—	—	—
Kumamoto		23·9	72	5 7	− 2	9 21	0	—	—
Miyazaki		24·5	77	5 9	− 6	9 37	+ 5	—	—
Ooita		24·7	72	5 17	0	—	—	—	—
Hamada		25·2	69	5 11	−11	—	—	—	—
Hyderabad		25·3	249	5 29	+ 6	9 59	+13	12·5	16·5
Medan		25·4	191	e 5 28	+ 4	i 10 34	SS	i 14·3	—
Hirosima		25·5	70	4 58	−27	—	—	—	—
Almata		25·6	312	5 30	+ 5	10 18	SS	15·1	—
Matuyama		25·7	71	5 23	− 3	9 58	+ 5	—	—
Simidu		25·8	73	5 26	− 1	—	—	—	—
Sakai		26·2	68	5 22	− 9	—	—	—	—
Koti		26·3	72	5 32	0	10 6	+ 3	—	—
Okayama		26·7	70	5 40	+ 5	—	—	—	—
Frunse		27·0	309	e 5 45	+ 7	e 10 20	+ 5	—	—
Vladivostok		27·1	51	—	—	e 10 19	+ 2	—	16·4
Toyooka		27·5	68	5 42	− 1	e 10 24	0	14·0	16·5
Sumoto		27·5	70	5 40	− 3	10 31	+ 7	14·6	15·5
Wakayama		27·7	69	5 44	0	10 27	0	—	—
Kobe	E.	27·7	70	e 5 40	− 4	10 45	+18	i 14·5	18·7
	N.	27·7	70	e 5 39	− 5	10 40	+13	e 13·6	15·7
Miyadu		27·8	68	5 46	+ 1	—	—	—	—
Semipalatinsk		27·8	328	5 47	+ 2	10 53	+25	14·0	—
Andijan		27·9	303	e 5 53	+ 7	—	—	—	—
Osaka		28·0	70	5 39	− 8	10 28	− 4	—	—
Kyoto		28·2	68	5 47	− 2	—	—	—	—

Continued on next page.

		△	Az.	P.	O−C.	S.	O—C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m,
Yagi		28·2	68	5 59	+10	—	—	—	—
Siomisaki		28·2	72	5 51	+ 2	10 41	+ 6	—	—
Hikone		28·4	68	5 57	+ 6	—	—	—	—
Tu		28·8	69	6 2	+ 8	—	—	—	—
Kameyama		28·8	69	5 52	− 2	11 4	+19	—	—
Ibukisan		28·8	67	6 4	+10	—	—	—	—
Gihu		29·1	68	5 57	0	11 0	+10	—	—
Nagoya		29·2	69	e 6 0	+ 2	—	—	24·5	—
Wazima		29·4	63	6 5	+ 5	11 5	+10	—	—
Bombay		29·4	257	e 6 4	+ 4	i 11 5	+10	—	—
Toyama		29·5	65	7 2	+61	—	—	—	—
Matumoto		30·1	66	6 51	PP	—	—	—	—
Omaesaki		30·2	69	6 42	PP	—	—	—	—
Nagano		30·3	65	6 20	+12	11 34	+25	—	—
Tchimkent		30·3	305	e 7 53	PPP	—	—	—	—
Kodaikanal	E.	30·4	238	e 5 49?	−20	—	—	—	—
Kohu		30·5	69	6 24	+15	—	—	—	—
Oiwake		30·6	66	6 14	+ 4	—	—	—	—
Hunatu		30·7	69	6 10	− 1	—	—	—	—
Misima		30·9	69	6 34	+21	—	—	—	—
Maebasi		31·0	66	6 26	+12	—	—	—	—
Kumagaya		31·2	68	6 35	+19	—	—	—	—
Tokyo		31·5	69	7 28	PP·	—	—	—	—
Kakioka		31·9	66	6 24	+ 2	—	—	—	—
Mito		32·1	66	6 29	+ 5	—	—	—	—
Hukusima		32·2	65	6 27	+ 3	—	—	—	—
Tyosi		32·4	68	6 32	+ 6	—	—	—	—
Sendai		32·6	63	6 26	− 2	—	—	—	—
Mizusawa	E.	32·9	61	e 6 6	−25	e 11 52	+ 3	15·8	—
Sapporo		33·7	54	9 16	(− 5)	—	—	—	—
Titizima		34·3	83	11 59	S	(11 59)	−12	—	—
Batavia		35·1	173	i 6 46	− 4	i 12 23	0	—	—
Amboina		40·3	138	e 7 24	−11	—	—	—	—
Sverdlovsk		40·9	325	i 7 37	− 3	i 13 57	+ 7	19·2	22·8
Baku		44·7	300	8 17	+ 7	15 3	+17	22·8	27·4
Grozny		47·7	304	e 8 43	+ 9	—	—	26·8	—
Tiflis		48·5	301	8 45	+ 5	15 49	+ 9	25·5	31·4
Erevan		48·9	300	e 9 37	+54	—	—	30·8	—
Piatigorsk		49·6	305	e 8 51	+ 3	—	—	24·8	—
Moscow		53·1	319	e 9 16	+ 1	e 16 51	+ 8	23·8	29·2
Theodosia		55·0	307	e 9 34	+ 5	e 17 25	+16	31·8	—
Yalta		55·9	307	e 9 39	+ 4	e 17 33	+12	24·8	—
Simferopol		55·9	307	e 9 42	+ 7	e 17 38	+17	29·8	—
Sebastopol		56·3	307	e 9 48	+10	e 17 47	+20	32·8	—
Ksara		56·8	292	i 9 43a	+ 1	i 17 51	+17	28·8	—
Pulkovo		57·0	325	i 9 46	+ 3	i 17 42	+ 6	32·3R	30·4
Bucharest		61·6	308	e 10 19	+ 3	18 49	+12	e 29·8	36·8
Helwan		61·6	290	e 10 11	− 5	i 18 44	+ 7	—	—
Königsberg		62·8	320	e 10 31	+ 7	i 19 1	+ 9	e 33·5	34·1
Upsala		63·3	326	10 25	− 2	19 1	+ 2	e 30·8	35·1
Belgrade		65·4	318	e 10 44	+ 3	e 19 33	PS	e 38·4	—
Budapest		65·5	312	10 45	+ 3	19 39	PS	35·8	39·3
Vienna		67·0	314	e 10 56	+ 4	e 19 55	PS	e 36·8	39·8
Copenhagen		67·0	323	10 51	− 1	19 52	PS	30·8	—
Prague		67·6	316	e 11 1	+ 5	e 20 1	PS	e 32·8	37·3
Zagreb		68·0	311	e 11 0	+ 2	e 20 4	+ 7	e 34·8	40·4
Graz		68·0	312	i 10 55	− 3	e 20 1	+ 4	e 33·8	40·4
Cheb		68·9	317	e 11 7	+ 3	e 20 19	+11	e 25·8	33·8
Hamburg		69·1	321	e 11 5	0	i 20 19	+ 9	e 32·8	37·8
Jena		69·1	317	e 11 5	0	—	—	e 34·8	37·8
Triest		69·6	312	i 11 8a	0	i 20 24	+ 8	e 32·8	38·9
Göttingen		69·8	319	i 11 11	+ 2	e 20 25	+ 6	e 33·8	38·8
Padova		70·9	312	e 11 23	+ 7	20 39	+ 7	e 40·9	—
Stuttgart		71·3	316	e 11 19	0	e 20 43	+ 6	e 36·8	44·7
College		71·7	25	—	—	e 19 59	−42	e 33·9	—

Continued on next page.

		Δ	Az.	F.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Chur		71·8	315	e 11 18	− 4	e 20 45	+ 2	—	—
Adelaide		71·9	150	e 11 8	−14	e 21 4	PS	33·7	44·5
Florence		71·9	310	11 19	− 3	20 49	+ 5	—	—
Zurich		72·2	315	e 11 21	− 3	e 20 57	+10	—	—
Strasbourg		72·2	316	i 11 23a	− 1	i 20 53	+ 6	e 30·8	39·8
De Bilt		72·3	321	11 27	+ 2	20 56	+ 8	e 33·8	40·2
Basle		72·8	315	e 11 26	− 2	—	—	—	—
Uccle		73·3	319	11 33	+ 2	i 21 7	+ 7	e 33·8	40·7
Neuchatel		73·4	315	e 11 28	− 3	—	—	—	—
Scoresby Sund		73·5	343	11 30	− 2	21 4	+ 1	36·8	—
Edinburgh		75·0	326	e 10 29	−71	e 21 25	+ 5	e 37·8	45·9
Paris		75·3	318	e 11 45	+ 3	e 20 49?	−35	37·8	40·8
Kew		75·6	321	e 11 46	+ 2	e 21 32	+ 5	e 39·8	40·7
Bidston		76·2	324	e 11 16	−31	e 21 6	−28	e 34·8	40·3
Rathfarnham Castle		77·9	325	—	—	e 21 40	−13	39·0	44·5
Algiers		80·6	306	i 12 9	− 2	i 22 28	+ 6	e 39·8	—
Almeria		84·3	309	e 12 40	+10	e 22 43	[−11]	e 48·8	—
Granada		84·9	310	e 12 27	− 6	22 20	[−38]	—	—
Ivigtut		87·1	347	—	—	23 24	− 4	42·8	—
San Fernando		87·1	310	20 55	?	(e 23 33)	+ 5	44·8	47·8
Victoria		92·4	28	e 24 15	S	(e 24 15)	− 3	e 39·5	51·6
Bozeman		99·4	23	—	—	e 41 13	?	e 49·3	—
Ottawa		105·9	358	—	—	e 27 49?	PS	e 48·8	—
Mount Wilson	z.	106·0	34	e 17 55	[−10]	—	—	—	—
Pasadena		106·0	34	e 17 47	[−18]	—	—	e 59·1	—
Toronto		107·6	1	—	—	e 36 49?	?	49·3	—
Tucson		111·0	31	e 19 20	PP	e 28 43	PS	e 45·9	—
Florissant		111·3	11	e 19 10	PP	i 28 54	PS	e 48·4	64·0
La Paz		165·4	325	e 20 3	[+ 4]	—	—	—	—

Additional readings :—
Phu-Lien iPP_g = +2m.36s.
Nanking iSEN = +5m.55s., iSS = +6m.12s.
Calcutta PPE = +3m.46s., SSE = +7m.10s.
Chiufeng i = +3m.37s., iE = +6m.40s.
Zi-ka-wei iE = +5m.6s., iN = +8m.1s., +8m.11s., +8m.22s., +9m.1s., +9m.12s., and +10m.23s.
Manila ePEN = +5m.29s.
Husan e = +6m.47s.
Vladivostok e = +12m.4s., e = +12m.45s., +13m.43s., and +14m.35s.
Toyooka PEN = +5m.49s., eSE = +10m.54s.
Sumoto PZ = +5m.43s., eSZ = +10m.35s.
Bombay SSEN = +12m.33s.
Tiflis P_cP = +10m.5s., PP = +10m.44s., iSS = +19m.36s., L_q = +22·0m.
Ksara iP_cP = +10m.40s. = PP +14s., PP = +11m.55s., P_cS = +14m.32s., SS = +21m.49s.
Pulkovo L_q = +27·8m.
Bucharest eP_cPE = +11m.10s.
Königsberg eE = +19m.12s. and +23m.10s., eN = +25m.58s. and +28m.20s.
Belgrade e = +21m.0s.
Copenhagen +24m.37s., +27m.19s.
Zagreb eP_cP = +11m.16s., ePS = +20m.25s., eSSSNE = +27m.49s.?
Hamburg ePSE = +21m.6s.
Jena eEN = +11m.19s.
Triest e = +28m.11s.
Stuttgart ePPP = +15m.41s.
Adelaide e = +16m.14s.
Uccle SSN = +25m.54s., SSSEN = +29m.18s.
Scoresby Sund +25m.55s.
Kew eSSSEN = +30m.23s.
Bidston eSSS = +30m.4s.
San Fernando eSSS = +37m.12s. ; S is given as ePPP.
Ottawa e = +36m.49s.?
Mount Wilson iZ = +18m.38s. = PP +10s.
Pasadena iZ = +18m.43s. = PP +15s.
Tucson eSS = +34m.43s.
Florissant iPPSN = +29m.55s.
La Paz iPZ = +20m.13s.
Long waves at Honolulu, Riverview, Wellington, Sitka, Seattle, Columbia, Charlottesville, Chicago, Ann Arbor, Oak Ridge, Ukiah, Philadelphia, San Juan, Huancayo, Rio de Janeiro, Bergen, Durban, Stonyhurst, Laibach, Cape Town, Tortosa, Barcelona, and Malaga.

April 26d. Readings also at 0h. (Christchurch), 2h. (near Nagoya and Sumoto), 5h. (Mount Wilson, Pasadena, Sverdlovsk, Tashkent, Manila, and near Mizusawa), 6h. (near Bagnères and Triest), 8h. (Christchurch), 10h. (near Hukuoka B), 11h. (Chiufeng, Phu-Lien, and Nanking), 12h. (Sumoto and Phu-Lien), 14h. (Malaga, Toledo, and near Granada), 16h. (Lick and near Fresno), 22h. (Amboina, Manila, Samarkand, and near Apia), 23h. (Christchurch).

April 27d. 1h. 33m. 28s. Epicentre 28°·7N. 103°·2E. (as on 26d. 23h.). R.1.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Phu-Lien	E.	8·5	157	e 1 55	− 5	—	—	—	5·1
Hong Kong		11·8	120	4 27	S	(4 27)	−31	6·2	7·0
Nanking		13·9	72	3 12	− 2	5 51	+ 2	6·6	9·0
Chiufeng		15·6	40	e 3 33	− 3	e 6·39	SS	—	9·0
Tainan		16·3	106	3 51	+ 6	—	—	—	—
Taito		17·2	106	4 1	+ 4	—	—	—	—
Zinsen		21·4	60	e 5 9	PP	e 8 52	SS	e 11·2	—
Keizyo		21·7	61	—	—	i 8 43	+ 3	e 11·6	—
Manila		21·7	127	i 4 47	− 1	9 2	SS	—	—
Agra	E.	22·3	271	i 4 54	0	i 8 59	+ 7	—	—
Taikyu		22·6	65	4 55	− 2	9 3	+ 6	—	—
Husan		22·8	67	4 55	− 4	9 3	+ 2	12·4	—
Unsendake		23·5	73	5 12	+ 7	—	—	—	—
Hukuoka B		23·7	72	e 5 10	+ 3	e 9 1	−17	—	—
Kumamoto		23·9	72	5 8	− 1	—	—	—	—
Miyazaki		24·5	77	5 13	− 2	9 36	+ 4	—	—
Medan		25·4	191	5 30	+ 6	—	—	i 14·8	—
Matuyama		25·7	71	5 23	− 3	9 54	+ 1	—	—
Koti		26·3	72	5 30	− 2	10 16	+13	—	—
Frunse		27·0	309	e 5 37	− 1	—	—	—	—
Vladivostok		27·1	51	e 6 20	PP	—	—	14·3	16·9
Kobe		27·7	70	e 5 45	+ 1	e 10 32	+ 5	—	18·4
Andijan		27·9	303	e 5 51	+ 5	—	—	—	—
Osaka		28·0	70	5 42	− 5	—	—	—	—
Gihu		29·1	68	5 55	− 2	11 0	+10	—	—
Nagoya		29·2	69	e 5 59	+ 1	(e 11 2)	+11	e 11·0	—
Wazima		29·4	63	5 51	− 9	—	—	—	—
Nagano		30·3	65	6 17	+ 9	11 30	+21	—	—
Oiwake		30·6	66	6 14	+ 4	—	—	—	—
Samarkand		31·6	299	6 26	+ 7	—	—	—	—
Batavia		35·1	173	i 6 47	− 3	e 12 23	0	e 18·4	—
Sverdlovsk		40·9	325	i 7 40	0	13 54	+ 4	20·5	—
Tiflis		48·5	301	e 8 43	+ 3	e 15 52	+12	e 26·5	—
Theodosia		55·0	307	e 9 30	+ 1	—	—	—	—
Simferopol		55·9	307	e 9 38	+ 3	—	—	—	—
Yalta		55·9	307	e 9 36	+ 1	—	—	—	—
Sebastopol		56·3	307	e 9 38	0	—	—	—	—
Ksara		56·8	292	i 9 45a	+ 3	17 55	PS	—	—
Pulkovo		57·0	325	i 9 43	0	e 17 47	PS	28·5	34·0
Upsala	E.	63·3	326	e 10 27	0	—	—	—	—
Copenhagen		67·0	323	i 10 52a	0	—	—	34·5	—
Vienna		67·0	314	e 10 53	+ 1	—	—	—	—
Zagreb		68·0	311	e 10 59	+ 1	e 20 4	+ 7	—	—
Triest		69·6	312	i 11 8a	0	20 24	+ 8	—	43·5
Stuttgart		71·3	316	e 11 19	0	e 19 32	−65	e 41·5	—
Chur		71·8	315	e 11 21	− 1	—	—	—	—
Strasbourg		72·2	316	e 11 32?	+ 8	—	—	e 36·5	—
Zurich		72·2	315	e 11 24	0	—	—	—	—
De Bilt		72·3	321	11 25	0	—	—	e 37·5	40·5
Basle		72·8	315	e 11 26	− 2	—	—	—	—
Uccle		73·3	319	e 11 30	− 1	—	—	e 38·5	—
Neuchatel		73·4	315	e 11 30	− 1	—	—	—	—

For Notes see next page.

NOTES TO APRIL 27d. 1h. 33m. 28s.

Additional readings :—
Phu-Lien $P_gE = +2m.34s.$, $S_gE = +4m.22s.$
Hong Kong S? = +5m.38s., ? = +5m.53s. = S* +4s.
Agra SSE = +9m.53s.
Kobe eN = +11m.7s.
Sverdlovsk e = +7m.45s.
Tiflis ePP = +10m.41s.
Ksara $P_cP = +10m.44s.$, PP = +11m.57s., SS = +22m.2s.
Long waves were also recorded at Calcutta and Hamburg.

April 27d. 3h. 36m. 55s. Epicentre 28°·7N. 103°·2E. (as at 1h.). R.3.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Phu-Lien		8·5	157	e 2 13	+13	4 29	S_g	—	—
Nanking		13·9	72	3 15	+ 1	—	—	7·1	7·9
Chiufeng		15·6	40	e 3 37	+ 1	e 6 45	+16	7·9	9·8
Manila		21·7	127	4 27	−21	8 47	+ 7	—	—
Agra	E.	22·3	271	4 56	+ 2	e 9 4	+12	—	—
Husan		22·8	67	e 4 57	− 2	9 5	+ 4	12·8	—
Hukuoka B		23·7	72	e 9 37	S	(e 9 37)	+19	—	—
Medan		25·4	191	e 3 3	?	—	—	—	—
Frunse		27·0	309	e 5 56	+18	—	—	—	—
Vladivostok		27·1	51	—	—	e 12 5	+108	14·1	15·7
Bombay		29·4	257	—	—	e 11 5?	+10	—	—
Samarkand		31·6	299	e 6 23	+ 4	—	—	—	—
Batavia		35·1	173	5 47	−63	e 12 24	+ 1	e 19·6	—
Sverdlovsk		40·9	325	i 7 37	− 3	—	—	—	—
Ksara		56·8	292	i 9 47	+ 5	e 18 20	PS	—	37·1
Pulkovo		57·0	325	—	—	e 17 42	+ 6	29·1	33·2
Scoresby Sund		73·5	343	—	—	17 5?	?	—	—

Additional readings :—
Hukuoka B eS? = +13m.29s.
Long waves were also recorded at Calcutta, Hong Kong, Taikyu, Baku, Tiflis, and some European stations.

April 27d. 5h. 42m. 37s. Epicentre 28°·7N. 103°·2E. (as at 3h.). X.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Phu-Lien		8·5	157	e 2 23	P*	—	—	—	—
Nanking		13·9	72	e 3 24	+10	—	—	7·1	8·7
Calcutta	E.	14·7	248	—	—	1 5 20	−48	—	10·5
Chiufeng		15·6	40	e 3 33	− 3	e 6 38	+ 9	e 8·1	8·9
Manila		21·7	127	8 34	S	(8 34)	− 6	—	—
Agra	E.	22·3	271	e 4 59	+ 5	8 59	+ 7	—	—
Vladivostok		27·1	51	—	—	e 11 26	SS	13·9	15·8
Bombay		29·4	257	e 8 23?	?	—	—	e 16·4	—
Sverdlovsk		40·9	325	e 7 38	− 2	—	—	21·4	—

Additional readings :—
Phu-Lien $S_g = +5m.5s.$
Manila S = +12m.45s.
Long waves were also recorded at Hukuoka B, Hong Kong, Baku, Pulkovo, Copenhagen, De Bilt, Uccle, and Strasbourg.

April 27d. 6h. 31m. 11s. Epicentre 17°·2N. 86°·3W. (as on 1933 June 10d.). R.2.

$A = +·0616$, $B = -·9533$, $C = +·2957$; $\delta = +1$;
$D = -·998$, $E = -·065$; $G = +·019$, $H = -·295$, $K = -·955$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Merida	N.	4·9	321	1 22	P*	—	—	—	—
Oaxaca	N.	10·0	271	2 1	−20	—	—	—	—
Balboa Heights	N.	10·5	141	2 25	− 3	—	—	—	—
Tacubaya	N.	12·5	282	2 40	−15	—	—	—	—
Columbia		17·4	14	e 4 1	+ 2	e 7 27	+16	e 9·4	—
Little Rock		18·4	344	e 4 7	− 4	e 7 21	−12	i 8·4	—
San Juan		19·2	86	e 4 23	+ 2	e 7 49	− 1	e 9·2	—
St. Louis		21·7	351	e 4 47	− 1	e 8 49	+ 9	i 11·8	17·6
Florissant		21·9	350	i 4 49	− 1	i 8 51	+ 7	i 10·6	17·4
Charlottesville		21·9	17	e 4 53	+ 3	e 9 3	SS	e 11·6	—
Georgetown		23·1	18	i 5 11	+ 9	i 9 31	+24	—	—
Chicago		24·6	356	—	—	e 9 34	0	e 15·7	—
Pennsylvania		24·7	16	e 5 17	0	e 10 0	+24	—	15·5
Philadelphia		24·7	22	i 5 21	+ 4	i 9 52	+16	i 14·0	—
Ann Arbor	E.	25·2	5	e 5 43	+21	e 10 7	+23	e 14·7	—
Fordham		26·0	22	e 5 30	+ 1	e 10 8	+10	—	—
Madison		26·0	355	i 5 34	+ 5	e 10 20	+22	—	16·4
Buffalo		26·5	14	i 5 34	0	e 10 18	+11	e 13·2	—
Tucson		26·8	309	e 5 34	− 2	e 10 8	− 4	e 13·3	—
Toronto		27·1	12	e 5 22	−17	e 10 22	+ 5	13·4	—
Oak Ridge		28·3	23	—	—	e 10 49	+12	e 14·8	—
Ottawa		29·5	15	—	—	e 11 5	+ 9	e 15·3	—
Huancayo		31·2	159	e 6 8	− 8	—	—	e 14·0	—
Mount Wilson	Z.	33·0	308	e 6 33	+ 1	—	—	—	—
Pasadena		33·1	308	e 6 29	− 4	—	—	e 17·1	—
Tinemaha		34·4	312	e 6 41	− 3	—	—	—	—
Berkeley		37·6	311	i 7 5	− 7	e 12 58	− 2	—	—
La Paz		38·2	151	e 7 35	+18	—	—	18·1	22·2
Ukiah		38·8	312	e 9 1	PP	e 13 19	+ 1	—	—
Victoria		43·3	325	e 14 34	S	(e 14 34)	+ 9	e 28·4	—
Sitka		54·0	330	—	—	e 16 59	+ 3	e 30·8	—
Rio de Janeiro		58·2	132	—	—	e 19 29	?	e 29·3	—
Scoresby Sund		65·4	19	10 43	+ 2	19 43	+18	28·8	—
Uccle		77·2	41	—	—	e 21 57	+12	e 32·8	—
De Bilt		77·4	39	—	—	e 21 49?	+ 2	e 35·8	44·3
Copenhagen		80·7	35	—	—	22 25	+ 2	40·8	—
Pulkovo		87·7	28	e 12 48	+ 2	i 23 31	− 3	46·8	52·6
Sverdlovsk		101·0	18	—	—	e 24 30	[− 1]	45·8	54·5
Ksara		105·0	48	e 18 31	PP	e 27 57	PS	49·8	—
Tashkent		117·3	20	—	—	e 30 1	PS	e 56·0	67·1

Additional readings :—
Little Rock ePE = +4m.10s., ipPN = +4m.18s. = PP − 2s., iPPN = +4m.31s., isPN = +4m.45s., iN = +5m.15s. and +5m.27s., isSEN = +7m.45s. = SS − 2s., iSSEN = +8m.3s.
San Juan iS = +8m.8s. = SS + 1s.
St. Louis epPE = +4m.59s., iPPE = +5m.5s., isPN = +5m.12s., isSE = +9m.11s., isSN = +9m.14s., iSSN = +9m.29s.
Florissant ipPNZ = +5m.1s., iPPNZ = +5m.6s., isPNZ = +5m.15s., isSEZ = +9m.12s., iSS − 2s., iSSEN = +9m.33s., iZ = +9m.45s., iS_cSZ = +16m.14s.
Chicago e = +10m.39s. and +11m.24s.
Pennsylvania e = +6m.6s. and +6m.14s.
Philadelphia iPP = +5m.34s., e = +11m.13s. and +12m.26s.
Ann Arbor eE = +7m.49s., iE = +12m.7s.
Buffalo e = +9m.1s. = P_cP + 2s.
Oak Ridge eN = +11m.49s. = SS + 0s.
Huancayo e = +7m.49s., eP_cP = +9m.3s., e = +9m.49s.
Berkeley eSN = +13m.8s.
La Paz PZ = +8m.53s.
Rio de Janeiro eN = +19m.49s. = S_cS + 10s.
Scoresby Sund +23m.49s. = SS + 17s.
Uccle eE = +27m.46s.
Copenhagen +27m.49s.
Sverdlovsk e = +27m.12s. = PS + 14s.
Tashkent e = +31m.31s. and +43m.13s.
Long waves were also recorded at College, Bozeman, Ithaca, Ivigtut, Edinburgh, Kew, Paris, Cheb, Strasbourg, Stuttgart, San Fernando, Cape Town, and Chiufeng.

April 27d. 12h. 51m. 14s. Epicentre 36°·2N. 141°·0E. N.1.
(epicentre given by Japanese stations).

$A = -·6271$, $B = +·5078$, $C = +·5906$; $\delta = -8$;
$D = +·629$, $E = +·777$; $G = -·459$, $H = +·372$, $K = -·807$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Mito		0·4	293	0 6a	0	0 13	+ 3	—	—
Tyosi		0·5	193	0 5a	− 2	0 13	0	—	—
Kakioka		0·7	273	0 7a	− 3	0 17	− 1	—	—
Onahama		0·7	354	0 20	+10	0 37	+19	—	—
Tukubasan		0·7	271	0 9a	− 1	0 19	+ 1	—	—
Tokyo		1·1	243	0 15k	− 1	0 32	S*	—	0·6
Katuura		1·2	208	0 18	+ 1	0 34	S*	—	—
Komaha		1·2	243	0 15	− 2	0 31	0	—	—
Kiyosumi		1·3	220	0 18	0	0 36	+ 3	—	—
Kumagaya		1·3	268	0 17a	− 1	0 35	+ 2	—	—
Mitaka		1·3	246	0 18	0	0 37	+ 4	—	—
Yokohama		1·4	235	0 20a	0	0 38	+ 2	—	—
Kamakura		1·5	233	0 24	P*	0 44	S*	—	—
Maebasi		1·5	277	0 20a	− 1	0 43	S*	—	—
Hukusima		1·6	345	0 19a	− 4	0 36	− 5	—	—
Mera		1·6	216	0 23	0	0 48	S_g	—	—
Oiwake		1·9	274	0 28	0	0 55	+ 6	—	—
Hunatu		2·0	249	0 29	0	1 1	S_g	—	—
Ito		2·0	231	0 31	P*	0 54	+ 3	—	—
Misima		2·0	237	0 30	+ 1	1 2	S_g	—	—
Numadu		2·0	238	0 33	P_g	—	—	—	—
Kohu		2·1	254	0 28	− 2	—	—	—	—
Yamagata		2·1	346	0 25	− 5	0 49	− 5	—	—
Isinomaki		2·2	6	0 26	− 5	0 49	− 8	—	—
Nagano		2·3	282	0 33	0	1 2	+ 3	—	—
Niigata		2·3	318	0 38	P_g	1 11	S_g	—	—
Susaki		2·3	227	0 32	− 1	1 4?	S*	—	—
Takada		2·4	292	0 33	− 1	1 12	S_g	—	—
Matumoto		2·4	271	0 37	P*	1 3	+ 1	—	—
Iida		2·6	255	0 41	P*	—	—	—	—
Mizusawa		2·9	2	i 0 39	− 2	i 1 10	− 4	—	—
Takayama		3·0	269	0 44	+ 1	—	—	—	—
Toyama		3·1	279	0 47	+ 3	1 28	S*	—	—
Hatidyozima		3·3	198	0 49	+ 2	1 24	− 1	—	—
Nagoya		3·4	254	0 49	0	1 44	S*	—	1·9
Gihu		3·5	258	0 53	+ 3	1 34	+ 4	—	—
Kanazawa		3·5	277	0 51	+ 1	1 37	+ 7	—	—
Miyako		3·5	13	0 52	+ 2	1 28	− 2	—	—
Morioka		3·5	1	0 44k	− 6	1 23	− 7	—	—
Wazima		3·5	291	0 53	+ 3	1 41	S*	—	—
Ibukisan		3·8	258	1 0	P*	1 42	+ 5	—	—
Kameyama		3·9	251	0 58	+ 2	1 56	S*	—	—
Hikone		4·0	257	0 58	+ 1	1 46	+ 4	—	—
Kyoto		4·4	256	1 17	P_g	—	—	—	—
Yagi		4·5	250	1 13	P*	—	—	—	—
Aomori		4·6	358	1 2	− 4	1 54	− 4	—	—
Miyadu		4·7	263	1 11	+ 4	—	—	—	—
Osaka		4·7	253	1 5	− 2	2 5	+ 5	—	—
Kobe	E.N.	5·0	254	e 1 13	+ 2	e 2 26	S*	—	2·8
	Z.	5·0	254	e 1 18	P*	2 28	S*	—	2·8
Toyooka		5·0	264	1 35	P_g	2 27	S*	—	3·1
Siomisaki		5·1	239	1 21	P*	2 44	S_g	—	—
Wakayama		5·2	250	1 6	− 8	2 16	+ 3	—	—
Sumoto		5·3	251	1 25	P*	2 36	S*	—	2·9
Hakodate		5·6	358	1 20	0	2 29	+ 6	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tokusima		5·6	250	1 22	+ 2	3 7	S_g	—	—
Urakawa		6·1	12	1 6	−21	2 16	−20	—	—
Obihiro		6·9	13	1 28	−10	2 47	− 9	—	—
Sapporo		6·9	2	1 32	− 6	3 0	+ 4	—	—
Matuyama		7·2	253	1 45	+ 3	4 11	S_g	—	—
Miyazaki		9·0	245	2 9	+ 2	5 1	S_g	—	—
Hukuoka B		9·1	257	2 15	+ 6	5 12	?	—	—
Titizima		9·2	174	2 5	− 5	—	—	—	—
Vladivostok		9·8	317	e 2 24	+ 6	—	—	4·8	—
Nanking		18·8	264	e 4 20	+ 4	—	—	e 10·4	12·8
Chiufeng	E.	19·9	289	—	—	e 6 8	?	—	—
Tashkent		54·5	299	—	—	—	—	28·5	—
Sverdlovsk		55·3	319	e 9 26	− 5	—	—	29·8	—
Tinemaha	z.	76·4	55	i 11 42	− 6	—	—	—	—
Mount Wilson	z.	78·2	56	i 12 0	+ 2	—	—	—	—
Pasadena	z.	78·2	56	i 12 0	+ 2	—	—	—	—

Additional readings :—
Kobe eSE = +2m.30s. = S* + 3s.
Toyooka SN = +2m.41s. = S_g + 2s.
Long waves were also recorded at Baku, and Copenhagen.

April 17d. Readings also at 0h. (La Paz, Basle, Chur, Zurich, Zagreb, Nanking (2), and Hong Kong), 1h. (Hong Kong, Chiufeng, Nanking, and Phu-Lien), 2h. (Bozeman and Jena), 3h. (Merida, Tacubaya, St. Louis, Tucson, Almeria, Almata, and Frunse), 4h. (Agra, Chiufeng (2), Hong Kong (2), Nanking (2), and near Phu-Lien (2)), 6h. (Amboina), 8h. (Bombay, Calcutta, and Agra), 10h. (Amboina and Tchimkent), 11h. (Nanking, Hong Kong, Phu-Lien, and Chiufeng), 14h. (Tiflis, Nagoya, near Kobe, Sumoto, and near Mizusawa), 16h. (Almata, Frunse, Samarkand, and near Andijan), 17h. (Tchimkent), 22h. (La Paz and Tiflis).

April 28d. 5h. 39m. 2s. Epicentre 9°·5S. 160°·8E. (as oh 1935 Dec. 15d.). R.2.

A = −·9314, B = +·3244, C = −·1650 ; δ = −3 ;
D = +·329, E = +·944 ; G = +·156, H = −·054, K = −·986.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Riverview		25·9	199	e 5 30	+ 2	i 9 54	− 3	e 12·0	14·7
Sydney		25·9	199	e 5 10	−18	i 10 8	+11	14·0	16·7
Arapuni		31·6	158	—	—	11 46	+17	16·0	—
Melbourne		31·7	205	—	—	i 11 22	− 9	14·1	17·6
Adelaide		32·5	216	e 6 23	− 4	i 11 23	−20	15·1	18·4
Wellington		34·1	163	6 47	+ 6	12 9	+ 1	16·0	25·0
Christchurch		35·6	166	i 6 55	+ 1	i 12 33	+ 3	e 17·1	19·8
Manila		46·3	301	8 21a	− 2	14 34	−35	20·5	—
Perth		47·2	235	—	—	e 15 58	+37	i 24·4	26·0
Kobe		50·4	333	e 14 25	?	—	—	—	27·2
Honolulu		51·0	53	—	—	e 16 36	+21	23·2	—
Batavia	z.	53·5	270	e 9 10	− 8	—	—	—	—
Hong Kong		55·7	307	9 34	0	17 5	−14	—	29·5
Nanking		57·8	317	9 48	− 1	17 38	− 9	e 27·4	30·4
Vladivostok		58·8	336	e 9 54	− 2	e 17 58	− 2	24·4	35·0
Phu-Lien		61·3	300	—	—	(17 58?)	−35	18·0	—
Chiufeng	E.	64·5	324	10 31k	− 4	i 19 10	− 4	32·1	36·5
	N.	64·5	324	10 33k	− 2	19 1	−13	32·1	34·2
Calcutta	E.	77·8	296	e 12 0	+ 3	i 21 39	−13	—	—
Colombo		82·2	278	12 14	− 5	22 34	− 5	—	—
College		83·6	20	—	—	e 22 47	− 6	—	—
Sitka		84·3	29	e 12 23	− 7	e 23 3	+ 2	e 35·0	—
Kodaikanal	E.	85·3	282	e 9 58?	?	—	—	—	—
Ukiah		85·3	50	—	—	e 22 10	−61	—	—
Hyderabad		85·7	288	—	—	22 56	[− 8]	—	59·9

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Santa Barbara		86·8	55	e 12 52	+10	—	—	—	—
Victoria	E.	87·9	40	e 23 15	S	(e 23 15)	[− 5]	e 42·0	50·8
Agra	E.	88·0	298	e 12 47	− 1	23 7	[−13]	—	—
Pasadena		88·0	55	i 12 49a	+ 1	e 23 51	+14	e 42·1	—
Mount Wilson	Z.	88·1	55	i 12 50a	+ 2	—	—	—	—
La Jolla		88·5	57	e 12 54	+ 4	—	—	—	—
Tinemaha		88·6	53	e 12 52	+ 1	—	—	—	—
Bombay		91·2	289	i 13 3	0	i 23 32	[− 8]	—	—
Tucson		93·7	58	e 13 24	+10	e 24 29	− 1	e 40·5	—
Andijan		95·0	311	e 13 11	− 9	e 24 27	{+12}	—	—
Tashkent		97·4	312	e 18 10	?	i 24 7	[− 6]	—	53·4
Sverdlovsk		103·5	327	14 33	+33	25 34	{+15}	43·0	60·4
Florissant		110·6	51	e 18 53	[+33]	e 26 26	{+15}	e 54·6	58·0
Baku		112·0	310	19 14	PP	—	—	57·0	71·2
Chicago		112·4	47	—	—	e 28 58?	PS	e 58·0	—
Tiflis		115·6	312	e 18 44	[+10]	e 25 39	[+ 3]	57·8	62·0
Pulkovo		117·7	334	19 59	PP	26 52	{− 9}	54·0	64·8
Scoresby Sund		119·0	2	—	—	29 58	PS	51·0	—
Ottawa		120·0	41	—	—	e 25 58?	[+ 8]	e 50·0	—
Huancayo		120·2	109	—	—	e 30 26	PS	e 67·0	—
Philadelphia		122·0	48	—	—	e 25 59	[+ 3]	66·3	—
Cape Town		123·8	217	—	—	e 37 58	SS	53·0	66·6
Ksara		124·1	304	e 19 1	[+ 6]	—	—	—	—
La Paz		125·0	117	e 30 58	PS	—	—	61·0	—
Copenhagen		127·6	337	21 28	PP	38 16	SS	57·0	—
Cheb		131·7	333	e 21 58?	PP	—	—	—	72·0
De Bilt		133·0	339	e 22 28	PKS	—	—	e 61·0	76·9
Stuttgart		134·1	334	e 19 28	[+15]	—	—	e 66·0	—
Triest		134·1	328	e 19 54	[+41]	—	—	—	68·1
Uccle		134·4	339	e 22 52	PKS	e 39 29	SS	e 61·0	—
Strasbourg		134·9	335	(e 19 58?)	[+43]	—	—	e 20·0	—
Kew		135·3	343	—	—	e 33 51	?	e 64·0	—
Paris		136·7	340	e 21 58?	PP	—	—	73·0	83·0
San Fernando		150·6	338	e 27 11	?	e 30 36	{+10}	78·0	—

Additional readings :—
Riverview iN = +10m.4s., iE = +10m.21s.
Melbourne i = +13m.31s.
Adelaide i = +6m.44s., ePPP = +7m,34s., iSS = +12m.18s., i = +13m.4s. and +13m.58s.
Wellington PP = +7m.48s., SS = +13m.58s.?
Christchurch SS = +14m.49s., SSS = +15m.17s., iS_cSE = +17m.16s.
Honolulu eSS = +19m.31s.
Hong Kong S_cS? = +19m.11s.
Chiufeng P_cPZ = +11m.9s., iEN = +20m.26s. = S_cS +1s., SSE = +23m.7s., iN = +26m.23s., iE = +26m.34s.
Agra iN = +23m.20s. = SKS +0s.
Tucson e = +23m.44s., = SKS −10s., ePS = +25m.48s., eSS = +30m.48s., e = +34m.46s.
Tashkent i = +24m.48s. = S −16s., PS = +26m.28s., e = +31m.10s. = SS −15s.
Sverdlovsk PKP = +18m.8s. = PP −1s., PP = +18m.42s., PS = +27m.56s., SSS = +37m.58s.
Florissant eE = +25m.22s., = SKS = +6s., eSE = +28m.53s., eSZ = +28m.58s., = SKKS −13s., iSPZ = +30m.10s., iSPE = +30m.13s., eE = +34m.9s., eSSE = +41m.18s.
Baku PS = +28m.49s., SSS = +39m.34s.
Tiflis ePP = +19m.35s., ePS = +29m.23s., eSS = +35m.17s.
Pulkovo PS = +29m.28s., SSS = +40m.4s.
Scoresby Sund +36m.22s. = SS +3s.
Huancayo e = +56m.47s.
Philadelphia eSKKS = +27m.37s., ePS = +30m.31s., eSS = +35m.3s., e = +37m.45s., +52m.58s., and +57m.45s.
Cape Town eN = +38m.6s.
Ksara PP = +20m.37s., PS = +30m.43s., PPS = +32m.1s., SS = +37m.31s.
Stuttgart ePP = +22m.46s. = PKS −4s.
Triest iPSKS = +22m.46s. = PKS −4s., i = +23m.18s.
Kew eEN = +40m.4s.
San Fernando ePPS = +40m.17s., eSS = +46m.35s.
Long waves were also recorded at Apia, Columbia, Oak Ridge, Moscow, Upsala, Edinburgh, and Hamburg.

April 28d. 13h. 35m. 54s. Epicentre 6°·8S. 129°·3E. **N.1.**

$A = -\cdot6289$, $B = +\cdot7684$, $C = -\cdot1184$; $\delta = -3$;
$D = +\cdot774$, $E = +\cdot633$; $G = +\cdot075$, $H = -\cdot092$, $K = -\cdot993$.

A depth of focus 0·030 has been assumed.

		Corr. for Focus	Δ	Az.	P.	O–C.	S.	O–C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		+0·4	3·3	341	i 0 46	− 7	i 1 30	− 5	—	—
Palau		−0·8	15·0	20	2 19	−59	—	—	—	—
Malabar		−1·3	21·5	267	i 4 29	− 3	8 6	− 4	—	—
Batavia		−1·4	22·3	271	i 4 33k	− 6	—	—	—	—
Manila		−1·5	22·9	339	i 4 43k	− 1	i 8 33	− 1	—	—
Perth		−1·9	28·1	205	6 6	PP	10 46	SS	13·1	—
Adelaide		−2·0	29·4	164	i 5 42	0	i 10 20	− 2	—	15·8
Kosyun		−2·0	30·0	345	5 45	− 2	—	—	—	—
Medan		−2·2	32·3	288	6 7	+ 1	—	—	i 16·2	—
Hong Kong		−2·2	32·7	334	6 59	PP	11 3	− 9	—	13·3
Riverview		−2·2	33·8	145	e 6 20	+ 1	i 12 7	+38	—	17·3
Sydney		−2·2	33·8	145	—	—	e 11 31	+ 2	18·1	19·3
Melbourne		−2·2	34·1	158	—	—	11 34	0	13·6	19·1
Phu-Lien		−2·3	35·5	321	e 6 31	− 3	e 11 48	− 6	—	—
Titizima		−2·3	36·1	21	6 40	+ 1	12 0	− 3	—	—
Miyazaki		−2·4	38·8	1	6 54	− 7	12 36	− 6	—	—
Nanking		−2·5	40·1	346	7 12	0	12 58	− 2	17·9	—
Hukuoka B		−2·5	40·4	1	e 7 45	+31	e 12 40	−25	—	—
Wakayama		−2·6	41·4	8	7 32	+10	—	—	—	—
Sumoto		−2·6	41·5	7	e 7 20	− 3	e 13 19	− 1	—	—
Kobe		−2·6	41·9	7	e 6 59	−27	e 13 26	0	—	—
Kyoto		−2·6	42·2	7	7 35	+ 6	—	—	—	—
Kameyama		−2·6	42·2	8	7 28	− 1	13 31	+ 1	—	—
Hikone		−2·6	42·6	7	7 37	+ 5	—	—	—	—
Nagoya		−2·6	42·6	9	e 7 32	0	(e 13 36)	0	e 13·6	—
Taikyu		−2·6	42·7	0	—	—	e 13 37	− 1	—	—
Gihu		−2·6	42·8	9	7 33	− 1	13 38	− 1	—	—
Tyosi		−2·7	43·9	14	7 47	+ 5	—	—	—	—
Oiwake		−2·7	44·0	12	7 42	− 1	13 52	− 4	—	—
Nagano		−2·7	44·3	11	7 44	− 1	14 0	0	—	—
Keizyo	E.	−2·7	44·4	358	—	—	e 14 5	+ 3	—	—
Zinsen		−2·7	44·4	356	e 7 37	− 9	14 2	0	—	—
Wazima		−2·7	44·8	10	7 48	− 1	—	—	—	—
Hukusima		−2·9	45·8	13	7 58	+ 2	14 23	+ 4	—	—
Mizusawa	E.	−2·9	47·2	13	e 8 10	+ 3	e 14 46	+ 6	—	—
	N.	−2·9	47·2	13	e 8 7	0	e 14 43	+ 3	—	—
Akita		−2·9	47·6	13	8 12	+ 2	—	—	—	—
Chiufeng		−3·0	48·4	347	i 8 17k	+ 1	i 14 47	− 9	22·2	27·2
Calcutta	E.	−3·0	49·6	309	8 29	+ 4	15 18	+ 5	—	—
Vladivostok		−3·1	50·0	2	i 8 30	+ 2	i 15 21	+ 4	21·0	34·5
Sapporo		−3·2	•51·1	12	8 38	+ 3	15 38	+ 7	—	—
Colombo		−3·2	51·2	284	8 34	− 2	15 34	+ 1	—	—
Christchurch		−3·3	52·7	141	(e 16 2)	S	(e 16 2)	+10	(21·8)	—
Kodaikanal	E.	−3·4	54·3	288	e 9 6?	+ 8	—	—	—	—
Hyderabad		−3·5	55·8	298	9 15	+ 6	16 32	− 1	24·7	34·9
Agra	E.	−3·6	60·1	308	i 9 39	0	17 29	− 1	—	—
Bombay		−3·6	61·3	298	i 9 48	0	i 17 47	+ 1	—	—
Almata		−3·7	68·9	323	e 10 39	− 1	19 25	+ 3	—	—
Frunse		−3·8	70·1	321	10 43	− 4	19 40	+ 4	—	—
Andijan		−3·8	70·5	319	e 10 48	− 2	i 19 44	+ 3	—	—
Samarkand		−3·8	73·8	316	e 11 15	+ 4	—	—	—	—
Sverdlovsk		−4·1	84·4	330	i 12 3	− 6	22 3	−16	—	41·7
Baku		−4·1	86·4	312	12 17	− 3	i 22 26	−14	41·1	—
Grozny		−4·2	90·0	314	12 35	− 2	22 43	−33	—	—
Tiflis		−4·2	90·4	312	i 12 34	− 5	i 22 46	−33	44·1	—
Erevan		−4·2	90·4	311	e 13 28	−11	—	—	—	—

Continued on next page.

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Sotchi		−4·3	94·4	314	e 16 41	PP	—	—	—	—
Ksara		−4·3	96·6	305	e 13 11	+ 3	i 25 35	PS	—	—
Moscow		−4·3	96·6	325	e 14 7	+59	e 23 17	[−52]	—	—
Theodosia		—	97·6	316	e 17 30	PP	—	—	—	—
Yalta		—	98·4	316	e 17 12	PP	e 23 29	[−49]	—	—
Simferopol		—	98·5	316	e 17 9	PP	e 23 32	[−46]	—	—
Sitka		—	98·6	33	—	—	e 23 36	[−43]	—	—
Pulkovo		—	100·4	330	e 16 46	PP	i 23 36	[−51]	49·1	54·9
Zagreb		—	111·0	314	e 18 49	PP	e 24 27	[−51]	—	—
Tinemaha	z.	—	111·9	51	e 18 10	[−14]	—	—	—	—
Pasadena		—	112·4	55	i 18 10	[−15]	—	—	—	—
Mount Wilson	z.	—	112·5	55	e 18 10	[−15]	—	—	—	—
Triest		—	112·6	317	e 18 51	PP	e 28 3	PS	—	—
Oak Ridge	z.	—	139·8	23	i 18 44	[−37]	—	—	—	—
La Paz	z.	—	151·0	143	e 19 50	[+ 7]	—	—	—	—

Additional readings :—
Perth PP = +6m.31s., PcP = +9m.31s.
Adelaide i = +11m.10s., +11m.41s., +12m.2s., +12m.39s., +13m.20s., and +15m.19s. ; supposed second shock for which iP = +6m.25s. and iS = +11m.21s.
Riverview eZ = +6m.58s., eEN = +7m.8s., eE = +12m.10s., iE = +14m.1s.
Melbourne SS = +12m.36s.
Wakayama i = +8m.54s. =PP +7s.
Sumoto eE = +8m.6s., eN = +8m.48s., eE = +9m.4s.
Kobe eN = +7m.24s., eZ = +8m.4s., eE = +13m.45s.
Zinsen ePPN = +8m.28s.
Chiufeng SSEN = +17m.49s.
Christchurch eEN = (+17m.8s.), eS = (+19m.38s.), PcP = (+20m.16s.), PcS = (+23m.54s.), ScS = (+28m.0s.) ; readings for this station are given for 14h.
Agra iN = +17m.34s.
Bombay iE = +12m.8s.
Baku e = +14m.7s., +16m.59s., and +23m.17s.
Tiflis iPS = +23m.13s., e = +30m.23s.
Ksara iPP = +16m.55s., ePPS = +26m.4s., eSS = +31m.4s.
Moscow +16m.59s.
Zagreb e = +18m.52s., eNE = +20m.51s.
Tinemaha eZ = +19m.46s.
Triest i = +18m.58s. =PP −18s.
Oak Ridge i = +22m.17s. =PP −3s.
Long waves at Wellington, Tashkent, Copenhagen, and De Bilt.

April 28d. 16h. 20m. 29s. Epicentre 7°·0N. 137°·0E. (as on 1932 Sept. 25d.). X.

A = −·7259, B = +·6769, C = +·1219 ; δ = −2 ;
D = +·682, E = +·731 ; G = −·089, H = +·083, K = −·993.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Manila	17·5	297	i 4 2	+ 2	8 25	L	(8·4)	—
Hong Kong	26·8	307	5 36	0	10 17	+ 5	—	17·2
Nanking	30·3	328	e 6 44	PP	e 11 10	+ 1	e 13·9	—
Vladivostok	36·4	355	7 1	0	e 12 47	+ 5	16·9	21·4
Chiufeng	38·0	334	e 7 13k	− 2	e 13 6	0	e 18·8	22·1
Tashkent	68·7	312	e 12 25	+82	i 21 5	+58	e 34·2	48·2
Samarkand	70·2	310	e 11 9	+ 3	—	—	—	—
Sverdlovsk	76·7	327	i 11 50	0	21 33	− 6	37·5	—
Tiflis	87·0	312	e 12 44	+ 1	e 23 0	[−13]	e 52·5	62·9
Ksara	95·2	304	e 13 46	+25	e 24 49	+ 5	—	61·8

Additional readings :—
Hong Kong PP = +6m.11s.
Nanking eSE = +11m.16s.
Chiufeng PP = +8m.46s., iSN = +13m.10s.
Tashkent e = +27m.43s.
Tiflis SKKS = +23m.27s. =S +0s.
Ksara e = +31m.52s.
Long waves were also recorded at Baku, Pulkovo, Copenhagen, Paris, Strasbourg, Stuttgart, and San Fernando.

April 28d. 18h. 27m. 28s. Epicentre 28°·7N. 103°·2E. (as on April 27d.). R.2.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Phu-Lien	N.	8·5	157	e 2 32	P*	4 24	S_g	—	—
Hong Kong		11·8	120	4 44	S	(4 44)	−14	6·8	7·0
Nanking		13·9	72	i 3 10	− 4	5 42	− 7	7·3	9·5
Calcutta	E.	14·7	248	e 3 29	+ 4	6 37	+29	7·8	12·5
Chiufeng		15·6	40	i 3 33k	− 3	e 6 32	+ 3	7·8	8·9
Tainan		16·3	106	—	—	7 2	+17	—	—
Taityu		16·3	102	6 46	S	(6 46)	+ 1	—	—
Karenko		17·2	102	—	—	6 10	−56	—	—
Kosyun		17·2	109	—	—	6 55	−11	—	—
Zinsen		21·4	60	—	—	e 8 31	− 3	e 11·6	—
Keizyo		21·7	61	e 4 41	− 7	e 8 42	+ 2	e 11·6	—
Manila		21·7	127	i 4 46a	− 2	8 46	+ 6	—	14·0
Agra		22·3	271	e 4 59	+ 5	i 9 5	+13	—	—
Husan		22·8	67	—	—	e 9 3	+ 2	14·3	—
Kumamoto		23·9	72	5 7	− 2	—	—	—	—
Miyazaki		24·5	77	5 11	− 4	9 23	− 9	—	—
Hyderabad		25·3	249	5 27	+ 4	9 52	+ 6	—	18·2
Medan		25·4	191	10 50	SSS	—	—	—	—
Almata		25·6	312	e 5 37	+12	—	—	—	—
Frunse		27·0	309	e 5 43	+ 5	—	—	—	—
Vladivostok		27·1	51	5 37	− 2	10 32	+15	13·4	16·8
Andijan		27·9	303	e 6 8	+22	—	—	e 13·7	—
Bombay		29·4	257	—	—	e 10 32?	−23	—	—
Tashkent		30·2	303	4 54	?	e 11 13	+ 6	16·3	19·3
Samarkand		31·6	299	e 6 22	+ 3	e 13 50	SS	—	—
Sverdlovsk		40·9	325	7 38	− 2	13 51	+ 1	19·5	—
Tiflis		48·5	301	e 8 43	+ 3	e 15 47	+ 7	e 22·0	—
Moscow		53·1	319	e 9 14	− 1	—	—	e 28·6	—
Ksara		56·8	292	i 9 45	+ 3	i 17 51	+17	—	—
Pulkovo		57·0	325	i 9 43	0	17 39	+ 3	29·5	34·6
Copenhagen		67·0	323	10 51	+ 1	—	—	38·5	—
Tananarive		71·8	236	—	—	e 20 26	−17	—	—

Additional readings :—
Hong Kong S? = +6m.4s., ? = +6m.11s.
Nanking SE = +6m.4s.
Calcutta SS = +7m.7s.
Chiufeng SNZ = +6m.40s. =SS +3s.
Agra SSE = +9m.59s.
Tashkent e = +6m.42s., +11m.37s., +11m.45s., and +21m.42s.
Ksara ePP = +11m.57s., eSS = +21m.55s.
Tananarive i = +20m.29s.
Long waves were also recorded at Hokoto, Taikyu, Baku, and De Bilt.

April 28d. 23h. 15m. 23s. Epicentre 36°·2N. 26°·6E. (as on 1933 May 15d.). R.2.

A = +·7215, B = +·3613, C = +·5906 ; δ = −9 ;
D = +·448, E = −·894 ; G = +·528, H = +·264, K = −·807.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Helwan		7·5	146	e 1 52	+ 6	i 3 15	+ 4	—	—
Ksara		8·0	104	e 1 52	− 1	i 3 21	− 3	—	—
Bucharest		8·3	357	e 3 12	S	(e 3 12)	−19	—	—
Sebastopol		9·9	30	e 2 44	+25	e 4 11	0	—	—
Yalta		10·1	32	e 2 19	− 3	e 4 8	− 8	—	—
Simferopol		10·5	30	e 2 26	− 2	e 4 16	−10	—	—
Capodimonte	N.	10·7	300	e 2 47	+16	e 4 47	+16	7·5	—
Zagreb		12·5	323	e 2 59	+ 4	e 5 6	− 9	—	6·2
Triest		13·5	319	i 3 11k	+ 2	i 5 47	+ 8	—	—
Florence		13·9	308	3 17	+ 3	—	—	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Vienna		14·2	331	3 25	+ 7	—	—	—	—
Tiflis		15·2	63	e 3 30	− 1	e 6 22	+ 2	8·1	—
Grozny		16·3	58	3 54	+ 9	—	—	—	—
Chur		16·6	315	e 3 50	+ 1	e 6 53	+ 1	—	—
Ravensburg		17·1	318	e 3 57	+ 2	—	—	—	—
Zurich		17·4	316	e 3 59	0	e 7 4	− 7	—	—
Stuttgart		17·9	320	e 4 5	0	—	—	—	—
Basle		18·0	315	e 4 4	− 3	—	—	—	—
Jena	z.	18·2	328	4 8	− 1	—	—	—	—
Strasbourg		18·5	318	i 4 11a	− 2	—	—	—	—
Baku		18·7	70	e 5 6	+51	—	—	e 8·1	—
Göttingen		19·3	328	i 4 19	− 3	—	—	—	—
Moscow		21·0	17	e 4 31	− 9	e 8 10	−16	—	—
Alicante		21·6	284	5 25	+39	—	—	—	—
Uccle	z.	21·6	320	e 4 43	− 3	—	—	—	—
Copenhagen		21·7	338	4 42	− 6	8 31	− 9	—	—
Pulkovo		23·7	5	i 4 59	− 8	i 8 59	−19	—	—
Sverdlovsk		30·7	36	e 6 35	+24	—	—	—	—

Additional readings :—
Bucharest SEN = +4m.49s., EN = +5m.13s.
Zagreb eNE = +3m.10s.
Triest iPP = +3m.15s., e = +5m.34s., i = +6m.20s.
Tiflis e = +3m.33s. =PP −2s., i = +6m.24s. =SS −3s.
Basle e = +4m.8s.
Strasbourg ePP = +4m.24s., ePPPP = +4m.33s., e = +5m.1s.
Moscow e = +5m.0s. =PP +4s. and +9m.12s.
Pulkovo i = +5m.27s. =PP −6s. and +9m.56s. =SS −2s.

April 28d. Readings also at 1h. (Agra, Tashkent, Samarkand, Sverdlovsk, Copenhagen, Hong Kong (2), Manila, Nanking (2), Phu-Lien (2), Vladivostok, Chiufeng (2), and near Nagoya), 2h. (Tashkent and Vladivostok), 3h. (Amboina, La Paz, near Huancayo, and near Granada), 4h. (Charlottesville), 5h. (Mizusawa), 7h. (near Batavia and Malabar), 8h. (Batavia and near Manila), 9h. (Ukiah, Huancayo, and La Paz), 10h. (Mount Wilson, Tinemaha, and Pasadena), 11h. (Mount Wilson, Pasadena, Santa Barbara, Tinemaha, Taikyu, and Tchimkent), 13h. (Nanking, Phu-Lien, near Santiago, and San Javier), 14h. (Pasadena, Tinemaha, and Hong Kong), 15h. (Andijan, Frunse, Tchimkent, Tashkent, and near Samarkand), 17h. (Besançon, Strasbourg, Ravensburg, Stuttgart, near Triest), 18h. (Granada, near Basle, Chur, and Zurich, near Keizyo, Zinsen, and near Santiago (2)), 19h. (Tacubaya and near San Javier), 20h. (near Amboina), 21h. (near Sumoto), 23h. (Grozny and Sverdlovsk).

April 29d. 8h. 14m. 10s. Epicentre 37°·5S. 156°·0E. N.3.

A = −·4908, B = +·2185, C = −·8434 ; δ = −5 ;
D = +·407, E = +·914 ; G = +·770, H = −·343, K = −·537.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Christchurch	17·4	44	i 3 57	− 2	e 7 5	− 6	i 8·8	10·4
Wellington	20·2	45	4 33	+ 1	8 0	−10	9·8	12·8
Melbourne	21·0	335	e 4 38?	− 2	i 8 47	SS	—	—
Arapuni	23·3	43	—	—	i 9 23	+13	10·8	—
Riverview	23·9	351	e 5 12	+ 3	i 9 43	+22	e 11·6	12·0
Sydney	23·9	351	e 5 40	PP	i 9 50	+29	11·4	14·0
Adelaide	25·4	325	i 5 28	+ 4	i 10 9	+21	12·4	18·2
Apia	50·0	44	(e 8 50?)	− 1	—	—	e 8·8	—
Manila	77·7	325	i 11 54a	− 2	20 36	−75	—	—
Vladivostok	102·6	343	e 13 10	−45	—	—	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
La Jolla	z.	115·6	68	e 14 9	−49	—	—	—	—
Pasadena	z.	116·2	67	e 14 12	−49	—	—	e 54·9	—
Mount Wilson	z.	116·3	67	i 14 10	−52	—	—	—	—
Tinemaha	z.	118·5	65	e 14 14	−58	—	—	—	—
Frunse		121·0	302	—	—	e 35 51	SS	—	—
Samarkand		122·1	294	e 33 48	?	—	—	—	—
Ksara		133·9	265	e 19 16	[+ 3]	—	—	—	—
Florissant		134·1	84	e 22 38	PKS	—	—	e 68·5	73·0
Tiflis		134·9	280	e 15 8	?	—	—	e 71·8	76·3
Sverdlovsk		137·2	307	e 19 18	[0]	—	—	55·8	—
Oak Ridge	z.	146·8	96	i 19 33	[− 4]	—	—	—	—
Moscow		147·2	293	i 19 39	[+ 2]	—	—	—	—
Pulkovo		152·4	298	e 19 49	[+ 4]	e 24 38	?	70·8	80·4

Additional readings :—
Christchurch iS = +7m.20s. =SS −2s., i = +7m.56s., iP$_c$PN = +8m.35s., iN = +8m.51s., iP$_c$SN = +12m.18s., iS$_c$SN = +15m.46s.
Melbourne e = +9m.52s., i = +11m.40s.
Riverview iN = +10m.0s. =SS −3s., SS?E = +10m.27s.
Samarkand e = +34m.19s.
Ksara ePP = +21m.40s. =PP −3s., eSKP = +22m.40s., ePPS = +33m.54s.
Florissant eN = +48m.9s., eEZ = +50m.10s.
Tiflis PKP = +19m.19s., ePPP = +22m.50s. =PKS −3s.
Sverdlovsk i = +22m.6s., PP +2s., e = +22m.53s. =PKS −7s.
Long waves were also recorded at Cape Town, La Paz, Baku, Scoresby Sund, and other European stations.

April 29d. 16h. 46m. 59s. Epicentre 33°·5N. 143°·0E. (as on 1927 Oct. 28d.). X.

A = −·6660, B = +·5018, C = +·5519 ; δ = −5 ;
D = +·602, E = +·799 ; G = −·441, H = +·332, K = −·834.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Nagoya		5·3	290	e 1 15	0	2 30	S*	—	—
Mizusawa		5·8	346	e 1 39	P*	e 2 37	+ 9	—	—
Kobe		6·6	283	e 1 33	− 1	e 3 16	S*	—	6·3
	z.	6·6	283	e 1 29	− 5	e 3 57	+69	—	6·4
Sumoto		6·8	279	1 26	−11	3 55	+62	—	6·0
Toyooka		7·0	290	1 47	+ 8	3 10	+11	3·8	5·3
Vladivostok		12·9	321	3 1	0	—	—	—	12·9
Keizyo		13·6	292	e 3 5	− 5	—	—	e 8·4	—
Nanking		20·4	273	e 4 21	−13	8 21	+ 7	e 11·0	13·4
Chiufeng		22·4	296	e 5 3	PP	e 8 47	− 6	—	12·1
Manila		27·5	232	5 16	−27	10 16	− 8	—	16·6
Tashkent		57·3	302	—	—	i 19 29	(− 4)	e 27·2	35·3
Baku		71·2	308	e 11 18	0	e 20 36	+ 1	36·0	47·8
Pulkovo		71·7	331	e 11 18	− 3	e 20 38	− 3	38·0	—
Tiflis		73·8	310	e 11 33	0	e 21 1	− 5	e 39·0	47·5
Copenhagen		81·3	335	—	—	29 37	?	46·0	—
Ksara		84·1	309	i 12 29	0	e 23 30	PS	—	—

Additional readings :—
Mizusawa eSN = +2m.42s.
Kobe eN = +2m.37s.
Toyooka ePE = +1m.56s., P* −1s., PN = +2m.3s.
Vladivostok e = +3m.59s. and +7m.27s.
Chiufeng eN = +5m.27s., iN = +9m.10s.
Ksara ePP = +15m.35s.
Long waves were also recorded at Hong Kong, Husan, Zinsen, Stuttgart, Strasbourg, De Bilt, and Paris.

April 29d. 19h. 16m. 4s. Epicentre 44°·3N. 128°·1W. N.3.
(See Shock below on April 30d. 10h.).

$A = -·4416$, $B = -·5632$, $C = +·6984$; $\delta = -3$;
$D = -·787$, $E = +·617$; $G = -·431$, $H = -·549$, $K = -·716$.

		△ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Tinemaha		10·4	131	e 2 27	+ 1	—	—	—	—
Haiwee		11·2	133	e 2 39	+ 2	—	—	—	—
Mount Wilson	z.	12·7	139	e 2 56	− 2	—	—	—	—
Pasadena		12·8	139	e 2 54	− 5	—	—	—	—
La Jolla	z.	14·2	140	e 3 14	− 4	—	—	—	—
Tucson		18·0	126	e 4 9	+ 2	e 7 40	SS	e 9·4	—
Florissant		28·5	87	e 5 54	+ 2	e 10 55	+15	e 16·0	17·8

Long waves were also recorded at Bozeman, Sitka, Seattle, and Ukiah.

April 29d. Readings also at 3h. (Christchurch and Wellington), 4h. (Perth and Cheb), 5h. (Santiago), 10h. (Andijan, Nanking, and near Samarkand), 11h. (Tiflis and Erevan), 12h. (near Almata), 17h. (Medan), 18h. (Hong Kong, Calcutta, and Philadelphia), 19h. (Medan), 20h. (Amboina, Chiufeng, Hong Kong, Manila, and Tiflis).

April 30d. 10h. 55m. 46s. Epicentre 44°·3N. 128°·1W. (as on April 29d.). R.3.

$A = -·4416$, $B = -·5632$, $C = +·6984$; $\delta = -3$;
$D = -·787$, $E = +·617$; $G = -·431$, $H = -·549$, $K = -·716$.

		△ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Ferndale		4·7	141	e 1 16	P*	e 2 14	S*	—	—
Seattle		5·2	47	e 1 13	− 1	e 2 35	S*	e 3·0	—
Victoria		5·3	37	i 1 16	+ 1	i 2 26	+11	i 3·0	6·0
Ukiah		6·3	143	e 1 18	−12	e 2 49	+ 8	—	—
Berkeley		7·8	143	e 1 44	− 7	—	—	e 4·6	—
San Francisco	N.	7·8	145	e 2 6	P*	—	—	e 6·0	—
Lick		8·5	143	e 1 57	− 3	—	—	e 5·2	—
Fresno	N.	9·8	138	i 2 17	− 1	—	—	e 6·2	—
Tinemaha	z.	10·4	131	e 2 29	+ 3	—	—	—	—
Haiwee		11·2	133	e 2 38	+ 1	—	—	—	—
Bozeman		12·1	77	e 2 50	0	—	—	e 4·8	—
Mount Wilson	z.	12·7	139	i 2 55	− 3	—	—	—	—
Pasadena		12·8	139	i 2 56	− 3	i 5 54	S*	—	—
Sitka		13·6	343	i 3 8	− 2	e 5 54	SS	e 7·2	—
La Jolla		14·2	140	e 3 17	− 1	—	—	—	—
Tucson		18·0	126	4 9	+ 2	7 41	SS	e 9·4	—
College		23·3	339	—	—	e 8 14	−56	e 11·2	—
Madison		27·8	79	i 5 50	+ 5	e 10 42	+14	e 16·2	18·2
Florissant		28·5	87	e 5 53	+ 1	i 10 50	+10	e 14·8	17·9
St. Louis		28·7	88	i 5 56	+ 3	e 11 0	+17	e 17·4	17·8
Chicago		29·4	80	—	—	e 10 56	+ 1	e 16·7	—
Ann Arbor		32·0	79	e 9 50	?	e 11 38	+ 3	e 20·0	21·3
Ottawa		36·5	69	e 8 6	PP	12 50	+ 6	e 16·2	—
Philadelphia		38·8	77	e 8 41	PP	e 13 18	0	e 16·3	—
Oak Ridge		40·3	72	i 7 27	− 8	e 13 56	+15	e 22·2	—
Sverdlovsk		78·6	355	e 11 54	− 6	e 21 56	− 4	30·2	—

Additional readings:—
Ferndale eN = +1m.20s. = P* + 3s., eE = +3m.30s. and +5m.20s., eN = +6m.34s.
Berkeley eE = +3m.47s. = S* − 3s.
Florissant ePPN = +6m.39s., iN = +11m.21s., eSEN = +11m.48s.
St. Louis ipPE = +6m.6s., isSE = +11m.13s.
Ann Arbor e?E = +12m.2s., eN = +14m.20s. and +17m.8s. = S_cS +13s.
Ottawa PP = +8m.32s.
Oak Ridge i = +9m.16s. = PP +13s.
Long waves were also recorded at Columbia, Ithaca, Honolulu, Ksara, Baku, Tashkent, and several European stations.

April 30d. 16h. 6m. 2s. Epicentre 39°·4N. 69°·3E. X.
(as on 1934 Nov. 7d. and near the position 39°·3N. 69°·4E. given by the stations of Central Asia).

A = +·2731, B = +·7228, C = +·6347 ; δ = −·13 ;
D = +·935, E = −·353 ; G = +·224, H = +·594, K = −·773.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s	m. s.	s.	m.	m.
Samarkand	1·8	278	0 26	0	0 55	S*	—	1·3
Tashkent	1·9	0	i 1 29	+61	—	—	i 2·0	2·4
Andijan	2·6	62	e 1 19	S*	1 58	?	—	2·5
Frunse	5·3	46	e 1 16	+ 1	i 2 23	+ 8	—	3·0
Almata	6·9	53	—	—	e 2 54	− 2	—	—
Grozny	18·1	290	e 5 4	+56	—	—	e 12·1	—
Sverdlovsk	18·3	345	e 5 10	+60	—	—	12·4	12·5

Additional readings :—
Samarkand PP = +31s. = P_g +1s.
Andijan iP_g = +1m.27s. = S_g +7s., e = +1m.43s., PS = +1m.50s., S_g = +2m.2s.
Almata eS = +4m.21s.
Sverdlovsk e = +8m.58s. and +10m.50s.

April 30d. 17h. 6m. 19s. Epicentre 31°·5S. 65°·0W. N.3.

A = +·3603, B = −·7728, C = −·5225 ; δ = +4 ;
D = −·906, E = −·423 ; G = −·221, H = +·474, K = −·853.

A depth of focus 0·030 has been assumed.

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Santiago		0·0	5·2	247	1 16	+ 2	2 11	− 2	—	—
La Plata		−0·1	6·8	122	1 40	+ 5	3 5	+14	3·4	—
San Javier		−0·2	7·0	232	1 41	+ 4	2 57	+ 4	—	—
La Paz		−0·8	15·2	348	i 3 21	0	i 6 8	+ 7	—	8·3
Huancayo		−1·3	21·6	332	i 4 28	− 5	i 9 16	+64	12·0	—
San Juan		−3·1	49·8	359	—	—	e 15 1	−13	—	—
Oak Ridge	N.	−3·9	74·2	355	e 11 13	0	—	—	—	—
Tucson		−3·9	77·1	321	(e 11 32)	+ 2	—	—	e 11·5	—
La Jolla	z.	−4·0	81·1	317	e 11 52	− 1	—	—	—	—
Mount Wilson	z.	−4·1	82·5	318	e 11 58	− 1	—	—	—	—
Pasadena	z.	−4·1	82·6	318	i 11 58k	− 2	—	—	—	—
Santa Barbara	z.	−4·1	83·6	317	e 12 6	+ 1	—	—	—	—
Haiwee		−4·1	83·9	319	e 12 6	− 1	—	—	—	—
Tinemaha	z.	−4·1	84·7	319	e 12 11	0	—	—	—	—
Sverdlovsk		—	135·2	39	e 18 59	[−16]	—	—	38·7	—
Andijan		—	144·8	63	e 19 16	[−17]	—	—	—	—
Frunse		—	146·2	59	e 18 47	[−49]	—	—	—	—

Additional readings :—
La Paz iE = +6m.24s.
Mount Wilson iZ = +12m.44s. and +13m.5s.
Pasadena iZ = +12m.44s. and +13m.4s.
Tinemaha eZ = +12m.54s.
Sverdlovsk i = +22m.11s., e = +28m.9s.

April 30d. Readings also at 0h. (near Tananarive), 6h. (Batavia, Frunse, Samarkand, Tashkent, and near Andijan), 7h. (Ferndale and Nagoya), 13h. (Zagreb), 14h. (near Amboina), 17h. (Baku and Ksara), 20h. (near Branner), 21h. (Haiwee, Mount Wilson, Pasadena, and Tinemaha), 22h. (Tiflis), 23h. (Christchurch).

May 1d. 6h. 15m. 35s. Epicentre 36°·0N. 139°·9E. X.
(given by Tokyo and as on 1935 June 8d.)

A = −·6188, B = +·5211, C = +·5878; δ = −3;
D = +·644, E = +·765; G = −·450, H = +·379, K = −·809.

	Δ	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Tukubasan	0·3	37	0 6	+ 2	0 15	+ 7
Komaba	0·4	207	0 7	+ 1	0 16	+ 6
Mitaka	0·4	220	0 7	+ 1	0 17	+ 7
Tokyo	0·4	207	0 5	− 1	0 14	+ 4
Kamakura	0·7	203	0 8	− 2	0 19	+ 1
Kiyosumi	0·9	167	0 5	− 8	0 18	− 5
Nagoya	2·5	250	e 0 41	P*	0 57	− 7

May 1d. Readings also at 0h. (Apia, Arapuni, Wellington, Adelaide, Melbourne, Riverview, Sydney, Chiufeng, Grozny, Tiflis, Ksara, Sverdlovsk, Pulkovo, Tucson, Ukiah, and Huancayo), 1h. (De Bilt, Paris, Stuttgart, Granada, and near La Paz), 4h. (near Bucharest), 6h. (near Andijan (2), Frunse (2), Samarkand, and near Taihoku), 7h. (Erevan and near Tiflis (2)), 9h. (near Tiflis), 10h. (Mount Wilson (2), Pasadena, near Berkeley, Branner, and Lick), 11h. (Huancayo, Ksara, and Christchurch), 12h. (Irkutsk, Honolulu, Phu-Lien, Nanking, Chiufeng, and Sverdlovsk), 14h. (Grozny, Erevan, and near Tiflis), 15h. (Mount Wilson, Samarkand, Erevan, Tashkent, Sverdlovsk, and Tinemaha), 16h. (Mount Wilson, Tinemaha, Pasadena, and Apia), 17h. (Huancayo, Tashkent, Ksara, Sverdlovsk, Tucson, and Haiwee), 18h. (Copenhagen, Pulkovo, Tiflis, and Paris).

May 2d. Readings at 2h. (Rio de Janeiro), 4h. (near Samarkand), 5h. (Nagoya and near Sumoto), 7h. (Bombay, Calcutta, Samarkand, Tashkent, and Sverdlovsk), 8h. (San Juan), 11h. (Sverdlovsk and Wellington), 12h. (Florissant), 13h. (near Wellington), 14h. (Manila), 15h. (Granada, Manila, and near Wellington), 16h. (Wellington), 17h. (Nagoya), 20h. (Sverdlovsk and Frunse), 21h. (San Juan, Chiufeng, Vladivostok, near Mizusawa, near Irkutsk, near Nanking, and near Taihoku), 22h. (near Sumoto, near Nagoya (2), near Batavia, and Malabar), 23h. (near Mizusawa and near Sumoto (2)).

May 3d. 11h. 25m. 50s. Epicentre 35°·8N. 4°·4W. (given by the stations). N.3.

A = +·8087, B = −·0622, C = +·5850; δ = +9;
D = −·077, E = −·997; G = +·583, H = −·045, K = −·813.

	Δ	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Malaga	0·9	359	0 13	0	—	—
Granada	1·5	25	e 0 30	P_g	i 0 54	S_g
San Fernando	1·6	295	e 0 17	− 6	i 0 40	− 1
Almeria	1·9	56	e 0 56	S_g	e 1 20	?
Alicante	4·1	48	—	—	2 32	?
Toledo	4·1	4	1 10	P*	—	—

San Fernando gives also $iP_g = +31$s.

May 3d. Readings also at 1h. (La Paz, La Plata, and near Toyooka), 2h. (La Plata, Sverdlovsk, Pulkovo, Ksara, Copenhagen, De Bilt, Stuttgart, and near Triest), 3h. (Baku, Sverdlovsk, De Bilt, Stuttgart, and Copenhagen), 4h. Pasadena), 6h. (near Fresno), 7h. (Almeria, Malaga, and near Granada), 9h. (near Mizusawa and near Wellington), 10h. (Grozny, Tashkent, Frunse, Samarkand, near Almata, Andijan, and near Fresno), 11h. (Padova), 12h. (Sebastopol), 14h. (near Fresno (2) and near Lick), 20h. (near Mizusawa), 22h. (near Capodimonte), 23h. (Andijan, Frunse, Tananarive, and Bozeman).

May 4d. 8h. 11m. 8s. Epicentre 42°·0N. 144°·4E. R.3.
(as on 1936 Mar. 10d. and near 42°·2N. 144°·4E. given by Nagoya).

A = −·6043, B = +·4326, C = +·6691 ; δ = +2 ;
D = +·582, E = +·813 ; G = −·544, H = +·389, K = −·743.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Mizusawa		3·8	223	0 55	+ 1	i 1 35	− 2	—	—
Nagoya		8·9	224	e 2 18	+12	3 59	+13	—	—
Chiufeng		21·3	276	e 4 40	− 3	e 8 33	+ 1	e 10·8	13·2
Nanking		22·6	253	e 4 54	− 3	e 9 29	SS	12·5	14·5
Irkutsk		28·7	305	e 5 53	0	e 10 35	− 8	15·9	18·5
Sverdlovsk		52·8	317	i 9 11	− 1	e 16 38	− 1	25·9	30·8
Tashkent		54·2	297	—	—	e 18 48	?	e 29·0	33·7
Pulkovo		64·8	329	—	—	e 27 45	?	36·9	41·2
Tiflis		69·3	308	e 11 6	0	e 20 33	PS	e 38·9	48·4
Tinemaha	z.	70·9	58	e 11 18	+ 2	—	—	—	—
Mount Wilson		72·8	60	e 11 25	− 3	—	—	—	—
Pasadena		72·8	60	e 11 27	− 1	—	—	—	—
Ksara		79·8	307	e 12 6	− 1	e 23 30	?	—	50·4

Tashkent gives also e = +19m.10s. = S_cS −2s. and +22m.16s. = SSS −2s.
Long waves were also recorded at Ann Arbor, Moscow, Baku, and other European stations.

May 4d. 22h. European shock :—

Marseilles eP_g = 7m.24s., iPP = 7m.34s., SS = 7m.59s.
Neuchatel iPN = 7m.35s., eS_g = 8m.12s.
Chur eP = 7m.41s., eS_g = 8m.21s.
Basle ePN = 7m.42s., eS_g = 8m.34s.
Zurich eP_g = 7m.49s., eS_g = 8m.30s.
Strasbourg eP = 8m.23s., e = 9m.6s., S_g = 9m.12s.
Ravensburg e = 8m.54s.
Stuttgart e = 8m.54s. and 9m.25s.
Granada eS = 11m.57s., eL = 12m.57s.

May 4d. Readings also at 0h. (near Wellington), 1h. (Granada (2), Malaga (2), and Toledo (2)), 4h. (Hong Kong, Chiufeng, Nanking, Phu-Lien (2), Irkutsk, Tashkent, Sverdlovsk, Copenhagen, and De Bilt), 5h. (Honolulu and near Algiers), 7h. (near Samarkand (2)), 9h. (near Sumoto), 10h. (Mount Wilson, Tinemaha, Basle (2), Neuchatel (2), and Zurich (2)), 11h. (Adelaide, Samarkand, and near Wellington), 12h. (Tiflis, Bagnères, Mount Wilson, Tinemaha (2), and Nanking), 14h. (Sumoto and Nanking), 15h. (Manila, Tashkent, and Sverdlovsk), 17h. (Medan and near Mizusawa), 18h. (Bombay, Calcutta, Andijan, Frunse, Irkutsk, Baku, Sverdlovsk, Tashkent, Chiufeng, Tiflis, Pulkovo, and Moscow), 19h. (De Bilt and Copenhagen), 20h. (Nanking, Phu-Lien, Bagnères), 22h. (Mount Wilson, Tucson, Riverside, Tinemaha, Alicante, Granada, Tortosa, Zurich, Basle, Neuchatel, Strasbourg, Stuttgart, Tiflis, Sverdlovsk, and Ksara), 23h. (Mount Wilson, Riverside, Pasadena, Chicago, Pulkovo, Baku, and Tashkent).

May 5d. 3h. Spanish earthquake :—

San Fernando eP = 11m.16s., iP_g = 11m.13s., iS_g = 11m.42s.
Malaga P_g = 11m.14s.
Granada eP_g = 11m.33s., S_g = 11m.53s.
Almeria eP_g = 11m.47s., eS_g = 12m.23s.
Toledo 12m.9s.
Alicante 13m.16s.

May 5d. 19h. 43m. 12s. Epicentre 4°·0S. 148°·5E. N.2.

$A = -\cdot8506$, $B = +\cdot5212$, $C = -\cdot0698$; $\delta = +4$;
$D = +\cdot522$, $E = +\cdot853$; $G = +\cdot059$, $H = -\cdot036$, $K = -\cdot998$.

		△ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Palau		18·0	309	4 10	+ 3	4 33	?	—	—
Riverview		29·9	175	e 7 17	?	e 11 19	+16	e 17·7	22·7
Sydney		29·9	175	i 12 48	SS	i 17 0	?	19·0	20·3
Adelaide		32·3	194	e 6 45	+20	i 11 53	+13	i 14·0	22·7
Manila		33·0	305	i 6 33	+ 1	11 55	+ 4	14·4	—
Melbourne		34·0	185	—	—	i 12 20	+14	17·3	26·2
Kobe		40·7	343	e 7 34	− 4	—	—	—	23·0
Hukuoka B		41·3	336	e 7 15	−28	e 14 5	+ 9	—	—
Perth		41·5	223	e 14 23	S	(e 14 23)	+24	22·8	32·8
Batavia		41·6	265	7 45	0	e 14 25	+25	—	—
Nagano		41·8	347	8 4	+17	—	—	—	—
Hong Kong		42·6	309	7 53	0	14 14	− 1	—	22·3
Husan		43·2	336	e 8 19	+21	e 14 20	− 4	—	—
Zi-ka-wei	Z.	43·6	325	e 8 0	− 2	—	—	21·0	22·6
Taikyu		44·0	336	e 9 54	PP	—	—	—	—
Christchurch		44·9	154	14 25	S	(14 25)	−24	e 21·7	23·8
Nanking		45·8	324	8 23	+ 4	15 11	+ 9	23·4	—
Keizyo		46·1	336	e 8 22	+ 1	e 15 8	+ 2	—	—
Zinsen	N.	46·2	335	e 8 20	− 2	e 14 58	− 9	—	—
Chiufeng		53·2	329	e 9 11	− 4	16 39	− 6	25·6	31·8
Calcutta	E.	64·4	297	e 12 32	PP	i 19 17	+ 5	—	—
Irkutsk		67·5	332	e 10 51	− 4	—	—	31·8	—
Bombay		77·8	290	e 11 48?	− 9	e 21 53	+ 1	—	—
Almata		79·5	315	e 12 33	+28	—	—	—	—
Frunse		81·1	314	e 12 1	−13	—	—	—	—
Tashkent		84·6	312	i 13 0	+29	i 22 58	[+ 2]	e 37·7	50·5
Samarkand		86·1	310	e 12 41	+ 2	—	—	—	—
Sverdlovsk		92·2	327	13 7	− 1	23 39	[− 7]	43·8	53·1
Pasadena	Z.	95·0	56	e 13 19	− 1	—	—	—	—
Mount Wilson	Z.	95·1	56	e 13 23	+ 2	—	—	—	—
Baku		99·1	310	17 40	PP	—	—	46·8	58·6
Tucson		101·1	58	—	—	27 0	PS	e 42·0	—
Tiflis		102·9	311	e 17 28	PKP	e 25 19	{+ 4}	e 49·8	—
Moscow		105·0	327	18 30	PP	—	—	e 49·5	59·8
Pulkovo		107·3	332	18 39	PP	25 2	[+ 1]	50·8	60·0
Ksara		111·0	304	e 15 26	?	—	—	—	—
Florissant		116·5	49	—	—	25 6	[−33]	e 44·1	63·1
Copenhagen		117·6	334	—	—	29 42	PS	58·8	—
Triest		122·7	323	—	—	e 35 22	SS	e 57·8	65·3
Stuttgart		123·4	329	—	—	e 32 48	?	e 63·8	71·8
Uccle		124·4	333	—	—	e 37 46	SS	e 61·8	—
Paris		126·7	332	—	—	e 30 48?	SKSP	62·8	74·8

Additional readings :—
Riverview eE = +15m.6s., eN = +16m.0s.
Adelaide i = +13m.33s. = SSS − 4s. and +16m.53s. = S_cS − 4s., iS_cS? = +17m.48s.
Melbourne i = +15m.2s.
Hong Kong P_cP = +9m.54s., SS = +17m.31s.
Husan ePP = +9m.50s. = P_cP − 2s., eSSSE = +17m.20s. = SS + 4s.
Christchurch S = +18m.42s. = SSS + 0s.
Nanking SS = +18m.29s. = S_cS + 12s.
Zinsen ePPPN = +10m.21s., eSSSN = +18m.28s. = S_cS + 8s.
Chiufeng eSZ = +16m.43s., iE = +17m.9s.
Irkutsk ePP = +13m.12s., PS = +19m.41s., eSS = +23m.54s.
Baku PS = +26m.9s., e = +29m.16s. and +33m.23s.
Tucson eSS = +32m.30s., eSSS = +36m.18s.
Tiflis ePS = +27m.11s., ePPS = +28m.29s., SS = +33m.16s.
Moscow PS = +26m.56s., e = +33m.14s., SS = +3s.
Pulkovo PS = +27m.22s., SS = +32m.24s.
Ksara ePP = +19m.54s., ePS = +29m.28s., eSS = +35m.44s.
Florissant eN = +31m.59s.
Copenhagen +36m.18s.
Long waves were also recorded at Apia, Honolulu, College, Chicago, San Juan, Huancayo, Ukiah, Cape Town, Scoresby Sund, and other European stations.

