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The International Seismological Summary.

1935 April, May, June.

FORMERLY THE BULLETIN OF THE
BRITISH ASSOCIATION SEISMOLOGY COMMITTEE.

The present quarter of the Summary deals with 182 epicentres, 69 being new and 113 repetitions from old epicentres.

The quality of the material is as follows :—

N.1=13	R.1=17	X=57
N.2=21	R.2=10	
N.3=35	R.3=29	

Cases of abnormal focus are as follows :—

Date.					Epicentre.		Focal Depth. (Below Normal)
	d.	h.	m.	s.	°	°	
April	3	11	11	58	36·2N.	70·7E.	+0·020
April	15	11	15	7	36·2N.	137·1E.	+0·045
May	31	8	18	41	38·6N.	134·2E.	+0·070

UNIVERSITY OBSERVATORY,
OXFORD.

1945 March 17.

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1935 APRIL, MAY, JUNE.

April 1d. 0h. 27m. 13s. Epicentre 33°·7N. 135°·2E. (as on 1935 March 31d.). X.

A = − ·590, B = + ·586, C = + ·555.

	△ °	Az. °	P. m. s.	O − C. s.	S. m. s.	O − C. s.	M. m.
Sumoto	0·7	338	i 0 10	0	i 0 18	0	0·3
Osaka	1·0	12	0 14	0	0 27	+ 1	0·5
Kobe	1·0	359	i 0 14	0	i 0 25	− 1	0·4
Toyooka	1·9	350	0 26	− 2	0 46	− 3	0·8
Nagoya	2·0	45	0 29	0	0 53	+ 2	0·9

Kobe eE = + 2m.6s.

April 1d. 2h. Readings for which no determination has been made :—

Riverview eE = 25m.24s., eN = 30m.30s., eL = 32m.36s., M = 36m.30s.
Wellington i = 26m., eL = 27m.
Arapuni e = 26m.
Melbourne e = 27m.32s., L = 36·4m., M = 40·3m.
Adelaide eE = 28m.36s., eE = 32m.42s., eE = 37m.54s., ME = 43m.42s.
Batavia P = 31m.3s., eS = 40m.40s.
Pasadena ePZ = 31m.28s., iZ = 31m.42s., eL = 58m.
Mount Wilson eZ = 31m.42s.
Riverside eZ = 31m.42s.
Haiwee eN = 31m.44s.
Tinemaha ePEN = 31m.52s.
Vladivostok e = 32m.12s.
Chiufeng P = 32m.29s.a.
Sverdlovsk eP = 38m.34s., e = 41m.54s., L = 77m.
Malaga e = 38m.53s., e = 42m.13s., e = 48m.41s., e = 51m.1s., e = 55m.29s.
Tiflis P = 38m.53s., L = 39m.
Tashkent e = 39m.30s., e = 44m.40s., e = 46m.30s., e = 50m.42s., e = 57m.30s., i = 59m.48s., e = 79m., M = 101·0m.
Granada e = 40m.30s., i = 44m.26s., i = 51m.8s., L = 110m.26s., M = 126m.52s.
Bombay eE = 41m., eEN = 45m.0s., M = 88m.30s.
Pulkovo e = 42m.30s., e = 60m.47s., L = 115m.
Huancayo e = 43m.13s., e = 50m.23s., e = 63m.10s., i = 67m.0s.
Sitka eP = 43m.21s., eL = 74m.
Perth P = 44m.0s., M = 49m.0s.
Florissant eEN = 44m.0s., eEN = 45m.8s., eN = 65m.12s., eN = 69m.20s., eME = 72m.15s.
Alicante e = 44m.48s.
Florence e = 57m.30s., S = 71m.20s., L = 113m.0s.
Cheb e = 63m.18s.
Baku e = 65m.58s., eL = 96m.
Ottawa eN = 73m., e = 76m., eL = 80m.
Philadelphia e = 78m.42s., e = 79m.39s., e = 84m.48s.
Bergen 90m.
Andijan e = 91m.10s.
Kew e = 100m.
Long waves at Tucson, La Paz, and other European stations.

April 1d. 9h. 16m. 29s. Epicentre 18°·0N. 107°·0W. (as on 1931 June 21d.). R.2.

A = − ·278, B = − ·909, C = + ·309 ; D = − ·956, E = + ·292 ;
G = − ·090, H = − ·296, K = − ·951.

	△ °	Az. °	P. m. s.	O − C. s.	S. m. s.	O − C. s.	L. m.	M. m.
Tacubaya	7·5	78	1 56?	+10	—	—	—	—
Tucson	14·7	347	e 3 23	− 2	—	—	6·2	—
La Jolla	17·5	330	e 4 0	0	—	—	—	—
Riverside	18·5	332	e 4 11	− 2	—	—	—	—
Pasadena	18·9	330	e 4 20	+ 3	i 7 47	+ 3	e 9·1	—

Continued on next page.

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Mount Wilson	18·9	331	e 4 17	0	—	—	—	—
Santa Barbara	20·0	328	e 4 45	PP	—	—	—	—
Little Rock	21·2	35	e 4 40	− 2	e 8 28	− 2	e 10·4	—
Tinemaha	21·5	335	e 4 47	+ 2	—	—	—	—
St. Louis	25·3	32	e 5 24	+ 1	e 9 46	0	e 13·0	—
Florissant	25·3	31	e 5 21	− 2	e 9 45	− 1	e 12·7	e 13·4

Long waves also at Ann Arbor, Bozeman, Philadelphia, and Scoresby Sund.

April 1d. 21h. 31m. 12s. Epicentre 37°·4N. 121°·5W. N.3.

A = − ·415, B = − ·677, C = + ·607.

	Δ	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Lick	0·1	255	i 0 1	0	e 0 3	0
Branner	0·5	273	e 0 6	− 1	e 0 12	− 1
Berkeley	0·7	306	e 0 12	+ 2	e 0 23	+ 5

Berkeley gives also eEN = + 21s.

April 1d. Readings also at 0h. (Sumoto), 3h. (Cheb), 4h. (Triest), 9h. (Sofia), 15h. (Riverview and Wellington), 16h. (Sverdlovsk), 18h. (Tiflis (2), Mizusawa), 22h. (Lick), 23h. (Erevan, Grozny, and Tiflis).

April 2d. 16h. Readings for which no determination has been made :—

Wellington e = 29m.
Riverview eE = 29m.10s., eL = 36m.54s., M = 39m.4s.
Pasadena eZ = 35m.26s., eZ = 35m.41s.
Riverside eZ = 35m.43s.
Haiwee eEN = 35m.55s.
Tinemaha eE = 35m.56s.
Chiufeng P = 36m.26s.a, iSEN = 46m.53s.
Sydney e = 36m.36s., L = 38m.45s., M = 40m.0s.
Sverdlovsk e = 42m.27s., e = 45m.52s., e = 56m.54s., L = 76m.
Grozny e = 42m.46s.
Tiflis i = 42m.49s., e = 46m.31s., e = 55m.45s., L = 97m.
Erevan e = 42m.50s.
Granada e = 44m.53s., e = 54m.51s.
Baku e = 46m.22s., e = 58m.13s., e = 61m.16s., e = 72m.35s., eL = 91m.
Stuttgart e = 58m., e = 62m.
Tashkent e = 70m., eL = 85m., M = 89m.54s.
Copenhagen L = 102m.

April 2d. 19h. 54m. 52s. Epicentre 41°·2N. 43°·6E. (as on 1935 Jan. 26d.). X. Grozny gives 41°·2N. 43°·5E.

A = + ·545, B = + ·519, C = + ·659.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Tiflis	1·0	63	0 14	0	—	—	i 0·5	—
Erevan	1·4	144	e 0 19	− 1	0 35	− 1	—	0·6
Grozny	2·6	37	e 0 46	P_g	e 1 30	S_g	—	—

Additional readings :—
Tiflis i = + 16s.
Grozny eS* = + 1m.20s.

April 2d. 20h. Readings for which 42°·4N. 69°·9E. is suggested as the epicentre :—

Tchimkent P_g = 14m.10s., S_g = 14m.11s., M = 14m.18s.
Andijan eP = 14m.45s., i = 15m.5s., S_g = 15m.22s., M = 15m.24s.
Samarkand eP = 14m.45s., S* = 15m.33s., M = 15m.42s.
Frunse S_g = 15m.58s.
Almata e = 16m.5s., i = 17m.4s.

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April 2d. Readings also at 0h. (Haiwee, Huancayo, Pasadena, Tinemaha, La Paz, Santiago, and Wellington), 1h. (Sverdlovsk and Tashkent), 4h. (Santiago), 5h. (Christchurch), 7h. (La Paz), 8h. (Zurich), 10h. (Malaga), 11h. (Stuttgart), 12h. (Malaga, Pasadena, and Tinemaha), 13h. (Wellington), 14h. (Erevan), 15h. (La Paz), 16h. (Tananarive), 18h. (Granada and Santiago), 19h. (La Plata, Paris), 22h. (San Juan and Wellington).

April 3d. 6h. 47m. 43s. Epicentre 6°·1S. 95°·9E. N.3.

A = −·100, B = +·990, C = −·105; D = +·995, E = +·101;
G = +·011, H = −·104, K = −·994.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Medan	10·1	17	i 1 25	?	i 2 14	P	—	—
Batavia	11·0	90	e 5 28	S*	—	—	—	—
Colombo	20·5	309	−0 15	?	—	—	—	12·1
Phu-Lien	28·9	22	e 5 31	?	—	—	14·3	—
Hyderabad	29·1	324	10 27	S	(10 27)	−23	—	47·5
Calcutta	29·4	346	(e 6 1)	+ 1	(10 54)	− 1	(14·1)	—
Manila	32·4	49	6 24	− 2	11 35	− 6	15·8	18·9
Hong Kong	33·6	32	6 37	0	11 12	−48	—	20·6
Bombay	33·7	319	—	—	e 11 44	−17	16·3	23·4
Agra	37·3	334	—	—	e 12 2	−54	—	—
Zi-ka-wei	44·6	32	—	—	e 16 55	?	21·6	26·1
Chiufeng	49·8	21	e 8 31	−19	—	—	e 24·8	29·7
Almata	52·1	342	e 9 7	0	—	—	—	—
Frunse	52·6	341	e 9 13	+ 2	—	—	—	—
Samarkand	52·8	332	e 8 57	−15	—	—	—	—
Tashkent	53·2	335	i 9 14	− 1	i 16 0	−45	e 25·8	33·8
Tchimkent	53·9	338	e 9 17	− 4	—	—	—	—
Vladivostok	59·1	30	e 10 3	+ 5	—	—	—	35·4
Baku	62·6	332	—	—	e 18 30	−20	e 29·3	38·5
Tiflis	66·6	321	e 9 48	−61	e 19 17	−23	36·3	—
Sverdlovsk	69·1	340	e 11 2	− 3	19 31	−39	29·3	—
Pulkovo	83·3	332	—	—	e 22 25	[−21]	43·3	50·0
Copenhagen	91·3	326	—	—	23 53	−15	48·3	—

Additional readings and note:—
Medan i = +1m.43s., iSE = +2m.25s.
Calcutta readings have been *increased* by 1m.
Bombay iEN = +13m.48s. = SS − 8s.
Baku e = +14m.27s. and +25m.17s. = SSS + 5s.
Tiflis e = +11m.8s.
Long waves at Stuttgart and Scoresby Sund.

April 3d. 8h. Readings for which no determination has been made:—
Merida P = 39m.11s.?
Vera Cruz P = 42m.25s.
Oaxaca PN = 42m.40s.
Tacubaya PN = 42m.49s.
Little Rock ePEN = 45m.33s., epPE = 45m.53s., esPE = 46m.39s., eSEN = 48m.31s., esSE = 49m.7s.
St. Louis ePEN = 46m.18s., eSE = 50m.40s.
Florissant ePEN = 46m.20s.
Riverside eZ = 47m.2s., iZ = 47m.7s., eZ = 47m.31s.
Pasadena eZ = 47m.8s., eZ = 47m.38s.
Mount Wilson eZ = 47m.9s., eZ = 47m.39s.
Tinemaha ePZ = 47m.25s., eZ = 47m.54s.
Haiwee eE = 47m.46s.
Tucson e = 52m.18s.

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April 3d. 9h. Readings for which no determination has been made :—
Almata e =57m.37s., iPP =57m.59s., i =58m.35s., S_g =58m.59s.
Tashkent e =57m.39s., e =58m.55s., e =60m.16s., e =61m.6s., i =61m.19s., iL =61m.36s., M =62m.0s.
Frunse eP =58m.9s.
Andijan eP =58m.38s., e =60m.20s., M =60m.44s.
Samarkand eP =59m.3s.
Tchimkent eP =59m.17s., i =61m.46s.
Semipalatinsk eP =60m.46s., e =61m.12s.
Sverdlovsk eP =61m.9s., i =61m.11s., e =65m.32s. and 67m.41s. L_q =68m.6s., LR =69m.42s.
Agra e =62m.48s.
Bombay M =69m.5s.

April 3d. 11h. 11m. 58s. Epicentre 36°·2N. 70°·7E. (as on 1934 Nov. 18d.). R.1.

A = +·267, B = +·762, C = +·591 ; D = +·944, E = −·331 ;
G = +·195, H = +·558, K = −·807.

A *depth* of focus 0·020 has been retained.

	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	i 1 2	− 4	i 1 50	− 8	—	—
Andijan	0·0	4·7	16	1 6	− 1	2 8	+ 8	—	2·2
Tashkent	0·0	5·2	349	i 1 15	+ 1	(i 2 19)	+ 6	i 2·3	2·7
Tchimkent	0·0	6·2	351	1 25	− 3	2 33	− 5	—	2·8
Frunse	−0·1	7·3	20	1 40	− 2	i 2 54	−10	—	—
Almata	−0·1	8·5	32	2 0	+ 1	i 3 25	− 9	—	3·6
Agra	−0·3	11·0	143	i 2 33	+ 2	i 4 33	+ 2	—	—
Baku	−0·6	16·8	291	i 3 48	+ 4	i 6 51	+ 8	7·5	7·7
Bombay	−0·6	17·4	173	i 3 55	+ 3	i 7 6	+ 9	8·3	9·7
Hyderabad	−0·8	20·0	158	4 22	+ 1	8 0	SS	10·0	14·0
Grozny	−0·8	20·4	298	i 4 25	0	i 8 2	+ 4	—	—
Calcutta	−0·8	20·6	127	4 30	+ 3	8 4	+ 2	9·4	—
Tiflis	−0·8	20·8	293	i 4 27a	− 3	i 8 9	+ 3	11·0	—
Erevan	−0·8	20·9	289	e 4 33	+ 2	8 16	+ 8	—	—
Sverdlovsk	−0·9	21·7	345	i 4 34	− 4	i 8 21	− 1	—	—
Sotchi	−1·0	24·7	298	4 41	−26	8 28	−50	—	—
Kodaikanal	−1·2	26·7	165	e 5 21	− 4	i 9 42	− 8	12·1	14·1
Theodosia	−1·3	28·0	299	e 5 34	− 1	e 9 49	−21	11·6	—
Ksara	−1·3	28·5	276	e 5 44	+ 4	i 10 16	− 2	—	—
Yalta	−1·3	28·8	298	e 5 41	− 2	e 9 55	?	11·3	—
Simferopol	−1·3	29·0	300	e 5 42	− 2	e 10 1	−26	—	—
Sebastopol	−1·3	29·2	298	e 5 47	+ 1	—	—	—	—
Colombo	−1·4	30·5	162	e 6 2	+ 5	—	—	—	18·9
Helwan	−1·5	33·4	271	6 22	0	i 11 30	− 4	—	—
Phu-Lien	−1·6	34·9	106	e 6 40	+ 6	e 11 52	− 3	13·0	—
Pulkovo	−1·6	35·0	325	i 6 33	− 2	i 11 47	−10	14·0	15·3
Chiufeng	−1·6	35·6	70	e 6 40	0	12 4	− 2	—	—
Sofia	−1·6	36·7	296	e 6 53	+ 3	e 12 18	− 5	—	—
Budapest	−1·7	39·3	304	6 56	−16	12 56	− 4	16·0	—
Hong Kong	−1·7	40·0	98	7 22	+ 4	13 12	+ 1	—	26·8
Upsala	−1·7	41·1	322	7 22	− 5	13 22	− 5	—	11·2
Vienna	−1·7	41·1	305	i 7 26	− 1	13 16	−11	—	—
Medan	−1·8	41·6	135	e 8 15	+45	i 13 25	− 8	—	—
Prague	−1·8	42·2	308	e 7 39	+ 4	e 13 41	− 1	—	18·0
Triest	−1·8	43·1	301	i 7 48a	+ 5	i 14 0	+ 4	—	—
Copenhagen	−1·8	43·3	316	i 7 44	0	13 55	− 4	—	—
Leipzig	−1·8	43·5	309	e 7 44	− 2	e 13 53	− 9	—	—
Cheb	−1·8	43·5	308	e 7 45	− 1	e 17 27	SSS	—	—
Jena	−1·9	44·0	309	e 7 49	0	e 14 2	− 6	17·0	21·7
Padova	−1·9	44·5	302	e 7 56	+ 3	i 14 13	− 2	—	—

Continued on next page.