May 5d. Readings also at 0h. (Triest, Zagreb, and near Nagoya), 1h. (Baku, Grozny, Samarkand, Tashkent, and Tiflis), 3h. (Malaga and near San Fernando), 4h. (Malaga, Sverdlovsk, Tashkent, Irkutsk, Chiufeng, Nanking, and near Granada), 9h. (Helwan, Almeria, near Santiago, and San Javier), 11h. (Little Rock and Mount Wilson), 13h. (Nagoya and near Mizusawa), 16h. (Prague), 17h. (Belgrade, Bucharest, Padova, Florence, Triest, Zagreb, Mount Wilson, and Pasadena), 18h. (Balboa Heights, Huancayo, La Paz, Sverdlovsk, and Tashkent), 22h. (Triest).

May 6d. 3h. 39m. 3s. Epicentre 8°·3S. 74°·0W. (as on 1931 July 11d.). R.3.

$A = +\cdot2728$, $B = -\cdot9512$, $C = -\cdot1444$; $\delta = +5$;
$D = -\cdot961$, $E = -\cdot276$; $G = -\cdot040$, $H = +\cdot139$, $K = -\cdot990$.

Depth of focus 0·025.

		Corr. for Focus	Δ	Az.	P.	O–C.	S.	O–C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Huancayo		+0·1	4·0	199	i 0 53	− 5	i 1 19	−26	—	—
La Paz		−0·3	10·0	146	i 2 19k	+ 2	i 4 13	+ 7	4·8	5·4
Balboa Heights		−0·9	18·1	342	2 57?	−60	—	—	—	—
San Juan		−1·5	27·7	16	e 5 29	− 2	e 9 27	?	16·0	—
La Plata		−1·7	30·4	153	5 56	+ 3	10 46	+ 3	16·2	—
Rio de Janeiro		−1·9	32·9	119	i 11 9	S	(i 11 9)	−11	—	—
Florissant		−2·6	49·5	344	e 8 25	− 3	e 15 12	− 5	—	—
Oak Ridge		−2·6	50·9	3	e 8 37	− 1	e 16 57?	+80	—	—
Tucson		−2·8	53·6	321	e 9 0	+ 3	e 16 15	+ 3	e 21·4	—
La Jolla		−3·0	58·2	318	i 9 31	+ 1	—	—	—	—
Riverside	z.	−3·0	59·0	319	e 9 31	− 5	—	—	—	—
Mount Wilson		−3·0	59·5	319	i 9 39	0	—	—	—	—
Pasadena		−3·0	59·5	319	i 9 40	+ 1	—	—	—	—
Haiwee		−3·0	60·7	321	e 9 45	− 3	—	—	—	—
Tinemaha		−3·0	61·4	321	i 9 42	−11	—	—	—	—
Ivigtut		−3·2	72·4	13	—	—	20 9	− 2	—	—
Scoresby Sund		−3·4	86·1	15	—	—	22 33	−11	—	—
Copenhagen		—	94·9	34	—	—	23 22	[−38]	—	—
Pulkovo		—	104·4	30	—	—	e 24 7	[−38]	44·0	—
Ksara		—	111·1	57	e 18 51	PP	e 29 27	?	—	—
Tiflis		—	116·9	47	e 18 12	[−26]	e 25 4	[−36]	—	—
Tashkent		—	133·7	39	e 22 20	PKS	e 41 21	?	—	—

Additional readings :—
Florissant iPZ = +8m.27s., iSEN = +15m.15s., isSE = +16m.15s., iSSE = +17m.57s., iSSN = +18m.1s., iE = +19m.22s.
Tucson eSS = +19m.39s.
Riverside iNZ = +10m.8s.
Mount Wilson iZ = +10m.15s.
Pasadena iNZ = +10m.17s., iZ = +11m.8s.
Tinemaha iZ = +10m.22s.
Copenhagen +24m.32s. =S −9s.
Pulkovo e = +25m.16s. =SKKS −10s. and +26m.10s. =S +5s.

May 6d. Readings also at 0h. (Almeria, Malaga, Toledo, near Granada, and San Fernando), 1h. (Almeria, Malaga, near Granada, and San Fernando), 2h. (Rio de Janeiro, Andijan, Frunse, Granada, and Malaga), 3h. (Granada (2), Malaga, Almata, and near Manila), 6h. (Chiufeng, Nanking, Phu-Lien, Irkutsk, and Sverdlovsk), 7h. (San Javier and Tiflis), 8h. (Balboa Heights), 9h. (Granada and near San Fernando), 13h. (near Algiers), 14h. (La Paz, Mount Wilson (2), Pasadena, and Riverside (2)), 18h. (Andijan, Frunse, Tiflis, Samarkand, and Tashkent), 19h. (Bombay, Calcutta, Baku, Ksara, Moscow, Pulkovo, Sverdlovsk, Copenhagen, and Tacubaya (2)), 21h. (Sverdlovsk, Tashkent, and near Manila), 22h. (near Batavia and Malabar), 23h. (near Medan).

May 7d. 1h. 53m. 15s. Epicentre 36°·2N. 69°·5E. (as on 1933 May 21d.). X.

A = +·2826, B = +·7559, C = +·5906 ; δ = +6 ;
D = +·937, E = −·350 ; G = +·207, H = +·553, K = −·807.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	m.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Samarkand		3·9	331	0 58	+ 2	2 22	?	—	2·6
Andijan		5·1	25	e 1 15	+ 2	e 2 12	+ 2	—	3·1
Tashkent		5·1	358	i 1 15	+ 2	i 2 7	− 3	—	4·2
Tchimkent		6·1	2	—	—	i 2 35	− 1	—	—
Frunse		7·8	29	e 1 51	0	i 3 21	+ 2	—	5·0
Almata		9·0	38	2 13	+ 6	e 3 57	+ 8	—	—
Agra	E.	11·6	139	—	—	i 4 53	0	—	7·4
Baku		15·9	291	—	—	e 6 58	+22	e 12·0	—
Semipalatinsk		16·2	25	e 3 42	− 2	e 6 53	+10	—	—
Grozny		19·5	299	e 4 51	+27	—	—	—	—
Tiflis		19·9	294	e 3 52	−37	e 8 10	+ 6	15·0	17·6
Calcutta	E.	21·3	125	e 4 32	−11	—	—	—	13·7
Sverdlovsk		21·4	347	4 41	− 3	i 9 10	+36	13·4	13·8
Piatigorsk		21·6	299	e 4 13	−33	—	—	—	—
Ksara		27·5	273	e 6 2	+19	e 10 51	+27	—	19·2
Moscow		29·1	321	5 59	+ 2	11 23	+33	e 16·2	19·4
Pulkovo		34·4	325	e 8 9	PPP	e 12 13	+ 1	17·8	21·0
Königsberg		38·0	315	—	—	e 15 56	SS	e 22·3	25·2
Copenhagen		42·7	316	—	—	14 21	+ 5	21·8	—

Additional readings :—
Samarkand P_g = +1m.11s., i = +1m.28s., +1m.36s. = S −4s. and +2m.1s. = S_g −2s.
Tashkent e = +1m.25s. = P* +1s., i = +1m.53s., +1m.58s., and +2m.21s.
Frunse i = +3m.42s., iSS = +4m.3s.
Baku e = +11m.26s.
Tiflis e = +12m.6s.
Sverdlovsk L_q = +11·6m.
Long waves were also recorded at Chiufeng, Hyderabad, Irkutsk, Scoresby Sund and other European stations.

May 7d. 10h. 2m. 48s. Epicentre 19°·8N. 107°·0W. (as on 1933 April 9d.). X.

A = −·2751 ; B = −·8998, C = +·3387 ; δ = +4 ;
D = −·956, E = +·292 ; G = −·099, H = −·324, K = −·941.

		Δ	Az.	P.	O−C.	S.	O−C.	L.
		°	°	m. s.	s.	m. s.	s.	m.
Manzanillo	N.	2·6	106	0 42	+ 5	—	—	—
Guadalajara	N.	3·4	75	0 48	− 1	—	—	—
Mazatlan	N.	3·4	9	0 47	− 2	—	—	—
Tacubaya	N.	7·3	92	1 45	+ 1	—	—	—
Tucson		12·9	345	e 3 12	+11	6 42	S*	e 7·3
La Jolla		16·0	327	e 3 46	+ 5	—	—	—
Riverside		16·9	329	e 4 5	+12	—	—	—
Mount Wilson	Z.	17·4	328	i 4 11	+12	—	—	—
Pasadena		17·4	328	i 4 12	+13	—	—	e 11·2
Santa Barbara	Z.	18·5	325	i 4 26	+13	—	—	—
Tinemaha	N.	19·9	333	e 4 40	+11	—	—	—
Little Rock	N.	19·9	38	e 4 18	−11	e 9 59	SS	—
Florissant		23·8	34	e 5 6	− 2	i 9 19	0	e 12·0
St. Louis		23·8	34	e 5 6	− 2	e 9 15	− 4	e 12·1
Bozeman		26·1	353	—	—	e 10 18	+18	e 12·2

Additional readings :—
St. Louis eSE = +9m.22s.
Long waves were also recorded at Philadelphia, Scoresby Sund, Sverdlovsk, and Tashkent.

May 7d. 21h. 31m. 21s. Epicentre 44°·0N. 45°·0E. N.3.
(as given by Russian stations ; very rough).

$A = +·5087$, $B = +·5087$, $C = +·6947$; $\delta = +16$;
$D = +·707$, $E = -·707$; $G = +·491$, $H = +·491$, $K = -·719$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Grozny	0·9	142	0 11	− 2	0 26	+ 3	—	0·9
Piatigorsk	1·4	271	0 40	S*	1 9	?	—	1·5
Tiflis	2·3	184	i 0 24	− 9	i 0 33	P*	i 0·7	—
Erevan	3·8	186	—	—	e 2 15	?	—	—
Sotchi	3·8	264	—	—	e 2 33	?	—	—
Baku	5·1	133	e 1 15	+ 2	i 2 14	+ 4	3·0	—
Ksara	12·4	218	e 3 9	+15	—	—	e 7·0	8·3
Moscow	12·7	340	—	—	e 6 5	S*	e 7·1	10·0
Sverdlovsk	16·1	32	3 53	+10	6 50	+ 9	9·6	—
Pulkovo	18·1	336	e 4 54	+46	e 8 2	+35	10·6	12·0
Andijan	20·4	90	—	—	e 8 9	− 5	—	—
Copenhagen	23·8	311	—	—	10 39?	+80	16·6	—

Additional readings :—
Grozny i = +14s., +17s., +20s., iPP = +23s.
Piatigorsk e = +54s. and +1m.3s.
Erevan e = +2m.20s., +2m.45s., and +2m.55s.
Long waves were also recorded at Frunse and Nagoya.

May 7d. Readings also at 2h. (near Triest), 11h. (Lick and Fresno), 12h. (Tiflis), 13h. and 14h. (La Paz), 15h. (Grozny), 16h. (Alicante and Tiflis), 17h. (near Mizusawa), 18h. (2) and 21h. (Grozny), 22h. (Adelaide, Christchurch, Wellington, and Ksara), 23h. (Sverdlovsk, Tashkent, and San Juan).

May 8d. 9h. 11m. 40s. Epicentre 6°·0S. 113°·0E. R.1.
(as on 1930 July 19d. See Berlage : Provisional Catalogue of Deep Focus Earthquakes 1918-1936, where this epicentre and focal depth 600km. is given).

$A = -·3886$, $B = +·9155$, $C = -·1045$; $\delta = +7$;
$D = +·921$, $E = +·391$; $G = +·041$, $H = -·096$, $K = -·995$.

Depth of focus 0·080 is assumed.

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
			°	°	m. s.	s.	m. s.	s.	m.	m.
Malabar		+0·8	5·5	257	i 1 33	+ 3	i 2 49	+ 8	—	—
Batavia		+0·5	6·2	267	i 1 41	+ 6	i 2 58	+ 7	—	—
Medan		−2·7	17·3	304	2 34	−49	i 5 15	−50	—	—
Manila		−3·6	22·1	21	i 4 11a	− 2	i 6 47	−49	—	—
Palau		−4·2	25·2	58	5 9	+29	—	—	—	—
Perth		−4·3	26·1	175	4 45	− 4	i 8 20	−22	11·9	—
Phu-Lien		−4·5	27·6	347	4 20?	−42	—	—	—	—
Hong Kong		−4·6	28·4	2	5 5	− 3	9 10	− 9	—	—
Taito		−4·9	29·8	15	5 24	+ 5	—	—	—	—
Taityu		−5·0	31·1	14	5 30	0	—	—	—	—
Taihoku		−5·1	32·1	315	e 5 38	0	10 5	−10	—	—
Isigakizima		−5·1	32·2	20	5 38	− 1	—	—	—	—
Colombo		−5·4	35·5	90	5 24	−42	10 55	−11	14·4	—
Adelaide		−5·7	37·3	145	i 11 23	S	(i 11 23)	− 6	—	—
Calcutta		−5·7	37·3	321	e 8 9	PP	i 11 26	− 3	—	15·1
Nanking		−5·8	38·4	8	i 6 32	+ 4	i 11 40	− 5	—	—
Kodaikanal	E.	−5·9	38·9	295	e 6 32	0	—	—	—	—
Hyderabad		−6·1	41·4	305	e 8 37	?	12 24	− 2	15·4	19·6
Tomie		−6·1	41·4	21	6 40	−12	—	—	—	—
Miyazaki		−6·2	41·8	24	6 28	−26	—	—	—	—

Continued on next page.

		Corr. for Focus	Δ	Az.	P.	O–C.	S.	O–C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Nagasaki		−6·2	41·9	22	6 57	+ 2	12 30	− 2	—	—
Kumamoto		−6·2	42·3	23	6 59	0	12 37	− 1	—	—
Hukuoka B		−6·3	42·9	22	e 7 4	+ 1	12 45	0	—	—
Melbourne		−6·4	43·0	143	—	—	12 54	+ 9	—	—
Husan		−6·5	43·8	19	e 9 11	?	12 57	+ 1	—	—
Matuyama		−6·6	44·0	24	7 14	+ 4	13 2	+ 5	—	—
Koti		−6·6	44·1	25	7 3	− 8	—	—	—	—
Taikyū		−6·6	44·4	19	e 8 37	PP	e 13 8	+ 5	e 16·2	—
Riverview		−6·6	44·9	136	i 7 22k	+ 4	i 13 18	+ 7	—	—
Sydney		−6·6	44·9	136	e 9 38	(+ 2)	—	—	16·8	24·8
Siomisaki		−6·7	45·0	28	6 59	−19	—	—	—	—
Sumoto		−6·7	45·3	27	9 15	(−22)	13 20	+ 5	—	—
Zinsen		−6·7	45·3	15	e 8 8	+48	e 13 14	− 1	e 16·1	—
Wakayama		−6·7	45·4	27	7 23	+ 2	13 19	+ 2	—	—
Keizyo		−6·7	45·5	16	e 8 37	PP	e 13 22	+ 4	—	—
Kobe		−6·7	45·7	27	e 9 15	(−24)	e 13 21	0	—	—
Chiufeng		−6·8	46·1	4	i 7 28	+ 2	i 13 30	+ 4	—	—
Kameyama		−6·8	46·5	27	7 32	+ 3	13 35	+ 3	—	—
Bombay		−6·8	46·8	303	i 9 20	?	i 13 38	+ 2	—	—
Nagoya		−6·8	46·9	28	e 7 39	+ 6	(13 38)	0	13·6	—
Gihu		−6·9	47·0	27	7 36	+ 3	13 41	+ 3	—	—
Agra	E.	−6·9	47·4	317	i 9 19	PP	i 13 38	− 6	—	—
Misima		−6·9	47·8	29	7 42	+ 2	13 52	+ 2	—	—
Kohu		−7·0	48·1	28	7 42	+ 1	14 9	+16	—	—
Oiwake		−7·0	48·6	27	7 48	+ 3	14 2	+ 2	—	—
Nagano		−7·0	48·7	27	7 49	+ 3	14 5	+ 3	—	—
Kakioka		−7·1	49·3	29	7 50	0	14 9	0	—	—
Mito		−7·1	49·6	29	8 0	+ 7	14 5	− 8	—	—
Hukusima		−7·2	50·7	28	8 2	+ 1	14 32	+ 4	—	—
Vladivostok		−7·4	52·0	19	e 8 12	+ 2	i 14 52	+ 8	—	—
Mizusawa		−7·4	52·1	28	e 8 13	+ 3	i 14 46	0	—	—
Irkutsk		−7·8	58·8	354	8 57	− 2	16 15	0	20·3	24·1
Almata		−7·9	59·1	331	9 2	+ 2	e 16 22	+ 4	—	—
Andijan		−7·9	59·8	325	9 5	− 1	i 16 28	+ 1	—	—
Frunse		−7·9	60·0	329	e 9 7	0	i 16 33	+ 3	—	—
Tashkent		−8·0	61·9	325	i 8 38	−43	i 16 54	0	—	40·1
Samarkand		−8·0	62·3	322	9 22	− 1	—	—	—	—
Tchimkent		−8·0	62·3	326	e 9 16	− 7	16 59	0	—	—
Semipalatinsk		−8·0	63·1	338	e 9 28	− 2	—	—	—	—
Christchurch		−8·1	64·1	136	i 9 33a	− 3	i 17 25	+ 2	—	—
Baku		−8·7	74·1	316	e 10 34	− 7	i 19 14	−11	e 30·3	—
Sverdlovsk		−8·8	75·8	334	i 10 42	−10	i 19 34	−11	—	—
Grozny		−9·1	78·0	317	10 58	− 6	i 19 48	−20	—	—
Tiflis		−9·1	78·1	316	10 55	−10	i 19 59	−10	e 38·3	—
Piatigorsk		−9·2	80·1	317	10 38	−38	19 52	−40	—	—
Sotchi		−9·2	82·2	316	e 11 19	−10	—	—	—	—
Ksara		−9·3	82·8	305	i 11 20k	−12	20 34	−29	—	—
Theodosia		−9·4	85·6	317	e 11 33	−14	21 0	−34	—	—
Helwan		−9·4	85·8	301	i 11 34	−14	i 21 3	−33	—	—
Yalta		−9·4	86·3	316	e 11 34	−17	i 21 3	−39	—	—
Simferopol		−9·4	86·5	316	i 13 48	?	21 6	−38	—	—
Sebastopol		−9·5	86·8	316	e 11 35	−19	21 6	−40	—	—
Moscow		−9·5	86·9	327	i 11 38	−16	21 24	−23	—	26·2
Cape Town		−9·6	90·4	236	—	—	21 32	−52	—	—
Pulkovo		−9·6	91·6	330	i 12 0	−18	23 19	[−23]	35·3	45·9
Upsala	E.	−9·9	97·9	330	—	—	i 22 5	[−131]	—	—
Zagreb		−9·9	99·2	316	e 14 44	?	e 22 16	[−126]	—	—
Triest		−9·9	100·7	316	e 16 57	PP	i 24 57	PS	—	—
Copenhagen		−9·9	101·0	326	22 26	?	25 2	PS	—	—
Cheb		−9·9	101·4	320	e 22 27	?	—	—	—	—
Stuttgart		−9·9	103·6	319	e 15 3	?	e 25 28	?	—	—
Bergen		−9·9	103·9	331	e 12 20?	−56	24 30	{−52}	—	—
Strasbourg		—	104·5	319	18 20?	PP	e 22 20?	?	e 28·3	—
De Bilt		—	105·7	323	e 22 48	PPPP	e 25 52	PS	—	—
Uccle		—	106·4	322	i 22 50	PPPP	e 25 58	PS	—	—

Continued on next page.

		Corr. for Focus	Δ	Az.	P.		O−C.	S.		O−C.	L.	M.
		°	°	°	m.	s.	s.	m.	s.	s.	m.	m.
Paris		—	107·9	319	e 22	57	PPPP	e 26	12	PS	65·3	—
Kew		—	109·1	323	—		—	i 26	5	PS	e 53·7	—
Edinburgh		—	109·4	327	e 23	4	?	e 26	26	PS	—	—
Scoresby Sund		—	109·5	346	20	0	?	23	58	[−73]	—	—
Oxford		—	109·6	323	e 22	56	PPPP	e 26	25	PS	—	—
Santa Barbara		—	123·8	52	i 17	48	[−67]	—		—	—	—
Tinemaha		—	124·0	49	i 17	50	[−65]	—		—	—	—
Haiwee		—	124·6	49	i 17	51	[−65]	—		—	—	—
Mount Wilson		—	125·1	52	i 17	52	[−65]	—		—	—	—
Pasadena		—	125·1	52	i 17	51	[−66]	—		—	—	—
Riverside		—	125·8	52	i 17	55	[−64]	—		—	—	—
La Jolla		—	126·2	53	i 17	56	[−63]	—		—	—	—
Florissant		—	141·0	30	i 18	17a	[−66]	i 27	23	{−127}	—	—
St. Louis		—	141·2	30	e 18	17	[−66]	e 27	23	{−128}	—	—
Little Rock		—	142·9	37	e 18	23	[−64]	—		—	—	—
Oak Ridge		—	143·3	5	i 18	24	[−64]	—		—	—	—
Philadelphia		—	145·3	10	i 18	30	[−65]	e 27	31	{−144}	e 39·7	—
La Paz	z.	—	157·4	177	i 18	48k	[−62]	—		—	—	—
Huancayo		—	160·1	155	i 18	50	[−64]	—		—	—	—
San Juan		—	167·6	356	e 18	50	[−72]	—		—	—	—

Additional readings :—
Perth ? = +2m.40s. and +5m.5s. = PP − 2s., P_cS = +6m.35s., SS = +10m.5s., SSS = +10m.30s., SSSS = +10m.55s.
Hong Kong ? = +6m.36s. and +7m.54s., SS? = +13m.15s.
Adelaide i = +11m.25s. and +11m.30s., e = +12m.7s., i = +13m.20s., +14m.40s. and +14m.53s., iS = +18m.21s., i = +18m.36s., and +19m.21s.
Nanking i = +8m.16s.
Melbourne i = +16m.20s., +19m.46s., and +20m.38s.
Riverview iN = +16m.10s., eE = +16m.43s., iN = +22m.39s. and +23m.23s.
Zinsen ePPPN = +9m.27s.
Kobe iSE = +13m.25s.
Chiufeng iNZ = +9m.18s., iSZ = +13m.37s.
Vladivostok e = +10m.55s., i = +12m.59s. and +17m.47s. = SS +4s.
Mizusawa eSN = +14m.50s.
Irkutsk e = +9m.30s., i = +10m.19s.
Andijan e = +9m.49s.
Tashkent PP = +10m.29s., PPPP = +12m.11s., e = +13m.20s., e = +20m.52s.
Samarkand e = +11m.20s. = PP +1s.
Christchurch ePPZ = +12m.7s.
Baku e = +12m.35s.
Sverdlovsk i = +12m.47s., e = +18m.23s., SS = +23m.14s.
Tiflis sP = +12m.59s., e = +13m.39s., ePP = +14m.13s., esS = +22m.32s.
Sotchi e = +13m.30s.
Ksara ipP = +13m.26s., esP = +14m.27s., ipPP = +16m.26s., PPP = +16m.40s., SKS = +20m.50s., iSS = +24m.14s., PKPPKP = +37m.55s.
Theodosia i = +13m.40s.
Helwan pP = +11m.50s., e = +13m.40s. and +15m.38s., sS = +21m.16s., i = +22m.15s.
Yalta i = +13m.44s.
Sebastopol i = +13m.46s.
Cape Town i = +22m.2s.
Pulkovo SP = +14m.9s., PPP = +17m.43s., i = +21m.34s., iSP = +22m.4s., SS? = +26m.0s., SSS? = +28m.35s.
Upsala iSE = +23m.0s.
Triest i = +22m.22s. and +25m.30s.
Stuttgart ePPZ = +19m.12s., ePPP = +22m.35s., eSKKSZ = +26m.30s.
Bergen SKS = +22m.40s., e = +30m.20s.?
Paris e = +27m.16s.
Kew eEZ = +27m.13s., eN = +31m.5s., iEN = +33m.26s.
Edinburgh e = +30m.32s.
Scoresby Sund +22m.57s., +26m.12s., +26m.30s., and +27m.51s.
Tinemaha iZ = +19m.13s., eZ = +19m.40s., iZ = +20m.8s.
Haiwee iZ = +19m.55s.
Mount Wilson eZ = +17m.38s.
Pasadena eZ = +17m.34s., iZ = +19m.20s., iPPEZ = +19m.59s., iZ = +20m.10s., +20m.18s. and +20m.31s., eZ = +31m.9s., iZ = +33m.36s.
Riverside eZ = +19m.50s.
Florissant iPPZ = +20m.39s., iSKPEN = +21m.59s., iSKSEN = +24m.17s., eSSEN = +38m.47s.
St. Louis eSKPEN = +22m.0s., ePPPEN = +24m.17s.
Little Rock iEN = +18m.30s., ePPN = +20m.49s., iSKPN = +22m.5s.
Oak Ridge i = +19m.53s. and +21m.33s.
Philadelphia ePP = +21m.51s., ePS = +30m.20s., e = +35m.45s.
La Paz iZ = +21m.40s. and +33m.50s.
Huancayo e = +15m.20s., +20m.31s., and +42m.34s.

May 8d. 15h. 24m. 27s. Epicentre 29°·0N. 103°·5E. N.2.

$A = -·2042$, $B = +·8505$, $C = +·4848$; $\delta = +8$;
$D = +·972$, $E = +·233$; $G = -·113$, $H = +·471$, $K = -·875$.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Phu-Lien	N.	8·7	160	1 57	− 6	4 26	S*	—	5·0
Hong Kong		11·7	122	4 36	S	(4 36)	−19	5·9	6·9
Nanking		13·5	73	3 7	− 2	6 3	+24	7·2	9·2
Calcutta	E.	15·0	248	3 28	0	6 37	+22	7·9	10·2
Chiufeng		15·1	40	e 3 30	0	6 37	+20	i 7·9	8·9
Taityu		16·1	103	—	—	6 54	+13	—	—
Arisan		16·4	105	4 4	+18	—	—	—	—
Taihoku		16·5	100	—	—	6 52	+ 2	—	—
Karenko		16·9	103	—	—	7 14	+15	—	—
Kosyun		17·0	110	4 3	PP	—	—	—	—
Taito		17·0	107	3 53	− 1	—	—	—	—
Zinsen		21·1	59	e 5 18	+37	e 8 35	+ 7	e 11·2	—
Keizyo		21·3	60	e 4 47	+ 4	e 8 42	+10	e 11·6	—
Manila		21·6	128	4 45	− 1	8 45	+ 7	—	—
Tomie		21·9	73	7 28	?	—	—	—	—
Taikyu		22·2	64	e 4 53	0	8 56	+ 6	11·8	—
Husan		22·4	67	e 4 56	+ 1	9 2	+ 9	13·8	—
Agra	E.	22·5	271	i 4 50	− 6	i 8 59	+ 4	—	—
Nagasaki		22·9	73	4 56	− 4	9 7	+ 4	—	—
Irkutsk		23·3	1	5 7	+ 3	9 23	+13	12·4	13·2
Hukuoka B		23·4	71	e 5 1	− 4	e 9 17	+ 5	e 14·1	—
Kumamoto		23·6	73	5 7	+ 1	—	—	—	—
Miyazaki		24·2	76	5 11	− 1	9 34	+ 7	—	—
Matuyama		25·3	69	5 23	0	9 56	+10	—	—
Almata		25·6	312	e 3 23	?	e 4 26	?	—	—
Hyderabad		25·7	248	5 33	+ 7	10 13	+20	13·6	17·8
Medan		25·8	192	e 5 33?	+ 6	—	—	—	—
Vladivostok		26·8	50	—	—	10 22	+10	14·4	16·4
Frunse		27·0	308	e 5 54	+16	e 10 56	+41	—	—
Sumoto		27·1	68	—	—	e 10 15	− 2	(15·0)	17·3
Wakayama		27·3	69	5 40	− 1	—	—	—	—
Kobe		27·4	68	—	—	e 10 35	+13	e 12·6	17·3
Semipalatinsk		27·7	328	6 37	PPP	—	—	—	—
Andijan		27·9	303	e 5 49	+ 3	e 12 8	?	—	—
Gihu		28·7	67	6 8	+15	—	—	—	—
Bombay		29·7	257	e 6 3	+ 1	e 11 1	+ 2	—	—
Tchimkent		30·3	305	e 6 53	PP	—	—	—	—
Tashkent		30·3	303	6 13	+ 5	i 11 13	+ 4	16·6	21·6
Urakawa		34·2	55	7 48	PP	—	—	—	—
Sverdlovsk		40·9	325	i 7 39	− 1	i 13 55	+ 5	19·6	—
Baku		44·8	300	e 8 15	+ 4	e 15 0	+13	24·6	—
Grozny		47·8	304	e 9 4	+29	—	—	28·0	—
Tiflis		48·6	302	e 8 42	+ 1	e 16 8	+27	e 27·2	—
Moscow		53·0	319	e 9 13	− 1	e 16 47	+ 5	—	33·0
Pulkovo		56·9	325	e 9 34	− 8	e 17 42	+ 7	29·6	34·8
Ksara		56·9	293	i 9 43	+ 1	e 17 52	+17	—	—
Copenhagen		67·0	322	10 51	− 1	19 50	+ 5	35·6	—
Zagreb		68·0	311	e 11 0	+ 2	e 19 57	0	—	—
Bergen		68·9	329	—	—	e 18 33	?	e 37·6	—
Triest		69·6	312	e 16 51	?	i 20 20	+ 4	—	—
Stuttgart		71·3	316	e 11 17	− 2	e 20 41	+ 4	e 37·6	—
Strasbourg		72·2	316	e 9 33?	?	—	—	e 37·6	—
De Bilt		72·3	320	e 11 26	+ 1	e 20 53	+ 5	e 37·6	45·5
Scoresby Sund		73·3	344	—	—	21 3	+ 3	41·6	—
Algiers		80·6	306	—	—	e 8 33?	?	16·6	—
Granada		84·8	310	e 11 53	−39	e 22 10	[−48]	—	—

For Notes see next page.

NOTES TO MAY 8d. 15h. 24m. 27s.

Additional readings :—
Phu-Lien P_g = +2m.33s. =P*.
Hong Kong S? = +5m.25s.
Nanking eN = +5m.55s.
Calcutta PPE = +3m.41s.
Chiufeng SZ = +6m.40s.
Agra SSE = +9m.54s.
Sumoto eN = +10m.28s. ; S is given as eE and L as SN.
Tiflis PP = +10m.39s., e = +25m.3s.
Ksara ePP = +11m.51s., eSS = +22m.3s.
Zagreb eNE = +11m.10s. = P_cP −15s.
Algiers e =15h.24m.
Long waves were also recorded at Toyooka and other European stations.

May 8d. 17h. 22m. 17s. Epicentre 61°·2N. 153°·0W. N.2.

A = −·4292, B = −·2187, C = +·8763 ; δ = −6 ;
D = −·454, E = +·891 ; G = −·781, H = −·398, K = −·482.

Depth of focus 0·0125 has been assumed.

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
College		0·0	4·4	30	e 1 4	+ 1	e 1 47	− 6	—	—
Sitka		−0·1	9·9	107	e 2 13	− 5	e 4 4	− 4	e 5·2	—
Tinemaha		−0·9	32·4	121	i 6 19	+ 1	—	—	—	—
Haiwee	z.	−0·9	33·3	121	e 6 27	+ 1	—	—	—	—
Santa Barbara		−1·0	34·1	125	i 6 34	+ 1	—	—	—	—
Mount Wilson	z.	−1·0	35·0	123	i 6 39	− 1	—	—	—	—
Pasadena		−1·0	35·5	123	i 6 39	− 6	—	—	—	—
Riverside	z.	−1·0	36·5	123	i 6 44	− 9	—	—	—	—
La Jolla	z.	−1·0	36·5	123	i 6 54	+ 1	—	—	—	—
Tucson		−1·0	39·7	116	e 7 47	+26	e 14 16	+59	e 17·7	—
Florissant		−1·1	43·8	91	i 7 54a	0	i 14 13	− 3	e 21·3	—
Scoresby Sund		−1·1	43·9	22	9 54	?	14 49	+31	—	—
St. Louis		−1·1	44·0	91	e 7 58	+ 2	i 14 17	− 2	e 21·9	—
Ivigtut		−1·1	44·9	42	—	—	17 43?	SS	—	—
Ottawa		−1·2	45·7	73	—	—	e 14 43	0	e 17·7	—
Little Rock		−1·2	46·1	96	e 8 16	+ 4	—	—	e 21·9	—
Oak Ridge		−1·2	49·8	73	e 8 42	+ 1	—	—	e 20·7	—
East Machias		−1·2	50·0	68	—	—	e 19 27	SS	e 24·1	—
Philadelphia		−1·3	50·2	77	—	—	e 15 42	− 3	23·8	—
Chiufeng		−1·4	56·1	293	—	—	e 17 7	+ 2	—	—
Pulkovo		−1·5	59·0	358	e 9 49	+ 2	e 17 48	+ 5	25·7	—
Sverdlovsk		−1·5	59·1	339	9 47	0	17 43	− 1	24·7	—
Copenhagen		−1·5	62·6	10	—	—	18 33	+ 3	—	—
Moscow		−1·5	62·8	353	10 16	+ 2	18 31	− 3	—	—
Göttingen		−1·6	66·4	13	10 37	0	—	—	—	—
Chur		−1·6	71·0	14	e 11 6	− 1	—	—	—	—
Tashkent		−1·6	71·9	328	—	—	e 20 19	− 6	—	44·5
Grozny		−1·7	74·4	346	11 30	+ 3	—	—	—	—
Tiflis		−1·7	76·1	347	e 11 32	− 5	e 21 11	− 2	37·7	39·5
Erevan		−1·7	77·6	347	e 13 18	?	—	—	—	—
Ksara		−1·7	84·7	353	e 12 22	− 1	—	—	—	—

Additional readings :—
Tinemaha iZ = +7m.24s. =PPP +0s.
Mount Wilson iZ = +7m.28s.
Pasadena iEZ = +7m.13s., iZ = +7m.35s.
Riverside iZ = +7m.18s.
La Jolla iZ = +7m.27s.
Florissant iSSE = +17m.36s.
Scoresby Sund +17m.55s.
St. Louis eSSEN = +17m.38s.
Philadelphia eSS = +19m.24s.
Sverdlovsk e = +13m.46s.
Copenhagen +19m.49s.
Tiflis e = +31m.13s.
Ksara epP = +13m.2s., ePP = +15m.46s., eSP = +23m.35s.
Long waves were also recorded at Baku.

May 8d. Readings also at 0h. (Grozny and La Paz), 1h. (Nanking, Chiufeng, Tashkent, Grozny, Tiflis (2), Baku, Ksara (2), Sverdlovsk, Pulkovo, Moscow, Copenhagen, Triest, Mount Wilson, Pasadena, and Tinemaha), 2h. (Andijan, Frunse, Tashkent, Agra, Bombay, Christchurch, and Wellington), 3h. (Kodaikanal and Sverdlovsk), 4h. (Mount Wilson, Pasadena, Riverside, and Tinemaha), 5h. (Christchurch, Wellington, Chatham Is., Riverview, and Little Rock), 6h. (near Hukuoka B), 7h. (Erevan, Tiflis, and near Taihoku), 8h. (Hong Kong), 9h. (Alicante and Granada), 10h. (Tiflis, near Grozny, Toledo, Malaga, near Granada, San Fernando, and near Sumoto), 11h. (Malaga, Toledo, and near Granada), 12h. (Almata, Andijan, Samarkand, Frunse, Tchimkent, Tashkent, and near Tiflis), 13h. (Sverdlovsk), 16h. (Tiflis), 19h. (near La Paz), 20h. (Chicago), 23h. (Triest).

May 9d. 7h. 43m. 45s. I
8h. 11m. 35s. II
11h. 3m. 36s. III
20h. 21m. 0s. IV
} Epicentre 40°·5N. 120°·5W. (as on 1932 June 6d.) X. X. X. X.

A = −·3859, B = −·6552, C = +·6494 ; δ = −7 ;
D = −·862, E = +·508 ; G = −·330, H = −·560, K = −·760.

		Δ	Az.	P.	O−C.	S.	O−C.
		°	°	m. s.	s.	m. s.	s.
I	Berkeley	3·0	207	e 0 41	− 2	e 1 12	− 5
II		3·0	207	e 0 40	− 3	e 1 12	− 5
III		3·0	207	e 0 43	0	e 1 15	− 2
IV		3·0	207	0 41	− 2	i 1 12	− 5
I	San Francisco N.	3·1	209	e 0 44	0	e 1 18	− 2
II	N.	3·1	209	e 0 54	P_g	e 1 28	S*
IV	N.	3·1	209	e 0 42	− 2	e 1 17	− 3
I	Lick N.	3·2	196	e 0 48	+ 2	e 1 30	S*
II		3·2	196	e 0 48	+ 2	e 1 28	+ 6
III		3·2	196	e 0 45	− 1	e 1 32	S*
IV		3·2	196	e 0 50	P*	e 1 29	+ 7
I	Branner	3·3	203	e 0 47	0	e 1 23	− 2
II		3·3	203	e 0 47	0	e 1 25	0
III		3·3	203	e 0 49	+ 2	e 1 26	+ 1
IV		3·3	203	e 0 49	+ 2	e 1 25	0
I	Fresno N.	3·8	171	e 0 56	+ 2	e 1 52	S*
II	N.	3·8	171	e 0 59	P*	e 2 0	S_g
III	N.	3·8	171	e 1 7	P_g	e 1 59	S_g
IV	N.	3·8	171	e 1 4	P*	e 1 47	S*

Additional readings :—
Berkeley IV eSZ = +1m.15s.
Lick III eN = +1m.18s.
Fresno II eN = +1m.47s.

May 9d. 10h. 24m. 34s. Epicentre 41°·5N. 45°·5E. N.3.

A = +·5250, B = +·5342, C = +·6626 ; δ = +3 ;
D = +·713, E = −·701 ; G = +·464, H = +·473, K = −·749.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Tiflis	0·6	292	i 0 8	− 1	—	—	i 0·3	—
Erevan	1·5	225	0 20	− 1	i 0 38	− 1	—	0·8
Grozny	1·8	6	0 41	S	1 13	+27	—	1·4
Piatigorsk	3·1	325	e 0 44	0	1 22	+ 2	—	—
Baku	3·5	107	—	—	e 2 52	?	e 3·9	—
Sotchi	4·7	298	e 1 10	+ 3	—	—	—	—
Ksara	10·8	228	—	—	e 5 26	S*	—	7·4
Sverdlovsk	18·1	27	e 5 9	+61	—	—	9·4	—

Additional readings :—
Grozny iP_g = +44s., i = +47s. = S +1s., +1m.0s., and +1m.3s.
Piatigorsk iP_g = +49s. = P* −1s., e = +1m.0s. = P_g +4s. and +1m.10s.

May 9d. Readings also at 1h. (Malaga), 2h. (Apia, Christchurch, and Mount Wilson), 5h. (Tucson, Arapuni, Christchurch, near New Plymouth (2), and Wellington), 6h. (Apia, New Plymouth, Wellington, Christchurch, Riverview, Sydney, Mount Wilson (2), Pasadena (2), Riverside, Tinemaha (2), Scoresby Sund, Copenhagen, Edinburgh, De Bilt, Stuttgart, and Uccle), 7h. (Adelaide, Honolulu, College, Sitka, Ukiah, Tiflis, Ksara, Scoresby Sund, Copenhagen, De Bilt, Uccle, Strasbourg, and Granada), 8h. (Paris, Stuttgart, and San Fernando), 10h. (near Tiflis), 12h. (near Santiago), 13h. (near Taihoku), 14h. (Samarkand), 16h. (Frunse and near Andijan), 18h. (Medan, near Mizusawa, and near Fresno), 19h. (Medan and Tashkent), 20h. (Andijan, Frunse, and Samarkand), 21h. (Chiufeng and Phu-Lien), 22h. (Sverdlovsk and Tashkent), 23h. (Sverdlovsk, Ksara (2), Tashkent, and Tiflis (2)).

May 10d. 5h. 56m. 28s. Epicentre 26°·3N. 96°·8E. N.3.

$A = -\cdot1061$, $B = +\cdot8902$, $C = +\cdot4431$; $\delta = +5$;
$D = +\cdot993$, $E = +\cdot118$; $G = -\cdot052$, $H = +\cdot440$, $K = -\cdot896$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Calcutta	E.	8·5	245	2 3	+ 3	3 37	+ 1	—	8·7
Phu-Lien		10·6	119	2 25	− 4	5 27	S_g	—	—
Agra	E.	16·8	277	e 3 47	− 5	e 6 45	−12	—	—
Hyderabad		19·2	246	4 20	− 1	8 8	SS	—	14·1
Nanking		20·0	68	4 28	− 2	—	—	11·0	12·3
Chiufeng		21·1	44	e 4 41	0	e 8 31	+ 3	i 11·4	13·3
Medan		22·8	176	e 5 1	+ 2	11 50	L	(11·8)	—
Bombay	E.	23·3	257	i 5 2	− 2	e 9 9	− 1	—	—
Frunse		24·6	318	e 5 19	+ 3	e 9 48	+15	—	—
Andijan		24·8	312	e 5 23	+ 5	e 9 53	+16	—	—
Manila		25·4	113	5 21	− 3	10 17	+29	14·1	16·7
Tashkent		27·2	311	5 43	+ 3	i 10 17	− 1	e 15·1	19·8
Tchimkent		27·4	313	e 5 52	+10	—	—	—	—
Samarkand		28·2	305	e 5 49	0	e 10 59	+24	—	—
Batavia		33·9	162	e 13 12	S	(e 13 12)	+68	(e 18·0)	—
Sverdlovsk		39·9	330	i 7 31	0	13 38	+ 3	20·5	—
Baku		41·1	302	e 7 40	− 1	e 14 3	+10	22·0	24·3
Grozny		44·4	306	e 8 11	+ 3	—	—	—	—
Tiflis		45·0	304	e 8 5	− 8	—	—	e 29·5	—
Ksara		52·5	293	e 9 9	− 1	e 16 47	+12	—	35·0
Simferopol		52·8	308	e 9 10	− 2	e 16 40	+ 1	—	—
Yalta		52·8	307	e 9 10	− 2	—	—	—	—
Pulkovo		55·8	327	9 34	0	17 19	− 1	30·5	34·1

Additional readings and notes:—
Calcutta $P_g = +2$m.46s., $S^* = +4$m.7s., $S_g = +4$m.39s.
Chiufeng iNZ = +5m.33s., eSN = +8m.38s.
Medan SE? = +12m.2s.
Batavia gives S as P and L as S.
Long waves were also recorded at Hong Kong, Husan, Vladivostok, Scoresby Sund, Copenhagen, and De Bilt.

May 10d. 17h. 40m. 7s. Epicentre 38°·3N. 117°·7W. N.3.

$A = -\cdot3648$, $B = -\cdot6948$, $C = +\cdot6198$; $\delta = -2$;
$D = -\cdot885$, $E = +\cdot465$; $G = -\cdot288$, $H = -\cdot549$, $K = -\cdot785$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tinemaha		1·3	200	i 0 17	− 1	i 0 24	P_g	—	—
Haiwee		2·2	186	i 0 33	+ 2	i 0 53	− 4	—	—
Fresno	N.	2·3	227	i 0 29	− 4	i 0 46	−13	—	—
Lick		3·3	253	i 0 47	0	e 1 20	− 5	—	—
Branner		3·6	258	e 0 52	+ 1	e 1 33	+ 1	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	m.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Berkeley		3·6	265	i 0 53	+ 2	i 1 35	+ 3	—	—
San Francisco	N.	3·8	263	0 54	0	1 37	0	—	—
Mount Wilson		4·1	184	i 0 59	+ 1	e 1 50	+ 5	—	—
Santa Barbara		4·2	204	i 0 58	− 2	i 1 42	− 6	—	—
Pasadena		4·2	185	i 1 0	0	i 1 52	+ 4	—	—
Riverside		4·3	177	i 1 3	+ 2	i 1 59	+ 9	—	—
La Jolla		5·4	176	i 1 21	+ 4	e 2 35	S*	—	—
Tucson		8·3	135	—	—	e 3 0	−31	e 4·4	—

Additional readings :—
Branner iEN = +1m.5s., =P_g −3s., iN = +1m.27s., eE = +1m.30s.
Berkeley SEN = +1m.38s.

May 10d. Readings also at 0h. (Baku, Tashkent, Sverdlovsk (2), Chiufeng, and near Sumoto), 1h. (Tiflis), 3h. (Medan and near Batavia), 4h. (Agra and Husan), 5h. (Guadalajara, Tacubaya, and Tananarive), 6h. (Mount Wilson, Pasadena, Riverside, Tinemaha, Fresno, and Florissant), 9h. (Haiwee, Mount Wilson, Pasadena, Riverside, Tinemaha, Sitka, Tucson, near Mizusawa, and near Capodimonte), 11h. (Mount Wilson, Pasadena, Riverside, Tinemaha, Tacubaya, and near Mizusawa), 12h. (Czernovitz, Simferopol, Sebastopol, Theodosia, Yalta, near Bucharest, and near Toyooka), 13h. (near La Paz), 14h. (Baku, Sverdlovsk, Tashkent, Tiflis, Grozny, Ksara, Simferopol, and Yalta), 15h. (Sverdlovsk, Tashkent, Tiflis, Ksara, Nanking, Tacubaya, Oaxaca, Puebla, Pasadena (2), Riverside, Tinemaha (2), and Manila), 16h. (Cape Town, Ksara, and La Paz), 17h. (Sverdlovsk, Tashkent, and Tiflis, De Bilt, Paris, Strasbourg, and Stuttgart), 18h. (Nagoya, Tiflis, and Ksara), 19h. (Lick and near Branner and Fresno), 20h. (Sverdlovsk, Riverview, Sydney, Tchimkent, Samarkand, Andijan, Tashkent (2), and near Frunse), 21h. (Sebastopol, Simferopol, and Yalta), 23h. (near Tiflis).

May 11d. 17h. 27m. 28s. Epicentre 5°·0S. 153°·0E. N.1.

A = −·8876, B = +·4523, C = −·0872 ; δ = +1 ;
D = +·454, E = +·891 ; G = +·078, H = −·040, K = −·996.

The epicentre 5°·0S. 153°·9E. of 1934 May 13th was used as tentative origin.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Palau	22·2	302	4 59	+ 6	9 16	SS	—	—
Riverview	28·9	185	e 5 54	− 1	i 10 42	− 5	e 14·5	15·8
Sydney	28·9	185	e 5 27	−28	e 11 2	+15	15·5	16·6
Adelaide	32·8	203	e 6 29	− 1	i 11 40	− 8	i 14·4	20·0
Melbourne	33·6	193	e 6 55	+18	11 54	− 6	16·2	20·2
Manila	37·3	301	i 7 8a	− 1	13 9	+13	18·3	22·2
Arapuni	39·0	152	—	—	13 32?	+11	20·5	—
New Plymouth	39·1	155	—	—	15 32?	SS	—	—
Nake	40·3	326	7 37	+ 2	—	—	—	—
Wellington	41·2	156	7 42	0	13 51	− 3	19·8	23·5
Kosyun	41·5	312	7 47	+ 3	—	—	—	—
Siomisaki	41·8	339	7 47	0	—	—	—	—
Miyazaki	42·2	331	7 49	− 1	13 38	−31	—	—
Christchurch	42·2	160	i 7 52	+ 2	i 14 8	− 1	19·9	23·2
Kameyama	42·3	340	8 8	+17	—	—	—	—
Kagosima	42·4	329	8 2	+10	—	—	—	—
Wakayama	42·7	339	7 56	+ 2	—	—	—	—
Kakioka	42·9	346	7 51	− 5	—	—	—	—
Nagoya	42·9	340	e 7 54	− 2	e 10 34	?	—	—
Osaka	42·9	338	7 45	−11	13 11	−68	—	—
Sumoto	42·9	338	e 7 10	−46	—	—	e 23·3	—
Taihoku	42·9	315	7 59	+ 3	e 14 34	+15	—	—
Tukubasan	43·0	346	7 55	− 2	—	—	—	—
Kumagaya	43·1	345	7 59	+ 1	—	—	—	—
Kobe	43·1	338	e 7 56	− 2	e 13 41	−41	—	24·0

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Gihu		43·2	340	7 56	− 2	13 43	−41	—	—
Kumamoto		43·3	333	7 58	− 1	—	—	—	—
Maebasi		43·4	342	8 2	+ 2	—	—	—	—
Oiwake		43·5	343	8 2	+ 1	—	—	—	—
Nagasaki		43·7	332	8 0	− 2	—	—	—	—
Nagano		43·9	343	8 4	0	—	—	—	—
Perth		44·0	228	10 22	PPP	i 14 32	− 4	24·0	—
Tomie		44·1	330	8 9	+ 3	—	—	—	—
Hukuoka B		44·1	333	8 23	+17	14 45	+ 8	20·8	—
Hamada		44·5	336	8 7	− 2	—	—	—	—
Sendai		44·7	348	8 9	− 1	—	—	—	—
Mizusawa	E.	45·5	346	8 18	+ 1	14 30	−27	—	—
	N.	45·5	346	e 8 14	− 3	15 0	+ 3	—	—
Batavia		45·9	266	7 56	−24	e 14 55	− 8	21·5	—
Husan		46·0	332	8 20	− 1	15 18	+14	e 20·5	—
Taikyu		46·8	334	8 30	+ 3	e 15 28	+12	—	—
Hong Kong		46·8	306	8 28	+ 1	15 39	+23	—	24·2
Hakodate		48·1	348	8 50	+13	—	—	—	—
Keizyo		49·0	332	e 8 44	0	—	—	—	—
Zinsen		49·1	331	e 8 42	− 2	e 15 48	0	—	—
Sapporo		49·2	350	8 48	+ 3	—	—	—	—
Nanking		49·3	320	8 45	− 1	16 3	+12	—	25·4
Vladivostok		51·8	340	9 32	+27	e 16 40	+15	e 24·7	33·5
Phu-Lien		52·3	301	e 9 13	+ 4	e 16 49	+16	22·5	—
Honolulu		54·9	59	—	—	i 17 19	+11	22·9	—
Medan		54·9	278	9 39	+11	17 25	+17	e 30·5	—
Chiufeng		56·4	326	9 37 a	− 2	17 29	+ 1	26·9	30·0
Calcutta	E.	68·8	296	11 9	+ 6	20 20	+13	33·4	38·4
Irkutsk		70·5	331	11 11	− 3	20 33	+ 6	35·5	—
Colombo		73·9	278	e 10 53	−41	21 5	− 2	—	—
Hyderabad		76·9	289	11 45	− 6	21 40	− 2	36·6	52·8
Agra	E.	79·1	299	11 57	− 6	21 53	−13	—	—
College		82·1	22	e 13 0	+41	e 22 18	−20	e 35·8	—
Bombay		82·4	290	e 12 17	− 3	e 22 30	−11	40·5	—
Semipalatinsk		83·0	322	e 12 24	+ 1	e 22 37	−10	—	—
Almata		83·4	315	e 12 27	+ 2	—	—	—	—
Sitka		84·4	31	e 12 32	+ 2	e 22 58	[+ 3]	e 38·6	—
Frunse		85·0	314	e 12 33	0	e 22 54	[− 5]	—	—
Andijan		86·2	311	e 16 42	?	—	—	—	—
Ukiah		88·4	51	—	—	e 23 33	[+10]	e 36·6	—
Tashkent		88·6	312	i 12 50	− 1	23 34	[+10]	40·6	52·7
Berkeley		88·9	52	i 12 50	− 2	e 23 35	[+ 9]	e 40·6	—
Victoria		89·6	41	i 23 42	SKS	(e 23 42)	[+12]	e 37·4	—
Seattle		90·1	42	—	—	e 23 30	[− 3]	e 37·5	—
Samarkand		90·1	309	e 14 18	?	—	—	—	—
Pasadena		91·8	56	i 13 6	0	—	—	42·7	—
Mount Wilson	Z.	91·9	56	e 13 3	− 3	—	—	—	—
Tinemaha		92·0	53	i 13 7	0	—	—	—	—
Riverside	Z.	92·5	56	i 13 9	0	—	—	—	—
Sverdlovsk		95·5	327	i 13 22	− 1	i 24 34	{+16}	39·5	54·7
Bozeman		97·7	45	—	—	e 24 13	[− 2]	e 39·5	—
Tucson		97·9	58	14 23	+49	e 25 4	− 4	e 40·5	—
Baku		103·2	311	e 14 3	+ 5	—	—	—	60·8
Grozny		105·9	313	e 14 11	0	24 49	[− 5]	51·0	—
Tiflis		106·9	313	14 17	+ 1	24 56	[− 2]	50·0	67·7
Moscow		108·2	328	e 14 22	0	24 56	[− 9]	55·5	64·5
Pulkovo		110·3	333	e 14 28	− 4	25 4	[−11]	50·5	67·2
Theodosia		112·9	317	e 19 31	PP	e 25 21	[− 5]	—	—
Little Rock		113·0	55	e 19 25	PP	e 25 18	[− 8]	e 48·6	58·1
Florissant		113·7	50	i 19 27 a	PP	i 25 25	[− 4]	e 49·5	67·8
Simferopol		113·7	318	e 19 38	PP	e 25 24	[− 5]	—	—
Yalta		113·8	317	e 19 32	PP	e 25 23	[− 6]	66·5	—
St. Louis		113·9	50	e 19 30	PP	e 25 24	[− 6]	e 53·3	58·1
Sebastopol		114·2	318	—	—	e 25 26	[− 5]	—	—
Scoresby Sund		114·4	358	19 35	PP	25 25	[− 6]	50·5	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Chicago		115·0	46	—	—	e 29 19	PS	e 39·0	—
Ksara		115·2	305	e 18 18	[−15]	—	—	—	—
Upsala		115·6	337	e 19 39	PP	e 25 31	[− 5]	e 56·5	61·9
Königsberg		117·3	331	e 23 54	?	i 25 40	[− 2]	e 66·5	68·5
Helwan		119·8	302	20 14	PP	—	—	—	—
Toronto	N.	120·0	41	e 19 42	PP	e 25 17	[−33]	50·5	—
Copenhagen		120·4	336	18 49	[+ 2]	e 25 50	[− 2]	56·5	—
Ivigtut		121·6	12	—	—	26 2	[+ 7]	56·5	—
Ottawa		121·6	39	e 20 20	PP	e 25 48	[− 7]	e 51·5	—
Budapest		122·1	325	e 20 32?	PP	—	—	e 68·5	—
Cape Town		122·1	224	32 3	?	e 41 48	SSS	59·4	74·5
Hamburg		122·9	336	e 18 54	[+ 1]	—	—	e 59·5	66·5
Prague		123·1	329	e 20 50	PP	—	—	e 57·5	72·5
Vienna		123·2	327	e 18 57	[+ 4]	—	—	e 67·5	—
Vermont		123·5	38	e 20 40	PP	e 26 0	[− 1]	e 53·1	—
Cheb		124·1	331	—	—	e 30 35	PS	e 61·5	78·5
Graz		124·4	326	e 21 4	PP	—	—	e 58·5	76·8
Philadelphia		124·4	44	e 20 45	PP	e 25 50	[×13]	e 52·8	—
Zagreb		124·8	325	e 19 0	[+ 3]	e 27 59	{+11}	58·5	65·0
Edinburgh		125·6	344	—	—	e 37 32?	SS	e 65·5	82·5
Oak Ridge		125·6	40	i 19 5	[+ 7]	—	—	e 65·5	—
De Bilt		125·9	336	e 19 4	[+ 5]	e 20 57	PP	e 56·5	78·9
Triest		126·1	326	e 19 1	[+ 2]	i 26 5	[− 3]	e 57·7	70·7
Stuttgart		126·5	331	e 19 0	[0]	e 30 38	SKSP	e 62·5	83·5
East Machias		126·9	35	—	—	e 22 20	?	e 51·3	—
Uccle		127·2	336	e 19 4	[+ 3]	—	—	e 58·5	—
Padova		127·3	326	18 32	[−30]	—	—	—	—
Strasbourg		127·4	332	e 19 5	[+ 3]	—	—	e 62·5	—
Chur		127·7	330	e 19 3	[+ 1]	—	—	—	—
Zurich		127·8	331	e 18 58	[− 5]	—	—	—	—
Bidston		127·8	343	e 22 30	PKS	e 39 0	?	e 62·5	—
Kew		128·5	339	e 19 7	[+ 3]	—	—	e 57·5	79·2
Oxford		128·6	340	i 22 23	?	—	—	e 68·5	72·5
Florence		128·7	325	18 27	[−37]	22 28	?	—	—
Neuchatel		128·9	331	e 19 6	[+ 1]	—	—	—	—
Huancayo		129·0	110	e 19 11	[+ 6]	—	—	e 61·9	—
Paris		129·5	336	e 19 10	[+ 4]	27 56	{−22}	65·5	80·5
La Plata		130·6	146	(22 38)	PKS	—	—	22·6	—
La Paz		134·0	119	19 20	[+ 7]	i 28 42	{− 5}	64·0	74·1
Algiers		138·0	324	—	—	e 22 14	PP	52·5	—
San Juan		139·5	68	e 19 32	[+11]	—	—	e 58·1	—
Almeria		141·0	329	e 23 4	PKS	—	—	e 80·1	—
Granada		141·4	331	i 19 25	[+ 2]	—	—	—	—
Malaga		142·1	330	e 18 42	[−42]	—	—	—	—
San Fernando		143·2	331	19 32	[+ 4]	—	—	72·0	—
Rio de Janeiro		147·9	151	e 29 53	SKKS	(e 29 53)	{−17}	—	—

Additional readings and notes:—
Riverview iPNZ = +5m.57s., iN = +11m.6s.
Sydney SS = +13m.32s.
Adelaide iPPP = +7m.36s. = PP +3s., iSS = +13m.12s.
Manila iN = +16m.3s.
Arapuni SS = +17m.52s. = S_cS +16s.
Wellington pP? = +8m.4s., PP? = +9m.42s. = P_cP −4s., SS = +17m.17s. = SSS +3s.
Christchurch PPP = +9m.44s. = P_cP −5s., P_cP = +10m.2s., eN = +12m.29s., SS = +16m.42s., SSS = +17m.24s., iNZ = +17m.44s., iS_cS? = +17m.58s.
Nagoya S_cS? = +18m.22s.
Sumoto eZ = +7m.57s. = P −2s., eE = +9m.29s. = PP −1s., eN = +9m.37s., e = +17m.54s. = S_cS −5s.
Kobe ePN = +7m.59s., ePE = +8m.12s.
Perth P = +10m.44s., i = +15m.12s., P_cS = +17m.37s. = PP +5s., S = +18m.2s., PS = +18m.22s., SS = +21m.12s., SSS = +21m.42s., SSSS = +22m.27s.
Batavia ePZ = +8m.3s.
Husan ? = +18m.16s. = S_cS −3s.
Hong Kong PP = +10m.15s., S_cS = +18m.17s., SS = +18m.40s., ? = +20m.38s.

Continued on next page.

Nanking eE = +19m.50s.
Vladivostok e = +18m.57s. = S_cS +1s.
Chiufeng PPEZ = +11m.34s., SSNZ = +21m.6s., iNZ = +23m.11s. = SSS +3s.
Calcutta PPPE = +15m.26s., PSE = +20m.50s. = S_cS −6s.
Colombo iP = +11m.37s.
Agra PPE = +14m.51s., PSE = +22m.25s., SSE = +26m.46s.
College eSS = +28m.6s.
Bombay SSE? = +28m.21s.
Almata e = +13m.37s.
Sitka eSS = +28m.38s., eSSS = +32m.2s.
Ukiah e = +24m.41s. = PS +8s. and +24m.54s., eSS = +29m.32s.
Tashkent iSKS = +23m.25s., ePS = +24m.38s., eSS = +29m.38s., eSSS = +32m.38s.
Berkeley eZ = +13m.48s., ePPE = +16m.7s., eZ = +16m.53s., ePSE = +24m.51s., eSSEN = +31m.37s.
Victoria eS = +29m.54s. = SS +20s.
Sverdlovsk PP = +17m.3s., PPP = +19m.30s., SKS = +23m.56s., PS = +26m.0s., SS = +31m.14s., SSS = +35m.32s.
Bozeman e = +23m.36s., +24m.51s. = SKKS +15s. and +35m.42s.
Tucson eSKKS = +24m.36s., ePS = +26m.14s., eSS = +31m.8s., eSSS = +35m.14s.
Baku PP = +18m.20s., PS = +27m.38s., SS = +33m.32s.
Tiflis PKP = +18m.22s. = PP −13s., ePP = +18m.42s., SKKS = +25m.11s., ePPS = +28m.16s., eSS = +33m.46s., eSSS = +37m.6s.
Moscow ePKP = +18m.35s. = PP −9s., PP = +18m.50s., S = +26m.8s. = SKKS +14s., PS = +28m.10s., PPS = +29m.13s., SS = +34m.8s., L_q = +50·5m.
Pulkovo PKP = +18m.30s., PP = +19m.6s., PPP = +21m.34s., SKKS = +25m.58s., PS = +28m.38s., PPS = +29m.41s., SS = +34m.32s.
Little Rock eSSSEN = +40m.7s.
Florissant eSKKSEZ = +26m.45s., iSKKSE = +26m.52s., ePS = +29m.12s., iPSE = +29m.19s., ePPSE = +30m.22s., eSSEN = +35m.25s., eSSSE = +39m.51s., eSSSN = +39m.56s.
St. Louis eSKKSEN = +26m.33s., ePSEN = +29m.12s., eSSEN = +35m.24s.
Scoresby Sund e = +21m.21s., SKKS = +26m.39s., PS = +29m.22s., iZ = +29m.37s., PPS = +30m.26s., SS = +35m.26s., +36m.14s., SSS = +40m.24s.
Chicago eSS = +35m.20s.
Ksara iPP = +19m.38s., PS = +29m.37s., PPS = +30m.48s., SS = +36m.6s.
Königsberg eE = +26m.45s. = SKKS −13s., eN = +27m.11s., eE = +29m.35s. = PS −2s.
Copenhagen e = +19m.44s., PP = +20m.20s., eE = +26m.6s., SKKS = +27m.29s., PS = +30m.14s., PPS = +31m.32s., SS = +36m.26s., SSS = +41m.2s.
Ivigtut +27m.2s., PS = +30m.14s.
Ottawa e = +36m.56s.
Cape Town PPE = +35m.14s., ePPPE = +36m.43s., ePPPN = +36m.58s., iSN = +42m.6s., eSSSN = +50m.8s.
Prague e = +14m.50s.? and +30m.32s.
Vermont e = +32m.32s., eSS = +37m.50s.
Philadelphia e = +32m.30s. and +36m.20s., eSS = +37m.1s., eSSS = +42m.25s.
Zagreb ePPZ = +20m.51s.
Oak Ridge ePPZ = +20m.55s.
Triest i = +28m.17s., e = +50m.58s.
Stuttgart ePP = +20m.55s., ePKS = +22m.16s., ePKS = +22m.36s., ePPP = +23m.40s., ePPS = +32m.38s., eSSS = +42m.55s.
East Machias eSS = +38m.37s.
Uccle eN = +21m.4s., +22m.25s., and +38m.43s.
Strasbourg i = +21m.2s. and +22m.36s.
Bidston e = +47m.30s.
Kew ePPZ = +21m.13s., ePKS = +22m.25s., eSKSPZ = +31m.12s., eEN = +38m.53s. and +47m.25s.
Huancayo e = +17m.47s., ePKS = +22m.27s., ePPP = +24m.17s., eSS = +38m.10s., e = +39m.47s. and +52m.32s.
Paris ePP = +22m.31s.
La Paz iSKP = +22m.48s., iPPP = +24m.58s., iSKS = +26m.14s., iZ = +26m.58s., SSE = +38m.52s., SSZ = +39m.52s.
Algiers iPS = +22m.54s.
San Juan ePKS = +22m.56s., eSS = +39m.19s.
Granada PP = +22m.32s.
Malaga e = +19m.42s.
San Fernando PKP_2 = +19m.57s., SKP = +22m.49s., PP = +23m.16s., SS = +43m.9s.
Long waves were also recorded at Ann Arbor, Columbia, and other European stations.

May 11d. Readings also at 2h. (near Tiflis), 7h. (Baku, Tashkent, Simferopol, Yalta, Ksara (2), Sverdlovsk, Grozny, Tiflis (2), and near Erevan), 9h. (near Tananarive), 10h. (Sverdlovsk, Tashkent, Copenhagen, Paris, De Bilt, Uccle, Strasbourg, Stuttgart, and near Wellington), 11h. (La Paz), 12h. (Sverdlovsk, Tashkent, Ksara, and Cape Town), 13h. (Mizusawa), 17h. (Algiers), 19h. (Cape Town and near Branner), 20h. (Adelaide, Melbourne, Riverview, Christchurch, Wellington, Hong Kong, Tashkent, Sverdlovsk, Mount Wilson, Pasadena, and Tinemaha), 21h. (Copenhagen, De Bilt, Paris, Uccle, and Philadelphia).

May 12d. Readings at 2h. (Alicante, Almeria, Malaga, Toledo, near Granada, and San Fernando), 4h. (Simferopol, Sebastopol, Theodosia, and Yalta), 5h. (Sydney), 8h. (La Paz), 9h. (near Algiers), 10h. (near La Paz and near Taihoku), 12h. (La Jolla, Mount Wilson, Pasadena, Riverside, Tinemaha, Sebastopol, Yalta, near Simferopol, and Theodosia), 16h. (near Algiers and near Nagoya), 17h. (near Santiago, and near San Fernando), 18h. (Malabar and near Triest), 20h. (Santiago), 21h. (La Paz and Santiago), 22h. (Mount Wilson, Pasadena, and Tinemaha).

May 13d. 11h. 9m. 22s. Epicentre 31°·3N. 131°·5E. (as on 1933 Oct. 4d.). X.

$A = -\cdot5662$, $B = +\cdot6400$, $C = +\cdot5195$; $\delta = +6$;
$D = +\cdot749$, $E = +\cdot663$; $G = -\cdot344$, $H = +\cdot389$, $K = -\cdot854$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Hukuoka		2·4	338	0 35	+ 1	1 7	S*	—	1·2
Hukuoka B		2·4	338	0 38	P*	1 10	S*	—	1·3
Sumoto		4·2	42	1 1	+ 1	1 35	−13	—	1·9
	Z.	4·2	42	1 2	+ 2	1 38	−10	—	1·8
Husan		4·3	332	1 8	P*	2 12	S_g	—	2·7
Kobe		4·5	42	e 1 13	P*	1 49	− 6	—	2·0
Taikyu		5·1	334	e 1 24	P*	—	—	—	—
Toyooka	E.	5·1	33	1 21	P*	2 5	− 5	—	2·2
	N.	5·1	33	1 18	+ 5	2 8	− 2	—	2·2
	Z.	5·1	33	1 11	− 2	2 7	− 3	—	2·2
Nagoya		6·0	48	e 1 18	− 7	2 38	+ 5	—	—
Keizyo		7·2	331	—	—	e 3 6	+ 2	e 3·8	—
Zinsen	E.	7·3	329	—	—	e 3 48	S_g	—	—
Zi-ka-wei	Z.	8·6	272	—	—	e 4 28	S_g	—	6·4
Nanking		10·8	276	2 47	+15	5 53	S_g	7·6	9·7
Chiufeng		15·2	309	e 3 37	PP	—	—	—	10·2

Long waves were also recorded at other Russian and European stations.

May 13d. Readings also at 0h. (Calcutta), 1h. (Haiwee, Mount Wilson, Pasadena, Riverside, and Tinemaha), 4h. (Oak Ridge), 6h. (La Paz and San Fernando), 8h. (near Samarkand), 9h. (near Mizusawa and Nagoya), 10h. (Haiwee, Mount Wilson, Pasadena, Riverside, Tinemaha, Frunse, and Semipalatinsk), 12h. (near La Paz), 14h. (Tananarive), 15h. (Wellington and Nagoya), 16h. (near Christchurch, Nagoya, Sumoto, and near Hukuoka B), 17h. (Alicante, Toledo, Malaga, near Almeria, and Granada), 20h. (Chur), 22h. (Graz).

May 14d. 4h. 58m. 34s. Epicentre 26°·5S. 179°·0W. (as on 1925 July 29d.). X.

$A = -\cdot8948$, $B = -\cdot0156$, $C = -\cdot4462$; $\delta = 0$;
$D = -\cdot017$, $E = +1\cdot000$; $G = +\cdot446$, $H = +\cdot008$, $K = -\cdot895$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Wellington		15·7	197	i 4 26?	?	—	—	e 6·4	—
Christchurch		18·4	199	e 4 7	− 4	7 9	−24	8·2	9·6
Riverview		26·8	247	e 5 38	+ 2	e 12 8	?	e 13·2	15·2
Pasadena		83·6	47	i 12 29a	+ 3	—	—	—	—
Mount Wilson	Z.	83·7	47	i 12 29	+ 2	—	—	—	—

Continued on page next.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Riverside		84·0	47	i 12 30	+ 2	—	—	—	—
Haiwee		85·0	45	i 12 37a	+ 4	—	—	—	—
Tinemaha		85·4	44	i 12 38a	+ 3	—	—	—	—
Tashkent		122·9	303	—	—	e 31 32	?	e 57·5	74·2
Sverdlovsk		128·4	322	19 8	[+ 4]	e 33 36	?	56·4	—
Grozny		140·2	307	e 19 36	[+15]	—	—	—	—
Tiflis		141·2	305	e 19 32	[+ 9]	—	—	e 77·4	82·7
Simferopol		147·7	314	e 19 50	[+12]	e 33 57	SKSP	—	—
Yalta		147·9	313	e 20 19	[+40]	—	—	—	—
Ksara		149·1	291	i 19 44	[+ 4]	—	—	77·4	85·4

Riverview eE = +6m.32s.
Pasadena iZ = +12m.46s., +13m.0s., and eZ = +15m.57s.
Mount Wilson iZ = +12m.45s. and +15m.59s.
Riverside iZ = +12m.47s.
Tinemaha iZ = +12m.54s., +13m.15s., and +13m.53s.
Tashkent e = +41m.32s.
Sverdlovsk PP = +22m.35s.
Tiflis e = +21m.8s., and +23m.13s.
Ksara ePP = +23m.34s., ePPP = +26m.55s.
Long waves were also recorded at Baku, Pulkovo, Oak Ridge, and other European stations.

May 14d. Readings also at 0h. (Tiflis and near Erevan), 1h. (Samarkand and near Nagoya (2)), 4h. (Oak Ridge), 6h. (Frunse and near Irkutsk), 11h. (near Berkeley, Lick, Branner, and Fresno), 12h. (Chiufeng, Nanking, and Columbia), 13h. (near La Paz), 16h. (near Bucharest and near Simferopol), 17h. (Ksara, Tiflis, Copenhagen, Bucharest, Sofia, Zagreb, De Bilt, Stuttgart, and near Triest), 18h. (Malaga), 19h. (San Francisco, and near Mizusawa), 20h. (near Christchurch and Wellington), 21h. (Oak Ridge).

May 15d. Readings at 1h. (Hong Kong and Nanking), 3h. (Tacubaya), 4h. (near Berkeley, Branner, Lick, and Fresno), 7h. (near Berkeley, Branner, Lick, and Fresno), 9h. (Lick and Fresno), 12h. (Apia and Sebastopol), 15h. (Nagoya), 18h. (near Santiago and San Javier), 20h. (Pasadena, Tinemaha, and Nagoya), 21h. (Oaxaca, Puebla, Tacubaya, Tucson, Mount Wilson, and Riverside).

May 16d. 6h. 45m. 22s. Epicentre 28°·6N. 103°·6E. X.

Determinations made for the more widely recorded shock at 7h. below.

$A = -\cdot2065$, $B = +\cdot8534$, $C = +\cdot4787$; $\delta = +9$;
$D = +\cdot972$, $E = +\cdot235$; $G = -\cdot113$, $H = +\cdot465$, $K = -\cdot878$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Hong Kong		11·4	121	4 36	S	(4 36)	−12	6·0	6·2
Nanking		13·6	71	3 4	− 6	6 10	+29	7·1	8·8
Calcutta	E.	15·0	250	e 3 35	+ 7	—	—	i 7·9	11·0
Chiufeng		15·4	39	e 3 29	− 5	6 37	+13	7·9	8·8
Zi-ka-wei	Z.	15·7	76	e 3 34	− 4	6 46	+15	9·1	10·4
Tainan		16·0	107	3 44	+ 3	—	—	—	—
Arisan		16·2	104	6 58	S	(6 58)	+15	—	—
Taihoku		16·4	99	7 32	S	(7 32)	+44	—	—
Karenko		16·7	102	7 12	S	(7 12)	+17	—	—
Kosyun		16·8	109	3 58	+ 6	—	—	—	—
Taito		16·8	107	3 52	0	—	—	—	—
Zinsen		21·2	58	e 4 39	− 3	e 8 34	+ 4	e 11·1	—
Keizyo		21·4	58	e 4 44	0	e 8 41	+ 7	e 11·5	—
Taikyu		22·3	63	e 4 54	0	e 8 58	+ 6	—	—
Husan		22·5	97	e 4 55	− 1	8 59	+ 4	—	—

Continued on next page.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Hukuoka B		23·4	70	e 9 28	S	(e 9 28)	+16	—	—
Irkutsk		23·7	1	e 4 38?	−29	e 9 20	+ 2	12·3	—
Miyazaki		24·2	75	5 9	− 3	9 34	+ 7	—	—
Medan		25·4	192	e 5 29	+ 5	14 27	?	—	—
Vladivostok		26·9	49	e 5 34	− 3	e 10 12	− 2	i 14·0	15·5
Bombay		29·7	258	—	—	e 10 38?	− 21	—	—
Tashkent		30·6	304	e 6 34	+24	e 11 40	+26	i 17·9	—
Batavia		34·9	174	i 6 44	− 4	i 12 19	− 1	e 19·2	—
Sverdlovsk		41·2	326	7 42	0	e 13 57	+ 3	20·6	—
Sebastopol		56·7	307	—	—	e 21 4	SS	—	—

Additional readings :—
Hong Kong S = +5m.29s.
Zi-ka-wei iZ = +8m.0s. and +8m.32s.
Hukuoka B eS? = +15m.0s.

May 16d. 7h. 5m. 48s. Epicentre 28°·6N. 103°·6E. (as at 6h.). N.1.