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	Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	°	m. s.	s.	m. s.	s.	m.	m.
Hamburg	−1·9	44·8	314	i 7 56	0	i 14 19	0	18·0	23·0
Göttingen	−1·9	44·9	310	i 7 55a	− 2	i 14 18	− 3	—	—
Florence	−1·9	45·2	300	i 8 1	+ 2	13 49	?	—	—
Prato	−1·9	45·3	299	e 8 0	0	i 14 19	− 8	—	—
Stuttgart	−1·9	45·7	307	i 8 3	0	i 14 33	0	—	—
Chur	−1·9	45·8	302	e 7 43	−21	e 13 29	−65	—	—
Piacenza	−2·0	46·0	302	e 7 50	−15	i 14 38	+ 2	—	—
Zurich	−2·0	46·4	305	e 8 8	0	—	—	—	—
Vladivostok	−2·0	46·6	60	—	—	e 14 48	+ 4	—	21·1
Strasbourg	−2·0	46·7	307	i 8 10	0	i 14 44	− 2	e 38·0	—
Basle	−2·0	47·0	305	e 8 13	0	—	—	—	—
Bergen	−2·0	47·2	323	e 8 37	+23	e 15 31	+36	23·0	—
Neuchatel	−2·0	47·5	305	e 8 16	− 1	—	—	—	—
De Bilt	−2·0	47·8	311	8 19	0	15 2	0	e 19·0	19·6
Uccle	−2·0	48·5	310	e 8 24	− 1	i 15 11	− 2	e 19·0	—
Paris	−2·1	50·1	307	e 8 37	+ 1	15 31	− 2	19·0	20·0
Kew	−2·1	51·3	311	i 8 46a	+ 1	i 15 47	− 3	—	—
Oxford	−2·1	51·8	312	—	—	i 15 53	− 4	e 21·1	—
Edinburgh	−2·1	52·1	317	e 8 50	− 1	—	—	—	—
Algiers	−2·2	53·2	292	—	—	16 2?	−13	65·0	—
Batavia	−2·2	54·3	134	—	—	i 16 13	−17	—	—
Rathfarnham Castle	−2·3	54·4	315	e 11 26	?	e 14 26	?	—	23·0
Alicante	−2·3	55·2	295	—	—	i 16 43	+ 2	e 66·6	—
Scoresby Sund	−2·3	57·1	337	9 27	0	17 11	+ 5	—	—
Almeria	−2·3	57·2	295	—	—	i 17 5	− 3	e 64·5	—
Toledo	−2·3	57·2	299	e 9 28	0	i 17 8	0	e 26·4	—
Granada	−2·4	57·9	296	i 9 33	+ 1	17 21	+ 5	26·3	—
Malaga	−2·4	58·7	296	9 32	− 6	17 26	− 1	—	—
San Fernando	−2·4	60·2	296	e 9 44	− 5	25 4	?	65·0	—
Sitka	−2·7	84·2	13	e 15 26	PP	—	—	—	—
Philadelphia	−2·8	97·6	334	—	—	i 23 29	[−31]	—	—
Florissant	—	102·9	345	—	—	e 23 55	[−45]	e 43·5	—
St. Louis	—	103·1	345	—	—	e 23 55	[−46]	e 46·3	—
Tinemsha	—	106·3	9	e 18 17	PP	—	—	—	—
Mount Wilson	—	109·1	8	e 18 25	PP	—	—	—	—
Pasadena	—	109·2	9	i 18 42	PP	—	—	—	—
Riverside	—	109·4	7	e 18 16	[− 0]	—	—	—	—
San Juan	—	111·9	317	—	—	e 26 21	{+ 1}	—	—

Additional readings :—
Samarkand P_g = +1m.12s.
Andijan i = +1m.9s. and +1m.13s., P_g = +1m.18s.
Tchimkent iPP = +1m.49s.
Frunse i = +1m.43s., +2m.4s., and +2m.32s.
Almata i = +2m.3s., +2m.20s., +2m.54s., and +3m.13s.
Agra eP = +2m.37s.
Bombay PPEN = +4m.9s., SSEN = +7m.33s.
Tiflis PPP = +4m.57s., i = +5m.29s.
Kodaikanal iSS = +10m.40s.
Ksara SS = +11m.40s.
Chiufeng iZ = +12m.31s. and +14m.40s., iE = +16m.36s.
Sofia e = +8m.23s.
Hong Kong SS = +16m.42s.
Upsala PP = +9m.7s., SS = +16m.16s.?
Vienna PPP = +9m.11s., SSS = +16m.24s., S_cS = +17m.50s.
Prague ePP = +9m.21s.
Triest pP = +8m.37s., i = +15m.15s., iS_cS = +17m.20s., iSS = +17m.39s., i = +29m.51s.
Copenhagen +8m.54s. and +17m.14s.
Leipzig iZ = +7m.55s. and +8m.26s., eZ = +9m.19s., eN = +17m.15s., eE = +17m.23s.
Cheb e = +13m.35s. and +15m.21s.
Jena iPN = +8m.2s.
Hamburg iN = +17m.59s.
Göttingen eE = +7m.57s., eN = +8m.9s.
Florence iPP = +9m.50s.
Stuttgart iPPEZ = +9m.55s., e = +15m.42s., eSSN = +17m.33s., eZ = +18m,22s, =SSS + 6s.

Continued on next page.

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Zurich e = +17m.47s.
Strasbourg iPP = +10m.2s., ipPP = +10m.47s., ePPP = +11m.9s., eSS = +18m.37s.
Neuchatel e = +17m.44s.
De Bilt iPPZ = +10m.16s., eN = +16m.21s.
Uccle e = +9m.31s., +10m.24s., and +16m.26s., i = +17m.47s.
Paris PP = +10m.34s.
Kew iSS = +18m.12s., i = +24m.30s.
Scoresby Sund +22m.36s.
Granada P_gP = +10m.39s., PS = +17m.47s.
Malaga e = +11m.48s., +13m.18s., +14m.50s., +16m.30s., and +19m.2s.
San Fernando $ePKP_2$ = +10m.35s., iPP = +17m.43s.
Sitka i = +22m.14s., e = +27m.56s.
Philadelphia e = +38m.17s. and +46m.29s.
Florissant eSPZ = +26m.40s., ePPSN = +27m.55s.
Tinemaha eEZ = +18m.50s.
Mount Wilson eZ = +18m.44s.
Riverside iZ = +18m.47s.
San Juan e = +18m.32s.

April 3d. 12h. The following readings may belong to either the previous or following shocks; in some cases they have been given as for one shock :—

Granada e = 5m.12s., L = 16m.55s., M = 19m.55s.
Florence P = 6m.0s., S = 12m.21s., L = 17m.40s., M = 23m.41s.
Tiflis e = 7m.15s., e = 9m.25s., e = 16m.49s.
Triest e = 13m.40s., e = 24m.30s.
Malaga e = 13m.16s., e = 15m.40s., e = 16m.40s., e = 19m.52s., L = 23m.
Medan P = 17m.1s.
Long waves at Edinburgh, Kew, Leipzig, Hamburg, Prague, Stuttgart, Uccle, De Bilt, Copenhagen, and Scoresby Sund.

April 3d. 12h. 5m. 24s. Epicentre 52°·0N. 168°·5W. N.3.

American stations give 51°N. 168°W.

A = −·603, B = −·123, C = +·788; D = −·196, E = +·981; G = −·772, H = −·157, K = −·616.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Sitka	19·6	62	i 4 26	+ 1	i 8 5	+ 7	e 10·0	—
Honolulu	31·8	160	—	—	e 14 34	?	e 15·9	—
Ukiah	33·6	90	—	—	e 12 1	+ 1	e 16·6	—
Tinemaha	37·9	92	i 7 15	+ 1	—	—	—	—
Haiwee	38·6	90	e 7 22	+ 2	—	—	—	—
Santa Barbara	38·7	96	e 7 22	+ 1	—	—	—	—
Mount Wilson	39·4	96	e 7 31	+ 4	—	—	—	—
Pasadena	39·9	91	i 7 30	− 1	—	—	16·6	—
Riverside	40·4	94	e 7 35	0	—	—	—	—
La Jolla	41·3	96	i 7 43	0	—	—	—	—
Tucson	45·6	91	—	—	e 14 58	− 1	e 20·6	—
Chiufeng	51·2	288	e 9 2	+ 2	—	—	—	33·5
Florissant	53·6	70	e 9 13	− 5	—	—	—	—
Toronto	56·5	60	—	—	e 17 24	− 6	e 29·5	—
Ottawa	57·3	56	—	—	e 17 36?	− 4	e 29·6	—
Philadelphia	61·4	58	—	—	e 18 21	−13	25·3	—
Sverdlovsk	63·9	333	e 10 29	− 2	e 19 13	PS	42·6	43·4
Baku	81·8	332	e 12 21	+ 4	—	—	e 45·6	56·3
Tiflis	82·0	335	—	—	e 22 45	+ 8	47·3	56·3
Triest	82·3	358	—	—	i 27 58	SS	—	—
San Juan	82·9	69	—	—	e 22 36	−10	e 40·1	—
Huancayo	101·4	96	e 20 26	?	—	—	—	—

For Notes see next page.

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NOTES TO APRIL 3d. 12h. 5m. 24s.

Additional readings :—
Honolulu e = +13m.19s. =SS +7s.
Ukiah e = +14m.16s.
Tucson eS = +18m.6s.
Ottawa eE = +23m.36s.?
Sverdlovsk e = +14m.5s., L_q = +36m.6s.
Baku e = +24m.11s. and +32m.51s.
Triest e = +7m.40s. and +19m.6s.
San Juan e = +20m.24s.
Huancayo e = +16m.31s.
Long waves at Granada, Tashkent, Calcutta, Bombay, Hong Kong, Columbia, Chicago, and Bozeman.

April 3d. Readings also at 1h. (Erevan, Ksara, Tiflis, and Santiago), 2h. (Wellington), 3h. (Pasadena, Riverside, Tinemaha, La Paz, and Sucre), 6h. (La Paz), 7h. (Perth), 8h. (Medan), 9h. (Tiflis), 10h. (Chiufeng), 11h. (Manila and Santiago), 12h. (Lick, Santiago, La Paz, and Karenko), 14h. (Budapest and Kobe), 16h. (La Jolla, Mount Wilson, Pasadena, Riverside, Paris, Theodosia, Simferopol, Sebastopol, Yalta, and Riverview), 17h. (Almeria), 19h. (Malaga), 20h. (Mount Wilson, Pasadena, San Juan, Riverview, Adelaide, Melbourne, Wellington, Apia, and Tiflis), 21h. (Baku, Granada, Paris, Sverdlovsk, Strasbourg, Stuttgart, Tiflis, Tashkent, Huancayo, Mount Wilson, Ottawa, Pasadena, Riverside, San Juan, Tucson, Chiufeng, and Perth), 22h. (Edinburgh, Kew, Andijan, Cheb, Copenhagen, De Bilt, Scoresby Sund, Tashkent, Uccle, and Santiago), 23h. (Malaga, Scoresby Sund, Mount Wilson, Pasadena, and Tinemaha).

April 4d. 6h. 30m. 27s. Epicentre 24°·5N. 121°·5E. N.3.

Given by Taihoku.

A = −·476, B = +·776, C = +·415 ; D = +·853, E = +·522 ;
G = −·216, H = +·354, K = −·910.

	△ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.
Taihoku	0·5	0	i 0 7	0	0 16	+ 3
Karenko	0·5	174	e 0 7	0	0 17	+ 4
Taityu	0·9	241	0 14	+ 1	0 28	+ 5
Arisan	1·2	210	e 0 18	+ 1	0 38	S*
Taito	1·8	190	0 25	− 1	0 55	S_g
Tainan	1·9	216	−0 17	?	0 18	?
Hokoto	2·1	239	0 28	− 2	—	—
Takao	2·2	206	0 40	P_g	—	—
Kosyun	2·6	194	0 36	− 1	1 14	S*

Long waves at Hong Kong and Phu-Lien.

April 4d. 13h. 21m. 50s. Epicentre 37°·3N. 141°·7E. (as on 1934 April 6d.). R.1.

A = −·624, B = +·493, C = +·606 ; D = +·620, E = +·785 ;
G = −·476, H = +·376, K = −·795.

	△ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	M. m.
Onahama	0·7	240	0 8	− 2	0 17	− 1	—
Hukusima	1·1	294	0 16	0	0 30	+ 2	—
Sendai	1·2	326	0 16	− 1	0 31	0	—
Mito	1·3	227	0 17	− 1	0 34	+ 1	—
Yamagata	1·4	312	0 22	+ 2	0 40	S*	—
Utunomiya	1·6	243	0 20	− 3	0 42	+ 1	—
Kakioka	1·6	229	0 23	0	0 42	+ 1	—
Tukubasan	1·7	229	0 22	− 2	0 43	− 1	—
Tyosi	1·7	204	0 23	− 1	0 46	+ 2	—
Mizusawa	1·9	346	i 0 27	− 1	0 50	+ 1	—

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	△ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	M. m.
Kumagaya	2·2	238	0 31	+11	0 59	+23	—
Maebasi	2·3	247	0 33	0	1 4	+ 5	—
Tokyo	2·3	224	0 31	− 2	0 59	0	1·2
Morioka	2·4	350	0 36	+ 2	1 8	S*	—
Yokohama	2·5	222	0 36	0	1 5	+ 1	—
Oiwake	2·7	249	0 40	+ 1	1 22	S_g	—
Mera	2·8	212	0 42	+ 2	1 19	S*	—
Nagano	2·8	257	0 44	P*	1 32	S_g	—
Kohu	3·0	236	0 43	0	1 26	S*	—
Misima	3·1	225	0 44	0	1 25	+ 5	—
Numadu	3·2	242	0 47	+ 1	1 32	S*	—
Toyama	3·7	261	0 48	− 5	1 44	S*	—
Wazima	3·8	272	1 1	P*	1 50	S*	—
Omaesaki	3·9	227	0 59	+ 3	2 1	S_g	—
Hamamatu	4·1	232	1 5	P*	1 47	+ 2	—
Gihu	4·4	245	1 6	+ 3	1 59	+ 6	—
Nagoya	4·4	242	1 3	0	2 3	S*	2·4
Hatidyozima	4·5	200	1 4	0	1 51	− 4	—
Kameyama	4·9	241	1 12	+ 2	2 30	S_g	—
Hikone	4·9	246	1 15	+ 5	2 14	+ 9	—
Osaka	5·6	243	1 25	+ 5	2 50	S_g	3·4
Obihiro	5·8	11	1 30	P*	2 48	S*	—
Toyooka	5·8	254	1 24	+ 2	2 35	+ 7	3·2
Kobe	5·9	245	e 1 39	P*	e 2 39	+ 8	3·3
Wakayama	6·1	242	1 31	+ 4	3 10	S_g	—
Sumoto	6·3	243	e 1 47	P*	2 58	S*	3·4

Additional readings :—
Osaka i = +1m.42s. = P_g − 4s.
Toyooka PN = +1m.29s.
Kobe ePZ = +1m.43s., eSN = +2m.56s. = S* + 2s.
Sumoto SZ = +3m.2s.

April 4d. 23h. Readings for which no determination has been made :—
Samarkand eP_g = 28m.40s., e = 29m.6s.
Tchimkent P_g = 28m.40s., iS_g = 28m.54s.
Tashkent e = 28m.53s., i = 29m.4s., iS = 29m.22s., M = 29m.36s.
Andijan eP = 29m.17s., eS_g = 29m.51s.
Almata e = 31m.0s.
Frunse e = 31m.6s.

April 4d. Readings also at 0h. (Baku, Sverdlovsk, and Malaga (2)), 1h. (Cheb, De Bilt, Paris, Strasbourg, Stuttgart, and Uccle), 2h. (Andijan), 3h. (Edinburgh, Granada, and Malaga), 8h. (Tiflis), 9h. (Tchimkent, Pasadena, Mount Wilson, Riverside, Tinemaha, Arapuni, Riverview, Wellington, and Apia), 10h. (Sebastopol, Simferopol, Theodosia, Yalta, Perth, Huancayo, and La Paz), 11h. (Paris, Strasbourg, and Stuttgart), 13h. (Sumoto), 16h. (Almata, Andijan, Frunse, Tchimkent, and Pasadena), 17h. (Mizusawa (2) and Nagoya), 19h. (Malabar).

April 5d. 2h. Readings for which no determination has been made :—
Apia P = 57m.11s., eS = 58m.30s., eL = 58m.46s.
Arapuni e = 63m.
Wellington e = 63m.
Riverview eN = 63m.6s., eN = 68m.36s., eLE = 70m.24s., M = 73m.28s.
Sydney eP = 66m.50s., eS = 70m.16s., L = 72m.0s., M = 73m.20m.
Santa Barbara ePZ = 66m.55s.
Pasadena iP = 66m.59s.k, eS = 71m.29s.
La Jolla iPZ = 66m.59s.
Riverside iPZ = 67m.1s.k.
Mount Wilson iPZ = 67m.1s.
Tinemaha iP = 67m.10s., iZ = 67m.29s., eN = 71m.43s., iEN = 77m.17s.
Melbourne i = 68m.14s., i = 70m.53s., L = 72m.53s., M = 73·3m.

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Medan P =68m.23s., eS? =78m.8s.
Adelaide e =69m.7s., e =76m.3s., ME =77m.42s.
Mizusawa eSE =70m.33s.
Sverdlovsk eP =74m.2s., e =84m.14s., e =93m.9s., e =95m.52s., L =105m.
Tashkent e =74m.14s., i =75m.38s., e =82m.26s., e =85m.36s., i =106m.0s., e =114m.0s., M =125m.54s.
San Juan e =74m.40s., iS =80m.17s., e =84m.0s.
Tiflis e =74m.44s., e =77m.36s., e =78m.10s., L =127m.
Sebastopol e =74m.44s.
Yalta e =74m.44s.
Theodosia e =74m.46s.
Simferopol e =74m.50s.
Granada eP =75m.52s., L =135m.46s.?, M =142m.34s.
Vladivostok e =76m.33s.
Tucson e =77m.33s., e =80m.52s., eL =92m.50s.
Hong Kong P? =77m.34s., M =98m.30s.
Pulkovo e =78m.0s., e =91m.51s., e =97m.27s., L =128m., M =133m.24s.
Huancayo e =78m.53s., e =86m.40s., e =94m.40s., eL =98m.10s.
Perth P =80m.0s.
Ottawa eE =84m., eL =110m.
Long waves at La Paz, Ukiah, Chicago, Kew, Bidston, Bombay, and other European stations.

April 5d. 10h. Readings for which no determination has been made :—

Toyooka P =2m.35s., S =2m.38s., M =2m.38s.
Osaka P =2m.50s., S =3m.59s., M =3m.59s.
Kobe S =3m.1s., M =3m.3s.
Nagoya P =3m.3s., S =3m.24s.
Sumoto S =3m.11s., M =3m.12s

10h.
Lick eP =13m.47s., iEN =13m.56s., eN =14m.17s.
Branner ePE =13m.48s., iSE =14m.21s.
Berkeley iPZ =13m.50s., eZ =14m.0s., eEN =14m.20s.
San Francisco eP =13m.58s., eEN =14m.5s.

April 5d. 17h. 48m. 37s. Epicentre 17°·1N. 100°·7W. (as on 1933 May 14d.). R.3.

A = − ·177, B = − ·939, C = + ·294 ; D = − ·983, E = + ·186 ;
G = − ·055, H = − ·289, K = − ·956.

	Δ	Az.	P.	O − C.	S.	O − C.	L.
	°	°	m. s.	s.	m. s.	s.	m.
Tacubaya	2·7	27	0 49	P_g	—	—	—
Puebla	3·0	45	1 5	S	(1 5)	−12	—
Oaxaca	3·7	91	1 29	S	(1 29)	− 6	—
Vera Cruz	4·8	61	1 36	P_g	—	—	—
Tucson	17·8	331	e 3 59	− 5	i 7 14	− 6	8·6
Little Rock	19·1	22	e 4 20	0	e 7 44	− 4	—
La Jolla	21·7	320	i 4 48	0	—	—	—
Riverside	22·6	322	i 4 55	− 2	—	—	—
Mount Wilson	23·1	321	i 5 2a	0	—	—	—
Pasadena	23·1	321	i 5 2a	0	i 10 5	+58	e 11·7
St. Louis	23·4	21	e 5 3	− 2	e 9 2	−10	—
Florissant	23·5	21	i 5 5a	0	i 9 6	− 8	—
Santa Barbara	24·3	319	i 5 15	+ 2	—	—	—
Haiwee	24·5	325	i 5 17	+ 2	—	—	—
Tinemaha	25·3	326	i 5 23a	0	e 9 46	0	—
Bozeman	29·9	346	—	—	e 11 41	+38	e 15·1
San Juan	32·9	82	—	—	e 12 0	+11	—
Ottawa	35·1	31	e 8 7	PP	—	—	e 10·4
Seattle	35·4	335	—	—	e 14 36	SS	e 18·3
Huancayo	38·5	137	—	—	e 13 38	+24	—
Sitka	47·6	336	—	—	e 15 18	− 9	e 23·1
Copenhagen	88·2	31	—	—	23 35	− 4	47·4
Sverdlovsk	104·4	10	—	—	e 24 44	[− 3]	49·4
Tashkent	120·9	9	—	—	e 25 55	[+ 2]	e 61·4

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NOTES TO APRIL 5d. 17h. 48m. 37s.

Additional readings :—
Tucson iP = +4m.2s., i = +4m.18s. = PP + 6s., e = +6m.37s. and +8m.7s.
Little Rock epPE = +4m.33s., esPN = +5m.9s., iEN = +7m.57s., isSE = +8m.18s., isSN = +8m.20s., iE = +9m.13s.
St. Louis ipPEN = +5m.21s., iSEN = +9m.6s., isSEN = +9m.31s.
Florissant ipPENZ = +5m.23s.k, iPPZ = +6m.1s., iSE = +9m.12s., isSEN = +9m.33s.
Huancayo eSS = +16m.53s.
Sitka eS_6S = +19m.8s.
Tashkent e = +27m.15s. = SKKS − 7s. and +29m.47s.
Long waves at La Paz, Strasbourg, Baku, and Paris.

April 5d. 18h. Readings for which no determination has been made :—
Andijan eP = 55m.50s., eS = 56m.50s.
Samarkand eP = 55m.57s.
Tashkent e = 56m.2s., i = 56m.20s., e = 57m.2s., iL = 57m.24s., M = 57m.42s.
Tchimkent e = 56m.12s., i = 57m.20s., iS_g = 58m.14s.
Frunse e = 56m.16s., S = 57m.37s., M = 59m.12s.
Almata e = 56m.20s.
Agra i = 58m.41s.
Grozny eP = 59m.21s., e = 63m.45s.
Tiflis e = 59m.24s.
Sverdlovsk iP = 59m.26s., e = 64m.0s., e = 66m.0s., eL = 66m.

April 5d. Readings also at 1h. (Algiers), 2h. (Santiago), 4h. (Bombay), 5h. (La Paz, Huancayo, Pasadena, Riverside, Mount Wilson, and Tinemaha), 6h. (Sebastopol, Simferopol, Sverdlovsk, Theodosia, Yalta, and Tucson), 7h. (Tashkent and Wellington), 8h. (Bucharest, Sofia, Simferopol, Theodosia, Yalta, Granada, Pasadena, Tinemaha, and Tucson), 9h. (Bidston, Edinburgh, Kew, De Bilt, Florence, Paris, Scoresby Sund, Stuttgart, Sverdlovsk, Strasbourg, Uccle, and Ann Arbor), 10h. (Tashkent), 11h. (Triest), 12h. (Almata, Frunse, and Samarkand), 14h. (Santiago), 20h. (Tiflis and Malabar), 23h. (Basle, Neuchatel, Ravensburg, Stuttgart, and Malabar).

April 6d. 9h. Readings for which no determination has been made :—
Andijan eP = 43m.20s., iS_g = 43m.57s., M = 43m.59s.
Frunse eP = 43m.42s., i = 44m.21s., i = 44m.31s., M = 45m.1s.
Tchimkent P = 43m.51s., e = 44m.49s., S_g = 44m.53s., M = 45m.11s.
Almata P = 43m.56s., i = 44m.54s., i = 45m.0s., i = 45m.20s., M = 45m.32s.
Samarkand P = 44m.4s., e = 45m.58s.
Tiflis e = 47m.41s., e = 48m.42s.
Grozny e = 47m.47s.

April 6d. 17h. Readings for which no determination has been made :—
Karenko eP = 7m.18s., S = 7m.24s.
Arisan eP = 7m.23s., S = 7m.28s.
Taityu P = 7m.26s.
Taihoku eP = 7m.35s., S = 7m.48s.

April 6d. Readings also at 3h. (Tiflis), 6h. (San Juan), 8h. (Branner and Lick), 10h. (Pasadena and Tinemaha), 12h. (Andijan), 13h. (Göttingen), 14h. (Alicante, Tashkent, and Sverdlovsk), 15h. (Malabar), 16h. (Mizusawa), 17h. (Wellington and Nagoya), 18h. (Oaxaca and Tacubaya), 20h. (Almata, Andijan, Frunse, Samarkand, Tchimkent, and Wellington).

April 7d. Readings at 1h. (Sofia and Sumoto), 2h. (Lick), 3h. (Erevan and Manila), 5h. (Sofia and Karenko), 6h. (Hong Kong and Manila), 7h. (Sverdlovsk and Tashkent), 12h. (Apia and Manila), 13h. (Samarkand), 14h. (Scoresby Sund), 15h. (Baku, Copenhagen, Pulkovo, Sverdlovsk, and Tashkent),

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April 8d. 3h. Readings for which no determination has been made :—

Tiflis eP =14m.58s., eS =17m.14s., e =17m.26s., i =17m.37s.
Erevan e =15m.16s.
Grozny e =15m.30s., e =18m.18s.
Ksara iP =15m.39s., S =19m.9s.
Tashkent e =16m.55s., eL =20m.18s., M =25m.36s.
Sverdlovsk e =18m.9s., e =22m.40s., L =27m.

April 8d. Readings also at 0h. (Karenko, Taityu, and Taihoku), 2h. (Mizusawa), 3h. (Huancayo, La Paz, and Pennsylvania), 4h. (Sofia), 5h. (Ferndale), 11h. (Riverview), 15h. (Christchurch, Grozny (2), and Tiflis), 16h. (Grozny), 17h. (Batavia and Manila), 18h. (Baku, Sverdlovsk, Theodosia, Tashkent, Yalta, and Nagoya), 20h. (Sverdlovsk, Tashkent, and Mizusawa), 21h. (Andijan, Samarkand, Tchimkent, and Santiago).

April 9d. 8h. 18m. 49s. Epicentre 34°·5N. 138°·0E. (as on 1925 Feb. 15d.). R.1.

A = −·613, B = +·551, C = +·566 ; D = +·669, E = +·743 ;
G = −·421, H = +·379, K = −·824.

	△	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Omaesaki	0·3	51	0 7	+ 3	0 13	+ 5	—
Hamamatu	0·4	303	0 10	+ 4	0 16	+ 6	—
Numadu	0·9	50	0 13	0	0 29	S*	—
Misima	1·0	50	0 14	0	0 27	+ 1	—
Ito	1·0	64	0 16	+ 2	0 28	S*	—
Gotenba	1·1	40	0 15	+ 1	0 28	0	—
Iida	1·1	352	0 12	− 4	0 22	− 6	—
Nagoya	1·1	309	i 0 15	− 1	0 27	− 1	0·6
Kobu	1·2	21	0 16	− 1	0 30	− 1	—
Tu	1·3	281	0 21	P_g	0 39	S*	—
Kameyama	1·3	286	0 19	+ 1	0 40	S_g	—
Gihu	1·4	311	0 18	− 2	0 30	− 6	—
Mera	1·5	74	0 24	P_g	0 45	S*	—
Ibukisan	1·6	304	0 22	− 1	0 40	− 1	—
Yokohama	1·6	53	0 25	P_g	0 47	S_g	—
Yokosuka	1·6	56	0 23	0	0 45	S*	—
Hikone	1·7	298	0 23	− 1	0 46	+ 2	—
Takayama	1·8	340	0 24	− 2	0 44	− 2	—
Yagi	1·8	270	0 28	P*	0 56	S_g	—
Matumoto	1·8	359	0 20	− 6	0 41	− 5	—
Tokyo	1·9	50	0 31	P*	0 57	S_g	—
Oiwake	1·9	13	0 25	− 3	0 49	0	—
Hatidyozima	2·0	135	0 35	P_g	1 1	S_g	—
Kumagaya	2·0	32	0 29	0	0 52	+ 1	—
Kyoto	2·0	286	0 28	− 1	1 2	S_g	—
Maebasi	2·1	24	0 29	− 1	0 52	− 2	—
Osaka	2·2	274	0 31	0	1 3	S*	1·5
Nagano	2·2	3	0 29	− 2	0 53	− 4	—
Siomisaki	2·2	240	0 32	+ 1	1 9	S_g	—
Hukui	2·2	318	0 27	− 4	0 56	− 1	—
Toyama	2·3	343	0 30	− 3	0 59	0	—
Kakioka	2·4	45	0 35	+ 1	1 8	S*	—
Tukubasan	2·4	42	0 33	− 1	1 3	+ 1	—
Kobe	2·4	275	i 0 35	+ 1	i 1 12	S*	1·2
Wakayama	2·4	265	0 40	P*	1 19	S_g	—
Utunomiya	2·6	34	0 40	P*	1 11	+ 4	—
Takada	2·6	5	0 29	− 8	1 5	− 2	—
Sumoto	2·6	266	0 37	0	1 18	S*	1·6
Toyooka	2·8	292	0 38	− 2	1 20	S*	1·4
Mito	2·8	47	0 38	− 2	1 5	− 7	—

Continued on next page.