A = −·2065, B = +·8534, C = +·4787 ; δ = +9 ;
D = +·972, E = +·235 ; G = −·113, H = +·465, K = −·878.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Phu-Lien	N.	8·3	159	0 12?	?	—	—	—	—
Hong Kong		11·4	121	2 32a	− 8	4 35	−13	5·7	8·2
Nanking		13·6	71	i 3 3	− 7	5 27	−14	6·2	8·9
Calcutta	E.	15·0	250	3 27	− 1	6 39	+24	7·8	10·4
Chiufeng		15·4	39	i 3 32	− 2	6 17	− 7	7·5	8·9
Zi-ka-wei		15·7	76	i 3 34a	− 4	6 52	+21	8·5	9·1
Taityu		15·9	102	3 28	−12	6 41	+ 5	—	—
Tainan		16·0	107	3 47	+ 6	6 58	+20	—	—
Arisan		16·2	104	3 44	0	7 3	+20	—	—
Taihoku		16·4	99	3 44	− 2	e 6 55	SS	8·8	10·5
Karenko		16·7	102	3 48	− 2	7 5	SS	—	—
Kosyun		16·8	109	3 51	− 1	7 12	SS	—	—
Taito		16·8	107	3 52	0	7 13	SS	—	—
Dairen		18·1	51	4 10	+ 2	7 37	SS	—	—
Isigakizima		18·9	98	4 15	− 2	7 50	+ 6	—	—
Yingkow		19·4	47	4 10a	−13	7 41	−13	—	—
Heizyo		21·1	53	i 4 42	+ 1	i 8 31	+ 3	11·4	11·7
Zinsen		21·2	58	i 4 40k	− 2	i 8 33	+ 3	e 10·8	13·7
Manila		21·3	127	i 3 45k	−58	i 7 45	−47	10·0	12·2
Keizyo		21·4	58	e 4 45	+ 1	i 8 42	+ 8	11·2	11·9
Naha		21·4	90	4 43	− 1	8 38	+ 4	—	—
Tomie		22·0	72	4 48	− 3	—	—	—	—
Dehra Dun		22·3	282	5 12	PP	9 12	+20	12·5	13·2
Taikyu		22·3	68	i 4 56	+ 2	9 0	+ 8	10·5	13·2
Ituhara		22·5	69	4 53	− 3	—	—	—	—
Husan		22·5	97	4 53	− 3	8 53	− 2	12·2	14·5
Agra	N.	22·6	274	4 55	− 2	8 54	− 3	—	—
Nake		22·7	83	5 0	+ 2	9 4	+ 5	—	—
Nagasaki		22·9	72	4 59	− 1	9 5	+ 2	—	—
Unzendake		23·2	72	5 0	− 3	9 15	+ 7	—	—
Saga		23·3	71	5 7	+ 3	9 16	+ 6	—	—
Hukuoka		23·4	70	5 5k	0	9 16	+ 4	11·8	14·3
Hukuoka B		23·4	70	5 4	− 1	9 17	+ 5	13·7	15·2
Kagosima		23·4	76	5 7	+ 2	—	—	—	—
Kumamoto		23·6	72	5 9a	+ 3	9 23	+ 7	—	—
Irkutsk		23·7	1	i 5 8	+ 1	i 9 24	+ 6	11·2	—
Simonosaki		23·9	70	5 9	0	—	—	—	—
Miyazaki		24·2	75	5 12k	0	9 36	+ 9	—	—
Ooita		24·4	71	5 10	− 4	—	—	—	—
Hamada		24·9	68	5 18	− 1	9 43	+ 4	—	—

Continued on next page.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Uwazima		25·2	71	5 19	− 3	9 50	+ 6	—	—
Medan		25·4	192	5 30	+ 6	i 9 54	+ 6	—	—
Simidu		25·5	73	5 25	0	10 3	+13	—	—
Hyderabad		25·6	250	5 24	− 1	9 51	0	12·6	16·1
Koti		26·0	70	5 28	− 1	10 4	+ 6	—	—
Tadotu		26·2	69	5 41	+10	10 19	+17	—	—
Okayama		26·4	68	5 40	+ 7	10 22	+17	—	—
Vladivostok		26·9	49	i 5 39	+ 2	i 10 12	− 2	—	17·1
Sumoto		27·2	69	i 5 41k	+ 1	i 10 27	+ 9	—	15·4
Toyooka		27·2	66	5 41	+ 1	10 30	+12	15·2	16·3
Frunse		27·3	309	e 5 44	+ 3	i 10 48	+28	—	—
Kobe	E.	27·4	68	e 5 45	+ 3	10 39	+17	—	17·6
	N.	27·4	68	e 5 42	0	10 35	+13	—	17·0
Wakayama		27·4	69	5 44	+ 2	10 13	− 9	—	—
Miyadu		27·5	66	5 44	+ 1	10 39	+15	—	—
Osaka		27·7	68	5 51	+ 7	10 46	+19	—	—
Kyoto		27·9	67	5 42	− 4	—	—	—	—
Siomisaki		27·9	71	5 48	+ 2	10 43	+13	—	—
Semipalatinsk		28·0	328	e 5 49	+ 2	i 10 39	+ 7	14·8	—
Andijan		28·2	304	6 52	PP	—	—	17·5	—
Hikone		28·4	67	5 54	+ 3	—	—	—	—
Ibukisan		28·5	67	5 57	+ 5	10 49	+ 9	—	—
Kameyama		28·5	68	5 54	+ 2	10 53	+13	—	—
Tu		28·5	68	6 7	+15	10 59	+19	—	—
Kanazawa		28·8	64	6 14	+20	11 48	SS	—	—
Gihu		28·8	67	5 53	− 1	10 47	+ 2	—	—
Nagoya		28·9	67	e 5 57	+ 2	—	—	e 13·2	17·6
Husiki		29·1	64	5 59	+ 2	—	—	—	—
Wazima		29·1	62	5 57	0	10 48	− 2	—	—
Toyama		29·2	64	5 52	− 6	—	—	—	—
Hamamatu		29·5	68	5 54	− 7	—	—	—	—
Bombay		29·7	258	6 5	+ 3	i 10 59	0	15·2	18·3
Matumoto		29·8	64	6 7	+ 4	—	—	—	—
Omaesaki		29·9	68	6 12	+ 8	—	—	—	—
Nagano		30·1	66	6 8	+ 2	11 23	+17	—	—
Kohu		30·3	67	6 15	+ 7	11 30	+21	—	—
Oiwake		30·3	64	6 13	+ 5	11 32	+23	—	—
Hunatu		30·4	67	6 9	0	11 32	+22	—	—
Misima		30·5	68	6 10	+ 1	11 39	+27	—	—
Numadu		30·5	68	6 12	+ 3	11 19	+ 7	—	—
Kodaikanal	E.	30·6	240	i 6 17	+ 7	11 16	+ 2	—	—
Tashkent		30·6	304	i 6 13	+ 3	e 11 10	− 4	16·7	19·2
Tchimkent		30·6	306	e 7 6	PP	e 12 44	SS	—	—
Maebasi		30·7	64	6 24	+13	11 32	+16	—	—
Kumagaya		31·0	65	6 29	+15	—	—	—	—
Tokyo		31·2	67	6 24	+ 8	11 45	+22	—	—
Colombo		31·2	231	6 14	− 2	11 22	− 1	16·2?	17·2?
Hatidyozima		31·3	70	8 23	+126	—	—	—	—
Tukubasan		31·5	64	6 14	− 4	11 18	−10	—	—
Kakioka		31·6	64	6 17	− 2	11 25	− 4	—	—
Mito		31·8	64	6 16	− 5	—	—	—	—
Akita		31·9	60	6 24	+ 2	—	—	—	—
Yamagata		31·9	62	6 22	0	—	—	—	—
Hukusima		32·0	63	6 25	+ 2	—	—	—	—
Samarkand		32·0	300	6 25	+ 2	e 11 50	+15	18·7	—
Sendai		32·3	62	6 21	− 4	—	—	—	—
Mizusawa		32·6	61	e 6 20	− 8	e 11 24	−22	16·9	—
Hakodate		32·8	58	6 32	+ 2	—	—	—	—
Sapporo		33·5	52	6 44	+ 8	12 0	+ 2	—	—
Titizima		34·0	83	12 2	S	(12 2)	− 4	—	—

Continued on next page.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Batavia	34·9	174	i 6 46	− 2	i 12 20	0	—	—
Sikka	36·4	44	7 18	+17	12 58	+16	—	—
Nemuro	36·6	54	7 2	− 1	12 41	− 4	—	—
Sverdlovsk	41·2	326	i 7 46	+ 4	i 13 56	+ 2	23·8	24·8
Baku	45·1	300	8 15	+ 1	e 15 23	+31	25·2	33·6
Grozny	48·1	304	e 8 41	+ 4	—	—	20·2	—
Tiflis	48·9	302	i 8 45	+ 2	i 15 50	+ 5	25·2	34·2
Erevan	49·2	300	e 8 30	−15	—	—	28·0	—
Piatigorsk	50·0	306	e 8 36	−15	e 15 42	−19	25·2	—
Sotchi	52·4	305	e 9 12	+ 3	—	—	28·2	—
Moscow	53·4	320	9 18	+ 1	16 49	+ 2	27·7	31·7
Theodosia	55·3	307	9 34	+ 3	17 24	+11	25·2	—
Simferopol	56·2	307	9 37	0	17 29	+ 4	—	—
Yalta	56·3	306	9 36	− 2	17 27	0	23·2	—
Sebastopol	56·7	307	e 9 38	− 3	17 32	0	—	—
Ksara	57·1	293	i 9 45a	+ 1	i 17 50	+12	—	—
Pulkovo	57·3	325	e 9 44	− 1	e 17 41	+ 1	29·2	33·2
Czernowitz	61·2	312	e 10 12?	− 1	—	—	25·8	35·2
Perth	61·7	168	i 18 47	PS	—	—	—	—
Bucharest	61·9	308	10 20	+ 2	18 44	+ 3	25·2	34·2
Helwan	62·0	290	(i 10 15)	− 3	i 10 15	P	32·2	40·6
Lemberg	62·1	314	e 18 16	S	(e 18 16)	−27	e 31·4	35·4
Königsberg	63·1	321	i 10 28	+ 2	e 19 0	+ 4	e 29·9	40·2
Upsala	63·6	326	e 10 28	− 1	i 19 1	− 1	e 31·2	39·7
Belgrade	65·7	309	e 10 42k	− 1	e 19 19	−10	e 27·3	38·1
Budapest	65·8	313	10 44	0	—	—	e 35·2	37·2
Copenhagen	67·3	323	i 10 52a	− 2	19 49	+ 1	32·2	—
Vienna	67·3	314	e 10 52	− 2	e 19 44	− 4	e 34·2	38·2
Prague	68·0	317	e 10 58	0	e 19 59	+ 2	e 30·2	37·2
Graz	68·3	312	i 11 0	0	i 20 0	− 1	e 32·2	43·3
Zagreb	68·4	311	e 10 59a	− 2	e 20 2	0	e 38·5	40·2
Cheb	69·2	317	—	—	e 20 16	+ 5	e 36·2	43·4
Bergen	69·3	329	i 10 46	−20	20 17	+ 4	33·2	39·6
Hamburg	69·4	321	e 11 7a	0	i 20 17	+ 3	e 31·2	38·2
Jena	69·4	317	i 11 5	− 2	i 20 12	− 2	e 35·2	41·7
Triest	69·9	312	i 11 10k	0	20 21	+ 1	—	37·7
Göttingen	70·1	319	i 11 9	− 2	i 20 24	+ 2	e 35·2	38·8
Padova	71·2	312	11 27	+ 9	—	—	—	—
Adelaide	71·6	150	i 11 20	0	i 20 29	−11	32·7	44·2
Stuttgart	71·6	316	i 11 19a	− 1	i 20 42	+ 2	e 36·2	44·7
College	71·7	25	e 16 12	?	i 19 34	−67	e 34·2	—
Tananarive	72·0	236	—	—	e 20 41	− 4	36·9	41·4
Karlsruhe	72·0	317	11 21	− 2	20 51	+ 6	39·7	49·9
Chur	72·1	314	e 11 22	− 1	e 20 46	0	—	—
Florence	72·2	310	11 24	0	20 48	+ 1	—	38·2
Strasbourg	72·5	316	i 11 14a	−12	i 20 44	− 7	e 34·2	39·7
Zurich	72·5	315	e 11 29	+ 3	e 21 2	PS	—	—
De Bilt	72·6	320	i 11 25a	− 1	i 20 56	+ 4	e 35·2	47·4
Basle	73·1	315	e 11 30	+ 1	e 20 59	+ 1	—	—
Uccle	73·6	319	i 11 31a	− 1	i 21 4	0	34·2	40·7
Neuchatel	73·7	315	e 11 22	−11	—	—	—	—
Scoresby Sund	73·7	344	11 32k	− 1	i 21 7	+ 2	36·2	—
Durham	75·0	325	—	—	i 21 17	− 3	—	43·2
Edinburgh	75·3	326	e 14 12?	PP	i 21 22	− 2	e 36·2	53·4
Paris	75·6	318	i 11 43	− 1	e 21 27	0	37·2	40·2
Kew	75·9	321	—	—	i 21 31	+ 1	35·2	40·4
Stonyhurst	75·9	324	11 45	0	i 21 30	0	37·2	43·7
Drome	76·2	314	11 19	−28	20 46	−48	28·7	40·2
Oxford	76·3	322	—	—	i 21 31	− 4	e 36·8	49·4
Bidston	76·5	324	—	—	i 21 26	−11	35·6	40·2

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Melbourne		76·9	147	—	—	i 21 34	− 8	49·3	54·9
Riverview		77·0	141	—	—	e 21 29	−14	e 38·1	43·4
Sydney		77·0	141	—	—	e 20 57	−46	47·2	52·2
Rathfarnham		78·2	315	e 17 0	?	—	—	e 38·6	43·7
Barcelona		79·3	312	e 12 4	0	e 22 5	− 3	e 42·0	44·0
Tortosa	N.	80·7	311	e 12 5	− 7	22 11	−12	e 39·2	44·2
Algiers		80·9	307	e 12 6	− 7	e 22 20	− 5	e 34·2	46·2
Sitka		81·1	28	e 12 12	− 2	i 22 24	− 3	e 37·2	—
Almeria		84·7	309	e 12 31	− 1	i 22 59	[+ 2]	e 45·9	—
Granada		85·3	310	i 12 34	− 1	i 22 58	[− 3]	—	—
Malaga		86·1	310	e 12 39	0	e 23 11	[+ 4]	41·3	—
Honolulu		87·0	67	—	—	i 23 22	− 5	41·6	—
Ivigtut		87·3	347	—	—	23 24	− 6	42·2	—
San Fernando		87·4	311	e 12 47	+ 2	i 24 1	PS	45·7	47·2
Victoria		92·3	29	e 24 12	S	(e 24 12)	− 5	e 47·3	52·5
Christchurch		95·8	137	e 16 12	?	26 1	PS	—	46·7
Wellington		95·9	135	—	—	i 23 52	[−13]	e 50·2	—
Ukiah		99·4	35	e 17 36	PP	e 24 19	[− 4]	e 43·0	—
Cape Town	E.	101·9	237	20 29	?	32 52	?	47·2	54·2
	N.	101·9	237	20 32	?	33 0	?	48·6	58·7
Tinemaha		103·5	33	i 18 17	[+22]	e 24 40	[− 3]	—	—
Mount Wilson	Z.	105·8	35	i 18 36	[+32]	—	—	—	—
Pasadena		105·9	35	e 18 26	[+21]	—	✓	e 46·2	—
Ottawa		106·0	359	—	—	e 26 4	{+26}	e 46·2	—
East Machias		106·2	352	—	—	e 26 0	{+21}	e 52·0	—
Riverside	Z.	106·4	35	e 18 22	[+16]	—	—	—	—
Vermont		106·8	357	—	—	e 25 0	[+ 2]	e 53·2	—
Toronto		107·7	2	—	—	i 25 47	{− 4}	50·2	—
Oak Ridge		108·8	355	—	—	26 32	{+33}	e 61·2	—
Chicago		108·9	9	—	—	e 26 28	{+29}	e 47·7	—
Tucson		110·9	31	e 18 39	PP	—	—	e 48·7	—
Florissant		111·3	11	—	—	e 25 9	[−10]	i 56·2	63·9
Philadelphia		111·4	358	—	—	e 26 21	{+ 4}	e 59·0	—
St. Louis		111·5	11	—	—	e 25 11	[− 9]	e 57·6	—
Charlottesville		113·3	1	—	—	e 35 12	SS	e 59·2	—
San Juan		132·0	346	e 21 29	PP	—	—	e 68·2	—
Huancayo		163·4	356	e 20 0	[+ 3]	e 44 55	SS	e 70·7	—
La Paz		165·7	326	i 20 4k	[+ 4]	32 12	{+23}	81·7	102·4

Additional readings and notes :—
Nanking SN = +5m.33s., SE = +5m.50s. =SSSS −1s.
Calcutta PPE = +3m.41s., SSE = +7m.11s.
Chiufeng iSE = +6m.21s.
Zi-ka-wei iZ = +4m.9s., +4m.22s., +4m.42s., +5m.18s., +5m.47s., and +7m.0s.
Zinsen iSE = +8m.37s.
Husan ? = +13m.0s.
Agra SSN = +9m.37s. =SSS +1s.
Medan iN = +10m.16s. and +14m.32s.
Sumoto iSEZ = +10m.30s.
Toyooka ePN = +5m.52s., eSZ = +10m.39s.
Kobe PE = +5m.48s., iSE = +11m.42s., P_cSE = +12m.41s.
Nagoya iP = +6m.4s.
Bombay PP = +7m.12s., SS = +12m.23s.
Kodaikanal PPE = +6m.58s., PPPE = +7m.15s., SSE = +12m.39s.
Tashkent e = +8m.18s. and +11m.48s.
Mizusawa ePN = +6m.27s.
Batavia iP = +6m.49s.
Sverdlovsk L_q = +21·2m.
Baku e = +18m.43s. =SSS −4s.
Tiflis PP = +10m.46s., eSS = +19m.24s., L_q = +21·9m.
Moscow L_q = +24·2m.
Ksara P_cP = +10m.43s., PP = +11m.58s., PS = +18m.18s., SS = +21m.54s.
Pulkovo L_q = +25·2m.
Bucharest PSEN = +19m.8s., S_cSEN = +20m.0s., SKKSEN = +20m.18s.
Helwan eP =7h.4m.4s., PPS = +12m.30s., SS = +17m.44s., SSS =21m.55s.
Königsberg ePN = +10m.32s., eN = +20m.22s., eSSSN = +24m.59s., eE = +30m.35s., eZ = +32m.20s., and +34m.7s.

Continued on next page.

Upsala iPE = +10m.31s., PPE = +12m.49s.
Belgrade e = +12m.6s., ePPP = +14m.50s., e = +23m.22s.
Copenhagen +13m.16s. = PP + 2s. and +24m.30s.
Vienna S_cS = +20m.48s.
Graz iSSS = +27m.58s.
Zagreb eP_cP = +11m.23s., ePP = +14m.19s., ePPPNW = +15m.12s.?, ePSNE = +20m.24s., eNE = +20m.57s., eS_cS = +21m.30s., eSSS = +27m.55s., e = +31m.0s.
Bergen e = +16m.39s., SSS = +27m.12s.?
Jena eN = +27m.52s.
Triest i = +15m.33s., iPS = +20m.50s., i = +21m.13s., and +28m.10s.
Göttingen iEN = +21m.11s.
Adelaide e = +16m.35s., i = +21m.18s., e = +25m.2s.
Stuttgart ePP = +13m.34s., ePPP = +15m.35s., eSS = +25m.12s., eSSS = +29m.6s.; T_c = 7h.5m.45s.
College ePS = +27m.35s.
Tananarive N = +30m.29s.
Strasbourg ePP = +13m.56s., iPS = +21m.26s., eSS = +25m.17s.
Zurich iP = +11m.35s.
Uccle SSE = +25m.51s.
Scoresby Sund eZ = +13m.45s., +14m.20s., iPS = +21m.40s., +25m.53s.
Paris PS = +21m.58s.
Kew eEN = +30m.10s.
Stonyhurst pP = +12m.45s., sP = +14m.20s., PS = +21m.57s.
Oxford e = +30m.20s.
Bidston e = +29m.49s.
Melbourne e = +24m.26s., i = +30m.21s., e = +38m.2s., i = +38m.48s., e = +43m.16s., +45m.44s., and +46m.49s.
Riverview iN = +21m.38s., iE = +21m.43s., eN = +30m.12s.
Rathfarnham Castle e = +25m.34s., +35m.4s., and +37m.32s.
Algiers SS = +25m.20s.
Sitka e = +33m.52s.
Honolulu iSS = +28m.42s., i = +29m.50s.
San Fernando iSKS = +23m.31s., SSS = +35m.6s.
Christchurch iEN = +23m.57s., S_cSZ? = +26m.43s., iP_cSS_cPN = +31m.5s., SS = +31m.21s., SSS = +34m.19s.
Ukiah ePS = +26m.41s., eSS = +32m.6s.
Cape Town iPPN = +25m.33s., iPPPE = +27m.37s., iSKKS = +32m.41s., eE = +33m.35s., eN = +33m.50s., PPSE = +34m.41s., eSSN = +40m.15s., eSSE = +40m.40s., eSSSE = +44m.0s., eSSSN = +44m.5s.
Pasadena iZ = +18m.36s.
Ottawa e = +33m.36s.
East Machias e = +31m.3s., eSS = +33m.8s.
Vermont iSKKS = +26m.14s., iPS = +28m.21s., e = +36m.12s., and +47m.35s.
Toronto iE = +27m.11s. and +35m.7s.
Oak Ridge eZ = +26m.36s., eSN = +28m.14s., ePS = +29m.31s., eZ = +30m.27s., eEZ = +34m.5s., eN = +34m.10s.
Chicago eSS = +34m.10s., eSSS = +38m.23s.
Tucson eSS = +34m.36s., eSSS = +38m.48s.
Florissant iSEN = +26m.51s., iPSNZ = +28m.42s., iPPSZ = +29m.29s., iSSE = +34m.32s.
Philadelphia i = +26m.51s., ePS = +28m.40s., eSS = +33m.48s., eSSS = +38m.40s., e = +51m.6s.
St. Louis eSEN = +26m.53s.
Charlottesville e = +44m.12s.
San Juan ePKS = +22m.31s., eSS = +40m.0s., eSSS = +45m.42s.
La Paz iPKP_2 = +20m.40s., PPZ = +24m.57s., iPPP = +28m.40s., iN = +34m.37s., iSKSP = +35m.20s., iSSE = +45m.28s., iSSS = +51m.32s.
Long waves were also recorded at Bagnères, Laibach, Columbia, Bozeman, Seattle, Ann Arbor, and Madison.

May 16d. 19h. 51m. 7s. Epicentre 37°·2N. 121°·7W. N.3.
(see also 1936 May 30d. 10h.).

A = −·4186, B = −·6777, C = +·6046; δ = +4.

		Δ	Az.	P.	O−C.	S.	O−C.
		°	°	m. s.	s.	m. s.	s.
Lick		0·1	17	i 0 0	− 1	i 0 3	0
Branner		0·4	299	e 0 7	+ 1	e 0 15	+ 5
Berkeley		0·8	326	e 0 14	+ 3	e 0 27	+ 6
San Francisco	N.	0·9	313	—	—	e 0 22	− 1

San Francisco gives an additional eN = +26s.

May 16d. Readings also at 2h. (Mount Wilson, Pasadena, Riverside, Tinemaha, Ksara, and Sverdlovsk), 3h. (Tashkent and Tiflis), 4h. (Tiflis), 5h. and 6h. (near Lick), 8h. (Tacubaya, Manila, Zagreb, Tiflis, Frunse, near Samarkand, and near Lick), 9h. (Andijan, Chiufeng, Samarkand, Hong Kong, and Nanking), 13h. (Chiufeng), 14h. (Sverdlovsk and Tashkent), 19h. (Tiflis), 21h. (Sverdlovsk, Tashkent, and Vladivostok), 22h. (Chiufeng, Vladivostok, and near Wellington), 23h. (Sverdlovsk).

May 17d. 15h. 11m. 0s. Epicentre 43°·5N. 83°·0E. N.3.

$A = +\cdot0884$, $B = +\cdot7200$, $C = +\cdot6884$; $\delta = +11$;
$D = +\cdot993$, $E = -\cdot122$; $G = +\cdot084$, $H = +\cdot683$, $K = -\cdot725$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Frunse		6·2	267	e 1 54	P_g	e 2 28	−10	—	—
Semipalatinsk		7·2	346	1 39	− 3	2 58	− 6	—	—
Andijan		8·3	254	—	—	e 3 58	S*	—	—
Tashkent		10·4	268	i 2 25	− 1	—	—	6·6	7·5
Sverdlovsk		19·4	322	e 4 26	+ 3	e 8 4	+10	11·9	—
Chiufeng	N.	24·8	86	—	—	e 9 32	− 5	—	12·7
Tiflis		28·0	281	e 6 53	?	—	—	e 19·2	—
Moscow		31·2	309	—	—	e 13 34	?	—	16·7
Pulkovo		35·3	316	e 6 48	− 4	—	—	16·5	20·9

Additional readings :—
Frunse e = +4m.4s., e = +4m.14s.
Andijan e = +5m.44s.
Tashkent e = +5m.37s., i = +6m.6s., and +6m.21s.
Sverdlovsk L_q = +10·2m.
Tiflis e = +12m.18s., +13m.23s., and +15m.19s.
Moscow e = +14m.34s. and +15m.0s.
Long waves also recorded at Tchimkent, Copenhagen, Prague, Paris, Strasbourg, Stuttgart, Hamburg, and De Bilt.

May 17d. 17h. 38m. 4s. Epicentre 45°·8N. 26°·5E. (as on 1934 March 29d.). X.

$A = +\cdot6239$, $B = +\cdot3111$, $C = +\cdot7169$; $\delta = -2$;
$D = +\cdot446$, $E = -\cdot895$; $G = +\cdot642$, $H = +\cdot320$, $K = -\cdot697$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Bucharest	1·4	192	i 0 24a	P_g	0 42	S*	—	—
Czernowitz	2·5	351	i 0 53	P_g	—	—	—	1·4
Belgrade	4·4	259	e 1 0	− 3	e 2 20	S_g	—	—
Sebastopol	5·1	102	e 1 15	+ 2	i 2 11	+ 1	e 2·4	—
Budapest	5·3	291	1 18	+ 3	3 8	S_g	—	—
Simferopol	5·4	96	—	—	i 2 12	− 6	e 2·6	—
Yalta	5·6	101	i 1 20	0	i 2 10	−13	e 2·6	—
Theodosia	6·3	94	e 1 31	+ 1	e 2 40	− 1	—	—
Vienna	7·3	293	e 1 39	− 5	—	—	—	—
Graz	7·6	283	i 1 48	0	i 4 24	+70	e 4·9	5·4
Triest	8·9	274	i 2 5a	− 1	3 52	+ 6	—	—
Prague	9·1	302	e 2 5	− 4	e 4 12	+21	e 4·5	5·4
Königsberg	9·8	339	i 2 21	+ 3	e 4 6	− 2	—	—
Piatigorsk	11·9	93	e 3 46	+59	—	—	—	—
Moscow	12·1	31	e 2 46	− 4	—	—	—	6·6
Copenhagen	13·2	323	3 1	− 4	5 44	+12	7·9	—
Tiflis	13·8	101	i 3 13	0	i 6 1	+15	e 7·9	14·1
Grozny	13·9	94	e 3 18	+ 4	—	—	—	—
Ksara	14·0	146	e 2 54	−21	e 5 35	−16	—	—
Pulkovo	14·0	8	3 13	− 2	6 0	+ 9	6·8	7·4
Sverdlovsk	23·7	50	5 5	− 2	9 13	− 5	—	—

For Notes see next page.

NOTES TO MAY 17d. 17h. 38m. 4s.

Additional readings and notes :—
Bucharest iEN = +26s. and +32s.
Belgrade e = +1m.39s. and +1m.53s.
Budapest PP = +1m.58s., PPS = +3m.14s.
Triest iPPP = +2m.13s., i = +5m.47s.
Königsberg eSN = +4m.9s., eZ = +4m.56s., +5m.19s., and +6m.40s.
Moscow e = +3m.8s. and +4m.56s., i = +5m.55s.
Long waves were also recorded at Paris, Strasbourg, Stuttgart, De Bilt, and Edinburgh.

May 17d. Readings also at 4h. (near Erevan and Tiflis), 5h. (Sotchi, Baku, Grozny, Piatigorsk, Ksara, Tashkent, and near Sumoto), 6h. (near Samarkand), 10h. (Chiufeng, Nanking, Manila, Tashkent, and Sverdlovsk), 11h. (Tiflis, Pulkovo, Copenhagen, and Stuttgart), 12h. (New Plymouth), 13h. (Tiflis, Adelaide, Frunse, and near Andijan), 14h. (Baku), 16h. (Hamburg and near Malabar), 18h. (near Triest), 22h. (Chiufeng, Nanking, and Malaga), 23h. (Samarkand, Tashkent, and near Frunse).

May 18d. 20h. 18m. 58s. Epicentre 3°·0S. 124°·5E. N.3.

A = −·5656, B = +·8230, C = −·0523 ; δ = −3 ;
D = +·824, E = +·566 ; G = +·030, H = −·043, K = −·999.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Manila		17·9	349	i 4 30	+25	8 12	+50	10·0	—
Medan		26·6	285	i 4 21?	−74	i 7 49?	?	—	—
Nanking		35·5	352	6 40	−13	12 4	−25	15·6	—
Riverview	E.	39·6	145	—	—	e 14 8	+38	—	—
Chiufeng		43·8	351	8 5a	+ 2	14 31	− 2	—	—
Almata		62·9	324	e 10 29	+ 4	—	—	—	—
Frunse		64·2	322	e 10 34	0	—	—	—	—
Andijan		64·5	318	10 36	+ 1	e 19 18	+ 4	—	—
Tashkent		66·8	318	10 47	− 4	i 19 29	−13	—	41·7
Samarkand		67·7	315	e 10 56	0	20 2	PS	—	—
Sverdlovsk		78·6	330	i 11 59	− 1	21 48	−12	41·0	—
Grozny		84·0	314	e 12 27	− 1	22 23	[−29]	—	—
Tiflis		84·4	313	—	—	e 22 23	[−32]	—	—
Ksara		90·6	303	e 12 57	− 3	—	—	—	—
Moscow		90·7	326	e 22 55	?	e 24 32	+29	—	—

Additional readings :—
Riverview eN = +15m.8s.
Chiufeng SS?E = +17m.26s.
Tiflis e = +22m.49s., eL = +23m.26s.
Ksara ePPS = +25m.7s., eSS = +29m.43s.

May 18d. Readings also at 0h. (Sverdlovsk and Semipalatinsk), 3h. (near Taihoku), 4h. (Ksara), 5h. (Tiflis), 10h. (Chiufeng, Nanking, Phu-Lien, Samarkand, Frunse, Tashkent (2), Pulkovo, Irkutsk, and Scoresby Sund), 11h. (Sverdlovsk), 12h. (Frunse and near Almata), 13h. (Ravensburg, Stuttgart, near Chur, Neuchatel, and Zurich), 15h. (near Wellington), 16h. (Sumoto), 17h. (Bagnères), 19h. (near Mizusawa and Nagoya), 20h. (Chiufeng and Phu-Lien), 21h. (near Belgrade), 22h. (La Plata, Florence, and near Triest).

May 19d. 7h. 22m. 33s. Epicentre 5°·9S. 112°·5E. N.2.

A = −·3807, B = +·9190, C = −·1028; δ = +6;
D = +·924, E = +·383: G = +·039, H = −·095, K = −·995.

A depth of focus 0·080 has been assumed. See "Provisional Catalogue of deep focus earthquakes in the East Indies," H. P. Berlage, where depth 600 k.m. is suggested.

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Malabar		+1·0	5·0	255	i 1 31	+ 6	i 2 48	+15	—	—
Batavia		+0·8	5·6	267	i 1 35	+ 4	i 2 56	+13	—	—
Medan		−2·5	16·7	305	3 27	+ 9	i 6 14	+18	—	—
Manila		−3·5	22·1	22	4 11	− 3	i 6 46	−52	—	—
Palau		−4·1	25·6	59	3 41	−64	7 24	−72	—	—
Phu-Lien		−4·4	27·3	349	e 4 58	− 2	e 11 57	?	—	12·2
Hong Kong		−4·6	28·2	4	6 34	+88	12 8	?	—	—
Kosyun		−4·7	29·0	15	5 13	0	9 13	−15	—	—
Taito		−4·9	29·9	15	5 31	+11	—	—	—	—
Taityu		−5·0	31·1	15	5 30	0	—	—	—	—
Karenko		−5·0	31·2	16	5 29	− 2	—	—	—	—
Taihoku		−5·1	32·2	16	5 39	0	i 10 5	−12	—	—
Isigakizima		−5·1	32·3	20	5 38	− 2	10 8	−10	—	—
Calcutta	E.	−5·6	36·9	321	—	—	e 10 29	−55	—	—
Adelaide		−5·7	37·7	144	i 11 22	S	(i 11 22)	−13	—	—
Kodaikanal	E.	−5·8	38·4	295	e 10 27?	S	(e 10 27?)	−78	—	—
Nanking		−5·8	38·4	8	6 29	+ 1	i 11 39	− 6	15·2	—
Hyderabad		−6·1	40·9	306	—	—	12 23	+ 5	—	15·5
Melbourne		−6·4	43·5	142	—	—	i 12 50	− 3	—	—
Riverview	N.	−6·6	45·4	133	—	—	i 13 17	− 1	—	—
Sydney		−6·6	45·4	133	—	—	e 12 39	−39	16·3	24·4
Kobe		−6·7	45·9	27	e 7 20	− 5	13 27	+ 3	—	—
	Z.	−6·7	45·9	27	7 28	+ 3	e 13 20	− 4	—	—
Kameyama		−6·8	46·6	28	7 31	+ 1	13 34	+ 1	—	—
Agra	E.	−6·8	46·9	217	e 9 23	PP	i 13 39	+ 1	—	—
Nagoya		−6·9	47·1	28	e 7 36	+ 2	e 13 42	+ 3	—	—
Gihu		−6·9	47·2	28	7 35	0	13 42	+ 1	—	—
Misima		−7·0	48·0	29	7 40	0	—	—	—	—
Kohu		−7·0	48·2	29	7 43	+ 1	13 54	0	—	—
Toyama		−7·0	48·4	27	7 46	+ 2	14 1	+ 4	—	—
Oiwake		−7·1	48·8	28	7 49	+ 3	13 57	− 5	—	—
Nagano		−7·1	48·9	27	7 50	+ 3	14 5	+ 2	—	—
Kumagaya		−7·1	49·0	29	7 51	+ 3	—	—	—	—
Maebasi		−7·1	49·0	29	7 45	− 3	14 3	− 2	—	—
Tukubasan		−7·1	49·4	29	7 50	− 1	14 8	− 2	—	—
Tyosi		−7·1	49·4	31	7 50	− 1	14 12	+ 2	—	—
Kakioka		−7·1	49·5	29	7 49	− 3	14 9	− 2	—	—
Mito		−7·2	49·7	29	7 56	+ 3	14 14	+ 1	—	—
Hukusima		−7·3	50·8	30	8 3	+ 2	14 32	+ 4	—	—
Yamagata		−7·3	51·2	29	8 7	+ 3	—	—	—	—
Sendai		−7·3	51·4	29	8 7	+ 1	14 41	+ 4	—	—
Vladivostok		−7·4	52·1	18	i 8 14	+ 4	14 52	+ 6	18·2	—
Mizusawa		−7·4	52·2	28	e 8 11	0	i 14 51	+ 4	—	—
Almata		−7·8	58·7	331	9 2	+ 4	16 23	+10	—	—
Andijen		−7·9	59·4	325	e 9 1	− 2	—	—	—	—
Frunse		−7·9	59·7	328	9 4	− 1	i 10 32	P P	—	—
Tashkent		−8·0	61·5	324	i 9 18	0	i 16 50	+ 1	—	—
Samarkand		−8·0	61·9	321	e 9 20	− 1	e 16 53	− 1	—	—
Tchimkent		−8·0	62·0	325	e 9 20	− 1	—	—	—	—
Christchurch		−8·1	64·5	136	i 9 37	− 2	i 17 29	+ 1	—	—

Continued on next page.

	Corr. for Focus	Δ	Az.	P.	O–C.	S.	O–C.	L.	M.
	°	°	°	m. s.	s.	m. s.	s.	m.	m.
Baku	−8·7	73·6	315	e 10 34	− 4	—	—	33·4	37·8
Sverdlovsk	−8·8	75·5	334	i 10 46	− 4	i 19 38	− 3	—	—
Erevan	−9·0	77·4	313	e 10 43	−18	—	—	—	—
Grozny	−9·0	77·6	317	e 10 58	− 4	i 20 1	− 3	—	—
Tiflis	−9·0	77·7	315	i 10 55	− 8	i 19 59	− 6	e 35·4	—
Ksara	−9·3	82·3	304	i 11 20k	− 9	20 33	−24	—	—
Helwan	−9·4	85·3	300	e 11 45	0	i 21 4	−26	—	—
Moscow	−9·5	86·5	327	i 11 36	−16	21 24	−19	—	—
Pulkovo	−9·7	91·1	330	11 59	−16	i 22 9	[−90]	31·4	—
Triest	−9·9	100·3	315	—	—	e 22 17	[−130]	—	—
Copenhagen	−9·9	100·5	326	e 16 57	PP	e 23 31	[−57]	—	—
Hamburg	−9·9	102·2	324	—	—	e 22 27?	[−129]	—	—
Stuttgart	−10·0	103·2	318	e 12 54	−18	e 25 27	?	e 57·4	—
Strasbourg	—	104·2	319	—	—	24 27?	{−58}	—	—
Paris	—	107·5	319	—	—	(e 25 27?)	{−22}	e 25·4	—
Edinburgh	—	109·1	327	—	—	e 24 27?	{−94}	—	—
Scoresby Sund	—	109·3	346	18 5	PP	24 3	[−67]	—	—
Santa Barbara z.	—	124·1	52	i 17 49	[−66]	—	—	—	—
Tinemaha	—	124·3	49	i 17 50	[−66]	—	—	—	—
Haiwee	—	124·9	50	e 17 51	[−66]	—	—	—	—
Pasadena	—	125·4	52	i 17 52k	[−66]	—	—	—	—
Mount Wilson z.	—	125·5	52	i 17 52k	[−66]	—	—	—	—
Riverside z.	—	126·1	52	i 17 53k	[−66]	—	—	—	—
La Jolla z.	—	126·6	53	i 17 54	[−66]	—	—	—	—
Tucson	—	131·8	51	e 18 6	[−64]	—	—	—	—
Florissant	—	141·1	29	e 18 17	[−66]	—	—	—	—
St. Louis	—	141·3	29	e 18 17	[−66]	i 27 25	?	—	—
Little Rock	—	143·1	36	i 18 23	[−64]	—	—	—	—
Oak Ridge	—	143·2	4	i 18 24	[−64]	—	—	—	—
Philadelphia	—	145·3	9	i 18 31	[−64]	—	—	—	—
La Paz	—	157·6	179	i 18 49k	[−62]	(42 7)	?	42·1	—
Huancayo	—	160·4	156	e 19 5	[−49]	e 42 46	?	—	—

Additional readings :—
Malabar P_cP = +6m.51s., S_cS = +13m.31s.
Hong Kong PP = +7m.46s., P_cP = +9m.13s.
Taihoku iN = +7m.19s.
Adelaide iS = +14m.46s., i = +15m.27s., +16m.57s., and +17m.27s.
Nanking iN = +8m.7s., eN = +10m.29s.
Melbourne i = +16m.1s. and +24m.15s.
Riverview iE = +13m.20s., iZ = +13m.27s., eN = +16m.39s.
Agra SSE = +16m.18s., SSSE = +16m.54s.
Vladivostok sP = +11m.7s., sPP = +13m.4s.
Tashkent PP = +12m.11s., sPP = +14m.31s., esS = +20m.17s., esSS = +24m.7s.
Baku SP = +19m.19s.
Sverdlovsk ipP = +12m.50s., isS = +23m.16s.
Tiflis pP = +12m.59s., sS = +23m.39s.
Ksara ipP = +13m.26s., esP = +14m.29s., pPP = +16m.29s., SKS = +20m.49s., sS = +24m.16s.
Helwan pP = +11m.55s., e = +13m.39s., sS = +21m.19s., e = +22m.15s. and +22m.53s.
Moscow ipP = +13m.45s., PS = +22m.26s., esS = +25m.5s.
Pulkovo pP = +14m.8s., PP = +15m.52s., sPP = +18m.43s., SKS = +21m.35s., SS = +25m.35s.
Triest e = +26m.32s. and +29m.38s.
Copenhagen eE = +19m.57s., +25m.3s., and +28m.57s.
Stuttgart ePPEZ = +17m.17s.
Scoresby Sund +21m.4s. and +26m.39s.
Tinemaha i = +19m.40s.
Haiwee e = +19m.46s.
Pasadena iZ = +19m.47s., +20m.9s., +20m.12s., +20m.17s., and +20m.33s.
Mount Wilson iZ = +19m.47s., +20m.12s., and +20m.32s.
Riverside eZ = +19m.45s. and +20m.9s., iZ = +20m.34s.
Florissant ePKP = +21m.6s., ipPKPEN = +22m.1s., ePPE = +23m.48s.
St. Louis ePKP = +21m.5s., eSKPE = +24m.31s.
Little Rock i = +18m.37s.
Oak Ridge iEZ = +20m.44s., eZ = +21m.8s., iZ = +21m.42s.
Philadelphia ePP = +21m.51s., e = +35m.6s. and +40m.2s.
La Paz iPPZ = +21m.11s., iN = +28m.57s.
Huancayo e = +21m.49s.

May 19d. 16h. 24m. 15s. Epicentre 42°·5N. 89°·3E. (as on 1922 Sept. 29d.). R.3.

$A = +\cdot0090$, $B = +\cdot7372$, $C = +\cdot6756$; $\delta = -2$;
$D = +1\cdot000$, $E = -\cdot012$; $G = +\cdot008$, $H = +\cdot676$, $K = -\cdot737$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Semipalatinsk	10·0	325	e 2 49	+28	e 5 21	S_g	—	—
Frunse	10·8	277	e 2 29	− 3	e 4 32	− 1	—	5·7
Andijan	12·7	268	e 3 29	+31	e 5 9	−11	—	—
Tchimkent	14·5	276	e 4 49	?	e 6 59	+56	—	—
Tashkent	14·9	272	e 3 22	− 5	4 52	?	e 5·8	8·2
Samarkand	17·0	268	e 4 1	+ 7	—	—	e 8·8	—
Chiufeng	20·2	87	e 8 39	S	(e 8 39)	SS	12·2	—
Sverdlovsk	23·2	319	i 5 8	+ 5	i 9 18	+10	11·8	—
Nanking	25·5	105	—	—	e 10 18	+28	e 16·3	—
Baku	29·4	280	(e 7 45?)	?	—	—	e 7·8	—
Tiflis	32·6	282	e 6 37	+ 9	e 13 19	SS	e 16·6	—
Moscow	35·4	310	e 6 47	− 6	—	—	—	21·8
Pulkovo	39·2	317	e 7 25	0	e 13 22	− 2	17·8	22·2
Ksara	42·2	276	6 45?	−65	—	—	—	—
Copenhagen	49·3	314	—	—	15 57	+ 6	22·8	—

Additional readings :—
Andijan e = +5m.57s.
Chiufeng ePZ = +8m.46s., SNZ = +11m.5s., iN = +11m.13s., iEZ = +11m.20s.
Nanking eS = +13m.54s.
Moscow e = +14m.57s., +17m.56s., and +18m.28s.
Ksara +11m.45s.?
Long waves were also recorded at Vladivostok, Piatigorsk, Grozny, Prague, Hamburg, De Bilt, Cheb, and Stuttgart.

May 19d. 20h. 50m. 16s. Epicentre 9°·0S. 124°·0E. N.2.

$A = -\cdot5523$, $B = +\cdot8188$, $C = -\cdot1564$; $\delta = -7$;
$D = +\cdot829$, $E = +\cdot559$; $G = +\cdot087$, $H = -\cdot130$, $K = -\cdot988$.

A depth of focus 0·015 has been assumed.

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Malabar		−0·5	16·3	275	i 3 40	+ 1	i 6 43	+ 9	—	—
Batavia		−0·5	17·3	278	i 3 50	− 2	i 7 6	SS	—	—
Palau		−0·6	19·4	33	4 20	+ 4	7 55	SS	—	—
Manila		−0·8	23·8	352	i 4 58a	− 3	i 9 13	+ 8	—	—
Perth		−0·8	24·2	198	5 9	+ 4	9 14	+ 2	11·7	—
Medan		−0·9	28·2	297	i 5 41	0	i 10 34	+14	—	—
Adelaide		−1·0	29·2	156	i 5 47	− 2	i 10 59	+24	i 16·7	18·6
Kosyun		−1·0	31·2	355	6 7	0	11 5	− 2	—	—
Taito		−1·1	31·9	355	6 19	+ 7	—	—	—	—
Hong Kong		−1·1	32·8	343	6 21	+ 1	11 26	−.5	—	16·7
Phu-Lien		−1·2	34·3	331	e 6 33	0	e 11 50	− 2	—	—
Melbourne		−1·2	34·5	150	e 7 6	+32	i 12 31	+36	17·2	21·9
Riverview		−1·2	35·2	140	i 6 42	+ 2	i 12 11	+ 5	—	24·2
Sydney		−1·2	35·2	140	e 6 8	−32	—	—	19·6	20·5
Titizima		−1·3	40·2	26	—	—	13 15	− 5	—	—
Zi-ka-wei	z.	−1·3	40·3	357	e 7 22	− 2	e 16 14	SSS	—	—
Nanking		−1·3	41·4	354	i 7 33	0	i 13 40	+ 2	—	—
Wakayama		−1·4	44·5	14	7 58	0	14 25	+ 3	—	—
Kobe		−1·4	45·0	13	e 8 2	0	14 31	+ 1	—	—
Kameyama		−1·4	45·4	15	8 6	+ 1	14 36	0	—	—
Nagoya		−1·4	45·8	15	8 10	+ 2	14 39	− 2	—	—
Ibukisan		−1·4	45·9	15	—	—	14 44	+ 1	—	—
Misima		−1·4	46·3	18	8 13	+ 1	—	—	—	—
Kobu		−1·4	46·7	17	8 14	− 1	15 5	+10	—	—
Colombo		−1·4	46·8	288	7 19	−57	—	—	—	—

Continued on next page.

		Corr. for Focus	Δ	Az.	P.	O–C.	S.	O–C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Calcutta	E.	−1·4	47·0	313	8 18	0	15 2	+ 3	—	—
Toyama		−1·4	47·3	14	8 22	+ 2	—	—	—	—
Husiki		−1·4	47·4	14	—	—	15 10	+ 6	—	—
Oiwake		−1·4	47·4	17	8 19	− 2	14 59	− 5	—	—
Tyosi		−1·4	47·5	20	8 29	+ 8	—	—	—	—
Nagano		−1·5	47·6	16	8 23	+ 2	15 5	− 1	—	—
Maebasi		−1·5	47·6	17	8 24	+ 3	15 4	− 2	—	—
Kakioka		−1·5	47·7	18	8 18	− 4	15 8	+ 1	—	—
Mito		−1·5	48·0	18	—	—	14 44	−28	—	—
Niigata		−1·5	49·0	16	—	—	15 31	+ 5	—	—
Hukusima		−1·5	49·2	18	8 35	+ 1	15 31	+ 2	—	—
Chiufeng		−1·5	49·6	353	i 8 34a	− 3	15 32	− 2	—	—
Yamagata		−1·5	49·7	18	—	—	15 40	+ 4	—	—
Kodaikanal	E.	−1·5	50·1	292	e 6 58	?	—	—	—	—
Mizusawa		−1·5	50·7	18	e 8 36	− 9	15 48	− 2	—	—
Hyderabad		−1·5	52·2	301	e 8 53	− 4	20 53	SSS	41·8	60·8
Vladivostok		−1·6	52·6	8	e 8 59	0	e 16 18	+ 3	—	—
Sapporo		−1·7	54·4	16	—	—	16 33	− 5	—	—
Christchurch		−1·7	54·5	138	i 8 58	−14	16 46	+ 7	—	—
Wellington		−1·7	55·1	135	8 44?	−33	i 16 54	+ 7	e 25·7	37·7
Agra	E.	−1·7	57·4	311	9 28	− 6	i 17 13	− 6	—	—
Bombay		−1·8	57·7	299	e 9 33	− 2	17 23	+ 2	—	—
Frunse		−2·0	68·6	323	e 10 48	− 1	e 19 41	+ 1	—	—
Andijan		−2·0	68·8	321	e 10 48	− 3	e 19 42	0	—	—
Semipalatinsk		−2·0	70·5	333	e 11 0	− 1	—	—	—	—
Tashkent		−2·0	71·0	319	i 11 2	− 3	i 20 8	− 1	e 33·8	—
Tchimkent		−2·0	71·3	321	e 11 4	− 2	e 20 15	+ 2	—	—
Samarkand		−2·0	71·7	317	e 11 6	− 3	e 20 14	− 4	—	—
Sverdlovsk		−2·1	83·6	331	i 12 18	+ 2	i 22 27	− 5	36·7	—
Baku		−2·1	84·0	313	e 12 23	+ 5	e 22 36	0	44·7	55·9
Grozny		−2·1	87·8	314	e 12 38	+ 1	23 10	− 5	—	—
Erevan		−2·1	87·9	312	e 12 44	+ 7	—	—	—	—
Tiflis		−2·1	88·0	313	i 12 36	− 2	i 22 55	[−25]	43·7	—
Piatigorsk		−2·1	89·8	315	e 12 43	− 3	i 23 9	[−22]	—	—
Sotchi		−2·1	92·1	314	e 12 50	− 7	—	—	—	—
Ksara		−2·2	93·4	303	i 13 0	− 3	23 28	[−24]	44·1	—
Moscow		−2·2	95·4	325	e 13 8	− 4	e 24 10	{− 8}	—	—
Yalta		−2·2	96·2	313	i 17 9	PP	e 23 39	[−28]	—	—
Simferopol		−2·2	96·3	314	e 17 8	PP	e 23 32	[−36]	—	—
Sebastopol		−2·2	96·6	314	e 17 12	PP	—	—	—	—
Helwan		−2·2	96·8	298	—	—	e 23 44	[−26]	—	—
Pulkovo		−2·2	99·6	329	13 26	− 6	e 23 57	[−26]	—	—
Upsala	E.	—	106·0	330	18 18	PP	—	—	—	—
Vienna		—	108·4	317	e 18 21	PP	—	—	—	—
Prague		—	109·4	320	e 18 44	PP	e 28 19	PS	e 50·5	—
Copenhagen		—	109·5	326	18 43	PP	24 46	[−25]	—	—
Trieste		—	110·5	315	e 18 33	PP	i 26 24	?	—	—
Cheb		—	110·7	320	e 18 55	PP	e 24 48	[−28]	e 50·7	—
Hamburg		—	111·4	324	e 18 47	PP	—	—	—	—
Bergen		—	111·7	332	e 19 6	PP	e 25 44	?	e 51·5	—
Florence		—	112·6	313	19 14	PP	28 44	PS	—	—
Stuttgart		—	113·0	319	18 48	PP	e 28 44	PS	—	—
Chur		—	113·2	318	e 18 22	[− 6]	—	—	—	—
Strasbourg		—	114·0	319	e 19 7	PP	e 28 44?	PS	e 49·7	—
De Bilt		—	114·6	324	e 19 24	PP	e 27 2	?	—	—
Scoresby Sund		—	114·9	348	19 26	PP	25 9	[−24]	—	—
Uccle		—	115·5	322	e 19 31	PP	e 29 18	PS	e 54·7	—
Paris		—	117·2	320	e 19 44?	PP	—	—	64·7	—
Tinemaha	z.	—	117·4	53	i 18 33	[− 6]	—	—	—	—
Edinburgh		—	117·6	329	e 19 44?	PP	e 29 56	?	e 59·7	—
Haiwee	z.	—	117·8	54	i 18 30	[−10]	—	—	—	—
Kew		—	118·0	324	—	—	e 27 27	?	e 57·7	—
Pasadena		—	118·0	57	i 18 34	[− 7]	e 25 22	[−22]	e 54·7	—
Mount Wilson	z.	—	118·1	57	i 18 34	[− 7]	e 25 17	[−27]	—	—
Oxford		—	118·4	325	e 19 21	PP	e 27 30	?	e 60·7	—

Continued on next page.

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Riverside	Z.	—	118·7	56	i 18 35	[− 7]	—	—	—	—
La Jolla	Z.	—	118·9	57	e 18 35	[− 8]	—	—	—	—
Tucson		—	124·4	57	—	—	(e 39 56)	?	e 39·9	—
San Fernando		—	127·3	309	—	—	e 30 44	SKSP	—	—
Florissant		—	137·2	40	e 22 36	PP	e 35 37	?	e 62·3	—
Little Rock		—	137·9	47	e 22 26	PP	—	—	—	—
Ottawa		—	139·8	21	—	—	e 40 44?	SS	e 66·7	—
Toronto	N.	—	139·8	27	—	—	e 40 22	SS	—	—
Philadelphia		—	144·6	26	—	—	e 35 11	—	—	—
Rio de Janeiro		—	145·8	202	—	—	e 39 44?	SS	—	—
Huancayo		—	151·5	136	e 19 2	[−41]	e 43 52	SS	e 77·0	—
La Paz		—	151·8	155	i 19 43k	[− 1]	i 30 7	{−26}	76·7	123·4

Additional readings :—
Perth PP = +5m.44s., PPP = +5m.54s., SS = +9m.59s.
Medan iSE = +12m.1s.
Adelaide i = +6m.42s., +6m.55s., +7m.5s., +11m.36s., +12m.49s., +13m.30s., and +14m.16s.
Hong Kong PP? = +6m.49s.
Melbourne i = +13m.57s., SSSS = +14m.14s.
Riverview i = +8m.3s., iN = +14m.21s., iE = +14m.42s.
Nanking i = +17m.13s.
Chiufeng iS_cS = +18m.14s.
Mizusawa iSE = +15m.53s.
Vladivostok e = +18m.36s.
Christchurch ipP = +9m.16s., isS = +17m.18s.
Agra ePPE = +11m.33s., PSE = +17m.43s., SSSE = +22m.46s.
Tiflis eP_cP = +12m.59s., ePP = +16m.2s., e = +23m.12s.
Ksara PP = +16m.48s., PS = +25m.32s., PPS = +26m.8s., PKKP = +29m.50s., SS = +31m.4s.
Moscow PP = +17m.11s., SKS = +23m.35s.
Yalta eS = +26m.24s.
Pulkovo PP = +17m.30s., PPP = +20m.18s., S = +24m.46s., PPS = +26m.40s.
Copenhagen e = +18m.52s., SKKS = +25m.41s., SN = +26m.16s., PS = +27m.44s., SS = +34m.2s., SSS = +37m.56s.
Triest e = +28m.14s.
Bergen e = +28m.44s.
Stuttgart PKP_2 = +19m.16s., ePP = +21m.16s., eN = +26m.44s.
Strasbourg ePS = +29m.44s.?
De Bilt eZ = +28m.50s., eE = +29m.2s.
Scoresby Sund +28m.56s.
Pasadena iEZ = +19m.39s.
Mount Wilson ePKKPZ = +28m.53s.
Riverside ePKKPZ = +28m.54s.
Little Rock eN = +26m.45s. and +45m.41s.
Philadelphia eSS = +40m.44s.
Huancayo eSS = +42m.44s.
La Paz $iPKP_2Z$ = +20m.24s., SSN = +43m.44s., SSSN = +49m.7s.

May 19d. 21h. 17m. 37s. Epicentre 0°·4N. 98°·0E. X.
(as on 1934 Aug. 21d., but see shock at 21h. 30m. 34s.).

A = −·1392, B = +·9902, C = +·0070 ; δ = −8 ;
D = +·990, E = +·139 ; G = −·001, H = +·007, K = −1·000.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Medan		3·3	13	i 0 12	−35	i 1 20	− 5	—	—
Batavia	Z.	11·0	127	2 11	−24	—	—	—	—
Malabar		12·2	129	e 2 44	− 7	—	—	—	—
Phu-Lien		22·1	22	e 4 57	+ 5	e 9 26	SS	—	—
Kodaikanal	E.	22·7	297	e 5 20	PP	e 9 23	SS	11·4	—
Manila		26·8	57	5 33	− 3	9 52	−20	—	12·9
Hong Kong		27·0	35	6 30	+52	10 12	− 3	—	—
Agra	E.	32·9	326	—	—	i 14 52	?	—	—
Zi-ka-wei		38·0	34	e 7 4	−11	—	—	23·7	26·0
Chiufeng		43·0	20	i 7 56a	− 1	14 37	+16	—	31·6

Continued on next page.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tashkent		45·6	331	e 8 29	+11	i 15 49	+50	—	—
Andijan		46·6	333	e 7 23	−62	—	—	—	—
Frunse		47·4	337	e 7 34	−58	e 16 1	+37	—	—
Semipalatinsk		52·3	346	e 8 28	−41	—	—	—	—
Tiflis		63·1	318	e 9 28	−58	e 17 57	−61	e 36·4	—
Sverdlovsk		63·8	340	e 9 31	−60	19 14	+ 9	—	—
Ksara		66·9	306	e 10 52	+ 1	e 19 54	+11	—	—
Moscow		73·5	329	e 11 39	+ ·7	—	—	—	—
Pulkovo		78·6	333	e 12 10	+10	e 22 0	0	—	—
Prague		85·6	320	—	—	e 23 11	− 3	—	59·4
Triest		85·7	316	—	—	e 21 46	?	—	—
Copenhagen		87·1	327	—	—	23 23	− 5	—	—
Philadelphia		139·2	352	—	—	e 29 8	{−11}	—	—

Additional readings :—
Medan iEN = +2m.30s.
Tashkent e = +9m.16s., e = +9m.44s.
Tiflis eSKS = +19m.5s.
Sverdlovsk i = +10m.36s., e = +14m.36s.
Moscow e = +10m.34s.
Long waves were also recorded at Calcutta, Nanking, Zinsen, Melbourne, College, De Bilt, and Stuttgart.

May 19d. 21h. 30m. 34s. Epicentre 0°·4N. 98°·0E. (as at 21m. 17m.). R.2.

A = −·1392, B = +·9902, C = +·0070 ; δ = −8 ;
D = +·990, E = +·139 ; G = −·001, H = +·007, K = −1·000.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Medan		3·3	13	i 1 9	P_g	—	—	—	—
Batavia		11·0	127	—	—	i 5 49	S_g	—	—
Malabar		12·2	129	e 2 31	−20	—	—	—	—
Phu-Lien		22·1	22	e 7 5	?	e 12 26	?	—	—
Kodaikanal	E.	22·7	297	i 5 16	PP	i 9 25	SS	11·5	14·8
Agra	E.	32·9	326	—	—	e 13 15	SS	—	—
Zi-ka-wei		38·0	34	i 7 16	+ 1	—	—	e 19·4	26·0
Chiufeng		43·0	20	i 7 56a	− 1	—	—	—	31·0
Tashkent		45·6	331	—	—	i 15 48	+49	—	32·9
Adelaide		51·8	138	e 9 26?	+21	e 17 1	+36	—	31·1
Vladivostok		52·4	32	—	—	(i 16 20)	−14	i 16·3	23·1
Erevan		62·7	316	e 10 32	+ 9	—	—	—	—
Tiflis		63·1	318	e 10 26	0	i 19 2	+ 6	—	—
Grozny		63·3	320	e 10 30	+ 3	—	—	—	—
Sverdlovsk		63·8	340	i 10 35	+ 4	19 15	+10	—	38·0
Piatigorsk		65·9	320	e 10 44	− 1	—	—	—	—
Ksara		66·9	306	i 10 50	− 1	19 55	+12	31·4	—
Sotchi		67·3	311	e 10 56	+ 2	—	—	—	—
Yalta		71·3	317	—	—	e 19 45	−52	—	—
Simferopol		72·2	318	—	—	e 20 40	− 7	—	—
Moscow		73·5	329	—	—	e 21 0	− 3	e 29·9	46·3
Pulkovo		78·6	333	e 12 2	+ 2	e 21 54	− 6	35·4	37·9
Cape Town		81·6	237	e 14 8	?	—	—	28·3	45·5
Vienna		84·1	318	e 12 31	+ 2	e 22 57	− 2	—	—
Prague		85·6	320	—	—	e 23 20	+ 6	—	62·4
Triest		85·7	316	—	—	i 23 8	[+ 4]	e 33·2	39·9
Cheb		86·9	329	—	—	e 22 26?	[−47]	—	61·4
Copenhagen		87·1	327	12 45	+ 1	23 26	− 2	—	—
Chur		88·7	318	e 12 50	− 1	e 23 37	− 7	—	—
Stuttgart		88·8	319	e 12 51	− 1	—	—	—	—
Zurich		89·3	318	e 12 53	− 1	—	—	—	—
Tinemaha	z.	129·7	38	i 22 23	PKS	—	—	—	—
Pasadena	z.	131·6	41	i 19 6	[− 4]	—	—	—	—
Mount Wilson	z.	131·7	41	e 19 3	[− 7]	—	—	—	—
Riverside	z.	132·2	41	e 19 5	[− 5]	—	—	—	—

Continued on next page.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Vermont	134·4	351	—	—	e 27 36	[+64]	—	—
Philadelphia	139·2	352	—	—	e 28 6	?	e 62·9	—
Little Rock	143·5	15	i 19 27	[− 2]	—	—	—	—

Additional readings :—
Medan iE = +1m.27s., iN = +1m.38s., +2m.6s., +2m.28s. and +2m.52s.
Agra iE = +14m.50s.
Adelaide i = +18m.2s.
Ksara PS = +20m.29s.
Pasadena eZ = +21m.26s., i = +22m.44s.
Mount Wilson eZ = +21m.25s., +22m.44s.
Philadelphia e = +40m.56s.
Little Rock i = +19m.35s.
Long waves were also recorded at Hong Kong, Melbourne, Samarkand, Andijan, Nanking, Colombo, Sitka, Ivigtut, Oak Ridge, Hamburg, and San Fernando.

May 19d. Readings also at 0h. (Hong Kong (2), Chiufeng, Phu-Lien, Nanking, Irkutsk, Sverdlovsk, Tashkent, Pulkovo, Copenhagen, Tananarive, and near Mizusawa), 2h. (Batavia), 3h. (Apia and near Triest), 4h. (Phu-Lien), 5h. (Ksara and Phu-Lien), 6h. (La Paz), 9h. (Stuttgart and Triest), 10h. (Hong Kong, Phu-Lien, Nanking, Chiufeng, Irkutsk, Vladivostok, and Tashkent), 12h. (near Balboa Heights), 13h. (La Plata), 16h. (Tiflis and Copenhagen), 17h. (Sebastopol, Simferopol, Yalta, and San Juan), 18h. (Frunse), 19h. (near Triest), 21h. (Mount Wilson, Pasadena, Riverside, and Tinemaha), 23h. (Stuttgart).

May 20d. 0h. 16m. 8s. Epicentre 13°·4N. 121°·5E. (as on 1931 May 29d.). X.

$$A = -\cdot5083,\ B = +\cdot8294,\ C = +\cdot2317;\quad \delta = -4;$$
$$D = +\cdot853,\ E = +\cdot522;\quad G = -\cdot121,\ H = +\cdot198,\ K = -\cdot973.$$

Depth of focus 0·025 is assumed.

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Manila		+0·6	1·3	337	i 0 28a	0	i 0 50	+ 1	—	—
Hong Kong		−0·4	11·3	323	2 26k	− 7	4 25	−11	—	6·0
Zi-ka-wei	z.	−0·8	17·8	0	3 55	+ 1	7 9	+ 7	—	—
Nanking		−0·9	18·8	353	i 4 6	+ 1	i 7 26	+ 4	—	—
Batavia		−1·3	24·4	217	i 5 5a	+ 3	9 14	+ 7	—	—
Chiufeng		−1·5	27·1	352	e 5 52	PP	9 44	− 7	—	—
Agra	E.	−2·2	42·8	296	e 9 47	?	e 13 41	− 4	—	—
Frunse		−2·6	49·8	316	e 8 38	+ 8	—	—	—	—
Tashkent		−2·8	53·1	314	9 9	+15	i 16 8	+ 3	e 26·0	30·8
Sverdlovsk		−3·1	63·0	328	i 10 12	+ 8	18 25	+10	28·9	—
Grozny		−3·2	70·5	312	e 10 55	+ 1	—	—	—	—
Tiflis		−3·2	71·2	310	e 10 49	− 9	e 19 59	+ 2	e 33·9	42·8
Erevan		−3·2	71·5	309	e 11 0	0	—		—	—
Piatigorsk		−3·2	72·4	313	e 11 8	+ 2	—	—	—	—
Moscow		−3·3	75·5	325	—	—	i 20 43	− 4	e 38·6	42·4
Yalta		−3·3	78·7	314	e 12 8	+25	e 21 24	− 1	—	—
Simferopol		−3·3	78·8	315	e 11 41	− 2	e 21 18	− 8	—	—
Ksara		−3·3	79·0	302	i 11 44a	0	21 29	+ 1	—	—
Pulkovo		−3·3	79·0	330	11 39	− 5	21 21	− 7	36·9	46·9
Copenhagen		−3·5	89·2	329	—	—	23 7	− 8	43·9	—
Scoresby Sund		−3·5	92·4	350	—	—	23 10	[−37]	—	—
Triest		−3·5	92·4	319	e 13 31	+39	i 22 58	[−49]	—	45·9

Additional readings :—
Zi-ka-wei iZ = +4m.47s.
Chiufeng iN = +11m.33s.
Tiflis e = +24m.24s.
Ksara ipP = +12m.24s., esS = +12m.41s.
Copenhagen +24m.7s.
Triest i = +23m.35s.
Long waves were also recorded at De Bilt, Stuttgart, and Uccle.

May 20d. 3h. 5m. 16s. Epicentre 9°·5S. 160°·8E. (as on 1936 April 28d.). R.1.

A = −·9314, B = +·3244, C = −·1650; δ = −4;
D = +·329, E = +·944; G = +·156, H = −·054, K = −·986.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Riverview		25·9	199	i 5 30	+ 2	i 9 53	− 4	—	14·8
Sydney		25·9	199	e 5 20	− 8	e 9 56	− 1	14·3	15·7
Palau		31·2	301	6 20	+ 4	—	—	—	—
Arapuni		31·6	158	—	—	11 34	+ 5	13·7	16·7
Melbourne		31·7	205	6 25	+ 5	11 23	− 8	13·2	17·7
New Plymouth		31·9	160	6 35?	+13	11 47	+13	15·0	—
Adelaide		32·5	216	i 6 26	− 1	i 11 27	−16	i 14·2	18·5
Wellington		34·1	163	6 43	+ 2	12 9	+ 1	15·7	21·7
Christchurch		35·6	166	i 7 0	+ 6	i 12 34	+ 4	—	—
Manila		46·3	301	i 8 16k	− 7	i 14 57	−12	—	—
Perth		47·2	235	9 15	+45	15 9	−12	20·4	23·7
Nake		48·5	323	9 4	+24	—	—	—	—
Omaesaki		49·0	337	8 28	−16	—	—	—	—
Tyosi		49·0	339	8 52	+ 8	—	—	—	—
Siomisaki		49·1	333	8 48	+ 4	—	—	—	—
Misima		49·2	337	8 45	0	15 53	+ 3	—	—
Numadu		49·2	337	8 51	+ 6	—	—	—	—
Hamamatu		49·3	337	8 39	− 7	—	—	—	—
Tokyo		49·4	338	8 29	−18	—	—	—	—
Hunatu		49·6	337	8 40	− 8	15 50	− 5	—	—
Kakioka		49·7	338	8 39	−10	15 51	− 6	—	—
Tukubasan		49·7	338	8 46	− 3	—	—	—	—
Kohu		49·8	337	8 54	+ 4	—	—	—	—
Kumagaya		49·9	338	8 57	+ 6	—	—	—	—
Simidu		49·9	329	8 23	−28	—	—	—	—
Kameyama		50·0	334	8 51	0	—	—	—	—
Miyazaki		50·0	327	8 52	+ 1	—	—	—	—
Nagoya		50·0	336	e 8 52	+ 1	e 16 1	0	22·2	—
Wakayama		50·1	333	8 55	+ 3	—	—	—	—
Maebasi		50·2	338	8 59	+ 6	—	—	—	—
Osaka		50·2	333	8 38	−15	—	—	—	—
Sumoto		50·2	333	e 8 49	− 4	16 0	− 4	21·8	26·6
Gihu		50·3	336	8 53	− 1	16 2	− 3	—	—
Koti		50·3	330	8 48	− 6	16 4	− 1	—	—
Kosyun		50·3	310	9 12	+18	—	—	—	—
Hikone		50·4	335	8 59	+ 5	—	—	—	—
Kobe		50·4	333	e 8 41	−13	e 15 20	−46	e 21·4	27·1
Oiwake		50·4	337	9 1	+ 7	16 5	− 1	—	—
Ibukisan,		50·5	336	9 6	+11	—	—	—	—
Taito		50·5	310	8 24	−31	—	—	—	—
Nagano		50·8	338	8 57	0	—	—	—	—
Hukusima		50·9	340	9 37	−21	—	—	—	—
Karenko		50·9	312	8 49	− 9	—	—	—	—
Honolulu		51·0	53	e 8 54	− 5	i 16 21	+ 6	i 21·7	—
Sendai		51·2	341	9 8	+ 8	—	—	—	—
Toyama		51·2	337	9 11	+11	—	—	—	—
Toyooka		51·3	334	8 59	− 2	16 14	− 5	e 23·0	27·8
Unzendake		51·3	327	9 5	+ 4	—	—	—	—
Nagasaki		51·5	327	9 3	0	16 19	− 3	—	—
Hukuoka		51·8	329	e 9 3	− 2	e 16 17	− 8	—	—
Hukuoka B		51·8	329	e 9 3	− 2	16 25	0	e 24·9	—
Mizusawa	E.	51·9	342	e 9 8	+ 2	16 32	+ 5	22·3	—
	N.	51·9	342	8 58	− 8	16 25	− 2	21·6	—
Tomie		52·0	326	9 7	+ 1	—	—	—	—
Hamada		52·1	330	9 4	− 3	—	—	—	—
Malabar		52·6	268	i 9 6	− 5	16 23	−14	—	—

Continued on next page.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Batavia		53·5	270	i 9 9	− 9	e 19 2	(− 6)	e 25·7	—
Husan		53·8	328	e 9 20	0	e 16 51	− 2	22·6	—
Taikyu		54·6	328	—	—	e 16 58	− 6	e 22·8	—
Zi-ka-wei	Z.	55·5	320	i 9 29a	− 3	17 7	− 9	27·5	33·4
Sapporo		55·5	343	9 37	+ 5	17 18	+ 2	—	—
Hong Kong		55·7	307	9 33a	− 1	17 4	−15	24·9	28·6
Keizyo		56·7	328	e 9 41	0	e 17 31	− 1	—	—
Zinsen	N.	56·8	327	e 9 42	0	e 17 23	−11	—	—
Nanking		57·8	317	i 9 46	− 3	i 17 44	− 3	i 27·7	32·6
Vladivostok		58·8	336	e 9 55	− 1	e 14 53	?	e 25·7	29·6
Medan		63·2	280	e 10 22	− 5	18 48	− 9	e 36·7	—
Chiufeng	N.	64·5	324	—	—	i 26 24	?	—	34·1
Calcutta		77·8	296	e 11 52	− 5	21 22	−30	—	43·9
Irkutsk		78·3	329	e 11 52	− 7	e 21 44	−13	32·7	41·6
Colombo		82·2	278	12 18	− 1	22 23	−16	40·2	56·4
College		83·6	20	e 11 26	−60	e 21 48	−65	e 34·0	—
Sitka		84·3	29	e 12 30	0	e 23 1	0	e 35·0	—
Ukiah		85·3	50	e 12 37	+ 2	23 10	− 1	—	—
Kodaikanal	E.	85·3	282	i 12 37	+ 2	i 22 54	[− 7]	39·7	—
Berkeley		85·6	50	e 12 41	+ 5	e 23 13	− 1	e 41·0	—
Hyderabad		85·7	288	12 42	+ 5	22 49	[−15]	38·7	54·2
Lick		86·0	51	e 12 44	+ 6	—	—	—	—
Santa Barbara	Z.	86·8	55	e 12 46	+ 4	—	—	—	—
Fresno	N.	87·2	53	e 13 1	+17	e 23 47	+18	—	—
Victoria		87·9	40	e 12 55	+ 8	i 23 42	+ 6	e 42·1	—
Agra	E.	88·0	298	12 41	− 7	i 22 59	[−21]	39·9	—
Pasadena		88·0	55	e 12 49	+ 1	e 23 19	[− 1]	e 39·0	—
Mount Wilson		88·1	55	i 12 50	+ 2	e 23 45	+ 7	—	—
Seattle		88·4	41	—	—	e 23 16	[− 7]	e 36·5	—
La Jolla		88·5	57	i 12 56	+ 6	e 23 27	[+ 4]	—	—
Haiwee		88·6	53	i 12 54	+ 3	e 23 26	[+ 2]	—	—
Riverside		88·6	55	i 12 52	+ 1	e 23 25	[+ 1]	—	—
Tinemaha		88·6	53	i 12 53	+ 2	e 23 35	− 8	—	—
Bombay		91·2	289	e 12 59	− 4	23 37	[− 3]	44·7	62·3
Semipalatinsk		91·4	321	e 13 6	+ 2	e 23 16	[−25]	e 48·7	—
Almata		92·1	314	e 14 44	+97	—	—	—	—
Frunse		93·7	313	e 13 16	+ 2	e 23 44	[−10]	e 48·7	—
Tucson		93·7	58	e 13 28	+14	e 24 43	+13	e 40·4	—
Andijan		95·0	311	e 13 21	+ 1	e 24 30	{+15}	e 41·8	—
Bozeman		95·5	44	—	—	24 12	[+ 9]	e 42·0	—
Tashkent		97·4	312	e 13 27	− 5	24 53	−11	e 37·8	56·3
Tacubaya		102·5	72	e 18 19?	PP	—	—	—	—
Sverdlovsk		103·5	327	i 14 3	+ 3	i 25 42	−15	43·7	61·3
Tananarive		108·4	245	—	—	24 25	[−41]	40·7	57·9
Little Rock		109·2	57	e 19 6	PP	e 25 14	[+ 4]	e 50·2	55·8
Florissant		110·6	51	i 14 40k	+ 7	i 25 12	[− 4]	e 48·0	64·0
St. Louis		110·7	51	e 18 20	[0]	e 25 14	[− 2]	e 50·6	57·5
Baku		112·0	310	e 14 31	− 9	e 25 12	[−10]	52·7	71·0
Chicago		112·4	47	e 19 24	PP	e 26 20	{− 4}	e 47·1	—
Grozny		114·6	313	e 18 53	[+21]	—	—	54·4	—
Cincinnati		115·1	51	e 15 1	+ 5	—	—	—	—
Ann Arbor		115·2	46	—	—	e 26 50	{+ 7}	e 52·3	63·7
Tiflis		115·6	312	e 14 52	− 6	25 32	[− 4]	59·7	71·9
Erevan		116·1	310	e 18 52	[+17]	—	—	56·7	—
Moscow		116·1	328	19 44	PP	e 27 30	{+40}	e 55·2	66·3
Platigorsk		116·4	315	e 19 34	PP	—	—	60·7	—
Toronto		117·0	44	e 15 13	+ 8	25 44	[+ 3]	56·0	65·7
Pulkovo		117·7	334	e 15 4	− 4	25 38	[− 5]	52·7	64·7
Buffalo		118·6	47	e 15 12	0	—	—	—	—
Columbia		118·6	56	e 20 8	PP	e 25 52	[+ 6]	e 47·7	—

Continued on next page.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Scoresby Sund		119·0	2	15 20	+ 6	25 56	[+ 9]	48·7	—
Charlottesville		119·9	52	e 21 18	PPP	e 25 59	[+ 9]	63·0	—
Ottawa		120·0	41	e 20 16	PP	e 25 54	[+ 4]	e 51·7	—
Huancayo		120·2	109	e 18 54	[+ 8]	—	—	e 57·2	—
Ithaca		120·3	46	e 20 2	PP	—	—	e 64·7	—
Georgetown		120·8	50	e 15 26	+ 4	i 25 59	[+ 6]	—	—
Philadelphia		122·0	48	e 19 50	PP	e 25 56	[0]	54·5	—
Vermont		122·0	43	e 20 30	PP	e 26 1	[+ 5]	e 51·2	—
Yalta		122·4	317	—	—	e 30 26	PS	e 60·8	—
La Plata		122·5	142	20 43	PP	—	—	61·0	—
Fordham		122·6	48	i 20 35	PP	i 25 59	[+ 1]	—	—
Upsala		122·7	339	—	—	e 25 55	[− 3]	e 50·7	65·9
Sebastopol		122·8	318	—	—	e 30 25	PS	e 64·7	—
Oak Ridge		123·7	44	i 18 57	[+ 3]	26 10	[+ 9]	e 63·7	—
Cape Town		123·8	217	i 26 5	SKS	(i 26 5)	[+ 3]	56·7	66·7
Ivigtut		124·1	16	23 26	PPP	27 2	{−42}	50·7	—
Ksara		124·1	304	e 15 32	P	25 47	[−15]	—	—
Königsberg	N.	124·9	333	e 20 27	PP	e 25 50	[−15]	e 60·6	—
La Paz		125·0	117	15 51	P	i 25 50	[−15]	59·7	74·8
East Machias		125·7	41	i 20 58	PP	—	—	e 53·0	—
Bergen		125·9	346	19 4	[+ 5]	e 27 51	{− 4}	51·5	65·7
Copenhagen		127·6	337	19 2	[0]	—	—	54·7	—
Bucharest		127·7	320	e 21 22	PP	—	—	32·7	42·7
Helwan		128·7	300	e 21 2	PP	—	—	—	—
Hamburg		130·1	337	e 19 8	[+ 1]	—	—	e 58·7	65·7
Budapest		130·2	326	19 10	[+ 3]	e 22 44?	PKS	e 66·2	77·2
Prague		130·8	332	e 19 38?	[+29]	—	—	e 58·7	64·7
Belgrade		130·9	322	e 18 12k	[−57]	—	—	e 65·9	—
Vienna		131·0	330	e 19 12	[+ 3]	—	—	e 64·7	—
Jena		131·5	334	e 19 38	[+28]	—	—	e 59·7	76·2
Cheb		131·7	333	e 19 56	[+46]	e 39 8	SS	e 63·7	66·7
Göttingen		131·7	337	e 19 20	[+10]	—	—	—	75·2
Edinburgh		131·9	348	e 21 54	PP	—	—	54·7	89·7
Graz		132·3	328	e 19 18	[+ 7]	e 31 54	PS	e 66·7	75·0
Durham		132·6	346	i 22 49	PKS	—	—	—	70·7
Zagreb		132·9	326	e 19 13	[+ 1]	—	—	e 60·7	64·7
De Bilt		133·0	339	e 19 16	[+ 4]	—	—	e 59·7	83·8
Stonyhurst		133·6	345	e 22 2	PP	i 39 42	SS	64·7	75·7
San Juan		133·7	73	e 19 14	[+ 1]	e 28 32	{−13}	e 50·2	—
Stuttgart		134·1	334	e 19 14	[+ 1]	—	—	e 62·7	79·7
Triest		134·1	328	e 19 21	[+ 8]	i 26 28	[− 3]	e 65·2	68·0
Bidston		134·2	347	e 21 49	PP	—	—	—	72·0
Karlsruhe		134·3	335	19 11	[− 3]	22 44?	PKS	63·7	—
Uccle		134·4	339	e 19 17	[+ 3]	—	—	58·7	75·6
Strasbourg		134·9	335	e 19 10	[− 5]	—	—	e 61·7	86·2
Rathfarnham		135·0	350	e 22 59	PKS	e 29 56	{+63}	65·7	74·9
Kew		135·3	343	e 21 57	PP	e 30 13	?	53·7	67·8
Oxford		135·3	344	e 19 39	[+24]	—	—	e 59·7	75·1
Padova		135·3	329	e 19 55	[+40]	24 13	?	—	—
Chur		135·5	332	e 19 13	[− 2]	—	—	—	—
Zurich		135·5	332	e 19 15	[0]	e 22 15	PP	—	—
Neuchatel		136·5	332	e 19 19	[+ 2]	—	—	—	—
Florence		136·7	327	e 19 33	[+16]	i 22 14	PP	—	—
Paris		136·7	340	e 19 44?	[+27]	22 44?	PP	64·7	77·7
Rio de Janeiro		140·0	144	e 19 22	[+ 1]	—	—	i 41·1	—
Barcelona		142·9	333	e 23 4	PKS	—	—	—	79·8
Tortosa	N.	144·1	334	18 52	[−39]	—	—	e 59·7	103·8
Algiers		146·1	325	i 19 37	[+ 1]	e 33 44?	SKSP	e 54·7	74·7
Almeria		148·7	334	e 19 57	[+17]	—	—	e 61·6	—
Granada		148·9	336	i 19 46	[+ 6]	26 42	SKS	—	—
Malaga		149·7	336	19 56	[+15]	—	—	70·7	—
San Fernando		150·6	338	e 19 56	[+13]	—	—	70·7	86·2

For Notes see next page.

NOTES TO MAY 20d. 3h. 5m. 16s.

Additional readings :—
Riverview iEN = +5m.36s., iE = +5m.45s., iEN = +6m.1s. and +6m.28s., iE = +10m.0s., iN = +10m.7s.
Adelaide iPP = +7m.16s., i = +7m.45s. and +13m.34s.
Wellington PP = +8m.2s., SS? = +14m.54s.
Christchurch iSNZ = +12m.38s.
Perth PP = +10m.29s., P_cS = +15m.24s., SS = +17m.34s., SSS = +18m.34s.
Sumoto ePN = +8m.54s.
Kobe ePE = +8m.48s., eE = +18m.49s.
Honolulu i = +9m.11s., iPP = +11m.34s.
Toyooka PN = +9m.5s., ePE = +9m.7s.
Zi-ka-wei iZ = +10m.11s. and +10m.35s., PPZ = +11m.49s., PPPZ = +12m.55s., PPPPZ = +13m.35s., iZ = +20m.27s.
Hong Kong ? = +10m.8s., PP = +11m.55s., PS = +17m.31s., ? = +19m.23s., SS = +20m.50s.
Zinsen ePPN = +11m.42s.
Nanking PPN = +12m.1s., iSNZ = +17m.38s., PSN = +18m.17s., SS = +21m.9s., SSSN = +23m.11s.
Medan iN = +19m.26s., iE = +21m.0s.
Calcutta PSE = +21m.56s., SSE = +27m.14s.
Irkutsk e = +14m.0s., ePP = +15m.12s., ePPP = +16m.50s., e = +24m.38s. and +29m.20s.
College ePP = +15m.15s., eSS = +27m.44s.
Sitka ePP = +15m.50s., eSS = +28m.38s.
Ukiah ePPP = +18m.5s., e = +19m.19s., eSS = +28m.56s., e = +34m.50s. and +35m.28s.
Kodaikanal PPE = +15m.47s., PPPE = +17m.46s., ePSE = +23m.37s., SSE = +27m.29s., SSSE = +30m.54s.
Berkeley ePE = +12m.44s., iPSEZ = +24m.31s., eE = +28m.49s., eSSE = +29m.24s.
Lick eEN = +13m.12s.
Fresno eN = +14m.22s., +14m.49s., and +15m.55s.
Victoria SS = +29m.49s., SSSN = +34m.9s., PPSE = +34m.55s. : T_0 = 3h.5m.21s.
Agra ePPE = +15m.57s., PPPE = +17m.39s., PSE = +23m.36s., SSE = +28m.29s., SSSE = +31m.57s.
Pasadena ePPZ = +16m.10s., iS = +23m.45s., iPSZ = +24m.51s., eSSSZ = +33m.2s.
Mount Wilson iZ = +13m.57s.
Seattle eSS = +30m.10s.
Haiwee ePPE = +16m.30s.
Riverside i = +12m.55s., ePPZ = +16m.9s., eSNZ = +24m.5s.
Tinemaha iPPZ = +16m.12s., eN = +23m.53s.
Bombay PPE = +16m.44s., PSEN = +24m.20s.
Tucson ePP = +17m.28s., eSKS = +24m.4s., ePS = +26m.4s., eSS = +31m.17s.
Bozeman ePS = +26m.14s., eSS = +31m.51s., eSSS = +34m.44s., e = +37m.14s.
Tashkent ePKP = +16m.58s., ePP = +17m.20s., SKS = +23m.58s., PPS = +27m.2s., eSS = +31m.26s.
Sverdlovsk iPP = +18m.20s., iSKS = +24m.39s., iPS = +27m.24s., SSS = +38m.14s.
Tananarive S = +26m.10s., PS = +27m.59s., SS = +34m.19s.
Little Rock iPSE = +28m.34s., eSSE = +34m.53s., eSSSE = +39m.2s.
Florissant ePKPE = +18m.31s., ePP = +19m.12s., iPPEZ = +19m.18s., iPPPE = +21m.48s., iSKKSE = +26m.21s., iSN = +27m.3s., iPSE = +28m.44s., iPSNZ = +28m.49s., iPPS = +29m.55s., iSSE = +34m.40s., iSSN = +34m.44s., iPPSSN = +35m.4s., iSSSE = +39m.15s.
St. Louis ePPEN = +19m.15s., eSKKSE = +26m.19s., ePSE = +28m.43s., iPSEN = +28m.51s., ePPSE = +29m.53s., eSSE = +34m.49s., eSSSE = +39m.19s.
Baku e = +19m.40s., iPS = +28m.51s.
Chicago ePPP = +21m.23s., ePS = +29m.2s., eSS = +34m.52s.
Cincinnati i = +18m.11s., iPP = +19m.45s., e = +21m.58s., PS = +29m.30s.
Ann Arbor e = +29m.32s., +35m.44s., +39m.50s., +44m.14s. and +48m.2s.
Tiflis PKP = +18m.42s., ePP = +19m.42s., e = +20m.24s., ePPP = +23m.4s., PS = +29m.27s., eSS = +35m.38s.
Moscow SKSP = +30m.5s., SS = +35m.38s.
Toronto PPE = +20m.6s., PPN = +20m.12s., SN = +28m.6s., iPS = +29m.44s.? SSN = +36m.9s.
Pulkovo ePKP = +18m.40s., PP = +19m.58s., PPP = +22m.16s., S = +26m.51s. PS = +29m.14s., SS = +36m.8s.
Buffalo iPP = +20m.14s., ePS = +29m.54s.
Columbia ePS = +30m.16s., eSS = +36m.44s.
Scoresby Sund PP = +20m.6s., PPP = +22m.56s., S = +28m.7s., PS = +29m.50s. SS = +36m.32s., eN = +39m.14s., eE = +39m.56s., eN = +41m.32s.
Charlottesville e = +28m.28s., ePS = +30m.14s., eSS = +36m.28s., e = +50m.44s.

Continued on next page.

Ottawa e = +30m.18s., +32m.32s., and +37m.20s.
Huancayo ePP = +20m.24s., eSKSP = +30m.6s., ePS = +30m.28s., e = +37m.44s. and +51m.14s.
Ithaca eN = +20m.32s.
Georgetown ePKP = +18m.59s., ePP = +20m.31s., e = +27m.35s. and +30m.28s.
Philadelphia iPP = +20m.30s., iSKKS = +27m.35s., eSKSP = +30m.11s., +32m.12s., eSS = +36m.16s., e = +37m.52s., iSSS = +40m.37s., e = +51m.44s.
Vermont iSKKS = +27m.5s., i = +31m.31s., eSS = +37m.22s., i = +38m.29s., iSSS = +41m.42s.
Fordham iSKKS = +27m.35s., ePS = +30m.29s., e = +32m.59s., eSS = +37m.35s.
Oak Ridge iZ = eE = +20m.50s., eZ = +22m.20s., ePKSZ = +22m.55s., eZ = +24m.16s., eSKKSE = +27m.53s., e = +30m.49s., ePSZ = +31m.8s., iPPSZ = +32m.21s., eE = +33m.11s., eZ = +34m.11s. and +35m.15s., eN = +35m.43s., eZ = +36m.35s.
Cape Town N = +27m.37s., E = +27m.40s., EN = +28m.51s., iPP = +30m.29s., N = +32m.4s., iPPP = +32m.27s., EN = +33m.2s., N = +37m.16s., iSKKSE = +37m.37s., iSN = +38m.1s., N = +39m.47s., E = +39m.56s., iPPSN = +40m.25s., iEN = +42m.4s., iN = +42m.14s., eSSE = +45m.4s., iSS = +45m.57s., eN = +51m.20s., eE = +51m.38s., eN = +53m.38s., eE = +54m.32s.
Ivigtut S = +28m.20s., PS = +30m.2s., SS = +37m.38s., SSS = +42m.32s.
Ksara ePKP = +18m.49s., iPP = +20m.38s., PS = +30m.45s.
Königsberg eN = +23m.56s., +27m.18s., and +37m.41s.
La Paz PKPZ = +19m.4s., iPKPZ = +19m.10s., ipPKPE = +20m.44s., ipPKPZ = +20m.56s., isPKPZ = +21m.47s., isPKPN = +21m.56s., iSKPZ = +22m.10s., iSKPE = +22m.20s., iE = +23m.8s., iPPPZ = +23m.36s., iZ = +24m.28s., iSKKS = +27m.12s., iSKSP = +31m.8s., iZ = +32m.4s., iPPSEN = +32m.26s., iPPSZ = +32m.39s., iSS = +38m.30s., iSSSZ = +43m.14s., iSSSEN = +43m.34s.
East Machias e = +22m.43s., eSKSP = +30m.29s., e = +31m.1s., eSS = +37m.56s., eSSS = +46m.21s.
Bergen ePP = +21m.5s., PPP = +23m.16s., ePS = +30m.15s., e = +31m.18s. and +33m.24s.
Copenhagen PP = +21m.3s., eN = +35m.29s., SS = +38m.8s.
Bucharest eEN = +22m.5s., eE = +22m.26s. and eN = +22m.51s.
Helwan e = +25m,7s. and +38m.16s.
Hamburg iE = +22m.41s., iN = +23m.44s., eE = +38m.50s.
Prague e = +21m.33s., +38m.48s., +41m.11s., and +44m.20s.
Belgrade eZ = +18m.22s., +18m.48s., eNE = +22m.35s., eNW = +25m.29s. and +29m.38s.
Vienna ePP? = +22m.31s.
Jena e = +21m.38s., eN = +22m.8s., eE = +22m.26s., +38m.44s., eN = +38m.56s., and +41m.26s.
Cheb e = +21m.34s.
Göttingen ePP = +21m.32s., iSKP = +22m.39s., i = +23m.44s., eSSEN = +39m.8s.
Edinburgh i = +22m.49s., +39m.11s., and +41m.20s.
Zagreb ePKPNW = +19m.20s., ePP = +21m.47s., eSKP = +22m.46s., e = +23m.18s., eSSNW = +39m.20s.
De Bilt e = +21m.36s., +22m.47s., and eEN = +39m.25s.
San Juan e = +18m.20s., iPP = +21m.55s.
Stuttgart iPKPZ = +19m.23s., iZ = +20m.6s., ePP = +21m.44s., iPKSZ = +22m.52s., e = +23m.26s., eSSEN = +39m.20s., eE = +41m.44s.
Triest ePP = +21m.45s., iSKP = +22m.43s., i = +23m.24s. and +24m.19s., iSKKS = +28m.44s., i = +32m.7s. and +35m.23s., iSS = +39m.34s., SSS = +44m.27s.
Bidston i = +22m.52s. and +39m.44s.
Uccle iPPZ = +21m.47s., iSKPZ = +22m.50s., SSE = +39m.38s., SSSE = +44m.30s.
Strasbourg e = +19m.50s., iSKP = +22m.44s., e = +23m.55s., ePP = +24m.47s., eSS = +39m.14s.
Rathfarnham Castle e = +42m.44s. and +45m.52s.
Kew iPKSEN = +22m.54s., iSSEN = +39m.50s., iSSSE = +44m.47s., iN = +46m.47s.
Oxford eE = +22m.0s., i = +22m.52s. and +40m.1s.
Rio de Janeiro iP = +22m.26s.
Algiers P = +20m.10s., e = +26m.44s.? eSS? = +41m.44s.?
Almeria i = +20m.11s.
San Fernando ePP = +23m.16s., ePPP = +26m.30s., eSS = +42m.22s., eSSS = +48m.8s.
Long waves were also recorded at Simferopol, Ferndale, and Pennsylvania.

May 20d. Readings also at 2h. (Adelaide, Riverview, Sydney, Christchurch, Haiwee, Mount Wilson, Pasadena, Riverside, Tinemaha, and near Graz), 3h. (Melbourne and Sitka), 5h. (Kodaikanal, Mount Wilson, Pasadena, Riverside, Tinemaha, Tananarive, and La Paz), 6h. (Mount Wilson, Pasadena, and Tinemaha), 7h. (Mount Wilson, Pasadena, and Riverside), 8h. (Tananarive), 9h. (Almata and Andijan), 12h. (near Mizusawa (4)), 14h. (Pasadena, Riverside, and Tinemaha), 16h. (Sverdlovsk and Tashkent), 17h. (near Fresno), 19h. (Andijan, Frunse, and near Samarkand), 20h. (Mizusawa).

May 21d. 2h. 50m. 16s. Epicentre 2°·5S. 153°·5E. N.3.

A = −·8941, B = +·4458, C = −·0436 ; δ = +5 ;
D = +·446, E = +·895 ; G = +·039, H = −·019, K = −·999.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Riverview		31·4	184	—	—	e 10 38	−48	e 15·5	16·2
Sydney		31·4	184	e 9 29	(+15)	e 13 29	SSS	15·4	22·1
Adelaide		35·3	201	i 3 50	?	e 11 16	−70	—	20·3
Melbourne		36·1	192	—	—	i 11 47	−51	16·2	20·1
Manila		36·5	299	i 6 59	− 3	12 21	−23	—	19·4
Wellington		43·3	157	13 39	S	(13 39)	−46	19·7	—
Christchurch		44·4	160	8 20	+12	14 0	−41	—	21·5
Zi-ka-wei		45·5	321	e 8 20	+ 3	—	—	23·5	30·5
Hong Kong		45·7	305	10 50	PPP	15 24	+24	—	23·9
Nanking		47·7	319	8 34	0	e 15 34	+ 5	24·5	28·0
Chiufeng		54·6	326	9 29a	+ 3	e 17 37	+33	—	32·8
Frunse		83·6	314	e 12 25	− 1	e 23 2	+ 9	—	—
Andijan		84·9	311	e 12 30	− 3	e 23 3	− 4	—	—
Tashkent		87·4	312	e 12 54	+ 9	23 18	−13	40·7	52·7
Samarkand		88·9	310	e 12 52	0	e 23 24	[− 2]	—	—
Tinemaha	z.	90·2	53	i 12 59	+ 1	—	—	—	—
Mount Wilson	z.	90·2	56	i 12 59	+ 1	—	—	—	—
Pasadena		90·4	56	i 12 58	− 1	—	—	e 44·9	—
Riverside	z.	90·7	56	e 13 2	+ 1	—	—	—	—
Sverdlovsk		93·6	327	i 13 23	+ 9	24 9	−20	41·7	—
Baku		102·0	311	e 16 12	?	—	—	49·7	66·2
Tiflis		105·6	313	e 13 57	−12	e 25 6	[+13]	e 46·7	65·8
Pulkovo		108·3	333	e 19 26	PP	e 28 32	PS	57·7	68·9
Florissant	E.	111·8	49	e 17 0	[−83]	e 25 32	[+11]	e 51·9	58·6
Scoresby Sund		112·0	358	—	—	25 18	[− 4]	57·7	—
Ksara		114·1	306	e 17 46	[−44]	—	—	—	—
Triest		124·4	327	—	—	e 25 55	[− 8]	—	62·2
Stuttgart		124·6	331	e 20 44?	PP	—	—	e 74·7	—
Paris		127·4	337	e 20 44?	PP	—	—	65·7	—
La Paz		134·7	116	i 19 10k	[− 4]	—	—	65·2	74·3

Additional readings :—
Adelaide i = +9m.10s.
Melbourne e = +15m.26s.
Wellington S = +17m.11s.
Hong Kong SS = +18m.13s.
Nanking SEN = +16m.6s., SS = +19m.38s.
Chiufeng eSZ = +17m.46s.
Tashkent ePP = +16m.32s., iSKKS = +23m.34s.
Sverdlovsk PS = +25m.57s., SS = +31m.14s.
Baku ePKP = +17m.59s., PS = +27m.24s., SS = +33m.32s.
Florissant eE = +26m.35s. and +28m.58s.
Scoresby Sund +29m.14s., SS = +35m.26s.
Ksara iPP = +19m.33s., ePKKP = +27m.34s., ePS = +29m.32s., SS = +36m.34s.
La Paz iSKPZ = +22m.39s., iSKS? = +36m.24s., iSKKS = +38m.24s.
Long waves were also recorded at Copenhagen, Edinburgh, Kew, Cheb, De Bilt, Uccle, San Fernando, Ivigtut, Oak Ridge, Philadelphia, Tucson, Ukiah, College, Rio de Janeiro, and Huancayo.

May 21d. Readings also at 2h. (Strasbourg), 5h. (Oaxaca), 9h. (Oaxaca and Tacubaya), 13h. (La Paz, near Mizusawa and Nagoya), 14h. (Manila), 15h. (Tiflis and Triest), 16h. (Andijan, Frunse, near Samarkand, Ravensburg, Stuttgart, near Basle, Chur, Neuchatel, and Zurich), 19h. (Mizusawa), 20h. (Manila, Malabar, Tiflis, and Sverdlovsk), 22h. (Medan, Malabar, near Batavia, and near Almeria).

May 22d. 0h. 15m. 58s. Epicentre 32°·7S. 65°·7W. N.2.

$A = +·3463$, $B = -·7670$, $C = -·5402$; $\delta = +3$;
$D = -·911$, $E = -·412$; $G = -·222$, $H = +·492$. $K = -·842$.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Santiago		4·2	258	1 2	+ 2	2 11	S_g	—	—
San Javier		5·8	238	1 29	+ 7	2 59	S*	—	—
La Plata		6·8	111	1 41	+ 4	3 8	+15	3·5	—
La Paz		16·3	352	3 48	+ 3	i 6 52	+ 7	i 8·8	10·6
Rio de Janeiro		22·1	69	i 4 52	0	i 8 52	+ 4	i 11·2	—
Huancayo		22·4	335	e 4 55	0	i 9 2	+ 9	11·5	—
San Juan		51·1	0	e 9 2	+ 2	e 15 47	−29	e 26·0	—
Columbia		68·2	347	e 13 32	PP	e 19 39	−20	e 30·5	—
Little Rock	N.	72·0	338	e 11 22	− 1	—	—	—	—
Philadelphia		73·2	353	e 11 26	− 4	e 20 45	−14	e 34·2	—
St. Louis		74·9	341	e 11 39	− 1	e 21 2	−17	—	—
Florissant		75·1	341	i 11 42	+ 1	i 21 6	−15	e 30·0	45·7
Oak Ridge		75·4	357	i 11 39	− 4	e 21 8	−17	e 44·0	—
Chicago		77·2	343	—	—	e 21 18	−27	e 36·3	—
Toronto	N.	77·4	351	—	—	i 21 33	−14	—	—
Tucson		77·7	323	e 11 52	− 4	e 21 40	−11	e 37·0	—
La Jolla	Z.	81·6	318	e 12 21	+ 5	—	—	—	—
Riverside	Z.	82·5	319	e 12 19	− 2	—	—	—	—
Mount Wilson	Z.	83·0	319	i 12 21	− 2	—	—	—	—
Pasadena		83·0	319	e 12 22	− 1	—	—	e 40·7	—
Santa Barbara	Z.	84·1	318	i 12 33	+ 4	—	—	—	—
Haiwee		84·4	321	e 12 28	− 2	—	—	—	—
Tinemaha		85·3	321	i 12 33	− 2	—	—	—	—
Christchurch		87·0	218	34 44	?	39 14	?	41·6	44·0
Bozeman		88·5	331	(e 12 2?)	−48	—	—	e 12·0	—
San Fernando		88·7	45	e 13 19	+28	e 23 41	− 3	48·5	—
Malaga		89·9	45	13 4	+ 7	—	—	—	—
Granada		90·7	45	i 13 1	0	e 24 11	+ 8	—	—
Paris		101·6	39	e 13 52	+ 1	—	—	51·0	64·0
Kew		101·8	36	e 17 2?	?	—	—	e 50·0	—
Edinburgh		103·3	31	—	—	e 24 2?	[−40]	e 53·0	—
Florence		103·7	47	(e 19 2?)	?	—	—	e 19·0	—
Uccle		103·7	37	—	—	e 25 44	−15	e 48·0	—
Strasbourg		104·3	41	e 14 2?	− 1	e 26 2?	− 2	e 35·0	—
De Bilt		104·9	37	—	—	e 26 2?	− 8	e 49·0	69·7
Stuttgart		105·2	42	e 14 4	− 4	e 24 50	[− 1]	e 49·0	—
Triest		106·2	46	e 19 54	?	e 26 8	− 7	—	53·5
Cheb		107·6	41	e 14 0	−19	e 25 7	[+ 5]	e 58·0	61·0
Scoresby Sund		107·8	14	—	—	25 2	[− 1]	56·0	—
Copenhagen		110·4	36	—	—	e 24 50	[−25]	50·0	—
Helwan		111·0	67	e 19 22	PP	e 28 42	PS	—	71·4
Ksara		116·2	66	i 19 44	PP	—	—	58·0	65·0
Pulkovo		120·7	36	20 11	PP	29 59	SKSP	—	77·8
Tiflis		125·4	59	e 18 59	[+ 1]	e 30 46	PS	e 64·8	71·8
Baku		128·8	62	e 19 11	[+ 6]	e 31 7	PS	62·0	91·9
Sverdlovsk		136·5	40	e 19 26	[+ 9]	—	—	63·0	80·0
Samarkand		141·6	66	e 19 21	[− 3]	—	—	—	—
Tashkent		143·5	63	e 19 29	[0]	—	—	63·0	90·3
Frunse		147·3	60	e 19 46	[+ 8]	—	—	—	—
Semipalatinsk		149·4	45	e 19 45	[+ 4]	—	—	—	—
Chiufeng		172·5	349	20 5a	[0]	e 25 20	PP	—	32·5
Zi-ka-wei	Z.	173·8	259	e 20 11	[+ 5]	25 31	PP	—	106·4
Nanking	E.	176·2	263	21 49	{− 9}	e 25 43	PP	e 85·0	—

Additional readings:—
La Paz iSN = +6m.57s.
Huancayo iP = +5m.0s.
San Juan eSS = +19m.2s., e = +23m.2s.
Little Rock ePE = +11m.28s.

Continued on next page.

Philadelphia ePP = +14m.5s., e = +23m.26s., eSSS = +29m.20s.
Florissant ePPE = +14m.26s., eN = +18m.17s., iPSEN = +21m.47s.
Oak Ridge ePcPZ = +11m.45s., iZ = +12m.51s., ePPZ = +14m.21s.
Chicago e = +24m.0s. and +34m.2s.
Tucson ePS = +22m.28s., eSS = +27m.2s., eSSS = +30m.14s.
Mount Wilson iZ = +12m.27s. and +14m.12s., eZ = +18m.42s.
Pasadena i = +12m.28s.
Strasbourg e = +24m.2s.?
Stuttgart ePP = +18m.26s., ePPS = +28m.56s.
Triest e = +23m.13s. and +46m.32s.?
Scoresby Sund +26m.23s., PS = +28m.2s.
Copenhagen +26m.50s., eE = +28m.38s.
Helwan e = +29m.42s.
Ksara ePPP = +21m.18s., ePS = +29m.35s., PPS = +30m.49s.
Pulkovo PP = +23m.27s., PPS = +36m.17s.
Tiflis e = +20m.46s.
Baku e = +21m.11s., +22m.40s., and +35m.12s.
Sverdlovsk e = +22m.8s., +23m.4s., +25m.19s., and +39m.59s.
Samarkand e = +20m.21s.
Tashkent e = +20m.20s. and +21m.16s., i = +23m.11s., +24m.4s., and +25m.51s., e = +35m.4s., +40m.38s., and +44m.22s.
Nanking eE = +32m.23s.
Long waves were also recorded at Cape Town, College, Sitka, Ivigtut, Almeria, Stonyhurst, Graz, Prague, Zagreb, Bombay, Hyderabad, Moscow, and Hong Kong.

May 22d. 10h. 36m. 19s. Epicentre 44°·2N. 12°·0E. (as on 1935 June 5d.). R.3.

A = +·7012, B = +·1491, C = +·6972 ; δ = 0 ;
D = +·208, E = −·978 ; G = +·682, H = +·145, K = −·717.

	△	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Florence	0·7	235	0 13	+ 3	—	—	0·3
Triest	1·9	42	e 0 27	− 1	i 0 57	S_g	—
Chur	3·2	327	e 0 44	− 2	e 1 23	+ 1	—
Zagreb	3·3	63	i 1 9	P_g	—	—	—
Zurich	4·0	318	—	—	e 1 32	−10	—
Neuchatel	4·5	304	e 1 1	− 3	—	—	—
Basle	4·6	313	e 1 26	P_g	—	—	—

Additional readings :—
Triest e = +32s. = P_g +0s., i = +42s. = S −7s.
Zagreb e = +1m.19s. and +1m.43s. = S_g −3s., eZ = +1m.51s.

May 22d. 23h. 21m. 7s. Epicentre 21°·7S. 170°·0E. (as on 1935 Dec. 26d.). R.3.

A = −·9150, B = +·1613, C = −·3697 ; δ = −8 ;
D = +·174, E = +·985 ; G = +·364, H = −·064, K = −·929.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Arapuni		17·1	165	—	—	7 43	+39	9·9	—
Apia		19·0	69	e 1 53?	?	—	—	e 8·4	—
Wellington		20·0	171	4 35	+ 5	8 18	+12	10·2	10·9
Riverview		20·6	230	4 36	0	i 8 30	+12	e 10·3	11·8
Sydney		20·6	230	e 4 35	− 1	i 8 35	+17	11·2	13·1
Christchurch		21·9	175	i 4 53	+ 3	i 9 3	+19	—	—
Melbourne		26·9	228	e 5 42	+ 5	i 10 13	− 1	13·9	14·6
Adelaide		30·5	237	e 6 13	+ 4	i 11 17	+ 5	—	19·9
Manila		60·3	303	e 10 2	− 5	18 20	0	26·9	—
Batavia		62·8	275	—	—	e 18 54	+ 2	e 29·9	—
Nanking		72·8	316	11 24	− 4	i 20 48	− 6	31·9	38·5
Medan		74·2	281	e 13 0	?	e 21 34	PS	e 43·9	—
Chiufeng		79·6	322	12 0a	− 6	22 1	−10	—	—
Ukiah		87·1	46	—	—	e 24 13	+45	e 40·5	—
Pasadena	z.	88·1	52	e 12 50	+ 2	—	—	e 43·9	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Mount Wilson	Z.	88·3	52	e 12 49	0	—	—	—	—
Riverside	Z.	88·6	52	e 12 53	+ 2	—	—	—	—
Haiwee	Z.	89·2	51	e 13 9	+15	—	—	—	—
Tinemaha	E.	89·5	49	e 12 54	− 1	—	—	—	—
Calcutta	E.	90·9	294	e 12 44	−18	i 23 32	[− 6]	—	—
Tucson		92·8	56	e 13 18	+ 8	e 24 29	+ 7	e 45·4	—
Huancayo		107·6	111	—	—	e 25 10	[+ 8]	—	—
Florissant	E.	110·7	55	—	—	e 24 46	[−30]	e 53·8	61·6
La Paz		111·4	119	e 17 47	[−35]	i 28 53	PS	66·9	—
Tashkent		112·0	307	19 5	PP	25 12	[−10]	e 50·9	82·5
Sverdlovsk		118·6	324	e 19 20	PP	27 56	?	59·9	75·8
Ottawa		122·1	48	—	—	e 35 19	?	e 51·9	—
Philadelphia		122·4	56	—	—	e 37 42	SS	e 62·4	—
Rio de Janeiro		124·9	142	e 38 53?	SS	—	—	—	—
Grozny		129·4	309	e 18 53	[−13]	—	—	e 73·6	—
Tiflis		130·2	307	e 19 9	[+ 2]	28 24	{+ 1}	e 64·9	88·0
Scoresby Sund		130·7	5	22 33	PKS	—	—	62·9	—
Moscow		131·2	326	e 19 29	[+20]	—	—	—	—
Pulkovo		132·6	333	19 9	[− 2]	28 16	{−22}	70·9	78·1
Simferopol		137·2	314	e 21 46	PP	—	—	—	—
Yalta		137·3	313	e 23 23	PKS	—	—	—	—
Sebastopol		137·7	314	e 22 51	PKS	—	—	—	—
Ksara		138·0	296	e 19 21	[+ 2]	—	—	—	—
Copenhagen		142·2	339	19 33	[+ 8]	22 36	PP	62·9	—
Cheb		146·6	334	e 18 53?	[−43]	—	—	—	—
De Bilt		147·4	342	i 19 41	[+ 3]	e 42 23	SS	e 73·9	84·7
Zagreb		147·9	325	e 19 41	[+ 2]	—	—	—	—
Uccle		148·8	343	e 19 44	[+ 4]	—	—	e 60·9	—
Stuttgart		149·0	335	e 19 40	[0]	—	—	e 80·9	—
Kew		149·2	348	e 19 51	[+11]	—	—	e 73·9	—
Strasbourg		149·7	336	e 19 54	[+13]	—	—	e 42·9	—
Chur		150·3	335	e 19 47k	[+ 5]	—	—	—	—
Zurich		150·3	335	e 19 48	[+ 6]	—	—	—	—
Basle		150·5	336	e 19 47	[+ 5]	—	—	—	—
Paris		151·1	343	e 19 43	[0]	e 27 0	SKS	80·9	—
Granada		163·6	342	e 20 1	[+ 3]	—	—	83·9	—
San Fernando		164·9	348	e 31 12	?	—	—	89·9	—

Additional readings :—
Wellington PP? = +4m.57s., i = +12m.53s.?
Riverview iEN = +4m.45s., iSN = +8m.33s.
Christchurch sP = +5m.39s., S_cS = +15m.33s., sS_cSN = +16m.27s.
Melbourne i = +10m.36s.
Adelaide ePE = +6m.17s., i = +7m.8s., e = +9m.58s., iS? = +12m.13s., i = +14m.25s.
Chiufeng iSN = +22m.4s.
Pasadena iZ = +13m.7s.
Mount Wilson iZ = +13m.0s. and +13m.8s., eZ = +15m.18s.
Riverside eZ = +13m.10s.
Tucson eSKS = +23m.47s., ePS = +25m.41s., eSS = +30m.47s., eSSS = +34m.29s.
Florissant ePSE = +28m.35s., ePPSE = +29m.21s., eSSE = +34m.45s.
Tashkent SKKS = +26m.9s., S = +26m.55s., PS = +28m.40s., PPS = +29m.47s., SS = +34m.41s.
Sverdlovsk PP = +20m.0s., PS = +29m.56s.
Ottawa e = +43m.35s.
Philadelphia e = +51m.7s.
Tiflis ePP = +21m.29s., e = +21m.55s., PKS = +22m.34s., SKSP = +31m.25s., eSS = +39m.13s.
Moscow PP = +21m.24s., PKS = +22m.34s.
Pulkovo PP = +21m.36s., PKS = +22m.37s., S = +29m.32s., PS = +31m.36s., SS = +39m.23s.
Ksara ePP = +22m.11s., ePPS = +34m.35s.
Stuttgart $ePKP_2$ = +20m.4s.
Paris eSKP = +23m.47s.
San Fernando ePPP = +35m.58s., eSSS = +61m.12s.
Long waves were also recorded at Hong Kong, Cape Town, College, Sitka, Chicago, Oak Ridge, Ivigtut, Baku, Prague, and Edinburgh.

May 22d. Readings also at 0h. (Scoresby Sund and Semipalatinsk), 1h. (Sumoto and near Lick), 4h. (Mizusawa), 5h. (Triest, near La Paz, and near Mizusawa), 6h. (Manila, Hong Kong, Chiufeng, Nanking, Phu-Lien, Husan, Zi-ka-wei, Calcutta, and near Algiers), 7h. (Baku, Sverdlovsk, Tashkent, Mount Wilson, Pasadena, and Riverside), 15h. (Manila, Tiflis, Sverdlovsk, Tashkent, and near La Paz), 17h. (near Medan), 18h. (near Nagoya), 19h. (La Paz and Melbourne), 20h. (Andijan and near Samarkand), 21h. (Mizusawa, Sverdlovsk, and Tashkent), 22h. (Bucharest, Czernovitz, Sebastopol, Simferopol, and Yalta).

May 23d. 4h. 41m. 7s. Epicentre 35°·7N. 121°·4W. N.3.

A = −·4231, B = −·6932, C = +·5835; δ = +1;
D = −·854, E = +·521: G = −·304, H = −·498, K = −·812.

		Δ	Az.	P.	O−C.	S.	O−C.
		°	°	m. s.	s.	m. s.	s.
Lick		1·5	353	e 0 21	0	e 0 36	− 3
Fresno	N.	1·6	51	i 0 22	− 1	i 0 35	− 6
Branner		1·8	340	e 0 27	+ 1	e 0 50	S*
Berkeley		2·2	342	e 0 31	0	e 0 53	− 4
San Francisco		2·4	338	e 0 35	+ 1	e 1 8	S*

San Francisco gives also eE = +1m.4s. = S + 2s.

May 23d. 14h. 39m. 38s. Epicentre 43°·0S. 173°·0E. (as on 1922 Dec. 25d.). X.

A = −·7259, B = +·0891, C = −·6820; δ = −1;
D = +·122, E = +·993; G = +·677, H = −·083, K = −·731.

	Δ	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Christchurch	0·6	209	e 0 7	− 2	i 0 18	+ 3
Greymouth	1·4	294	0 22	+ 2	0 41	S*
Wellington	2·2	37	0 31	0	0 54	− 3
New Plymouth	4·0	13	1 12	P_g	i 1 45	+ 3

Additional readings:—
Wellington i = +44s. and +1m.9s. = S_g + 2s.
New Plymouth i = +2m.0s. = S* + 3s.

May 23d. 15h. 32m. 7s. Epicentre 41°·0S. 179°·5W. N.3.

A = −·7547, B = −·0066, C = −·6561; δ = +8;
D = −·007, E = +1·000; G = +·656, H = +·006, K = −·755.

New Zealand stations suggest depth 180km. Corrections corresponding to depth 0·030 have been applied here.

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.
		°	°	°	m. s.	s.	m. s.	s.
Hastings		+0·4	3·1	296	0 53	+ 3	1 22	− 8
Wellington		+0·1	4·3	264	1 1	− 2	1 49	− 4
Arapuni		0·0	4·8	308	i 1 29	+21	1 57	− 6
Stratford		0·0	5·0	286	1 53?	S	(1 53?)	−15
New Plymouth		0·0	5·3	289	1 8	− 7	1 59	−16
Takaka		0·0	5·9	269	1 53?	+29	—	—
Christchurch		−0·1	6·4	244	e 1 30	0	i 2 44	+ 3
Riverview	N.	−1·5	24·2	278	e 6 41	?	—	—
Manila		−4·0	78·2	301	16 36	?	20 23	−48
Nanking		−4·3	92·6	312	e 19 18	?	22 50	−50
Tiflis		—	147·1	286	e 19 4	[−33]	—	—
Ksara		—	151·2	265	e 19 4	[−39]	e 27 6	SKS

Additional readings:—
New Plymouth i = +1m.40s. and +1m.46s.
Ksara i = +19m.20s.

May 23d. Readings also at 0h. (near Berkeley), 1h. (La Paz, Tucson, and near Zagreb), 2h. (Triest and near Zagreb), 5h. (near Manila), 6h. (Ksara and La Paz), 7h. (near Andijan and Frunse), 9h. (Andijan and Frunse), 11h. (near Balboa Heights, near Nagoya, and near Samarkand), 15h. (Tacubaya), 16h. (near Medan), 17h. (Oak Ridge), 18h. (near Manila), 19h. (Christchurch, Adelaide, Riverview, Sydney, Perth, Hong Kong, Manila, Chiufeng, Nanking, Tashkent, Tiflis, Ksara, Yalta, Pulkovo, and Oak Ridge), 20h. (Baku, Copenhagen, Stuttgart, Strasbourg, Paris, De Bilt, and Uccle), 21h. (Andijan, Frunse, and Tashkent), 22h. (Helwan, La Paz, and La Plata), 23h. (Apia, Frunse, near Samarkand, and near Nagoya).

May 24d. Readings at 3h. (Chicago), 6h. (Almata, Andijan, and Frunse), 7h. (Almata, Andijan, near Frunse, near Mizusawa, and Nagoya), 8h. (Baku, Sverdlovsk, Tashkent, and near Sumoto), 9h. (Bagnères and Tacubaya), 11h. (near Hukuoka and Hukuoka B), 12h. (Manila, Nanking (2), and Perth), 16h. (Florissant ,Tucson, Mount Wilson, and Pasadena (2)), 17h. (Apia, Philadelphia, and Scoresby Sund), 19h. (Tacubaya, Merida, Tucson, Mount Wilson, and Pasadena), 20h. (Philadelphia and Scoresby Sund), 21h. (La Paz, Mount Wilson, and Pasadena), 22h. (Melbourne, Andijan, Frunse, and near Samarkand), 23h. (College).

May 25d. 3h. 2m. 41s. Epicentre 3°·5S. 146°·5E. (as on 1930 May 20d.). R.2.

$A = -\cdot8323$, $B = +\cdot5509$, $C = -\cdot0610$; $\delta = -6$;
$D = +\cdot552$, $E = +\cdot834$; $G = +\cdot050$, $H = -\cdot034$, $K = -\cdot998$.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Palau		16·2	312	3 45	+ 1	7 7	+24	—	—
Riverview		30·6	172	i 11 19	S	(i 11 19)	+ 5	e 16·6	19·6
Sydney		30·6	172	e 10 55	S	(e 10 55)	−19	16·6	20·2
Manila		31·2	308	i 6 16	0	11 6	−17	14·6	17·3
Adelaide		32·3	191	i 11 43	S	(i 11 43)	+ 3	19·1	21·5
Melbourne		34·3	181	—	—	e 12 11	0	—	22·0
Kosyun		35·8	316	6 49	− 7	—	—	—	—
Nake		35·8	334	6 58	+ 2	—	—	—	—
Miyazaki		38·2	339	7 17	0	12 57	−12	—	—
Wakayama		39·2	345	7 23	− 2	13 19	− 5	—	—
Misima		39·3	351	7 24	− 2	—	—	—	—
Sumoto		39·4	345	e 7 26	− 1	—	—	e 20·2	—
Kobe		39·6	347	e 6 32	−57	e 12 34	−56	—	20·6
	z.	39·6	347	e 6 29	−60	e 12 21	−69	—	—
Nagoya		39·7	348	e 6 19	−70	—	—	—	—
Kohu		39·8	351	7 26	− 4	13 30	− 3	—	—
Hukuoka B		40·1	339	e 7 33	0	e 13 29	− 9	—	—
Perth		40·4	221	13 49	S	(13 49)	+ 7	20·6	22·0
Oiwake		40·5	349	7 40	+ 4	—	—	—	—
Hong Kong		40·8	311	7 37	− 2	13 49	+ 1	—	20·6
Nagano		40·9	349	7 40	0	13 45	− 5	—	—
Husan		41·9	338	e 7 51	+ 3	e 14 9	+ 4	—	—
Zi-ka-wei	z.	42·1	328	e 7 48	− 1	13 15	−53	20·2	21·7
Taikyu		42·8	338	e 7 57	+ 2	e 14 19	+ 1	—	—
Arapuni		43·6	146	—	—	i 18 19?	SSS	—	24·3
Nanking		44·2	325	8 5	− 1	i 14 45	+ 6	e 21·4	24·0
Keizyo		44·9	338	e 8 13	+ 1	e 14 47	− 2	e 18·3	—
Zinsen	N.	44·9	337	e 8 12	0	e 14 54	+ 5	—	—
Wellington		45·5	150	17 58	SS	—	—	i 21·1	—
Christchurch		46·3	154	13 41	?	18 44	SS	—	—
Sapporo		46·8	355	8 35	+ 8	—	—	—	—
Medan		48·3	278	12 47	?	—	—	—	—
Chiufeng		51·7	330	e 9 8	+ 4	15 42	−42	23·1	28·5
Calcutta	E.	62·4	298	—	—	e 18 45	− 2	—	—
Frunse		79·3	315	e 11 42	−22	—	—	—	—

Continued on next page.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Andijan		80·3	312	e 12 12	+ 3	—	—	—	—
Sitka		86·6	32	—	—	e 23 13	[+ 2]	e 37·3	—
Sverdlovsk		90·6	326	13 6	+ 6	23 44	[+ 8]	36·3	46·3
Pasadena	z.	96·4	56	e 13 29	+ 2	—	—	e 43·5	—
Mount Wilson	z.	96·5	56	e 13 27	0	—	—	—	—
Baku		97·3	311	17 26	PP	24 13	[0]	50·3	55·5
Tiflis		101·1	311	e 18 1	PP	e 26 41	PS	50·3	60·4
Tucson		102·6	57	—	—	e 31 55	SS	e 46·2	—
Pulkovo		106·0	333	e 19 36	?	e 24 55	[0]	54·8	63·4
Scoresby Sund		112·6	355	20 37	?	35 1	SS	—	—
Copenhagen		116·2	332	—	—	29 37	PS	57·3	—
Florissant	E.	117·6	47	—	—	e 26 43	{−17}	e 47·4	64·9
Cheb		119·5	328	e 15 19?	+ 2	—	—	e 59·3	74·3
Triest		121·1	323	e 20 3	PP	—	—	e 58·3	65·8
De Bilt		121·8	332	e 22 19?	PPP	e 30 19?	PS	e 57·3	74·4
Stuttgart		122·0	328	e 20 28	PP	—	—	e 60·3	73·3
Edinburgh		122·3	339	—	—	e 32 19?	?	e 54·3	74·3
Strasbourg		122·8	328	e 20 19?	PP	—	—	e 54·3	74·8
Uccle		123·0	332	e 17 55	[−58]	e 30 19?	SKSP	e 58·3	—
Ottawa		124·2	34	—	—	e 29 37	SKSP	e 55·3	—
Kew		124·6	334	—	—	e 29 19?	SKSP	e 55·3	73·2
Paris		125·3	331	e 20 19?	PP	—	—	64·3	75·3
Philadelphia		127·6	40	—	—	e 37 36	SS	e 54·6	—
Balboa Heights		134·0	81	—	—	36 19?	?	—	—
Huancayo		135·6	111	—	—	e 42 19	?	—	—
Granada		136·6	323	e 23 50	?	—	—	77·3	—
San Fernando		138·6	325	—	—	e 40 49	SS	69·3	—
La Paz		140·4	124	—	—	e 34 49	?	68·3	78·5
Rio de Janeiro		152·0	160	—	—	e 37 19	?	—	—

Additional readings :—
Riverview eSE = +15m.7s.
Sydney iS = +14m.19s.
Adelaide e = +12m.25s., i = +13m.19s., +14m.5s., and +14m.24s., eS? = +16m.42s., i = +17m.52s., and +18m.25s.
Melbourne i = +15m.12s., e = +15m.42s.
Sumoto eE = +7m.31s.
Perth PP = +14m.44s., P_cP = +16m.34s., S = +18m.19s., SS = +19m.11s., P_cS = +19m.19s.
Hong Kong PP = +9m.8s., P_cP = +9m.42s.
Husan eSSE = +17m.22s.
Nanking eE = +16m.12s., SS = +18m.9s., SSSE = +18m.45s.
Zinsen eSSN = +18m.12s.
Chiufeng iZ = +16m.11s., iN = +16m.27s.
Sverdlovsk SS = +30m.7s.
Baku PS = +26m.19s., SS = +31m.43s.
Tiflis e = +20m.1s. and +32m.39s.
Tucson e = +43m.43s.
Pulkovo e = +21m.6s., +27m.52s., +28m.49s., +32m.35s., and +36m.15s., L_q = +50·3m.
Copenhagen +35m.42s.
Florissant eE = +27m.44s., eN = +30m.7s., eE = +30m.15s. and +36m.33s.
Triest e = +30m.19s., i = +32m.56s. and +38m.47s.
Ottawa e = +33m.19s.? and +38m.1s.
Philadelphia e = +38m.29s. and +43m.3s.
Long waves were also recorded at Ukiah, Columbia, Oak Ridge, Ivigtut, Cape Town, Honolulu, Moscow, Bergen, and other European stations.

May 25d. 13h. 28m. 55s. Epicentre 3°·5S. 146°·5E. (as at 3h.). X.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Palau	16·2	312	3 44	0	—	—	—	—
Riverview	30·6	172	—	—	e 13 5	SSS	e 17·3	20·0
Sydney	30·6	172	—	—	e 11 17	+ 3	16·5	19·1
Manila	31·2	308	7 11	PP	11 32	+ 9	14·2	—
Adelaide	32·3	191	e 6 5	−20	e 11 0	−40	e 18·0	22·0

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Melbourne		34·3	181	—	—	e 13 19	+68	17·4	22·3
Misima		39·3	351	7 28	+ 2	—	—	—	—
Perth		40·4	221	i 13 40	S	(i 13 40)	− 2	21·6	—
Oiwake		40·5	349	7 36	0	—	—	—	—
Nagano		40·9	349	7 40	0	13 50	0	—	—
Zi-ka-wei	z.	42·1	328	e 7 48	− 1	—	—	—	22·9
Nanking		44·2	325	e 8 9	+ 3	14 44	+ 5	21·7	—
Chiufeng		51·7	330	e 9 6	+ 2	e 16 33	+ 9	—	27·7
Tashkent		82·8	312	—	—	e 22 5?	−40	e 45·1	—
Sverdlovsk		90·6	326	e 14 45	+105	—	—	31·1	42·8
Tiflis		101·1	311	—	—	e 32 53	SS	e 52·1	—
Pulkovo		106·0	333	—	—	e 28 50	?	55·1	63·6

Additional readings :—
Adelaide e = +12m.29s. and +14m.26s.
Sumoto eE = +7m.31s.
Perth i? = +16m.30s. and +17m.20s.
Nanking SSN = +17m.16s., SSS = +18m.12s.
Tashkent e = +24m.5s.?
Long waves were also recorded at Baku, Scoresby Sund, and European stations.

May 25d. Readings also at 1h. (Husan and near Hukuoka B), 2h. (Andijan, Frunse, Calcutta, and La Plata), 4h. (Adelaide), 7h. (Nanking, Mount Wilson, Pasadena, and near La Paz), 8h. (Grozny and Scoresby Sund), 11h. (Nanking and Chiufeng), 12h. (Mizusawa, near Nagoya, and Sumoto), 15h. (La Plata, near Manila, and near Triest), 17h. (Erevan), 18h. (Samarkand and near Andijan), 19h. (Chiufeng, Hong Kong, and Nanking), 22h. (near Santiago and San Javier).

May 26d. 0h. European shock for which no determination is made.

Belgrade eZ = 53m.22s., 53m.46s., 54m.4s., 54m.19s., and 54m.56s.
Triest P = 53m.45s., iS = 54m.47s., i = 55m.7s., 55m.37s., 55m.46s., and 55m.55s.
Zagreb eP = 53m.45s., eS_g = 54m.41s., eNW = 55m.4s., e = 55m.10s., M = 55m.25s.
Chur eP = 54m.25s.
Zurich e = 55m.56s.
Padova eP = 56m.12s.
Strasbourg e = 58m.
Stuttgart e = 58m.
De Bilt e = 60m.

May 26d. 15h. 36m. 20s. Epicentre 31°·6N. 130°·6E. (as on 1935 July 3d.). X.

A = +·5543, B = +·6467, C = +·5240 ; δ = +5 ;
D = +·759, E = +·651 ; G = −·341, H = +·398, K = −·852.

	Δ	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Hukuoka B	2·0	356	e 0 34	P_g	1 1	S_g	—
Sumoto	4·5	51	1 4	0	1 55	0	2·5
Kobe	4·9	50	e 1 11	+ 1	e 2 5	0	2·4
Nagoya	6·4	54	e 1 33	+ 2	2 43	0	2·9

May 26d. Readings also at 1h. (near Hukuoka B), 2h. (Rio de Janeiro), 3h. (Andijan), 5h. (near Sumoto), 6h. (near Capodimonte and Triest), 8h. (Andijan), 9h. (Sebastopol, Theodosia, near Simferopol, and Yalta), 11h. (Christchurch), 12h. (Adelaide, Riverview, Sydney, and Wellington), 13h. (La Jolla, Mount Wilson, Pasadena, Tashkent, Tiflis, Simferopol, Yalta, Ksara, Pulkovo, Copenhagen, Paris, De Bilt, Strasbourg, and Stuttgart), 14h. (Baku, Sverdlovsk, and Scoresby Sund), 17h. (Frunse, Tashkent, Chiufeng, Little Rock, and Tacubaya), 18h. (Sverdlovsk, Copenhagen, and near Tiflis), 22h. (Mizusawa and near Nagoya), 23h. (Ksara, Sverdlovsk, and Tashkent).

May 27d. 6h. 19m. 18s. Epicentre 28°·4N. 83°·3E. N.1.

$A = +·1026$, $B = +·8736$; $C = +·4756$; $\delta = -10$;
$D = +·993$, $E = -·117$; $G = +·056$, $H = +·472$, $K = -·880$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Agra		4·8	256	1 9	+ 1	2 5	+ 2	—	—
Dehra Dun		5·0	294	1 12	+ 1	2 2	− 6	2·5	2·7
Calcutta		7·4	140	1 42	− 3	3 2	− 7	3·5	—
Hyderabad		11·8	203	3 7	+21	5 22	+24	—	7·9
Bombay		13·5	228	i 3 6	− 3	5 31	− 8	—	9·0
Andijan		15·3	327	3 25	− 7	i 6 17	− 5	8·3	—
Almata		15·7	343	e 3 35	− 3	—	—	—	—
Frunse		16·1	337	e 3 39	− 4	e 6 49	+ 8	—	—
Tashkent		17·3	322	i 3 52	− 6	i 6 48	−21	8·7	12·7
Samarkand		17·6	314	e 4 2	0	e 6 14	−61	—	—
Tchimkent		17·8	325	e 4 2	− 2	e 7 28	+ 8	—	—
Kodaikanal	E.	19·0	198	i 4 16	− 3	i 7 51	+ 5	9·6	—
Colombo		21·8	190	e 4 47	− 2	8 47	+ 5	—	17·3
Semipalatinsk		22·1	356	i 4 52	0	i 8 56	+ 8	12·2	—
Phu-Lien		22·5	104	i 4 55	− 1	i 8 59	+ 4	11·7	14·2
Hong Kong		28·5	95	5 52k	0	10 36	− 4	14·9	17·6
Medan		28·8	148	5 59	+ 5	i 12 19	SS	—	—
Chiufeng		29·3	57	i 6 0a	+ 1	i 10 46	− 7	—	18·0
Baku		29·8	303	i 6 38	+35	i 11 10	+ 9	16·0	23·1
Nanking		30·8	74	i 6 10a	− 2	i 11 12	− 5	14·9	19·4
Sverdlovsk		32·6	337	i 6 38	+10	i 11 51	+ 6	17·9	18·1
Zi-ka-wei		33·1	75	i 6 33k	0	11 50	− 2	—	18·7
Dairen		33·3	62	6 34	0	11 56	+ 1	—	—
Grozny		33·5	307	i 6 45	+ 9	i 12 4	+ 6	19·0	—
Taityu		33·7	88	6 42	+ 4	12 1	0	—	—
Erevan		33·8	301	e 6 44	+ 5	—	—	21·7	—
Tiflis		33·9	304	i 6 42	+ 3	i 12 9	+ 5	19·5	30·7
Arisan		33·9	89	6 38	− 1	12 12	+ 8	—	—
Yingkow		34·0	76	6 16	−24	11 40	−26	—	—
Taihoku		34·2	86	e 12 5	S	(e 12 5)	− 4	19·1	19·2
Kosyun		34·4	92	6 53	+ 9	—	—	—	—
Karenko		34·5	88	6 45	0	—	—	—	—
Taito		34·5	90	6 49	+ 4	12 18	+ 4	—	—
Piatigorsk		35·6	308	i 6 46	+ 2	i 12 28	− 2	20·2	—
Heizyo		36·5	62	7 6	+ 4	e 12 46	+ 2	e 20·3	23·4
Isigakizima		36·7	86	7 12	+ 8	—	—	—	—
Zinsen		37·1	65	i 7 6a	− 1	i 12 49	− 4	e 17·3	20·4
Keizyo	E.	37·4	65	i 7 9	− 1	e 12 39	−18	e 15·7	23·5
Manila		37·5	103	i 7 11a	0	i 12 54	− 5	—	—
Taikyu		38·7	67	7 22	+ 1	13 15	− 2	20·8	22·7
Husan		39·1	68	7 21	− 3	e 13 5	−17	—	24·8
Tomie		39·1	72	7 24	0	—	—	—	—
Naha		39·2	83	7 20	− 5	13 25	+ 1	—	—
Unzendake		40·3	72	7 36	+ 1	13 32	− 9	—	—
Hukuoka		40·4	70	7 37	+ 2	13 45	+ 3	i 21·8	24·9
Hukuoka B		40·4	70	7 34	− 1	13 37	− 5	21·1	26·0
Nake		40·4	78	7 32	− 3	13 34	− 8	—	—
Ksara		40·6	289	i 7 41a	+ 4	i 13 53	+ 8	—	—
Kagosima		40·7	74	7 45	+ 7	13 37	−10	—	—
Kumamoto		40·7	72	7 38a	0	13 46	− 1	—	—
Theodosia		41·1	307	e 7 42	+ 1	13 54	+ 1	e 18·7	—
Batavia		41·4	142	7 41	− 3	15 13	+76	e 21·7	—
Miyazaki		41·4	73	7 43a	− 1	—	—	—	—
Ooita		41·4	71	7 42	− 2	—	—	—	—
Hamada		41·6	69	7 45	0	—	—	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Yalta		41·9	306	i 7 49	+ 1	14 7	+ 2	24·7	—
Simferopol		42·0	307	i 7 50	+ 1	14 8	+ 2	24·0	—
Hirosima		42·0	70	7 59	+10	—	—	—	—
Matuyama		42·3	70	7 51	0	—	—	—	—
Sebastopol		42·4	306	i 7 54	+ 2	i 14 16	+ 5	26·7	—
Moscow		42·4	323	7 52	0	14 10	− 1	23·2	25·2
Malabar		42·6	143	e 8 13	+20	e 17 26	SS	e 22·7	—
Koti		43·0	70	7 55	− 2	14 22	+ 1	—	—
Tadotu		43·1	69	7 41	−17	13 56	−26	—	—
Okayama		43·2	69	7 59	+ 1	—	—	—	—
Toyooka		43·8	67	8 2	− 1	i 14 32	− 1	22·8	28·1
Sumoto		44·0	68	8 1k	− 4	e 17 56	SS	23·3	28·2
Kobe		44·2	68	e 8 1	− 5	14 37	− 2	—	28·3
	z.	44·2	68	e 8 3	− 3	e 14 43	+ 4	—	28·3
Wakayama		44·2	69	8 6	0	14 38	− 1	—	—
Osaka		44·5	68	8 9	0	14 42	− 1	—	—
Kyoto		44·6	68	8 11	+ 1	14 51	+ 7	—	—
Yagi		44·7	68	8 9	− 1	—	—	—	—
Siomisaki		44·8	70	8 11a	0	—	—	—	—
Hikone		45·0	68	8 15	+ 2	—	—	—	—
Helwan		45·0	285	i 8 12	− 1	i 14 57	+ 7	—	31·0
Kameyama		45·2	69	8 14	0	14 52	− 2	—	—
Kanazawa		45·2	65	8 10	− 4	14 48	− 6	—	—
Tu		45·3	69	8 29	+14	—	—	—	—
Wazima		45·3	64	8 16	+ 1	14 53	− 2	—	—
Gihu		45·4	67	8 15	− 1	14 54	− 2	—	—
Nagoya		45·6	67	e 8 19	+ 1	(14 57)	− 2	15·0	28·9
Toyama		45·6	65	8 19	+ 1	14 59	0	—	—
Hamamatu		46·2	68	8 22	0	15 3	− 4	—	—
Matumoto		46·3	66	8 21	− 2	—	—	—	—
Nagano		46·4	65	8 24	0	15 10	0	—	—
Takada		46·4	65	8 21	− 3	—	—	—	—
Oiwake		46·7	67	8 29	+ 3	15 20	+ 6	—	—
Omaesaki		46·7	68	8 25	− 1	—	—	—	—
Kohu		46·8	67	8 28	+ 1	15 12	− 4	—	—
Niigata		46·9	63	8 34	+ 6	—	—	—	—
Hunatu		47·0	67	8 20	− 9	15 19	0	—	—
Maebasi		47·1	67	8 30	+ 1	15 11	− 9	—	—
Numadu		47·1	67	8 30	+ 1	—	—	—	—
Misima		47·2	67	8 30	0	15 24	+ 3	—	—
Ito		47·3	67	8 34	+ 3	—	—	—	—
Pulkovo		47·3	327	i 8 32	+ 1	i 15 22	− 1	20·7	28·7
Kumagaya		47·4	65	8 32	0	—	—	—	—
Akita		47·6	61	8 31	− 2	—	—	—	—
Bucharest		47·7	306	e 8 38	+ 4	15 32	+ 3	—	30·7
Yokohama		47·7	66	8 32	− 2	—	—	—	—
Tokyo		47·8	66	8 35	0	—	—	—	—
Mera		47·9	67	8 31	− 4	—	—	—	—
Yamagata		47·9	63	8 37	+ 2	—	—	—	—
Kakioka		48·0	65	8 35	− 1	15 28	− 5	—	—
Tukubasan		48·0	65	8 34	− 2	15 27	− 6	—	—
Hukusima		48·1	64	8 35a	− 2	15 30	− 4	—	—
Hatidyozima		48·2	70	8 35	− 3	—	—	—	—
Sapporo		48·3	56	8 39a	+ 1	15 38	+ 1	—	—
Sendai		48·3	63	8 39	+ 1	15 38	+ 1	—	—
Mizusawa		48·4	62	8 40	+ 1	e 15 36	− 2	25·6	—
Morioka		48·4	60	8 40	+ 1	15 40	+ 2	—	—
Tyosi		48·6	66	8 38	− 3	—	—	—	—
Lemberg		49·2	313	e 7 56	−49	e 19 22	SS	e 28·4	33·9
Urakawa		49·4	57	8 50	+ 3	15 55	+ 3	—	—

Continued on next page.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Nemuro		51·4	56	(9 3)	+ 1	(16 18)	− 2	—	—
Titizima		51·6	77	9 3	0	—	—	—	—
Königsberg		51·7	320	i 8 55	− 9	i 16 25	+ 1	e 20·7	28·6
Belgrade		51·7	306	i 9 5k	+ 1	i 16 28	+ 4	e 32·1	—
Budapest		52·5	309	9 12	+ 2	16 47	+12	30·7	35·7
Palau		52·6	103	9 12	+ 1	16 35	− 2	—	—
Upsala		53·6	325	i 9 18	0	i 16 44	− 6	e 25·7	29·4
Vienna		54·3	311	e 9 24	+ 1	e 17 2	+ 3	e 30·7	36·7
Zagreb		54·7	308	e 9 28a	+ 2	e 17 9	+ 4	e 32·3	37·4
Graz		55·0	309	i 9 26	− 3	i 17 18	+ 9	e 29·7	36·8
Prague		55·4	314	9 32	0	e 17 16	+ 1	e 25·7	32·2
Laibach		55·7	308	i 9 37k	+ 3	i 17 23	+ 4	e 33·0	—
Copenhagen		56·3	321	i 9 38a	0	i 17 28	+ 1	30·7	—
Triest		56·3	308	i 9 38a	0	i 17 24	− 3	—	33·2
Cheb		56·7	314	e 9 41	0	e 17 35	+ 3	e 32·0	37·1
Hof		57·0	314	—	—	e 17 42	+ 6	e 28·7	32·7
Jena		57·1	315	e 9 42	− 2	e 17 36	− 2	e 28·7	32·7
Padova		57·6	308	i 9 50	+ 3	i 17 48	+ 4	e 32·7	43·7
Hamburg		57·8	318	i 9 50a	+ 1	i 17 49	+ 2	e 31·2	32·7
Göttingen		58·0	316	i 9 51k	+ 1	i 17 48	− 1	e 30·7	38·7
Florence		58·3	306	i 10 5	+13	i 17 52	− 1	31·7	35·2
Tananarive		58·6	221	9 56	+ 1	17 48	− 9	26·9	33·7
Stuttgart		58·9	313	9 58a	+ 1	18 3	+ 2	e 30·7	38·4
Chur		59·0	311	e 9 57	0	e 18 0	− 3	—	—
Karlsruhe		59·4	313	i 10 2	+ 2	i 18 12	+ 4	33·2	38·9
Zurich		59·5	311	e 10 1a	0	e 18 8	− 1	—	—
Bergen		59·7	327	i 10 2	0	i 18 12	0	e 28·3	37·4
Strasbourg		59·9	313	i 10 4a	0	i 18 11	− 4	e 28·7	39·2
Basle		60·2	311	e 10 5	− 1	e 18 18	− 1	—	—
Neuchatel		60·7	311	e 10 8	− 1	e 18 20	− 5	—	—
De Bilt		60·9	317	i 10 11a	0	i 18 30	+ 2	e 31·7	41·0
Uccle		61·6	316	i 10 16a	0	i 18 38	+ 1	29·7	35·7
Paris		63·2	313	i 10 26a	− 1	i 18 56	− 1	32·7	41·7
Durham		64·3	320	10 34	0	i 19 11	0	—	41·7
Kew		64·3	317	i 10 34a	0	i 19 10	− 1	29·7	37·2
Oxford		64·8	318	i 10 41	+ 4	i 19 15	− 2	e 34·5	38·3
Edinburgh		64·9	322	i 10 38	0	i 19 22	+ 3	32·7	41·2
Stonyhurst		65·0	320	i 10 40	+ 1	i 19 25	+ 5	27·7	42·8
Barcelona		65·4	306	e 10 44	+ 3	e 19 24	− 1	e 36·4	39·0
Bidston		65·5	320	i 10 42	0	i 19 26	0	26·7	—
Algiers		66·2	300	10 42	− 5	i 19 28	− 7	30·7	42·7
Tortosa	N.	66·8	305	i 10 49	− 2	i 19 41	− 1	27·3	39·0
Rathfarnham		67·3	320	e 10 49	− 5	i 19 47	− 1	33·2	44·2
Perth		67·8	150	8 52	−125	20 12	PS	40·7	—
Scoresby Sund		68·2	340	i 11 0	+ 1	i 20 0	+ 1	—	—
Almeria		70·3	302	i 11 7	− 6	i 20 21	− 4	e 42·1	—
Reykjavik		70·9	334	11 21	+ 5	e 20 36	+ 4	e 31·3	—
Granada		71·0	303	i 11 15	− 2	i 20 47	PS	—	—
Malaga		71·8	303	i 11 20	− 2	20 36	− 7	41·5	—
San Fernando		73·2	303	e 11 32	+ 2	i 20 56	− 3	38·2	47·2
College		78·7	20	e 11 56	− 5	e 21 53	− 9	e 42·0	—
Adelaide		82·0	137	i 12 17	− 1	i 22 40	+ 3	39·1	59·1
Ivigtut		82·2	339	12 18a	− 1	22 33	− 6	34·7	—
Cape Town		87·5	229	11 53	−52	i 23 9	[− 8]	38·0	49·4
Melbourne		87·8	136	12 47	0	23 7	[−12]	43·7	54·4
Sitka		88·5	20	e 12 53	+ 3	e 23 16	[− 7]	e 43·7	—
Riverview		89·4	130	e 12 54	− 1	i 23 42	− 8	e 44·7	56·7
Sydney		89·4	130	e 12 24	−31	(i 23 32)	[+ 3]	55·7	60·8
Victoria		99·6	18	e 13 45	+ 3	e 25 20	− 3	e 47·3	60·4
Seattle		100·5	17	—	—	e 24 20	[− 8]	—	—

Continued on next page.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
East Machias		102·1	339	e 18 2	PP	i 24 31	[− 5]	e 47·6	—
Honolulu		102·9	57	—	—	e 24 22	[−18]	55·7	—
Ottawa		103·8	345	14 0	− 1	24 38	[− 6]	e 49·7	—
Vermont		104·0	344	e 14 7	+ 5	e 25 32	{+ 9}	e 42·0	—
Bozeman		104·8	11	e 18 18	PP	e 24 44	[− 5]	—	—
Oak Ridge		105·4	342	e 14 54	+45	e 25 47	{+13}	e 57·7	—
Toronto		106·2	348	e 14 6	− 6	i 24 42	[−14]	50·3	—
Ithaca	E.	106·7	345	—	—	e 24 54	[− 4]	—	—
Buffalo		106·8	347	e 14 14	− 1	—	—	—	—
Fordham		107·6	342	e 17 24	[−46]	i 24 54	[− 8]	e 42·8	—
Ukiah		108·1	21	e 18 7	[− 4]	24 54	[−10]	e 51·7	—
Ann Arbor		108·3	351	e 18 54	PP	e 25 0	[− 5]	e 53·1	68·2
Pennsylvania		108·6	346	—	—	e 25 13	[+ 6]	e 63·7	71·1
Christchurch		108·7	131	16 42	?	26 29	−11	48·2	—
Philadelphia		108·8	343	e 14 28	+ 3	i 24 58	[−10]	e 44·7	—
Chicago		109·3	354	e 18 58	PP	e 25 1	[− 9]	e 49·8	—
Wellington		109·3	128	18 54	PP	—	—	59·2	61·7
Berkeley		109·5	21	e 14 32	+ 3	i 25 4	[− 7]	—	—
Georgetown		110·2	344	e 14 23	− 9	i 25 9	[− 5]	—	—
Charlottesville		111·4	345	e 19 2	PP	e 25 14	[− 5]	e 45·7	—
Tinemaha	N.	111·4	19	e 18 35	[+13]	—	—	—	—
Cincinnati		111·5	350	e 14 34	− 4	—	—	—	—
Haiwee		112·4	19	e 18 34	[+ 9]	—	—	—	—
St. Louis		112·7	355	e 19 11	PP	e 25 16	[− 9]	e 51·8	66·1
Mount Wilson	Z.	114·2	20	e 18 12	[−19]	—	—	—	—
Pasadena	Z.	114·2	20	e 18 36	[+ 5]	e 25 8	[−23]	e 55·3	—
Riverside	Z.	114·6	20	e 18 36	[+ 4]	—	—	—	—
Columbia		115·9	346	e 19 45	PP	e 25 29	[− 8]	e 41·7	—
Tucson		117·9	14	e 14 59	P	e 25 41	[− 2]	e 56·2	—
San Juan		124·7	324	e 20 42	PP	—	—	e 63·3	—
Rio de Janeiro		131·8	265	i 21 33	PP	—	—	—	—
La Plata		146·6	250	19 42	[+ 5]	—	—	71·5	—
La Paz		151·1	288	i 19 46	[+ 3]	i 30 30	{+ 1}	76·4	89·7
Huancayo		154·2	306	e 19 52	[+ 5]	—	—	e 78·4	—

Additional readings and note :—
Agra $P_gEN = +1m.32s.$, $S_gEN = +2m.32s.$
Bombay $P^*EN = +3m.40s.$, $P_gEN = +4m.18s.$, $S^* = +6m.16s.$, $S_gEN = +7m.1s.$
Kodaikanal $iPPE = +4m.33s.$, $iSSE = +8m.36s.$
Colombo $iP = +4m.51s.$
Hong Kong ? = +6m.13s., PP = +6m.29s., SE = +10m.42s., SS = +11m.51s., SSS? = +12m.42s.
Chiufeng i = +9m.40s., iSN = +10m.53s., iZ = +11m.8s.
Nanking iSSE = +12m.28s., iSSN = +12m.39s., iSSSE = +12m.42s.
Sverdlovsk $L_q = +17·6m.$
Zi-ka-wei iZ = +7m.35s., iN = +12m.1s.
Tiflis iPP = +7m.47s., eSS = +14m.25s., $S_cS = +17m.7s.$
Taihoku S = +15m.6s.
Heizyo PKP,PKP = +42m.21s.
Zinsen eSSN = +15m.32s., ePKP,PKP = +43m.26s.
Keizyo ePKP,PKPE = +43m.17s.
Manila iEZ = +8m.45s.
Taikyu iE = +8m.54s., PKP,PKP = +42m.56s.
Husan ? = +8m.56s., ePKP,PKP = +45m.10s.
Ksara PP = +9m.5s., $S_cS = +17m.53s.$
Toyooka PN = +8m.6s., eSE = +17m.58s., SNZ = +18m.10s.
Sumoto PZ = +8m.4s., ePN = +8m.7s.
Kobe PZ = +8m.5s., iPE = +8m.9s., ePPZ = +9m.50s., iSN = +14m.46s., iSE = +14m.49s., $S_cS? = +18m.3s.$
Helwan e = +10m.14s., +18m.32s., and +19m.30s.
Bucharest eE = +9m.50s., iPPEN = +10m.22s., PPPEN = +11m.2s., iEN = +12m.5s., $P_cSE = +12m.58s.$, SSEN = +18m.27s., SSSEN = +19m.42s.
Mizusawa PN = +8m.45s.
Nemuro readings have been *increased* by 2m.
Königsberg eN = +9m.9s., iZ = +10m.32s., iPPZ = +11m.0s., iE = +11m.10s., eE = +13m.15s. and +14m.19s., eZ = +14m.42s. and +16m.36s., eN = +18m.50s., eE = +18m.56s., eSSN = +20m.22s., eSSE = +20m.26s.
Belgrade $eS_cSNE = +19m.3s.$

Continued on next page.

Upsala PPE = +11m.17s., iSN = +16m.48s., iN = +19m.7s., iSSE = +20m.36s.
Zagreb e = +9m.52s., ePcPNE = +10m.27s., ePP = +11m.52s., ePPPP = +13m.23s., ePS = +17m.20s., eScS = +19m.15s., eSS = +21m.18s., eSSS = +23m.5s., e = +25m.23s.
Graz iScS = +19m.22s.
Prague ePP = +11m.43s., eSS = +21m.18s.
Laibach iNE = +19m.34s.
Copenhagen PcPZ = +10m.44s., PP = +11m.46s., PPP = +12m.58s., PcS = +14m.42s., eN = +18m.54s., iScS = +19m.28s., SSE = +21m.15s., SSSN = +22m.54s., L_q = +27·7m.
Triest iPP = +11m.45s., i = +12m.19s., +13m.2s. and +13m.13s., iPS = +18m.0s., i = +19m.16s., +19m.34s., +22m.16s., +22m.40s., and +23m.57s.
Cheb eN = +19m.33s.
Jena e = +13m.12s. and +26m.42s.
Hamburg eZ = +22m.48s.
Göttingen ePPE = +11m.48s., ePPPE = +13m.30s., iSE = +17m.53s., ePSEN = +18m.42s., iScSEN = +19m.42s., eSSEN = +21m.42s.
Tananarive SSN = +21m.42s., SSE = +21m.45s.
Stuttgart ePP = +12m.6s., ePPP = +13m.16s., ePcS = +14m.22s., eScS = +19m.55s., eSSS = +23m.42s. ; T_0 = 6h.19m.5s.
Zurich e = +13m.36s. and +19m.49s.
Bergen i = +10m.11s., PP = +12m.17s., PPP = +13m.17s., e = +19m.53s. and +24m.42s.?
Strasbourg iPP = +12m.14s., iPPP = +13m.34s., ePPPP = +14m.54s., ePS = +18m.22s., iScS = +19m.51s., eSS = +22m.2s., iSSS = +24m.46s.
De Bilt iPPZ = +12m.28s., iPPPZ = +13m.45s., e = +20m.2s.
Uccle iPPZ = +12m.28s., iPPPZ = +13m.47s., iEZ = +14m.7s. iScSE = +20m.10s., SSN = +23m.12s., SSS = +25m.22s.
Paris PS = +20m.26s., SSS = +26m.5s.
Durham SS = +23m.4s.
Kew iPPP = +14m.43s., eSZ = +19m.15s. iScSEN = +20m.29s., eSSEN = +24m.30s., iSSSN = +26m.17s.
Oxford e = +12m.58s. and +14m.28s., i = +20m.33s. and +26m.19s.
Edinburgh i = +13m.4s., +14m.48s., +20m.29s., and +24m.45s.
Stonyhurst PP = +13m.6s., PPP = +14m.34s., iScS = +20m.40s., iSS = +23m.25s., SSS = +26m.5s.
Bidston iPPP = +14m.35s., iSSS = +26m.17s.
Algiers PS = +20m.34s., SS = +26m.32s.
Rathfarnham Castle ePP = +13m.20s., ePPP = +14m.46s., ePS = +20m.17s., e = +20m.54s., eSSS = +28m.4s.
Perth SS = +20m.57s.
Scoresby Sund PcP = +11m.55s., PP = +13m.39s., PPPE = +15m.0s., PcSN = +16m.18s., eSE = +20m.10s., eScS = +20m.56s., SS = +24m.24s., +27m.30s.
Reykjavik PP = +13m.55s., PPP = +15m.27s., PS = +20m.47s.
Malaga e = +11m.29s., +11m.58s., and +12m.58s., PP = +13m.46s., e = +14m.58s., ScS = +21m.22s., SS = +24m.42s.
San Fernando ePP = +14m.23s., iSS = +25m.37s.
College eSS = +26m.49s.
Adelaide iPP = +15m.30s., iSKS = +22m.22s., i = +27m.30s., iSS = +27m.40s., i = +30m.19s. and +33m.49s.
Ivigtut eE = +22m.40s., PS = +23m.24s., SS = +27m.12s.
Cape Town PSN = +24m.28s., PSE = +24m.42s., SS = +29m.8s., iE = +30m.58s., eN = +35m.36s.
Melbourne PP = +16m.16s., ? = +23m.30s., SS = +29m.14s., SSS = +33m.24s., i = +36m.0s.
Sitka eSS = +29m.12s., eSSS = +32m.48s.
Riverview eN = +16m.30s., eEN = +23m.21s., iN = +24m.45s.
Sydney S is given as iP.
Victoria PPN = +17m.45s., SKSN = +24m.23s. ; T_0 = 6h.19m.20s.
East Machias e = +32m.29s. and +39m.41s.
Honolulu i = +24m.40s. and +25m.42s., S = +48m.2s.
Ottawa PP = +18m.14s., PS = +27m.18s. ; T_0 = 6h.19m.6s.
Vermont e = +17m.15s., iPP = +18m.17s., iSKKS = +24m.42s. = SKS − 3s., eSS = +33m.10s.
Bozeman eSS = +33m.21s.
Oak Ridge iPPZ = +19m.22s., ePPN = +19m.37s., eZ = +23m.15s., ePSE = +28m.45s., ePSN = +28m.48s.
Toronto iPPN = +18m.27s., PSN = +27m.33s., PPS = +28m.42s., SS = +33m.19s. ; T_0 = 6h.19m.11s.
Buffalo ePKP = +17m.58s., iPP = +18m.40s., ePPP = +21m.4s., iPS = +27m.56s., iPPS = +28m.58s., i = +36m.8s.
Fordham ePP = +18m.42s., i = +18m.49s., iPPP = +21m.7s., iPS = +28m.13s., iPPS = +29m.9s., e = +31m.47s., i = +36m.47s., e = +42m.47s.
Ukiah ePP = +18m.44s., e = +21m.3s., ePS = +28m.10s.

Continued on next page.

Ann Arbor ePS = +28m.18s., eSS = +34m.12s.
Christchurch iEZ = +18m.55s., S = +27m.53s., PSN = +28m.57s., SS = +34m.11s., SSS = +38m.12s.
Philadelphia e = +17m.25s., +18m.46s., +20m.59s., +22m.28s., +24m.30s., +28m.10s., +29m.7s., and +33m.16s.
Chicago e = +21m.21s., ePS = +28m.11s., eSS = +34m.17s., eSSS = +39m.0s., e = +39m.29s.
Wellington PKKP? = +34m.5s.
Berkeley iPP = +19m.0s., PPP = +21m.20s., iSKKSEN = +26m.4s., ePS = +28m.32s.
Georgetown iPP = +19m.3s., iPS = +28m.36s., e = +34m.43s.
Charlottesville e = +28m.42s., +33m.52s., and +37m.57s.
Tinemaha ePPN = +19m.11s.
Cincinnati ePKP = +18m.12s., PP = +19m.12s., PPP = +21m.44s., e = +28m.0s. PS = +28m.46s.
St. Louis eSKKSE = +26m.29s., eN = +28m.44s., ePSE = +29m.0s., eSSE = +35m.11s.
Mount Wilson PKPZ = +18m.38s., iPPZ = +19m.21s.
Pasadena ePPZ = +19m.16s., iPPZ = +19m.36s., eZ = +20m.26s., iPPPZ = +22m.0s., eSKKSN = +26m.32s., iPSZ = +29m.13s., ePKKPZ = +29m.34s., ePPSZ = +30m.22s., eZ = +33m.13s., eSSZ = +40m.7s.
Riverside iPPZ = +19m.25s., eZ = +33m.10s.
Columbia ePPP = +22m.13s., ePS = +29m.17s., eSS = +35m.34s.
Tucson ePP = +19m.54s., eS = +27m.5s., ePS = +29m.34s., eSS = +36m.18s.
San Juan ePS = +30m.42s., eSS = +37m.34s.
La Paz iE = +20m.2s., iPKP$_2$ = +20m.21s., ipPKP = +21m.32s., isPKP = +22m.4s., SKP = +23m.26s., iPP = +24m.10s., iSKS? = +26m.28s., iZ = +26m.56s., iSKSP = +33m.50s., iSS = +42m.48s., iSSS = +48m.37s.
Huancayo e = +23m.49s., +26m.0s., and +42m.50s.
Long waves were also recorded at Czernovitz.

Himalayan Earthquake of 1936 May 27d. 6h.

The shock considered above is well situated for observation by stations in Asia and Europe, and in fact by all principle observing countries of the world, with the exception of the American continent. In the latter only the two stations of Alaska, Sitka, and College come within an arcual radius of 90° from the epicentre, and are well placed for recording a good P observation. Altogether there are 120 sets of good P and S pairs scattered round in azimuth, affording as many estimates of the value of T_0. The mean of these is 6h.19m.20s., the preliminary value. Using this T_0 and calculating the epicentral distance for each station from its P observation, an epicentre is found to be situated near 28°N. 83°E. Computing distances of all the stations from this position and comparing with those deduced from P a set of residuals R can be written down for all the stations.

In this earthquake the stations have been arranged in groups according to azimuth as below. The table gives the required data about each group for the purpose of determining the equations of condition to be satisfied by the corrections x y t to be applied to longitude latitude of the epicentre, and the T_0. The weight of a group is proportional to the square root of the number of stations.

	Mean Az. °	R Mean Residual °	No. of Stations	Weight of Group	$\frac{\delta \Delta}{\delta t}$	Residual Calculated °	o—c °
India	205	+0·20	4	4	·08	+0·33	−0·13
Dehra Dun	295	0·0	1	2	·07	−0·08	+0·08
South-East China	102	−0·35	4	4	·11	−0·41	+0·06
Japan, North China	65	−0·69	73	17	·12	−0·68	−0·01
Formosa	88	−0·25	4	4	·12	−0·53	+0·28
East Indies	143	0·0	2	3	·11	−0·05	+0·05
Tananarive	221	+0·40	1	2	·14	+0·21	+0·19
Australia	135	−0·43	3	3	·20	−0·31	−0·12
Russia	332	−0·60	8	5	·09	−0·44	−0·16
Crimea, Levant	306	+0·05	11	6	·12	−0·28	+0·33
European	311	−0·40	43	13	·14	−0·37	−0·03
Alaska	20	−1·10	2	4	·20	−0·91	−0·19

The equation of condition for one station is :—

$$\frac{\delta t}{\delta \Delta}\left[x \text{ Sin Az } + y \text{ Cos Az } - R\right] + t = 0$$

or applying a factor for weight μt, the equation for a group :—

$$\frac{\mu \delta t}{\delta \Delta}\left[x \text{ Sin Az } + y \text{ Cos Az } - R\right] + \mu t = 0$$

For all the groups these are as follows :—

−21·0x	−45·5y	+4t	= +10·0
−26·0x	+12·0y	+2t	= 0·0
+35·6x	−7·6y	+4t	= −12·7
+128·9x	+59·5y	+17t	= −97·8
+33·3x	+1·0y	+4t	= −8·3
+16·4x	−21·8y	+3t	= 0·0
−9·4x	−10·7y	+2t	= +5·7
+10·6x	−10·6y	+3t	= −6·4
−26·1x	+48·9y	+5t	= −33·3
−40·5x	+29·5y	+6t	= +2·5
−69·6x	+61·3y	+13t	= −37·1
+5·1x	+14·1y	+3t	= −16·5

of which the solution by least squares is

$$x = -\cdot27 \text{ (whence } x\mathrm{Sec}\delta = -0\cdot31)$$
$$y = -\cdot43$$
$$t = -2\cdot1$$

giving the T_0 and epicentre adopted.

The column of the table headed " Residual Calculated " contains the values of $-\cdot27 \sin Az - \cdot43 \cos Az - 2\cdot1 \frac{\delta\triangle}{\delta t}$ for each group.

The last column gives the difference between columns three and seven, and indicate the errors in $\triangle$ to be expected in the final determination.

May 27d. Readings also at 0h. (near Wellington), 1h. (Tiflis), 2h. (Hong Kong and near Manila), 3h. (Rio de Janeiro, Ksara, Tiflis, and De Bilt), 4h. (De Bilt), 6h. (near Santiago), 7h. (Andijan, Frunse, Samarkand, Mount Wilson, Pasadena, Santiago, Fresno, Lick, near Berkeley, and Branner), 8h. (near Fresno and Lick), 9h. (Agra, Andijan (2), and Frunse (2)), 12h. (Arapuni, near Wellington, near Erevan, Grozny, and Tiflis), 13h. (Sverdlovsk, Tashkent, and Agra), 14h. (near Sumoto), 17h. (Sebastopol and Yalta), 18h. (Ksara), 19h. (near Berkeley, Branner, Lick, San Francisco, and Fresno), 20h. (Tashkent and Sverdlovsk), 21h. (Yalta).

May 28d. 0h. 28m. 44s. Epicentre 35°·5N. 5°·5W. (as on 1935 Oct. 18d.). R.3.

$A = +\cdot8104$, $B = -\cdot0780$, $C = +\cdot5807$; $\delta = +4$;
$D = -\cdot096$, $E = -\cdot995$: $G = +\cdot578$, $H = -\cdot056$, $K = -\cdot814$.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
San Fernando		1·1	330	i 0 15	− 1	i 0 30	+ 2	—	—
Malaga		1·5	35	i 0 18	− 3	—	—	—	—
Granada		2·2	42	i 0 32	+ 1	i 0 53	− 4	—	—
Almeria		2·9	61	e 0 41	0	e 1 19	+ 5	—	—
Toledo		4·5	15	0 57	− 7	—	—	—	—
Alicante		4·9	54	1 18	P*	—	—	—	—
Tortosa	N.	7·1	40	e 3 10	S	(e 3 10)	+ 9	—	—
Barcelona		8·4	43	e 3 22	S	(e 3 22)	−12	—	4·3
Triest		17·7	49	—	—	e 6 53	−24	e 8·6	11·8
Ksara		33·8	81	—	—	e 11 55	− 8	—	39·3

Additional readings :—
San Fernando i = +22s. and +39s.
Tortosa S?N = +3m.56s. = S_g +8s.
Barcelona eS = +3m.49s.
Long waves were also recorded at Strasbourg, Stuttgart, Paris, Cheb, Uccle, De Bilt, and Copenhagen.

May 28d. 12h. 28m. 25s. Epicentre 22°·3N. 121°·3E. (as on 1935 Nov. 15d.). R.2.

A = −·4807, B = +·7906, C = +·3795; δ = +14;
D = +·854, E = +·520; G = −·197, H = +·324, K = −·925.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Taihoku		2·8	4	0 58	P_g	1 30	S_g	—	2·4
Hong Kong		6·6	271	1 27k	− 7	3 24	S_g	—	6·0
Manila		7·7	183	1 50	+ 1	3 21	+ 5	—	—
Zi-ka-wei	z.	8·9	0	e 2 15	+ 9	4 17	S*	5·9	8·2
Nanking		10·0	348	e 2 17	− 4	e 4 41	S*	5·4	6·7
Phu-Lien		13·7	266	3 4	− 7	—	—	e 7·0	—
Hukuoka B		13·9	33	e 3 37	+23	e 7 30	L	(e 7·5)	—
Husan		14·5	26	e 3 43	+21	—	—	e 9·0	—
Taikyu		15·1	24	e 3 38	+ 8	—	—	—	—
Keizyo	E.	16·1	17	e 3 19	−24	e 7 21	+40	e 9·4	—
Sumoto		17·0	42	e 4 8	+14	—	—	—	—
Kobe		17·4	41	e 4 19	+20	—	—	—	—
Chiufeng		18·4	347	e 4 18	+ 7	e 7 43	+10	e 9·4	12·3
Nagoya		18·8	43	e 3 40	−36	5 4	?	—	—
Medan		28·8	234	e 5 53	− 1	—	—	—	—
Batavia		31·8	208	i 6 17k	− 4	—	—	—	—
Tashkent		47·3	307	i 8 32	+ 1	i 15 22	− 1	e 24·2	30·7
Sverdlovsk		55·6	325	i 9 44	+11	17 30	+13	33·6	35·7
Baku		61·9	306	e 10 24	+ 6	e 18 47	+ 6	31·6	40·7
Tiflis		65·6	307	e 10 43	+ 1	e 19 31	+ 4	34·6	43·0
Pulkovo		71·3	328	e 11 18	− 1	e 20 55	PS	42·1	43·9
Theodosia		71·6	311	e 11 15	− 5	—	—	—	—
Simferopol		72·6	312	e 11 26	0	—	—	—	—
Yalta		72·6	311	e 11 28	+ 2	e 20 47	− 5	—	—
Ksara		74·2	300	11 36	0	e 21 52	PS	—	—
Scoresby Sund		83·7	349	—	—	22 55	+ 1	43·6	—
Zagreb		84·2	317	e 12 35	+ 6	—	—	—	—
Stuttgart		86·8	322	e 12 43	+ 1	e 23 35	+10	e 48·6	57·6
De Bilt		87·2	326	—	—	e 23 35?	+ 6	e 45·6	56·9
Strasbourg		87·7	323	e 12 35?	−11	e 23 35?	+ 1	e 43·6	—
Edinburgh		88·8	332	—	—	e 23 50	+ 5	e 46·6	—

Additional readings.—
Taihoku S? = +1m.46s.
Hong Kong ? = +2m.55s. and +3m.42s.
Zi-ka-wei iZ = +4m.55s., +6m.23s., +7m.7s., and +7m.23s.
Nanking iEN = +5m.7s.
Chiufeng iN = +4m.27s., iSZ = +7m.51s.
Sverdlovsk L_q = +25·6m.
Tiflis PS = +19m.49s., SS = +24m.36s.
Pulkovo L_q = +38·6m.
Ksara eSS = +27m.0s.
Long waves were also recorded at Bergen, Copenhagen, Upsala, Hamburg, Prague, Uccle, Paris, Kew, Rathfarnham Castle, and Granada.

May 28d. 18h. 49m. 4s. Epicentre 10°·4N. 103°·7W. N.1.

A = −·2263, B = −·9572, C = +·1805; δ = +2;
D = −·973, E = +·230; G = −·042, H = −·176, K = −·984.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Oaxaca	N.	9·2	43	2 11	+ 1	—	—	—	—
Tacubaya	N.	9·8	23	2 23	+ 5	—	—	—	—
Guadalajara	N.	10·3	359	2 48?	+23	—	—	—	—
Merida	N.	16·9	49	3 41	−12	—	—	—	—
Tucson		22·9	345	e 5 0	0	9 18	+15	e 11·6	—
Balboa Heights		23·5	91	4 56?	− 9	—	—	—	—
La Jolla		25·9	333	e 5 26	− 2	(e 10 46)	+49	e 10·8	—
Little Rock		26·4	24	e 5 34	+ 1	i 9 56	− 9	e 13·4	17·9
Riverside	z.	26·9	334	e 5 31	− 6	—	—	—	—
Mount Wilson		27·4	334	i 5 38	− 4	i 9 49	−33	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Pasadena		27·4	334	i 5 39	− 3	e 10 26	+ 4	e 12·3	—
Santa Barbara	Z.	28·4	332	e 5 47	− 4	—	—	—	—
Haiwee		29·0	337	e 5 51	− 5	—	—	—	—
Denver		29·3	358	e 6 9	+10	i 10 52	− 1	i 14·7	20·6
Tinemaha		29·9	336	i 6 2	− 2	—	—	—	—
Fresno	N.	30·3	333	e 6 3	− 5	—	—	—	—
St. Louis	E.	30·6	21	i 6 11	+ 1	e 11 11	− 3	i 15·1	—
Florissant		30·7	21	i 6 11k	0	i 11 7	− 9	i 14·6	—
Columbia		31·2	38	e 6 16	0	e 11 26	+ 3	e 16·0	—
Lick	E.	31·6	332	e 6 22	+ 3	e 11 24	− 5	e 15·5	18·4
	N.	31·6	332	e 6 21	+ 2	e 11 27	− 2	—	—
Berkeley		32·3	332	5 22	−63	i 11 36	− 4	—	—
Des Moines		32·3	15	e 7 36	PP	e 11 26	−14	e 16·9	—
Cincinnati		33·2	28	i 6 34	0	i 11 46	− 8	—	—
Ukiah		33·8	332	e 6 24	−15	e 12 2	− 1	16·2	—
Chicago		34·3	20	e 6 41	− 2	i 12 16	+ 5	e 17·5	—
Chicago (Loyola)		34·4	20	i 6 48	+ 4	i 12 31	+19	—	—
Charlottesville		35·5	36	e 6 56	+ 3	e 12 24	− 5	e 16·5	—
Huancayo		35·7	128	i 6 57	+ 2	i 12 42	+10	e 16·9	—
Bozeman		35·9	352	e 6 58	+ 1	e 12 40	+ 5	15·5	—
Ann Arbor		36·2	25	e 6 56	− 4	i 12 44	+ 5	e 18·5	—
San Juan		36·8	73	e 7 9	+ 4	e 12 56	+ 8	15·9	—
Georgetown		36·9	36	i 7 9	+ 3	i 12 54	+ 4	—	—
Pennsylvania		37·8	33	e 7 8	− 5	e 13 6	+ 3	e 23·0	26·9
Buffalo		38·9	30	i 7 23	0	i 13 11	− 9	—	—
Toronto		39·2	28	i 7 26	+ 1	i 13 13	−11	18·2	—
Ithaca		39·7	32	i 7 32	+ 3	i 13 44	+12	e 19·9	—
Fordham		40·0	36	i 7 32	0	i 13 39	+ 3	e 21·8	—
Seattle		40·5	342	—	—	e 13 46	+ 2	e 17·1	—
Victoria		41·6	341	e 7 43	− 2	i 14 6	+ 6	e 19·0	24·3
Saskatoon		41·8	357	e 7 50	+ 3	e 14 4	+ 1	e 20·4	—
Ottawa		42·2	30	e 7 52	+ 2	i 14 18	+ 9	e 20·1	—
Oak Ridge		42·4	36	i 7 53	+ 1	i 14 27	+16	e 22·9	—
Vermont		42·8	32	i 7 58	+ 3	i 14 26	+ 8	e 21·1	—
La Paz		44·0	127	i 8 5a	0	i 14 34	− 2	20·6	23·6
East Machias		46·2	36	i 8 23	+ 1	e 15 23	+16	e 22·3	—
Sitka		52·8	339	e 9 12	0	i 16 46	+ 7	e 22·9	—
Honolulu		53·3	289	i 9 16	0	i 16 52	+ 6	22·3	—
La Plata		62·4	138	10 20	− 1	18 32	−15	29·9	—
College		62·5	341	e 10 18	− 4	e 18 45	− 3	e 26·1	—
Ivigtut		64·6	26	10 36	0	19 20	+ 5	30·9	—
Rio de Janeiro		67·5	120	e 10 56	+ 1	e 19 56	+ 5	i 31·9	—
Scoresby Sund		77·3	20	11 52a	− 2	21 46	0	34·9	—
Rathfarnham		85·8	37	—	—	i 24 3	PS	41·6	44·9
Edinburgh		87·0	34	e 12 56?	+13	i 23 19	[+ 6]	41·9	50·6
Bidston		87·7	36	—	—	e 23 26	− 8	e 36·9	45·8
Stonyhurst		87·9	36	12 56?	+ 9	—	—	—	—
Durham		88·2	35	—	—	23 25	[+ 4]	—	51·4
Bergen		88·9	28	e 13 2	+10	23 39	− 7	42·9	—
Oxford		89·2	38	e 13 14	+20	i 23 53	+ 5	e 42·3	54·2
San Fernando		89·5	53	e 13 11	+16	23 54	+ 3	40·9	—
Kew		89·8	38	e 12 58	+ 2	i 23 59	+ 5	e 36·9	43·2
Malaga		90·8	52	13 2	+ 1	23 37	[0]	42·1	—
Wellington		90·9	228	13 13	+11	23 35	[− 3]	41·7	—
Granada		91·3	52	13 6	+ 3	24 6	− 2	—	—
Almeria		92·3	52	16 50	PP	e 25 30	PS	e 45·3	—
Paris		92·3	40	e 15 56?	?	i 23 55	[+ 9]	42·9	49·9
De Bilt		92·8	35	e 13 10	0	e 23 51	[+ 2]	e 43·9	52·2
Uccle		92·8	37	e 13 14	+ 4	i 24 26	+ 4	43·9	—
Christchurch		92·9	226	23 47	SKS	(23 47)	[− 2]	38·3	42·6
Tortosa	N.	93·4	47	e 15 56?	?	—	—	e 36·9	46·4

Continued on next page.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Hamburg		94·9	33	e 16 56?	PP	e 25 29	PS	e 44·9	47·9
Copenhagen		95·3	30	16 44	PP	e 24 44	− 1	44·9	—
Upsala		95·6	26	—	—	e 23 56	[− 8]	e 44·9	57·3
Strasbourg		95·7	38	e 13 27	+ 3	e 24 9	[+ 5]	e 39·9	49·9
Göttingen		95·8	35	—	—	e 24 8	[+ 3]	—	55·9
Stuttgart		96·5	38	e 13 27	0	e 24 12	[+ 4]	e 45·9	49·9
Jena		96·9	35	—	—	e 26 26	PS	e 40·9	60·9
Cheb		97·8	36	e 17 26	PP	e 26 29	PS	e 46·9	54·9
Prague		98·9	35	e 17 17	PP	—	—	e 39·9	53·9
Königsberg		99·6	28	e 17 50	PP	e 24 26	[+ 3]	e 48·1	—
Triest		100·6	39	e 14 1	+15	i 25 30	− 2	e 47·8	54·1
Pulkovo		100·7	22	e 13 48	+ 1	25 26	− 7	46·9	58·0
Graz		101·0	38	e 22 5	?	—	—	e 51·9	56·8
Zagreb		101·9	39	e 14 11	+19	e 24 39	[+ 4]	e 48·5	52·6
Budapest		102·9	36	e 18 56?	PP	—	—	e 48·9	65·9
Moscow		106·3	21	18 32	PP	24 56	[0]	52·9	64·3
Bucharest		108·6	35	19 8	PP	24 56	[−11]	57·9	60·9
Riverview		108·6	238	—	—	e 34 2	SS	e 44·6	57·7
Sydney		108·6	238	—	—	e 27 29	PS	56·9	60·4
Sverdlovsk		111·5	9	e 18 8	[−14]	27 5	?	47·9	59·3
Sebastopol		112·6	32	e 19 28	PP	—	—	—	—
Simferopol		112·6	31	e 19 27	PP	e 23 19	PPPP	55·1	—
Husan		112·8	315	e 28 57	PS	—	—	e 51·5	—
Yalta		113·0	31	e 19 19	PP	e 23 9	PPPP	56·9	—
Melbourne		113·5	234	—	—	e 29 7	PS	52·3	67·8
Chiufeng		117·7	327	e 19 55	PP	—	—	e 50·8	63·0
Adelaide		118·9	236	—	—	i 24 43	[−64]	52·1	66·8
Semipalatinsk		119·1	356	e 20 4	PP	—	—	—	—
Grozny		119·3	25	e 19 56	PP	—	—	59·2	—
Tiflis		120·2	27	20 15	PP	25 50	[− 1]	51·9	61·7
Zi-ka-wei	z.	120·3	316	e 20 11	PP	i 30 13	PS	—	—
Ksara		121·2	40	e 18 56	[+ 8]	—	—	58·4	67·9
Nanking		121·5	318	19 56	PP	28 0	{+34}	e 57·3	65·1
Cape Town		122·0	124	—	—	i 37 44	SS	59·2	66·4
Baku		123·5	24	20 41	PP	—	—	55·9	65·0
Frunse		126·7	2	e 19 26	[+26]	—	—	e 68·4	—
Tashkent		127·8	7	20 54	PP	28 24	{+16}	e 56·4	73·1
Andijan		128·7	4	e 19 36	[+32]	—	—	e 68·9	—
Manila		129·5	298	19 8	[+ 2]	—	—	58·9	—
Hong Kong		130·8	311	21 16	PP	31 28	PS	—	66·1
Agra	E.	142·4	357	—	—	41 23	SS	e 57·2	—
Batavia		149·9	276	19 45	[+ 3]	23 54	PP	—	—
Medan		154·0	302	e 20 33	[+46]	—	—	—	—
Colombo		162·5	349	20 26	[+29]	—	—	—	83·2

Additional readings :—
Little Rock ipPEN = +6m.16s., iPPEN = +6m.42s., isSN = +11m.22s., iSS = +12m.16s.
Riverside i = +5m.34s.
Denver epPEN = +7m.0s., iPPN = +7m.16s., isSEN = +12m.40s., iSSE = +13m.0s., iEN = +13m.56s.
Tinemaha eN = +8m.47s.
St. Louis ipPE = +7m.6s., iPPE = +7m.23s., isPE = +7m.40s., isSE = +13m.0s., iSSE = +13m.26s.
Florissant ipP = +7m.2s., ipPEN = +7m.6s., iPPEN = +7m.20s., isP = +7m.28s., isSEN = +12m.48s., iSSEN = +13m.4s., iS_cSE = +16m.5s.
Columbia e = +6m.59s.
Berkeley eSN = +11m.39s., eSE = +11m.43s.
Cincinnati ipP = +7m.34s., iPP = +7m.48s., isP = +7m.57s., ipPP = +8m.30s., iS_cP = +12m.46s., isS = +13m.24s., iSS = +14m.7s.
Ukiah iS = +12m.9s., SS = +14m.32s., SSS = +15m.41s.
Chicago (Loyola) iPP = +7m.55s., iSS = +14m.28s.
Charlottesville e = +5m.36s., +8m.4s., +11m.44s., +12m.32s., and +14m.24s.
Bozeman ePP = +8m.0s., eP_cP = +9m.22s., eS = +11m.57s., SS = +14m.57s.
Ann Arbor iPP = +8m.14s., eSS = +14m.56s.
Georgetown ipP = +8m.24s.