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	Δ	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Wazima	3·1	342	0 46	+ 2	1 25	+ 5	—
Muroto	3·5	248	0 52	+ 2	1 47	S_g	—
Koti	3·8	255	0 57	+ 3	1 53	S*	—
Hukusima	3·8	31	0 54	0	1 48	S*	—
Matuyama	4·4	262	1 3	0	2 15	S_g	—
Sendai	4·4	30	1 3	0	2 5	S*	—
Simidu	4·5	247	1 17	P*	2 21	S_g	—
Hamada	4·9	275	1 10	0	2 12	+ 7	—
Mizusawa	5·2	28	e 1 15	+ 1	i 2 22	+ 9	—
Akita	5·5	18	1 25	+ 7	2 32	+12	—
Morioka	5·8	26	1 20	− 2	2 46	S*	—
Kumamoto	6·3	254	1 34	+ 4	2 5	P_g	—
Hukuoka B	6·3	262	e 1 44	P*	3 28	S_g	—
Hukuoka	6·4	260	e 1 34	+ 3	3 4	S*	—
Nagasaki	6·8	255	e 1 39	+ 2	e 3 26	S*	—
Husan	7·4	274	—	—	3 34	S*	—
Taikyu	7·6	280	—	—	e 6 22	?	—
Tomie	8·0	254	2 20	P*	4 18	S_g	—
Vladivostok	9·8	330	—	—	e 4 29	+21	—
Nanking	16·1	267	3 44	+ 1	e 8 23	L	(e 8·4)
Chiufeng	18·1	296	e 4 9	+ 1	e 7 35	SS	—

Additional readings :—
Osaka i = +36s. = P_g +1s. and +39s. = P_g +1s.
Kobe iZ = +41s. = P_g −1s., iEN = +43s., iE = +1m.2s. = S +0s.
Sumoto eZ = +46s. = P_g +0s.
Toyooka P_g = +49s.
Mizusawa eSN = +2m.30s. = S* −3s.
Long waves at Sverdlovsk and Tashkent.

April 9d. 10h. Readings for which no determination has been made. Sitka suggests 17°·5N. 100°·5W. :—
Sitka iP = 4m.22s., eS = 7m.51s., iS = 7m.55s., eL = 10m.42s.
Tinemaha iP = 7m.13s., iZ = 7m.19s., iZ = 7m.48s.
Haiwee iPZ = 7m.18s.
Pasadena iPZ = 7m.28s.
Mount Wilson iPZ = 7m.29s.
Riverside ePZ = 7m.32s.
Sverdlovsk iP = 10m.34s., e = 20m.0s., L = 29m.30s.
Tiflis e = 12m.20s.
Ukiah e = 14m.20s.
Tashkent e = 21m.13s., e = 30m.0s., eL = 33m.0s., M = 46m.42s.
Chicago e = 26m.18s.
Baku e = 34m.3s., eL = 43m., M = 62m.30s.
Pulkovo e = 34m.53s., L = 45m., M = 46m.6s.
Long waves at Honolulu and Copenhagen.

April 9d. 19h. 59m. 40s. Epicentre 43°·0N. 49°·0E. (as on 1926 Sept. 27d.). X.
A = +·480, B = +·552, C = +·682 ; D = +·755, E = −·656 ;
G = +·447, H = +·515, K = −·731.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Grozny	2·4	276	i 0 43	P_g	1 14	S_g	—	1·3
Baku	2·7	166	i 0 34	− 5	—	—	i 1·0	1·4
Tiflis	3·4	250	i 0 48	− 1	—	—	i 1·3	e 1·4
Erevan	4·5	232	e 1 1	− 3	1 47	− 8	—	2·0
Sotchi	6·7	275	e 1 44	P*	—	—	—	—
Theodosia	10·0	286	e 2 26	+ 5	4 17	+ 4	—	—
Yalta	10·8	283	i 2 34	+ 2	4 36	+ 3	—	—
Simferopol	10·9	287	i 2 36	+ 3	4 39	+ 3	—	—
Sebastopol	11·3	285	e 2 42	+ 3	4 48	+ 3	—	—
Ksara	13·7	232	e 3 11	0	—	—	—	—

Continued on next page.

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	△ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Samarkand	13·9	98	e 3 14	0	e 5 36	−13	—	—
Tashkent	15·0	90	i 3 29	+ 1	—	—	7·3	10·3
Tchimkent	15·1	83	3 30	0	—	—	—	—
Sverdlovsk	15·7	24	(i 3 44)	+ 6	(i 6 34)	+ 3	8·8	—
Andijan	17·5	87	4 3	+ 3	7 15	+ 2	—	—
Frunse	18·6	80	e 4 18	+ 4	—	—	—	—
Sofia	18·8	278	e 4 18	+ 2	e 7 41	− 1	—	—
Helwan	19·3	232	4 14	− 8	7 34	−18	—	—
Pulkovo	20·3	333	i 4·37	+ 4	i 8 13	+ 1	9·3	10·7
Budapest	21·4	293	4 39	− 5	(8 35)	+ 1	8·6	—
Königsberg	21·9	312	—	—	i 8 54	+10	—	—
Semipalatinsk	22·5	58	e 5 2	+ 6	e 9 12	SS	—	—
Vienna	23·2	295	i 5 5	+ 2	e 9 15	+ 7	—	—
Zagreb	23·6	288	e 5 6	0	—	—	—	—
Prague	24·6	300	—	—	e 9 26	− 8	—	14·3
Triest	25·2	288	5 19	− 3	i 9 49	+ 5	—	—
Leipzig	25·9	301	i 5 26	− 2	e 10 0	+ 3	—	—
Jena	26·4	300	e 6 20?	PP	—	—	—	—
Copenhagen	26·5	311	5 39	+ 5	10 7	0	—	—
Florence	27·2	285	e 5 39	− 1	—	—	—	—
Hamburg	27·6	306	e 6 20?	PP	e 10 38	+13	—	14·3
Stuttgart	28·0	296	—	—	e 11 44	SS	—	—
Bombay	31·4	131	—	—	e 11 20?	− 6	—	—
Malaga	40·8	280	e 7 35	− 4	(e 13 31)	−17	e 13·5	—
Scoresby Sund	43·7	333	—	—	14 41	+10	—	—
Chiufeng	49·0	67	—	—	e 15 43	− 4	—	—

Additional readings and note :—
Grozny P* = +45s., P_g = +48s., PP = +54s., PsS = +1m.8s., S_g = +1m.17s.
Erevan P* = +1m.8s., P_g = +1m.13s., PsS = +1m.39s., S* = +1m.51s., S_g = +1m.58s.
Ksara SSsS = +5m.54s.
Sverdlovsk P and S have been *increased* by 1m.
Frunse i = +4m.38s. and +5m.12s.
Königsberg iNZ = +8m.58s., iN = +10m.57s.
Vienna PP = +5m.35s., PPP = +5m.40s., iNZ = +6m.12s.
Triest i = +10m.29s. and +12m.55s., e = +19m.40s.
Leipzig eP = +5m.44s., iZ = +6m.36s., eN = +10m.43s. and +13m.14s.
Copenhagen +10m.35s.
Hamburg iE = +11m.54s.
Malaga e = +8m.47s., +9m.7s. = PP − 1s. and +9m.51s.
Scoresby Sund +18m.2s.
Chiufeng eN = +20m.22s. and +23m.21s.
Long waves at Vladivostok and Nanking.

April 9d. Readings also at 1h. (Mount Wilson, Pasadena, Riverside, Tinemaha, New Plymouth, and Wellington), 2h. (Manila), 3h. (Grozny and Tiflis), 4h. (Nagasaki), 8h. (Ksara and Tacubaya), 10h. (Chiufeng, Mount Wilson, Pasadena, Riverside, and Santa Barbara), 11h. (Malabar, Haiwee, and Tinemaha), 12h. (Pennsylvania), 13h. (Apia), 17h. (Santiago), 18h. (San Juan and Tacubaya), 20h. (Sofia, Sverdlovsk (2), and Tiflis), 21h. (Mizusawa), 22h. (Manila), 23h. (Chiufeng, Hong Kong, Nanking, Vladivostok, Adelaide, Melbourne, Perth, Wellington, Baku, Copenhagen, Lemberg, Pulkovo, Sverdlovsk, and Tiflis).

April 10d. 6h. Readings for which no determination has been made :—
Huancayo e = 39m.35s., i = 40m.10s., i = 40m.20s., i = 41m.6s., iL = 41m.45s.
La Paz iPN = 41m.26s., iSN = 44m.22s., i = 44m.25s., LN = 46m.45s., M = 48m.18s.
Sucre eP = 41m.57s., iS = 45m.48s., L = 48m.0s.
Riverside iPZ = 46m.42s.
Pasadena iPZ = 46m.58s.a.
Mount Wilson iP = 46m.58s.
Tinemaha iP = 47m.11s.a.
San Juan e = 47m.22s., eL = 51m.0s.

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April 10d. 12h. Readings for which no determination has been made :—
Batavia P = 14m.7s., iS = 20m.16s.
Medan eP = 17m.35s.
Tananarive E = 20m.54s., EN = 22m.43s., eL = 24m.15s., M = 25m.35s.
Tashkent e = 20m.55s., iS = 29m.39s., e = 30m.27s., e = 34m.0s., eL = 46m.0s., M = 52m.36s.
Melbourne e = 21m.10s., L = 27m.30s.
Adelaide e = 21m.17s., i = 22m.27s., e = 23m.32s., MN = 28m.18s.
Bombay eEN = 25m.34s., M = 40m.16s.
Agra e = 26m.52s.
Tiflis e = 31m., L = 48m.36s.
Pulkovo e = 37m.30s., L = 65m., M = 69m.30s.
Sverdlovsk e = 43m.17s., L = 53m., M = 62m.6s.
Long waves at Baku, Hyderabad, Chiufeng, and Hong Kong.

April 10d. 22h. 32m. 29s. Epicentre 11°·0N. 62°·2W. (as on 1918 Feb. 24d.). R.3.

A = +·458, B = −·868, C = +·191 ; D = −·885, E = −·466 ;
G = +·089, H = −·169, K = −·982.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
San Juan	8·3	332	i 2 4	+ 6	i 3 56	+25	e 4·5	—
Huancayo	26·5	210	e 5 31	− 3	i 9 45	−22	—	—
La Paz	28·1	192	i 5 47k	− 1	i 10 23	−11	12·9	15·3
Sucre	30·2	184	i 6 5	− 2	10 50	−17	14·3	—
Georgetown	30·9	337	i 6 16a	+ 3	11 18	0	e 15·5	—
Little Rock	36·3	315	e 6 59	− 1	e 10 3	?	e 14·4	—
Florissant	37·5	324	i 7 10	− 1	—	—	e 14·4	—
La Plata	46·1	173	—	—	23 25	?	24·3	—
La Jolla	54·9	302	i 9 26	− 2	—	—	—	—
Riverside	55·1	304	i 9 28	− 2	—	—	—	—
Mount Wilson	55·7	304	e 9 33	− 1	—	—	—	—
Pasadena	55·8	304	i 9 32a	− 2	e 18 13	+53	—	—
Haiwee	56·1	306	i 9 35	− 2	—	—	—	—
Tinemaha	56·5	307	i 9 38a	− 1	e 17 23	− 7	—	—
Santa Barbara	57·2	303	e 9 43	− 2	—	—	—	—
Malaga	57·7	53	e 9 54	+ 6	—	—	—	—
Neuchatel	67·8	42	e 10 57	0	—	—	—	—
Basle	68·3	43	e 11 1	+ 1	—	—	—	—
Prato	70·4	44	e 11 12	− 1	—	—	—	—
Triest	72·3	43	e 11 24	− 1	—	—	—	—
Vienna	74·2	43	i 11 37	+ 1	—	—	—	—
Königsberg	76·8	35	i 11 53	+ 3	—	—	23·5	—
Sebastopol	86·3	45	e 12 41	+ 1	—	—	—	—
Simferopol	86·7	45	e 12 42	0	—	—	—	—
Yalta	86·8	45	e 12 41	− 1	—	—	—	—
Theodosia	87·5	44	e 12 48	+ 3	—	—	—	—
Tiflis	95·0	46	e 13 23	+ 3	—	—	—	—

Additional readings :—
San Juan i = +3m.16s.
Huancayo i = +5m.53s. and +10m.39s.
Little Rock epPEN = +7m.17s.
Malaga e = +10m.24s. and +10m.44s. = P_cP − 1s.
Triest e = +12m.39s.
Königsberg iZ = +12m.23s.

April 10d. Readings also at 0h. (Paris and Santiago), 5h. (Tucson), 7h. (Manila and Wellington), 8h. (La Paz, Tashkent, and Sverdlovsk), 9h. (Manila), 10h. (Adelaide), 11h. (Sofia), 12h. (Balboa Heights), 14h. (Alicante), 19h. (Agra, Bombay, Kodaikanal, Pasadena, and Tinemaha), 21h. (Huancayo, San Juan, Tinemaha, Riverside, Pasadena, La Paz, La Plata, Sucre, Port-au Prince, Cape Town, and Triest), 22h. (La Paz), 23h. (Pasadena and Tinemaha).

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April 11d. 0h. Readings for which no determination has been made :—
Sitka e = 27m.32s., e = 27m.55s.
Tinemaha iPENZ = 29m.56s., iZ = 30m.15s.
Santa Barbara iPZ = 30m.13s.
Pasadena iPENZ = 30m.19s., iZ = 30m.35s.
Riverside iPNZ = 30m.23s.
La Jolla iPZ = 30m.33s.
Florissant iPE = 31m.23s., eLN? = 41m.10s.

April 11d. 1h. 18m. 1s. Epicentre 13°·0N. 95°·8E. N.2.