Continued on next page.

Pennsylvania e = +8m.49s.
Buffalo iPP = +8m.50s., i = +12m.32s. and +13m.42s., iSS = +15m.28s.
Toronto iPP = +8m.37s. ; T_0 = 18h.49m.27s.
Ithaca ePPEN = +9m.8s.
Fordham ipP = +9m.1s., iSS = +16m.31s.
Seattle e(S) = +14m.6s. and +14m.26s.
Saskatoon SSS = +17m.30s. ; T_0 = 18h.49m.18s.
Ottawa PP = +9m.20s., e = +14m.2s., SS = +17m.10s.
Oak Ridge ePPE = +9m.23s., P_cP = +9m.36s., iPPPZ = +9m.57s., eSSN = +17m.17s., iSSZ = +17m.29s., iSSE = +17m.51s., iE = +19m.25s.
Vermont PP = +9m.38s., eSS = +7m.34s.
La Paz iN = +8m.37s., ipP = +9m.26s., isS = +10m.4s., ipPP = +10m.54s., iSN = +14m.38s., iN = +14m.52s., iPS = +15m.5s., isSZ = +15m.34s., isSN = +16m.3s., iS_cSN = +16m.46s., iSSN = +17m.43s., iSSS = +18m.29s.
Sitka i = +16m.22s.
College eSS = +22m.52s.
Ivigtut +20m.33s. and +26m.56s.
Rio de Janeiro eSN = +20m.4s.
Scoresby Sund +14m.50s. and +26m.51s.
Rathfarnham Castle i = +29m.53s.
Edinburgh i = +23m.30s. and +29m.21s.
Bidston iS = +23m.56s., eSS = +29m.36s.
Bergen SS = +30m.4s.
Oxford iSKS = +23m.28s.
San Fernando PP = +16m.46s., SKS = +23m.34s., SS = +29m.50s.
Kew eSKSEN = +23m.35s., eSSEN = +29m.53s.
Malaga PP = +16m.25s., PS = +25m.17s.
Wellington i = +24m.4s., SS? = +31m.6s.
Paris e = +23m.22s.
De Bilt eZ = +16m.57s. and +18m.59s., eSS = +30m.39s.
Uccle ePPZ = +16m.54s., iSKSE = +23m.51s., SSE = +30m.28s.
Christchurch S = +30m.47s.
Hamburg eE = +31m.14s.
Copenhagen SKKS = +24m.2s., PS = +25m.44s., PPS = +26m.8s., SS = +31m.8s., L_q = +40·9m.
Upsala SS = +31m.12s.
Strasbourg ePP = +17m.21s., ePS = +26m.6s., eSS = +31m.24s.
Göttingen eEN = +26m.8s. and +31m.20s.
Stuttgart ePPEZ = +17m.19s., e = +23m.26s., ePS = +25m.56s., eSS = +31m.32s. ; T_0 = 18h.48m.55s.
Jena e = +31m.38s.
Prague e = +26m.38s.
Königsberg eE = +28m.12s., eN = +32m.16s., eE = +32m.44s.
Triest eZ = +16m.38s., e = +17m.9s., iPP = +17m.57s., iSKS = +24m.32s., iPS = +26m.54s., i = +27m.6s., PPS = +27m.38s., i = +28m.38s. and +31m.27s., iSS = +32m.36s.
Pulkovo PP = +17m.55s., SKS = +24m.31s., SS = +32m.20s.
Zagreb eNE = +22m.16s., eNW = +32m.44s.
Moscow ePPS = +28m.47s., SS = +33m.32s.
Riverview eE = +34m.26s.
Sverdlovsk PP = +19m.24s., PS = +28m.49s.
Melbourne e = +30m.6s. and +35m.26s.
Adelaide e = +35m.58s.
Chiufeng iEN = +29m.31s., iZ = +29m.50s., SS = +36m.19s.
Tiflis PS = +29m.56s., e = +32m.26s., eSS = +36m.4s.
Zi-ka-wei iZ = +37m.20s.
Ksara iPP = +20m.23s., e = +23m.3s., PS = +30m.23s., SS = +37m.9s., SSS = +41m.43s.
Nanking PSE = +29m.52s., PPS = +31m.12s., SS = +35m.42s., SSS = +41m.8s., iN = +42m.35s.
Cape Town e = +41m.32s.
Baku PS = +30m.36s., SS = +37m.56s., SSS = +42m.26s.
Tashkent PS = +30m.56s., SS = +38m.14s., SSS = +42m.56s.
Manila PPZ = +21m.13s., SKPEN = +22m.28s., PS = +31m.24s.
Hong Kong SS = +38m.29s.
Agra SSE = +46m.36s.
Long waves were also recorded at Manzanillo, Santiago, Ferndale, Toyooka, Hukuoka B, Phu-Lien, Apia, Perth, Tananarive, Bombay, Hyderabad, Kodaikanal, Theodosia, Algiers, and Barcelona.

May 28d. Readings also at 4h. (Sebastopol and Yalta), 7h. (Simferopol and Yalta), 8h. (Tacubaya), 9h. (Apia (2), Tacubaya, Haiwee, Mount Wilson, Pasadena, Riverside, Tinemaha, Ksara, Sebastopol, Simferopol, Theodosia, Yalta, and Tiflis), 11h. (Tiflis), 12h. (Sebastopol), 14h. (Göttingen), 15h. (Tacubaya), 16h. (Oak Ridge), 21h. (near Branner, Lick, and Fresno), 22h. (Mount Wilson, Pasadena, Riverside, Wellington, Sumoto, and near Nagoya (2)), 23h. (Sumoto),

May 29d. 14h. 42m. 50s. Epicentre 56°·8N. 132°·7W. N.3.

$A = -·3713$, $B = -·4024$, $C = +·8368$; $\delta = +2$;
$D = -·735$, $E = +·678$; $G = -·567$, $H = -·615$, $K = -·548$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Sitka		1·5	280	i 0 22	+ 1	i 0 40	+ 1	—	—
Tinemaha		21·9	148	i 4 50	0	—	—	—	—
Haiwee		22·9	148	e 5 0	0	—	—	—	—
Mount Wilson	z.	24·7	149	i 5 18	+ 1	—	—	—	—
Pasadena	z.	24·7	149	i 5 21	+ 4	—	—	—	—
Riverside	z.	25·1	149	e 5 18	− 3	—	—	—	—
Chicago		32·2	98	e 7 11	PP	—	—	e 17·5	—
Florissant		32·9	105	e 13 46	SSS	e 17 34	(+34)	i 19·0	20·1
Scoresby Sund		43·6	28	—	—	18 46	(+42)	25·2	—

Additional readings :—
Sitka iP = +27s.
Chicago e = +8m.22s.
Long waves were also recorded at College, Bozeman, and Columbia.

May 29d. Readings also at 1h. (Bucharest), 5h. (near Triest), 6h. (near Berkeley, Lick, Branner, San Francisco, Fresno, Andijan, and Frunse), 7h. (near Samarkand, La Paz, and near Santiago), 9h. (Grozny and Tiflis), 21h. (Drome), 22h. (Christchurch).

May 30d. 7h. 8m. 38s. Epicentre 25°·7N. 90°·5E. (as on 1933 March 6d.). X.

$A = -·0079$, $B = +·9010$, $C = +·4337$; $\delta = -4$;
$D = +1·000$, $E = +·009$; $G = -·004$, $H = +·434$, $K = -·901$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Calcutta		3·7	211	1 3	P*	1 44	S*	—	—
Hyderabad		13·9	236	5 52	S	(5 52)	+ 3	7·2	8·0
Phu-Lien		15·6	105	3 22?	−14	—	—	—	—
Bombay	N.	17·7	251	—	—	e 6 59	−18	—	—
Almata		20·8	332	e 4 35	− 3	—	—	—	—
Andijan		21·2	320	e 4 42	0	e 8 34	+ 4	—	—
Frunse		21·5	325	e 4 47	+ 2	—	—	—	—
Tashkent		23·4	317	e 4 59	− 6	e 9 7	− 5	e 12·4	16·0
Samarkand		24·0	311	e 5 32	PP	e 9 37	+14	—	—
Chiufeng		25·7	50	e 5 22	− 4	e 9 51	− 2	e 12·4	16·2
Sverdlovsk		37·7	334	e 7 21	+ 9	e 13 10	+ 8	19·4	—
Copenhagen		62·4	322	—	—	24 22?	?	37·4	—

Additional readings :—
Calcutta P, E = +1m.15s.
Hyderabad S = +6m.54s.
Tashkent e = +3m.8s.
Chiufeng ePEN = +5m.29s.
Long waves were also recorded at Tiflis, Baku, and Pulkovo.

May 30d. 10h. 7m. 41s. Epicentre 37°·2N. 121°·7W. (as on May 16d.). R.3.

$A = -·4186$, $B = -·6777$, $C = +·6046$; $\delta = +4$.

		Δ	Az.	P.	O−C.	S.	O−C.
		°	°	m. s.	s.	m. s.	s.
Lick		0·1	17	e 0 1	0	i 0 4	+ 1
Branner		0·4	299	i 0 6	0	i 0 15	+ 5
Berkeley		0·8	326	i 0 14	+ 3	i 0 27	+ 6
San Francisco		0·9	313	i 0 14	+ 1	i 0 27	+ 4
Fresno	N.	1·6	106	e 0 19?	− 4	—	—

May 30d. 20h. 40m. 5s. Epicentre 34°·0N. 135°·5E. (as on 1932 May 24d.). X.

$A = -\cdot5913$, $B = +\cdot5811$, $C = +\cdot5592$; $\delta = +2$.

		△	Az.	P.	O−C.	S.	O−C.	M.
		°	°	m. s.	s.	m. s.	s.	m.
Sumoto		0·6	304	i 0 8	− 1	0 17	+ 2	0·3
Kobe		0·7	339	0 9k	− 1	i 0 19	+ 1	0·3
Nagoya		1·7	45	e 0 25	+ 1	0 45	+ 1	—
Toyooka		1·7	340	e 0 25	+ 1	0 38	− 6	0·7

May 30d. Readings also at 1h. (La Paz), 3h. (near Hukuoka B), 4h. (near Medan), 6h. (Manila, Mount Wilson, and Pasadena), 8h. (La Paz, Tiflis, and near Piatigorsk), 9h. (Phu-Lien and Santiago), 12h. (near Santiago), 15h. (Scoresby Sund, Copenhagen, Sverdlovsk, Moscow, Pulkovo, Branner, Fresno, and near Lick), 16h. (Tiflis, Grozny, Tashkent, Simferopol, Yalta, Hamburg, De Bilt, Strasbourg, Stuttgart, Scoresby Sund, and Tucson), 17h. (Frunse and near Samarkand).

May 31d. Readings at 1h. (near Almeria and Granada), 2h. (Almeria, Alicante, Malaga, Toledo, and near Algiers), 3h. (Copenhagen, Sverdlovsk, Tashkent, Hong Kong and near Manila), 4h. (near Fresno), 6h. (near Basle, Chur, Neuchatel, and Zurich), 8h. (Granada), 12h. (Samarkand), 14h. (Almata and near Frunse), 15h. (Frunse and Samarkand), 17h. (Belgrade), 19h. (Yalta), 20h. (La Paz), 21h. (Belgrade).

June 1d. 11h. 20m. 51s. Epicentre 23°·2S. 179°·4W. (as on 1934 Oct. 10d.). R.3.

$A = -\cdot9191$, $B = -\cdot0096$, $C = -\cdot3939$; $\delta = -1$;
$D = -\cdot010$, $E = +1\cdot000$; $G = +\cdot394$, $H = +\cdot004$, $K = -\cdot919$.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Wellington		18·7	194	7 51	S	(7 51)	+11	i 22·5	27·2
Christchurch		21·4	196	e 4 41	− 3	e 8 24	−10	—	12·3
Riverview		27·9	241	e 9 51	?	e 10 27	− 3	i 13·7	—
Manila		69·5	297	11 14	+ 6	16 2	?	—	19·8
Sumoto	E.	72·1	322	e 11 22	− 1	—	—	—	—
Mizusawa	E.	72·4	330	(11 28)	+ 3	11 28	P	—	—
Batavia		72·7	271	10 8	?	i 20 15	−38	—	—
Nanking		80·9	311	12 42	+29	21 55	−30	—	—
La Jolla	Z.	81·6	49	e 12 16	0	—	—	—	—
Pasadena		81·7	47	i 12 17k	0	i 21 34	−60	—	—
Mount Wilson	Z.	81·8	47	i 12 18	+ 1	—	—	—	—
Riverside	Z.	82·1	48	i 12 20	+ 1	—	—	—	—
Haiwee		82·9	46	i 12 23	0	—	—	—	—
Tinemaha		83·3	46	i 12 25	0	i 21 50	−60	—	—
Chiufeng		87·2	316	e 12 46	+ 2	22 9	−80	—	—
La Paz		101·9	114	18 32	PP	i 23 43	[−52]	—	—
Tashkent		120·7	305	i 20 25	PP	i 26 16	[+24]	—	54·2
Sverdlovsk		125·5	324	i 15 11	P	i 28 13	{+21}	47·2	—
Scoresby Sund		130·9	10	21 15	PP	—	—	—	—
Baku		135·4	305	e 21 48	PP	(36 9?)	SS	36·2	—
Moscow		137·6	330	e 18 49	[−30]	—	—	—	—
Grozny		137·9	310	e 22 3	PP	—	—	—	—
Pulkovo		138·0	338	i 19 22	[+ 3]	—	—	—	—
Tiflis		138·9	307	e 19 26	[+ 6]	e 26 38	SKS	—	—
Theodosia		144·3	317	e 19 34	[+ 2]	—	—	—	—
Simferopol		145·2	317	i 19 36	[+ 2]	—	—	—	—
Yalta		145·2	316	i 19 37	[+ 3]	—	—	—	—
Sebastopol		145·7	317	e 19 39	[+ 4]	—	—	—	—
Copenhagen		146·4	348	i 19 36k	[0]	—	—	—	—
Edinburgh		147·2	4	e 20 9?	[+32]	—	—	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Ksara		147·4	297	i 19 43	[+ 5]	—	—	—	—
Hamburg	z.	148·8	349	e 19 41a	[+ 1]	—	—	—	—
De Bilt	z.	150·9	354	e 19 43	[0]	—	—	—	—
Jena		151·0	346	e 19 50	[+ 7]	—	—	—	—
Kew	z.	151·7	1	i 19 50	[+ 6]	—	—	—	—
Uccle		152·1	355	19 53	[+ 9]	e 29 24	{−70}	—	—
Stuttgart		153·6	347	e 19 48k	[+ 1]	e 26 54	SKS	—	—
Strasbourg		153·9	349	e 19 49	[+ 2]	—	—	e34 ·2	—
Paris		154·3	358	e 19 46	[− 1]	—	—	—	—
Toledo		162·9	12	e 20 47	[+50]	—	—	—	—
Granada		165·6	14	e 21 1	?	i 24 46	?	—	—
Malaga		165·8	17	21 2	?	24 47	?	—	—
Almeria		166·1	10	—	—	e 43 20	SS	—	—

Additional readings :—
Wellington iPP? = +9m.58s., iPPP? = +10m.28s., S = +15m.14s., iSS = +19m.3s.
Sumoto eN = +11m.25s.
Nanking PP = +15m.53s., SN = +21m.58s., SS = +27m.22s.
Pasadena iZ = +14m.31s.
Mount Wilson iZ = +14m.33s.
Riverside eZ = +14m.32s.
Haiwee eNZ = +14m.37s.
Chiufeng SS?EN = +26m.30s.
La Paz iE = +27m.59s.
Tashkent i = +22m.0s., +23m.27s., and +24m.50s., e = +30m.11s., +33m.3s., +35m.45s., and +40m.21s.
Sverdlovsk e = +16m.57s. and +19m.5s., i = +20m.12s.
Scoresby Sund +22m.33s.
Moscow e = +19m.19s. and +21m.25s.
Pulkovo i = +21m.54s., +22m.53s., and +24m.18s., e = +25m.20s. and +26m.25s.
Tiflis e = +22m.4s. and +33m.16s.
Simferopol e = +22m.7s.
Yalta e = +23m.17s.
Sebastopol e = +22m.21s.
Copenhagen +22m.12s., e = +26m.9s.
Ksara pPKP = +20m.47s., ePP = +22m.8s., ipPP = +23m.13s.
De Bilt iZ = +19m.50s., eZ = +22m.16s.
Jena iP = +19m.53s.
Kew eZ = +21m.23s.
Uccle eZ = +22m.27s. and +23m.27s.
Stuttgart ePKPZ = +19m.56s. and +20m.8s., ePP = +22m.23s., ePKS = +23m.33s.
Strasbourg iZ = +20m.10s., eSKPZ = +23m.34s.
Paris PKP_2 = +20m.7s.

June 1d. Readings also at 0h. (La Paz), 1h. (Mizusawa and Apia), 3h. (Samarkand), 5h. (Medan and Taikyu), 7h. (Haiwee, Mount Wilson, Pasadena, Riverside, and Tinemaha), 8h., 9h., and 11h. (near Sumoto), 12h. (Christchurch), 13h. (Apia and Wellington), 14h. (Tashkent, Erevan, Sverdlovsk, Tiflis, Frunse, and near Andijan), 15h. (Andijan, Frunse, Samarkand, Erevan, Tiflis (2), Piatigorsk, and near Grozny), 17h. (near Santiago), 19h. (Andijan and Samarkand), 21h. (near Batavia), 23h. (near Branner).

June 2d. 12h. 25m. 14s. Epicentre 39°·8N. 74°·3E. (as on 1931 April 26d.). X.

A = +·2079, B = +·7396, C = +·6401 ; δ = −4 ;
D = +·963, E = −·271 ; G = +·173, H = +·616, K = −·768.

	Δ	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Andijan	1·8	299	e 0 22	− 4	e 0 48	+ 2	0·9
Frunse	3·1	4	e 0 42	− 2	i 1 26	+ 6	1·5
Almata	4·0	29	e 0 59	+ 2	e 1 53	S*	—
Tashkent	4·1	293	e 0 58	0	i 2 5	S_g	3·1
Samarkand	5·6	272	e 1 24	+ 4	e 3 6	S_g	3·5

Additional readings :—
Andijan eP_g = +27s.
Frunse eP_g = +50s., e = +1m.10s.
Almata eP_g = +1m.7s.
Tashkent e = +1m.44s.

June 2d. 13h. Epicentre probably near Formosa, though not recorded in that island.

Manila P? =29m.33s., S? =31m.12s., M =34m.25s.
Nanking eE =29m.36s., L =32m.53s., M =34m.2s.
Chiufeng ePN =31m.13s., N =39m.18s.
Zi-ka-wei eZ =31m.45s., iZ =34m.0s.
Sverdlovsk eP =36m.45s., L =53m.
Tashkent e =46m.0s. and 47m.43s., L =50m.54s., M =53m.24s.
Long waves were also recorded at Hong Kong, Phu-Lien, Pulkovo, Copenhagen, and Stuttgart.

June 2d. Readings also at 0h. (Malabar), 1h. (Apia), 2h. (Mizusawa), 4h. (Mizusawa and Triest), 6h. (near Nagoya and Sumoto), 7h. (San Juan), 8h. (La Paz and San Juan), 9h. (Bozeman), 12h. (near La Paz), 13h. (Prague), 16h. (Oak Ridge and near Wellington), 17h. (Frunse and near Samarkand), 18h. (Manila), 20h. (near Tiflis), 22h. (Bucharest).

June 3d. 2h. 55m. 41s. Epicentre 41°·6N. 142°·1E. (as on 1931 July 19d.). R.1.

$$A = -\cdot5901,\ B = +\cdot4594,\ C = +\cdot6639;\qquad \delta = +3;$$
$$D = +\cdot614,\ E = +\cdot789;\qquad G = -\cdot524,\ H = +\cdot408,\ K = -\cdot748.$$

Correction for depth of focus 0·0075 has been applied.

	Corr. for Focus	Δ	Az.	P.	O–C.	S.	O–C.	L.	M.
	°	°	°	m. s.	s.	m. s.	s.	m.	m.
Urakawa	+0·2	0·7	43	0 7	− 6	0 20	− 3	—	—
Hakodate	+0·2	1·0	280	0 13k	− 4	0 24	− 7	—	—
Muroran	+0·2	1·1	311	0 15	− 3	0 37	+ 4	—	—
Aomori	+0·2	1·3	232	0 15k	− 6	0 33	− 6	—	—
Obihiro	+0·2	1·5	32	0 23	− 1	0 49	+ 5	—	—
Sapporo	+0·2	1·5	339	0 22k	− 2	0 49	+ 5	—	—
Miyako	+0·2	2·0	183	0 28a	− 3	0 49	− 8	—	—
Morioka	+0·1	2·1	201	0 26	− 5	0 51	− 6	—	—
Kusiro	+0·1	2·2	51	0 23	−10	0 48	−11	—	—
Akita	+0·1	2·5	218	0 34	− 3	1 3	− 4	—	—
Mizusawa	+0·1	2·6	197	i 0 37	− 2	i 1 8	− 1	—	—
Haboro	+0·1	2·8	354	0 43a	+ 2	—	—	—	—
Nemuro	+0·1	3·1	54	0 43	− 3	1 18	− 4	—	—
Isinomaki	+0·1	3·2	190	0 49	+ 2	1 17	− 8	—	—
Sendai	+0·1	3·5	198	0 49a	− 2	1 26	− 6	—	—
Yamagata	+0·1	3·6	203	0 52	− 1	1 31	− 4	—	—
Hukusima	0·0	4·1	198	0 55	− 3	1 47	+ 2	—	—
Niigata	0·0	4·3	214	1 16	+15	2 6	+16	—	—
Mito	0·0	5·4	194	1 13	− 4	2 11	− 7	—	—
Takada	0·0	5·4	215	1 26	+ 9	2 59	?	—	—
Kakioka	0·0	5·6	196	1 16	− 4	2 17	− 6	—	—
Tukubasan	0·0	5·6	197	1 16	− 4	2 17	− 6	—	—
Nagano	0·0	5·8	213	1 24	+ 2	2 38	+10	—	—
Wazima	0·0	5·8	225	1 22	0	2 36	+ 8	—	—
Kumagaya	0·0	5·9	203	1 23	− 1	2 41	+10	—	—
Oiwake	0·0	5·9	209	1 25	+ 1	2 43	+12	—	—
Tyosi	0·0	6·0	189	1 21	− 4	2 40	+ 7	—	—
Husiki	0·0	6·2	221	1 47	+19	3 4	+26	—	—
Toyama	0·0	6·2	219	1 29	+ 1	2 41	+ 3	—	—
Tokyo	0·0	6·3	198	1 28	− 2	2 41	0	—	—
Yokohama	0·0	6·5	198	1 32	0	2 56	+10	—	—
Hunatu	0·0	6·6	205	1 35	+ 1	3 5	+17	—	—
Kanazawa	0·0	6·6	222	1 24	−10	3 10	+22	—	—
Kiyosumi	0·0	6·6	193	1 56	+22	3 15	+27	—	—
Kohu	0·0	6·6	207	1 39	+ 5	3 3	+15	—	—

Continued on next page.

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Takayama		0·0	6·6	217	1 27	− 7	—	—	—	—
Iida		0·0	6·9	210	2 1	+23	3 13	+17	—	—
Ito		0·0	7·0	201	1 55	+16	3 9	+10	—	—
Mera		0·0	7·0	196	1 38	− 1	3 16	+17	—	—
Misima		0·0	7·0	202	1 40	+ 1	3 3	+ 4	—	—
Gihu		0·0	7·5	216	1 46	0	3 18	+ 7	—	—
Nagoya		0·0	7·6	214	e 1 48	0	3 40	+26	—	5·2
Ibukisan		0·0	7·6	218	1 51	+ 3	3 21	+ 7	—	—
Hamamatu		0·0	7·7	208	2 0	+11	3 21	+ 5	—	—
Sikka		0·0	7·7	5	1 50	+ 1	3 27	+11	—	—
Hikone		0·0	7·8	218	1 55	+ 4	—	—	—	—
Kameyama		−0·1	8·1	215	1 53	0	3 40	+16	—	—
Miyadu		−0·1	8·1	224	1 52	− 1	—	—	—	—
Tu		−0·1	8·1	215	2 1	+ 8	3 49	+25	—	—
Kyoto		−0·1	8·2	219	1 56	+ 1	—	—	—	—
Toyooka	z.	−0·1	8·3	226	1 58	+ 2	—	—	—	—
Osaka		−0·1	8·6	219	2 8	+ 8	3 59	+23	—	—
Hatidyozima		−0·1	8·7	193	2 0	− 2	3 30	− 9	—	—
Kobe		−0·1	8·8	221	e 2 4	+ 1	—	—	—	5·1
Wakayama		−0·1	9·1	219	2 10	+ 3	4 7	+18	—	—
Sumoto		−0·1	9·2	220	e 2 10	+ 1	e 4 17	+26	—	5·1
Hamada		−0·1	10·3	233	2 28	+ 4	4 38	+20	—	—
Koti		−0·1	10·5	223	2 27	+ 1	4 59	+36	—	—
Taikyu		−0·1	12·0	246	2 50	+ 3	—	—	—	—
Husan		−0·1	12·1	242	2 47	− 1	e 5 10	+ 7	—	—
Hukuoka B		−0·1	12·2	233	e 3 3	+13	e 5 24	+19	—	—
Keizyo	E.	−0·1	12·3	256	e 2 50	− 1	i 5 17	+ 9	i 6·5	—
Zinsen		−0·1	12·6	256	e 3 19?	+24	—	—	—	—
Kumamoto		−0·1	12·6	230	2 50	− 5	—	—	—	—
Unzendake		−0·1	12·9	231	2 58	− 1	—	—	—	—
Zi-ka-wei	z.	−0·3	19·5	245	e 4 19	− 2	8 26	+36	10·0	11·2
Chiufeng		−0·3	19·7	274	e 4 17	− 6	i 7 59	+ 5	—	—
Nanking		−0·3	20·9	251	4 47	+11	—	—	10·3	11·9
Hong Kong		−0·5	30·3	239	—	—	11 7	+ 6	—	16·3
Semipalatinsk		−0·7	42·6	304	e 8 6	+18	—	—	—	—
Almata		−0·7	46·9	296	e 8 29	+ 7	—	—	—	—
Frunse		−0·8	48·6	296	e 8 22	−13	e 15 36	+ 6	—	—
Andijan		−0·8	51·0	294	e 8 39	−14	e 16 21	+17	—	—
Sverdlovsk		−0·8	51·9	317	9 12	+12	i 16 38	+22	23·3	33·6
Sitka		−0·8	52·4	43	—	—	e 16 28	+ 5	e 26·3	—
Tashkent		−0·8	52·8	296	e 11 24	PP	16 32	+ 4	e 26·2	32·8
Agra	E.	−0·8	53·6	276	9 12	0	16 34	− 5	—	—
Samarkand		−0·8	55·1	295	e 9 26	+ 3	—	—	—	—
Moscow		−0·9	63·7	322	e 10 22	− 2	e 17 53	−59	e 31·3	40·6
Pulkovo		−0·9	64·3	329	10 27	− 1	19 1	+ 1	32·3	39·0
Baku		−0·9	65·9	306	10 41	+ 2	—	—	33·3	40·8
Grozny		−0·9	66·7	308	e 10 46	+ 2	19 40	+10	41·5	—
Scoresby Sund		−0·9	67·3	355	10 48k	0	19 48	+11	31·3	—
Piatigorsk		−0·9	67·8	310	e 10 48	− 3	e 19 49	+ 6	37·8	—
Tiflis		−1·0	68·2	307	e 10 54	+ 1	e 19 54	+ 7	34·3	42·6
Erevan		−1·0	69·3	305	e 11 6	+ 6	—	—	—	—
Sotchi		−1·0	70·0	312	e 11 19	+14	—	—	—	—
Theodosia		−1·0	71·5	314	11 15	+ 1	e 20 37	+10	—	—
Bergen		−1·0	72·1	340	—	—	e 21 20	+46	e 37·3	—
Simferopol		−1·0	72·2	316	e 11 19	+ 1	e 20 44	+ 9	e 40·3	—
Yalta		−1·0	72·5	314	e 11 17	− 3	e 20 41	+ 2	e 40·3	—
Sebastopol		−1·0	72·7	316	e 11 21	0	e 20 50	+ 9	—	—
Tinemaha		−1·0	72·7	56	e 11 24	+ 3	e 20 43	+ 2	—	—
Haiwee		−1·0	73·3	57	e 11 26	+ 1	—	—	—	—
Copenhagen		−1·0	73·8	334	11 28	0	20 55	+ 1	34·3	—
Mount Wilson	z.	−1·0	74·5	58	i 11 33	+ 1	—	—	—	—
Pasadena	z.	−1·0	74·5	58	e 11 31	− 1	—	—	e 34·1	—
Riverside	z.	−1·0	75·1	58	e 11 34	− 1	—	—	—	—
Za Jolla		−1·0	75·9	59	i 11 57	+17	—	—	—	—
Hamburg		−1·0	76·3	334	e 11 41a	− 1	—	—	e 37·3	47·3

Continued on next page.

		Corr. for Focus	Δ	Az.	P.	O–C.	S.	O–C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Ivigtut		−1·0	76·9	6	—	—	21 13	−17	36·3	—
Prague		−1·0	77·5	330	e 14 49	?	e 21 43	+ 6	—	34·3
Jena	N.	−1·0	77·9	331	e 11 55	+ 4	—	—	—	—
Edinburgh		−1·0	78·1	341	—	—	e 21 51	+ 7	e 37·3	—
Cheb		−1·0	78·3	331	—	—	e 22 19?	+33	e 40·3	43·8
De Bilt		−1·0	79·1	335	e 11 58	0	e 21 55	0	e 37·3	49·4
Stonyhurst		−1·0	79·8	340	e 11 44	−17	e 21 49	−14	42·3	50·3
Tucson		−1·0	80·3	56	e 12 9	+ 5	e 22 7	− 1	e 33·3	—
Zagreb		−1·0	80·3	326	e 12 4	0	e 22 19?	+11	e 38·3	43·1
Bidston		−1·0	80·4	341	e 12 9	+ 4	e 22 22	+13	—	—
Uccle		−1·0	80·5	336	e 12 5	0	e 22 25	+15	37·3	49·8
Stuttgart		−1·0	80·6	331	e 12 5	− 1	e 22 47	+36	e 41·3	50·9
Strasbourg		−1·0	81·3	332	e 12 10	+ 1	e 22 19?	0	e 38·3	—
Triest		−1·0	81·3	327	e 12 9	0	22 29	+10	e 39·3	44·9
Kew		−1·0	81·4	338	e 12 10	0	e 22 25	+ 5	e 37·3	42·4
Oxford		−1·0	81·4	338	—	—	22 24	+ 4	e 41·3	48·6
Zurich		−1·0	82·0	331	e 11 29	−44	—	—	—	—
Paris		−1·0	82·8	335	e 12 11	− 6	—	—	42·3	48·3
Florence		−1·0	83·9	326	i 12 19	− 4	—	—	—	—
Florissant		−1·0	86·5	38	i 12 50	+14	i 23 8	− 5	e 39·5	46·0
St. Louis	E.	−1·0	86·7	38	—	—	e 23 0	−15	—	46·4
Ottawa		−1·0	86·7	26	—	—	e 23 1	−14	e 39·3	—
Little Rock		−1·1	88·8	43	e 9 5	?	e 24 8	?	—	—
Oak Ridge	Z.	−1·1	90·6	24	e 12 54	− 1	—	—	—	—
Philadelphia		−1·1	91·7	28	—	—	e 23 40	[− 3]	e 39·6	—
Toledo		−1·1	92·9	335	e 13 2	− 4	e 24 7	− 6	e 43·5	57·5
Granada		−1·1	95·2	334	17 9	PPP	—	—	38·3	—

Additional readings :—
Mera S = +3m.33s.
Misima +3m.16s.
Zi-ka-wei iZ = +4m.38s. and +5m.15s.
Tashkent ePPP = +12m.15s., SS = +20m.55s.
Agra PSE = +17m.10s., SSSE = +21m.22s.
Baku PS = +20m.8s., SS = +24m.49s.
Scoresby Sund +20m.18s.
Tiflis P = +10m.57s., e = +19m.59s., eSKS = +20m.38s., L_q = +30·3m.
Copenhagen 21m.31s.
Mount Wilson iZ = +11m.50s.
Pasadena i = +11m.51s.
Riverside iZ = +11m.55s.
Ivigtut +22m.1s.
Tucson eSS = +27m.19s.
Stuttgart eSKS = +22m.19s.
Triest i = +22m.55s., e = +31m.43s.
Kew ePSE = +23m.1s.
Florence ?S = +13m.52s.
Florissant iPZ = +12m.55s., eSEN = +22m.57s. =SKS, iPSE = +23m.44s., iPSN = +23m.49s., eSSE = +28m.48s., eSSN = +28m.55s.
St. Louis iPSE = +23m.45s.
Philadelphia eS = +23m.51s.
Long waves were also recorded at Bombay, Christchurch, Upsala, Graz, Durham, and San Fernando.

June 3d. 9h. 15m. 17s. Epicentre 40°·3N. 126°·0W. N.1.

Epicentre and Time at Origin given in Bulletin of the Seismological Society of America, Vol. 27, No. 2, page 93.

A = −·4483, B = −·6170, C = +·6468 ; δ = +1 ;
D = −·809, E = +·588 ; G = −·380, H = −·523, K = −·763.

	Δ	Az.	P.	O–C.	S.	O–C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Ferndale	1·4	79	i 0 19	− 1	i 0 32	− 4	—	—
Ukiah	2·4	119	e 0 32	− 2	e 1 7	S*	—	—
San Francisco	3·7	132	i 0 53	0	i 1 35	0	—	—
Berkeley	3·8	128	e 0 51k	− 3	i 2 2	S_e	—	—
Branner	4·1	132	e 0 59	+ 1	i 1 47	+ 2	—	—

Continued on next page.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Lick		4·5	129	e 1 4	0	e 1 54	− 1	—	—
Fresno	N.	6·0	124	i 1 27	+ 2	i 2 36	+ 3	—	—
Tinemaha		6·8	115	i 1 38	+ 1	i 2 21	−32	—	—
Haiwee		7·5	121	i 1 48	+ 2	—	—	—	—
Seattle		7·8	19	e 1 40	−11	3 23	+ 4	3·8	—
Victoria		8·3	13	e 1 51	− 7	i 3 33	+ 2	i 5·0	6·5
Mount Wilson	Z.	8·8	131	i 2 4	− 1	i 3 43	− 1	—	—
Pasadena	Z.	8·8	132	e 2 2	− 3	i 3 39	− 5	—	—
Riverside	Z.	9·3	129	e 2 7	− 4	—	—	—	—
La Jolla	Z.	10·2	133	e 2 19	− 5	—	—	—	—
Bozeman		12·2	59	e 2 45	− 6	e 5 9	+ 1	i 7·3	—
Tucson		14·6	119	e 3 23	0	e 6 23	+18	—	—
Denver		16·1	85	e 3 34	− 9	e 6 48	+ 7	9·2	10·7
Sitka		17·8	343	e 4 9	+ 5	i 7 35	+15	i 8·7	—
Des Moines		24·3	75	e 5 16	+ 3	e 9 36	+ 8	e 13·0	—
Little Rock		27·1	92	e 5 45	+ 6	e 10 16	− 1	e 14·2	17·6
Madison		27·2	71	i 5 51	+11	e 10 42	+24	e 17·2	19·9
Florissant		27·3	82	e 5 41	0	i 10 23	+ 3	e 12·8	17·2
St. Louis		27·5	82	i 5 43	0	i 10 23	− 1	i 12·1	17·4
College		27·6	339	e 5 52	+ 8	e 10 30	+ 5	e 12·9	—
Chicago (Loyola)		28·7	75	e 5 54	+ 1	—	—	—	—
Chicago		28·8	75	e 6 7	+13	e 10 49	+ 4	e 13·1	—
Tacubaya	N.	31·0	125	6 22	+ 8	—	—	—	—
Ann Arbor		31·5	72	e 6 25	+ 7	e 11 37	+ 9	e 16·0	—
Honolulu		33·0	244	e 7 43	+71	e 13 43	+112	15·7	—
Toronto		34·3	69	i 6 45	+ 2	12 11	0	16·5	—
Buffalo		34·9	70	i 6 51	+ 3	—	—	—	—
Columbia		36·0	85	—	—	e 12 31	− 5	e 16·2	—
Pennsylvania		36·1	73	—	—	e 10 18	?	e 19·3	—
Charlottesville		36·4	78	e 7 5	+ 4	e 12 39	− 3	e 16·9	—
Ottawa		36·6	65	e 7 4	+ 1	12 49	+ 4	e 17·7	—
Ithaca		36·7	70	i 7 13	+ 9	e 12 49	+ 2	e 19·7	—
Georgetown		37·2	76	e 7 10	+ 2	i 12 59	+ 5	i 18·7	—
Philadelphia		38·3	74	e 7 19	+ 1	e 13 11	0	i 17·6	—
Vermont		38·5	66	i 7 22	+ 3	e 13 19	+ 5	e 19·1	—
Fordham		39·0	72	i 7 20	− 4	e 13 28	+ 7	e 21·1	—
Oak Ridge		40·2	68	i 7 33	− 1	e 13 45	+ 6	e 20·7	—
Ivigtut		49·9	38	8 52	+ 1	16 13	+14	22·7	—
San Juan		55·4	94	e 9 33	+ 1	e 17 21	+ 6	e 28·2	—
Scoresby Sund		56·8	23	9 43k	+ 1	17 38	+ 4	26·7	—
Huancayo		70·3	126	—	—	e 20 17	− 8	e 28·9	—
Bergen		71·7	23	11 44	+23	20 59	+18	e 37·7	—
Edinburgh		72·3	30	e 11 43?	+18	e 21 1	+13	e 33·7	40·0
Rathfarnham		73·0	33	e 11 26	− 3	e 21 17	+20	34·7	44·0
Bidston		74·2	32	e 12 19	+43	e 22 9	+58	—	—
Upsala		75·5	19	e 11 43	0	e 21 24	− 2	e 31·7	45·6
Oxford		76·2	32	11 52	+ 5	21 37	+ 3	—	44·9
Kew		76·8	32	e 11 51a	+ 1	e 21 51	+10	e 35·7	45·5
Copenhagen		77·7	23	11 57	+ 1	21 54	+ 3	32·7	—
Pulkovo		78·0	12	e 12 2	+ 5	21 51	− 3	36·7	45·2
La Paz	N.	78·2	123	12 1	+ 3	22 3	+ 7	44·7	55·9
De Bilt		78·4	28	e 12 1	+ 2	e 22 3	+ 5	e 34·7	42·6
Hamburg		78·8	25	e 12 2	+ 1	e 22 13	+10	e 38·7	44·7
Uccle		79·1	30	e 12 5	+ 2	22 8	+ 2	e 34·7	—
Paris		80·0	32	e 12 6	− 2	e 22 16	0	38·7	46·7
Chiufeng		81·8	317	e 12 22	+ 5	22 45	+10	e 37·5	45·9
Strasbourg		82·2	29	e 12 21	+ 2	e 22 48	+ 9	e 34·7	—
Cheb		82·5	26	e 12 43?	+22	e 22 55	+13	e 41·7	47·7
Stuttgart		82·5	28	e 12 23	+ 2	e 22 55	+13	e 37·7	—
Sverdlovsk		82·7	356	12 35	+13	i 22 52	+ 8	e 34·2	42·3

Continued on next page.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Moscow	83·0	10	e 12 27	+ 4	22 38	− 9	35·2	51·3
Prague	83·2	24	e 12 5	−19	e 22 49	0	e 39·7	44·7
Toledo	84·0	41	12 28	0	—	—	e 40·4	52·9
San Fernando	85·4	45	—	—	23 19	+ 7	42·2	—
Nanking	86·1	309	—	—	i 23 28	+10	e 40·2	—
Malaga	86·2	43	12 40	+ 1	—	—	—	—
Granada	86·3	43	e 12 51	+11	23 21	+ 1	—	—
Semipalatinsk	86·4	344	e 12 54	+14	—	—	—	—
Triest	86·8	27	12 43	+ 1	e 23 21	− 4	e 41·8	48·2
Zagreb	87·4	25	e 12 47	+ 2	e 23 26	− 5	e 42·4	49·7
Florence	87·5	29	13 13	+28	—	—	—	46·7
Simferopol	92·9	14	e 13 20	+ 9	e 23 20	[−29]	51·6	—
Yalta	93·4	14	e 13 21	+ 8	e 23 22	[−30]	39·7	—
Grozny	96·0	6	e 13 39	+14	—	—	—	—
Andijan	97·2	346	—	—	e 28 10	?	—	—
Tashkent	97·2	349	e 12 37	?	i 24 15	[+ 3]	e 42·7	63·8
Manila	97·2	296	e 21 56	?	e 27 3	?	—	—
Tiflis	97·6	7	e 14 36	+64	e 24 16	[+ 2]	e 43·7	61·5
Baku	99·2	3	—	—	e 24 24	[+ 2]	43·7	62·6
Christchurch	100·4	221	11 12	?	21 31	?	e 40·8	48·0
Ksara	104·0	16	e 14 15	+13	—	—	—	—

Additional readings and notes :—
Ukiah iP = +33s. and +35s., i = +37s., +42s., and +48s.
Branner eE = +1m.9s., iN = +1m.42s.
Lick eN = +2m.18s., iE = +2m.27s., and +3m.19s.
Fresno iN = +3m.25s.
Seattle eS = +3m.31s.
Victoria iSN = +3m.39s.
Pasadena i = +2m.8s., iSZ = +3m.45s.
Riverside iZ = +2m.13s.
Bozeman i = +2m.53s., e = +5m.48s., and +6m.27s., i = +6m.48s.
Tucson iP = +3m.28s., e = +6m.13s. and +6m.43s., i = +7m.59s., +8m.2s., and +8m.48s.
Denver ipP = +3m.45s., iPP = +3m.57s., iSS = +7m.16s.
Des Moines e = +6m.15s.
Little Rock ipPEN = +5m.57s., ePPN = +6m.29s., iPPPN = +6m.40s., iN = +7m.26s., eSE = +10m.27s., eSSN = +11m.40s.; T_0 = 9h.15m.20s.
Florissant ipP = +5m.52s., isPEZ = +6m.11s., iPPEZ = +6m.17s., iN = +10m.33s., iE = +10m.39s., iSS = +10m.46s., iSSN = +11m.44s.
St. Louis ipPEN = +5m.54s., iPPEN = +6m.26s., iPPPEN = +6m.37s., isSEN = +10m.47s., eSS = +11m.37s.
College eSS = +11m.53s.
Chicago (Loyola) ePP = +6m.40s., e = +8m.10s.
Ann Arbor ePP = +7m.25s., e = +9m.55s., eSSN = +13m.43s.
Toronto iSE = +12m.15s., SSE = +14m.8s.; T_0 = 9h.15m.19s.
Buffalo iSS = +14m.53s., i = +16m.15s.
Ottawa PPE = +8m.15s., SSSN = +15m.15s.; T_0 = 9h.15m.18s.
Ithaca iPPE = +8m.27s., eEN = +17m.19s.
Georgetown eP = +7m.17s., PP = +8m.32s., iSS = +16m.17s.
Philadelphia i = +7m.50s., ePP = +8m.46s., iSS = +15m.46s
Vermont ePP = +8m.52s., e = +13m.12s., eSSS = +17m.8s., e = +17m.42s.
Fordham ipP = +7m.29s., iPP = +9m.2s., e = +17m.38s.
Oak Ridge eSSZ = +16m.37s., eSSSN = +17m.5s.
San Juan e = +9m.54s. and +18m.7s.
Scoresby Sund +13m.16s. and +22m.7s.
Edinburgh e = +8m.13s.
Rathfarnham Castle e = +16m.5s.
Kew ePPZ = +14m.56s.
Uccle ePSN = +22m.45s.—
Strasbourg ePPZ = +15m.38s., ePS = +23m.33s., eSS = +28m.28s.
Stuttgart ePPZ = +15m.43s.
Sverdlovsk i = +12m.42s., SS = +28m.7s.
Moscow SS = +28m.25s.
Prague ePS = +23m.43s.?
Triest S = +23m.32s., i = +23m.40s.
Zagreb eP = +12m.54s., ePNE = +13m.4s., ePPNE = +16m.15s., eSKSNW = +23m.32s., eSS = +28m.19s.
Tashkent iS = +24m.44s., i = +26m.32s. and +28m.16s., SS = +31m.57s., SSS = +35m.43s.
Tiflis e = +17m.54s., +17m.58s., +24m.58s., and +39m.13s.
Baku e = +32m.18s.
Christchurch eSS = +27m.43s., eSSS = +31m.11s.
Ksara e = +18m.33s., ePS = +27m.33s., ePPS = +28m.25s.
Long waves were also recorded at Hong Kong, Bombay, Durham, Stonyhurst, Graz, Göttingen, Jena, Belgrade, Algiers, Melbourne, and Wellington.

June 3d. 10h. 23m. 36s. Epicentre 43°·8N. 146°·5E. R.1.
(as on 1935 Oct. 2d. and near the position 43°·6N. 146°·7E., given in Bulletin of Central Meteorological Observatory, Tokio).

$A = -·6019$, $B = +·3984$ $C = +·6921$; $\delta = +1$;
$D = +·552$, $E = +·834$; $G = -·577$, $H = +·382$, $K = -·722$.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Nemuro		0·8	235	0 12	+ 1	0 26	+ 5	—	—
Kusiro		1·7	242	0 16	− 8	0 40	− 4	—	—
Obihiro		2·6	250	0 41	+ 4	1 23	+16	—	—
Asahigawa		3·0	270	0 48	+ 5	—	—	—	—
Urakawa		3·2	239	0 49	+ 3	1 27	+ 5	—	—
Sapporo		3·8	261	0 59	+ 5	1 42	+ 5	—	—
Muroran		4·4	252	1 4	+ 1	2 6	+13	—	—
Hakodate		4·7	247	1 14	+ 7	2 20	+20	—	—
Aomori		5·2	237	1 14	0	2 16	+ 3	—	—
Morioka		5·7	226	1 19	− 2	2 20	− 5	—	—
Mizusawa		6·2	223	e 1 23	− 5	i 2 30	− 8	—	—
Akita		6·3	232	1 31	+ 1	2 41	0	—	—
Sendai		7·0	220	1 41	+ 2	2 51	− 8	—	—
Yamagata		7·2	222	1 47	+ 5	2 57	− 7	—	—
Hukusima		7·6	219	1 42	− 6	2 59	−15	—	—
Niigata		8·1	226	2 44	+49	—	—	—	—
Kakioka		9·0	214	2 0	− 7	3 33	−16	—	—
Tukubasan		9·0	215	2 1	− 6	3 35	−14	—	—
Tyosi		9·2	210	2 14	+ 4	3 36	−18	—	—
Maebasi		9·3	220	2 15	+ 4	3 49	− 7	—	—
Kumagaya		9·4	218	2 12	− 1	3 49	−10	—	—
Nagano		9·6	224	2 8	− 8	4 13	+10	—	—
Oiwake		9·6	222	2 16	0	4 21	+18	—	—
Tokyo		9·6	215	2 19	+ 3	3 49	−14	—	—
Wazima		9·7	232	2 16	− 1	4 5	− 1	—	—
Yokohama		9·9	214	2 34	+15	—	—	—	—
Hunatu		10·2	218	2 43	+19	4 11	− 7	—	—
Kohu		10·2	220	2 25	+ 1	3 43	−35	—	—
Misima		10·4	216	2 36	+10	4 12	−11	—	—
Gihu		11·3	225	2 38	− 1	4 11	−34	—	—
Nagoya		11·3	224	e 2 49	+10	e 4 47	+ 2	—	—
Chiufeng		22·8	272	e 4 58	− 1	e 9 6	+ 5	—	14·7
Nanking		24·6	251	5 24	+ 8	9 55	+21	e 14·2	16·3
Frunse		50·6	295	e 8 52	− 4	—	—	—	—
Samarkand		57·1	296	e 9 44	0	e 17 44	+ 6	—	—
Moscow		63·9	323	i 10 26	− 5	e 15 1	?	—	—
Grozny		67·9	309	e 10 56	− 2	—	—	—	—
Tiflis		69·4	308	e 11 3	− 4	—	—	—	—
Mount Wilson	z.	70·6	60	e 11 15	+ 1	—	—	—	—
Erevan		70·6	307	e 10 25	−49	—	—	—	—
Sotchi		71·0	313	e 11 14	− 3	—	—	—	—
Riverside	z.	71·2	60	e 11 19	+ 1	—	—	—	—
Copenhagen		73·2	335	12 30	+60	—	—	—	—
Stuttgart	z.	80·2	333	e 12 3	− 6	—	—	—	—
Zagreb		80·2	327	e 12 7	− 2	—	—	—	—

Additional readings :—
Mizusawa iPE = +1m.26s.
Zagreb eSNW = +12m.27s., eNW = +12m.36s.
Long waves were also recorded at Tashkent, Seattle, and Bozeman.

June 3h. 10h. 54m. 38s. Epicentre 40°·3N. 126°·0W. (as at 9h.). R.3.

		Δ	Az.	P.	O−C.	S.	O−C.
		°	°	m. s.	s.	m. s.	s.
Ferndale		1·4	79	e 0 20	0	i 0 35	− 1
San Francisco		3·7	132	e 0 52	− 1	e 1 35	0
Berkeley		3·8	128	0 53	− 1	—	—
Branner		4·1	132	e 0 58	0	e 1 47	+ 2
Lick		4·5	129	e 1 4	0	e 1 56	+ 1
Fresno	N.	6·0	124	e 1 27	+ 2	e 2 35	+ 2

Additional readings :—
Branner ePN = +1m.1s.
Lick eEN = +1m.59s., eN = +2m.18s.
Fresno eN = +2m.41s.

June 3d. Readings also at 3h. (Andijan, Frunse, and Samarkand), 4h. (Andijan, Frunse, near Samarkand, and Tashkent), 9h. (Bergen and Simferopol), 11h. (Jena), 13h. (Yalta), 14h. (Prague and near Tananarive), 17h. (Huancayo, La Paz, La Plata, and Rio de Janeiro), 18h. (San Juan, Haiwee, Mount Wilson, Pasadena, Riverside, Tinemaha, Florissant, Oak Ridge, Paris, and Sverdlovsk), 21h. (Frunse (2) and near Andijan (2)).

June 4d. 13h. 8m. 37s. Epicentre 35°·5N. 141°·0E. (as on 1935 Feb. 19d.). X.

A = −·6327, B = +·5123, C = +·5807 ; δ = −3 ;
D = +·629, E = +·777 ; G = −·451, H = +·365, K = −·814.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Nagoya		3·4	265	e 0 48	− 1	2 26	?	—	—
Mizusawa	E.	3·6	1	e 0 55	+ 4	i 1 41	S*	—	—
	N.	3·6	1	e 0 59	+ 8	e 1 45	S*	—	—
Kobe		4·9	262	e 1 11	+ 1	e 2 27	S*	—	4·4
Toyooka	Z.	5·0	273	1 12	+ 1	—	—	—	—
Sumoto	Z.	5·2	258	e 0 32	−42	e 2 55	S_g	—	3·8
	N.	5·2	258	e 0 37	−37	e 3 14	S_g	—	3·8
Hukuoka	B.	9·0	260	e 2 8	+ 1	e 5 26	S_g	—	—
Taikyu		10·1	270	2 25	+ 3	—	—	—	—
Zi-ka-wei	Z.	16·9	261	e 3 50	− 3	7 36	+37	—	12·1
Nanking	E.	18·8	265	4 13	− 3	8 50	+68	e 11·9	13·2
Chiufeng		20·0	291	e 4 28	− 2	8 17	+ 1	—	13·5
Manila		27·6	226	6 56	+72	11 53	+88	—	—
Frunse		50·7	300	e 8 54	− 3	—	—	—	—
Andijan		52·9	298	e 8 40	−33	—	—	—	—
Tashkent		54·9	300	i 8 51	−37	i 17 45	+37	e 28·3	35·4
Sverdlovsk		55·9	319	i 9 43	+ 8	e 17 36	+15	27·4	—
Samarkand		57·1	298	e 8 22	−82	—	—	—	—
Baku		68·7	306	—	—	e 20 14	+ 9	e 36·2	44·8
Pulkovo		69·1	329	e 13 35	PP	e 20 4	− 6	39·4	44·6
Tiflis		71·3	308	e 11 20	+ 1	20 37	0	37·4	41·2
Oak Ridge	E.	96·5	23	e 17 15	PP	—	—	—	—

Additional readings :—
Kobe eN = +3m.7s., eS?E = +3m.17s., eS?Z = +3m.34s.
Toyooka ePN = +1m.21s.
Sumoto eN = +2m.16s., eSE = +2m.58s.
Nanking iSSN = +10m.12s.
Tashkent e = +6m.6s., +17m.58s., and +24m.18s.
Samarkand e = +8m.27s.
Pulkovo e = +16m.0s. and +23m.43s.
Tiflis e = +11m.33s. and +30m.28s.
Oak Ridge eZ = +17m.21s.
Long waves were also recorded at Hong Kong, Bergen, Copenhagen, Edinburgh, Kew, De Bilt, Uccle, Strasbourg, Stuttgart, and Paris.

June 4d. 18h. 25m. 22s. Epicentre 36°·2N. 137°·1E. R.3.
(given by Nagoya and as on 1935 April 15d.).

$A = -·5911$, $B = +·5493$, $C = +·5906$; $\delta = -6$;
$D = +·681$, $E = +·732$; $G = -·433$, $H = +·402$, $K = -·807$.

		Δ	Az.	P.	O−C.	S.	O−C.	M.
		°	°	m. s.	s.	m. s.	s.	m.
Nagoya		1·1	182	i 0 17a	+ 1	0 41	+13	0·9
Toyooka		2·0	250	e 0 26	− 3	0 53	+ 2	0·9
Kobe		2·2	224	e 0 31	0	i 1 2	+ 5	1·3
Sumoto		2·6	224	e 0 40	+ 3	e 1 17	S*	1·4
Mizusawa	E.	4·3	48	e 1 1	0	e 2 20	S_g	—
Hukuoka B		6·1	245	e 1 29	+ 2	3 12	S_g	—

Additional readings :—
Kobe iP = +34s., iE = +58s.
Long waves were also recorded at Nanking, Chiufeng, Tashkent, Sverdlovsk, and Wellington.

June 4d. Readings also at 0h. (Tiflis), 2h. (La Paz, Malabar, and near Batavia), 7h. (Nagoya and near Algiers), 12h. (San Juan), 14h. (near Nagoya), 15h. (Bucharest and Tiflis), 16h. (San Juan and near Nagoya), 17h. (De Bilt), 21h. (De Bilt and near Hukuoka B), 23h. (near Nagoya and Sumoto).

June 5d. 14h. 37m. 40s. Epicentre 0°·4N. 123°·7E. N.2.

$A = -·5548$, $B = +·8319$, $C = +·0070$; $\delta = -9$;
$D = +·832$, $E = +·555$: $G = -·004$, $H = +·006$, $K = -1·000$.

Depth of focus 0·030.

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Manila		−0·8	14·4	349	i 3 13a	+ 3	i 6 27	+46	—	—
Batavia		−1·0	18·1	248	4 27	+32	8 17	+73	—	—
Kosyun		−1·3	21·8	353	4 32	− 3	—	—	—	—
Taito		−1·4	22·5	355	4 40	− 1	—	—	—	—
Arisan		−1·5	23·3	354	4 47	− 2	8 50	+ 8	—	—
Karenko		−1·5	23·7	356	4 51	− 2	—	—	—	—
Hong Kong		−1·5	23·8	337	4 50	− 4	8 51	− 1	—	11·3
Isigakizima		−1·5	24·0	2	4 54	− 2	—	—	—	—
Medan		−1·6	25·2	279	i 5 51	+45	10 1	+45	—	—
Phu-Lien		−1·7	26·4	322	e 5 16	− 1	(10 20?)	+44	10·3	—
Zi-ka-wei	Z.	−2·1	30·9	357	i 5 52k	− 2	—	—	—	—
Nanking		−2·1	32·0	351	i 6 1	− 3	i 11 5	+ 2	—	—
Titizima		−2·1	32·0	33	5 3	−61	—	—	—	—
Miyazaki		−2·1	32·4	13	6 6	− 2	11 4	− 5	—	—
Nagasaki		−2·2	32·9	10	6 11	0	—	—	—	—
Perth		−2·2	33·2	192	12 20	S	(12 20)	+60	i 13·7	14·8
Hukuoka B		−2·2	33·8	11	e 6 15	− 4	10 2	−87	—	—
Husan		−2·3	35·1	7	e 6 45	+15	e 9 1	?	—	—
Sumoto		−2·3	35·5	17	i 6 34a	0	—	—	—	—
Wakayama		−2·3	35·5	17	6 33	− 1	11 51	− 3	—	—
Taikyu		−2·3	35·8	6	6 34	− 2	—	—	—	—
Kobe		−2·3	35·9	17	e 6 34	− 3	e 11 58	− 2	—	—
Osaka		−2·3	36·0	17	6 41	+ 3	11 59	− 2	—	—
Tu		−2·4	36·4	18	6 42	+ 2	—	—	—	—
Kameyama		−2·4	36·5	17	6 42	+ 1	12 7	− 1	—	—
Hamamatu		−2·4	36·7	20	6 48	+ 5	—	—	—	—
Ibukisan		−2·4	36·9	17	6 43	− 2	—	—	—	—
Nagoya		−2·4	36·9	19	6 45	0	(12 18)	+ 4	12·3	—
Gihu		−2·4	37·1	19	6 47a	+ 1	—	—	—	—
Zinsen	N.	−2·4	37·2	3	e 6 46	− 1	e 12 22	+ 4	—	—

Continued on next page.

		Corr. for Focus	Δ	Az.	P.	O–C.	S.	O–C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Keizyo		−2·4	37·3	4	6 47	− 1	—	—	—	—
Misima		−2·4	37·5	21	6 49	− 1	—	—	—	—
Hunatu		−2·4	37·8	21	6 54	+ 1	—	—	—	—
Kohu		−2·4	37·9	21	6 54	+ 1	—	—	—	—
Adelaide		−2·4	38·0	160	i 6 56	+ 2	i 15 13	?	—	21·6
Toyama		−2·4	38·4	18	6 59	+ 1	—	—	—	—
Oiwake		−2·4	38·5	20	6 58	− 1	—	—	—	—
Maebasi		−2·4	38·7	20	7 0	0	—	—	—	—
Nagano		−2·4	38·7	19	7 1	+ 1	12 39	− 2	—	—
Wazima		−2·5	38·9	17	7 3	+ 2	—	—	—	—
Kakioka		−2·5	39·0	21	6 52	−10	—	—	—	—
Chiufeng		−2·5	40·3	351	i 7 13a	0	—	—	—	—
Hukusima		−2·5	40·4	22	7 15a	+ 1	13 6	+ 1	—	—
Calcutta		−2·5	40·9	305	7 2	−16	13 24	+12	19·4	22·8
Sendai		−2·6	41·0	21	7 20	+ 2	13 14	+ 2	—	—
Mizusawa	E.	−2·6	41·9	21	(e 7 28)	+ 2	e 7 28	P	—	—
Riverview		−2·7	42·9	146	i 7 34k	0	i 17 3	SS	—	—
Sydney		−2·7	42·9	146	e 4 56	?	—	—	23·1	23·8
Melbourne		−2·7	43·0	155	e 7 33	− 2	e 16 52	SS	—	—
Sapporo		−2·8	45·5	18	7 56	+ 2	—	—	—	—
Agra	E.	−3·2	51·3	305	8 38	+ 1	16 56	+82	—	—
Almata		−3·6	59·8	322	e 9 39	+ 2	—	—	—	—
Frunse		−3·6	61·0	320	9 51	+ 5	e 17 45	+ 3	—	—
Andijan		−3·6	61·5	317	e 9 53	+ 3	e 18 5	+17	—	—
Christchurch		−3·6	61·9	142	i 9 53	+ 1	i 18 5	+12	—	—
Tashkent		−3·7	63·8	17	10 9	+ 4	i 18 30	+13	e 31·2	37·0
Samarkand		−3·7	64·7	314	e 11 20	+69	e 20 38	+129	—	—
Sverdlovsk		−3·9	75·3	330	i 11 26	+ 7	i 20 46	+ 8	33·3	—
Baku		−4·0	77·5	311	e 12 15	pP	21 5	+ 2	39·3	—
Grozny		−4·0	81·0	314	11 54	+ 2	e 21 45	+ 2	—	—
Erevan		−4·0	81·5	311	e 12 8	+13	—	—	—	—
Tiflis		−4·0	81·5	312	11 54	− 1	e 21 51	+ 3	e 48·3	—
Piatigorsk		−4·1	83·0	315	12 20	+18	e 22 20	+16	—	—
Moscow		−4·2	87·5	326	12 23	− 2	22 22	[−55]	44·8	59·3
Simferopol		−4·2	89·4	315	e 11 45	−49	e 23 3	− 7	—	—
Yalta		−4·2	89·4	314	e 12 31	− 3	e 23 1	− 9	—	—
Sebastopol		−4·2	89·8	314	e 17 14	PP	—	—	—	—
Pulkovo		−4·2	91·4	330	12 40	− 4	23 18	−11	45·3	52·3
Copenhagen		−4·4	101·4	328	18 38	PP	e 25 11	+11	50·3	—
Bergen		—	103·2	334	—	—	e 26 20?	+25	—	—
Cheb		—	103·2	321	—	—	e 23 20?	[−81]	—	—
Hamburg		—	103·5	326	e 18 58	PPP	i 23 59	[−44]	—	—
Stuttgart		—	105·6	321	e 18 13	PP	e 24 4	[−49]	e 62·3	—
Scoresby Sund		—	105·6	349	20 20	?	24 6	[−47]	—	—
Strasbourg		—	106·5	321	e 18 20?	PP	—	—	e 27·3	—
De Bilt		—	106·7	326	18 20	PP	e 24 15	[−43]	e 54·3	—
Uccle		—	107·7	324	e 18 28	PP	e 24 18	[−45]	e 53·3	—
Edinburgh		—	109·3	331	—	—	e 24 20?	[−50]	—	—
Paris		—	109·6	322	e 18 36	PP	—	—	62·3	—
Kew	Z.	—	110·1	326	e 12 20?	?	—	—	—	—
Pasadena	Z.	—	112·7	52	e 18 12	[−14]	—	—	—	—
Mount Wilson	Z.	—	112·8	52	e 18 15	[−11]	—	—	—	—
Granada		—	118·6	314	e 18 38	[− 4]	—	—	—	—
Little Rock	N.	—	131·3	40	e 22 8	PPP	—	—	—	—
Oak Ridge	Z.	—	134·9	15	i 18 54	[−21]	—	—	—	—
San Juan		—	158·9	26	—	—	e 36 6	?	—	—

Additional readings and note :—
Batavia PEN = +4m.38s.
Hong Kong ? = +5m.53s., SS = +10m.4s.
Zi-ka-wei iZ = +6m.51s. and +7m.4s.
Nanking iN = +7m.1s., S? = +13m.9s.
Kobe PN = +6m.38s.
Nagoya S = +8m.30s.
Zinsen ePPPN? = +8m.16s.
Adelaide i = +8m.20s., e = +12m.22s., i = +16m.45s.

Continued on next page.

Chiufeng i = +8m.13s. and +9m.25s., iP$_c$S = +12m.13s., i = +14m.20s. and +16m.59s.
Calcutta PPE = +8m.28s., SSE = +16m.0s., SSSE = +16m.50s.
Melbourne i = +8m.51s. and +22m.10s.
Agra PSE = +17m.26s., SSE = +21m.6s.
Christchurch e = +21m.5s.
Tashkent epP = +10m.40s., ePP = +13m.14s., SS = +29m.43s.
Sverdlovsk iP = +12m.10s., i = +14m.10s., and +17m.8s.
Baku PS = +22m.9s.
Tiflis eP$_c$P = +12m.39s., ePP = +15m.5s., ePPS = +22m.53s.
Moscow pPP = +16m.52s., pS = +23m.50s.
Simferopol e = +16m.12s.
Yalta e = +16m.7s.
Pulkovo pP = +13m.25s., PP = +16m.18s., sPP = +17m.24s., SKS = +22m.51s., pS = +24m.14s.
Copenhagen +23m.49s., SS = +32m.8s.
Stuttgart ePPEZ = +18m.55s., ePPP = +21m.26s., ePS = +27m.48s., e = +28m.24s.
Scoresby Sund e = +27m.8s.
Strasbourg e = +19m.20s.
De Bilt iZ = +19m.9s.
Uccle e = +19m.29s. and eE = +27m.53s.
Paris i = +19m.20s.
Pasadena eZ = +18m.58s.
Little Rock iPEN = +22m.11s., eE = +23m.18s.
Oak Ridge iZ = +19m.42s. and +22m.8s.
Long waves were also recorded at Hyderabad.

Note.—Certain observing stations stand out from the general run of moderately good fit. For example Medan, Batavia, Samarkand show very large positive residuals for P and S. It is suggested that these phases due to pP sS or some allied form, and not the direct P and S at all.

June 5d. Readings also at 1h. (San Juan and Sumoto), 3h. (near Sumoto), 4h. (near Nagoya), 6h. (Wellington), 8h. (Medan and near Samarkand), 12h. (Graz, Medan, and Wellington), 13h. (Kew, Mizusawa, near Kobe, Nagoya, and Sumoto), 15h. (Tiflis), 17h. (near Nagoya), 22h. (Berkeley, Andijan (2) Frunse (2), and near Samarkand (2)).

June 6d. 16h. 21m. 35s. Epicentre 26°·2N. 43°·5W. N.3.

A = +·6508, B = −·6176, C = +·4415 ; δ = −11 ;
D = −·688, E = −·725 ; G = +·320, H = −·304, K = −·897.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Oak Ridge		28·1	313	e 5 44	− 4	e 9 56	−38	e 12·9	—
San Fernando		33·2	63	e 6 37	+ 3	—	—	15·4	—
Malaga		34·7	62	i 6 48	+ 2	e 12 22	+ 5	—	—
Granada		35·4	62	i 6 55	+ 2	—	—	15·0	—
Toledo		35·4	58	e 6 47	− 6	—	—	e 15·7	—
Almeria		36·3	63	—	—	e 12 38	− 3	e 17·9	—
Bidston		40·4	37	—	—	e 13 45	+ 3	e 16·4	—
Oxford		40·7	40	—	—	16 45	SS	—	20·5
St. Louis	N.	40·9	300	e 12 19	?	e 13 41	− 9	e 16·2	—
Florissant		41·0	300	i 9 1p	PP	i 13 56	+ 5	e 16·8	20·8
Kew		41·2	41	—	—	e 13 50	− 4	e 16·4	—
Paris		42·0	46	e 6 25?	?	—	—	19·4	22·4
De Bilt		44·6	41	i 8 4	− 6	e 14 38	− 6	e 18·4	21·4
Strasbourg		45·4	47	e 8 25?	+ 9	—	—	e 18·4	—
Stuttgart		46·3	47	e 8 25	+ 2	e 15 1	− 8	e 22·4	—
Cheb		48·6	45	e 8 25?	−16	—	—	e 22·4	—
Triest		49·1	51	i 8 43	− 1	i 15 45	− 3	—	24·4
Copenhagen		49·6	38	—	—	15 52	− 3	23·4	—
Tucson		58·1	293	e 9 57	+ 6	e 17 55	+ 4	e 27·8	—
Pulkovo		59·5	35	e 10 5	+ 4	e 17 59	−10	28·4	33·6
Sebastopol		63·0	51	—	—	e 21 27	?	—	—
Simferopol		63·4	51	e 11 0	+32	—	—	—	—
Yalta		63·5	52	e 10 28	− 1	e 19 2	+ 1	e 24·4	—
Tiflis		71·7	52	e 11 21	0	—	—	e 45·9	—
Sverdlovsk		75·5	33	e 11 47	+ 4	—	—	32·4	—
Tashkent		88·3	44	e 13 17	+28	i 23 34	− 6	—	50·1

For Notes see next page.

NOTES TO JUNE 6d. 16h. 21m. 35s.

Additional readings :—
Florissant eEZ = +13m.21s.
Simferopol e = +13m.59s.
Yalta e = +14m.33s.
Tashkent e = +23m.1s., +27m.39s., +29m.19s., +32m.41s., and +35m.19s.
Long waves were also recorded at Edinburgh, Durham, Stonyhurst, Uccle, Moscow, Baku, Bozeman, Pasadena, and Huancayo.

June 6d. Readings also at 2h. (Frunse, Tashkent, and near Andijan), 3h., 4h., and 5h. (2) (Samarkand), 6h. (Adelaide, Apia, Christchurch, Honolulu, and near La Paz), 7h. (Chiufeng, Hong Kong, Phu-Lien, Nanking, Pulkovo, Copenhagen, De Bilt, Uccle, Stuttgart, Strasbourg, Paris, Oak Ridge, Sverdlovsk, Tashkent, and Tucson), 8h. (Granada), 10h. (Pasadena, Andijan, Frunse, and near Samarkand), 12h. (Christchurch), 14h. (Samarkand), 15h. (Scoresby Sund), 16h. (Samarkand (2), Florissant, Philadelphia, and San Juan), 17h. (Scoresby Sund), 18h. (Almata, Andijan, Tashkent, Baku, Sverdlovsk, near Samarkand (3), and near Taihoku), 19h. (Nanking), 20h. (Philadelphia, Mount Wilson, Riverside, Tinemaha, Madison, near Berkeley, Branner, Lick, San Francisco, near Balboa Heights, and near Andijan), 21h. (Huancayo, Mount Wilson, Pasadena, and Riverside), 22h. (Baku, Medan (2) and Sverdlovsk), 23h. (near Lick).

June 7d. 3h. 58m. 49s. Epicentre 72°·8N. 2°·5E. R.3.
(as on 1924 July 19d.; also see 7d. 4h. below).

$A = +\cdot2954$, $B = +\cdot0129$, $C = +\cdot9553$; $\delta = +3$;
$D = +\cdot044$, $E = -\cdot999$; $G = +\cdot954$, $H = +\cdot042$, $K = -\cdot296$.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Scoresby Sund		8·0	266	2 11	+18	—	—	4·2	—
Pulkovo		16·9	126	3 58	+ 5	e 7 9	+10	8·6	9·3
Copenhagen		17·6	161	3 58k	− 4	7 22	+ 7	8·2	—
Hamburg		19·5	166	i 4 24k	0	—	—	e 8·2	—
De Bilt		20·8	175	4 38	0	8 28	+ 6	e 9·7	13·4
Kew		21·4	185	e 4 47	+ 3	e 8 51	+17	10·2	—
Ivigtut		22·0	265	4 56	+ 5	9 14	+28	11·2	—
Uccle		22·0	177	i 4 53	+ 2	i 9 0	+14	e 10·2	—
Jena		22·2	165	e 4 53	0	—	—	—	—
Moscow.		22·2	121	4 46	− 7	8 44	− 6	11·7	13·5
Paris		24·0	180	i 5 6	− 4	—	—	11·2	—
Stuttgart		24·2	169	e 5 14	+ 2	e 9 43	+16	e 12·7	—
Strasbourg		24·4	172	i 5 19a	+ 5	e 9 51	+21	e 12·2	—
Vienna		25·4	158	e 5 18	− 6	—	—	—	—
Basle		25·4	173	e 5 24	0	—	—	—	—
Zurich		25·6	172	e 5 24	− 1	—	—	—	—
Simferopol		31·4	135	6 13	− 4	—	—	—	—
Sebastopol		31·6	136	e 6 35	+16	e 10 39	−50	—	—
Yalta		31·9	135	e 6 17	− 5	—	—	—	—
Granada		35·8	190	e 6 43	+13	—	—	—	—
Tiflis		37·0	123	7 1	− 5	e 12 56	+ 5	18·2	22·6
Baku		39·5	118	7 14	−14	e 13 28	− 1	19·6	25·2
Tashkent		44·1	97	8 11	+ 5	—	—	—	—
Andijan		45·5	95	e 8 33	+16	—	—	—	—
Philadelphia		48·6	273	e 8 49	+ 8	e 15 57	+16	e 25·5	—
Florissant		54·1	286	e 9 25	+ 3	e 17 7	+10	e 25·7	31·6
Tinemaha		62·9	310	i 10 25	0	—	—	—	—
Mount Wilson	z.	65·6	308	i 10 44	+ 2	—	—	—	—
Pasadena	z.	65·7	308	e 10 44	+ 1	—	—	e 40·2	—
Riverside	z.	65·7	308	e 10 44	+ 1	—	—	—	—

Additional readings :—
Simferopol e = +9m.21s. and +20m.41s.
Yalta e = +9m.21s., +10m.11s., and +20m.15s.
Tiflis ePP = +8m.23s.
Tashkent e = +9m.38s.
Florissant eSZ = +17m.16s.
Mount Wilson iZ = +12m.41s., eZ = +14m.41s.
Pasadena eZ = +12m.35s.
Long waves were also recorded at Zagreb, Upsala, Edinburgh, Stonyhurst, and Cheb.

June 7d. 4h. 38m. 21s. Epicentre 72°·8N. 2°·5E. (as at 3h.). R.2.

A = +·2954, B = +·0129, C = +·9553 ; δ = +3 ;
D = +·044, E = −·999 ; G = +·954, H = +·042, K = −·296.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Scoresby Sund		8·0	266	e 2 9	+16	(3 39?)	+15	3·6	—
Pulkovo		16·9	126	e 3 39	−14	e 7 3	+ 4	8·2	9·2
Copenhagen		17·6	161	3 59k	− 3	7 19	+ 4	8·6	—
Durham		18·1	188	4 14	+ 6	—	—	—	12·8
Bidston		19·5	190	e 4 21	− 3	e 8 19	+23	—	—
Hamburg		19·5	166	e 4 25a	+ 1	e 8 9	+13	e 10·6	13·6
Königsberg		19·5	148	i 4 18	− 6	i 7 54	− 2	e 11·2	—
De Bilt		20·8	175	4 37	− 1	8 29	+ 7	e 9·2	13·6
Oxford		21·1	187	4 48	+ 7	8 54	+26	e 12·1	—
Kew		21·4	185	e 4 50	+ 6	e 8 46	+12	9·6	14·9
Ivigtut		22·0	265	4 52	+ 1	9 9	+23	11·6	—
Uccle		22·0	177	4 52	+ 1	i 9 2	+16	e 10·6	—
Jena		22·2	165	i 3 51	−62	e 7 59	−51	—	19·2
Moscow		22·2	121	4 45	− 8	8 58	+ 8	11·8	13·0
Cheb		23·1	164	e 5 3	+ 1	e 9 9	+ 2	—	13·2
Paris		24·0	180	i 5 6	− 4	e 9 33	+10	11·6	13·6
Stuttgart		24·2	169	e 5 13	+ 1	e 9 42	+15	e 12·2	16·0
Strasbourg		24·4	172	i 5 19a	+ 5	e 9 51	+21	e 11·6	—
Vienna		25·4	158	e 5 8	−16	—	—	e 14·6	—
Basle		25·4	173	e 5 25	+ 1	—	—	e 15·6	—
Zurich		25·6	172	e 5 17	− 8	—	—	—	—
Triest		27·6	164	i 6 44	+60	i 10 48	+23	—	14·2
Florence		29·3	167	(7 39?)	?	—	—	—	(22·6)
Bucharest		30·4	145	e 7 57	PP	e 12 57	SS	18·2	—
Simferopol		31·4	135	6 14	− 3	e 11 30	+ 4	18·2	—
Sebastopol		31·6	136	e 6 15	− 4	e 12 49	SS	e 18·0	—
Theodosia		31·7	133	e 6 19	− 1	e 13 14	SS	23·6	—
Yalta		31·9	135	e 6 18	− 4	e 12 57	+83	16·8	—
Toledo		33·1	190	e 6 38	+ 5	e 12 8	+16	e 16·0	—
Granada		35·8	190	i 7 1	+ 5	e 12 45	+12	—	—
Malaga		36·2	189	e 7 46	PP	—	—	—	—
San Fernando		36·6	192	e 7 25	PP	e 12 58	+13	—	—
Tiflis		37·0	123	7 1	− 5	—	—	18·2	22·4
Baku		39·5	118	—	—	e 16 33	SS	20·0	25·8
Ottawa		43·8	275	e 8 7	+ 4	e 14 45	+12	e 21·6	—
Tashkent		44·1	97	i 7 57	− 9	e 14 33	− 4	e 21·6	27·0
Andijan		45·5	95	e 8 9	− 8	—	—	e 18·9	—
Toronto		46·4	278	e 10 15	PP	i 15 23	+13	21·6	—
Philadelphia		48·6	273	e 8 47	+ 6	e 15 54	+13	e 23·9	—
Florissant		54·1	286	e 9 26	+ 4	i 17 8	+11	e 25·7	31·8
Chiufeng		58·4	56	e 8 45	−68	—	—	—	37·7
Tinemaha	N.	62·9	310	e 10 21	− 4	—	—	—	—
Haiwee		63·8	309	e 10 33	+ 2	—	—	—	—
Pasadena	Z.	65·7	308	i 10 49	+ 6	—	—	e 32·6	—
Riverside	Z.	65·7	308	e 10 48	+ 5	—	—	—	—
Tucson		65·8	302	e 10 46	+ 2	e 19 42	+12	e 33·6	—

Additional readings and note :—
Königsberg eE = +4m.26s., eN = +8m.7s. and +9m.12s., eE = +9m.38s. and +10m.33s., iN = +10m.55s.
Uccle iNZ = +5m.6s.
Jena eN = +8m.7s.
Stuttgart e = +5m.26s.
Florence readings have been *increased* by 10m.
Bucharest e = +15m.21s.
Simferopol e = +7m.9s.
Yalta e = +7m.23s., +15m.57s., and +21m.21s.
Malaga e = +8m.46s.
Tiflis ePP = +8m.25s., e = +8m.46s.
Ottawa PPE = +9m.39s. ; T_0 = 4h.38m.24s.
Philadelphia e = +9m.46s., ePP = +10m.45s., e = +13m.46s., eSS = +21m.57s.
Florissant ePPN = +12m.54s., eSE = +17m.13s., eSSN = +20m.50s., eSSE = +20m.54s.
Long waves were also recorded at Bergen, Belgrade, Edinburgh, Stonyhurst, Upsala, Sverdlovsk, Almeria, Oak Ridge, Madison, Bozeman, Ukiah, and Sitka.

June 7d. Readings also at 0h. (near Lick), 1h. (Colombo, Tiflis, Sverdlovsk, and Tashkent), 2h. (Phu-Lien and near Sumoto), 4h. (Pulkovo and Pasadena), 6h. (Mount Wilson, Pasadena, and near Malabar), 7h. (Montezuma, Baku, Erevan, Grozny, and Tiflis), 8h. (Ksara, Tashkent and Sverdlovsk), 10h. (Grozny, Tiflis (2), and Montezuma), 11h. (Scoresby Sund, Pulkovo, and Sverdlovsk, Copenhagen, De Bilt, Strasbourg, Stuttgart, Mount Wilson, and Pasadena), 12h. (near Tananarive), 13h. (Andijan, Frunse, Samarkand, and Semipalatinsk), 18h. (Scoresby Sund, De Bilt, Strasbourg, Stuttgart, Tashkent, Tiflis, Copenhagen, Mount Wilson, Pasadena, Pulkvo, La Paz, and near Manila), 19h. (San Javier), 20h. (Malaga).

June 8d. 12h. 35m. 19s. Epicentre 36°·3N. 140°·1E. (as on 1935 July 31d.). X.

$A = -\cdot6183$, $B = +\cdot5170$, $C = +\cdot5920$; $\delta = +5$;
$D = +\cdot641$, $E = +\cdot767$; $G = -\cdot454$, $H = +\cdot380$, $K = -\cdot806$.

	Δ	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Tukubasan	0·1	180	0 4	+ 3	0 10	+ 7	—
Komaha	0·7	207	0 10	0	0 20	+ 2	—
Tokyo	0·7	200	0 9a	− 1	0 19	+ 1	0·3
Mitaka	0·8	215	0 8	− 3	0 19	− 2	—
Kiyosumi	1·2	177	0 14	− 3	0 28	− 3	—
Nagoya	2·8	245	e 0 40	0	1 19	+ 7	—

June 8d. Readings also at 0h. (Tiflis), 2h. (Andijan, Frunse, Samarkand, Tashkent, Christchurch, and Wellington), 4h. (Baku, Erevan, Grozny (2), Sotchi, Tiflis (2), Simferopol, Yalta, Ksara, Samarkand, Sverdlovsk, Nagoya, and Mount Wilson), 6h. (Nagoya and near Mizusawa), 9h. (Mount Wilson (2), Pasadena (2), Tiflis (2), Sverdlovsk, Pulkovo, Copenhagen, Stuttgart, De Bilt, Uccle, Strasbourg, Zurich, Triest, near Belgrade, Bucharest (3), Zagreb, Mizusawa, near Nagoya, Sumoto, and Kobe), 10h. (Mount Wilson, Pasadena, and near La Paz), 11h. (near Branner, Fresno, and Lick), 16h. (San Fernando), 17h. (Riverview, Sydney, Sverdlovsk, and Tashkent), 19h. (Almeria and near Balboa Heights), 20h. (Grozny), 21h. (near Tananarive), 22h. (Tacubaya and Tiflis).

June 9d. 0h. 2m. 42s. Epicentre 27°·5N. 87°·0E. N.3.

$A = +\cdot0464$, $B = +\cdot8858$, $C = +\cdot4617$; $\delta = -4$;
$D = +\cdot999$, $E = -\cdot052$; $G = +\cdot024$, $H = +\cdot461$, $K = -\cdot887$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Calcutta		5·1	166	1 11	− 2	2 14	+ 4	—	—
Dehra Dun		8·3	292	1 58	0	—	—	—	—
Hyderabad		12·8	220	4 47	?	6 8	S*	6·6	7·1
Bombay		15·6	239	e 4 18?	+42	6 25	− 4	—	—
Andijan		17·9	322	e 4 6	+ 1	e 7 21	− 1	—	—
Frunse		18·4	330	e 4 10	− 1	e 7 50	+17	—	—
Kodaikanal	E.	19·4	211	—	—	e 7 44	−10	i 9·5	—
Tashkent		20·0	319	e 4 28	− 2	i 8 12	+ 6	e 10·6	12·9
Samarkand		20·6	311	e 4 37	+ 1	e 7 37	−41	—	—
Chiufeng		27·1	54	—	—	e 10 31	+14	—	17·8
Sverdlovsk		34·8	335	e 6 55	+ 8	12 27	+ 9	19·3	—
Grozny		36·7	307	e 7 5	+ 1	e 12 35	−12	—	—
Tiflis		37·1	304	e 7 18	+11	e 12 58	+ 5	e 22·8	—
Ksara		44·0	291	e 7 55	−10	e 11 55	?	—	—
Pulkovo		49·9	327	8 58	+ 7	16 3	+ 4	22·3	29·8

Calcutta $P_g = +1$m.42s.
Bombay $S^* = +7$m.1s., $S_g = +7$m.41s.
Long waves were also recorded at Baku, Strasbourg, Stuttgart, Paris, De Bilt, Kew, Copenhagen, and Scoresby Sund.

June 9d. 16h. 36m. 31s. Epicentre 0°·2S. 98°·8E. N.2.

$A = -\cdot1530$, $B = +\cdot9882$, $C = -\cdot0035$; $\delta = -4$;
$D = +\cdot988$, $E = +\cdot153$; $G = +\cdot001$, $H = -\cdot003$, $K = -1\cdot000$.

		△ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Medan		3·8	359	i 1 7	P_g	i 1 38	+ 1	—	—
Batavia		10·0	127	2 23	+ 2	4 48	+35	—	—
Malabar		11·2	129	2 39	+ 2	4 40	− 3	—	—
Colombo		20·2	291	4 38	+ 6	8 31	+21	10·4	12·3
Phu-Lien		22·4	20	i 4 57	+ 2	8 58	+ 5	10·5	—
Kodaikanal	E.	23·6	298	i 5 10	+ 4	i 9 29	+13	11·6	13·6
Calcutta	E.	24·9	337	5 24	+ 5	9 48	+ 9	—	—
Manila		26·5	55	i 5 34a	0	10 49	+42	15·2	17·5
Hyderabad		26·7	313	5 41	+ 6	10 11	+ 1	11·7	16·7
Hong Kong		27·0	33	5 33	− 5	10 59	+44	—	18·5
Bombay		31·9	308	6 25	+ 3	11 29	+ 5	15·1	21·3
Agra	E.	33·9	326	6 36	− 3	11 52	−12	—	—
Dehra Dun		36·3	329	12 49	S	(12 49)	+ 8	21·6	22·5
Nanking		37·4	29	7 35	+25	13 21	+24	17·2	25·5
Chiufeng		43·2	19	i 7 58a	0	14 20	− 4	e 21·4	30·4
Kumamoto		44·6	40	8 12	+ 2	—	—	—	—
Zinsen		45·6	31	—	—	e 13 33	−86	e 21·3	—
Keizyo		45·8	32	—	—	e 14 32	−30	—	—
Andijan		47·5	333	e 8 30	− 2	e 16 25	+59	—	—
Frunse		48·3	336	e 8 38	0	i 15 33	− 4	—	—
Sumoto		48·3	41	e 8 36	− 2	—	—	—	—
Wakayama		48·4	41	8 39	0	—	—	—	—
Kobe		48·7	41	e 8 40	− 1	—	—	—	32·2
Gihu		50·2	42	8 52	− 1	—	—	—	—
Nagoya		50·2	42	e 7 53	−60	—	—	—	—
Adelaide		50·9	138	i 9 16	+18	i 16 11	− 2	23·3	34·1
Wazima		51·5	39	8 59	− 4	—	—	—	—
Nagano		51·8	41	9 5	0	—	—	—	—
Oiwake		51·9	42	9 4	− 2	—	—	—	—
Semipalatinsk		53·0	346	e 8 11	−63	—	—	—	—
Tananarive		53·6	247	—	—	e 16 54	+ 4	—	25·1
Mizusawa		55·2	40	e 9 27	− 3	e 9 59	?	—	—
Melbourne		56·7	137	—	—	e 17 31	− 1	30·2	33·8
Sapporo		57·6	36	9 47	0	—	—	—	—
Riverview		59·4	130	—	—	e 18 5	− 3	e 34·5	38·5
Sydney		59·4	130	—	—	e 26 19	?	38·2	41·8
Baku		60·1	319	i 10 6	+ 1	18 16	− 1	29·0	42·0
Erevan		63·7	317	e 10 30	0	—	—	—	—
Tiflis		64·1	318	i 10 31	− 2	i 19 3	− 6	39·5	42·6
Grozny		64·2	320	e 10 36	+ 2	19 6	− 4	41·5	—
Sverdlovsk		64·7	338	i 10 39	+ 2	i 19 13	− 3	39·4	40·1
Piatigorsk		66·3	320	i 10 7	−40	18 49	−47	—	—
Ksara		67·9	306	i 10 59a	+ 1	19 57	+ 1	—	41·5
Helwan		70·7	302	11 14	− 1	20 24	− 6	—	40·2
Theodosia		71·7	318	11 19	− 2	20 32	− 9	—	—
Yalta		72·4	317	i 11 23	− 2	i 20 39	−11	—	—
Simferopol		72·5	318	11 24	− 2	i 20 41	−10	—	—
Sebastopol		72·8	317	i 11 27	− 1	20 44	−10	—	—
Moscow		74·4	330	i 11 34	− 3	i 21 1	−12	38·5	47·1
Christchurch		78·2	135	21 51	S	(21 51)	− 5	39·1	43·8
Wellington		79·4	132	i 17 14	SSS	i 20 59	−70	e 41·0	50·5
Pulkovo		79·5	332	12 3	− 2	21 56	−14	39·5	50·8
Cape Town		81·9	236	—	—	i 22 31	− 5	38·3	45·6
Budapest		83·2	317	e 12 29?	+ 5	e 22 29?	−20	—	—
Vienna		85·1	318	e 12 34	0	e 22 57	[− 3]	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Zagreb		85·1	316	e 12 33a	− 1	e 22 54	[− 6]	—	—
Upsala		85·8	330	12 33	− 4	i 23 2	[− 3]	e 48·5	—
Prague		86·5	320	e 12 44?	+ 3	e 23 10	[0]	—	56·5
Triest		86·7	316	12 39	− 3	i 23 10	[− 1]	e 48·2	—
Cheb		87·9	320	—	—	e 22 29?	[−50]	—	—
Padova		88·0	315	e 23 27	S	(e 23 27)	[+ 7]	—	—
Copenhagen		88·1	326	12 48k	?	23 26	[+ 5]	41·5	—
Florence		88·4	314	e 12 57	+ 7	i 23 29	[+ 6]	—	—
Hamburg		89·5	324	i 12 54	− 1	i 23 41	−10	e 52·5	—
Stuttgart		89·9	319	12 56a	− 1	e 23 44	−11	e 55·5	—
Zurich		90·3	317	e 12 58	− 1	e 23 42	[+ 8]	—	—
Strasbourg		90·8	319	i 13 0a	− 1	i 23 52	−12	e 53·5	—
Basle		91·0	317	e 13 1	− 1	e 23 53	−12	—	—
Bergen		91·9	331	—	—	26 0	+106	e 53·5	—
De Bilt		92·4	323	i 13 8	− 1	e 24 7	−11	e 44·5	66·0
Uccle		93·0	321	e 13 10	− 1	i 24 11	−13	e 44·5	—
Paris		94·3	319	i 13 12	− 5	e 23 29?	[−28]	57·5	—
Algiers		94·7	306	e 12 34	−45	e 24 13	[+14]	e 53·6	—
Kew		95·8	322	e 13 24	0	e 24 36	−13	e 57·5	—
Oxford		96·4	322	17 23	PP	i 24 36	−19	e 58·0	—
Edinburgh		96·8	326	—	—	e 23 59	[−11]	e 53·5	—
Granada		100·0	308	e 17 50	PP	—	—	54·5	—
Toledo		100·0	310	e 17 17	PP	—	—	—	—
San Fernando		102·1	307	e 18 7	PP	e 26 20	+35	58·5	—
Tinemaha	E.	129·7	39	e 19 0	[− 6]	—	—	—	—
Haiwee	E.	130·5	40	e 19 11	[+ 3]	—	—	—	—
Pasadena	Z.	131·5	42	i 19 11	[+ 1]	—	—	e 64·5	—
Mount Wilson	Z.	131·6	42	i 19 10	[0]	—	—	—	—
La Jolla	Z.	132·9	42	e 19 14	[+ 2]	—	—	—	—
Ottawa		134·5	354	e 21 41	PP	e 39 47	SS	e 63·5	—
Rio de Janeiro		134·6	237	23 29?	?	—	—	—	—
Oak Ridge		136·8	349	20 20	[+62]	—	—	81·5	—
Tucson		137·5	38	e 19 36	[+17]	e 34 41	?	e 63·8	—
Florissant		140·5	11	e 19 22	[0]	e 29 8	{−19}	e 67·9	80·4
La Paz		158·9	219	20 35	[+43]	i 25 19	?	77·5	84·8

Additional readings :—
Batavia SN = +5m.2s.
Kodaikanal PPE = +5m.41s., SSE = +10m.30s.
Calcutta sP = +6m.55s., sS = +11m.33s.
Hong Kong PP = +6m.25s., SS? = +11m.48s.
Bombay SSEN = +13m.6s.
Agra SSE = +14m.38s., SSSE = +15m.42s.
Dehra Dun +16m.59s.
Nanking PP = +8m.39s., PPP = +9m.2s.
Chiufeng SN = +14m.25s.
Gihu i = +10m.20s.
Adelaide e = +9m.54s., i = +17m.59s.
Tananarive eN = +17m.24s.
Riverview eN = +29m.23s.
Tiflis PP = +13m.10s., iSKS = +20m.24s.
Sverdlovsk L_q = +32·1m.
Ksara iP_cP = +11m.29s.
Yalta e = +13m.15s.
Christchurch eS = +29m.45s.
Wellington i = +35m.14s.
Cape Town iN = +22m.38s., i = +22m.56s. and +23m.15s., iN = +24m.13s., iE = +24m.25s. and +28m.31s.
Zagreb eP_cP = +13m.36s., ePPPNW = +17m.2s., ePPPNE = +17m.12s., eS_cS = +23m.11s.
Triest i = +23m.1s., iPS = +24m.4s., i = +24m.10s.
Copenhagen +23m.13s.
Stuttgart eP_cP = +13m.12s., ePP = +16m.36s.
Zurich eSKS = +23m.24s.
Strasbourg ePS = +25m.11s., eSSSS = +36m.59s.
De Bilt PPZ = +16m.49s., eE = +23m.39s.
Uccle ePPZ = +16m.51s.
Algiers e? = +22m.0s.

Continued on next page.

Kew ePPEZ = +17m.19s., eSSN = +30m.22s.
Oxford eE = +20m.43s., iE = +23m.53s.
Tinemaha eZ = +22m.23s.
Haiwee eEN = +22m.29s.
Pasadena iZ = +19m.25s., iEZ = +22m.30s., iZ = +22m.47s.
Ottawa e = +22m.45s.
Oak Ridge PP = +22m.4s., eSKPN = +22m.53s., ePPPZ = +24m.31s.
Florissant ePKPE = +19m.28s., ipPKPE = +19m.43s., iPPNZ = +22m.22s., ePPE = +22m.26s., ipPPNZ = +22m.37s., iSKPZ = +22m.58s., iSKPEN = +23m.2s., ipSKPEN = +23m.18s., ePPPZ = +25m.26s., eSSN = +40m.34s.
Long waves were also recorded at Taikyu, Husan, Ivigtut, College, Sitka, Bozeman, Philadelphia, Huancayo, and San Juan.

June 9d. Readings also at 2h. (Chiufeng, Nanking, Phu-Lien, Tashkent, and Sverdlovsk), 8h. (Andijan, Sverdlovsk, Tashkent, Bombay, and near Calcutta), 13h. (Madison), 15h. (Jena), 17h. (Tiflis), 18h. (Alicante, Sebastopol, Simferopol, Theodosia, Yalta, and Tiflis), 19h. (Sumoto and near Hukuoka (3)), 23h. (Florence).

June 10d. 3h. 29m. 12s. Epicentre 26°·5N. 64°·0E. N.2.

$A = +\cdot3923$, $B = +\cdot8044$, $C = +\cdot4462$; $\delta = +5$;
$D = +\cdot899$, $E = -\cdot438$; $G = +\cdot196$, $H = +\cdot401$, $K = -\cdot895$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Bombay		11·1	131	(2 33)	− 3	(4 48)	+ 7	4·8	8·1
Agra	E.	12·6	84	2 46	−10	e 5 15	− 2	—	—
Dehra Dun		12·9	70	6 8	S	(6 8)	+43	7·5	9·8
Samarkand		13·4	10	e 3 1	− 6	e 6 21	+44	—	—
Andijan		15·8	24	e 3 39	0	—	—	—	—
Hyderabad		16·2	121	1 58	?	6 51	+ 8	10·8	13·9
Tchimkent		16·5	15	e 3 49	+ 1	—	—	—	—
Baku		18·2	323	4 26	+17	7 40	+11	10·8	13·9
Frunse		18·5	25	e 4 16	+ 3	e 7 42	+ 6	—	—
Kodaikanal	E.	20·6	140	e 4 32	− 4	i 8 21	+ 3	10·2	12·6
Tiflis		21·9	319	e 4 49	− 1	8 53	+ 9	13·0	14·8
Calcutta	E.	22·4	95	4 55	0	9 4	+11	11·2	15·2
Colombo		24·7	141	5 22	+ 5	10 38	+62	14·2	19·0
Ksara		25·3	293	i 5 28	+ 5	10 12	+26	—	—
Helwan		28·9	285	—	—	11 11	+24	12·1	20·0
Theodosia		29·4	317	e 5 53	− 7	e 11 24	+29	20·8	—
Yalta		29·9	315	e 6 4	0	e 11 32	+29	19·3	—
Simferopol		30·2	316	e 6 8	+ 1	e 11 49	+42	e 19·8	—
Sebastopol		30·4	315	e 6 11	+ 2	e 11 12	+ 2	—	—
Sverdlovsk		30·4	357	6 13	+ 4	i 11 13	+ 3	19·4	—
Moscow		34·9	334	6 50	+ 2	12 22	+ 2	20·8	25·4
Bucharest		35·2	311	e 7 30	+39	—	—	15·8	—
Phu-Lien		39·3	89	—	—	e 15 48?	?	—	—
Pulkovo		40·5	335	e 7 43	+ 7	13 43	− 1	20·8	25·2
Königsberg		42·4	324	—	—	e 14 14	+ 3	e 24·6	34·0
Zagreb		42·5	310	e 8 15	+22	e 14 48?	+35	e 26·3	—
Graz		43·1	311	e 7 56	− 2	e 17 48	SS	e 28·8	31·6
Triest		44·0	310	e 7 53	−12	i 14 37	+ 1	—	28·2
Prague		44·4	316	—	—	e 13 48?	−53	e 24·8	27·3
Chiufeng		44·9	59	e 8 12	0	i 14 50	+ 1	22·4	28·5
Hong Kong		45·6	84	14 55	S	(14 55)	− 4	—	27·6
Florence		45·6	306	2 40	?	14 33	−26	24·8	—
Cheb		45·7	316	e 12 48?	?	e 18 30	SS	—	33·3
Upsala		45·9	330	—	—	e 14 48?	−15	e 25·8	32·2
Copenhagen		47·0	324	8 31	+ 2	15 21	+ 2	24·8	—
Stuttgart		47·5	314	e 8 31	− 1	e 15 30	+ 4	e 29·8	—
Nanking		47·6	70	—	—	e 19 15	SS	26·6	—
Hamburg		47·8	321	e 9 48?	PP	—	—	e 28·3	35·8
Zurich		47·8	312	e 8 17	−18	—	—	—	—
Strasbourg		48·4	314	e 7 48?	−51	—	—	e 27·8	—

Continued on next page.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
De Bilt	50·5	318	—	—	e 16 6	− 2	e 28·8	39·1
Uccle	50·8	316	—	—	e 16 16	+ 4	e 24·8	—
Paris	51·9	313	e 8 48?	−18	—	—	27·8	33·8
Bergen	51·9	329	—	—	e 23 15	?	—	—
Kew	53·8	317	e 5 29	?	e 16 59	+ 6	e 27·8	35·7
Manila	54·2	91	17 13	S	(17 13)	+15	—	34·5
Oxford	54·4	317	—	—	e 17 3	+ 2	30·8	37·6
Edinburgh	55·7	322	—	—	e 23 48?	?	e 33·8	41·8
Toledo	57·1	302	—	—	e 16 45	−53	—	38·5
Granada	57·2	299	e 11 28	PP	—	—	32·8	—
San Fernando	59·4	299	—	—	e 18 12	+ 4	34·8	—
Scoresby Sund	63·8	339	—	—	19 12	+ 7	32·8	—
Ivigtut	76·8	333	—	—	21 42	+ 1	36·8	—
La Paz	N. 134·6	273	e 29 32	SKKS	(e 29 32)	{+41}	—	—

Additional readings and notes :—
Bombay gives eE = 3h.27m.30s.; true P and S are given as SEN and SSE respectively.
SSE = +3m.33s.
Agra SSE = +5m.36s., iN = +5m.41s.
Andijan e = +4m.51s., +7m.32s., and +9m.20s.
Kodaikanal PPE = +4m.49s., SSE = +9m.6s.
Tiflis e = +5m.42s., iSS = +9m.32s., i = +10m.13s., e = +11m.14s.
Calcutta PPE = +5m.21s., SSE = +9m.58s.
Sverdlovsk L_q = +16m.24s.
Königsberg eE = +14m.28s., eN = +17m.24s., eE = +17m.33s.
Zagreb e = +8m.29s.
Triest i = +14m.47s. and +15m.7s., iSS? = +18m.8s., i = +18m.40s.
Prague eS = +18m.22s.
Chiufeng iN = +18m.29s.
Hong Kong S? = +20m.40s.
Stuttgart e = +19m.0s.
Manila SEN = +23m.18s.
Oxford i = +17m.33s.
Scoresby Sund +23m.42s. and +26m.42s.
Long waves were also recorded at Keizyo, Durham, Cape Town, Stonyhurst, Rathfarnham Castle, Jena, College, Sitka, Tucson, Philadelphia, Huancayo, and Rio de Janeiro.

June 10d. 8h. 23m. 27s. Epicentre 5°·5S. 147°·0E. (as on 1930 June 23d.). R.1.

$$A = -\cdot8348,\ B = +\cdot5421,\ C = -\cdot0958;\qquad \delta = -6;$$
$$D = +\cdot545,\ E = +\cdot839;\qquad G = +\cdot080,\ H = -\cdot052,\ K = -\cdot995.$$

Depth of focus 0·0225 is assumed.

	Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	°	m. s.	s.	m. s.	s.	m.	m.
Palau	−0·8	17·9	316	3 56	+ 1	7 20	+16	—	—
Riverview	−1·4	28·6	173	i 5 38a	− 2	i 10 13	− 5	—	13·4
Sydney	−1·4	28·6	173	e 5 38	− 2	i 9 57	−21	11·7	15·8
Adelaide	−1·6	30·4	194	i 5 56	+ 2	i 10 43	− 2	i 12·6	20·2
Melbourne	−1·6	32·2	184	e 6 59	+49	i 11 13	− 1	12·1	16·2
Manila	−1·7	32·7	310	i 6 15k	+ 1	i 11 31	+11	—	—
Titizima	−1·7	32·9	353	6 19	+ 3	—	—	—	—
Isigakizima	−1·8	37·2	325	6 46	− 7	12 29	+ 2	—	—
Kosyun	−1·8	37·6	319	6 57	+ 1	12 34	+ 1	—	—
Nake	−1·8	37·9	335	7 1	+ 2	—	—	—	—
Taito	−1·8	37·9	320	7 1	+ 2	—	—	—	—
Karenko	−1·9	38·5	322	7 6	+ 3	12 47	+ 2	—	—
Giran	−1·9	39·0	323	7 12	+ 5	—	—	—	—
Hatidyozima	−1·9	39·2	351	7 10	+ 1	12 50	− 6	—	—
Taityu	−1·9	39·2	321	7 10	+ 1	12 55	− 1	—	—
Taihoku	−1·9	39·3	323	7 10	0	12 59	+ 2	—	13·0
Perth	−1·9	39·3	225	i 7 8	− 2	13 13	+16	18·6	19·6
Batavia	−1·9	39·9	269	i 7 16	+ 1	—	—	e 16·6	—
Miyazaki	−1·9	40·2	340	7 20	+ 2	13 5	− 6	—	—
Kagosima	−1·9	40·3	339	7 13	− 5	—	—	—	—

Continued on next page.

	Corr. for Focus	Δ	Az.	P.	O–C.	S.	O–C.	L.	M.
	°	°	°	m. s.	s.	m. s.	s.	m.	m.
Siomisaki	−1·9	40·4	347	7 19	0	—	—	—	—
Simidu	−1·9	40·5	343	7 19	− 1	—	—	—	—
Omaesaki	−1·9	40·9	349	7 20	− 4	12 58	−23	—	—
Mera	−1·9	41·0	352	7 25	+ 1	—	—	—	—
Ito	−1·9	41·1	352	7 26	+ 1	—	—	—	—
Hamamatu	−2·0	41·2	350	7 26	+ 1	13 20	− 4	—	—
Kumamoto	−2·0	41·3	339	7 28	+ 2	—	—	—	—
Misima	−2·0	41·3	352	7 27	+ 1	13 25	− 1	—	—
Numadu	−2·0	41·3	352	7 32	+ 6	—	—	—	—
Tokusima	−2·0	41·3	346	7 44	+18	—	—	—	—
Wakayama	−2·0	41·3	346	7 26	0	13 25	− 1	—	—
Apia	−2·0	41·4	103	i 7 27	0	13 34	+ 7	—	—
Ooita	−2·0	41·4	341	7 13	−14	—	—	—	—
Sumoto	−2·0	41·4	346	7 28k	+ 1	e 13 25	− 2	18·1	18·4
Tu	−2·0	41·4	348	8 2	+35	—	—	—	—
Unzendake	−2·0	41·4	339	7 41	+14	—	—	—	—
Yagi	−2·0	41·4	347	7 29	+ 2	—	—	—	—
Yokohama	−2·0	41·5	352	7 31	+ 3	13 29	0	—	—
Kameyama	−2·0	41·6	348	7 28	− 1	—	—	—	—
Nagasaki	−2·0	41·6	339	7 29	0	—	—	—	—
Osaka	−2·0	41·6	347	7 30	+ 1	—	—	—	—
Tyosi	−2·0	41·6	354	7 32	+ 3	13 31	+ 1	—	—
New Plymouth	−2·0	41·6	148	7 33?	+ 4	13 41	+11	e 19·6	—
Arapuni	−2·0	41·7	146	—	—	13 33	+ 1	18·2	—
Hunatu	−2·0	41·7	350	8 10	+41	14 12	+40	—	—
Kobe E.	−2·0	41·7	346	e 7 30	+ 1	e 13 33	+ 1	i 17·7	—
N. or Z.	−2·0	41·7	346	e 7 27	− 2	e 13 54	+22	e 18·4	21·6
Tadotu	−2·0	41·7	345	7 13	−16	—	—	—	—
Tokyo	−2·0	41·7	352	7 32	+ 3	—	—	—	—
Nagoya	−2·0	41·8	349	e 7 22	− 8	—	—	—	—
Iida	−2·0	41·9	350	7 39	+ 8	—	—	—	—
Kohu	−2·0	41·9	350	7 33	+ 2	13 35	0	—	—
Kyoto	−2·0	41·9	348	7 25	− 6	—	—	—	—
Saga	−2·0	41·9	340	7 39	+ 8	—	—	—	—
Tomie	−2·0	41·9	338	7 46	+15	—	—	—	—
Gihu	−2·0	42·0	349	7 32	0	13 35	− 1	—	—
Hikone	−2·0	42·0	348	7 33	+ 1	13 34	− 2	—	—
Okayama	−2·0	42·0	345	7 35	+ 3	—	—	—	—
Hukuoka	−2·0	42·1	340	7 33	0	e 13 36	− 2	—	—
Hukuoka B	−2·0	42·1	340	7 35	+ 2	13 38	0	17·5	—
Ibukisan	−2·0	42·1	349	7 33	0	13 35	− 3	—	—
Hirosima	−2·0	42·2	343	7 56	+22	—	—	—	—
Kakioka	−2·0	42·2	353	7 28	− 6	13 36	− 3	—	—
Tukubasan	−2·0	42·2	353	7 33	− 1	13 36	− 3	—	—
Kumagaya	−2·0	42·3	352	7 33	− 2	—	—	—	—
Mito	−2·0	42·3	353	7 35	0	—	—	—	—
Hong Kong	−2·0	42·5	313	7 38	+ 2	13 50	+ 6	—	—
Maebasi	−2·0	42·6	352	7 39	+ 2	13 45	0	—	—
Oiwake	−2·0	42·6	351	7 38	+ 1	13 50	+ 5	—	—
Toyooka E.	−2·0	42·6	346	e 7 40	+ 3	14 47	+ 2	—	18·3
N.	−2·0	42·6	346	7 37	0	e 16 38	SS	—	18·3
Utunomiya	−2·0	42·6	352	7 39	+ 2	—	—	—	—
Hamada	−2·0	42·8	342	7 40	+ 1	—	—	—	—
Nagano	−2·0	43·0	350	7 41	+ 1	13 52	+ 1	—	—
Kanazawa	−2·0	43·1	348	7 40	− 1	13 51	− 2	—	—
Toyama	−2·0	43·2	349	7 45	+ 3	13 58	+ 4	—	—
Husiki	−2·0	43·3	349	7 52	+ 9	14 7	+11	—	—
Takada	−2·1	43·4	350	7 40	− 3	13 58	+ 2	—	—
Aidu	−2·1	43·5	353	7 36	− 8	—	—	—	—
Wellington	−2·1	43·5	149	7 44	0	13 58	+ 1	19·7	20·6
Hukusima	−2·1	43·7	353	7 45	0	13 58	− 2	—	—

Continued on next page.

		Corr. for Focus	Δ	Az.	P.	O–C.	S.	O–C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Wazirna		−2·1	43·9	349	7 48	+ 1	14 6	+ 3	—	—
Husan		−2·1	44·0	339	7 48	0	14 5	0	19·2	—
Sendai		−2·1	44·1	354	7 50	+ 1	—	—	—	—
Niigata		−2·1	44·1	352	7 57	+ 8	—	—	—	—
Zi-ka-wei	E.	−2·1	44·1	330	e 7 53	+ 4	14 19	+13	—	—
Christchurch		−2·1	44·2	153	i 7 51	+ 2	i 15 17	+69	—	—
Yamagata		−2·1	44·2	353	7 52	+ 3	—	—	—	—
Taikyu		−2·1	44·8	340	7 57	+ 3	14 21	+ 5	18·8	—
Mizusawa		−2·1	45·0	355	i 7 57	+ 1	i 14 20	+ 1	18·8	—
Morioka		−2·1	45·5	354	8 1	+ 1	14 26	− 1	—	—
Nanking		−2·2	46·2	327	i 8 7	+ 2	i 14 41	+ 5	20·8	—
Aomori		−2·2	46·7	354	8 10	+ 1	14 45	+ 2	—	—
Keizyo		−2·2	46·9	339	i 8 11	+ 1	e 14 50	+ 4	e 19·1	—
Zinsen		−2·2	47·0	338	i 8 13k	+ 2	e 14 10	−37	i 19·5	—
Phu-Lien		−2·2	47·6	306	8 18	+ 2	15 3	+ 7	20·6	—
Hakodate		−2·2	47·6	354	8 24	+ 8	—	—	—	—
Urakawa		−2·3	47·8	357	8 15	− 2	15 2	+ 5	—	—
Muroran		−2·3	48·1	355	8 18	− 1	15 5	+ 3	—	—
Obihiro		−2·3	48·5	357	8 32	+10	—	—	—	—
Heizyo		−2·3	48·7	338	8 24	0	—	—	—	—
Sapporo		−2·3	48·8	355	8 26k	+ 1	15 15	+ 3	—	—
Nemuro		−2·3	48·9	359	8 26	+ 1	15 16	+ 3	—	—
Medan		−2·3	49·1	280	e 8 24	− 3	i 15 47	−29	—	—
Asahigawa		−2·3	49·5	357	8 36	+ 6	—	—	—	—
Chatham Is.		−2·3	50·0	147	e 7 33?	?	e 14 9	?	19·6	20·6
Haboro		−2·4	50·1	357	8 2	−32	—	—	—	—
Vladivostok		−2·4	50·9	348	8 39	− 1	15 39	− 1	23·2	23·6
Chiufeng		−2·5	53·7	332	i 9 4k	+ 4	i 16 22	+ 4	24·1	26·4
Honolulu		−2·7	60·2	61	i 9 48	+ 1	i 18 39	− 4	i 24·8	—
Calcutta		−2·8	63·8	299	10 59	+48	19 34	+65	—	—
Colombo		−2·9	68·1	280	11 21	+41	20 30	+68	26·7	38·6
Kodaikanal	E.	−2·9	71·1	284	e 10 59	0	i 20 7	+ 8	33·4	42·7
Hyderabad		−2·9	71·4	291	11 37	+36	20 37	+34	33·1	43·6
Agra	E.	−2·9	74·1	300	e 11 14	− 4	20 29	− 6	—	—
Dehra Dun		−2·9	74·9	304	12 3	+40	(20 43)	− 2	20·7	22·6
Bombay		−3·0	76·9	291	i 12 18	+44	i 21 7	0	—	—
Semipalatinsk		−3·0	79·8	324	e 11 53	+ 3	—	—	—	—
Frunse		−3·0	81·1	315	e 11 53	− 5	e 21 49	− 6	—	—
Andijan		−3·0	82·1	313	e 12 1	− 2	e 22 0	− 6	—	—
Tchimkent		−3·0	84·5	314	e 12 27	+11	—	—	—	—
College		−3·0	84·8	23	e 12 16	− 1	i 22 25	−10	e 33·9	—
Sitka		−3·1	88·0	32	i 12 28	− 5	i 22 56	−11	e 35·6	—
Sverdlovsk		−3·2	92·6	327	i 12 52	− 3	i 23 35	[−13]	38·2	50·2
Ukiah		−3·2	93·3	51	e 12 35	−23	e 23 44	[− 8]	e 38·4	—
Berkeley		−3·2	93·9	51	i 12 55	− 6	e 24 43	+40	—	—
Victoria		−3·2	93·9	42	e 12 51	−10	i 24 43	+40	e 47·8	—
Seattle		−3·2	94·5	43	e 14 39	?	e 23 39	[−19]	—	—
Pasadena		−3·2	97·1	56	i 13 9a	− 6	e 24 29	− 3	i 39·4	—
Tinemaha		−3·2	97·1	53	i 13 9	− 6	—	—	—	—
Tananarive		−3·2	97·1	250	17 13	PP	24 58	[+46]	e 40·4	53·6
Mount Wilson	z.	−3·2	97·2	56	i 13 10a	− 6	—	—	—	—
Haiwee		−3·2	97·3	54	e 13 12	− 4	e 23 31	{−62}	—	—
Riverside	z.	−3·2	97·7	56	i 13 12a	− 6	—	—	—	—
La Jolla		−3·2	97·8	57	e 13 13	− 6	e 23 34	[−41]	—	—
Baku		−3·3	99·0	311	14 4	PP	e 24 59	{+13}	42·6	55·8
Grozny		—	101·9	313	14 11	+19	e 23 54	{−73}	46·8	—
Bozeman		—	102·3	45	e 13 33	−21	e 24 59	{−11}	e 42·8	—
Tiflis		—	102·8	311	14 18	+22	25 1	{−13}	48·0	63·6
Erevan		—	103·1	310	e 17 56	PP	—	—	—	—
Tucson		—	103·2	58	e 13 31	−27	e 25 30	{+13}	e 47·4	—
Piatigorsk		—	103·8	314	e 18 3	—	—	—	—	—
Moscow		—	105·4	326	14 25	pP	25 27	{− 7}	54·0	57·4
Pulkovo		—	108·0	333	13 57	P	25 47	{− 6}	51·6	59·0
Simferopol		—	110·0	316	e 19 31	PPP	e 26 7	{ 0}	40·8	—
Yalta		—	110·1	314	e 18 42	PP	e 26 5	{− 3}	58·0	—

Continued on next page.

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m
Sebastopol		—	110·5	315	e 18 54	PP	e 28 54	PS	—	—
Ksara		—	110·6	303	e 19 34	PPP	e 29 6	PS	—	—
Upsala		—	113·3	335	—	—	e 25 49	{−41}	e 50·6	58·6
Scoresby Sund		—	114·6	355	18 9	[−23]	e 24 49	[−43]	48·6	—
Königsberg		—	114·8	329	e 19 48	PP	e 26 7	{−33}	e 51·6	61·2
Helwan		—	114·9	300	14 11	−44	27 0	{+19}	—	—
Bucharest		—	115·6	317	e 20 3	PP	—	—	—	31·8
Cape Town	E.	—	117·5	227	20 17	PP	28 38	S	53·6	60·6
	N.	—	117·5	227	20 5	PP	28 35	S	53·6	60·6
Madison		—	117·9	43	e 19 37	PP	—	—	—	—
Bergen		—	118·0	340	e 20 24	PP	e 25 12	[−32]	55·4	—
Copenhagen		—	118·2	332	e 18 23	[−18]	26 23	{−41}	48·6	—
Florissant		—	118·6	46	e 18 28	[−14]	i 24 53	[−53]	e 56·2	64·4
Budapest		—	119·0	322	19 45	PP	—	—	e 59·6	63·6
Chicago		—	119·6	44	e 20 3	PP	—	—	e 49·3	—
Vienna		—	120·2	325	e 18 29	[−17]	e 20 40	PP	e 56·6	—
Prague		—	120·4	327	e 19 33	PP	e 26 21	{−58}	e 55·6	62·6
Hamburg		—	120·6	331	e 19 33	PP	—	—	e 55·6	60·6
Graz		—	121·3	324	e 18 31	[−18]	e 30 31	?	e 59·6	65·8
Jena		—	121·4	328	e 20 3	PP	e 30 33	?	e 58·6	68·0
Cheb		—	121·5	327	e 20 9	PP	e 28 10	?	e 57·6	65·6
Zagreb		—	121·6	327	e 18 34	[−15]	e 26 39	{−48}	e 57·8	63·4
Ann Arbor	E.	—	122·1	40	e 20 57	PP	e 30 3	?	e 55·8	—
Cincinnati		—	122·7	46	i 19 49	PP	—	—	—	—
Triest		—	123·0	323	e 19 6	[+13]	i 27 58	{−39}	e 51·6	63·6
De Bilt		—	123·8	332	e 18 37	[−18]	—	—	e 57·6	73·3
Ivigtut		—	123·9	8	e 18 32	[−23]	e 24 39	[−83]	48·6	—
Stuttgart		—	124·0	327	e 18 35	[−20]	e 27 57	{+14}	e 59·6	73·8
Karlsruhe		—	124·2	328	—	—	e 22 14	?	e 62·6	—
Padova		—	124·3	323	i 21 18	PPP	—	—	—	—
Toronto		—	124·3	39	i 20 20	PP	i 28 3	{+18}	e 62·6	—
Edinburgh		—	124·3	339	e 19 3	[+ 7]	—	—	51·6	—
Durham		—	124·6	338	21 6	PPP	—	—	—	62·6
Strasbourg		—	124·8	327	e 18 38	[−19]	e 25 39	[−26]	e 56·6	—
Buffalo		—	124·9	40	i 18 38	[−19]	—	—	e 52·9	—
Uccle		—	125·1	331	e 18 40	[−17]	—	—	i 62·2	63·7
Zurich		—	125·1	326	e 18 36	[−21]	—	—	—	—
Basle		—	125·5	327	e 18 39	[−19]	—	—	—	—
Florence		—	125·5	320	e 18 33	[−25]	i 29 33	?	—	64·6
Ottawa		—	125·6	35	e 20 31	PP	e 28 33	{+40}	e 49·6	—
Stonyhurst		—	125·6	337	e 21 33?	PP	—	—	51·6	63·6
Neuchatel		—	126·2	327	e 18 40	[−19]	—	—	—	—
Bidston		—	126·2	337	i 20 44	PP	e 27 54	{− 3}	57·6	—
Kew		—	126·7	335	e 18 40	[−20]	—	—	57·6	60·6
Paris		—	127·3	331	e 16 3	?	i 28 39	{+35}	79·6	64·6
Columbia		—	127·3	50	e 20 38	PP	—	—	e 54·0	—
Vermont		—	127·5	35	i 20 40	PP	e 28 42	{+36}	e 51·8	—
Georgetown		—	128·1	43	i 18 43	[−20]	—	—	—	—
Philadelphia		—	128·8	41	i 19 47	PP	e 26 58	{−76}	e 46·6	—
Fordham		—	129·2	40	e 20 51	PP	—	—	e 58·5	—
Oak Ridge		—	129·7	36	i 18 35	[−31]	—	—	—	—
Barcelona		—	132·4	325	22 4	PPP	e 34 8	?	—	67·2
La Plata		—	133·3	150	20 57	PP	—	—	84·6	—
Tortosa	N.	—	133·7	325	e 22 8	PP	—	—	64·6	71·1
Huancayo		—	134·4	113	e 18 51	[−23]	e 25 17	[−75]	—	—
Algiers		—	134·6	319	e 15 48	?	e 27 46	{−65}	e 61·6	—
Toledo		—	136·9	327	i 19 0	[−18]	—	—	—	72·5
Almeria		—	138·0	324	e 19 10	[− 9]	—	—	e 61·8	—
Granada		—	138·5	324	e 18 52	[−27]	—	—	—	—
La Paz		—	138·9	122	e 19 0	[−20]	i 28 32	{−45}	74·2	—
Malaga		—	139·3	324	19 1	[−19]	e 28 35	{−45}	—	—
San Fernando		—	140·5	325	e 19 9	[−13]	—	—	57·6	76·6
San Juan		—	145·2	65	i 19 14	[−20]	—	—	e 60·0	—
Rio de Janeiro		—	149·9	160	i 19 44	[+ 2]	—	—	i 42·0	—

For Notes see next page.

NOTES TO JUNE 10d. 8h. 23m. 27s.

Additional readings :—
Riverview iN = +6m.17s., iNZ = +6m.37s., iEN = +10m.46s., iN = +11m.31s., iE = +11m.43s.
Adelaide iPP = +6m.56s., i = +7m.7s. and +7m.58s., iSS = +11m.36s., i = +12m.21s., +13m.13s., and +13m.23s., iS_cS = +17m.11s.
Melbourne S = +10m.48s.
Manila iZ = +6m.52s., iN = +7m.0s.
Taihoku PEN = +7m.13s., iZ = +7m.50s.
Perth PP = +8m.48s., P_cP = +9m.13s., PPP = +9m.23s., PPPP = +9m.58s., P_cS = +12m.58s., SS = +15m.43s., SSS = +16m.45s., SSSS = +17m.13s.
Batavia iZ = +7m.56s., iE = +9m.23s.
Apia sP = +8m.22s., PP = +9m.5s., P_cP = +9m.18s., SS = +14m.39s., S_cS = +17m.5s.
Sumoto e = +8m.2s., eSN = +13m.28s., iN = +14m.30s., iE = +15m.5s.
New Plymouth iPP? = +9m.14s.
Arapuni iSS = +17m.3s.
Kobe iPN = +7m.31s., iN = +8m.8s., iE = +8m.13s., iN = +9m.51s., eE = +14m.34s., eN = +14m.40s.
Nagoya iP = +8m.8s.
Hong Kong PP? = +8m.12s., ? = +9m.52s., SS? = +15m.14s., ? = +17m.8s., +18m.10s., +18m.53s., and +29m.12s.
Toyooka iN = +8m.15s.
Wellington pP = +8m.2s., iPP? = +9m.10s., iPPP = +9m.53s., i = +10m.45s., sS = +14m.33s., iSS? = +17m.17s., iSSS = +18m.2s.
Christchurch ipPZ = +8m.28s., iP_cP = +9m.35s., SSEN = +17m.39s., iS_cSZ = +17m.59s.
Nanking pP = +8m.47s., sS = +15m.17s., i = +15m.45s., iSS = +19m.13s.
Keizyo iPP? = +8m.59s., eEN = +15m.57s.
Zinsen iPP = +8m.49s., iPPZ = +8m.51s., iPPP = +10m.40s., iEN = +15m.56s.
Phu-Lien i = +8m.56s. and +16m.14s.
Medan iE = +16m.14s., iN = +16m.30s.
Chiufeng pP = +9m.41s., iSE = +16m.28s., sSEZ = +17m.28s., iSSE = +19m.54s.
Calcutta pP = +12m.23s., PP = +14m.19s., sS = +22m.15s.
Kodaikanal PPE = +13m.39s., PSE = +20m.45s., SSE = +24m.55s., SSSE = +27m.35s.
Agra pPE = +11m.54s., PS?E = +21m.8s., sSE = +21m.53s., iN = +22m.0s.
Bombay iEN = +22m.22s.
Frunse e = +12m.39s. and +22m.17s.
Andijan e = +12m.42s.
College esP = +13m.3s., ePP = +15m.47s., eS = 22m.15s., iPS = +22m.46s., ePS = +23m.20s.
Sitka ipS = +23m.54s., iPS = +25m.14s.
Sverdlovsk pP = +13m.31s., sP = +13m.58s., iPP = +16m.38s., pPP = +17m.15s., sPP = +17m.35s., iPPP = +19m.16s., iSKS = +23m.5s., SP = +24m.9s., ipS = +24m.31s., sS = +25m.1s., isS = +31m.3s.
Ukiah ePP = +16m.36s., epS = +24m.45s., eSP = +24m.53s., e = +25m.51s., ePPS = +26m.13s., eSS = +30m.7s.
Berkeley iEZ = +16m.39s., ePPE = +16m.59s., iZ = +17m.23s., iN = +17m.35s., eE = +17m.41s., iPSEZ = +25m.54s.
Seattle epS = +24m.31s.
Pasadena iEZ = +13m.54s., iZ = +14m.43s., iPPZ = +17m.3s., iPPE = +17m.34s., iSKSE = +23m.27s., ePPSZ = +26m.2s., iE = +26m.34s.
Tinemaha iZ = +14m.6s., eN = +18m.41s.
Riverside ePPZ = +17m.41s.
Tananarive PPE = +17m.46s., SKS = +23m.31s., SP = +26m.47s., SS = +30m.43s.
Baku pPP = +18m.11s., e = +23m.42s. and +27m.9s.
Grozny e = +18m.43s.
Bozeman ePP = +17m.44s., e = +23m.59s., eSP = +26m.8s., ePS = +26m.19s., eSS = +31m.50s., esSS = +32m.51s.
Tiflis e = +14m.24s., epP = +14m.59s., e = +17m.27s., ePP = +18m.21s., e = +23m.59s., PS = +25m.56s., eSS = +32m.51s.
Tucson ePP = +17m.50s., eSKS = +24m.2s., ePS = +27m.27s.
Moscow PP = +18m.8s., PPP = +18m.54s., SKS = +24m.59s., pS = +26m.36s.
Pulkovo pP = +14m.40s., PP = +18m.11s., pPP = +19m.5s., SKS = +25m.9s., SP = +26m.31s., pS = +27m.3s., SS = +33m.27s., sSS = +34m.33s.
Sebastopol e = +19m.34s.
Scoresby Sund eN = +19m.15s., e = +19m.57s., +25m.58s., +27m.22s., eE = +28m.2s., eEN = +30m.4s., eE = +35m.15s., e = +36m.3s.
Königsberg eN = +22m.30s., ePPPE = +22m.50s., eE = +25m.57s. and +29m.15s., iPSN = +29m.48s., ePSE = +29m.55s., ePPSN = +31m.3s., eE = +32m.2s., eSSE = +46m.29s.
Helwan PP = +19m.55s., S = +27m.26s., PS = +28m.51s., PPS = +29m.55s.
Bucharest eE = +20m.15s.

Continued on next page.

Cape Town PPN = +20m.24s., PPP = +23m.17s., N = +23m.42s., E = +25m.3s., N = +25m.7s., SKS = +26m.34s., E = +29m.7s., PS?N = +29m.34s., PS?E = +29m.38s., PPSE = +31m.1s., SSE = +36m.4s., SSS = +40m.31s.
Bergen ePS? = +29m.58s., e = +30m.29s. and +37m.5s.
Copenhagen PKP = +19m.45s., PP = +20m.21s., PS = +30m.34s., e = +35m.45s., +36m.51s.
Florissant iPP = +19m.40s., ipPPZ = +20m.15s., epPPE = +20m.27s., iSKP = +21m.7s., iPPPEZ = +22m.23s., iSKKSE = +26m.7s., iSKKSNZ = +26m.10s., iSNZ = +27m.20s., iSPE = +29m.26s., iSPN = +29m.30s., isSPEN = +30m.31s., isSPZ = +30m.35s., iPPPSZ = +31m.36s., iPPPSE = +31m.39s., iSSEN = +35m.44s., iSSSN = +40m.15s.
Chicago e = +21m.2s., +21m.22s., and +27m.42s., eSP = +29m.17s., e = +30m.18s., eSS = +35m.50s.
Prague ePP = +20m.33s., ePPP = +23m.3s., eSS = +36m.33s., eSSS = +41m.21s.
Hamburg eZ = +20m.40s. and +30m.53s., iN = +36m.31s., eE = +41m.42s.
Jena ePN = +18m.36s., e = +20m.33s., eE = +20m.36s., eN = +37m.33s.
Zagreb e = +20m.2s., eNE = +20m.14s., e = +20m.48s. and +22m.8s., ePPPZ = +23m.18s., eNE = +26m.23s., eNW = +28m.58s., eZ = +30m.48s., ePPPS = +32m.0s., e = +36m.2s., eSS = +37m.23s.
Ann Arbor eE = +31m.3s. and +37m.57s.
Cincinnati eSP = +29m.45s., iPPS = +31m.24s., eSS = +36m.54s.
Triest iPP = +20m.59s., i = +25m.14s., +26m.41s., and +29m.14s., iPPS = +31m.11s., i = +36m.18s., iSS = +37m.59s., i = +40m.45s. and +42m.12s.
De Bilt eZ = +15m.51s., i = +21m.2s., eEN = +31m.27s.
Ivigtut eN = +20m.15s. and +26m.53s., eE = +29m.17s., eN = +30m.33s.
Stuttgart ePZ = +15m.51s., ePKP = +19m.20s., e = +20m.21s., iPP = +21m.2s., ePS = +31m.9s., eSS = +37m.21s.
Toronto iN = +36m.55s.
Edinburgh e = +16m.3s.
Strasbourg ePZ = +15m.33s.?, iPP = +21m.10s., iZ = +22m.34s., ePPPZ = +23m.11s., ePPPPPN = +28m.29s., iPSKSZ = +31m.8s., iPS = +31m.42s., iPPS = +32m.33s., ePPPS = +33m.51s., eSS = +38m.33s.
Buffalo iPP = +20m.28s., esSP = +31m.16s., i = +32m.57s.
Uccle iPPZ = +21m.13s., iN = +28m.32s., SPZ = +31m.33s.
Zurich e = +21m.12s.
Basle e = +21m.10s. and +31m.30s.
Ottawa eE = +21m.53s., e = +30m.33s., +33m.41s., and +37m.9s., eE = +38m.33s.
Bidston e = +38m.43s. and +52m.53s.
Kew iPPZ = +20m.42s., iPKS = +21m.21s., ePKKPN = +28m.28s., eSPZ = +31m.33s.. eSSN = +38m.40s., eEN = +52m.54s.
Paris PP = +21m.20s., PS = +31m.33s.?
Columbia e = +21m.54s., eSS = +37m.32s.
Vermont e = +20m.57s., ePS = +30m.40s., e = +33m.2s., eSS = +37m.42s., esSS = +38m.12s., e = +46m.33s.
Georgetown i = +19m.55s., iPP = +20m.46s., SKP = +22m.2s., eSP = +30m.55s., iPPPS = +33m.26s., e = +34m.25s., eSS = +37m.40s.
Philadelphia e = +20m.19s., ePP = +20m.49s., e = +21m.49s., i = +22m.7s., e = +22m.45s. and +28m.54s., ePS = +31m.2s., e = +33m.18s., eSS = +37m.46s.
Fordham ePPP = +23m.29s., isSP = +31m.52s., i = +33m.37s., eSS = +38m.1s., e = +51m.29s.
Oak Ridge pPZ = +18m.47s., PP = +20m.57s., iSKP = +21m.49s., iE = +22m.9s., iN = +22m.11s., iZ = +22m.39s., iSKSE = +22m.55s., iZ = +28m.55s., eE = +28m.59s., eZ = +36m.19s., eSSZ = +38m.59s., eSSE = +39m.9s., eZ = +39m.29s., eE = +40m.17s.
Huancayo iPP = +21m.35s., i = +22m.34s., e = +24m.43s., ePS = +31m.38s., eSS = +39m.49s.
Algiers iPP = +21m.3s., iSKP = +22m.6s., ePPP = +24m.0s.
Toledo i = +21m.51s., +22m.33s., and +40m.57s.
Almeria PP = +22m.42s.
Granada iPP = +22m.40s.
La Paz iSKP? = +22m.11s., iPPE = +22m.43s., iSKSE? = +25m.40s., iSKSPE = +31m.57s., iSKSPN = +32m.2s., PP = +35m.12s., iSS = +41m.39s., iE = +48m.57s.
Malaga e = +19m.27s. and +20m.35s., PP? = +22m.22s., e = +23m.39s.
San Fernando iPP = +23m.27s., PS = +33m.20s., SS = +40m.10s.
San Juan ePP = +23m.8s., ePS = +34m.12s., e = +38m.49s., eSS = +41m.36s.

June 10d. 17h. 11m. 15s. Epicentre 26°·5N. 64°·0E. (as at 3h.). R.3.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Bombay		11·1	131	−0 45?	?	—	—	—	—
Agra	E.	12·6	84	e 2 40	−16	4 58	−19	5·7	8·6
Dehra Dun		12·9	70	5 15	S	(5 15)	−10	7·4	8·8
Samarkand		13·4	10	e 3 3	− 4	e 5 18	−19	e 7·0	—
Tashkent		15·4	15	e 3 38	+ 4	e 6 30	+ 6	e 8·6	11·8
Andijan		15·8	24	e 3 47	+ 8	—	—	e 9·4	—
Hyderabad		16·2	121	6 46	S	(6 46)	+ 3	9·8	11·3
Tchimkent		16·5	15	e 3 49	+ 1	—	—	—	—
Frunse		18·5	25	e 3 58	−15	—	—	e 7·8	—
Kodaikanal	E.	20·6	140	e 8 12	S	(e 8 12)	− 6	11·6	12·7
Tiflis		21·9	319	4 50	0	e 8 59	+15	12·8	14·2
Grozny		22·4	324	e 5 0	+ 5	e 9 14	+21	19·6	—
Calcutta		22·4	95	4 50	− 5	8 59	+ 6	11·1	15·2
Piatigorsk		24·3	323	e 4 39	−34	—	—	—	—
Colombo		24·7	141	9 50	S	(9 50)	+14	—	20·0
Ksara		25·3	293	e 5 28	+ 5	10 12	+26	—	—
Helwan		28·9	285	e 6 0	+ 5	e 10 50	+ 3	—	20·1
Yalta		29·9	315	e 6 4	0	e 11 5	+ 2	—	—
Simferopol		30·2	316	e 6 8	+ 1	e 11 13	+ 6	e 20·8	—
Sebastopol		30·4	315	e 6 9	0	e 11 14	+ 4	—	—
Sverdlovsk		30·4	357	e 6 43	+34	11 21	+11	19·2	20·4
Moscow		34·9	334	e 6 55	+ 7	—	—	e 22·2	27·4
Pulkovo		40·5	335	e 9 10	+94	e 13 41	− 3	20·8	25·2
Königsberg		42·4	324	—	—	e 18 56	?	e 33·0	—
Triest		44·0	310	e 11 25	PP	e 15 15	+39	—	28·2
Prague		44·4	316	—	—	e 18 27	SS	—	30·8
Chiufeng		44·9	359	—	—	e 14 56	+ 7	—	28·6
Copenhagen		47·0	324	—	—	15 21	+ 2	24·8	—
Stuttgart		47·5	314	—	—	e 15 27	+ 1	e 28·8	—
De Bilt		50·5	318	—	—	e 16 8	0	e 28·8	33·7
Vladivostok		56·6	55	—	—	e 16 20	−71	33·0	39·0
Scoresby Sund		63·8	339	—	—	26 51	?	33·8	—

Additional readings :—
Agra eN = +5m.11s.
Tashkent e = +3m.54s., +5m.6s., and +7m.34s.
Hyderabad S = +8m.16s.
Kodaikanal eSE = +10m.46s., SSE = +11m.12s.
Tiflis e = +6m.1s., SS = +9m.37s.
Calcutta SSE = +9m.53s.
Helwan e = +6m.33s.
Yalta e = +7m.16s.
Sverdlovsk e = +7m.25s., SS = +13m.57s., e = +16m.24s.
Moscow e = +8m.45s. and +15m.15s.
Pulkovo e = +16m.38s.
Königsberg eE = +28m.20s.
Chiufeng iN = +18m.33s.
Long waves were also recorded at Hong Kong, Nanking, and at other European stations.

June 10d. 18h. 53m. 10s. Epicentre 34°·0N. 39°·0W. N.3.

A = +·6443, B = −·5217, C = +·5592 ; δ = −0 ;
D = −·629, E = −·777 ; G = +·435, H = −·352, K = −·829.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
San Fernando	26·8	76	e 5 40	+ 4	—	—	11·8	—
Ivigtut	27·8	351	—	—	(10 50?)	+22	10·8	—
Malaga	28·2	74	5 50	+ 1	e 8 21	?	—	—
Toledo	28·4	68	e 5 49	− 2	(e 11 48)	+70	e 11·8	—
Granada	28·8	73	e 5 54	0	e 12 44	?	—	—

Continued on next page.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
San Juan		28·8	245	—	—	e 10 50	+ 5	—	—
Philadelphia		29·3	293	e 6 3	+ 4	e 9 0	?	e 10·9	—
Ottawa		30·1	304	e 6 50?	+44	e 11 20	+14	e 13·8	—
Bidston		31·9	42	—	—	e 11 46	+12	e 13·5	—
Oxford		32·3	46	—	—	11 43	+ 3	13·8	17·4
Kew		32·8	46	—	—	e 11 50?	+ 2	13·8	15·0
Paris		33·9	52	e 6 36	− 3	e 12 3	− 1	14·8	15·8
Columbia		34·6	283	e 8 4	?	e 14 50	?	e 18·8	—
Uccle		35·5	48	—	—	e 12 32	+ 3	e 15·8	—
De Bilt		36·2	46	—	—	12 42	+ 3	e 15·8	18·3
Strasbourg		37·3	53	e 8 35	?	e 13 4	+ 8	e 15·8	—
Scoresby Sund		37·6	10	—	—	13 17	+17	15·8	—
Stuttgart		38·3	53	e 7 15	− 3	e 13 8	− 3	e 17·8	—
Hamburg		39·4	45	—	—	e 12 50?	−37	—	18·8
Florissant		41·1	292	e 7 42	+ 1	e 14 0	+ 7	e 21·0	22·4
Copenhagen		41·1	42	9 14	PP	13 57	+ 4	16·8	—
Triest		41·4	57	e 7 48	+ 4	e 12 20	−97	—	21·4
Prague		41·8	51	e 9 14	?	e 14 7	+ 4	—	22·8
Pulkovo		50·9	38	e 9 44	+46	e 16 16	+ 3	25·3	27·2
Moscow		55·2	42	e 14 17	?	—	—	e 25·3	30·0
Simferopol		55·6	56	e 9 28	− 5	—	—	—	—
Yalta		55·7	57	e 9 26	− 8	—	—	—	—
La Paz		57·6	213	e 9 46	− 1	(16 50)	−54	16·8	—
Tinemaha	z.	62·6	298	e 10 23	+ 1	—	—	—	—
Haiwee	z.	62·8	297	e 10 27	+ 3	—	—	—	—
Mount Wilson	z.	63·6	295	e 10 28	− 1	—	—	—	—
Pasadena	z.	63·7	295	e 10 37	+ 7	—	—	—	—
Sverdlovsk		66·9	36	e 11 0	+ 9	e 19 56	+13	26·8	36·2
Baku		68·0	56	(e 6 50?)	?	—	—	e 6·8	—
Tashkent		80·0	46	—	—	e 22 15	− 1	e 38·0	43·5

Additional readings :—
Malaga e = +6m.33s.
Stuttgart ePP = +8m.43s.
Florissant ePPEZ = +9m.20s., eSZ = +14m.3s., eSSN = +17m.3s., iSSN = +17m.13s., iSSSN = +18m.12s.
Pulkovo e = +20m.15s.
Moscow e = +19m.30s. and +22m.54s.
Tashkent e = +22m.49s. and +30m.31s.
Long waves were also recorded at Madison, Tucson, Almeria, Stonyhurst, Durham, Edinburgh, Cheb, and Königsberg.

June 10d. 21h. 58m. 30s. Epicentre 63°·5N. 149°·0W. (as on 1931 May 29d.). X.

A = −·3825, B = −·2298, C = +·8949 ; δ = −4 ;
D = −·515, E = +·857 ; G = −·767, H = −·461, K = −·446.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
College		1·5	21	i 0 32	+11	i 0 58	+19	—	—
Sitka		9·3	128	e 2 9	− 2	e 5 7	+71	—	—
Tinemaha	z.	32·3	130	e 6 25	0	—	—	—	—
Mount Wilson	z.	35·0	134	e 6 48	− 1	—	—	—	—
Riverside	z.	35·4	132	e 6 50	− 3	—	—	—	—
Florissant		42·1	98	e 7 49	0	e 14 15	+ 7	e 21·8	25·8
Vladivostok		47·7	285	—	—	e 18 35	PP	—	—
Philadelphia		47·9	83	—	—	e 20 14	PPP	25·5	—
Sverdlovsk		57·5	343	9 50	+ 3	17 48	+ 5	30·5	—

Additional readings :—
Sitka iS = +5m.21s.
Tinemaha eZ = +6m.30s.
Florissant eE = +17m.30s.
Philadelphia e = +22m.19s., +23m.8s., +24m.14s., and +25m.20s.
Sverdlovsk e = +9m.55s.
Long waves were also recorded at Tucson, Madison, Oak Ridge, Chiufeng, Baku, and Tashkent.

June 10d. Readings also at 0h. (Medan, Andijan, Semipalatinsk, and near Frunse), 2h. (Calcutta, Santiago, and San Juan), 3h. (Chiufeng, Agra, Bombay, Kodaikanal, Tiflis, Yalta, Helwan, Scoresby Sund, Sverdlovsk, Copenhagen, Pulkovo, De Bilt, Rathfarnham Castle, and La Paz), 4h. (La Paz), 6h. (Theodosia, Simferopol, Yalta, Nagoya, near Sebastopol, near Wellington near Branner, Lick, and Fresno), 7h. (Nagoya), 8h. (Santiago and near Taihoku), 9h. (Calcutta and Zagreb), 10h. (Philadelphia), 13h. (Helwan and Tiflis), 14h. (Agra, Bombay, Kodaikanal, Andijan, Frunse, Tashkent, Baku, Grozny, Tiflis, Helwan, Pulkovo, and Sverdlovsk), 15h. (Copenhagen), 17h. (Santiago), 20h. (Ithaca), 23h. (near Nagoya).

June 11d. 3h. 26m. 34s. Epicentre 7°·4N. 83°·1W. (as on 1935 Feb. 27d.). X.

$A = +\cdot1191$, $B = -\cdot9845$, $C = +\cdot1288$; $\delta = +1$;
$D = -\cdot993$, $E = -\cdot120$; $G = +\cdot015$, $H = -\cdot128$, $K = -\cdot992$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Balboa Heights		3·8	64	i 0 59	+ 5	i 1 43	+ 6	—	1·9
San Juan		19·8	55	i 4 31	+ 4	—	—	e 9·1	—
Huancayo		20·9	158	e 4 27	−12	(e 8 12)	−12	e 8·2	—
La Paz		28·2	148	e 5 46	− 3	i 10 46	+11	—	18·5
Tucson		35·9	318	e 6 56	− 1	e 12 51	+16	e 18·4	—
Vermont		38·1	12	e 6 40	−36	e 12 7	−61	e 14·4	—
Riverside	z.	41·3	314	i 8 7	+24	—	—	—	—
Mount Wilson	z.	41·9	314	i 7 53	+ 5	—	—	—	—
Pasadena	z.	41·9	314	e 7 51	+ 3	—	—	—	—

Additional readings :—
San Juan i = +4m.34s.
Huancayo e = +1m.49s. and +2m.35s.
Tucson eSS = +15m.34s.
Long waves were also recorded at Baku, Sverdlovsk, De Bilt, Paris, and Scoresby Sund.

June 11d. 9h. 43m. 44s. Epicentre 26°·3N. 64°·8E. N.3.

$A = +\cdot3817$, $B = +\cdot8112$, $C = +\cdot4431$; $\delta = +8$;
$D = +\cdot905$, $E = -\cdot426$; $G = +\cdot189$, $H = +\cdot401$, $K = -\cdot896$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Bombay		10·5	133	e 2 51	+23	—	—	e 5·0	—
Agra	E.	11·8	83	e 2 48	+ 2	e 5 3	+ 5	—	—
Dehra Dun		12·3	68	5 56	S	(5 56)	+46	7·8	10·3
Samarkand		13·5	7	e 3 8	− 1	—	—	e 7·3	—
Hyderabad		15·5	122	7 1	S	(7 1)	+34	10·6	12·2
Tashkent		15·5	13	e 3 29	− 6	e 6 22	− 5	i 9·0	10·4
Andijan		15·8	22	e 3 43	+ 4	e 7 32	− 2	e 10·7	—
Frunse		18·4	23	e 4 14	+ 3	e 8 51	+78	—	—
Baku		18·7	322	e 5 11	+56	e 8 43	+63	10·8	13·9
Calcutta	E.	21·7	95	e 4 47	− 1	8 56	+16	11·1	15·2
Tiflis		22·5	317	4 52	− 4	e 8 58	+ 3	12·6	14·8
Colombo		24·1	142	9 52	S	(9 52)	+27	—	19·2
Ksara		26·0	292	e 5 34	+ 5	10 16	+18	—	—
Helwan		29·6	284	—	—	e 10 56	− 2	—	20·2
Sverdlovsk		30·7	355	e 4 17	?	e 11 47	+31	19·2	—
Moscow		35·4	333	e 6 48	− 5	—	—	22·1	27·5
Pulkovo		41·0	334	e 9 26	?	e 13 46	− 5	21·3	25·5
Chiufeng		44·4	58	—	—	e 14 54	+13	e 24·6	28·5
Triest		44·7	310	—	—	e 15 16	+20	e 29·6	31·1
Prague		45·0	316	—	—	e 18 16?	?	—	29·3
Copenhagen		47·6	323	—	—	15 16?	−11	28·3	—
De Bilt		51·1	317	—	—	e 16 41	+25	e 27·3	33·7

For Notes see next page.

NOTES TO JUNE 11d. 9h. 43m. 44s.

Additional readings :—
Hyderabad S = +9m.26s.
Tashkent e = +3m.55s., +5m.5s., +5m.21s., +7m.6s., +8m.10s., and +8m.33s.
Calcutta SSE = +9m.49s.
Helwan eS = +11m.16s.
Sverdlovsk e = +9m.18s., L_q = +15·5m.
Moscow e = +8m.38s., +9m.50s., +13m.26s., and +16m.47s.
Pulkovo e = +16m.38s.
Long waves were also recorded at Nanking, Vladivostok, Scoresby Sund, and other European stations.

June 11d. Readings also at 1h. (Florence and Mizusawa), 8h. (near Nagoya), 10h. (Semipalatinsk), 11h. (near Helwan, near La Paz, and near San Javier), 12h. (La Paz), 13h. (Adelaide, Melbourne, Riverview, Sydney, Perth, Manila, Wellington, Christchurch, Nanking, Chiufeng, Husan, Vladivostok, Tashkent, Sverdlovsk, Moscow, Pulkovo, Copenhagen, De Bilt, Strasbourg, and Uccle), 14h. (Stuttgart and Paris), 15h. (near Andijan), 19h. (Manila, Samarkand, Tashkent, and Sverdlovsk), 21h. (Tashkent, Sverdlovsk, Pulkovo, Ksara, Sotchi, Piatigorsk, Tiflis (2), and near Erevan), 22h. (Charlottesville) 23h. (Merida).

June 12d. 15h. 51m. 11s. Epicentre 18°·7N. 102°·7W. N.2.

A = −·2082, B = −·9240, C = +·3206 ; δ = −9 ;
D = −·976, E = +·220 ; G = −·070, H = −·313, K = −·947.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Manzanillo	E.	1·6	283	0 9	−14	—	—	—	—
Guadalajara	N.	2·1	343	0 33	+ 3	—	—	—	—
Tacubaya	N.	3·4	78	0 58	+ 9	—	—	—	—
Tucson		15·4	333	e 3 44	+10	e 6 43	+19	e 8·0	—
La Jolla	Z.	19·3	321	e 4 20	− 2	—	—	—	—
Riverside	Z.	20·1	323	e 4 29	− 2	—	—	—	—
Pasadena		20·7	323	e 4 37	0	—	—	e 11·3	—
Mount Wilson	Z.	20·7	323	i 4 36	− 1	—	—	—	—
Santa Barbara	Z.	21·8	320	e 4 49	0	—	—	—	—
Haiwee		22·0	326	e 4 53	+ 2	—	—	—	—
Florissant		22·8	26	i 4 58	− 1	i 9 15	+14	i 12·7	14·9
Tinemaha		22·9	326	i 5 0	0	—	—	—	—
La Paz		49·0	133	e 8 44	0	—	—	—	—
Pulkovo		92·8	22	e 18 35	?	e 25 2	+40	77·8	83·0
Sverdlovsk		103·2	·9	—	—	e 24 27	[−41]	53·8	—
Tashkent		119·5	6	—	—	e 31 43	?	—	41·7

Additional readings :—
Florissant ePPN = +5m.28s., eSSEZ = +10m.8s.
Long waves were also recorded at Oaxaca, Huancayo, Bozeman, Oak Ridge, Madison, Scoresby Sund, De Bilt, Uccle, Paris, Strasbourg, Stuttgart, and Copenhagen.

June 12d. Readings also at 0h. (near Ksara), 1h. (near Hukuoka B and near Wellington), 3h. (near Santiago), 5h. (Sverdlovsk, Tashkent, Chiufeng, Kobe, Nagoya, near Hukuoka, Hukuoka B, and Sumoto), 6h. and 7h. (2) (near Wellington), 11h. (Zurich and near Triest), 13h. (Haiwee, La Jolla, Mount Wilson, Pasadena, Riverside, and Tinemaha), 14h. (Andijan, Sotchi, near Samarkand, and near Nagoya), 15h. (Christchurch, Apia, Frunse, and near Almata), 16h. (La Jolla, Mount Wilson, Pasadena, Riverside, Tinemaha, and Wellington), 17h. (Erevan, Sotchi, Tiflis (2), and Piatigorsk), 18h. (Adelaide, Mount Wilson, Pasadena, Riverside, Drome, and near La Paz), 19h. (Sverdlovsk, Pulkovo, and Perth), 22h. (Oak Ridge, Batavia, and near Malabar), 23h. (La Paz and Sumoto).

June 13d. 0h. 32m. 37s. Epicentre 31°·8N. 22°·4E. N.2.

$A = +·7858$, $B = +·3239$, $C = +·5270$; $\delta = +12$;
$D = +·381$, $E = -·925$; $G = +·487$, $H = +·201$, $K = -·850$.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Helwan	7·9	101	e 1 50	− 2	—	—	—	4·9
Capodimonte	11·2	327	e 2 40	+ 3	e 3 3	?	—	—
Ksara	11·5	76	e 2 45	+ 3	i 4 46	− 4	—	—
Bucharest	12·9	12	e 2 54	− 7	5 9	−16	—	5·4
Belgrade	13·1	354	e 2 54a	− 9	i 5 42	+13	e 8·0	—
Zagreb	14·9	342	e 3 21	− 6	—	—	—	6·3
Triest	15·4	337	3 27	− 7	i 5 55	−29	—	10·1
Laibach	15·5	339	—	—	i 5 57	−30	—	6·3
Sebastopol	15·5	31	3 31	− 4	e 6 31	+ 4	—	—
Yalta	15·7	33	3 32	− 6	6 32	+ 1	—	—
Padova	15·9	332	i 3 41	+ 1	—	—	—	—
Simferopol	16·0	32	i 3 36	− 5	6 38	0	—	—
Graz	16·2	343	i 3 39	− 5	i 6 6	−37	—	6·4
Theodosia	16·6	34	i 3 46	− 3	6 53	+ 1	—	—
Algiers	16·8	293	i 3 56	+ 4	e 7 9	+12	e 8·4	—
Vienna	17·1	346	e 3 50	− 5	e 7 0	− 4	e 11·4	—
Sotchi	18·0	44	i 4 6	− 1	—	—	—	—
Chur	18·0	331	e 4 4	− 3	e 7 3	−22	—	—
Zurich	18·8	330	e 4 14k	− 2	e 7 35	− 7	—	—
Prague	19·2	344	e 4 19	− 2	i 7 45	− 5	e 11·4	15·4
Neuchatel	19·2	327	e 4 18	− 3	—	—	—	—
Basle	19·4	329	e 4 21	− 2	e 8 5	+11	—	—
Stuttgart	19·7	334	i 4 26k	0	e 7 56	− 4	e 12·4	—
Cheb	19·7	341	e 4 56	+30	i 7 57	− 3	—	8·2
Tortosa	19·7	304	e 4 25	− 1	8 1	+ 1	—	—
Erevan	19·7	59	4 31	+ 5	8 4	+ 4	—	—
Alicante	19·8	295	4 33	+ 6	—	—	—	—
Strasbourg	20·1	331	i 4 29k	− 2	i 8 3	− 5	e 9·4	—
Piatigorsk	20·3	46	4 34	+ 1	8 14	+ 2	—	—
Tiflis	20·4	54	i 4 36	+ 2	i 8 17	+ 3	11·9	—
Jena	20·7	340	e 4 35	− 2	e 8 17	− 3	—	—
Almeria	21·1	291	4 43	+ 2	—	—	—	—
Göttingen	21·7	338	i 4 50	+ 2	e 8 41	+ 1	—	—
Granada	22·0	291	i 4 57	+ 6	e 8 45	− 1	12·1	—
Malaga	22·6	291	e 7 25	?	e 10 10	?	—	—
Paris	22·7	324	i 4 52	− 6	e 8 59	0	17·4	—
Toledo	22·8	298	e 5 2	+ 3	—	—	—	—
Uccle	23·2	329	e 5 4	+ 1	i 9 7	− 1	—	—
Hamburg	23·5	340	e 5 5	0	i 9 12	− 2	18·4	—
Baku	23·7	60	i 5 13	+ 6	i 9 25	+ 7	13·4	15·6
De Bilt	23·9	333	i 5 11k	+ 2	i 9 25	+ 4	e 14·4	14·9
San Fernando	24·0	289	e 5 15	+ 5	9 37	+14	—	—
Copenhagen	24·9	346	i 5 19k	0	9 34	− 5	13·4	—
Kew	25·8	326	e 5 27	0	e 9 56	+ 1	e 14·4	16·2
Moscow	26·2	19	i 5 28	− 3	9 53	− 9	16·6	18·0
Oxford	26·4	326	e 5 33	0	10 1	− 4	—	—
Pulkovo	28·5	8	i 5 49	− 3	10 29	−11	14·4	17·1
Edinburgh	30·0	331	e 8 23?	?	—	—	—	—
Sverdlovsk	36·3	35	i 7 2	+ 2	12 39	− 2	17·9	—
Samarkand	36·6	65	e 7 11	+ 8	—	—	e 14·7	—
Tashkent	38·4	62	e 7 55	+37	13 6	− 6	e 19·3	20·8
Dakar	40·1	254	e 7 28	− 5	—	—	e 17·4	—
Frunse	42·2	59	e 10 56	?	12 56	?	—	—
Scoresby Sund	45·6	341	—	—	14 59	0	—	—

For Notes see next page.

NOTES TO JUNE 13d. 0h. 32m. 37s.

Additional readings :—
Bucharest eE = +4m.13s., eEN = +5m.2s.
Belgrade e = +3m.34s., iP = +4m.58s.
Zagreb e = +3m.27s., +3m.33s., and +3m.44s., ePPNW = +4m.4s., ePSNE = +4m.46s., e = +4m.55s., eNE = +5m.2s., eZ = +5m.29s., iSS = +5m.40s., i = +5m.45s.
Triest i = +3m.36s. and +3m.47s.
Laibach i = +6m.7s.
Stuttgart ePP = +5m.0s., iSEN = +8m.12s., eSS = +8m.42s. T_0 = 0h.32m.30s.
Tiflis ePPP = +5m.8s.
Jena eN = 8m.1s. and 8m.6s.
Granada iS_g = +5m.25s.
Toledo P_g = +5m.7s.
San Fernando ePP = +5m.46s.
Tashkent PP = +8m.38s., PPP = +9m.0s., SS = +15m.23s.
Dakar ePPP = +9m.9s.
Scoresby Sund +17m.59s.
Long waves were also recorded at La Paż and Cape Town.

June 13d. Readings also at 0h. (Granada, Malaga, San Fernando, Rio de Janeiro, and Tiflis), 1h. (Andijan), 3h. (Mizusawa and Nagoya), 4h. (San Juan, Nagoya, near Andijan, Frunse (2), and Samarkand), 7h. (near Santiago), 8h. (Chiufeng, Manila, Tiflis, and near Wellington), 9h. (Adelaide, Melbourne, Riverview, Perth, Vladivostok, Tashkent, Sverdlovsk, Pulkovo, and Copenhagen), 12h. (Manila, Sverdlovsk, and Tiflis), 14h. (near Erevan and Tiflis), 16h. (Batavia, Chur, and Zurich), 19h. (Andijan and Samarkand), 20h. (Merida, Oaxaca, Tacubaya, Tucson, Mount Wilson, Philadelphia, Baku, Andijan, and Tashkent), 21h. (Scoresby Sund, Sverdlovsk, Triest, Hong Kong, Chiufeng, near Manila, and Taihoku), 22h. (Copenhagen).

June 14d. 2h. 27m. 47s. Epicentre 54°·8N. 161°·7E. (as on 1934 June 2d.). R.1.

A = −·5473, B = +·1810, C = +·8171 ; δ = −5 ;
D = +·314, E = +·949 ; G = −·776, H = +·257, K = −·576.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Mizusawa		20·9	230	4 49	+10	8 49	+25	—	—
Vladivostok		22·5	251	e 5 9	+13	e 9 20	+25	11·3	15·7
Nagoya		26·0	231	e 5 27	− 2	—	—	—	—
Chiufeng		33·4	264	e 8 0	?	e 12 26	+29	e 17·2	23·1
Nanking		37·7	251	e 8 58	?	e 14 2	+60	e 18·7	25·1
Semipalatinsk		46·8	301	e 10 40	?	—	—	—	—
Sverdlovsk		51·4	317	i 9 3	+ 1	16 17	− 3	30·7	32·8
Frunse		54·7	296	e 9 32	+ 6	—	—	—	—
Scoresby Sund		54·7	2	9 27k	+ 1	17 7	+ 2	26·2	—
Tinemaha		55·1	74	i 9 29	− 1	—	—	—	—
Haiwee	E.	55·9	74	e 9 36	+ 1	—	—	—	—
Santa Barbara	Z.	56·2	77	e 9 36	− 1	—	—	—	—
Mount Wilson	Z.	57·3	76	i 9 46	+ 1	—	—	—	—
Pasadena		57·3	76	i 9 45	0	e 17 40	0	—	—
Andijan		57·4	296	e 9 54	+ 8	17 55	+13	—	—
Tashkent		58·6	298	e 9 56	+ 1	e 17 57	0	27·9	36·8
La Jolla	Z.	58·7	76	e 9 57	+ 2	—	—	—	—
Pulkovo		59·1	334	9 57	− 1	18 4	0	32·2	37·5
Moscow		60·4	327	10 7	0	18 22	+ 1	35·7	38·3
Copenhagen		66·7	342	10 48a	− 2	19 37	− 4	32·2	—
Florissant		68·0	53	i 10 56	− 2	i 19 51	− 6	e 32·7	35·6
Baku		68·5	311	e 11 4	+ 3	e 20 8	+ 5	35·2	45·2
Edinburgh		68·6	351	—	—	e 20 3	− 1	—	—
Ottawa		68·7	39	—	—	e 19 53	−12	e 33·2	—
Tiflis		69·6	315	11 9	+ 1	e 20 14	− 2	37·2	46·7
Theodosia		70·3	322	e 11 13	0	—	—	—	—
Simferopol		70·8	324	e 11 14	− 2	—	—	—	—
Erevan		71·0	314	e 11 17	0	—	—	—	—
Yalta		71·2	323	e 11 16	− 2	—	—	—	—
Sebastopol		71·3	324	e 11 29	+10	—	—	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
De Bilt		71·3	345	11 18 a	− 1	21 27	+50	e 35·2	—
Oak Ridge	z.	72·7	38	i 11 25	− 2	—	—	—	—
Kew		72·7	349	e 11 25	− 2	e 21 30	+37	e 34·2	—
Uccle		72·7	346	e 11 27	0	e 21 30	+37	e 35·2	—
Vienna		72·9	337	e 11 20	− 8	—	—	—	—
Philadelphia		73·5	42	—	—	e 21 4	+ 1	e 37·6	—
Stuttgart		73·9	342	i 11 33 a	− 1	e 14 19	PP	e 39·2	—
Strasbourg		74·3	343	i 11 37 a	+ 1	—	—	e 32·2	—
Paris		74·9	346	i 11 40	0	—	—	39·2	—
Zurich		75·3	342	e 11 42	0	—	—	—	—
Chur		75·6	341	e 11 43	− 1	—	—	—	—
Triest		75·9	338	e 11 43	− 2	e 21 28	− 2	e 39·2	47·0
Toledo	z.	84·6	350	12 32	+ 1	—	—	—	—

Additional readings :—
Sverdlovsk $L_q = +27·6$m.
Copenhagen +19m.54s. and +20m.45s.
Florissant iSZ = +19m.55s., eSSE = +24m.21s., eSSSE = +27m.32s.
Tiflis P_cP = +11m.52s., e = +20m.25s. and +21m.47s.
Philadelphia eSS = +25m.42s., e = +30m.1s. and +30m.57s.
Long waves were also recorded at Sitka, Tucson, Hong Kong, Bombay, Hyderabad, Upsala, Hamburg, Bidston, Prague, Granada, and San Fernando.

June 14d. 10h. 4m. 24s. Epicentre 75°·0N. 7°·0E. (as on 1927 Aug. 8d.). X.

$A = +·2569$, $B = +·0315$, $C = +·9659$; $\delta = -5$;
$D = +·122$, $E = -·993$; $G = +·959$, $H = +·118$, $K = -·259$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Scoresby Sund		9·6	257	2 26	+10	—	—	4·6	—
Pulkovo		17·4	138	3 47	−12	7 7	− 4	8·6	9·4
Copenhagen		19·4	171	4 15	− 8	—	—	9·6	—
Moscow		22·5	131	4 55	− 1	8 43	−12	12·6	17·0
De Bilt		22·9	183	—	—	9 12	+ 9	e 12·6	—
Paris		26·2	187	—	—	9 36?	−26	—	—
Sverdlovsk		26·8	102	i 5 40	+ 4	e 10 20	+ 8	14·6	—
Simferopol		32·2	143	e 6 23	− 1	—	—	—	—
Yalta		32·7	142	e 7 6	+37	—	—	—	—
Tiflis		37·3	131	e 5 48	?	e 10 4	?	—	—
Tashkent		43·3	104	—	—	e 17 50	?	e 19·6	27·7
Mount Wilson	z.	65·2	311	e 10 46	+ 6	—	—	—	—
Pasadena	z.	65·3	311	e 10 50	+ 9	—	—	—	—

Tiflis gives also e = +7m.8s.
Long waves were also recorded at Baku, Stuttgart, and Strasbourg.

June 14d. 17h. 1m. 34s. Epicentre 36°·5N. 36°·0E. (as on 1929 May 16d.). R.2.