A = −·098, B = +·969, C = +·225 ; D = +·995, E = +·101 ;
G = −·023, H = +·224, K = −·974.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Medan		9·8	163	e 2 53	P_g	i 4 12	+ 4	—	—
Calcutta		11·8	325	e 2 39	− 7	4 49	− 9	—	10·7
Phu-Lien		13·0	52	e 3 2	0	e 6 25	S*	7·0	8·7
Colombo		16·8	252	3 52	0	—	—	—	18·0
Hyderabad		17·3	288	3 55	− 3	7 19	SS	13·4	15·9
Kodaikanal		18·2	266	e 4 14	PP	e 7 59	SS	10·5	12·7
Hong Kong		19·8	60	4 29	+ 2	8 10	+ 8	10·4	15·6
Agra	E.	21·8	314	i 4 45	− 4	i 8 47	+ 5	11·1	16·5
Batavia		22·1	150	i 4 55k	+ 3	i 9 4	+16	i 12·3	—
Bombay		22·7	288	e 5 1	+ 3	i 9 10	+11	11·0	—
Malabar		23·4	150	e 4 54	−11	—	—	i 12·9	—
Manila		24·5	83	5 21	+ 6	9 56	+24	12·7	16·0
Nanking		28·4	43	e 5 54	+ 3	i 10 39	+ 1	i 14·8	17·9
Zi-ka-wei		29·8	47	e 6 4	+ 1	11 11	+10	18·1	19·2
Chiufeng		32·4	29	e 6 25	− 1	e 11 42	+ 1	15·6	21·4
Almata		34·3	335	(e 6 59)	+16	e 12 9	− 2	—	—
Andijan		34·5	327	6 47	+ 2	e 12 17	+ 3	e 21·4	—
Frunse		35·0	331	e 6 53	+ 4	—	—	—	—
Vladivostok		43·3	48	e 7 57	− 2	—	—	23·7	—
Baku		48·5	313	e 8 50	+10	e 15 43	+ 3	26·0	34·4
Sverdlovsk		51·3	335	i 9 2	+ 1	i 16 14	− 5	i 26·9	28·8
Tiflis		52·6	312	e 9 11	0	e 16 37	0	27·0	40·7
Theodosia		60·0	314	e 10 4	0	e 18 13	− 3	—	—
Yalta		60·7	313	e 10 9	0	e 18 18	− 7	—	—
Simferopol		60·9	314	e 10 12	+ 1	e 18 22	− 6	—	—
Sebastopol		61·2	314	e 10 17	+ 4	e 18 29	− 3	—	—
Adelaide		62·8	141	e 12 21	PP	e 16 25	?	e 26·1	35·9
Pulkovo		66·5	330	e 10 49	0	19 35	− 4	36·0	40·6
Melbourne		68·6	140	—	—	i 20 9	+ 5	35·0	39·2
Triest		75·2	315	e 11 47	+ 6	i 21 23	+ 1	—	46·8
Copenhagen		75·5	325	—	—	21 29	+ 3	42·0	—
Cheb		75·8	317	e 21 29	S	(e 21 29)	0	47·0	54·0
Florence		77·1	313	—	—	i 21 38	− 6	31·5	—
Scoresby Sund		86·5	343	—	—	23 23	+ 1	—	—

Additional readings and note :—
Medan iSE = +5m.5s., iE = +5m.54s., iN = +6m.25s.
Kodaikanal iPPP = +4m.52s.
Hong Kong PP = +4m.46s., SS = +8m.39s.
Agra ePN = +4m.51s., SSE = +9m.46s.
Batavia i = +12m.52s.
Bombay PPPEN = +5m.35s., SSEN = +10m.4s.
Zi-ka-wei iZ = +13m.42s.
Chiufeng iEZ = +14m.7s.
Almata P has been *increased* by 1m.
Tiflis e = +9m.25s. and +9m.55s.
Triest e = +30m.27s.
Cheb eS? = +29m.8s. = SSS − 9s.
Florence e = +12m.20s.
Long waves also at Bidston, Kew, Cape Town, some European and American stations.

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April 11d. 1h. Readings for which no determination has been made :—

Taihoku eP =28m.44s., eS? =35m.29s.
Nagasaki eP =30m.3s., eS =35m.9s., eL =39m.24s.
Keizyo eP =33m.25s., eS =38m.9s., eL =41m.55s., M =42m.20s.
Zinsen ePN =35m.22s., eSN =38m.53s., eLN =40m.39s.
Sumoto eE =36m.24s., eN =36m.29s., eSN =42m.0s., eSE =43m.13s., eZ = 44m.14s.
Husan eS =37m.52s.
Taikyu eS? =38m.11s., L =40m.37s.
Kobe eN =40m.25s., eN =42m.33s., eZ =44m.38s., eE =44m.49s.

April 11d. 4h. Readings for which no determination has been made :—

Calcutta eP =31m.44s., S =32m.44s., L =33m.4s.
Bombay e =34m., e =39m.
Medan P? =34m.44s.
Nanking e =35m.18s., eS =39m.16s.
Agra eE =36m.26s.
Sverdlovsk eP =38m.0s., e =44m.57s., L =53m.
Hyderabad M =40m.6s.

April 11d. 15h. 25m. 4s. Epicentre 37°·0N. 141°·0E. (as on 1930 June 17d.). R.1.

A = −·621, B = +·503, C = +·602 ; D = +·629, E = +·777 ;
G = −·468, H = +·379, K = −·799.

	△	Az.	P.	O−C.	S.	O−C'	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Onahama	0·1	235	0 20	+19	0 28	+25	—	—
Mito	0·7	214	0 13	+ 3	0 23	+ 5	—	—
Aidu	0·9	306	0 12	− 1	0 26	S*	—	—
Hukusima	0·9	329	0 18	+ 5	0 32	+ 9	—	—
Yamagata	1·0	336	0 26	S	0 44	?	—	—
Utunomiya	1·0	245	0 15	+ 1	0 27	+ 1	—	—
Kakioka	1·0	220	0 15	+ 1	0 26	0	—	—
Tukubasan	1·1	224	0 15	− 1	0 27	− 1	—	—
Tyosi	1·3	185	0 19	+ 1	0 32	− 1	—	—
Sendai	1·3	356	0 24	+ 6	0 42	+ 9	—	—
Kumagaya	1·5	237	0 23	+ 2	0 40	+ 1	—	—
Maebasi	1·6	249	0 24	+ 1	0 44	S*	—	—
Tokyo	1·7	217	0 28	P_g	i 0 46	+ 2	—	0·8
Niigata	1·8	301	0 26	0	1 7	?	—	—
Oiwake	1·8	252	0 31	P_g	0 56	S*	—	—
Yokohama	1·9	216	0 29	+ 1	0 50	+ 1	—	—
Mizusawa	2·1	2	i 0 35	P_g	i 1 2	S*	—	—
Takada	2·2	273	0 34	P*	1 1	S*	—	—
Nagano	2·3	261	0 35	P*	1 6	S*	—	—
Hunatu	2·3	230	0 33	0	1 1	+ 2	—	—
Kohu	2·4	236	0 34	0	1 5	+ 3	—	—
Numadu	2·5	221	0 37	+ 1	1 27	S_g	—	—
Matumoto	2·5	253	0 38	+ 2	0 59	− 5	—	—
Misima	2·5	221	0 35	− 1	0 55	− 9	—	—
Ito	2·6	217	0 33	− 4	0 59	− 8	—	—
Morioka	2·7	3	0 45	P*	1 18	S*	—	—
Miyako	2·8	16	0 41	+ 1	1 15	+ 3	—	—
Akita	2·8	345	0 47	P*	1 22	S*	—	—
Toyama	3·1	263	0 45	+ 1	1 9	−11	—	—
Wazima	3·3	275	0 48	+ 1	1 37	S*	—	—
Omaesaki	3·3	223	0 44	− 3	1 19	− 6	—	—
Hamamatu	3·5	228	0 50	0	1 24	− 6	—	—
Gihu	3·7	245	0 44	− 9	1 29	− 6	—	—
Nagoya	3·8	242	0 54	0	1 53	S*	—	2·0
Kameyama	4·2	240	0 57	− 3	1 29	−19	—	—

Continued on next page.

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Hikone	4·2	245	0 59	− 1	1 28	−20	—	—
Osaka	5·1	245	1 13	0	2 25	S*	—	2·8
Toyooka	5·2	253	1 14	0	e 2 7	− 6	—	2·7
Kobe	5·3	246	e 1 13	− 2	e 2 26	+11	—	2·9
Wakayama	5·5	240	1 17	− 1	2 38	S*	—	—
Sumoto	5·6	244	1 18	− 2	2 19	− 4	—	2·8
Sapporo	6·1	2	1 29	+ 2	2 54	S*	—	—
Koti	7·0	240	1 36	− 3	3 9	+10	—	—
Nemuro	7·3	30	2 38	P_g	3 59	S_g	—	—
Matuyama	7·4	244	1 45	0	3 45	S*	—	—
Hamada	7·5	253	1 46	0	3 43	S*	—	—
Vladivostok	9·2	309	i 2 13	+ 3	—	—	i 2·7	11·1
Hukuoka	9·3	247	e 3 44	S	4 55	S_g	—	—
Hukuoka B	9·3	247	3 44	S	4 56	S_g	—	—
Kumamoto	9·4	243	2 11	− 2	3 17	−42	—	—
Nagasaki	10·1	246	e 3 16	+54	e 5 3	S*	—	—
Keizyo	11·1	272	2 35	− 1	—	—	—	—
Nanking	18·9	263	4 14	− 3	7 57	SS	—	—
Chiufeng	19·6	289	e 4 36	PP	e 7 50	− 8	—	—
Almata	48·1	299	e 7 56	−41	—	—	—	—
Tashkent	54·2	298	—	—	e 16 48	−10	e 29·7	33·8
Sverdlovsk	54·8	319	i 9 23	− 5	16 59	− 7	26·9	—
Tiflis	70·5	308	e 11 8	− 6	—	—	—	—
Tinemaha	75·9	53	i 11 40k	− 5	—	—	—	—
Haiwee	76·4	54	i 11 45k	− 3	—	—	—	—
Santa Barbara	76·5	56	i 11 43	− 6	—	—	—	—
Pasadena	77·7	56	i 11 49k	− 7	—	—	—	—
Mount Wilson	77·8	56	i 11 53k	− 4	—	—	—	—
Riverside	78·3	55	i 11 52k	− 7	—	—	—	—
La Jolla	79·1	86	i 11 57	− 5	—	—	—	—

Additional readings :—
Osaka i = +1m.35s. = P_g − 1s.
Toyooka eSN = +2m.26s.
Kobe eE = +1m.36s. = P_g + 4s., eN = +1m.40s., iZ = +1m.46s., SE = +2m.28s., iZ = +4m.18s.
Sumoto SZ = +2m.32s.
Tinemaha iZ = +12m.3s.
Santa Barbara iZ = +12m.5s.
Pasadena iZ = +12m.12s.
Mount Wilson iZ = +12m.15s.
Riverside iZ = +12m.15s.
La Jolla iZ = +12m.20s.
Long waves at Baku.

April 11d. 23h. 14m. 49s. Epicentre 36°·3N. 53°·5E. (as on 1935 March 5d.). R.1.

A = +·479, B = +·648, C = +·592 ; D = +·804, E = −·595 ;
G = +·352, H = +·476, K = −·806.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Baku	5·0	327	i 1 10	− 1	—	—	—	—
Erevan	8·1	299	1 59	+ 4	3 5	−21	—	3·9
Tiflis	8·7	311	1 59	− 4	i 3 57	+16	4·6	—
Grozny	9·2	320	2 6	− 4	3 54	0	—	—
Samarkand	11·1	68	2 36	0	—	—	—	—
Piatigorsk	11·1	317	2 29	− 7	e 4 29	−12	—	—
Sotchi	12·9	309	e 3 1	0	—	—	—	—
Tashkent	13·2	63	i 3 3	− 4	i 6 12	+35	—	15·3
Tchimkent	13·8	59	i 3 10	− 3	5 43	− 3	—	—
Ksara	14·6	266	i 3 31	+ 8	i 6 23	+18	—	—

Continued on next page.

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Andijan	15·4	67	e 3 35	+ 1	e 6 54	+30	e 8·2	9·9
Theodosia	16·2	310	e 3 34	−10	6 46	+ 3	10·7	—
Yalta	16·8	305	e 3 51	− 1	7 4	SS	11·6	—
Simferopol	17·0	306	e 3 51	− 3	i 7 5	+ 3	e 17·7	—
Sebastopol	17·3	305	3 57	− 1	7 18	SS	—	—
Almata	19·2	62	i 4 23	+ 2	8 13	SS	10·3	11·4
Helwan	19·6	257	i 4 27	+ 2	i 8 23	SSS	—	15·9
Sverdlovsk	21·1	11	i 4 40	− 1	8 35	+ 7	13·0	14·6
Dehra Dun	21·3	99	6 1	?	8 31	− 1	11·4	14·2
Bucharest	22·3	300	e 4 55	+ 1	9 1	+ 9	—	9·4
Agra	22·7	107	i 4 55	− 3	i 9 13	+14	11·4	—
Semipalatinsk	23·8	45	i 5 10	+ 2	—	—	15·2	—
Sofia	24·0	295	e 5 14	+ 4	e 9 32	+ 9	—	—
Bombay	24·3	130	i 5 15	+ 2	i 9 51	+23	12·4	18·1
Belgrade	26·3	300	e 5 32	0	i 10 22	+19	18·2	—
Budapest	27·7	305	5 48	+ 4	10 40	+13	17·7	27·2
Pulkovo	27·8	335	e 5 45	0	e 10 25	− 3	16·2	19·0
Hyderabad	29·0	124	5 59	+ 3	10 57	+ 9	13·7	18·9
Königsberg	29·1	320	e 5 59	+ 2	e 10 55	+ 5	15·1	—
Zagreb	29·5	300	e 6 2	+ 1	e 11 5	+ 9	e 16·7	—
Vienna	29·6	306	i 6 5	+ 4	11 2	+ 4	—	15·0
Graz	29·8	303	e 6 7	+ 4	i 11 17	+16	i 12·2	16·2
Messina	30·1	286	6 6	0	11 13	+ 7	13·9	19·3
Capodimonte	30·8	290	e 6 2	−10	e 11 50	+33	19·2	—
Prague	31·2	309	e 6 20	+ 4	e 11 24	+ 1	e 16·2	25·7
Triest	31·3	300	i 6 14	− 3	i 11 23	− 1	17·0	20·8
Prato	32·4	296	i 6 35	+ 9	i 11 48	+ 7	—	21·2
Padova	32·5	299	e 6 31	+ 4	e 11 1	−42	—	—
Cheb	32·5	308	e 6 28	+ 1	e 11 51	+ 8	19·2	24·9
Leipzig	32·7	313	e 6 30	+ 1	e 11 51	+ 5	e 20·2	21·7
Florence	32·8	296	i 6 29a	− 1	11 50	+ 2	15·7	19·2
Upsala	32·9	326	i 6 33	+ 2	i 11 49	0	e 19·2	26·6
Jena	33·1	311	e 6 34	+ 1	11 54	+ 2	e 15·2	23·7
Calcutta	33·1	104	6 32	− 1	12 6	+14	16·4	24·6
Copenhagen	33·8	319	6 40	+ 1	12 3	0	—	—
Kodaikanal	33·9	136	i 6 41	+ 2	i 12 10	+ 6	i 16·2	21·7
Piacenza	33·9	299	i 6 47	+ 8	i 12 6	+ 2	i 16·4	23·1
Chur	34·1	302	e 6 41	0	e 12 4	− 4	—	—
Göttingen	34·2	310	i 6 44k	+ 2	i 12 9	0	e 17·2	24·2
Stuttgart	34·4	305	e 6 44	0	e 12 5	− 7	e 20·4	—
Tunis	34·5	302	e 6 56	+11	—	—	18·2	—
Hamburg	34·6	314	e 6 45k	− 1	e 12 17	+ 2	26·2	—
Zurich	34·7	302	e 6 45	− 1	—	—	—	—
Karlsruhe	34·9	306	5 53	+ 5	11 36	−44	—	—
Neuchatel	35·2	304	e 6 55	+ 4	e 12 35	+11	—	—
Strasbourg	35·4	305	i 6 54k	+ 1	i 12 40	+13	e 18·2	21·2
Basle	35·4	303	e 6 54	+ 1	—	—	—	—
Besançon	36·5	303	e 7 7	+ 5	e 12 52	+ 8	e 22·2	—
De Bilt	37·2	311	i 7 10	+ 2	12 58	+ 4	e 18·2	20·4
Uccle	37·6	310	7 13a	+ 1	i 13 5	+ 5	18·2	22·1
Colombo	38·0	134	7 16	+ 1	13 11	+ 5	20·0	26·3
Paris	38·8	305	7 23	+ 1	e 13 18	0	16·2	27·2
Barcelona	39·8	295	e 7 29	− 1	—	—	16·6	—
Algiers	40·1	287	e 7 35	+ 2	e 13 37	− 1	i 19·4	30·2
Kew	40·6	311	i 7 38a	+ 1	i 13 47	+ 2	e 19·2	27·3
Tortosa	41·1	294	7 36	− 5	13 59	− 6	20·2	32·6
Oxford	41·2	310	7 43	+ 1	i 14 1	+ 7	e 18·2	32·5
Durham	41·5	315	e 8 2	+18	14 6	+ 7	—	30·9
Stonyhurst	41·9	314	i 7 48	0	i 14 6	+ 1	21·2	31·2
Bidston	42·3	313	i 7 51	0	i 14 11	+ 1	e 19·2	27·4

Continued on next page.