$A = +·6503$, $B = +·4725$, $C = +·5948$; $\delta = -7$;
$D = +·588$, $E = -·809$; $G = +·481$, $H = +·350$, $K = -·804$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Ksara		2·7	182	e 0 45	P*	i 1 20	S*	—	—
Erevan		7·6	58	e 1 52	+ 4	—	—	—	—
Sotchi		7·6	21	e 1 48	0	e 3 24	+10	e 5·4	—
Helwan		7·7	212	e 1 53	+ 4	e 3 15	− 1	—	—
Yalta		8·1	351	e 1 58	+ 3	i 4 1	+35	—	—
Sebastopol		8·3	348	e 2 3	+ 5	—	—	—	—
Simferopol		8·5	351	e 1 59	− 1	e 3 58	+22	—	—
Theodosia		8·5	357	e 2 4	+ 4	—	—	—	—
Tiflis		8·6	50	2 3	+ 1	e 4 12	+33	i 4·6	5·4
Piatigorsk		9·2	33	e 2 13	+ 3	—	—	e 5·1	—
Grozny		10·1	44	e 2 30	+ 8	—	—	e 5·4	—
Bucharest		10·9	320	e 2 35	+ 2	e 5 41	S_g	6·4	8·1
Baku		11·5	66	e 2 46	+ 4	5 56	S*	7·4	—
Czernowitz	N.	13·9	332	e 3 26?	+12	—	—	—	9·4
Belgrade		14·4	310	i 3 19	− 2	e 6 26	+25	e 7·8	9·4

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Budapest		16·6	317	3 50	+ 1	7 3	+11	8·9	12·4
Zagreb		17·6	308	e 4 1k	− 1	e 7 32	+17	e 9·7	10·8
Graz		18·5	311	i 4 11	− 2	e 7 40	+ 4	e 9·4	11·0
Vienna		18·5	315	e 4 11	− 2	e 7 45	+ 9	e 12·6	—
Triest		19·0	306	4 15a	− 4	i 7 59	+13	10·2	12·4
Moscow		19·3	3	4 18	− 4	7 54	+ 2	11·6	14·1
Padova		20·2	305	e 4 32	0	11 20	L	(11·3)	—
Prague		20·6	319	e 4 32	− 4	e 8 28	+10	e 10·9	13·9
Königsberg		21·2	335	e 4 41	− 1	e 8 33	+ 3	e 13·6	—
Cheb		21·7	316	e 4 44	− 4	e 8 50	+10	—	15·1
Chur		22·1	306	e 4 53	+ 1	e 7 55	−53	—	—
Jena		22·6	317	e 5 2	+ 5	e 9 2	+ 5	e 12·4	17·5
Stuttgart		23·0	311	e 4 58	− 3	e 9 8	+ 3	e 11·9	15·5
Pulkovo		23·5	353	4 56	− 9	9 22	+ 8	14·4	15·9
Basle		23·6	307	e 5 24	+18	—	—	—	—
Strasbourg		23·8	310	i 5 5a	− 3	9 24	+ 5	e 11·4	14·0
Neuchatel		23·9	305	e 5 9	0	—	—	—	—
Samarkand		24·5	74	5 18	+ 3	e 9 49	+17	—	—
Hamburg		24·8	322	e 5 15	− 3	i 10 15	+38	—	14·4
Copenhagen		24·9	328	5 18	− 1	9 44	+ 5	12·4	—
Sverdlovsk		26·1	31	i 5 30	0	i 10 1	+ 1	17·6	18·3
Tashkent		26·2	69	i 5 31	0	i 9 59	− 3	14·4	19·1
Upsala		26·2	339	5 27	− 4	10 7	+ 5	e 15·4	18·6
Algiers		26·3	280	i 5 38	+ 6	e 9 38	−25	e 11·4	—
De Bilt		26·7	315	5 34	− 1	e 10 37	+27	e 12·4	20·4
Uccle		26·7	312	e 5 35	0	e 10 16	+ 6	e 13·4	—
Paris		27·3	307	e 5 39	− 2	e 10 48	+28	14·4	15·4
Andijan		28·5	71	e 6 0	+ 8	—	—	e 13·0	—
Kew		29·6	312	e 6 6	+ 5	e 11 33	+35	14·4	20·0
Frunse		30·1	67	e 6 9	+ 3	—	—	—	—
Granada		31·4	284	i 6 19	+ 2	e 11 27	+ 1	—	—
Toledo		31·4	289	6 16	− 1	—	—	—	—
Bidston		31·8	315	—	—	e 11 28	− 4	14·7?	19·3
Malaga		32·2	283	e 6 24	0	e 11 20	−18	—	—
San Fernando		33·7	282	e 6 35	− 3	e 11 58	− 3	19·4	—
Bombay	N.	36·7	109	i 7 17	+13	i 13 1	+14	—	—
Hyderabad		41·9	106	7 51	+ 3	14 11	+ 6	19·7	28·2
Scoresby Sund		45·2	337	8 16k	+ 2	15 8	+14	24·4	—
Calcutta	E.	47·0	93	—	—	e 13 51	?	i 19·0	30·6
Colombo		49·7	116	8 43	− 6	—	—	—	32·3
Chiufeng		60·7	60	10 10a	+ 1	i 18 28	+ 3	—	35·6
Nanking		66·3	67	e 10 51	+ 4	19 41	+ 5	—	40·6
Ottawa		77·6	319	—	—	e 21 26?	−23	e 36·4	—
Florissant		89·9	321	i 12 57	0	e 23 55	0	e 39·2	46·0
Mount Wilson	Z.	105·2	338	e 18 4	[+ 2]	i 18 28	?	—	—
Pasadena		105·4	338	e 18 20	[+17]	i 18 28	?	—	—

Additional readings :—
Tiflis e = +2m.20s., +2m.38s., +3m.11s., and +3m.53s.
Bucharest SSSSEN = +6m.14s.
Belgrade e = +3m.51s. and +5m.28s.
Budapest PN = +3m.54s., PPPN = +4m.11s.
Zagreb ePP = +4m.18s., ePPP = +4m.46s.
Triest iP = +4m.17s., i = +5m.29s., iE = +9m.6s., iN = +9m.40s.
Prague iP = +4m.35s., ePP = +5m.1s.
Königsberg iPPEZ = +4m.45s., iPPPZ = +5m.14s., iP_cSE = +8m.39s., eE = +11m.5s., iPSE = +13m.5s.
Jena eE = +9m.8s.
Stuttgart eSS = +10m.26s.
Sverdlovsk L_q = +15m.8s.
Uccle iE = +10m.35s.
Malaga e = +7m.28s. and +9m.58s.
Scoresby Sund +9m.59s. and +18m.26s.
Florissant ePEN = +13m.1s., ePPZ = +16m.35s., eSKSE = +23m.36s., ePSE = +25m.6s.
Long waves were also recorded at Tucson, Bozeman, Cape Town, Ivigtut, Durham, Göttingen, Bergen, Tortosa, and Huancayo.

June 14d. Readings also at 0h. (Christchurch, Perth, Mount Wilson, Pasadena, and Sverdlovsk), 1h. (Tashkent), 5h. (near Santiago), 6h. (Samarkand, Tiflis, Moscow, Pulkovo, Copenhagen, De Bilt, Uccle, and Triest), 13h. (near Hukuoka and Hukuoka B), 17h. (Andijan, near Samarkand, and near Ferndale), 20h. (Ksara), 22h. (Tashkent, Sverdlovsk, Scoresby Sund, Fresno, Branner, Lick, and near Berkeley).

June 15d. Readings at 0h. (Madison and Tiflis), 1h. (Oak Ridge), 2h. (Grozny), 3h. (Manila and Nagoya), 5h. (Samarkand), 6h. (La Paz), 7h. (Mount Wilson, Pasadena, Agra, Andijan, Frunse, near Mizusawa, and near La Paz), 8h. (Baku, Sverdlovsk, Tiflis, Tashkent, Pulkovo, Copenhagen, and Scoresby Sund), 9h. (Haiwee, Mount Wilson, Pasadena, Königsberg, and near Apia), 10h. (Sverdlovsk, Nagoya, and near Manila), 13h. (Batavia, near Malabar, and near Hukuoka B), 14h. (Andijan, Tashkent, Sverdlovsk, Florence, near Triest, and near Frunse), 17h. (near Ferndale), 22h. (near Manila).

June 16d. 0h. 33m. 37s. Epicentre 14°·8S. 175°·0W. (as on 1935 Jan. 1d.). R.2.

$A = -\cdot9631$, $B = -\cdot0843$, $C = -\cdot2554$; $\delta = -10$;
$D = -\cdot087$, $E = +\cdot996$; $G = +\cdot255$, $H = +\cdot022$, $K = -\cdot967$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Apia		3·3	72	e 0 46k	− 1	2 23?	?	—	—
Arapuni		24·7	198	—	—	i 11 5	?	12·4	—
Wellington		27·9	197	i 6 57	+71	10 54	+24	12·9	16·4
Christchurch		30·6	197	e 9 55	?	e 13 21	?	14·5	—
Riverview		36·0	232	—	—	e 11 23	−73	e 15·1	18·7
Sydney		36·0	232	—	—	e 11 48	−48	18·4	22·2
Melbourne		42·2	229	—	—	i 14 0	− 9	e 23·0	24·2
Adelaide		46·2	235	—	—	e 14 58	− 9	e 18·6	25·4
Manila		69·8	292	11 10	+ 1	19 35	−44	—	35·4
Santa Barbara	z.	72·0	45	i 11 28	+ 5	—	—	—	—
Ukiah		72·4	40	—	—	e 20 53	+ 3	e 29·5	—
La Jolla	z.	72·9	48	i 11 32	+ 4	—	—	—	—
Pasadena		72·9	47	i 11 27	− 1	e 20 59	+ 3	e 29·6	—
Mount Wilson	z.	73·0	46	i 11 28	− 1	—	—	—	—
Haiwee		74·1	45	e 11 39	+ 4	—	—	—	—
Tinemaha	z.	74·4	44	e 11 29	− 8	—	—	—	—
Batavia		77·0	267	10 17	?	21 44	+ 1	—	—
Tucson		77·3	50	e 11 56	+ 2	e 21 53	+ 7	e 32·4	—
Nanking		78·8	308	e 12 3	+ 2	e 22 5	+ 2	e 37·4	—
Sitka		79·0	20	e 12 23	+20	e 22 8	+ 3	e 32·4	—
College		82·3	11	—	—	e 22 23	−17	e 34·4	—
Chiufeng		84·2	314	e 12 26	− 3	e 22 55	− 5	e 39·9	44·0
Florissant		95·1	51	e 17 3	PP	i 24 4	[+ 2]	e 43·8	48·2
Huancayo		96·1	104	—	—	e 24 29	{+ 5}	e 39·4	—
La Paz	E.	101·3	111	e 14 23	+33	i 27 57	+139	54·4	62·9
Ottawa		106·9	46	—	—	e 25 5	[+ 7]	e 46·4	—
San Juan		112·2	75	e 20 23	?	e 25 23	[0]	e 52·4	—
Tashkent		118·9	309	e 19 48	PP	26 29	[+42]	e 52·4	64·8
Rio de Janeiro		119·6	128	—	—	27 23?	?	—	—
Sverdlovsk		120·8	328	20 19	PP	—	—	55·4	67·5
Scoresby Sund		121·9	11	21 35	PPP	32 5	?	50·4	—
Pulkovo		131·4	344	19 17	[+ 8]	—	—	61·4	70·3
Moscow		132·1	336	19 19	[+ 9]	—	—	56·9	83·0
Baku		133·4	312	—	—	22 48	PPS	61·4	81·2
Tiflis		136·4	316	e 19 23	[+ 6]	—	—	e 68·4	80·9
Edinburgh		138·4	7	—	—	e 40 23?	SS	—	84·4
Copenhagen		138·7	354	19 23?	[+ 3]	22 23?	PP	68·4	—
Hamburg		141·0	355	e 19 23?	[0]	—	—	e 70·4	—
Simferopol		141·1	327	e 19 43	[+20]	—	—	—	—
Yalta		141·4	326	e 23 28	PP	—	—	—	—
Kew		143·1	5	e 22 1	PP	—	—	e 75·4	83·9
Uccle		144·0	2	e 19 33	[+ 2]	—	—	e 60·4	—
Paris		145·9	3	i 19 37	[+ 1]	—	—	77·4	87·4
Stuttgart		145·9	355	e 19 37	[+ 1]	—	—	e 70·4	—
Strasbourg		146·1	357	e 19 38	[+ 2]	—	—	e 61·4	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Zurich		147·3	355	e 19 47	[+ 9]	—	—	—	—
Zagreb		147·6	346	e 19 42	[+ 4]	—	—	e 78·7	—
Triest		148·3	348	e 19 39	[0]	—	—	e 70·4	77·8
Padova		148·8	351	e 20 8	[+28]	—	—	—	—
Toledo	z.	153·7	16	20 16	[+29]	—	—	—	—
San Fernando		156·2	23	e 19 50	[+ 1]	—	—	79·4	—
Granada		156·4	17	e 20 29	[+40]	—	—	82·4	—

Additional readings and notes :—
Wellington SS? = +11m.57s.
The New Zealand stations give all their phases with uncertainty.
Sydney i = +12m.47s.
Melbourne i = +18m.48s., +20m.25s., and +20m.46s.
Pasadena i = +11m.33s.
Mount Wilson iZ = +11m.34s.
Tinemaha i = +11m.43s.
Chiufeng ePEN = +12m.34s.
Florissant iPPPZ = +18m.56s., eSKSE = +23m.0s., ePSE = +25m.24s., eSSEN = +31m.4s., eSSZ = +31m.14s.
La Paz iE = +29m.29s.
Ottawa e = +34m.5s.
San Juan e = +30m.59s.
Tashkent iPP = +20m.26s., PPP = +23m.24s., SKKS = +27m.29s., PS = +30m.23s., PPS = +31m.34s., SS = +36m.23s.
Sverdlovsk i = +20m.43s., PS = +30m.7s., PPS = +31m.33s., SS = +37m.17s.
Pulkovo PKS = +22m.41s., PS = +31m.53s., PPS = +34m.25s., SS = +39m.29s.
Moscow PP = +21m.11s., PKS = +22m.45s., PS = +31m.45s.
Baku PS = +32m.16s., SS = +40m.11s., SSS = +44m.41s.
Tiflis e = +23m.3s., +24m.12s., +35m.11s., and +45m.23s.
Zagreb eP = +19m.50s., eZ = +19m.55s., eNE = +20m.8s., eNW = +20m.52s., +23m.47s.
Triest i = +21m.30s., eSS = +43m.1s.
Long waves were also recorded at Perth, Honolulu, Vladivostok, Chicago, Columbia, Cape Town, Ivigtut, Upsala, Graz, Cheb, De Bilt, Stonyhurst, Prague, and Tortosa.

June 16d. 3h. 30m. 59s. Epicentre 33°·3S. 71°·8W. (as on 1932 Nov. 29d.). X.

A = +·2611, B = −·7940, C = −·5490 ; δ = +1 ;
D = −·950, E = −·312 ; D = −·171, H = +·522, K = −·836.

		Δ	Az.	P.	O−C.	S.	O−C.	M.
		°	°	m. s.	s.	m. s.	s.	m.
Santiago		0·9	99	0 14	+ 1	0 25	+ 2	—
San Javier		2·4	179	0 37	+ 3	1 4	+ 2	—
La Plata		11·6	102	2 39	− 4	4 49	− 4	5·7
La Paz		17·1	12	3 57	+ 2	7 17	+13	10·2
Mount Wilson	z.	80·2	323	i 12 6	− 3	—	—	—
Pasadena	z.	80·2	323	i 12 5	− 4	—	—	—

June 16d. Readings also at 1h. (near Branner), 3h. (Santiago, Samarkand, Kobe, near Sumoto, and Nagoya), 4h. (Santiago), 5h. (Tiflis), 8h. and 12h. (Santiago), 15h. (Agra, Calcutta, Bombay, Andijan, Frunse, Tiflis, Samarkand, Baku, Sverdlovsk, Grozny, Ksara, Moscow, Pulkovo, Copenhagen, and De Bilt), 16h. (Tiflis), 18h. (near Batavia (2) and Malabar (3)), 19h. (Batavia, Malabar (2), Baku, Sverdlovsk, Pulkovo, Copenhagen, Triest, Tiflis, and Scoresby Sund), 20h. (Yalta), 23h. (Batavia, Manila, Sverdlovsk, Kobe, and near Sumoto).

June 17d. 8h. 40m. 52s. Epicentre 25°·5N. 55°·2E. (as on 1935 July 2d.). X.

A = +·5151, B = +·7412, C = +·4305 ; δ = +4 ;
D = +·821, E = −·571 ; G = +·246, H = +·354, K = −·903.

	Δ	Az.	P.	O−C.	S.	O−C.	L.
	°	°	m. s.	s.	m. s.	s.	m.
Tiflis	18·3	335	e 4 3	− 7	e 8 5	+34	e 9·1
Grozny	19·4	340	e 4 25	+ 2	—	—	—
Andijan	20·9	38	e 4 42	+ 3	e 8 37	+13	—
Frunse	23·5	37	e 5 8	+ 3	—	—	—
Yalta	25·5	324	e 5 22	− 3	e 9 43	− 7	—
Simferopol	25·8	324	—	—	e 9 42	−13	—

Long waves also recorded at Baku and Sverdlovsk.

June 17d. 8h. 55m. 52s. Epicentre 35·8N. 139°·9E. (as on 1935 June 4d.). R.3.

Close to the positions determined by Tokyo.

A = −·6204, B = +·5224, C = +·5850 ; δ = +2.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Komaba		0·2	230	0 1	− 2	0 12	+ 7	—	
Tokyo		0·2	223	0 3	0	0 12	+ 7		0·2
Tokyo (Imp. Univ.)		0·2	223	0 5	+ 2	0 14	+ 9		—
Mitaka		0·3	245	0 6	+ 2	0 15	+ 7		—
Tukubasan		0·4	21	0 7	+ 1	0 16	+ 6		—
Kamakura		0·5	210	0 6	− 1	0 15	+ 2		—
Kiyosumi		0·7	160	0 7	− 3	0 17	− 1		—
Nagoya		2·4	255	e 0 54	P_g	1 15	S_s		—

June 17d. Readings also at 0h. (Philadelphia), 1h. (Sumoto), 4h. (Kobe, near Nagoya, and Sumoto), 9h. (La Paz), 11h. (Tacubaya), 12h. (Calcutta), 14h. (Calcutta, near Santiago, and San Javier), 16h. (near Apia), 18h. (College), 20h. (Madison and Malabar).

June 18d. 14h. 56m. 27s. Epicentre 26°·6N. 90°·3E. N.2.

A = −·0047, B = +·8941, C = +·4478 ; δ = −4 ;
D = +1·000, E = +·005 ; G = −·002, H = +·448, K = −·894.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Calcutta	E.	4·5	204	0 56	− 8	1 53	− 2	—	4·5
Agra	E.	11·0	276	2 28	− 7	4 28	−10	—	—
Dehra Dun		11·4	292	4 33	S	(4 33)	−15	6·2	6·6
Hyderabad		14·3	232	5 32	S	(5 32)	−26	7·5	9·1
Phu-Lien		16·0	108	e 2 33?	?	e 6 40	+ 2	—	—
Bombay		17·8	248	e 4 5	+ 1	e 7 8	−12	8·9	9·4
Almata		19·9	330	4 30	+ 1	8 16	+12	—	—
Kodaikanal	E.	20·4	221	i 4 34	0	e 7 53	−21	9·2	10·3
Andijan		20·5	317	4 36	+ 1	8 30	+14	—	—
Frunse		20·7	325	4 44	+ 7	e 8 43	+23	—	9·0
Tashkent		22·7	315	i 4 56	− 2	i 9 8	+ 9	12·9	13·8
Samarkand		23·4	308	5 7	+ 2	e 9 17	+ 5	—	—
Medan		24·4	160	5 16	+ 2	9 31	+ 1	—	—
Chiufeng		25·3	50	e 5 24	+ 1	e 9 50	+ 4	—	16·1
Nanking		25·3	71	e 5 21	− 2	e 10 2	+16	e 13·8	—
Baku		36·0	303	7 0	+ 2	12 43	+ 7	e 20·6	25·1
Sverdlovsk		36·9	333	i 7 5	− 1	i 12 49	− 1	18·6	—
Vladivostok		37·4	53	e 8 9	+59	e 12 48	− 9	20·8	23·4
Grozny		39·6	306	7 32	+ 3	e 13 32	+ 2	—	—
Tiflis		40·0	304	e 7 32	0	e 13 34	− 2	e 21·2	33·8
Sotchi		43·9	306	e 8 8	+ 4	—	—	—	—
Theodosia		47·2	308	e 8 30	0	—	—	—	—
Moscow		47·5	322	8 32	0	e 14 54	−32	—	—
Yalta		48·0	307	e 8 34	− 2	e 15 32	− 1	—	—
Simferopol		48·1	308	e 8 34	− 3	e 15 34	0	—	—
Sebastopol		48·4	308	e 8 44	+ 5	—	—	—	—
Pulkovo		52·3	327	9 6	− 3	16 30	− 3	27·6	32·4
Copenhagen		61·6	321	10 13	− 3	33 33	L	(33·6)	—

Additional readings :—
Calcutta P*E = +1m.11s.
Agra P_g = +3m.38s., S_g = +5m.47s.
Hyderabad S = +6m.58s.
Kodaikanal SSE = +8m.34s.
Moscow e = +11m.12s.
Long waves were also recorded at Hong Kong and several European stations.

June 18d. 19h. 51m. 56s. Epicentre 36°·0N. 139°·9E. (as on 1936 May 1). R.3.

$A = -·6188$, $B = +·5211$, $C = +·5878$; $\delta = -3$;
$D = +·644$, $E = +·765$; $G = -·450$, $H = +·379$, $K = -·809$;

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tukubasan		0·3	37	0 7	+ 3	0 17	+ 9	—	—
Komaha		0·4	207	0 14	?	0 23	+13	—	—
Mitaka		0·4	220	0 9	+ 3	0 19	+ 9	—	—
Tokyo		0·4	207	0 6	0	0 16	+ 6	—	0·3
Komakura		0·7	203	0 3	− 7	0 14	− 4	—	—
Kiyosumi		0·9	167	0 10	− 3	0 23	0	—	—
Susaki		1·5	209	0 15	− 6	0 33	− 6	—	—
Nagoya		2·5	250	0 40	+ 4	e 1 7	+ 3	—	—

June 18d. Readings also at 0h. (Sumoto, Alicante, Toledo, near Almeria, Granada, and Malaga), 5h. (Sumoto), 6h. (Sumoto and La Paz), 9h. (Theodosia), 10h. (near Reykjavik), 11h. (Padova, Zurich, near Triest, Florence, Zagreb, and near Reykjavik (2)), 12h. (Granada and near Reykjavik), 13h. (Grozny and Tiflis (4)), 14h. and 15h. (Tiflis), 16h. (near Sumoto), 18h. (Tiflis and Toledo).

June 19d. 16h. 34m. 51s. Epicentre 26°·4N. 96°·9E. N.2.

$A = -·1076$, $B = +·8892$, $C = +·4446$; $\delta = -8$;
$D = +·993$, $E = +·120$; $G = -·053$, $H = +·441$, $K = -·896$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Calcutta	E.	8·7	245	2 6	+ 3	3 35	− 6	—	8·7
Phu-Lien		10·5	120	2 29	+ 1	i 5 19	+53	5·6	5·7
Hong Kong		16·2	101	6 59	S	(6 59)	+16	8·6	9·1
Agra	E.	16·9	277	3 42	−11	6 42	−17	—	—
Hyderabad		19·3	246	4 21	− 1	8 8	+16	10·2	14·5
Nanking	E.	19·8	68	4 30	+ 3	8 18	+16	11·1	12·3
Chiufeng	E.	21·0	43	e 4 39	− 1	8 37	+11	—	12·7
	N.	21·0	43	e 4 42	+ 2	8 40	+14	—	12·7
Taihoku		22·2	88	e 9 5	?	e 12 0	?	—	—
Medan		22·9	177	5 0	0	12 5	L	(12·1)	—
Almata		23·4	322	5 7	+ 2	9 29	+17	e 10·5	—
Bombay		23·4	257	i 5 7	+ 2	i 9 15	+ 3	11·2	15·6
Kodaikanal	E.	24·5	235	e 5 14	− 1	9 33	+ 1	—	—
Frunse		24·6	318	e 5 24	+ 8	e 9 55	+21	—	—
Andijan		24·8	311	e 5 12	− 6	e 9 58	+21	—	—
Colombo		25·4	224	9 44	S	(9 44)	− 4	—	16·8
Manila		25·4	113	5 28	+ 4	9 56	+ 8	12·6	—
Tashkent		27·2	311	6 2	+22	e 10 35	+17	i 15·8	17·2
Zinsen		27·4	59	e 8 11	?	—	—	e 15·1	—
Keizyo		27·7	59	e 9 8	?	e 12 3	?	e 15·6	—
Taikyu		28·6	63	e 8 16	?	e 16 15	L	(e 16·2)	—
Vladivostok		32·9	51	e 5 58	−33	—	—	17·8	19·2
Batavia		34·0	162	e 6 24	−16	17 1	L	(17·0)	—
Sverdlovsk		39·9	330	i 7 28	− 3	13 29	− 6	25·2	24·2
Baku		41·1	303	7 43	+ 2	13 59	+ 6	23·2	—
Grozny		44·5	307	8 14	+ 5	—	—	42·6	—
Tiflis		45·1	304	8 14	0	e 14 56	+ 4	e 20·8	32·6
Ksara		52·6	294	e 9 9	− 2	e 16 44	+ 7	—	—
Yalta		52·8	307	e 11 25	PP	e 17 15	+36	—	—
Simferopol		52·9	308	e 9 30	+17	e 16 43	+ 2	—	—
Pulkovo		55·7	327	9 33	− 1	17 23	+ 4	27·2	34·2
Copenhagen		65·4	323	10 41	0	19 27	+ 2	37·2	—
Hamburg		67·3	321	—	—	e 19 9?	−39	e 36·2	—
Stuttgart		69·0	316	e 11 0	− 5	e 20 9	0	e 37·2	—
De Bilt		70·5	319	11 11	− 3	e 20 29	+ 2	e 38·2	46·6
Paris		73·2	317	e 11 28	− 2	—	—	41·2	—
Edinburgh		73·7	325	—	—	e 21 9?	+ 4	—	—
Kew		73·9	321	e 11 28	− 6	—	—	e 40·2	—

Continued on next page.

NOTES TO JUNE 19d. 16h. 34m. 51s.

Additional readings :—
Calcutta S*E = +4m.1s., S_gE = +4m.27s.
Hong Kong S = +8m.20s.
Agra PPE = +3m.56s., SSE = +7m.5s.
Chiufeng iS_cSN = +15m.42s.
Medan iSN = +12m.15s.
Bombay PPEN = +5m.29s.
Tashkent iPP = +6m.38s.
Sverdlovsk L_q = +21·4m.
Tiflis e = +8m.25s., ePP = +9m.56s., eSS = +18m.27s.
Ksara eSS = +15m.21s.
Copenhagen +20m.39s.
Long waves were also recorded at Husan, Scoresby Sund, Granada, San Fernando, Bergen, Moscow, Bidston, Uccle, Triest, and Strasbourg.

June 19d. 16h. 39m. 45s Epicentre 34°·4N. 134°·8E. (as on 1934 Nov. 3d.). X.

A = −·5814, B = +·5855, C = +·5650 ; δ = +6 ;

	Δ	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Sumoto	0·1	128	i 0 0	− 1	i 0 3	0	0·1
Kobe	0·4	48	e 0 9k	+ 3	i 0 18	+ 8	0·4
Nagoya	1·9	67	0 35	P_g	1 1	S_g	—
Hukuoka B	3·7	258	e 2 1	S_g	e 2 51	?	—

June 19d. Readings also at 1h. (Sumoto), 4h. (Mizusawa), 5h. (Nagoya and Mizusawa), 6h. (Tiflis (2), Mizusawa, and near Nagoya), 12h. (Manila, Triest, Bucharest, and Zagreb), 13h. (Tacubaya), 14h. (Almata, Andijan, Frunse, Samarkand, Tashkent, Sverdlovsk, and Manila), 17h. (near Bagnères), 22h. (near Branner), 23h. (Charlottesville).

June 20d. 3h. 24m. 12s. Epicentre 35°·7N. 100°·3W. (as given by St. Louis). N.3.

A = −·1452, B = −·7990, C = +·5835 ; δ = −4 ;
D = −·984, E = +·179 ; G = −·104, H = −·574, K = −·812.

	Δ	Az.	P.	O−C.	S.	O−C.	L.
	°	°	m. s.	s.	m. s.	s.	m.
Des Moines	7·8	39	—	—	e 3 44	S*	—
Florissant	8·5	65	i 1 59	− 1	i 3 38	+ 2	i 4·8
St. Louis	8·5	67	e 2 1	+ 1	i 3 39	+ 3	—
Tucson	9·4	252	e 2 48	S*	e 4 11	+12	—
Oak Ridge	23·2	64	i 5 2	− 1	—	—	i 12·1

Additional readings :—
Des Moines e = +4m.11s.
Florissant iS^*N = +4m.8s., iS_gN = +4m.43s.
St. Louis iS_gN = +4m.37s.
Tucson eS^* = +4m.21s.

June 20d. 6h. 32m. 17s. Epicentre 40°·4N. 29°·5W. (as on 1931 July 9d.). X.

A = +·6628, B = −·3750, C = +·6481 ; δ = −4 ;
D = −·492, E = −·870 ; G = +·564, H = −·319, K = −·762.

The stations recording P for this shock are situated in Azimuths ranging only from 30° to 90°. In consequence any determination made on this data would be of little value, and the readings have been referred to the epicentre of 1931 July 9d.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
San Fernando	18·6	95	4 13	− 1	8 1	+23	9·2	—
Toledo	19·4	83	e 4 14	− 9	e 7 47	− 7	e 9·4	11·4
Malaga	19·9	92	e 4 25	− 4	—	—	—	—
Granada	20·4	91	i 4 28	− 6	e 7 52	−22	—	—
Bidston	22·0	45	e 5 4	+13	e 9 3	+17	e 10·7	—

Continued on next page.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Oxford	22·4	50	4 58	+ 3	i 9 10	+17	e 11·2	—
Kew	22·9	51	e 5 2a	+ 2	e 9 0	− 3	e 10·7	—
Edinburgh	23·2	39	e 4 43	−20	e 9 25	+17	—	—
Paris	24·1	59	e 5 3	− 8	e 9 34	+ 9	11·7	12·7
Uccle	25·6	55	e 5 27	+ 2	e 9 55	+ 4	e 11·7	—
De Bilt	26·3	52	5 35	+ 3	10 6	+ 3	e 12·7	15·1
Strasbourg	27·5	60	e 4 43?	−60	—	—	e 11·7	—
Stuttgart	28·4	60	e 5 49	− 2	—	—	e 13·7	—
Hamburg	29·5	50	e 6 43?	+42	—	—	—	—
Cheb	30·6	59	e 6 22	+12	e 11 21	+ 7	e 15·7	17·7
Copenhagen	31·3	46	6 19	+ 2	11 25	+ 1	14·7	—
San Juan	38·4	248	—	—	e 13 7	− 5	e 21·2	—
Pulkovo	41·2	40	e 7 36	− 6	e 13 52	− 2	20·7	23·6
Moscow	45·3	47	e 8 4	−11	e 14 20	−35	e 24·2	26·2
Simferopol	45·8	63	e 10 10	PP	—	—	—	—
Yalta	46·0	64	e 8 15	− 6	—	—	—	—
Florissant	46·0	289	e 9 59	PP	e 15 2	− 2	e 21·5	25·2
Ksara	51·4	77	e 9 1	− 1	e 16 25	+ 5	—	—
Tiflis	54·2	63	e 9 20	− 3	e 17 0	+ 2	—	—
Sverdlovsk	57·2	40	e 8 38	?	e 15 42	?	23·7	—
Tashkent	70·1	53	—	—	e 20 13	− 9	e 34·7	42·6

Additional readings :—
San Juan e = +13m.14s.
Florissant eSSE = +18m.1s.
Ksara ePPP = +11m.47s.
Tashkent e = +20m.57s.
Long waves were also recorded at Ivigtut, Scoresby Sund, Prague, Baku, and Tucson.

June 20d. 7h. Undetermined shock, probably in Atlantic :—

San Juan e =6h.17s., 8m.12s., and 9m.46s.
Huancayo e =9m.34s., 10m.11s., 14m.0s., 17m.46s., 18m.0s., and 19m.45s.
Florissant ePE = +10m.48s., iSEN =17m.3s., eSSE =19m.28s., eSSN =19m.31s., eSSSE =20m.30s., eLE =22m.26s., ME =27m.22s.
La Paz ePE =10m.55s., iSN =15m.7s., iSE =15m.14s., iL =18m.30s., iN = 19m.13s., MN =21m.24s.
Haiwee eP =13m.35s.
Mount Wilson iPZ =13m.39s.
Pasadena ePZ =13m.39s.
Tinemaha eP =13m.48s.
Malaga e =14m.8s., 14m.28s., and 14m.48s.
Toledo eP =14m.16s., i =14m.36s.
Almeria e =14m.20s.
Granada iP =14m.21s., eS =18m.0s.
Rio de Janeiro eP =20m.23s., eL =23m.21s.
Tashkent e =33m.12s. and 34m.9s., L =6m., M =68m.6s.
Long waves were also recorded at La Plata, Scoresby Sund, De Bilt, Copenhagen, Baku, and Sverdlovsk.

June 20d. 8h. 25m. 2s. Epicentre 40°·4N. 29°·5W. X.
(as at 6h. See also note to that shock).

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
San Fernando	18·6	95	e 4 11	− 3	e 8 0	+22	9·0	—
Toledo	19·4	83	e 4 19	− 4	e 8 17	+23	e 10·3	—
Malaga	19·9	92	e 4 30	+ 1	—	—	—	—
Granada	20·4	91	i 4 31	− 3	e 8 1	−13	—	—
Bidston	22·0	45	e 5 25	+34	e 9 23	+37	e 11·2	—
Kew	22·9	51	e 5 0	0	e 9 18	+15	e 11·0	—
Edinburgh	23·2	39	e 4 58?	− 5	e 9 28	+20	—	—
Paris	24·1	59	e 5 16	+ 5	—	—	12·0	14·0
De Bilt	26·3	52	5 39	+ 7	10 10	+ 7	e 13·0	15·2
Strasbourg	27·5	60	e 5 58?	+15	—	—	e 12·0	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Stuttgart		28·4	60	e 6 28	+37	—	—	e 14·0	—
Hamburg		29·5	50	—	—	e 11 58?	+ 62	—	—
Scoresby Sund		30·4	6	6 28	+19	—	—	15·0	—
Cheb		30·6	59	—	—	e 10 58?	−16	e 16·0	19·0
Copenhagen		31·3	46	—	—	11 28	+ 4	16·0	—
Pulkovo		41·2	40	7 43	+ 1	e 13 55	+ 1	21·0	24·2
Moscow		45·3	47	8 20	+ 5	—	—	e 23·8	27·6
Sebastopol		45·5	64	e 8 8	− 9	—	—	—	—
Simferopol		45·8	63	e 8 26	+ 7	—	—	—	—
Yalta		46·0	64	e 8 18	− 3	—	—	—	—
Florissant	E.	46·0	289	e 8 21	0	e 15 31	+27	e 23·4	26·5
Ksara		51·4	77	e 9 0	− 2	e 16 26	+ 6	—	—
Tiflis		54·2	63	e 9 22	− 1	e 16 58	0	—	—
Sverdlovsk		57·2	40	e 7 38	?	—	—	24·0	—

Additional readings :—
Florissant ePPPE = +10m.1s.
Long waves were also recorded at Ivigtut, Durham, Prague, Baku, and Tashkent.

June 20d. 14h. 3m. 25s. Epicentre 42°·4N. 9°·8W. N.3.

A = +·7277, B = −·1257, C = +·6743 ; δ = +3 ;
D = −·170, E = −·985 ; G = +·664, H = −·115, K = −·738.

		Δ	Az.	P.	O−C.	S.	O−C.	L.
		°	°	m. s.	s.	m. s.	s.	m.
Coimbra		2·4	155	0 33	− 1	—	—	—
Toledo		5·0	119	i 1 14	+ 3	i 1 28	−40	—
San Fernando		6·6	153	2 53	S	(2 53)	+ 5	—
Malaga		7·0	142	1 37	− 2	—	—	—
Granada		7·1	136	i 1 39	− 2	i 3 3	+ 2	—
Bagnères		7·4	82	e 1 38	− 7	i 3 5	− 4	—
Almeria		7·9	132	i 1 51	− 1	i 3 17	− 4	—
Tortosa	N.	7·9	98	e 2 3	+11	e 3 29	+ 8	3·6
	Z.	7·9	98	1 58	+ 6	3 23	+ 2	3·6
Alicante		8·2	117	—	—	3 2	−27	—
Barcelona		8·9	92	—	—	i 3 54	+ 8	5·1
Paris		10·8	49	e 2 31	− 1	—	—	6·6
Kew		11·2	32	i 2 35	− 2	—	—	7·1
Uccle		12·8	44	2 59	0	—	—	—
Neuchatel		12·8	63	e 3 1	+ 2	—	—	—
Basle		13·3	61	e 3 8	+ 2	—	—	—
Strasbourg		13·7	57	e 3 17	+ 6	—	—	e 7·6
Zurich		13·9	63	e 3 17	+ 3	—	—	—
De Bilt		14·0	41	e 3 17	+ 2	—	—	e 7·1
Edinburgh		14·2	15	e 2 35?	?	—	—	—
Stuttgart		14·7	58	e 3 23	− 2	—	—	e 9·6
Jena	N.	16·9	52	e 3 56	+ 3	—	—	—
Triest		17·2	71	i 4 0	+ 3	i 7 28	+22	—
Zagreb		18·8	71	e 4 21	+ 5	e 8 11	+29	—
Vienna		19·2	63	e 4 22	+ 1	—	—	—
Copenhagen		19·6	39	4 23a	− 2	8 15	+17	10·6
Pulkovo		29·9	41	e 7 35	+91	—	—	17·6
Tiflis		39·8	73	e 7 39	+19	e 13 44	+11	—
Sverdlovsk		45·6	47	i 6 11	?	—	—	20·6
Mount Wilson	Z.	79·2	307	i 11 48	−16	—	—	—
Pasadena	Z.	79·3	307	e 11 49	−15	—	—	—

Additional readings :—
Toledo P_g = +1m.24s.
San Fernando iS_g = +3m.49s.
Bagnères eN = +1m.41s., SSE = +3m.12s., SSSN = +3m.20s., iN = +4m.17s.,
iE = +4m.29s.
De Bilt iZ = +3m.23s.
Triest iNE = +4m.11s., e = +5m.27s.
Long waves were also recorded at San Juan, Scoresby Sund, and Hamburg.

June 20d. Readings also at 0h. (near Batavia and Malabar), 1h. (Florence), 2h. Scoresby Sund), 3h. (San Juan, Tucson, Mount Wilson, Pasadena, St. Louis (2), La Paz, Florissant (2), Oak Ridge, near Denver, and near Ferndale), 4h. (Andijan, Manila, Nanking, Sverdlovsk, and near Tiflis), 5h. (Edinburgh, De Bilt, Strasbourg, Paris, Stuttgart, Copenhagen, Tashkent, and Tiflis), 9h. (near San Javier), 10h. (Nanking, Seattle, San Juan, Huancayo, and La Paz), 11h. (Tucson, Mount Wilson, Pasadena, Tinemaha, Rio de Janeiro, and near Sumoto), 12h. (Mount Wilson, Pasadena, and near Samarkand), 15h. (Nagoya, Florence, and near Triest), 16h. (near Nagoya and near Toledo), 18h. (near Toledo), 19h. (near Tiflis), 20h. (Pulkovo Sverdlovsk, Copenhagen, De Bilt, Uccle, Strasbourg, Stuttgart, Paris, and Granada), 21h. (near Sumoto and Nagoya), 22h. (near Kobe and Sumoto (2)).

June 21d. 16h. 47m. 34s. Epicentre 44°·6N. 10°·6E. (as on 1934 Aug. 25d.). X.

A = +·6999, B = +·1310, C = +·7022 ; δ = +11 ;
D = +·184, E = −·983 ; G = +·690, H = +·129, K = −·712.

	Δ	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Padova	1·2	48	e 0 27	+10	—	—
Triest	2·5	65	e 0 37	+ 1	i 1 1	− 3
Zurich	3·1	334	e 0 34	+10	e 1 9	−11
Ravensburg	3·3	348	—	—	e 1 16	− 9
Neuchatel	3·5	314	e 0 50	0	—	—
Stuttgart	4·3	348	—	—	e 1 47	− 3

Zurich gives also eP_g = +39s.

June 21d. 19h. 25m. 25s. Epicentre 44°·6N. 10°·6E. (as at 16h.). X.

A = +·6999, B = +·1310, C = +·7022 ; δ = +11 ;
D = +·184, E = −·983 ; G = +·690, H = +·129, K = −·712.

	Δ	Az.	P	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Padova	1·2	48	e 0 16	− 1	0 30	− 1	—	—
Triest	2·5	65	0 38	+ 2	i 1 7	+ 3	—	—
Zurich	3·1	334	e 0 42	− 2	e 1 17	− 3	—	—
Ravensburg	3·3	348	e 0 50	+ 3	e 1 24	− 1	—	—
Basle	3·4	326	e 0 55	+ 6	i 1 35	S*	—	—
Neuchatel	3·5	314	e 0 48	− 2	e 1 36	+ 6	—	—
Zagreb	4·0	70	e 1 6	P*	e 2 3	S_g	—	—
Besançon	4·1	311	—	—	e 1 58	S*	—	—
Graz	4·2	52	e 0 59	− 1	i 1 54	+ 6	—	2·2
Stuttgart	4·3	348	e 1 3	+ 2	e 1 51	+ 1	—	2·3
Strasbourg	4·4	335	e 1 11	P*	—	—	—	—
Vienna	5·4	45	e 1 29	P*	2 32	S*	2·7	—
Prague	6·0	25	e 1 40	P*	e 2 34	+ 1	—	3·1
Jena	6·3	6	e 1 43	P*	e 2 34	− 7	e 2·9	3·4
Uccle	7·5	328	e 2 47	+61	e 3 46	S*	—	—
Granada	13·0	240	e 0 30	?	e 3 37	P	—	—
Malaga	13·8	240	—	—	e 5 33	−13	—	—

Additional readings :—
Triest P_g = +42s., iN = +49s., iE = +53s.
Zurich eP_g = +46s.
Neuchatel e = +58s.
Zagreb eP*Z = +1m.9s., eP_g = +1m.15s., ePP = +1m.17s. and +1m.21s., iPS = +1m.55s., +1m.57s., eZ = +2m.0s., iNW = +2m.10s.
Stuttgart eP_g = +1m.7s., iS_g = +1m.59s.
Strasbourg eP_g = +1m.23s., iPS = +1m.47s., eSS = +2m.16s., iSSS = +2m.21s., i = +2m.29s.
Vienna P* = +1m.40s., S = +2m.40s.
Prague eP_g = +1m.45s.
Jena e = +1m.59s. and +2m.42s.
Long waves were also recorded at De Bilt.

June 21d. 20h. 36m. 4s. Epicentre 44°·6N. 10°·6E. (as at 19h.). X.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Florence	0·9	150	0 26	+13	—	—	—	—
Padova	1·2	48	e 0 23	+ 6	0 37	+ 6	—	—
Triest	2·5	65	0 36	0	i 1 1	− 3	—	—
Zurich	3·1	334	e 0 34	−10	e 1 10	−10	—	—
Ravensburg	3·3	348	e 0 50	+ 3	e 1 16	− 9	—	—
Basle	3·4	326	e 0 47	− 2	e 1 27	0	—	—
Neuchatel	3·5	314	e 0 49	− 1	e 1 28	− 2	—	—
Zagreb	4·0	70	e 1 0	+ 3	i 1 49	+ 7	—	—
Besançon	4·1	311	—	—	e 1 47	+ 2	—	—
Stuttgart	4·3	348	e 0 57	− 4	e 1 49	− 1	—	2·2
Strasbourg	4·4	335	—	—	e 2 2	+ 9	—	—
Jena	6·3	6	e 1 38	+ 8	—	—	e 2·4	2·8

Additional readings :—
Zurich $eP_g = +38s.$
Zagreb eNW = +1m.2s., ePP = +1m.6s., +1m.12s., ePS = +1m.43s., iZ = +2m.4s.
Strasbourg eSS = +2m.11s., e = +2m.35s. and +2m.50s.
Jena i = +1m.51s.
Long waves were also recorded at De Bilt.

June 21d. Readings also at 1h. (Sumoto), 4h. (near Samarkand), 5h. (near Andijan), 6h. (near Bagnères), 7h. (Copenhagen, De Bilt, Paris, Stuttgart, and near Nagoya), 10h. (near Tananarive), 13h. (Chiufeng, Nanking, Hong Kong, Phu-Lien, Vladivostok, Tashkent, and Sverdlovsk), 15h. (Vladivostok, Tashkent, Baku, Tiflis, Ksara, Sverdlovsk, Pulkovo, and Scoresby Sund), 17h. (near Christchurch), 19h. (Baku, Helwan, Ksara, Tiflis, Tashkent, Sverdlovsk, near Manila, and near Triest), 20h. (Paris), 21h. (Baku, Erevan, Grozny, Ksara, Tiflis, Tashkent, Sverdlovsk, and near Mizusawa), 22h. (Nagoya, Mount Wilson, Pasadena, Tinemaha, Triest, and Zurich), 23h. (Mount Wilson, Pasadena, Tinemaha, Yalta, Simferopol, Tiflis, Chiufeng, Grozny, Vladivostok, Ksara, Sverdlovsk, and Mizusawa).

June 22d. 3h. 43m. 55s. Epicentre 44°·6N. 10°·6E. (as on 1936 June 21d.). R.3.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Florence	0·9	150	0 25	+12	0 45	+22	—	—
Padova	1·2	48	0 14	− 3	0 27	− 4	—	—
Chur	2·3	342	e 0 23	−10	0 43	−16	—	—
Triest	2·5	65	e 0 33	− 3	i 1 3	− 1	—	—
Zurich	3·1	334	e 0 37	− 7	e 1 11	− 9	—	—
Ravensburg	3·3	348	e 0 44	− 3	e 1 22	− 3	—	—
Basle	3·4	326	e 0 49	0	e 1 29	+ 2	—	—
Neuchatel	3·5	314	e 0 43	− 7	e 1 34	+ 4	—	—
Zagreb	4·0	70	e 1 5	P*	i 1 58	S*	—	—
Besançon	4·1	311	—	—	e 1 51	+ 6	—	—
Graz	4·2	52	i 1 0	0	i 1 50	+ 2	—	2·1
Stuttgart	4·3	348	e 1 2	+ 1	i 1 53	+ 3	—	2·2
Strasbourg	4·4	335	e 1 5	+ 2	e 1 55	+ 2	—	—
Vienna	5·4	45	e 1 20	+ 3	1 32	?	—	—
Cheb	5·6	12	—	—	e 2 5	−18	—	3·3
Jena	6·3	6	e 1 35	+ 5	e 1 54	−47	e 2·5	3·1
Paris	7·0	310	—	—	e 3 26	+27	—	—
Uccle	7·5	328	e 2 47	?	e 3 35	S*	—	—
De Bilt	8·3	336	—	—	e 4 5?	+34	—	—
Dakar	38·2	227	6 5?	−72	—	—	—	—

Additional readings :—
Chur i = +24s.
Triest e = +36s., i = +39s. and +43s.
Zurich $eP_g = +40s.$
Ravensburg $eP_g = +48s.$, e = +1m.13s.
Zagreb SP = +1m.16s. and +1m.46s., iSp = +1m.54s.
Stuttgart e = +1m.31s.
Strasbourg $eP_g = +1m.14s.$, ePP = +1m.22s., ePS = +1m.40s., $Sg = +2m.9s.$, $SSg = +2m.13s.$, i = +2m.26s.
Vienna S* = +1m.24s.

June 22d. 5h. 57m. 24s. Epicentre 44°·6N. 10°·6E. (as at 3h. 43m. 55s.). X.

		Δ	Az.	P.	O−C.	S.	O−C.
		°	°	m. s.	s.	m. s.	s.
Padova		1·2	48	0 21	+ 4	—	—
Triest		2·5	65	e 0 35	− 1	1 5	+ 1
Zurich		3·1	334	e 0 41	− 3	e 1 11	− 9
Ravensburg		3·3	348	e 1 6	+19	—	—
Neuchatel		3·5	314	e 0 51	+ 1	—	—
Zagreb		4·0	70	—	—	e 1 47	+ 5
Stuttgart		4·3	348	—	—	e 1 42	− 8

Additional readings :—
Zagreb e = +1m.55s., eNW = +2m.20s.

June 22d. 10h. 28m. 8s. Epicentre 22°·5S. 70°·2W. (as on 1933 Nov. 3d.). X.

A = +·3130, B = −·8693, C = −·3827 ; δ = +11 ;
D = −·941, E = −·339 ; G = −·130, H = +·360, K = −924.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Montezuma		1·2	95	i 0 21	+ 4	i 0 27	− 4	—	—
La Paz		6·3	18	i 1 34a	+ 4	i 2 52	+11	3·2	3·4
Santiago		10·9	182	—	—	4 19	−17	—	—
Huancayo		11·6	334	e 3 10	+27	i 5 44	+51	—	—
La Plata		16·4	142	3 40	− 6	5 58	−50	6·7	—
Florissant		64·2	344	e 10 30	− 4	e 19 10	0	—	—
Tucson		67·2	324	(e 10 55)	+ 2	—	—	e 10·9	—
La Jolla	z.	71·3	319	e 11 18	− 1	—	—	—	—
Riverside	z.	72·1	320	i 11 23	0	—	—	—	—
Mount Wilson	z.	72·7	320	i 11 27k	0	—	—	—	—
Pasadena		72·7	320	i 11 26k	− 1	—	—	—	—
Haiwee	z.	74·0	322	e 11 34	− 1	—	—	—	—
Tinemaha		74·8	322	i 11 39	0	—	—	—	—
Ksara		115·2	62	e 19 29	PP	e 22 46	PPP	67·9	—

Additional readings :—
Montezuma i = +31s., i = +39s.
La Paz iN = +2m.6s. and +2m.22s.
Florissant iZ = +10m.53s., eE = +19m.38s., iZ = +19m.53s., iE = +19m.56s.
La Jolla eZ = +11m.41s., iZ = +11m.53s.
Riverside iZ = +11m.48s., iZ = +11m.58s.
Mount Wilson iZ = +11m.53s., iZ = +12m.3s.
Pasadena iEZ = +11m.51s., iZ = +12m.2s.
Haiwee iZ = +12m., iENZ = +12m.10s.
Tinemaha iENZ = +12m.4s.

June 22d. 19h. 27m. 5s. Epicentre 13°·6N. 44°·8W. N.1.

A = +·6897, B = −·6849, C = +·2351 ; δ = +5 ;
D = −·705, E = −·710 ; G = +·169, H = −·166, K = −·972.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
San Juan	21·0	287	4 40	0	e 7 44	−42	e 13·4	—
Dakar	26·5	85	—	—	9 19	−48	e 11·0	—
Rio de Janeiro	36·5	177	i 12 41	S	(i 12 41)	− 3	i 18·9	—
Philadelphia	37·5	322	c 7 3	− 8	12 53	− 6	e 15·2	—
La Paz	37·9	218	i 7 16k	+ 2	i 13 5	0	17·9	18·4
Columbia	38·6	309	—	—	e 13 19	+ 4	e 17·7	—
Huancayo	39·7	231	c 7 29	0	e 12 55	−37	e 15·8	—
Ottawa	41·1	327	e 7 49	+ 8	e 13 55	+ 2	e 16·9	—
San Fernando	41·4	50	e 8 22	+38	e 14 10	+13	—	—
Malaga	42·8	50	e 7 52	− 3	e 14 8	−19	—	—

Continued on next page.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Granada		43·6	50	i 8 7	+ 5	e 14 40	+10	—	—
Almeria		44·3	51	e 8 10	+ 3	e 14 43	+ 3	—	—
Toledo		44·3	47	e 8 4	− 3	—	—	e 18·5	—
Chicago		46·5	316	e 2 26	?	e 15 22	+10	—	—
Florissant		47·3	311	i 8 33	+ 2	c 15 31	+ 8	e 21·3	26·6
Ivigtut		47·7	358	—	—	15 43	+14	22·9	—
Tortosa	N.	47·8	47	e 7 55?	−40	—	—	22·0	26·8
Madison		48·2	317	—	—	e 15 37	+ 1	—	—
Bidston		51·6	31	e 9 19	+16	e 16 30	+ 7	21·9	—
Oxford		51·6	34	—	—	i 16 24	+ 1	e 21·2	—
Kew		52·0	34	e 9 21a	+15	e 16 37	+ 9	23·9	24·2
Paris		52·3	38	i 9 12	+ 3	e 16 44	+11	23·9	28·9
Edinburgh		53·0	28	e 9 31	+17	e 17 57	+75	e 22·9	—
Durham		53·1	30	—	—	e 16 58	+15	—	25·9
Uccle		54·3	36	c 9 25	+ 2	17 8	+ 9	e 22·9	—
De Bilt		55·3	35	9 33	+ 2	17 24	+11	22·9	35·2
Strasbourg		55·4	40	e 9 32	0	17 29	+14	25·9	—
Florence		56·3	46	9 10	−28	—	—	—	—
Stuttgart		56·4	40	e 9 40	+ 1	e 17 40	+12	e 24·9	28·9
Padova		57·2	44	e 8 55?	−50	—	—	—	—
Triest		58·5	44	9 54	0	18 4	+ 8	27·7	30·6
Hamburg		58·6	35	e 9 57	+ 2	e 18 8	+11	e 27·9	31·9
Scoresby Sund		58·6	8	9 56k	+ 1	18 6	+ 9	26·9	—
Prague		60·0	39	e 10 4	0	e 18 24	+ 8	e 26·9	30·9
Zagreb		60·1	45	e 10 4	− 1	—	—	e 30·9	—
Copenhagen		60·6	33	10 9	0	18 31	+ 7	24·9	—
Vienna	z.	60·8	42	e 10 10	0	—	—	—	—
Tucson		62·7	300	e 10 28	+ 5	e 19 7	+16	e 29·9	—
Riverside	z.	68·1	302	e 10 59	0	—	—	—	—
Haiwee	z.	68·5	304	e 11 3	+ 2	—	—	—	—
Mount Wilson	z.	68·7	302	i 11 3	0	—	—	—	—
Pasadena		68·8	302	i 11 3	0	—	—	e 33·1	—
Tinemaha		68·8	305	e 11 5	+ 2	—	—	—	—
Santa Barbara	z.	70·0	302	e 11 12	+ 1	—	—	—	—
Pulkovo		70·8	31	e 11 10	− 6	e 20 33	+ 2	30·9	34·4
Helwan		71·4	63	e 11 20	+ 1	e 20 40	+ 2	—	—
Sebastopol		72·2	47	e 11 8	−16	—	—	—	—
Simferopol		72·6	47	e 12 38	+72	—	—	—	—
Yalta		72·7	47	e 11 27	0	—	—	—	—
Theodosia		73·5	47	e 11 2	−30	—	—	—	—
Moscow		74·5	36	e 11 37	0	e 21 21	+ 7	33·7	41·8
Ksara		74·8	59	i 11 41a	+ 2	e 21 38	+20	36·6	42·9
Piatigorsk		79·1	47	e 11 55	− 8	—	—	—	—
Tiflis		80·7	49	12 13	+ 1	22 27	+ 4	e 37·4	54·2
Grozny		81·1	48	e 12 13	− 1	—	—	—	—
Baku		84·7	50	e 12 36	+ 4	23 8	+ 3	39·9	47·5
Sverdlovsk		86·8	32	i 12 42	0	23 10	[− 2]	35·9	43·3
Tashkent		98·2	43	13 44	+ 9	24 10	[− 7]	—	57·6
Manila		148·5	25	18 47	[−52]	—	—	—	—

Additional readings :—
San Juan iP = +4m.55s., i = +8m.42s.
Dakar iSS = +10m.16s.
Philadelphia e = +8m.8s., e = +12m.21s., e = +14m.7s.
La Paz PPz = +8m.39s., iSSE = +15m.41s.
Columbia e = +16m.1s.
Florissant iPPEZ = +10m.25s., ePPN = +10m.27s., ePPPEZ = +11m.9s., eEN = +16m.59s., eSSEN = +18m.55s., eSSSE = +20m.7s.
Kew eSZ = +16m.40s.
Strasbourg ePPP = +12m.41s., eSSS = +23m.22s.
Stuttgart e = +11m.43s.
Triest e = +24m.17s.
Zagreb ePZ = +10m.6s., ePNW = +10m.9s., eZ = +10m.21s., ePP = +12m.41s.
Copenhagen 19m.8s., 22m.19s., 24m.55s.
Riverside ePP = +13m.35s.

Continued on next page.

Haiwee iPPZ = +13m.43s.
Mount Wilson iPPZ = +13m.39s.
Pasadena iPPEZ = +13m.38s.
Tinemaha iPPZ = +13m.37s.
Santa Barbara iPPZ = +13m.52s.
Yalta e = +14m.38s.
Theodosia e = +14m.17s.
Ksara PP = +14m.39s., eSS = +27m.7s.
Tiflis ePPP = +17m.17s., eSS = +27m.27s.
Tashkent iPP = +17m.35s., PPP = +20m.6s., S = +26m.24s., SS = +31m.49s.
Manila LN = +21m.50s.
Long waves also recorded at Vladivostok, Stonyhurst, Göttingen, and Algiers.

June 22d. 23h. 42m. 6s. Epicentre 40°·2N. 75°·2E. N.3.
(epicentre given by stations of Central Asia).

$A = +\cdot1951$, $B = +\cdot7385$, $C = +\cdot6455$; $\delta = +12$;
$D = +\cdot967$, $E = -\cdot225$; $G = +\cdot165$, $H = +\cdot624$, $K = -\cdot764$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Andijan	2·3	284	0 35	+ 2	i 0 51	− 8	—	1·2
Frunse	2·7	350	e 1 0	P_g	e 1 16	+ 7	—	2·1
Almata	3·3	22	e 1 14	P_g	i 2 12	+47	—	2·2
Tashkent	4·6	286	i 1 2	− 4	i 1 59	+ 1	i 2·3	3·2
Tchimkent	4·7	299	1 11	+ 4	i 2 10	+10	—	2·9
Samarkand	6·3	268	e 1 24	− 6	—	—	—	—
Sverdlovsk	19·1	335	e 4 24	+ 4	e 8 17	+29	e 10·6	—
Grozny	22·1	288	4 52	0	—	—	—	—
Tiflis	22·9	284	e 5 2	+ 2	e 9 12	+ 9	e 11·4	—
Ksara	31·8	270	e 6 15	− 6	e 11 40	+ 8	—	19·9

Additional readings :—
Andijan iP* = +37s., P_g = +39s., iS_g = +1m.8s.
Frunse eP_g = +1m.6s., i = +1m.47s., iS_g = +1m.53s., iS_gS = +1m.59s.
Almata eP_g = +1m.22s.
Tashkent i = +1m.16s. and +1m.46s.
Tchimkent e = +1m.27s., i = +2m.23s., iS_g = +2m.36s.
Long waves were also recorded at De Bilt, Uccle, Stuttgart, Copenhagen, Pulkovo, and Moscow.

June 22d. Readings also at 0h. (Baku, Tashkent, Pulkovo, Copenhagen, and near Mizusawa), 1h. (near Malabar), 3h. (Padova), 4h. (Tacubaya, Triest, Zurich (2), and near Basle), 5h. (College, Sitka, Haiwee, Mount Wilson, Pasadena, Riverside, Tinemaha, Sverdlovsk, and Tiflis), 6h. (Graz and Philadelphia), 7h. (Andijan, Frunse, and Kew), 8h. (Chatham Is., Christchurch, and Wellington), 9h. (Sverdlovsk), 10h. (Vladivostok, Tashkent, Nanking, Chiufeng, Phu-Lien, Riverview, and Christchurch), 11h. (Perth, Sydney, Chatham Is., Wellington, Padova, Zurich, Ravensburg, Stuttgart (2), near Basle, Triest, Neuchatel, and near Lick), 13h. (Medan, Samarkand, and near Reykjavik), 15h. (near Triest), 16h. (near Manila), 17h. (near Nagoya and near Tiflis), 20h. (Zagreb), 21h. (Tacubaya and near La Paz), 22h. (Ksara, Paris, Riverview, Sydney, and near Balboa Heights), 23h. (Scoresby Sund).

June 23d. Readings at 0h. (Baku), 1h. (Nagoya, Batavia, Manila, Andijan, Frunse (2), Samarkand, Tashkent (2), Tiflis, Sverdlovsk, and Riverview), 2h. (near Nagoya), 3h. (near Manila), 4h. (Florence, Padova, Ravensburg, Stuttgart, Samarkand, near Neuchatel, and Triest), 8h. (Andijan), 14h. (Oak Ridge and near Nagoya), 15h. (Sverdlovsk, Tashkent, Hong Kong, Nanking, Chiufeng, and near Taihoku), 17h. (De Bilt, Stuttgart, Copenhagen, Pulkovo, Moscow, Sverdlovsk, and Scoresby Sund (3)), 18h. (Edinburgh, Scoresby Sund (2), Strasbourg, Copenhagen, Pulkovo, De Bilt, Stuttgart, and Tashkent), 19h. (Ivigtut, Kew, Paris, Sverdlovsk, and Tashkent), 20h. (Scoresby Sund), 22h. (Wellington), 23h. (near Manila).

June 24d. 4h. 4m. 37s. Epicentre 37°·7N. 67°·4E. (as on 1935 July 5d.). X.

$A = +·3041$, $B = +·7304$, $C = +·6115$; $\delta = -11$;
$D = +·923$, $E = -·384$; $G = +·235$, $H = +·564$, $K = -·791$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Samarkand	2·0	347	0 59	S*	—	—	—	2·1
Tashkent	3·9	21	i 0 39	−17	i 1 4	−36	i 1·2	—
Tchimkent	4·9	20	1 25	P*	i 2 33	S_g	—	2·7
Andijan	5·0	52	1 11	0	i 2 9	+ 1	—	2·4
Frunse	7·6	49	1 51	+ 3	i 3 9	− 5	—	—
Almata	9·2	55	e 2 7	− 3	e 4 9	+15	—	—
Semipalatinsk	15·7	30	e 3 34	− 4	—	—	—	—
Grozny	17·4	295	4 17	+18	—	—	—	—
Ksara	25·7	270	7 30	?	e 10 36	+43	—	—
Moscow	27·0	320	5 40	+ 2	10 20	+ 5	—	—
Pulkovo	32·3	325	6 27	+ 2	11 41	+ 1	13·7	—
Copenhagen	40·5	314	7 38	+ 2	13 53	+ 9	—	—

Additional readings :—
Samarkand $iP_g = +1m.8s.$, $iPP = +1m.13s.$, $iS_g = +1m.43s.$, $i = +1m.45s.$
Andijan $e = +1m.15s.$, $ePP = +1m.25s.$, $e = +1m.38s.$
Frunse $+2m.3s.$, $+2m.32s.$, and $+2m.51s.$
Almata $e = +3m.20s.$

June 24d. Readings also at 0h. (Baku and Moscow), 5h. (near Wellington), 7h. (near Nagoya), 8h. (Almeria, Granada, and Malaga), 9h. (near Medan), 10h. (Baku, Sverdlovsk, and Strasbourg), 11h. (Simferopol, Yalta, and near Samarkand), 14h. (Andijan, Frunse, near Batavia, and Malabar), 16h. (Phu-Lien), 19h. (Tiflis), 23h. (Charlottesville and near Berkeley).

June 25d. 16h. 51m. 54s. Epicentre 32°·4N. 138°·0E. (as on 1934 Sept. 11d.). R.1.

$A = -·6275$, $B = +·5650$, $C = +·5358$; $\delta = +6$;
$D = +·669$, $E = +·743$; $G = -·398$, $H = +·359$, $K = -·844$.

Depth of focus 0·060.

	Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	°	m. s.	s.	m. s.	s.	m.	m.
Hatidyozima	+1·9	1·7	66	0 54k	+ 3	1 35	+ 3	—	—
Siomisaki	+1·8	2·1	299	0 54a	− 2	1 39	− 1	—	—
Omaesaki	+1·7	2·2	5	0 56k	0	1 41	+ 1	—	—
Hamamatu	+1·6	2·3	354	0 58a	+ 2	1 51	+11	—	—
Susaki	+1·6	2·4	20	0 58	+ 1	1 44	+ 2	—	—
Tu	+1·5	2·6	332	1 0a	+ 2	1 46	+ 1	—	—
Ito	+1·5	2·7	20	1 0	0	1 46	− 2	—	—
Kameyama	+1·5	2·7	332	0 59a	− 1	1 47	− 1	—	—
Misima	+1·5	2·8	16	1 1k	0	1 49	− 1	—	—
Numadu	+1·5	2·8	15	1 1	0	1 53	+ 3	—	—
Yagi	+1·5	2·8	319	0 59a	− 2	1 46	− 4	—	—
Mera	+1·4	2·9	31	1 0k	+ 1	1 49	− 1	—	—
Nagoya	+1·4	2·9	343	1 2	+ 1	1 50	0	—	1·9
Osaka	+1·4	3·0	318	1 2	− 1	1 52	− 1	—	—
Wakayama	+1·4	3·0	308	1 1a	− 2	1 49	− 4	—	—
Gihu	+1·4	3·1	341	1 4a	0	1 50	− 5	—	—
Iida	+1·4	3·1	357	1 6	+ 2	1 53	− 2	—	—
Hikone	+1·3	3·2	333	1 3a	− 1	1 54	− 1	—	—
Kamakura	+1·3	3·2	23	1 2	− 2	1 50	− 5	—	—
Kyoto	+1·3	3·2	324	1 4a	0	1 54	− 1	—	—

Continued on next page.

	Corr. for Focus	Δ	Az.	P.	O–C.	S.	O–C.	L.	M.
	°	°	°	m. s.	s.	m. s.	s.	m.	m.
Sumoto	+1·3	3·2	307	i 1 1a	− 3	i 1 51	− 4	—	1·9
Ibukisan	+1·3	3·3	336	1 11a	+ 5	2 0	+ 2	—	—
Kobe	+1·3	3·3	315	i 1 3a	− 3	i 1 53	− 5	—	1·9
Kohu	+1·3	3·3	8	1 4	− 2	1 56	− 2	—	—
Muroto	+1·3	3·3	285	1 2a	− 4	1 52	− 6	—	—
Tokusima	+1·3	3·3	301	1 4a	− 2	1 55	− 3	—	—
Yokohama	+1·3	3·3	24	1 6k	0	1 57	− 1	—	—
Katuura	+1·2	3·4	34	1 3	− 3	1 53	− 5	—	—
Kiyosumi	+1·2	3·4	34	1 5	− 1	1 54	− 4	—	—
Komaba	+1·1	3·5	24	1 7	+ 1	2 0	+ 2	—	—
Mitaka	+1·1	3·5	21	1 13	+ 7	2 3	+ 5	—	—
Tokyo I.U.	+1·1	3·6	23	1 7	0	1 58	− 2	—	—
Tokyo	+1·1	3·6	23	1 8k	+ 1	2 0	0	—	2·0
Matumoto	+1·0	3·8	359	1 9	+ 1	2 4	+ 1	—	—
Takayama	+1·0	3·8	351	1 8	0	—	—	—	—
Koti	+1·0	3·9	288	1 8a	− 2	2 3	− 2	—	—
Kumagaya	+1·0	3·9	16	1 10k	0	2 2	− 3	—	—
Miyadu	+1·0	3·9	323	1 19a	+ 9	2 14	+ 9	—	—
Oiwake	+1·0	4·0	7	1 10	− 1	2 7	− 1	—	—
Tadotu	+1·0	4·0	299	1 6a	− 5	2 1	− 7	—	—
Toyooka	+1·0	4·0	321	1 10a	− 1	2 5	− 3	—	2·5
Maebasi	+0·9	4·1	12	1 14	+ 3	2 4	− 4	—	—
Tyosi	+0·9	4·1	35	1 11k	0	2 7	− 1	—	—
Kanazawa	+0·9	4·2	344	1 17	+ 4	2 16	+ 6	—	—
Kakioka	+0·9	4·2	24	1 11k	− 2	2 9	− 1	—	—
Tukubasan	+0·9	4·2	23	1 11k	− 2	2 7	− 3	—	—
Nagana	+0·9	4·2	2	1 15	+ 2	2 12	+ 2	—	—
Toyama	+0·8	4·3	351	1 15	+ 2	2 15	+ 5	—	—
Husiki	+0·8	4·4	350	1 16	+ 2	2 9	− 4	—	—
Utunomiya	+0·8	4·4	19	1 14	0	2 11	− 2	—	—
Mito	+0·7	4·5	27	1 15k	+ 1	2 15	+ 2	—	—
Matuyama	+0·7	4·6	290	1 14k	− 1	2 13	− 2	—	—
Takada	+0·6	4·7	2	1 28	+13	2 26	+11	—	—
Wazima	+0·5	5·0	349	1 22	+ 4	2 25	+ 5	—	—
Onahama	+0·5	5·1	27	1 20	0	2 24	+ 1	—	—
Aidu	+0·4	5·5	18	1 9a	−15	2 14	−17	—	—
Hamada	+0·4	5·5	298	1 24	0	2 33	+ 2	—	—
Miyazaki	+0·4	5·5	267	1 26	+ 2	2 26	− 5	—	—
Niigata	+0·4	5·6	9	1 32	+ 7	2 37	+ 4	—	—
Hukusima	+0·4	5·7	20	1 27k	0	2 36	0	—	—
Kumamoto	+0·2	6·1	275	1 31a	+ 1	2 44	+ 3	—	—
Yamagata	+0·2	6·2	18	1 34	+ 3	2 47	+ 4	—	—
Kagosima	+0·2	6·3	265	1 35	+ 3	2 50	+ 4	—	—
Sendai	+0·2	6·3	21	1 35	+ 3	2 47	+ 1	—	—
Hukuoka	+0·2	6·4	282	1 35a	+ 1	i 2 50	+ 2	—	2·9
Hukuoka B	+0·2	6·4	282	1 35	+ 1	2 39	− 9	—	—
Saga	+0·1	6·5	279	1 58	+24	2 52	+ 4	—	—
Unzendake	+0·1	6·5	275	1 38	+ 4	2 55	+ 7	—	—
Nagasaki	+0·1	6·8	275	1 38	0	2 56	0	—	—
Mizusawa	0·0	7·2	21	i 1 44	+ 2	i 3 7	+ 3	—	—
Ituhara	−0·1	7·4	286	1 47	+ 3	3 16	+10	—	—
Akita	−0·1	7·5	12	1 52	+ 7	3 16	+ 7	—	—
Morioka	−0·1	7·7	18	1 51	+ 3	3 19	+ 5	—	—
Husan	−0·2	7·9	292	i 1 51k	+ 2	3 21	+ 5	—	—
Taikyu	−0·3	8·4	297	i 1 56k	+ 1	3 33	+ 7	—	—
Aomori	−0·4	8·7	14	2 3a	+ 5	3 43	+12	—	—
Hakodate	−0·6	9·6	12	2 19	+12	4 8	+19	—	—
Keizyo	−0·8	10·4	303	i 2 20	+ 4	i 4 15	+12	—	4·3
Urakawa	−0·8	10·5	20	2 19	+ 2	4 15	+ 9	—	—
Zinsen	−0·8	10·6	302	i 2 21k	+ 3	i 4 18	+10	—	—

Continued on next page.

		Corr. for Focus	Δ	Az.	P.	O–C.	S.	O–C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Obihiro		−0·9	11·3	20	2 26	0	4 28	+ 5	—	—
Vladivostok		−1·0	11·7	338	e 2 39	+ 8	—	—	7·4	—
Asahigawa		−1·0	11·9	15	2 40	+ 7	4 48	+12	—	—
Heizyo		−1·0	11·9	307	i 2 37	+ 4	i 4 45	+ 9	—	—
Nemuro		−1·1	12·4	27	2 49	+10	5 3	+18	—	—
Isigakizima		−1·5	14·6	240	3 5	+ 2	—	—	—	—
Nanking		−1·8	16·2	274	i 3 23	+ 2	6 9	+ 8	—	—
Taito		−2·0	17·7	241	3 37	− 1	—	—	—	—
Kosyun		−2·2	18·5	240	3 46	+ 1	—	—	—	—
Chiufeng		−2·3	19·2	300	i 3 53k	0	i 7 7	+ 8	—	—
Manila		−3·0	23·6	225	4 33	− 3	10 1	?	—	—
Semipalatinsk		−5·2	46·0	311	7 9	−30	—	—	—	—
Almata		−5·3	48·3	302	e 8 6	+ 9	—	—	—	—
Frunse		−5·5	50·1	301	e 8 18	+ 8	—	—	—	—
Andijan		−5·7	52·1	299	e 8 31	+ 7	e 15 26	+16	—	—
Tashkent		−5·8	54·3	300	8 44	+ 4	e 15 53	+13	e 35·4	—
Sverdlovsk		−6·0	56·7	320	i 9 2	+ 5	i 16 22	+11	25·1	—
Baku		−6·7	68·4	305	—	—	e 18 56	+18	—	—
Moscow		−6·7	69·1	323	e 10 25	+ 4	i 18 58	+11	e 28·6	44·0
Grozny		−6·8	69·9	309	10 33	+ 7	19 46	+50	—	—
Pulkovo		−6·8	70·5	329	—	—	i 19 14	+10	—	—
Tiflis		−6·8	71·3	308	e 10 40	+ 5	i 19 23	+ 9	e 34·6	—
Erevan		−6·9	72·2	306	e 10 36	− 5	—	—	—	—
Scoresby Sund		−7·0	75·4	353	—	—	20 23	+21	—	—
Theodosia		−7·0	75·5	314	e 11 6	+ 5	e 20 8	+ 5	—	—
Simferopol		−7·1	76·3	315	e 11 9	+ 3	e 20 19	+ 8	—	—
Yalta		−7·1	76·6	314	e 11 9	+ 1	e 20 21	+ 6	—	—
Sebastopol		−7·1	76·9	315	e 11 11	+ 2	e 20 29	+10	—	—
Königsberg		−7·1	77·7	328	—	—	e 20 28	0	—	—
Copenhagen		−7·2	80·5	332	—	—	i 21 4	+ 4	44·1	—
Tinemaha		−7·2	80·6	52	e 11 34	+ 3	—	—	—	—
Haiwee		−7·2	81·3	52	i 11 37	+ 2	—	—	—	—
Mount Wilson		−7·3	82·3	53	i 11 42a	+ 2	—	—	—	—
Pasadena		−7·3	82·4	54	i 11 42a	+ 1	—	—	—	—
Riverside		−7·3	82·9	53	i 11 44	0	—	—	—	—
Hamburg	E.	−7·3	83·0	332	—	—	e 21 28	0	—	—
De Bilt		−7·4	86·0	333	—	—	e 21 58	− 2	43·1	—
Ivigtut		−7·4	86·3	3	—	—	22 3	− 1	—	—
Stuttgart		−7·4	86·9	329	—	—	e 22 7	− 3	e 48·1	—
Strasbourg		−7·5	88·9	329	—	—	e 22 6?	−25	38·1	—
La Paz		—	151·6	62	19 12	[−32]	—	—	—	—

Additional readings :—
Zinsen iPz = +2m.23s., iSz = +4m.22s.
Chiufeng i = +7m.12s.
Tiflis e = +26m.24s.
Pulkovo i = +19m.52s., i = +21m.50s.
Scoresby Sund 22m.58s.
Mount Wilson iZ = +15m.5s.
Pasadena eZ = +13m.10s., eZ = 14m.56s.
Long waves were also recorded at Hong Kong and Paris.

June 25d. Readings also at 0h. (Sebastopol, Theodosia, near Simferopol, and Yalta), 1h. (Florence and Tiflis), 3h. (Bozeman), 5h. (near La Paz), 6h. (Santiago), 10h. (La Paz (2), Tashkent, Sverdlovsk, De Bilt, Stuttgart, Strasbourg, Paris, and near Wellington), 12h. (Santiago (2)), 13h. (Alicante), 14h. (Santiago and near San Javier), 15h. (Mizusawa and near Nagoya), 18h. (Grozny (2), near Erevan (2), Tiflis (2), and near Mizusawa), 19h. and 20h. (Mizusawa).

June 26d. Readings at 1h. (Andijan, Sebastopol, Simferopol, Theodosia, and Yalta), 3h. (Mizusawa), 4h. (Erevan, Grozny, Piatigorsk, Tiflis, and Santiago), 5h. (Ivigtut, Scoresby Sund, and Tiflis (2)), 10h. (near Bagneres), 11h. (near Malabar and near Mizusawa), 16h. (Almeria, near Granada, and Malaga), 17h. (Tiflis), 18h. (Grozny), 20h. (Scoresby Sund and La Paz (2)), 23h. (Mizusawa),

June 27d. 3h. 18m. 51s. I
3h. 22m. 31s. II
Epicentre 60°·0N. 33°·0W. X. N.3.

A = +·4193, B = −·2723, C = +·8660 ; δ = −8 ;
D = −·545, E = −·839 ; G = +·726, H = −·472, K = −·500.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
I	Reykjavik	6·6	47	3 2	+88	3 35	+47	—	—
II		6·6	47	2 45	+71	3 19	+31	—	—
I	Edinburgh	16·2	91	e 3 41	− 3	—	—	—	—
II		16·2	91	i 3 37	− 7	—	—	7·5	8·6
I	Bidston	17·5	99	e 3 56	− 4	—	—	—	—
II		17·5	99	i 3 49	−11	—	—	8·5?	—
II	Durham	17·6	93	3 54	− 8	—	—	—	11·2
I	Stonyhurst	17·6	97	4 0	− 2	—	—	—	—
II		17·6	97	i 3 55	− 7	—	—	8·5	10·1
I	Bergen	18·8	72	4 19	+ 3	—	—	e 10·6	—
II		18·8	72	4 18	+ 2	—	—	—	—
I	Oxford	19·4	101	4 21	− 2	—	—	e 10·0	16·6
II		19·4	101	i 4 17	− 6	—	—	—	12·9
I	Kew	20·3	100	e 4 29a	− 4	—	—	—	—
II		20·3	100	i 4 26	− 7	—	—	8·5	11·2
I	De Bilt	22·4	93	4 58	+ 3	—	—	e 10·6	—
II		22·4	93	4 51	− 4	—	—	e 10·5	14·9
I	Uccle	22·7	98	e 5 5	+ 7	—	—	—	—
II		22·7	98	e 4 55	− 3	e 9 1	+ 2	e 10·5	—
I	Paris	23·1	103	e 6 2	+60	—	—	—	—
II		23·1	103	e 4 59	− 3	—	—	11·5	12·5
II	Hamburg	23·9	86	e 5 8	− 1	e 9 29	+ 8	e 12·5	13·5
II	Copenhagen	24·1	80	i 5 10a	− 1	9 27	+ 2	10·5	—
II	Upsala	24·7	69	5 18	+ 1	9 40	+ 4	e 12·5	—
I	Strasbourg	25·9	97	e 5 32	+ 4	—	—	—	—
II		25·9	97	e 5 29	+ 1	—	—	e 10·5	—
I	Stuttgart	26·4	96	e 5 36	+ 3	—	—	—	—
II		26·4	96	e 5 32	− 1	e 9 53	−12	e 12·7	17·5
II	Toledo	27·0	125	i 5 40	+ 2	—	—	e 8·8	—
II	Prague	28·2	89	e 5 47	− 2	e 10 12	−23	e 13·0	17·5
II	Königsberg E.	28·4	76	e 5 52	+ 1	—	—	—	—
I	Ottawa	29·0	259	—	—	e 10 45	− 3	—	—
II		29·0	259	—	—	e 11 29	+41	e 15·5	—
II	San Fernando	29·1	132	—	—	e 9 30	−80	13·5	—
II	Granada	29·5	127	e 6 5	+ 4	e 10 57	+ 1	—	—
II	Pulkovo	30·5	63	e 6 15	+ 6	e 11 5	− 7	15·5	17·8
II	Triest	30·8	96	e 6 12	0	11 10	− 7	e 14·5	16·9
II	Philadelphia	32·8	252	e 7 55	PP	e 12 4	+16	e 15·9	—
II	Moscow	36·0	65	e 7 3	+ 5	e 12 32	− 4	16·2	20·1
II	Florissant E.	41·2	266	—	—	e 14 37	+43	e 21·0	27·0
II	Simferopol	41·5	80	e 7 49	+ 5	—	—	—	—
I	Yalta	41·8	80	e 7 50	+ 3	—	—	—	—
II		41·8	80	e 7 39	− 8	e 14 2	− 1	—	—
II	Sverdlovsk	45·0	51	i 8 15	+ 2	i 14 49	− 1	20·5	—
II	Piatigorsk	46·5	74	e 8 24	− 1	—	—	—	—
II	Grozny	48·3	73	e 8 40	+ 2	—	—	—	—
II	Tiflis	49·1	75	e 8 45	+ 1	e 15 56	+ 8	e 27·5	32·0
II	Ksara	50·8	89	i 9 0a	+ 3	e 16 18	+ 6	—	—
II	Baku	52·4	73	e 9 17	+ 8	e 16 48	+14	26·5	32·1
II	Tashkent	60·4	58	—	—	e 18 11	−10	e 29·4	37·5

Additional readings :—
Reykjavik I e = +3m.12s.
Königsberg II eN = +7m.35s.
Triest II i = +13m.42s.
Philadelphia eSS = +14m.2s.
Florissant eZ = +14m.42s., eE = +19m.23s.
Tiflis ePP = +8m.48s., e = +10m.38s.
Ksara ePP = +10m.53s., S_cS = +18m.52s.
Tashkent e = +18m.36s., +25m.5s., and +26m.5s.
In many cases the P for the two shocks have been recorded as the P and S for a single shock. Where this has happened the readings have just been segregated into the two lines as they appear to belong.
Long waves were also recorded at Ivigtut, Scoresby Sund, Oak Ridge, Ukiah, Bozeman, Tucson, Pasadena, Barcelona, Jena, and Zagreb.

June 27d. 17h. 19m. 22s. Epicentre 35°·0N. 135°·5E. (as on 1932 Dec. 7d.). X.

$A = -\cdot5843$, $B = +\cdot5742$, $C = +\cdot5736$; $\delta = +13$;

	Δ	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Kobe	0·5	219	0 8	+ 1	i 0 17	+ 4	0·3
Toyooka	0·8	314	0 11	0	0 21	0	0·4
Sumoto	0·9	212	0 14	+ 1	0 17	− 6	0·5
Nagoya	1·2	82	e 0 17	0	0 31	0	0·6

June 27d. 21h. 13m. 30s. Epicentre 43°·2N. 147°·2E. (as on 1930 Feb. 15d.). R.2.

$A = -\cdot6127$, $B = +\cdot3949$, $C = +\cdot6845$; $\delta = -11$;
$D = +\cdot542$, $E = +\cdot841$; $G = -\cdot575$, $H = +\cdot371$, $K = -\cdot729$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Mizusawa		6·2	230	i 1 28	0	i 2 33	− 5	—	—
Vladivostok		11·1	275	i 2 36	0	i 4 42	+ 1	i 5·6	16·4
Nagoya		11·3	228	e 2 40	+ 1	4 35	−10	—	5·6
Husan		16·2	246	e 3 45	+ 1	—	—	—	—
Keizyo		16·4	257	e 3 45	− 1	e 6 51	+ 3	9·5	—
Zinsen	N.	16·6	257	e 3 37?	−12	e 6 55	+ 3	—	—
Heizyo		16·9	264	e 3 49	− 4	—	—	—	—
Chiufeng		23·3	275	5 3a	− 1	9 14	+ 4	e 11·8	14·7
Zi-ka-wei	Z.	23·6	248	i 5 9	+ 3	9 37	+21	—	—
Nanking		25·0	255	i 5 20	0	9 50	+ 9	13·8	16·2
Manila		36·4	226	7 2	+ 1	13 5	+23	18·8	22·1
College		41·4	36	—	—	e 13 58	+ 1	19·5	—
Almata		49·6	297	8 50	+ 2	15 53	− 2	—	—
Frunse		51·3	297	9 2	+ 1	16 17	− 2	—	—
Sverdlovsk		53·3	318	i 9 14	− 2	16 40	− 6	25·5	34·6
Andijan		53·7	296	e 9 20	+ 1	e 16 58	+ 6	—	—
Tchimkent		54·8	298	e 9 31	+ 4	—	—	—	—
Tashkent		55·5	297	i 9 27	− 5	i 17 8	− 8	25·5	34·0
Samarkand		57·9	299	e 9 52	+ 2	e 17 46	− 2	—	—
Moscow		64·7	325	e 10 34	− 3	e 19 9	− 7	36·1	41·6
Pulkovo		64·8	330	e 10 34	− 3	19 10	− 7	34·5	40·9
Scoresby Sund		66·1	356	10 43	− 3	19 30	− 4	28·5	—
Baku		68·1	306	i 10 59	0	19 59	+ 1	36·5	46·3
Grozny		68·6	311	11 5	+ 3	e 20 5	+ 1	42·9	—
Haiwee	E.	69·3	60	e 11 20	+14	—	—	—	—
Piatigorsk		69·6	313	11 6	− 2	20 10	− 6	—	—
Tiflis		70·3	310	i 11 11a	− 2	20 21	− 4	36·5	49·4
Mount Wilson	Z.	70·4	62	e 11 15	+ 2	—	—	—	—
Pasadena		70·4	62	e 11 14	+ 1	—	—	32·9	—
Riverside		71·0	62	e 11 19	+ 2	—	—	—	—
Erevan		71·4	309	e 11 18	− 1	—	—	—	—
Sotchi		71·7	314	e 11 25	+ 4	—	—	—	—
Theodosia		73·0	317	i 11 28	− 1	e 20 52	− 5	—	—
Simferopol		73·7	317	e 11 32	− 1	e 20 58	− 7	—	—
Copenhagen		74·0	336	11 34	− 1	21 4	− 4	34·5	—
Yalta		74·0	317	e 11 32	− 3	e 21 2	− 6	—	—
Sebastopol		74·2	317	e 11 35	− 1	21 4	− 7	—	—
Hamburg		76·5	335	i 11 48a	− 1	e 21 30?	− 7	—	49·5
Edinburgh		77·8	345	—	—	e 21 50	− 2	e 44·5	—
Prague		78·1	330	—	—	e 21 43	−12	—	49·5
Göttingen	E.	78·3	335	e 11 58	− 1	—	—	—	—
Jena		78·3	333	i 11 58	− 1	—	—	—	—
De Bilt		79·2	338	12 3a	− 1	22 0	— 7	e 36·5	52·1
Bidston		80·1	343	—	—	i 22 10	− 7	e 41·5	—
Uccle		80·6	338	12 11	0	e 22 15	− 7	e 37·5	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Ksara		80·8	309	i 12 10a	− 2	e 23 4	PS	—	—
Stuttgart		80·9	334	12 12a	− 1	e 22 26	+ 1	42·5	—
Zagreb		81·0	328	e 12 12	− 1	—	—	—	—
Kew		81·2	341	i 12 14a	0	i 22 22	− 6	e 41·5	—
Oxford		81·2	341	—	—	i 22 16	−12	e 45·3	56·9
Strasbourg		81·6	334	12 16a	0	e 22 26	− 7	e 37·5	—
Triest		82·0	330	e 12 46	+28	i 22 1	−36	—	50·0
Florissant		82·8	42	e 12 25	+ 3	i 22 40	− 5	e 39·8	46·9
Paris		82·9	338	i 12 24	+ 1	—	—	45·5	—
St. Louis		83·1	41	—	—	i 22 39	− 9	—	—
Ottawa		83·6	28	—	—	e 22 30?	−23	41·5	—
Philadelphia		88·5	32	—	—	e 23 20	[− 3]	e 49·3	—
Toledo		93·0	339	e 13 14	+ 3	e 24 40	+16	—	—
La Paz	N.	139·8	60	e 19 30	[+ 9]	—	—	—	—

Additional readings :—
Tiflis i = +11m.20s., e = +33m.51s.
Mount Wilson iZ = +11m.24s.
Ksara ePP = +15m.12s., eSS = +27m.53s.
Stuttgart eS = +22m.35s.
Florissant ipPZ = +12m.34s., isSE = +22m.59s., eSSE = +28m.2s.
St. Louis iSSEN = +22m.59s.
Philadelphia eS = +23m.38s., e = +42m.34s., e = +44m.14s.
Long waves were also recorded at Hong Kong, Belgrade, Granada, San Fernando and Tortosa.

June 27d. Readings also at 0h. (Frunse and Samarkand), 1h. (near Tananarive), 3h. (Basle), 5h. (near Manila), 6h. (Florence), 8h. (Ukiah (2)), 11h. (Oak Ridge, Tiflis, near Chur, near Batavia, and Malabar), 12h. (near Branner), 13h. (Ravensburg, Zurich, and near Chur), 14h. (Granada), 15h. (Ravensburg, near Chur, and Zurich), 19h. (near Balboa Heights), 21h. (near Batavia and Malabar).

June 28d. 8h. 10m. 23s. Epicentre 30°·6N. 141°·8E. (as on 1933 Dec. 21d.). R.1.

$A = -\cdot6764$, $B = +\cdot5323$, $C = +\cdot5090$; $\delta = -6$;
$D = +\cdot618$, $E = +\cdot786$; $G = -\cdot400$, $H = +\cdot315$, $K = -\cdot861$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Nagoya		6·2	319	1 26	− 2	—	—	—	—
Sumoto		6·9	304	e 1 39	+ 1	3 37	S_g	—	7·7
Kobe		7·0	308	1 39k	0	3 19	S*	3·6	5·1
Toyooka		7·7	313	1 46	− 3	3 56	S*	e 4·5	5·8
Mizusawa		8·5	355	1 58	− 2	3 7	−29	—	—
Hukuoka		10·2	290	2 28	+ 4	e 5 45	S_g	—	—
Hukuoka B		10·2	290	2 24	0	e 5 27	S_g	—	—
Husan		11·7	296	2 44	0	7 3	?	—	—
Taikyu		12·2	299	2 53	+ 2	e 6 55	S_g	—	—
Keizyo		14·1	304	e 3 15	− 2	e 6 49	S*	e 8·0	10·4
Zinsen	N.	14·4	303	e 3 18	− 3	e 5 58	− 3	8·0	—
Vladivostok		14·8	331	i 3 20	− 6	e 5 55	−15	e 6·8	14·0
Heizyo		15·6	307	2 7	?	—	—	—	—
Zi-ka-wei	Z.	17·5	277	4 3	+ 3	7 33	+20	—	18·1
Taihoku		18·8	258	4 26	+10	e 8 16	+34	—	—
Nanking		19·7	281	4 28	+ 2	8 52	+52	12·4	14·1
Chiufeng		22·9	302	i 4 56a	− 4	9 7	+ 4	11·9	15·6
Manila		24·9	235	5 31k	+12	10 29	+50	14·1	16·6
Hong Kong		26·0	258	5 41	+12	10 37	+39	14·5	17·9
Phu-Lien		33·1	260	7 37?	+64	—	—	—	—
Frunse		53·8	303	e 9 17	− 3	—	—	—	—
College		54·3	29	—	—	16 55	− 4	—	—
Andijan		55·8	300	e 9 37	+ 3	e 17 22	+ 2	—	—
Tashkent		58·0	304	i 10 26	+36	i 17 48	− 1	26·6	37·2
Sverdlovsk		60·1	322	i 10 2	− 3	i 18 20	+ 3	30·6	38·8

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Baku		72·1	307	i 11 25	+ 2	20 47	+ 1	36·1	47·3
Moscow		72·4	325	e 11 24	− 1	e 20 43	− 7	32·1	46·1
Grozny		73·5	311	e 11 37	+ 5	—	—	44·0	—
Pulkovo		73·6	331	e 12 18	+46	e 20 54	−10	36·6	45·4
Tiflis		75·0	311	11 42	+ 2	i 21 16	− 4	38·6	47·2
Sotchi		77·3	313	e 11 55	+ 1	—	—	—	—
Scoresby Sund		78·3	355	11 57	− 2	21 47	−10	—	—
Simferopol		79·9	317	e 12 8	+ 1	22 4	−11	—	
Yalta		80·2	316	e 12 9	0	22 6	−12	e 44·6	—
Mount Wilson	z.	80·7	55	e 12 12	0	—	—	—	—
Pasadena		80·7	55	e 12 12	0	—	—	e 35·6	—
Riverside	z.	81·3	55	e 12 15	0	—	—	—	—
Copenhagen		83·5	334	12 25	− 1	22 43	− 9	43·6	—
Ksara		85·0	309	i 12 36	+ 3	e 23 13	+ 5	—	—
Hamburg		86·0	334	—	—	e 23 6	−12	45·6	49·6
Prague		86·6	330	—	—	e 23 7	−16	—	51·6
Belgrade		87·6	322	23 25	S	(23 25)	− 8	46·7	—
Cheb		87·8	330	(e 23 25)	S	e 23 25	−10	46·6	51·6
Ivigtut		87·8	5	—	—	23 25	−10	—	—
Edinburgh		88·6	341	e 12 37?	−14	—	—	e 47·6	—
De Bilt		89·1	335	e 12 54	+ 1	e 23 36	−11	46·6	59·1
Stonyhurst		90·1	340	—	—	e 23 46	−11	45·6	—
Stuttgart		90·1	331	e 12 57	− 1	e 23 45	−12	47·6	59·5
Triest		90·4	327	e 16 3	PP ?	i 23 46	−14	—	49·1
Bidston		90·6	340	—	—	e 23 53	− 9	36·6	—
Strasbourg		90·9	332	e 13 1	− 1	e 23 56	− 8	36·6	—
Kew		91·5	339	e 13 3	− 1	e 23 58	−12	45·6	—
Oxford		91·6	339	—	—	i 23 59	−12	e 47·3	62·4
Paris		92·7	335	e 12 37?	−33	—	—	49·6	60·6
Ottawa		96·7	25	—	—	e 24 1	[− 8]	49·6	—
Philadelphia		101·5	28	—	—	e 24 30	[− 3]	53·6	—
La Paz	N.	149·3	70	19 57	[+16]	—	—	—	—

Additional readings :—
Sumoto SN = +3m.45s.
Toyooka ePN = +1m.58s., ePE = +2m.0s.
Keizyo ePKPPKP? = +25m.1s.
Zi-ka-wei iZ = +4m.33s., +12m.13s., and +14m.5s.
Nanking iE = +4m.46s., PPN = +5m.36s., PPPN = +5m.58s., PPPPN = +6m.35s., SS = +9m.51s., SSS = +10m.35s.
Chiufeng iPPEZ = +5m.20s.
Hong Kong PP = +6m.28s., SS = +12m.7s.
Tashkent e = +19m.56s., e = +20m.7s., e = +21m.20s., e = +22m.25s.
Scoresby Sund e = +26m.49s.
Ksara ePP = +16m.1s., eSKS = +22m.48s., PS = +24m.5s.
Cheb eS? = +29m.35s.
Ottawa eE = +32m.19s.
Long waves were also recorded at Honolulu, Tucson, Calcutta, San Fernando, Bergen, Uccle, Durham, Graz, Königsberg, Zagreb, and Granada.

June 28d. 17h. 22m. 28s. Epicentre 30°·6N. 141°·8E. (as at 8h.). X.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Nagoya		6·2	319	e 1 38	+10	2 45	+ 7	—	3·5
Mizusawa	E.	8·5	355	e 2 52	+52	e 3 26	−10	—	—
Keizyo	E.	14·1	304	e 3 17	0	—	—	e 9·6	—
Vladivostok		14·8	331	e 3 16	−10	e 5 59	−11	6·7	14·2
Nanking		19·7	281	e 4 34	+ 8	—	—	12·9	—
Chiufeng		22·9	302	e 5 0	0	—	—	—	15·6
Tashkent		58·0	304	i 9 53	+ 3	e 25 14	?	e 28·5	38·7
Sverdlovsk		60·1	322	i 10 7	+ 2	i 20 15	?	31·0	—
Tiflis		75·0	311	e 11 49	+ 9	—	—	40·5	47·1
Ksara		85·0	309	e 12 52	+19	e 24 8	?	—	55·5

Additional readings :—
Nanking iE = +5m.1s.
Sverdlovsk readings are given for 16h.
Long waves are also recorded at Hong Kong, Baku, De Bilt, Kew, Paris, Strasbourg, Stuttgart, Copenhagen, Granada, and Scoresby Sund.

June 28d. Readings also at 0h. (Oacaxa, Puebla, and Tacubaya), 2h. (Santiago), 3h. (near Santiago (2) and San Javier), 6h. (Melbourne, Riverview, near Wellington (2), and near Sitka), 7h. (Philadelphia, Simferopol, Sebastopol, Yalta, Christchurch, and Sydney), 8h. (Scoresby Sund (2), Kobe, Mizusawa, and Nagoya), 11h. (Chiufeng, Nanking, and Vladivostok), 12h. (Sverdlovsk), 13h. (Toledo and Andijan), 14h. (near Mizusawa), 15h. (Tashkent, Vladivostok, Toledo, near Mizusawa, and Nagoya), 16h. (Mizusawa and Sverdlovsk), 17h. (Nagoya), 18h. (Yalta), 20h. (Florissant).

June 29d. 14h. 30m. 15s. Epicentre 36°·2N. 70°·7E. (as on 1935 June 25d.). R.1.

$A = +\cdot2667$, $B = +\cdot7616$, $C = +\cdot5906$; $\delta = -3$;
$D = +\cdot944$, $E = -\cdot331$: $G = +\cdot195$, $H = +\cdot558$, $K = -\cdot807$.

Depth of focus 0·030.

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Samarkand		+0·1	4·5	321	1 5	− 1	1 55	− 3	—	—
Andijan		0·0	4·7	16	1 5	− 2	1 57	− 3	—	—
Tashkent		0·0	5·2	349	i 1 12	− 2	i 2 0	−13	i 2·1	—
Tchimkent		−0·1	6·2	351	e 2 22	S	(e 2 22)	−16	—	—
Frunse		−0·2	7·3	20	e 1 36	− 5	e 2 55	− 6	—	3·4
Almata		−0·3	8·5	32	i 1 55	− 1	3 17	−12	—	4·1
Dehra Dun		−0·3	8·5	132	2 5	+ 9	3 25	− 4	—	3·8
Agra	N.	−0·5	11·0	143	2 26	− 2	4 24	− 2	—	—
Semipalatinsk		−0·9	15·8	23	i 3 24	− 3	e 6 17	− 6	—	—
Baku		−0·9	16·8	291	i 3 42	+ 2	i 6 48	+12	—	7·6
Bombay		−1·0	17·4	173	i 3 49	+ 3	i 7 4	+16	—	11·4
Hyderabad		−1·2	20·0	158	4 12	− 4	7 42	0	10·2	11·5
Grozny		−1·2	20·4	298	4 21	0	—	—	—	—
Calcutta	N.	−1·2	20·6	127	4 17	− 6	7 56	+ 2	—	13·9
Tiflis		−1·3	20·8	293	4 22a	− 2	i 8 4	+ 8	e 11·3	12·1
Erevan		−1·3	20·9	289	e 4 45	+20	e 8 18	+20	—	—
Sverdlovsk		−1·3	21·7	345	i 4 24	−10	i 8 7	− 7	i 12·8	—
Sotchi		−1·6	24·7	298	i 6 1	+59	—	—	—	—
Kodaikanal	E.	−1·7	26·7	165	e 6 0	+40	9 58	+17	11·9	13·9
Theodosia		−1·8	28·0	299	e 5 29	− 2	e 10 48	+46	—	—
Ksara		−1·9	28·5	276	i 5 26a	− 9	10 14	+ 5	—	—
Yalta		−1·9	28·8	298	i 5 34	− 3	11 24	+70	—	—
Simferopol		−1·9	29·0	300	e 5 36	− 3	—	—	—	—
Sebastopol		−1·9	29·2	298	e 5 41	0	—	—	—	—
Moscow		−2·0	29·7	320	i 5 40	− 4	10 21	− 6	11·7	13·6
Colombo		−2·0	30·5	162	5 53	+ 1	12 5	?	19·6	21·6
Helwan		−2·2	33·4	271	i 6 16	0	11 20	− 3	—	20·9
Bucharest		−2·2	33·5	298	e 6 25k	+ 8	i 11 25	+ 1	—	—
Czernowitz	E.	−2·3	34·7	306	i 6 38	+12	i 10 39	−62	—	—
Phu-Lien		−2·3	34·9	106	e 5 58	−30	11 8	−37	—	—
Pulkovo		−2·3	35·0	325	i 6 26	− 3	11 42	− 4	13·8	15·2
Chiufeng		−2·3	35·6	70	i 6 32k	− 2	i 11 51	− 4	—	18·7
Belgrade		−2·4	38·6	299	e 6 43k	−17	—	—	e 15·3	—
Königsberg		−2·4	38·7	315	i 7 1	+ 1	e 12 39	− 2	e 18·2	—
Budapest	E.	−2·5	39·3	304	7 5	0	8 19	?	15·8	—
	N.	−2·5	39·3	304	7 9	+ 4	8 24	?	15·8	17·3
Nanking		−2·5	39·6	82	e 7 7	0	i 12 51	− 2	—	—
Hong Kong		−2·5	40·0	98	7 8	− 3	12 57	− 2	—	22·0
Upsala		−2·6	41·1	322	i 7 17	− 2	13 4	−10	—	16·7
Vienna		−2·6	41·1	305	e 7 9	−10	16 37	?	—	—
Zagreb		−2·6	41·5	301	e 7 22a	− 1	—	—	e 16·8	—
Medan		−2·6	41·6	135	7 38	+14	i 13 22	+ 1	—	—
Graz		−2·6	41·7	302	i 7 24	0	i 10 14	?	16·8	19·1
Zi-ka-wei	Z.	−2·6	42·0	82	7 26	− 1	—	—	—	—
Prague		−2·6	42·2	308	i 7 26	− 3	—	—	—	18·8
Triest		−2·7	43·1	301	i 7 45	+10	i 13 46	+ 4	—	—

Continued on next page.

		Corr. for Focus	Δ	Az.	P.		O−C.	S.		O−C.	L.	M.
		°	°	°	m.	s.	s.	m.	s.	s.	m.	m.
Copenhagen		−2·7	43·3	316	7	36a	− 1	13	45	0	—	—
Cheb		−2·7	43·5	308	e 7	39	0	e 10	42	?	16·8	22·5
Jena		−2·7	44·0	309	i 7	42	− 1		—	—	16·8	23·0
Keizyo		−2·8	44·4	70	e 7	45	0	e 13	55	− 5	—	—
Padova		−2·8	44·5	302	e 7	49	+ 3	e 13	45	−17	e 19·8	—
Hamburg		−2·8	44·8	314	e 7	47	− 2		—	—	—	23·8
Göttingen		−2·8	44·9	310	i 7	49	0		—	—	—	—
Florence		−2·8	45·2	300		7	52	0		—	—	—
Kosyun		−2·8	45·4	94		7	25	−28		—	—	—
Taito		−2·8	45·4	93		8	0	+ 7		—	—	—
Stuttgart		−2·8	45·7	307		7	56a	0	e 14	25	+ 6	—	—
Chur		−2·8	45·8	302	e 7		55	− 2	e 18	25	ScS	—	—
Taikyu		−2·9	46·1	73	e 8		1	+ 3	e 14	27	+ 3	—	—
Karlsruhe		−2·9	46·2	307		8	2	+ 3		18	8	ScS	—	—
Zurich		−2·9	46·4	305	e 7		59a	− 2		18	11	ScS	—	—
Husan		−2·9	46·7	74	e 8		3	0	e 14	33	0	—	—
Strasbourg		−2·9	46·7	307	i 8		4a	+ 1	e 14	36	+ 3	29·8	—
Basle		−2·9	47·0	305	e 8		5	− 1		—	—	—	—
Bergen		−2·9	47·2	323	i 8		6	− 1		14	10	−30	e 18·2	23·3
Neuchatel		−3·0	47·5	305		8	9	0		—	—	—	—
De Bilt		−3·0	47·8	311	e 8		11	0		—	—	—	—
Uccle		−3·0	48·5	310		8	16	− 1		—	—	—	—
Manila		−3·1	49·6	102	i 8		28a	+ 3	i 15	18	+ 6	20·8	26·6
Miyazaki		−3·1	49·7	76		8	27	+ 2		15	2	−11	—	—
Paris		−3·1	50·1	307	i 8		29	0	e 15	45	+26	19·8	20·8
Kew		−3·2	51·3	311	i 8		37a	0		—	—	19·8	30·9
Durham		−3·2	51·4	316		8	36	− 2		—	—	—	—
Kobe	E.	−3·2	51·5	71	e 8		36	− 2	e 15	43	+ 6	—	—
Sumoto		−3·2	51·5	70		8	40	+ 2		—	—	—	—
Wakayama		−3·2	51·7	70		8	42	+ 2		—	—	—	—
Osaka		−3·2	51·8	71		8	45	+ 4		—	—	—	—
Oxford		−3·2	51·8	312	i 8		43	+ 2		—	—	—	—
Edinburgh		−3·2	52·1	317	i 8		45	+ 2		—	—	—	31·1
Stonyhurst		−3·2	52·1	315	i 8		45	+ 2		—	—	—	21·8
Barcelona		−3·2	52·3	300	i 8		46	+ 2		—	—	—	—
Bidston		−3·2	52·5	314	i 8		52	+ 6		—	—	19·8	31·2
Gihu		−3·2	52·5	70		8	47	+ 1		—	—	—	—
Kameyama		−3·2	52·5	71		9	14	+28		—	—	—	—
Nagoya		−3·3	52·8	70	e 7		37	−70		9	36	?	—	—
Nagano		−3·3	53·1	69		8	51	+ 1				—	—	—
Algiers		−3·3	53·2	292	e 8		51	0		—	—	—	e 23·0	—
Sapporo		−3·3	53·2	59		8	54	+ 3		—	—	—	—	—
Ciwake		−3·3	53·5	68		8	56	+ 3		—	—	—	—	—
Batavia		−3·4	54·3	134		9	24	+26		14	59	−74	—	—
Misima		−3·4	54·3	70		9	10	+12		—	—	—	—	—
Tokyo		−3·4	54·7	68		9	19	+18		—	—	—	—	—
Scoresby Sund		−3·5	57·1	337	i 9		20k	+ 2		17	1	+11	—	—
Almeria		−3·5	57·2	295	e 9		18	− 1		—	—	—	—	—
Toledo		−3·5	57·2	299	i 9		22	+ 3	e 16	49	− 3	e 24·2	—
Granada		−3·5	57·9	296	i 9		26	+ 2		—	—	—	—
Malaga		−3·5	58·7	296		9	31	+ 1		—	—	—	—
San Fernando		−3·6	60·2	296	e 9		42	+ 2	e 18	54	+83	—	—
Ivigtut		−3·8	70·7	334	i 10		48a	− 3		19	44	+ 1	—	—
College		−3·9	74·5	16	e 14		57	PP?		—	—	—	—
Dakar		−4·0	79·9	281		10	48	−57		—	—	31·8	—
Sitka		−4·1	84·2	13		12	2	− 6		22	8	− 9	—	—
Cape Town Univ.		−4·1	85·5	221		—		—	i 22	12	−19	47·3	56·4
Oak Ridge	z.	−4·3	94·1	333	i 11		52	−64	e 24	45?	+50	—	—
Philadelphia		−4·4	97·6	334	e 13		7	− 5	i 25	6	+40	37·6	—
Chicago		−4·4	99·5	344	e 17		33	PP	e 25	13	+30	—	—

Continued on next page.

		Corr. for Focus	Δ	Az.	P.	O–C.	S.	O–C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Florissant		−4·5	102·9	345	i 13 32	− 4	e 24 53	−19	e 44·2	48·6
Ottawa		−4·5	103·0	337	e 13 45	+ 8	—	—	43·8	—
Mount Wilson	z.	—	109·1	8	e 18 12	[− 3]	—	—	—	—
Pasadena	z.	—	109·2	9	e 18 19	[+ 3]	—	—	—	—
Riverside	z.	—	109·4	7	e 18 14	[− 2]	—	—	—	—
La Jolla	z.	—	110·5	6	e 18 37	[+18]	—	—	—	—
Tucson		—	111·5	1	e 20 4	?	e 26 7	{−11}	e 37·8	—
San Juan		—	111·9	317	e 18 45	[+21]	—	—	—	—
La Paz		—	138·6	287	e 18 59	[−21]	25 59	SKS	72·3	80·4
Huancayo		—	141·0	300	e 18 26	[−57]	—	—	e 34·8	—

Additional readings :—
Samarkand i = +1m.10s.
Andijan i = +1m.7s., iP* = +1m.10s., iP$_g$ = +1m.13s., iPSP = +1m.16s.
Tashkent e = +1m.23s.
Tchimkent iS$_g$ = +3m.30s.
Frunse i = +1m.51s., and +2m.33s.
Almata i = +3m.27s.
Semipalatinsk i = +4m.17s.
Bombay P*EN = +4m.49s., S$_g$EN = +9m.21s.
Hyderabad PP = +5m.18s.
Grozny i = +4m.31s., and 4m.46s.
Calcutta SSN = +8m.40s.
Tiflis i = +4m.25s., e = +5m., +5m.15s., +5m.33s., and +9m.24s.
Erevan e = +5m.19s., e = +5m.33s.
Sverdlovsk =160 +11·4m.
Sotchi i = +6m.33s., +6m.43s., and +6m.49s.
Kodaikanal SS = +10m.48s.
Theodosia i = +6m.20s.
Ksara iPP = +6m.23s., sP = +6m.48s., pPCP = +9m.29s., SS = +11m.41s., iPCS = +12m.4s., SS = +12m.32s.
Yalta i = +16m.24s.
Simferopol i = +6m.26s.
Sebastopol i = +6m.41s.
Helwan PPP = +7m.30s.
Bucharest eN = +6m.29s., iPPE = +7m.45s., iE = +8m.27s. and +9m.55s., iEN = +11m.41s., iN = +11m.6s., eEN = +12m.27s., iSSE = +14m.29s.,
Czernowitz iPPE = +7m.55s., i = +8m.58s.
Phu-Lien PP = +6m.49s.
Chiufeng iEZ = +7m.22s., PPPEZ = +7m.51s., iEZ = +8m.51s., iN = +16m.31s.
Belgrade e = +7m.57s., e = +9m.16s.
Königsberg eE = +7m.49s., iP$_c$PNZ = +8m.10s., iE = +8m.18s. and +9m.37s., iPPPNZ = +9m.40s., iE = +13m.49s., iPS = +15m.31s.
Budapest iE = +9m.43s.
Nanking PP = +8m.25s., SSN = +14m.21s., SSE = +14m.35s.
Hong Kong PP = +8m.1s., P$_c$P = +10m.3s.
Upsala iPPE = +8m.35s., iPPPE = +9m.4s., iE = +10m.6s., SE = +13m.12s.
Vienna ePP? = +8m.39s., PP = +10m.15s., PPP = +14m.8s., S$_c$S = +17m.26s.
Zagreb eP = +7m.26s., ePPZ = +8m.9s., ePPP = +8m.39s., eP$_c$P = +10m.15s., eN = +10m.28s., eSS = +15m.24s.
Graz i = +8m.43s. and +10m.22s.
Zi-ka-wei iZ = +8m.18s., +8m.45s., +11m.26s., +14m.29s., +16m.13s., and +19m.1s.
Prague e = +8m.41s., +10m.27s., +15m.3s., and +17m.3s.
Triest iPP? = +8m.53s., iEZ = +9m.22s., iPP? = +10m.31s., iS? = +15m.3s., isS? = +17m.17s., i = +17m.29s.
Copenhagen eN = +8m.2s., e = +8m.50s., eN = +9m.15s., PP = +9m.25s., eEZ = +10m.1s. and +10m.27s., eE = +14m.41s., eN = +15m.21s., SS = +17m.9s.
Cheb ePPP? = +8m.56s.
Jena eN = +7m.45s., i = +8m.56s., iN = +10m.39s., iE = +10m.42s., eN = +15m.15s., eE = +15m.18s.
Hamburg iP$_c$PZ = +9m.6s., iPPZ = +9m.41s., ePPPE = +10m.23s., ePPPPZ = +10m.56s., eS$_c$SE = +17m.51s.
Göttingen iP$_c$P = +9m.2s., iPPEZ = +9m.43s., iPPP = +10m.53s.
Florence i = +9m.15s.
Stuttgart epPZ = +8m.46s., sP = +9m.14s., ePPEZ = +9m.47s., epPP = +10m.23s., ePPP = +10m.50s., e = +12m.9s. and +14m.13s., esS = +15m.45s., eSS = +18m.1s.
Zurich e = +9m.16s., e = +11m.4s.
Strasbourg i = +9m.22s., iPP = +10m.1s., iPPP = +11m.13s., i = +11m.30s., e = +12m.14s., i = +16m.1s., iSS = +18m.27s., iSSS = +19m.40s., i = +20m.35s., +23m.2s., and +27m.4s.

Continued on next page.

Basle e = +9m.25s., e = +11m.26s.
Bergen ipP = +9m.24s., SS = +16m.19s.
De Bilt iEZ = +8m.13s., iZ = +9m.31s., e = +11m.15s., eE = +16m.11s., e = +19m.23s.
Uccle iZ = +8m.20s., +9m.37s. and +10m.13s., iE = +10m.59s., iZ = +11m.25s.
Manila ePEN = +8m.29s.
Paris PP = +11m.42s.
Kew i = +9m.56s., iEZ = +11m.46s., eEN = +17m.17s.
Durham ? = +19m.48s.
Kobe eZ = +8m.39s., eE = +9m.21s., eZ = +9m.31s.
Sumoto eZ = +9m.31s., eN = +9m.34s. and +17m.3s., eZ = +17m.11s.
Oxford i = +9m.59s. and +14m.58s., e = +23m.35s.
Edinburgh i = +10m.3s., +11m.58s., +17m.23s., +20m.40s., +21m.17s., +21m.53s.
Stonyhurst i = +10m.0s., iPP = +12m.0s., i = +17m.15s., +20m.1s., +21m.15s., and +21m.45s.
Barcelona i = +10m.1s.
Bidston i = +10m.12s., +12m.5s., e = +17m.22s.
Algiers i = +10m.9s., i = +10m.45s.?, e = +17m.59s.
Scoresby Sund e = +10m.39s., PP = +11m.29s., PPPE = +12m.33s., eE = +13m.43s., +17m.17s. and +18m.23s., eN = +18m.44s., SS = +20m.33s., SSS = +22m.27s.
Almera PP = +10m.59s., i = +14m.2s.
Toledo PP = +10m.54s.
Granada i = +10m.46s.
Malaga i = +10m.54s., e = +18m.42s.
San Fernando ePP = +11m.33s., iPS = +19m.14s., SS = +23m.0s.
Ivigtut +12m.8s., +21m.16s.
Dakar ePPP = +12m.36s., eSS = +23m.3s.
Sitka e = +16m.39s., eSS = +27m.49s.
Cape Town Univ. i = +22m.22s., i = +24m.0s., N = +26m.30s., E = +28m.2s., N = +28m.15s.
Chicago ePPP = +20m.46s., e = +28m.33s.
Oak Ridge eZ = +15m.39s., eN = +22m.45s.?
Philadelphia e = +16m.29s., ePP = +16m.58s., e = +18m.19s., e = +20m.22s., e = +22m.16s., e = +23m.15s., ePS = +26m.1s.
Florissant ePPZ = +17m.38s., iZ = +19m.6s., iPPPPZ = +21m.18s., isKSEN = +23m.46s., iSE = +24m.56s., isSEN = +25m.33s., eSPEN = +26m.10s., isSPE = +26m.40s., eSSE = +31m.56s., eSSSE = +36m.12s.
Ottawa e = +22m.51s.
Mount Wilson iZ = +24m.4s.
Pasadena iZ = +18m.38s., iZ = +19m.43s., iZ = +28m.42s., iZ = +29m.13s.
Riverside eZ = +19m.48s.
Tucson ePS = +28m.15s., eSS = +34m.9s.
La Paz iZ = +21m.49s., iPPN = +22m.35s., iZ = +23m.11s., PS = +34m.11s., SS = +41m.15s.

June 29d. Readings also at 2h. (Grozny and near Nagoya), 3h. (Oaxaca and Tacubaya), 4h. (Andijan, La Paz, and Samarkand), 6h. (Charlottesville), 10h. (La Plata and near Santiago), 20h. (Cape Town and near Christchurch), 21h. (Ksara), 22h. (Sverdlovsk and Tashkent).

June 30d. 10h. 27m. 23s. Epicentre 40°·5N. 122°·0W. (as on 1928 April 15d.). X.

A = −·4030, B = −·6449, C = +·6494 ; δ = +3 ;
D = −·848, E = +·530 ; G = −·344, H = −·551, K = −·760.

		Δ	Az.	P.	O−C.	S.	O−C.	L.
		°	°	m. s.	s.	m. s.	s.	m.
Ukiah		1·6	214	—	—	e 0 39	− 2	e 1·9
Ferndale		1·7	272	e 0 48	S	(e 0 48)	+ 4	—
Berkeley		2·6	186	e 0 37	0	i 2 9	+62	—
San Francisco	E.	2·7	188	e 0 41	+ 2	e 1 11	+ 2	—
Branner		3·1	183	e 0 46	+ 2	e 1 15	− 5	—
Lick		3·5	174	e 0 46	−·4	e 1 22	− 8	—
Fresno	N.	4·1	155	e 1 0	+ 2	e 1 53	+ 8	—
Tinemaha	Z.	4·5	138	i 1 12	+ 8	i 2 4	+ 9	—
Haiwee		5·3	143	e 1 26	P*	i 2 30	+15	—
Pasadena		7·0	153	e 1 36	− 3	i 3 21	+22	—
Mount Wilson	Z.	7·0	151	e 1 40	+ 1	i 3 22	+23	—

Additional readings :—
Ukiah e = +1m.17s.
Ferndale eE = +1m.3s. and +1m.19s., eN = +1m.27s.
Branner eEN = +1m.19s.
Long waves were also recorded at Tucson.

June 30d. 12h. 46m. 57s. Epicentre 40°·5N. 122°·0W. (as at 10h.). R.3.

		Δ	Az.	P.	O−C.	S.	O−C.	L.
		°	°	m. s.	s.	m. s.	s.	m.
Ukiah		1·6	214	e 0 29	+ 6	e 0 44	+ 3	1·4
Ferndale		1·7	272	e 0 30	+ 6	e 1 20	?	—
Berkeley		2·6	186	e 0 37	0	e 1 8	+ 1	—
San Francisco		2·7	188	e 0 38	− 1	e 1 11	+ 2	—
Branner		3·1	183	e 0 43	− 1	e 1 18	− 2	—
Lick		3·5	174	e 0 43	− 7	e 1 18	−12	—
Fresno	N.	4·1	155	e 0 55	− 3	e 1 38	− 7	—
Tinemaha		4·5	138	i 1 11	+ 7	i 2 9	+14	—
Haiwee		5·3	143	e 1 27	+12	i 2 35	+20	—
Pasadena		7·0	153	e 1 38	− 1	i 3 18	+19	—
Mount Wilson	z.	7·0	151	e 1 40	+ 1	i 3 22	+23	—
Riverside	z.	7·4	151	e 1 44	− 1	i 1 53	?	—

Additional readings :—
Ukiah e = +38s.
Ferndale eN = +49s. and +1m.10s.
Berkeley eNZ = +40s., eEN = +48s.
Branner eEN = +55s., +1m.25s., and +1m.32s.
Lick eEN = +48s., +51s., +55s., eE = +1m.25s., eN = +1m.34s.
Fresno eN = +1m.2s., iN = +1m.42s., eN = +1m.59s.
Long waves were also recorded at Tucson.

June 30d. 15h. 6m. 44s. Epicentre 51°·1N. 161°·1E. N.1.

A = −·5941, B = +·2034, C = +·7782 ; δ = −8 ;
D = +·324, E = +·946 ; G = −·736, H = +·252, K = −·628.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Otiai	12·5	259	1 50	−65	—	—	—	—
Nemuro	13·1	240	3 56	+53	7 36	?	—	—
Kusiro	13·9	241	3 0	−14	—	—	—	—
Asahigawa	14·5	247	3 23	+ 1	—	—	—	—
Haboro	14·6	250	3 0	−23	—	—	—	—
Obihiro	14·6	243	3 21	− 2	—	—	—	—
Urakawa	15·4	241	3 27k	− 7	—	—	—	—
Sapporo	15·6	247	3 34k	− 2	6 53	+24	—	—
Muroran	16·3	245	3 45	0	—	—	—	—
Hadkodate	16·8	245	3 53	+ 1	—	—	—	—
Aomori	17·4	242	3 53	− 6	—	—	—	—
Miyako	17·6	237	3 49	−13	7 15	0	—	—
Morioka	18·0	239	4 2	− 5	7 24	− 1	—	—
Mizusawa	18·4	237	i 4 8	− 3	i 7 40	+ 7	—	—
Isinomaki	18·8	236	4 15	− 1	8 15	+33	—	—
Sendai	19·2	230	4 18a	− 3	7 58	+ 8	—	—
Yamagata	19·4	237	4 22k	− 1	8 4	+10	—	—
Hukusima	19·8	236	4 25a	− 2	8 8	+ 6	—	—
Aidu	20·1	238	4 37a	+ 6	8 29	+21	—	—
Onahama	20·2	234	4 34	+ 2	8 20	+10	—	—
Niigata	20·4	239	4 39	+ 5	—	—	—	—
Mito	20·8	233	4 39a	+ 1	8 30	+ 8	—	—
Kakioka	21·1	234	4 40a	− 1	8 32	+ 4	—	—
Tukubasan	21·1	234	4 41a	0	8 34	+ 6	—	—
Tyosi	21·1	231	4 42a	+ 1	8 39	+11	—	—
Vladivostok	21·3	259	i 4 39	− 4	i 8 40	+ 8	—	14·1
Maebasi	21·4	236	4 45a	+ 1	8 45	+11	—	—
Takada	21·4	240	4 57	+13	—	—	—	—
Kumagaya	21·5	237	4 46a	+ 1	8 47	+11	—	—
Tokyo	21·7	234	4 50a	+ 2	8 51	+11	—	—

Continued on next page.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Nagano	21·8	239	4 50a	+ 1	8 51	+ 9	—	—
Oiwake	21·8	237	4 50a	+ 1	8 51	+ 9	—	—
Katuura	21·9	232	4 53	+ 3	—	—	—	—
Wazima	21·9	242	4 51	+ 1	8 51	+ 7	—	—
Yokohama	22·0	234	4 52a	+ 1	9 3	+19	—	—
Yokosuka	22·1	234	4 56	+ 4	—	—	—	—
Husiki	22·3	240	4 46	− 8	—	—	—	—
Mera (Tomisaki)	22·3	233	4 55a	+ 1	9 14	+22	—	—
Toyama	22·3	240	4 56	+ 2	9 0	+ 8	—	—
Hunatu	22·4	235	4 54	− 1	9 6	+13	—	—
Kohu	22·4	235	4 55a	0	9 5	+12	—	—
Ito	22·6	234	4 58	+ 1	9 16	+19	—	—
Misima	22·6	234	4 56a	− 1	9 8	+11	—	—
Numadu	22·6	234	5 0	+ 3	—	—	—	—
Kanazawa	22·7	241	4 53a	− 5	8 57	− 2	—	—
Takayama	22·7	237	4 56	− 2	—	—	—	—
Hukui	23·3	237	4 38	−26	—	—	—	—
Omaesaki	23·3	236	5 2a	− 2	9 16	+ 6	—	—
Gihu	23·4	237	5 5a	0	9 21	+ 9	—	—
Hamamatu	23·5	237	5 7a	+ 2	9 18	+ 4	—	—
Nagoya	23·6	237	5 7a	+ 1	9 28	+12	11·8	12·6
Ibukisan	23·7	237	5 0a	− 7	9 21	+ 3	—	—
Hatidyozima	23·8	231	5 9a	+ 1	9 31	+12	—	—
Hikone	23·9	238	5 9	0	9 31	+10	—	—
Kameyama	24·1	237	5 12a	+ 1	9 38	+13	—	—
Tu	24·1	237	5 16	+ 5	9 32	+ 7	—	—
Miyadu	24·2	241	5 12	0	9 39	+12	—	—
Kyoto	24·3	238	5 14a	+ 1	9 32	+ 4	—	—
Toyooka	24·4	241	5 14a	0	9 43	+13	12·1	14·7
Osaka	24·7	238	5 19	+ 2	—	—	—	—
Yagi	24·7	241	5 18	+ 1	9 46	+10	—	—
Kobe	24·9	238	i 5 19a	0	i 9 45	+ 6	12·5	16·1
Hsinking	24·9	267	6 21	+62	—	—	—	—
Wakayama	25·2	238	5 23a	+ 1	10 0	+16	—	—
Okayama	25·5	241	5 26	+ 1	9 58	+ 8	—	—
Sumoto	25·7	238	5 23a	− 3	9 59	+ 6	—	10·1
Tokusima	25·7	238	5 27	+ 1	9 55	+ 2	—	—
Tadotu	25·9	239	5 30a	+ 2	10 0	+ 3	—	—
Hamada	26·4	243	5 33a	0	—	—	—	—
Muroto	26·5	239	5 33	− 1	—	—	—	—
Hirosima	26·6	242	5 41a	+ 6	10 23	+14	—	—
Kure	26·6	242	5 39	+ 4	—	—	—	—
Koti	26·6	240	5 35a	0	10 12	+ 3	—	—
Heizyo	27·4	259	i 5 43	+ 1	10 20	− 2	16·6	18·4
Wazima	27·4	241	5 52	+10	—	—	—	—
Simidu	27·5	240	5 44	+ 1	10 20	− 4	—	—
Keizyo	27·6	255	i 5 44a	0	e 10 20	− 5	—	15·9
Taikyu	27·7	250	5 48a	+ 4	10 33	+ 6	14·7	18·3
Zinsen	27·8	255	i 5 46a	+ 1	i 10 29	+ 1	—	19·4
Ooita	27·9	242	5 30	−16	—	—	—	—
Husan	28·0	249	5 38a	− 9	10 22	−10	—	10·6
Titizima	28·0	219	5 47	0	—	—	—	—
Hukuoka	28·3	244	i 5 49a	− 1	10 33	− 4	13·9	14·9
Hukuoka B	28·3	244	i 5 49	− 1	i 10 49	+12	—	11·1
Ituhara	28·5	248	5 53	+ 1	10 41	+ 1	—	—
Saga	28·6	244	6 27	+34	11 45	+63	—	—
Yingkow	28·6	264	5 34k	−19	10 17	−25	—	—
Kumamoto	28·7	243	5 56a	+ 3	10 58	+15	—	—
Miyazaki	29·0	241	5 58	+ 2	10 48	0	—	—
Unzendake	29·0	243	6 2a	+ 6	—	—	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
College		29·3	42	e 5 59	0	i 10 50	− 3	e 14·8	—
Nagasaki		29·3	243	5 55	− 4	10 46	− 7	—	—
Kagosima		29·8	241	6 5	+ 2	11 5	+ 4	—	—
Dairen		30·0	262	6 8	+ 3	11 1	− 3	—	—
Tomie		30·0	244	6 20	+15	—	—	—	—
Chiufeng		32·8	269	6 29k	− 1	i 11 29	−19	18·5	18·3
Nake		32·8	239	6 27a	− 3	11 43	− 5	—	—
Zi-ka-wei	E.	35·2	252	6 51	0	12 26	+ 2	16·5	24·4
Naha		35·5	239	6 55	+ 2	12 27	− 2	—	—
Nanking		36·2	266	i 7 1	+ 1	i 12 39	0	16·3	21·2
Sitka		36·4	55	i 7 6	+ 5	i 12 42	0	i 18·2	—
Isigakizima		38·9	241	7 20	− 3	13 16	− 4	—	—
Giran		39·9	245	7 30	− 1	—	—	—	—
Taihoku		39·9	245	7 29a	− 2	13 38	+ 3	18·0	21·6
Karenko		40·6	245	7 34	− 3	—	—	—	—
Taityu		41·0	246	7 40	0	13 53	+ 2	—	—
Arisan		41·4	245	7 44	0	13 56	− 1	—	—
Taito		41·9	244	7 47	− 1	14 16	+11	—	—
Kosyun		42·7	243	7 52	− 2	14 7	− 9	—	—
Tainan		43·0	245	7 51	− 6	—	—	—	—
Honolulu T.H.		43·6	117	i 8 6	+ 4	i 14 38	+ 8	26·3	—
Hong Kong		46·2	250	8 21	− 1	15 6	− 1	22·8	30·0
Victoria		46·7	62	i 8 26	0	i 15 23	+ 9	22·5	26·5
Seattle		47·7	62	8 32	− 2	e 15 32	+ 3	e 19·3	—
Semipalatinsk		48·4	303	i 8 37	− 2	15 27	−11	18·5	—
Manila		48·6	236	i 8 41a	0	i 15 40	− 1	23·3	27·3
Palau		49·0	217	8 40	− 4	15 40	− 7	—	—
Ferndale		50·8	71	e 9 2	+ 5	i 16 20	+ 8	e 21·8	—
Phu-Lien		51·9	255	i 9 5	− 1	i 16 28	+ 1	24·8	31·4
Ukiah		52·3	72	i 9 12	+ 3	e 16 32	− 1	e 24·6	—
Saskatoon		53·2	50	i 9 18	+ 3	i 16 46	+ 1	—	—
San Francisco	E.	53·6	73	e 9 19	+ 1	e 16 44	− 6	—	—
Berkeley		53·7	73	e 9 18	− 1	e 16 56	+ 4	24·2	—
Branner		54·0	73	e 9 24	+ 3	e 16 58	+ 2	—	—
Lick		54·4	73	e 9 27	+ 3	e 17 6	+ 5	—	—
Almata		54·6	298	9 28	+ 2	e 17 8	+ 4	21·5	—
Bozeman		55·0	58	i 9 30	+ 1	e 17 13	+ 4	e 23·3	—
Fresno		55·9	72	e 9 36	+ 1	—	—	—	—
Frunse		56·1	298	9 34	− 3	17 23	− 1	22·8	—
Tinemaha		56·6	71	i 9 44a	+ 4	e 17 41	+10	—	—
Haiwee		57·4	71	i 9 49	+ 3	i 17 44	+ 2	—	—
Scoresby Sund		58·4	2	i 9 55k	+ 2	i 17 59	+ 4	—	—
Mount Wilson		58·6	73	i 9 57a	+ 2	e 18 4	+ 7	—	—
Pasadena		58·6	73	i 9 56a	+ 1	i 18 3	+ 6	—	—
Andijan		58·8	298	9 57	+ 1	i 18 5	+ 5	30·5	—
Riverside		59·2	73	i 10 0	+ 1	e 18 2	− 3	—	—
Tchimkent		59·2	301	9 59	0	e 18 2	− 3	33·8	—
Tashkent		60·0	300	i 10 2	− 2	i 18 5	−11	—	—
La Jolla		60·1	74	i 10 6a	+ 1	e 18 19	+ 2	—	—
Calcutta		62·0	272	10 16	− 2	18 36	− 6	e 29·3	39·5
Pulkovo		62·2	335	i 10 19	− 1	18 39	− 6	29·3	36·9
Denver		62·4	60	e 10 20	− 1	i 18 55	+ 8	—	—
Samarkand		62·5	300	10 24	+ 2	18 39	− 9	—	—
Dehra Dun		62·7	286	10 36	+13	18 56	+ 5	31·1	38·3
Moscow		63·4	328	i 10 27	− 1	18 58	− 2	28·8	41·5
Tucson		64·3	70	i 10 36	+ 2	e 19 14	+ 3	e 29·3	—
Reykjavik		64·7	3	10 39	+ 2	e 19 19	+ 3	—	—
Agra		65·0	283	i 10 33	− 6	i 19 12	− 8	—	36·9
Upsala		65·2	342	i 10 39	− 1	i 19 21	− 1	28·3	37·9
Ivigtut		65·3	16	i 10 39	− 2	i 19 23	− 1	31·3	—

Continued on next page.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Des Moines		66·8	51	i 10 53	+ 2	e 19 35	− 7	e 31·4	—
Bergen		67·1	348	i 10 51	− 1	i 19 5	−41	e 32·6	48·0
Madison		67·8	48	i 10 56	− 1	i 19 51	− 3	32·8	38·3
Apia		69·1	151	i 11 1	− 4	i 20 8	− 2	31·3	—
Königsberg		69·1	337	i 11 4	− 1	i 20 6	− 4	e 30·8	39·6
Loyola (Chicago)		69·5	48	i 11 6	− 2	e 20 12	− 3	—	—
Chicago		69·6	48	i 11 11	+ 3	e 20 15	− 1	e 33·5	—
Copenhagen		70·1	342	i 11 11a	0	i 20 15	− 7	30·3	—
Grozny		70·2	316	11 15	+ 3	20 29	+ 5	36·7	—
Florissant		70·6	52	i 11 13	− 1	i 20 26	− 2	i 31·7	37·8
Baku		70·7	311	i 11 14	− 1	—	—	—	—
Piatigorsk		70·8	318	i 11 15	− 1	20 24	− 7	29·0	—
St. Louis		70·8	52	i 11 16	0	i 20 28	− 3	e 30·6	38·0
Ann Arbor		71·0	46	i 11 22	+ 5	i 20 34	+ 1	e 33·9	49·8
Medan		71·3	250	11 15	− 4	20 25	−12	36·3	—
Ottawa		71·5	39	i 11 20a	0	i 20 36	− 3	32·3	—
Toronto		71·7	42	i 11 16	− 5	i 20 32	− 9	33·9	—
Tiflis		71·9	316	i 11 22a	0	i 20 41	− 3	37·3	50·3
Hyderabad		72·0	275	11 19	− 4	20 31	−14	33·8	45·8
Edinburgh		72·2	351	e 11 26	+ 2	i 20 45	− 2	31·3	49·6
Buffalo		72·6	42	i 11 26	0	i 20 42	−10	—	—
Sotchi		72·6	320	e 12 26	+60	21 43	+51	38·3	—
Lemberg		72·7	333	e 11 39	+12	e 21 1	+ 8	29·3	47·1
Hamburg		72·9	343	i 11 26a	− 2	i 20 53	− 3	33·3	39·3
Theodosia		73·1	323	i 11 28	− 1	20 54	− 4	33·3	—
Durham		73·2	350	i 11 28	− 2	i 20 56	− 3	—	50·6
Erevan		73·3	314	11 30	− 1	21 2	+ 2	45·2	—
Czernowitz		73·5	331	e 11 44	+12	21 16	+13	35·3	48·1
Vermont		73·5	37	i 11 33	+ 1	e 20 44	−19	e 36·4	—
Simferopol		73·6	325	11 31	− 1	20 57	− 7	31·3	—
Batavia		73·7	238	i 11 28a	− 5	i 20 59	− 6	36·3	—
Yalta		74·0	323	11 33	− 2	21 2	− 6	33·3	—
Sebastopol		74·1	324	i 11 34	− 1	21 4	− 6	37·3	—
Stonyhurst		74·1	350	11 36	+ 1	i 21 6	− 4	36·3	44·1
Malabar		74·2	234	e 11 34	− 2	e 20 53	−18	—	—
Bombay		74·3	281	i 11 38	+ 2	i 21 9	− 3	35·3	41·6
Göttingen		74·5	342	i 11 36a	− 1	i 21 13	− 1	e 37·3	41·3
Bidston		74·7	351	i 11 37	− 2	i 21 25	+ 8	34·3	48·3
Jena		74·7	340	i 11 37	− 2	i 21 12	− 5	34·3	43·3
Pennsylvania		74·7	43	i 11 37	− 2	e 21 7	−10	e 38·9	46·5
De Bilt		74·8	345	i 11 40a	+ 1	i 21 17	− 1	e 37·3	53·4
Prague		74·9	339	e 11 36	− 4	i 21 17	− 2	31·3	40·3
Hof		75·3	341	i 11 42	0	i 21 16	− 8	34·3	42·8
Cheb		75·4	340	e 11 41	− 2	i 21 21	− 4	33·3	42·6
East Machias		75·4	34	i 11 44	+ 1	i 21 21	− 4	35·8	—
Oak Ridge		75·8	37	i 11 44	− 1	i 21 31	+ 2	e 39·3	—
Oxford		76·1	349	i 11 44a	− 3	i 21 28	− 5	e 36·3	55·1
Budapest		76·2	335	i 11 45	− 2	21 28	− 6	34·8	49·3
Kew		76·2	348	i 11 47	0	i 21 30	− 4	35·3	45·6
Uccle		76·2	346	i 11 47a	0	i 21 31	− 3	32·3	44·2
Vienna		76·2	337	i 11 47a	0	21 34	0	e 36·3	49·3
Fordham		76·3	40	i 11 46	− 2	21 51	+16	—	—
Georgetown		76·6	43	i 11 49	0	i 21 32	− 6	—	—
Philadelphia		76·6	41	i 11 47	− 2	i 21 22	−16	i 37·2	—
Bucharest		76·9	329	e 11 50a	− 1	i 21 36	− 6	37·8	46·3
Karlsruhe		77·2	343	i 11 53	0	i 21 44	− 1	40·2	58·6
Stuttgart		77·3	342	i 11 53a	− 1	i 21 42	− 4	39·3	44·3
Graz		77·5	337	i 11 51	− 4	i 21 46	− 2	35·3	44·0
Strasbourg		77·7	343	i 11 53a	− 3	i 21 45	− 6	e 37·3	43·3
Kodaikanal	E.	78·1	272	i 11 55	− 3	i 21 42	−13	36·7	50·0
Belgrade		78·2	332	i 11 57a	− 1	i 21 52	− 4	44·0	50·0
Paris		78·4	346	i 12 1a	+ 2	i 21 56	− 2	32·3	44·3
Zagreb		78·5	336	i 11 59a	− 1	e 21 54	− 5	e 42·3	44·4
Laibach		78·7	337	e 12 0	− 1	i 21 55	− 7	35·7	38·5
Zurich		78·7	342	e 12 1a	0	e 21 55	− 7	—	—

Continued on next page.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Basle		78·8	342	e 12 1	0	e 21 59	− 4	—	—
Colombia		78·9	49	e 12 0	− 2	e 21 56	− 8	e 37·4	—
Chur		79·0	341	e 12 3	0	e 22 0	− 5	—	—
Jersey (St. Louis)		79·0	349	12 1	− 2	—	—	—	—
Colombo		79·1	268	11 59	− 4	21 55	−11	39·2	52·8
Triest		79·2	338	i 12 2a	− 2	i 22 2	− 5	i 35·3	41·1
Neuchatel		79·4	342	e 12 5	0	e 22 6	− 3	—	—
Padova		79·9	338	e 12 9	+ 2	e 22 6	− 9	38·3	53·9
Tacubaya		80·9	71	12 11?	− 2	—	—	—	—
Florence		81·6	338	12 16	0	i 22 30	− 3	—	—
Ksara		82·4	316	i 12 20a	0	22 35	− 6	—	—
Marseilles		83·3	343	i 12 17	− 8	i 22 41	− 9	36·3	—
Bagnères		84·4	346	e 12 41	+11	e 23 4	+ 2	e 39·3	47·3
Merida	N.	85·1	62	12 36	+ 2	—	—	—	—
Riverview		85·4	188	i 12 32a	− 3	i 22 53	[− 9]	e 34·8	42·2
Sydney		85·4	188	e 12 26	− 9	i 23 16	+ 4	46·1	61·0
Barcelona		85·7	345	e 12 37	0	i 22 58	[− 6]	e 38·5	46·8
Tortosa	E.	86·5	345	e 12 50	+ 9	e 23 17	− 5	e 39·3	48·2
	N.	86·5	345	i 12 39	− 2	i 23 2	[− 8]	41·1	60·6
Helwan		87·7	318	i 12 43	− 3	24 9	+35	—	59·3
Toledo		88·1	349	i 12 49	+ 1	i 23 18	−20	41·9	53·1
Adelaide		88·3	198	i 12 47	− 2	i 23 48	+ 8	39·6	46·3
Algiers		90·0	343	i 13 0	+ 3	i 23 29	[− 4]	39·3	48·3
Melbourne		90·0	193	i 12 54	− 3	24 9	+13	37·5	45·8
Arapuni		90·1	168	—	—	24 16	+19	43·3	46·3
Granada		90·7	348	i 13 1	0	i 23 59	− 4	—	—
Almeria		90·9	347	e 13 0	− 2	i 23 46	{+ 4}	e 43·1	49·9
New Plymouth		90·9	170	12 56	− 6	23 55	− 9	43·3	—
Malaga		91·3	349	13 0	− 3	i 23 52	{+ 7}	—	—
San Fernando		91·7	350	e 13 4	− 1	i 23 46	{− 3}	48·3	62·8
Perth		92·1	217	e 13 6	− 1	i 23 26	[−19]	40·7	57·1
Wellington		93·2	171	13 7	− 5	24 36	+10	43·3	49·3
Christchurch	(N.Z.)	95·2	172	i 13 18a	− 3	24 48	+ 4	44·5	52·6
San Juan		99·2	45	e 13 41	+ 1	e 24 29	[+ 7]	e 44·3	—
Dakar		114·2	358	e 14 44	− 7	—	—	54·3	65·0
Tananarive		119·3	276	20 10	PP	25 40	[− 8]	61·3	65·3
Huancayo		120·1	71	e 18 36	[−10]	e 36 48	SS	e 56·4	—
La Paz		127·9	67	19 4	[+ 1]	i 25 59	[−14]	62·9	68·1
Santiago		138·9	85	(19 19)	[− 1]	(22 19)	PP	—	—
Rio de Janeiro		146·0	42	i 19 34	[− 2]	—	—	i 47·3	—
La Plata		147·7	75	19 40	[+ 2]	—	—	69·7	—
Cape Town Univ.		148·1	288	19 40	[+ 1]	30 1	{−11}	70·3	80·8

Additional readings :—
Mizusawa isE = +7m.44s.
Toyooka PPNZ = +5m.25s., PPE = +5m.34s., PPPN = +6m.2s., PPPPE = +6m.32s.
Kobe iE = +5m.33s., iN = +5m.37s., iE = +6m.2s., iN = +6m.17s., iSE = +9m.49s., iSZ = +9m.51s.
Sumoto SZ = +10m.4s.
Keizyo ePP = +7m.9s.
Taikyu i = +6m.22s. =PP −4s.
Zinsen iE = +6m.52s., iN = +7m.2s., iSEZ = +10m.33s.
Chiufeng iP = +6m.32s., iPPN = +7m.42s. =PPP +0s., iEN = +11m.44s. = S −5s.
Zi-ka-wei iE = +7m.11s., +7m.26s., +12m.33s., and +16m.12s.
Nanking iZ = +7m.14s.
Sitka iPP = +8m.32s., iSS = +15m.22s. =SSS −2s.
Taihoku i = +9m.11s. =PP −6s.
Hong Kong ? = +8m.41s., +10m.15s., +13m.47s., SS = +18m.45s.
Victoria PP = +10m.18s., SSE? = +18m.53s. ; T_0 =15h.6m.40s.
Seattle e = +9m.9s., PP = +10m.58s.
Ferndale e = +16m.42s.
Phu-Lien PP = +11m.6s.
Ukiah PP = +11m.25s., e = +14m.20s., e = +22m.1s.
San Francisco eE = +14m.14s.
Berkeley ePNZ = +9m.21s., ePPZ = +11m.27s., isZ = +17m.2s., eS_cSZ = +18m.51s., eSSZ = +20m.55s., eN = +22m.27s. =SSS −2s.

Continued on next page.

Bozeman ePP = +12m.4s., ePPP = +13m.10s.
Tinemaha iPKPPKPEZ = +39m.41s.
Scoresby Sund eNZ = +10m.16s., PP = +12m.16s., PPP = +13m.40s., P_cSE = +15m.10s., S_cSE = +19m.52s., SSN = +21m.52s., = +24m.16s. =SSS −6s.
Pasadena iSSN = +21m.49s., iPKPPKPZ = +39m.7s., iPKPPKPNZ = +39m.37s.
Riverside iPKPPKPZ = +39m.3s.
La Jolla ePKPPKPEN = +39m.36s.
Calcutta SSN = +22m.44s.
Denver iP = +10m.25s., ipP = +10m.33s., iP_cPE = +10m.58s., iE = +11m.54s., ePPEN = +12m.56s., epPPN = +13m.14s., ePPPN = +14m.6s., i = +19m.6s., iSS = +19m.14s., ePSE = +19m.27s., eE = +20m.54s. T_0 =15h.6m.48s.
Tucson eSS = +23m.38s.
Agra PPE = +12m.59s., PPPE = +14m.21s., PSN = +19m.45s., SSE = +23m.32s., SSSE = +25m.39s.
Upsala PPN = +13m.8s., PPPN = +14m.50s., SS = +23m.37s., iE = +27m.39s.
Ivigtut P_cP = +11m.39s., PP = +13m.25s., PPP = +14m.54s., eZ = +18m.54s., S_cS = +20m.34s., SS = +23m.34s., SSS = +26m.52s.
Des Moines e = +12m.13s., e = +13m.41s., e = +21m.9s., eSSS = +27m.23s.
Bergen e = +13m.15s. =PP +2s., i = +19m.44s., SS = +23m.16s., e = +27m.12s.
Apia P_cP = +11m.26s., PS = +20m.33s., SS = +24m.25s., S_cS = +21m.1s., SSS = +27m.42s. : T_0 =15h.6m.37s.
Königsberg eZ = +11m.17s., iEN = +11m.20s., iPCPN = +11m.59s., iPPN = +13m.41s., eZ = +16m.59s., iE = +17m.2s., eN = +18m.49s., iE = +24m.27s. =SS −2s., iSSSE = +28m.37s.
Chicago iP_cP = +11m.18s., ePPP = +15m.17s., eSS = +25m.16s.
Copenhagen iZ = +11m.24s., PP = +13m.47s., PPP = +15m.31s., iN = +21m.34s., eE_c = +21m.40s. and +24m.16s., SS = +24m.52s., SSSN = +28m.22s., eZ = +39m.8s.
Florissant ipPEN = +11m.25s., isPEN = +11m.31s., ipP_cPEN = +11m.42s., isP_cPN = +11m.50s., iPPEN = +13m.59s., iPPPE = +15m.36s., iEN = +19m.29s., isSEN = +20m.50s. =PS +4s., isPN = +21m.0s., isSPN = +21m.21s., iN = +21m.38s., iSSE = +25m.29s., iSSSE = +28m.39s.
Piatigorsk i = +19m.0s.
St. Louis ipPN = +11m.27s., isPEN = +11m.33s., iPPEN = +13m.59s., iPPPEN = +15m.43s., iEN = +19m.30s., isSEN = +20m.52s., iSSPN = +21m.24s.
Ann Arbor e = +13m.52s. =PP −5s., ePP = +14m.16s., ePPP = +15m.58s., eSS = +25m.28s., eSSS? = +29m.4s.
Medan iP = +11m.28s.
Ottawa PP = +14m.0s., PPP = +15m.42s., PSE = +21m.2s., SS = +25m.24s., SSS = +28m.19s.
Toronto iPPN = +14m.2s., PSE = +14m.9s., SSE = +25m.19s.; T_0 =15h.6m.49s.
Tiflis ipP = +11m.37s., PP = +14m.3s., PPP = +15m.37s., e = +29m.20s.
Hyderabad PP = +13m.55s., SS = +25m.19s.
Edinburgh i = +11m.53s., +12m.42s., +13m.48s., +14m.4s. =PP +7s., +15m.46s., +18m.0s., +18m.40s., +21m.2s., +25m.28s., +30m.40s.
Vermont iPP = +14m.22s., iPPP = +15m.58s., e = +19m.50s., iS = +21m.3s., eSS = +25m.27s., iSSS = +29m.15s., e = +32m.25s.
Buffalo iPP = +13m.56s., iPPP = +15m.56s., i = +19m.40s., i = +29m.40s.
Czernowitz iE = +11m.50s., PPE = +14m.50s., PSE = +21m.40s., SSE = +26m.16s.
Batavia iZ = +11m.43s.
Stonyhurst i = +23m.32s., +25m.6s., and +26m.1s.
Bombay PPEN = +14m.17s., PPPEN = +16m.6s., PSEN = +21m.42s., SSEN = +26m.16s.
Göttingen iEZ = +11m.46s., iPPEZ = +14m.25s., iPPN = +14m.29s., iPPP = +16m.9s., iPPPP = +17m.10s., ePSZ = +21m.34s., iPSE = +21m.36s., isSEN = +25m.58s., eE = +28m.40s., iSSSEN = +29m.38s.
Bidston iPP = +14m.29s., iSS = +25m.32s., iSSS = +29m.36s.
Jena iPEN = +11m.43s., iZ = +11m.47s., i = +14m.29s., iE = +16m.13s., iN = +16m.16s., iZ = +16m.16s., iE = +17m.10s., iNZ = +17m.16s., iZ = +19m.51s., iN = +21m.14s., eZ = +21m.16s., eN = +25m.10s., eEN = +25m.16s., eN = +25m.53s.. =SS +0s., eE = +26m.5s., eN = +29m.16s., eE = +29m.28s., eN =30m.58s.
Pennsylvania i = +11m.50s., +13m.2s. and +19m.52s., e = +26m.5s.
De Bilt iPPZ = +14m.35s., iPPZ = +19m.55s.
Prague ip = +11m.38s., ePP = +14m.40s., ePPP = +16m.16s., ePPPP = +17m.34s., ePS = +21m.46s., eSS = +25m.52s.
Hamburg ePPN = +14m.27s., ePPPN = +15m.36s., ePPPPN = +17m.20s., eSSE = +25m.29s., eSSSN = +29m.16s.
Hof eNW = +14m.32s. =PP +8s., = +16m.16s., and = +26m.10s. =SS +8s., eNE = +29m.16s. =SSS +8s., eNW = +29m.16s.
Cheb ePPP = +16m.12s., eSS = +26m.11s.
East Machias i = +11m.59s., e = +12m.43s., ePP = +14m.30s., ePPP = +16m.18s., eSS = +26m.14s., eSSS = +29m.55s.

Continued on next page.

Oak Ridge iPPZ = +14m.35s., iPPN = +14m.39s., iPPP = +16m.31s., eE = +17m.35s., iZ = +19m.58s., eZ = +21m.47s., iEN = +21m.49s., iZ = +22m.51s. and +24m.7s., iN = +24m.53s., iZ = +25m.34s., eN = +25m.47s., iN = +26m.29s., eE = +26m.45s., iN = +27m.41s., eE = +30m.9s., iZ = +30m. 43s., iE = +34m.47s.
Budapest P_cP = +12m.19s., PP = +15m.8s., PPP = +16m.28s., SS = +26m.24s., SSS = +30m.0s.
Kew iZ = +12m.54s., iPPZ = +14m.44s., iPPN = +14m.54s., iPPPNZ = +16m.42s., iSZ = +21m.32s., iSSEN = +26m.18s., iSSSEN = +29m.52s
Uccle iP_cPZ = +12m.0s., iPPZ = +14m.41s., iPPPZ = +16m.12s., iPPPZ = +17m.22s., SPZ = +22m.5s., SSN = +26m.27s.
Vienna PP = +15m.9s., S_cS = +22m.7s., SS = +26m.31s., SSS = +30m.4s.
Philadelphia ePP = +14m.38s., iPP = +15m.2s., iPPP = +16m.23s., eSS = +26m.14s., iSSS = +30m.4s.
Bucharest iPPEN = +14m.39s., PPPEN = +16m.9s., iE = +21m.4s., iSEN = +21m.38s. and +21m.42s., PSEN = +22m.15s., SSE = +26m.36s., SSSE = +29m.36s.
Stuttgart iP_cP = +12m.7s., ePP = +14m.52s., ePPP = +16m.34s., eSS = +26m.43s.
Graz iPP = +15m.9s., iSS = +27m.22s.
Strasbourg iP_cP = +12m.12s., iPP = +14m.57s., PPP = +16m.55s., PPPP = +18m.7s., iPS = +22m.12s., iSS = +26m.46s.
Kodaikanal iPPE = +14m.45s., PPPE = +16m.31s., PS = +22m.23s., iSSE = +26m.51s., iSSSE = +29m.55s.
Belgrade i = +14m.49s., i = +27m.6s.
Paris PP = +15m.5s., SS = +26m.55s.
Zagreb e = +12m.3s. and +12m.20s., eP_cP = +12m.31s., e = +12m.48s. and +12m.58s., ePP = +15m.5s., ePPP = +17m.6s., ePPPPZ = +20m.10s., eS_cS = +22m.31s., ePS = +22m.51s., e = +25m.28s., e = +26m.42s., eSS = +26m.56s., eSSS = +30m.42s., eL_q = +35m.3s.
Laibach iP_cP = +12m.16s., iPP = +15m.11s.
Columbia eSS = +27m.38s.
Chur e = +20m.17s.
Triest i = +12m.19s. and +15m.1s., iPP = +15m.6s., iPS = +22m.43s., i = +23m.16s. and +26m.51s., iSS = +27m.3s., isSS = +30m.33s.
Neuchatel e = +20m.19s.
Ksara ipP = +12m.33s., isP = +12m.40s., iPP = +15m.32s., sS = +22m.56s., SS = +28m.14s.
Marseilles ePPPN = +17m.3s., eSS = +28m.11s.
Bagnères eSS = +28m.46s.
Riverview iE = +23m.26s.
Barcelona PP = +16m.4s., sS = +28m.49s.
Helwan i = +16m.16s. =PP +9s., +20m.6s., SKS = +23m.8s., i = +29m.13s. = SS +6s.
Toledo PP = +16m.7s., PPP = +17m.58s., PS = +24m.5s.
Adelaide i = +13m.1s., i = +14m.43s., iPP? = +16m.16s., iPPPP = +19m.31s., iSKS = +23m.27s., iPS = +24m.41s., i = +29m.4s., iSS = +29m.25s., i = +30m.30s., +32m.51s., +33m.32s., +38m.22s.
Algiers iPP = +16m.40s., iSS = +29m.56s., eSSS = +33m.37s.
Melbourne e = +23m.46s., i = +24m.26s. and +29m.36s. =SS −4s.
Arapuni iSS? = +29m.46s., L_q = +36m.46s.
Almeria PP = +17m.0s.
New Plymouth i = +13m.17s., SKS = +23m.46s.
Malaga i = +13m.4s., e = +16m.8s. and +16m.58s., SKS = +23m.20s., e = +23m.28s., SS? = +30m.2s., SSS = +33m.32s., e = +47m.16s.
San Fernando eP = +13m.8s., PP = +16m.31s., iSKS = +23m.39s.
Perth P_cP = +13m.16s., PP = +16m.21s., PPP = +18m.21s., S = +21m.21s., i = +22m.6s. sS = +28m.16s.
Wellington i = +13m.23s., i = +13m.32s., i = +13m.46s., iPP = +16m.49s., i = +17m.26s., iPPP? = +18m.44s., SKS = +24m.1s., iPS = +25m.36s., iPPS? = +26m.34s., SS = +31m.7s., iSSS = +34m.25s., L_q = +37m.49s.
Christchurch iPP = +17m.6s., SKKS = +24m.32s., PS = +25m.56s., PPS = +26m.32s., iSS = +31m.8s., SSS = +34m.56s.
San Juan iPP = +17m.34s., ePPP = +21m.17s., eSKKS = +24m.46s., eS = +25m.33s., eSS = +32m.42s., eSSS = +36m.39s.
Dakar iPP = +19m.9s., iPPS = +27m.0s., eSS = +35m.4s.
Tananarive PPP = +22m.55s., PS = +29m.49s., PPS = +31m.4s., SS = +36m.26s., E = +49m.34s.
Huancayo e = +15m.36s. ePP = +20m.20s., eSKS = +23m.1s., ePS = +29m.36s., e = +41m.6s., e = +43m.23s., e = +50m.46s.
La Paz ipPKP = +21m.6s., iPP = +21m.30s., isP = +22m.8s., iNE = +22m.30s. iPPPZ = +24m.12s., iSKSZ = +26m.4s., iSKKSN = +28m.3s., iSKKSZ = +28m.10s., iSKSPE = +31m.6s., iZ = +32m.4s. and +35m.31s., iSS = +38m.41s., iSSSE = +44m.10s., L_q = +58·9m.
Rio de Janeiro iPE = +19m.36s., iPPN = +22m.47s., iPPE = +22m.51s.
Cape Town Univ. SKP = +23m.14s., PPP = +26m.17s., SKS = +26m.42s., PSKSE = +33m.19s., PSKSN = +33m.27s., PPS = +36m.2s., SSN = +42m.1s., SSE = +42m.8s., SSSN = +47m.58s., SSSE = +48m.3s.
Note: Santiago readings increased by 10m.

June 30d. 19h. 26m. 7s. Epicentre 33°·5N. 60°·5E. N.2.

$A = +\cdot4106$, $B = +\cdot7258$, $C = +\cdot5519$; $\delta = -3$;
$D = +\cdot870$, $E = -\cdot492$; $G = +\cdot272$, $H = +\cdot480$, $K = +\cdot8339$.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Samarkand		8·1	38	1 56	+ 1	—	—	—	4·9
Tashkent		10·5	39	i 2 24	− 4	i 4 20	− 6	5·9	—
Baku		10·9	312	2 30	− 3	5 16	+40	—	—
Tchimkent		11·4	36	e 2 35	− 5	4 57	+ 9	—	—
Andijan		11·9	49	e 2 48	+ 1	e 4 34	−26	—	—
Erevan		14·4	302	e 3 20	− 1	e 8 0	?	—	—
Frunse		14·5	45	e 3 17	− 5	e 6 7	+ 4	—	—
Tiflis		14·9	308	3 22	− 5	e 6 27	+14	7·5	12·0
Grozny		15·1	315	3 29	− 1	—	—	—	—
Dehra Dun		15·2	97	6 43	S	(6 43)	+23	(8·7)	9·9
Almata		16·1	48	3 45	+ 2	i 7 7	+26	9·1	—
Agra		16·4	109	i 3 50	+ 4	7 7	+19	9·3	—
Piatigorsk		17·1	313	3 22	−33	—	—	—	—
Bombay		18·3	142	i 4 11	+ 1	e 7 50	+19	9·9	14·5
Sotchi		19·0	308	e 5 19	+60	—	—	—	—
Ksara		20·4	276	i 4 35	+ 1	i 8 27	+13	—	—
Semipalatinsk		22·3	35	e 4 53	− 1	—	—	—	—
Theodosia		22·5	309	4 50	− 6	9 0	+ 5	—	—
Hyderabad		22·7	132	4 55	− 3	9 10	+11	11·4	15·9
Yalta		23·1	306	e 4 48	−14	e 9 12	+ 5	14·4	—
Simferopol		23·3	307	5 1	− 3	9 11	+ 1	—	—
Sebastopol		23·6	306	5 5	− 1	9 17	+ 1	—	—
Helwan		25·0	269	e 5 24	+ 4	i 9 53	+12	—	17·8
Calcutta		26·8	108	e 5 56	+20	10 46	+34	13·8	18·0
Moscow		27·3	331	i 5 38	− 3	10 34	+14	15·4	20·2
Kodaikanal	E.	28·0	143	e 9 9	PcP	—	—	—	—
Bucharest		28·6	303	e 4 53	−60	e 10 45	+ 3	—	—
Czernowitz		29·7	311	e 5 15	−47	e 10 6	−53	20·9	—
Colombo		32·1	143	8 28	?	17 8	ScS	—	—
Belgrade		32·7	302	e 6 59k	+30	e 11 58	+12	e 19·9	—
Pulkovo		32·9	333	6 31	0	i 11 45	− 4	17·9	21·2
Budapest		34·0	307	e 6 43	+ 3	—	—	22·4	25·4
Königsberg		35·0	320	i 6 54	+ 5	(e 12 20)	− 1	e 25·0	27·9
Vienna		35·9	308	e 6 55	− 2	—	—	e 20·9	—
Zagreb		35·9	304	e 6 56	− 1	—	—	e 17·2	—
Graz		36·4	305	i 6 59	− 2	e 12 48	+ 6	e 21·9	27·1
Paris		37·2	308	e 8 15	PP	e 18 9	?	24·9	30·9
Prague		37·4	311	e 6 35	−35	e 14 11	?	e 20·9	26·4
Triest		37·4	303	i 7 11a	+ 1	e 12 57	0	—	21·9
Upsala		38·4	327	7 20	+ 2	e 13 8	− 4	e 21·9	28·2
Cheb		38·7	311	e 7 21	0	e 13 25	+ 8	e 24·9	26·9
Padova		38·7	303	7 23	+ 2	—	—	—	—
Jena		39·3	311	e 7 26	0	e 13 29	+ 3	e 22·9	26·9
Copenhagen		39·6	319	7 28k	− 1	13 30	0	—	—
Chur		40·4	306	e 7 36	+ 1	—	—	—	—
Göttingen		40·4	313	i 7 39	+ 4	—	—	—	27·9
Hamburg		40·6	316	e 7 36k	− 1	e 13 53	+ 8	—	26·9
Stuttgart		40·6	308	e 7 35	− 2	e 13 53	+ 8	e 24·9	28·8
Zurich		41·0	306	e 7 44	+ 4	—	—	—	—
Karlsruhe		41·2	309	8 45	+63	—	—	e 28·5	—
Strasbourg		41·6	308	e 7 44	− 1	—	—	e 21·9	—
Neuchatel		42·1	305	e 7 43	− 6	—	—	—	—
De Bilt		43·4	314	e 8 0	0	e 14 35	+ 8	e 27·9	33·4
Uccle		43·8	311	e 8 2	− 1	14 41	+ 8	e 24·9	—
Chiufeng		44·3	65	e 8 10	+ 3	14 48	+ 8	—	27·2

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Bergen		44·4	325	e 9 37	PP	14 37	− 4	—	31·9
Kew		46·8	311	e 8 27	0	e 15 15	− 1	e 22·9	31·5
Algiers		47·2	291	i 7 38	−52	e 16 4	+43	e 20·3	—
Oxford		47·3	313	8 27	− 4	i 15 29	+ 6	28·7	32·2
Durham		47·5	316	—	—	15 25	− 1	—	33·9
Stonyhurst		48·0	316	8 38	+ 2	15 38	+ 5	27·9	31·9
Hong Kong		48·2	89	—	—	15 41	+ 5	—	30·3
Bidston		48·4	315	e 8 47	+ 8	e 15 35	− 3	—	30·9
Edinburgh		48·4	318	e 8 41	+ 2	15 45	+ 7	—	36·5
Nanking		48·4	75	e 8 47.	+ 8	15 42	+ 4	e 23·8	31·2
Zi-ka-wei	z.	50·8	75	e 8 53	− 4	—	—	31·9	36·4
Toledo		51·1	297	8 57	− 3	e 16 20	+ 4	e 33·1	—
Granada		51·4	294	e 9 2	0	e 16 29	+ 9	—	—
San Fernando		53·6	294	—	—	e 16 54	+ 4	25·9	—
Vladivostok		55·2	58	e 9 30	0	—	—	29·9	35·7
Scoresby Sund		56·2	337	9 39	+ 2	17 31	+ 6	22·1	—
Manila		57·5	93	(17 53)	S	17 53	+10	30·4	—
Ivigtut		69·2	331	14 53	PPP	20 8	− 3	33·9	—
Dakar		72·0	276	i 10 59	−24	i 20 23	−22	e 36·6	41·3
Sitka		88·5	9	—	—	e 23 19	[− 4]	e 45·9	—
Florissant	E.	102·8	337	—	—	e 27 18	?	e 45·6	55·7
Tucson		113·3	352	—	—	e 45 53	?	e 49·7	—
La Paz		131·0	278	e 19 21	[+12]	—	—	64·9	79·9

Additional readings :—
Samarkand e = +2m.22s., e = +2m.39s., i = +4m.36s.
Tchimkent e = +3m.11s., e = +3m.53s.
Andijan e = +4m.8s., e = +5m.57s. =S* +5s.
Frunse e = −17m.51s., e = +8m.20s.
Tiflis e = +3m.53s.
Dehra Dun, Note : S and L are given as P and S.
Piatigorsk e = +10m.8s.
Bombay PPPEN = +4m.39s., SSEN = +8m.39s.
Ksara iPP = +4m.57s., P_cP = +8m.37s., S_cS = +15m.47s.
Semipalatinsk e = +11m.23s., e = +14m.53s.
Helwan SS = +11m.20s.
Calcutta SSN = +12m.4s.
Bucharest eN = +6m.23s., iE = +10m.13s. and +11m.38s., eEN = +12m.37s., iEN = +13m.48s.
Czernowitz e = +12m.3s., e = +13m.17s., e = +16m.12s.
Belgrade ePPP = +8m.7s.
Königsberg eP_cPE = +8m.0s., eN = +8m.4s., ePS = +15m.50s., iN = +17m.42s., iSSE = +18m.53s., iSSSE = +20m.24s., iN = +20m.27s. ; S is given as P_cS.
Zagreb ePP? = +8m.25s., e = +10m.3s.
Graz iPP = +8m.28s.
Prague ePP = +8m.35s.
Triest iPP = +8m.30s., i = +9m.12s., +9m.18s., and +10m.2s., S = +12m.59s., i = +15m.55s. =SSS +6s.
Upsala PPE = +8m.40s.
Cheb ePP = +8m.53s., e = +18m.27s.
Jena eE = +8m.53s. =PP +1s.
Copenhagen +8m.59s. =PP +4s., +9m.29s. =PPP −10s., PS = +13m.39s., SS = +16m.11s.
Hamburg eN = +16m.49s., =SSS −10s., iN = +24m.38s.
Stuttgart ePP = +19m.12s., eSS = +16m.54s.
Strasbourg ePP = +9m.26s., eSS = +17m.20s.
De Bilt ePPEZ = +9m.44s.
Uccle PPZ = +9m.57s., SSE = +17m.53s.
Chiufeng eSSN = +17m.41s., S_cSE = +18m.10s.
Bergen e = +11m.27s.
Kew eSSE = +19m.34s.
Bidston eSS = +19m.25s.
Edinburgh e = +19m.11s.
Scoresby Sund 22m.5s.
Manila SEN = +25m.3s.
Dakar iPPP = +15m.29s., iPS = +22m.54s.
Sitka e = +23m.36s.
Florissant eSSE = +33m.46s.
Long waves were also recorded at Keizyo, Phu-Lien, Cape Town, Tortosa, and other American stations.

June 30d. Readings also at 1h. (Christchurch and Taikyu), 2h. (Mount Wilson and Riverside), 3h. (Ksara and Nagoya), 4h. (near Tiflis), 6h. (near Mizusawa), 9h. (Paris, Andijan, Frunse, and near Almata), 10h. (Alicante, Mount Wilson, and Pasadena), 11h. (Mount Wilson, Riverside, Pasadena, Tinemaha, La Plata, near Santiago, and San Javier, near Kobe, Sumoto, and Nagoya), 15h. (Haiwee, La Jolla, Mount Wilson, Pasadena, Riverside, Tinemaha, Batavia, Tiflis, and near Belgrade), 17h. (near Tananarive), 20h. (Pasadena, Haiwee, Mount Wilson (2), near Berkeley and Fresno, near Triest), 22h. (Frunse, Andijan, Samarkand, Oaxaca, and Tacubaya), 23h. (Tiflis, Fresno, and near Berkeley).

Original 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 have been scanned and collected by SGA Storia Geofisica Ambiente (Bologna) thanks to funding provided by the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.