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		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Edinburgh		42·4	317	i 8 4	+12	i 14 21	+10	21·2	35·0
Alicante		42·4	290	e 7 50	− 2	e 14 23	+12	e 27·6	—
Rathfarnham Castle		43·6	314	i 8 19	+17	i 14 57	+27	21·6	26·9
Almeria		44·3	289	i 8 14	+ 7	e 14 54	+14	e 20·4	—
Toledo		44·7	293	i 8 11	+ 1	i 14 47	+ 1	21·9	—
Granada		45·1	289	i 8 10	− 4	e 14 54	+ 2	24·4	30·1
Malaga		45·8	290	e 8 20	+ 1	14 51	−11	22·4	—
San Fernando		47·3	289	8 37	+ 6	15 29	+ 6	23·2	34·7
Chiufeng		48·3	64	i 8 40a	+ 2	15 59	+22	23·5	30·0
Phu-Lien		48·5	92	e 8 40	0	—	—	27·2	—
Medan		52·5	117	e 9 15	+ 5	—	—	—	—
Nanking		53·1	74	i 9 18	+ 3	i 16 52	+ 9	e 24·6	32·7
Hong Kong		53·8	88	9 22	+ 2	17 11	+18	—	38·7
Tananarive		55·5	186	9 36	+ 4	17 24	+ 8	27·7	30·7
Zi-ka-wei		55·5	74	i 9 33a	+ 1	i 17 46	+30	44·9	—
Zinsen		56·9	65	—	—	e 15 11?	?	e 29·7	—
Keizyo		57·1	65	e 9 38	− 6	e 17 39	+ 1	36·7	—
Vladivostok		58·5	57	i 9 53	− 1	e 18 8	PS	—	—
Taikyu		59·0	65	e 6 9	?	—	—	e 31·4	—
Husan		59·6	66	(10 3)	+ 1	(18 14)	+ 3	18·2	—
Manila		63·4	91	e 10 28a	0	19 33	PS	32·2	38·2
Sumoto		64·3	65	e 10 36	+ 2	—	—	—	—
Kobe		64·3	64	e 10 17	−17	—	—	—	—
Batavia		65·5	118	i 10 35	− 7	19 58	PS	—	—
Dakar		66·2	271	10 48	+ 1	19 36	+ 1	44·2	47·7
Cape Town	E.	77·5	210	11 40	−15	21 44	− 4	38·9	45·6
	N.	77·5	210	11 49	− 6	21 38	−10	38·9	45·6
Sitka		86·3	5	e 12 42	+ 2	e 23 21	+ 1	40·7	—
Ottawa		86·6	327	e 12 43	+ 2	e 23 16	[+ 5]	39·2	—
Oak Ridge		86·6	323	e 12 41	0	—	—	e 41·2	—
Toronto		89·3	328	e 12 41	−13	i 23 15	[−13]	40·3	—
Philadelphia		90·3	323	—	—	e 23 28	[− 6]	35·5	—
Georgetown		92·0	323	i 13 9k	+ 2	i 23 39	[− 5]	e 42·2	—
Ann Arbor		92·2	329	—	—	e 23 59	{+ 6}	46·9	—
Charlottesville		93·4	323	—	—	e 23 49	[− 3]	e 41·2	—
Chicago		94·1	332	e 17 0	PP	i 23 59	[+ 3]	37·9	—
Victoria		95·4	357	13 27	+ 5	24 7	[+ 4]	44·9	59·8
Seattle		96·0	357	—	—	e 24 2	[− 4]	e 51·3	—
Bozeman		96·8	349	—	—	e 24 23	{− 6}	46·9	—
Florissant		97·8	333	i 13 36k	+ 3	i 24 20	[+ 5]	e 42·5	52·9
Columbia		97·9	324	—	—	e 24 16	[0]	e 46·2	—
St. Louis		98·0	332	—	—	e 24 13	[− 3]	e 42·4	52·9
San Juan		101·1	303	e 13 51	+ 2	e 24 27	[− 4]	e 48·2	—
Little Rock		102·2	332	17 10	?	24 36	[0]	e 49·8	55·4
Ukiah		104·5	357	—	—	e 27 35	PS	e 50·4	—
Berkeley		105·7	356	e 17 44	[−20]	i 27 18	PS	—	—
Tinemaha		106·2	352	e 18 3	[− 2]	e 28 4	?	—	—
Santa Barbara		108·9	352	e 18 58	PP	—	—	—	—
Mount Wilson		109·1	353	i 18 59	PP	—	—	—	—
Pasadena		109·2	352	i 18 58	PP	i 28 30	PS	e 67·2	—
Riverside		109·2	352	e 19 3	PP	—	—	—	—
Tucson		109·9	346	—	—	e 28 43	PS	e 44·9	—
La Jolla		110·3	351	e 19 13	PP	e 28 31	PS	—	—
Melbourne		112·3	122	—	—	i 28 53	PS	60·5	67·2
Sucre		124·0	271	20 50	PP	—	—	62·3	—
La Paz		125·0	275	21 0	PP	31 8	PS	62·3	85·3
Huancayo		128·2	285	i 21 11	PP	e 38 31	SS	e 54·7	—

Additional readings and notes :—
Erevan i = +2m.10s., $P^* = +2m.14s.$, $P_g = +2m.21s.$, $S^* = +3m.15s.$, $S_g = +3m.35s.$
Tiflis iP = +2m.3s., i = +2m.16s.
Grozny i = +2m.16s. and +2m.27s.

Continued on next page.

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Samarkand i = +3m.35s.
Sotchi e = +7m.35s.
Sverdlovsk L_q = +10m.23s.
Agra eN = +5m.2s., PPP = +5m.38s., SS = +10m.9s.
Bombay PPEN = +5m.51s., SSEN = +11m.0s.
Belgrade eP = +5m.35s.
Budapest PP = +6m.37s., SS = +11m.33s., SSS = +12m.3s.
Königsberg iENZ = +6m.7s., iZ = +6m.27s., eE = +6m.36s., iPP?Z = +6m.52s., iPPP = +7m.10s., +8m.46s., P_cP = +9m.3s., eE = +9m.35s., iE = +11m.20s., eE = +11m.28s., eEN = +13m.31s.
Zagreb e = +6m.11s., ePP = +6m.48s., e = +11m.35s., eP_cS = +12m.4s., eSS = +12m.54s.
Vienna PP = +6m.56s., PPP = +7m.13s., P_cP = +9m.7s., P_cS = +12m.51s., S_cS = +16m.40s.
Graz iSSS = +13m.11s.
Prague ePP = +7m.32s. ; readings given as 11d.
Triest i = +6m.22s., iPP = +7m.7s., iPPP = +7m.26s., i = +9m.24s., i = +11m.4s., +11m.49s., +12m.36s., iSS = +12m.59s., i = +13m.33s., +14m.1s., and +14m.20s.
Leipzig ePP = +7m.43s., e = +10m.47s., eN = +11m.27s., e = +12m.17s., iSS = +13m.14s., iN = +15m.7s., eN = +19m.29s.
Florence PP = +8m.6s.
Jena PE = +6m.39s., ePN = +6m.41s., ePPE = +7m.39s., esE = +11m.35s., esZ = +11m.41s., iSN = +12m.0s.
Calcutta SS = +14m.2s.
Göttingen ePEN = +6m.46s., iP = +6m.50s.a, eSE = +12m.11s., ePS = +12m.54s.
Stuttgart ePP = +7m.59s., eSS = +14m.41s., eZ = +16m.56s. = S_cS −13s.
Hamburg iZ = +6m.47s.a.
Strasbourg iPP = +8m.22s., iSS = +14m.32s.
De Bilt iZ = +8m.41s. = PPP +0s.
Uccle iPP = +8m.44s. = PPP −2s., iPPP = +9m.21s., SSS = +15m.37s.
Colombo PP = +8m.46s.
Paris PP = +8m.50s.
Algiers PPP = +9m.16s., i? = +10m.54s., SS? = +16m.25s.
Kew iEZ = +7m.46s., iPPEZ = +9m.15s., eNE = +14m.1s., iSSN = +16m.26s.
Oxford S = +13m.31s.
Durham ? = +17m.3s.
Stonyhurst iPPP = +9m.46s., iSS = +17m.6s.
Bidston PP = +9m.41s., PPP = +10m.27s., e = +15m.11s., i = +15m.43s.
Edinburgh i = +9m.36s., +9m.47s. = PPP −4s., +14m.29s., +14m.44s., +17m.30s., +20m.45s., and +31m.47s.
Alicante PP = +9m.41s.
Rathfarnham Castle SS = +18m.3s.
Toledo PP = +9m.59s. = P_cP +2s., i = +18m.11s. = S_cS +1s.
Granada PP = +10m.3s., L_q = +21m.41s.
Malaga (iP_2) = +8m.36s., (iP_1) = +9m.4s., PP = +10m.6s., P_cP = +10m.22s., iPPP = +10m.46s., SS = +17m.59s., e = +26m.58s.
Chiufeng PPNZ = +10m.37s., iZ = +13m.8s., i = +15m.26s., SSNZ = +19m.15s.
Nanking e = +13m.38s., SS = +18m.53s., SSS = +21m.0s.
Hong Kong PP = +11m.26s., PPP = +12m.30s., PPPP = +13m.1s., SS? = +21m.31s.
Tananarive PPN = +11m.50s., E = +20m.53s., SSN = +21m.15s., E = +24m.0s.
Husan eP = +7m.0s. ; P is given as S and S as L.
Sumoto eN = +10m.48s., eN = +39m.35s., eE = +39m.56s., eZ = +40m.56s.
Kobe eE = +41m.19s., eZ = +46m.28s.
Batavia i = +12m.52s. = PP −7s.
Cape Town PPN = +14m.54s., PPE = +15m.8s., PPPE = +16m.27s., PSEN = +22m.33s., SSE = +26m.58s., SSN = +27m.6s., SSSE = +30m.26s., SSSN = +31m.2s.
Sitka iPP = +16m.1s., eSKS = +23m.9s., eSS = +29m.1s., e = +31m.31s.
Ottawa PP = +15m.53s., PPP = +17m.59s., iN = +24m.27s. = PS +16s., SS = +28m.55s., SSSN = +33m.11s. ; T_o = 23h.14m.54s.
Oak Ridge i = +13m.23s., e = +16m.6s. = PP +8s.
Toronto iPP = +16m.8s. ; T_o = 23h.14m.54s.
Philadelphia ePP = +16m.16s., ePS = +24m.59s., eSS = +30m.4s.
Georgetown iPP = +18m.56s., ePS = +25m.23s. ; T_o = 23h.14m.31s.
Ann Arbor e?N = +18m.59s., e = +25m.29s. = PS +12s.
Charlottesville iSKS = +24m.0s. = SKKS −2s., e = +25m.15s. = PS −16s.
Chicago iS = +24m.49s., ePS = +25m.47s., SS = +31m.16s.
Seattle ePP = +17m.50s., e = +33m.36s.
Bozeman ePP = +17m.25s., ePS = +26m.5s., eSS = +31m.44s.
Florissant ePPZ = +17m.25s., iPPNZ = +17m.36s., ePPPZ = +19m.33s., iSN = +25m.4s., iPSEN = +26m.23s. ; T_o = 23h.14m.51s.
Columbia ePS = +26m.34s.

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St. Louis ePPEN = +17m.39s., iPSEN = +26m.25s., iSS = +31m.22s.
San Juan ePP = +17m.56s., eSS = +32m.26s.
Little Rock PPN = +18m.1s., PPPN = +20m.18s., SN = +25m.46s., PSN = +27m.3s., PPSN = +27m.47s., SS = +32m.36s.
Ukiah e = +17m.21s., eSS = +33m.27s., e = +40m.55s.
Berkeley ePEN = +17m.50s., iN = +20m.13s., iZ = +20m.18s., iE = +21m.10s. and +24m.26s., iZ = +28m.14s., iE = +53m.38s. and +53m.52s.
Tinemaha eN = +17m.19s.
Tucson e = +19m.1s. = PP + 5s., ePP = +20m.52s., e = +28m.11s. and +29m.37s. eSSS = +39m.15s.
Sucre P? = +19m.50s.
La Paz PPN = +23m.28s., PPP = +25m.35s.
Huancayo i = +22m.26s., e = +47m.11s.
Long waves at Bergen, Honolulu, Toyooka, Nagasaki.

April 11d. 23h. 59m. 17s. Epicentre 36°·3N. 53°·5E. (as at 23h. 14m.). R.2.

	△	Az.	P.	O − C.	S.	O − C.
	°	°	m. s.	s.	m. s.	s.
Baku	5·0	327	i 1 12	+ 1	—	—
Erevan	8·1	301	1 54	− 1	3 29	+ 3
Tiflis	8·7	311	e 1 59	− 4	—	—
Grozny	9·2	320	2 7	− 3	e 3 55	+ 1
Samarkand	11·1	68	—	—	e 4 13	−28
Piatigorsk	11·1	317	2 37	+ 1	—	—
Andijan	15·4	67	e 0 49	?	e 8 37	?
Theodosia	16·2	310	e 3 45	+ 1	e 6 53	SS
Yalta	16·8	305	e 3 51	− 1	e 7 3	SS
Simferopol	17·0	306	e 3 55	+ 1	—	—
Sebastopol	17·3	305	e 3 59	+ 1	e 7 13	+ 4
Frunse	17·4	61	e 1 21	?	—	—
Almata	19·2	62	e 4 33	PP	—	—
Sverdlovsk	21·1	11	i 4 43	+ 2	—	—
Semipalatinsk	23·8	45	e 5 15	+ 7	—	—

Erevan gives also eS = +3m.0s.

April 11d. Readings also at 0h. (Medan and Nagasaki), 1h. (Phu-Lien, Hong Kong, Nanking, Batavia, and Sverdlovsk), 2h. (Perth, Florence (2), and Triest), 3h. (La Paz), 9h. (Triest), 10h. (La Paz, Sucre, Pasadena, and Tinemaha), 12h. (Alicante), 14h. (Manila), 17h. (Chiufeng, Manila, Almata, and Tiflis), 20h. (Pasadena and Tinemaha), 22h. (Cape Town, Huancayo, and La Paz), 23h. (Kew, Erevan, Grozny (2), Malaga, Sverdlovsk, Tiflis (2), and Hukuoka B).

April 12d. 0h. 11m. 23s. Epicentre 36°·3N. 53°·5E. (as at 11d. 23h.). R.3.

A = +·479, B = +·648, C = +·592.

	△	Az.	P.	O − C.	S.	O − C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Erevan	8·1	299	1 57	+ 2	e 3 28	+ 2	—	—
Tiflis	8·7	311	e 1 57	− 6	e 3 57	+16	—	—
Grozny	9·2	320	2 4	− 6	3 47	− 7	—	—
Samarkand	11·1	68	2 42	+ 6	—	—	—	—
Piatigorsk	11·1	317	e 2 37	+ 1	—	—	—	—
Sotchi	12·9	309	e 3 1	0	—	—	—	—
Tchimkent	13·8	59	3 19	+ 6	6 0	+14	—	—
Ksara	14·6	266	e 3 29	+ 6	e 6 29	SS	—	—
Theodosia	16·2	310	e 3 44	0	6 52	?	—	—
Yalta	16·8	305	3 46	− 6	6 57	0	—	—
Simferopol	17·0	306	e 3 50	− 4	7 3	+ 1	—	—
Sebastopol	17·3	305	3 56	− 2	7 13	+ 4	—	—
Frunse	17·4	61	e 4 2	+ 3	e 7 29	SS	8·6	10·4
Almata	19·2	62	4 24	+ 3	8 10	SS	e 10·6	—
Sverdlovsk	21·1	11	i 4 39	− 2	i 8 31	+ 3	11·9	13·9

Continued on next page,

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	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Bucharest	22·3	300	e 4 55	+ 1	9 7	+15	—	—
Semipalatinsk	23·8	45	5 21	+13	e 9 31	+12	—	—
Belgrade	26·3	300	e 5 49	+17	e 10 20	+17	—	—
Pulkovo	27·8	335	i 5 45	0	10 29	+ 1	17·1	17·9
Vienna	29·6	306	i 6 2	+ 1	e 11 29	+21	—	—
Capodimonte	30·8	290	e 6 16	+ 4	—	—	—	—
Triest	31·3	300	e 6 12	− 5	i 11 17	− 7	—	—
Prato	32·4	296	e 6 37	+11	—	—	—	—
Copenhagen	33·8	319	6 46	+ 7	12 7	+ 4	—	—
Chur	34·1	302	e 6 39	− 2	—	—	—	—
Stuttgart	34·4	305	e 6 37	− 7	—	—	—	—
Zurich	34·7	302	e 6 45	− 1	—	—	—	—
Neuchatel	35·2	304	e 6 53	+ 2	—	—	—	—
Toledo	44·7	293	—	—	i 14 37	− 9	—	—
Granada	45·1	289	e 8 15	+ 1	—	—	—	—

Additional readings :—
Tiflis i = +2m.13s.
Grozny i = +2m.16s. and +2m.32s.
Samarkand e = +4m.17s.
Piatigorsk e = +4m.29s.
Vienna eEN = +12m.55s.
Triest i = +6m.38s. and +11m.49s.
Long waves at Hyderabad and Chiufeng.

April 12d. 0h. 33m. 44s. Epicentre 35°·8N. 52°·8E. N.2.

A = +·491, B = +·646, C = +·585 ; D = +·797, E = −·605 ;
G = +·354, H = +·466, K = −·811.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Erevan	7·9	308	e 1 58?	+ 6	e 2 13	P*	—	—
Tiflis	8·6	316	e 0 48	?	e 2 38	P*	—	—
Grozny	9·3	327	e 2 7	− 4	e 3 43	−13	—	—
Piatigorsk	11·1	321	e 2 41	+ 5	i 4 29	−12	—	—
Samarkand	11·9	67	e 2 51	+ 4	—	—	—	—
Tashkent	14·0	62	e 3 9	− 6	e 6 17	+26	—	9·3
Tchimkent	14·6	58	3 21	− 2	—	—	—	—
Andijan	16·1	66	e 3 47	PP	—	—	—	—
Theodosia	16·1	312	3 46	+ 3	6 49	SS	13·3	—
Yalta	16·6	307	3 48	− 1	6 54	+ 2	—	—
Simferopol	16·8	309	e 3 51	− 1	6 58	+ 1	—	—
Sebastopol	17·1	307	3 53	− 2	7 4	0	—	—
Frunse	18·2	60	e 4 8	− 1	e 7 30	+ 1	—	—
Almata	20·0	60	e 4 7	?	e 8 11	+ 5	—	—
Sverdlovsk	21·7	11	i 4 44	− 4	i 10 43	L	(i 10·7)	—
Bucharest	22·0	301	e 4 58	+ 7	—	—	—	—
Semipalatinsk	24·6	43	e 5 10	− 6	e 9 34	0	—	—
Pulkovo	28·0	336	e 5 44	− 3	e 10 19	−13	—	—
Triest	30·8	301	e 6 13	+ 1	11 11	− 6	—	—
Chur	33·8	302	e 6 40	+ 1	—	—	—	—
Granada	44·7	290	e 7 34	?	—	—	—	—

Additional readings :—
Erevan eS$_g$ = +20s.
Tiflis e = +1m.58s. and +2m.7s.
Grozny i = +3m.47s.

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April 12d. 1h. 6m. 44s. Epicentre 36°·3N. 53°·5E. (as at 0h. 11m.). R.2.

Tashkent gives 36°·5N. 53°·5E.

A = +·479, B = +·648, C = +·592.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Baku	5·0	327	i 1 11	0	—	—	—	—
Erevan	8·1	299	e 2 0	+ 5	e 3 30	+ 4	—	—
Tiflis	8·7	311	e 1 57	− 6	e 4 0	S*	e 5·4	—
Grozny	9·2	320	2 5	− 5	i 3 51	− 3	—	—
Samarkand	11·1	68	1 39	−57	—	—	—	—
Piatigorsk	11·1	317	2 40	+ 4	e 4 30	−11	—	—
Sotchi	12·9	309	e 3 18	+17	—	—	—	—
Tashkent	13·2	63	i 2 59	− 6	i 5 20	−12	e 6·5	9·2
Ksara	14·6	266	e 3 32	+ 9	e 6 31	+26	—	—
Andijan	15·4	67	3 34	0	6 46	SS	e 8·3	9·2
Theodosia	16·2	310	e 3 43	− 1	e 6 52	+ 9	e 13·3	—
Yalta	16·8	305	3 50	− 2	7 0	+ 3	—	—
Simferopol	17·0	306	3 53	− 1	6 59	− 3	—	—
Sebastopol	17·3	305	3 58	0	7 17	+ 8	—	—
Frunse	17·4	61	4 3	+ 4	e 7 22	+11	e 9·1	9·8
Almata	19·2	62	i 4 19	− 2	e 8 3	SS	e 8·6	—
Helwan	19·6	257	4 28	+ 3	i 8 18	SS	—	15·6
Sverdlovsk	21·1	11	i 4 38	− 3	i 8 30	+ 2	13·8	14·2
Bucharest	22·3	300	e 5 6	+12	9 8	+16	—	—
Agra	22·7	107	4 57	− 1	9 7	+ 8	—	—
Semipalatinsk	23·8	45	e 5 8	0	e 9 30	+11	—	—
Bombay	24·3	130	i 5 13	0	i 9 49	+21	e 12·5	17·9
Belgrade	26·3	300	e 5 32	0	e 10 22	+19	—	—
Budapest	27·7	305	e 5 55	+11	(10 46)	+19	10·8	11·8
Pulkovo	27·8	335	i 5 46	+ 1	10 26	− 2	16·8	18·1
Vienna	29·6	306	e 6 4	+ 3	e 10 57	− 1	—	—
Prague	31·2	309	—	—	e 13 16?	SS	—	—
Triest	31·3	300	i 6 17	0	11 24	0	—	—
Prato	32·4	296	e 6 35	+ 9	—	—	—	—
Cheb	32·5	308	—	—	e 12 16?	+33	—	26·3
Leipzig	32·7	313	e 8 16?	?	—	—	—	—
Florence	32·8	296	i 6 33a	+ 3	12 26	+38	17·3	20·3
Calcutta	33·1	104	—	—	e 12 36	+44	—	—
Copenhagen	33·8	319	6 42	+ 3	12 3	0	—	—
Chur	34·1	302	e 6 39	− 2	—	—	—	—
Stuttgart	34·4	305	e 6 45	+ 1	—	—	—	—
Hamburg	34·6	314	e 6 46	0	e 13 16?	+61	—	—
Zurich	34·7	302	e 6 44	− 2	—	—	—	—
Neuchatel	35·2	304	e 6 54	+ 3	—	—	—	—
Granada	45·1	289	e 8 16	+ 2	—	—	e 33·6	—
Chiufeng	48·3	64	i 10 35	PP	—	—	e 24·5	29·7

Additional readings :—
Tiflis e = +2m.6s.
Grozny e = +2m.18s. and +2m.32s.
Sverdlovsk L_q = +11m.46s.
Agra PP = +5m.23s., SS = +10m.3s.
Bombay SSE = +10m.58s.
Triest i = +11m.50s. and +16m.14s.
Long waves at Cape Town and Hyderabad.

April 12d. 1h. For the following readings 25°·5S. 151°·7E. has been suggested as the epicentre in the *Proc. Roy. Soc., Queensland*, Vol. 1 (N.S.), No. 6, 1938, see a paper "The Gayndah Earthquake of 1935," by W. H. Bryan and F. W. Whitehouse.

Riverview ePZ = 34m.20s., eSZ = 36m.19s., iNEZ = 36m.42s., iNZ = 36m.52s., iZ = 37m.4s., iEN = 37m.8s., iE = 37m.12s., LZ = 37m.33s., M = 38m.16s.
Sydney eP = 36m.33s., L = 37m.5s., M = 37m.24s.
Melbourne P = 37m.43s., S = 39m.27s., i = 39m.42s., M = 40·1m.
Adelaide e(P) = 38m.3s., i = 39m.13s., i = 39m.44s., iS = 40m.3s., iL = 40m.20s., i = 40m.43s., MN = 41m.36s.
Perth P? = 38m.7s., PP = 39m.25s., eS = 43m.55s., P_gS = 45m.0s., L = 48m.5s., M = 49m.55s.

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April 12d. 2h. Readings which are probably repetitions of the epicentre 36°·3N. 53°·5E. :—

Baku e =5m.7s.
Tiflis e =5m.30s., e =7m.2s.
Erevan eP =5m.33s., eS =7m.10s.
Grozny eP =5m.40s., eS =7m.20s.
Andijan eP =7m.33s.
Tashkent e =8m.5s., eL =10m.48s., M =12m.18s.

2h.
Tiflis e =28m.52s., e =31m.0s.
Baku e =30m.13s.
Grozny eP =31m.10s., eS =32m.50s.
Tashkent e =35m.37s., e =36m.1s., M =38m.30s.

5h.
Tiflis e =27m.25s., e =29m.10s., eL =31m.
Grozny eP =27m.29s., eS =29m.11s.
Baku e =27m.30s., e =28m.42s., eL =30m.42s.
Sverdlovsk P =30m.8s., S =34m.4s., L =37m.
Tashkent e =31m.51s., eL =33m.54s., M =35m.48s.
Andijan eP =31m.58s.

6h.
Tiflis e =9m.53s., e =10m.52s., eL =14m.6s.
Grozny eP =10m.1s., eS =11m.43s.
Baku e =10m.31s., L =12m.42s.
Tashkent e =14m.51s., eL =15m.12s., M =17m.18s.
Andijan eP =14m.53s.

April 12d. 12h. 44m. 38s. Epicentre 36°·3N. 53°·5E. (as at 1h.). R.1.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Baku	5·0	327	i 1 10	− 1	—	—	i 2·2	—
Erevan	8·1	299	e 1 55	0	e 3 1	−25	—	—
Tiflis	8·7	311	1 56	− 7	e 3 29	−12	5·4	7·9
Grozny	9·2	320	e 2 6	− 4	3 36	−18	—	—
Samarkand	11·1	68	e 2 45	+ 9	—	—	—	—
Piatigorsk	11·1	317	2 40	+ 4	e 4 30	−11	—	—
Tashkent	13·2	63	e 3 3	− 2	i 5 23	− 9	6·2	9·3
Tchimkent	13·8	59	e 3 13	0	e 5 42	− 4	—	—
Ksara	14·6	266	e 3 28	+ 5	e 6 29	+24	—	—
Andijan	15·4	67	e 3 29	− 5	e 6 55	+31	—	—
Theodosia	16·2	310	3 44	0	6 51	+ 8	e 15·4	—
Yalta	16·8	305	3 49	− 3	6 59	+ 2	—	—
Simferopol	17·0	306	3 51	− 3	i 7 8	+ 6	—	—
Sebastopol	17·3	305	3 55	− 3	i 7 13	+ 4	—	—
Frunse	17·4	61	4 2	+ 3	e 7 27	+16	—	—
Almata	19·2	62	e 4 24	+ 3	e 8 12	SS	—	—
Helwan	19·6	257	i 4 24	− 1	e 8 21	SS	—	16·0
Sverdlovsk	21·1	11	e 4 39	− 2	i 8 33	+ 5	14·2	14·4
Dehra Dun	21·3	99	(5 2)	PP	(8 52)	SS	—	(12·4)
Bucharest	22·3	300	e 4 58	+ 4	9 1	+ 9	—	9·4
Agra	22·7	107	i 4 56	− 2	i 9 8	+ 9	—	15·6
Semipalatinsk	23·8	45	e 5 11	+ 3	e 9 34	+15	—	—
Sofia	24·0	295	e 5 10	0	e 9 33	+10	—	—
Bombay	24·3	130	i 5 16	+ 3	e 9 49	+21	—	17·8
Belgrade	26·3	300	e 5 30	− 2	e 10 18	+15	—	—
Budapest	27·7	305	e 5 52	+ 8	(10 42)	+15	10·9	11·9
Pulkovo	27·8	335	5 45	0	10 26	− 2	16·4	19·5
Hyderabad	29·0	124	5 57	+ 1	10 57	+ 9	12·9	20·0
Königsberg	29·1	320	e 3 6	?	e 8 55	?	—	18·4
Zagreb	29·5	300	e 5 55	− 6	—	—	—	—

Continued on next page.

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Prague	31·2	309	e 11 11	S	(e 11 11)	−12	e 20·4	23·9
Triest	31·3	300	6 12	− 5	i 11 17	− 7	—	—
Cheb	32·5	308	e 6 31	+ 4	e 11 46	+ 3	20·4	24·4
Florence	32·8	296	6 2	−28	i 11 45	− 3	17·4	—
Upsala	32·9	326	e 7 22?	PP	—	—	—	—
Jena	33·1	311	e 9 22?	(+ 2)	—	—	—	—
Calcutta	33·1	104	7 1	+28	12 33	+41	16·8	23·1
Copenhagen	33·8	319	6 37	− 2	12 4	+ 1	—	—
Kodaikanal	33·9	136	e 6 39	0	—	—	—	—
Piacenza	33·9	299	6 46	+ 7	—	—	—	26·4
Chur	34·1	302	e 6 37	− 4	—	—	—	—
Göttingen	34·2	310	e 6 40	− 2	—	—	—	—
Stuttgart	34·4	305	e 6 40	− 4	e 14 22	SS	—	—
Hamburg	34·6	314	i 6 45k	− 1	e 13 49	?	—	25·4
Neuchatel	35·2	304	e 6 53	+ 2	—	—	—	—
De Bilt	37·2	311	i 7 8	0	12 59	+ 5	e 18·4	25·7
Uccle	37·6	310	e 8 39	PP	i 13 5	+ 5	—	—
Colombo	38·0	134	7 17	+ 2	—	—	20·4	26·9
Kew	40·6	311	—	—	e 16 22?	SS	—	—
Durham	41·5	315	e 16 22	SS	—	—	—	30·4
Bidston	42·3	313	—	—	e 17 2	?	25·4	—
Edinburgh	42·4	317	—	—	e 17 ·22?	SS	—	—
Rathfarnham Castle	43·6	314	—	—	e 18 22	(+18)	—	29·2
Chiufeng	48·3	64	e 7 38	−60	—	—	—	28·8
Scoresby Sund	51·3	335	9 3	+ 2	16 28	+9	27·4	—
Nanking	53·1	74	e 16 51	S	(e 16 51)	+ 8	e 29·9	32·1
Hong Kong	53·8	88	17 2	S	(17 ,2)	+ 9	—	32·4
Zi-ka-wei	55·5	74	e 9 31	− 1	—	—	—	38·8
Pasadena	109·2	352	e 18 55	PPP	—	—	—	—

Additional readings and note :—
Erevan eS* = +3m.11s.
Tiflis e = +2m.3s. and +4m.0s.
Grozny i = +4m.13s.
Sverdlovsk L_g = +10m.58s.
Dehra Dun readings have been *diminished* by 4m.
Bucharest PPN = +5m.22s.
Agra PP = +5m.25s., SS = +9m.58s.
Bombay PPE = +5m.49s., SSEN = +10m.55s.
Königsberg i = +3m.24s., +3m.46s., and +4m.3s., eN = +9m.7s., iN = +9m.11s., e = +9m.19s. and +9m.25s., eE = +9m.35s., +9m.41s., and +9m.47s.
Prague eS? = +16m.44s. = S_cS − 7s.
Triest i = +10m.50s. and +13m.49s., e = +22m.56s.
Calcutta SS = +14m.18s.
Stuttgart e = +8m.1s. = PPP − 2s.
Hamburg eN = +15m.56s.
Colombo PP = +8m.44s.
Scoresby Sund +19m.58s. = SS + 13s.
Nanking eE = +24m.4s.
Hong Kong S? = +21m.30s.
Long waves at Vladivostok, Cape Town, and La Paz.

April 12d. 20h. Readings probably from the epicentre 36°·3N. 53°·5E. (as at 12h.) :—
Sotchi e = 19m.2s.
Tiflis e = 25m.48s., e = 28m.20s., e = 31m.52s., eL = 36m.30s.
Baku e = 25m.52s., eL = 27m.24s.
Grozny eP = 25m.57s., eS = 27m.53s.
Tashkent e = 28m.22s., e = 29m.47s., e = 30m.3s., L = 31m.6s., M = 35m.18s.
Sverdlovsk P = 28m.31s., eS = 32m.28s., L = 34m.30s.
Ksara eS = 32m.10s.
Andijan eP = 35m.3s.

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April 12d. 22h. 31m. 59s. Epicentre 36°·3N. 53°·5E. (as at 12h.). R.2.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Baku	5·0	327	i 1 11	0	(i 2 12)	+ 4	i 2·2	—
Erevan	8·1	299	e 1 57	+ 2	3 23	− 3	—	—
Tiflis	8·7	311	1 57	− 6	e 4 6	S*	6·0	—
Grozny	9·2	320	e 2 4	− 6	3 50	− 4	—	—
Piatigorsk	11·1	317	e 2 16	−20	e 3 12	?	—	—
Tashkent	13·2	63	3 2	− 3	i 5 45	+13	7·3	11·0
Tchimkent	13·8	59	e 3 11	− 2	e 5 38	− 8	—	—
Ksara	14·6	266	e 3 31	+ 8	e 6 33	+28	—	—
Andijan	15·4	67	e 3 34	0	e 7 44	?	13·2	9·7
Theodosia	16·2	310	e 3 42	− 2	6 51	SS	—	—
Yalta	16·8	305	3 48	− 4	7 3	SS	—	—
Simferopol	17·0	306	3 53	− 1	7 12	SS	—	—
Sebastopol	17·3	305	3 57	− 1	7 19	SS	—	—
Frunse	17·4	61	e 4 1	+ 2	e 7 25	SS	—	—
Almata	19·2	62	e 4 23	+ 2	e 8 4	SS	10·2	—
Helwan	19·6	257	e 4 24	− 1	8 14	SS	—	15·8
Sverdlovsk	21·1	11	i 4 39	− 2	i 8 34	+ 6	14·0	14·9
Dehra Dun	21·3	99	(5 1)	PP	(8 21)	−11	—	(16·0)
Bucharest	22·3	300	e 4 57	+ 3	9 11	SS	—	—
Agra	22·7	107	4 55	− 3	i 9 8	+ 9	—	—
Semipalatinsk	23·8	45	e 5 7	− 1	e 9 29	+10	—	—
Sofia	24·0	295	e 5 14	+ 4	e 9 37	+14	—	—
Bombay	24·3	130	i 5 15	+ 2	i 9 47	+19	12·0	18·4
Budapest	27·7	305	e 6 1	PP	(e 11 1)	SS	e 11·0	—
Pulkovo	27·8	335	e 5 44	− 1	e 10 28	0	17·0	19·6
Hyderabad	29·0	124	6 1	+ 5	10 46	− 2	16·0	19·7
Triest	31·3	300	e 6 16	− 1	e 11 21	− 3	—	—
Cheb	32·5	308	e 7 7	?	e 11 50	+ 7	e 19·0	24·0
Florence	32·8	296	e 6 1	−29	i 11 26	−22	20·0	22·0
Calcutta	33·1	104	e 6 58	+25	12 32	+40	—	21·9
Copenhagen	33·8	319	6 41	+ 2	12 8	+ 5	—	—
Kodaikanal	33·9	136	e 8 11	?	—	—	—	—
Hamburg	34·6	314	e 6 45	− 1	—	—	—	—
De Bilt	37·2	311	e 7 19	+11	13 1	+ 7	e 21·0	—
Colombo	38·0	134	7 14	− 1	—	—	—	25·9
Chiufeng	48·3	64	—	—	e 15 45	+ 8	—	30·4
Scoresby Sund	51·3	335	—	—	16 25	+ 6	—	—
Nanking	53·1	74	i 16 47	S	(i 16 47)	+ 4	e 29·8	—
Pasadena	109·2	352	e 18 56	PPP	—	—	—	—

Additional readings and note :—
Erevan P* = +2m.9s.
Tiflis e = +2m.27s., +3m.22s., and +4m.31s. = S_g −10s.
Grozny i = +4m.2s.
Sverdlovsk L_g = +11m.49s.
Dehra Dun readings have been *diminished* by 4m.
Agra ePP = +5m.24s., SS = +10m.12s.
Bombay PPE = +5m.49s.
Triest i = +11m.54s., e = +14m.31s., i = +25m.55s.
Calcutta SS = +14m.22s.
Colombo PP = +8m.41s.
Chiufeng e = +18m.33s. = S_gS +0s., iEN = +23m.20s.
Long waves also at Kew, Stonyhurst, Cape Town, Hong Kong, Vladivostok, Paris, Strasbourg, and Stuttgart.

April 12d. Readings also at 0h. (Chur, Grozny, Pulkovo, Sebastopol, Simferopol, Sverdlovsk (2), Theodosia, Tiflis, Yalta, Zurich, Honolulu, La Jolla, Pasadena, Riverside, Tinemaha, and Tucson), 1h. (Erevan (2), Grozny (2), and Sverdlovsk), 2h. (Tiflis and Pasadena), 3h. (Tiflis, Triest, and Wellington), 4h. (Grozny), 7h. (Grozny), 10h. (Grozny (2), Sotchi, Sverdlovsk, and Tashkent), 11h. (Malabar), 12h. (Malabar, Paris, Strasbourg, and Sverdlovsk), 13h. (Christchurch, New Plymouth, Wellington, and Tiflis), 14h. (Tiflis and Grozny), 15h. (Sverdlovsk, Tashkent, Tiflis, and Grozny), 17h. (Medan), 18h. (Tiflis (2) and Wellington), 19h. (Sverdlovsk, Tashkent, Chiufeng, Hong Kong, Manila, and Perth), 20h. (Baku, Copenhagen, De Bilt, Pulkovo, and Tiflis).

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April 13d. 2h. 29m. 7s. Epicentre 34°·8N. 52°·2E. N.3.

A = +·503, B = +·649, C = +·571 ; D = +·790, E = −·613 ;
G = +·350, H = +·451, K = −·821.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Baku	5·8	344	e 1 22	0	—	—	i 2·4	5·0
Erevan	8·0	315	e 2 13	P*	3 31	+ 7	—	—
Tiflis	9·0	322	e 2 9	+ 2	e 4 5	+16	6·6	—
Grozny	9·9	331	e 2 15	− 4	3 55	−16	—	—
Piatigorsk	11·6	327	e 2 39	− 4	4 33	−20	—	—
Samarkand	12·7	64	e 2 46	−12	—	—	e 7·9	—
Ksara	13·5	270	e 3 39	+30	e 6 42	S*	—	—
Tashkent	14·9	59	e 3 30	+ 3	i 6 4	− 9	6·5	9·1
Tchimkent	15·5	55	e 3 36	+ 1	e 6 1	−26	e 8·5	—
Theodosia	16·4	314	e 3 58	PP	e 7 1	SS	—	—
Andijan	16·9	64	3 55	+ 2	e 7 1	+ 2	—	—
Yalta	16·9	311	4 7	PP	e 7 15	SS	—	—
Simferopol	17·1	312	e 4 9	PP	e 7 20	SS	—	—
Sebastopol	17·3	310	4 10	PP	7 28	SS	—	—
Frunse	19·1	58	e 4 18	− 2	—	—	—	—
Almata	20·9	57	e 4 38	− 1	—	—	—	—
Sverdlovsk	22·8	12	i 4 54	− 5	8 55	− 6	14·4R	—
Sofia	23·7	299	e 5 24	PP	e 9 50	SS	—	—
Bombay	24·2	125	i 5 28	+16	e 10 53	?	—	18·8
Semipalatinsk	25·6	43	e 5 22	− 3	e 9 46	− 5	—	—
Pulkovo	28·7	337	5 59	+ 6	10 49	+ 6	15·9	19·1
Copenhagen	34·3	321	6 53	+10	12 19	+ 8	—	—
Chiufeng	49·9	64	—	—	e 18 47	(+ 3)	—	—

Additional readings :—
Tiflis e = +5m.41s.
Grozny e = +3m.23s.
Tashkent e = +4m.53s., +5m.29s., and +6m.12s.
Andijan e = +7m.45s. and +10m.13s.

April 13d. 13h. 55m. 8s. Epicentre 24°·2N. 121°·8E. (as on 1935 Feb. 22d.). X.

A = −·481, B = +·775, C = +·410.

	△	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Karenko	0·3	218	e 0 6	+ 2	0 13	+ 5
Taihoku	0·9	343	0 15	+ 2	i 0 27	S*
Taityu	1·0	268	0 14	0	—	—
Arisan	1·2	230	i 0 16	− 1	i 0 30	− 1
Taito	1·6	201	e 0 23	0	0 41	0
Tainan	1·9	232	e 0 24	− 4	—	—
Takao	2·1	218	−e 0 4	−34	—	—
Kosyun	2·4	203	e 0 24	−10	—	—
Nanking	8·3	342	—	—	e 3 22	− 9

April 13d. 16h. Readings for which no determination has been made ; Sverdlovsk suggests 35°N. 54°E. :—

Grozny eP = 27m.26s., eS = 29m.4s.
Baku P = 27m.27s., eS = 28m.45s., eL = 29m.12s., M = 32m.54s.
Samarkand eP = 29m.25s.
Sverdlovsk eP = 30m.4s., S = 34m.0s., L = 39m.
Tashkent i = 30m.19s., i = 30m.43s., i = 31m.29s., e = 32m.29s., eL = 32m.36s., M = 36m.12s.
Andijan eP = 31m.55s.

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April 13d. 20h. Readings for which no determination has been made :—
Baku e =26m.12s.
Andijan eP =30m.6s., eS =39m.1s.
Tiflis e =30m.24s., e =31m.50s.
Tashkent e =30m.52s., i =36m.1s., iS =39m.22s., e =40m.5s., e =43m.11s.
Sverdlovsk iP =31m.30s., e =41m.46s., L =60m.
Grozny eP =31m.52s.
Frunse e =38m.34s.
Almata e =39m.0s.

April 13d. Readings also at 0h. (Wellington), 1h. (Sotchi and Nagoya), 6h. (Tiflis), 7h. (Messina), 8h. (Sofia), 9h. (Grozny, Sverdlovsk, Tashkent, and Tiflis (2)), 13h. (Triest), 17h. (Sverdlovsk, Tashkent, and Chiufeng), 19h. (Andijan and Berkeley), 20h. (Tiflis, Manila, Batavia, Melbourne, Perth, Mount Wilson, Pasadena, and Tinemaha).

April 14d. 5h. Readings for which no determination has been made :—
Ksara e =39m.29s., e =43m.41s., M =48m.30s.
Grozny eP =41m.4s.
Tashkent P =42m.24s., e =47m.56s., e =50m.43s., e =52m.43s., eL =53m.0s., M =58m.48s.
Helwan eP =43m.0s., S =45m.2s., M =47m.35s.
Sverdlovsk eP =43m.14s., S =50m.12s., L =59m.
Baku e =46m.42s., L =50m., M =54m.30s.
Long waves at Almeria, Cape Town, Copenhagen, Granada, Paris, San Fernando, Stuttgart, and Tiflis.

April 14d. 7h. 43m. 3s. Epicentre 23°·2N. 120°·6E. (as on 1930 Dec. 22d.).

A = −·468, B = +·791, C = +·394.

	△	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Arisan	0·3	33	i 0 3	− 1	i 0 6	− 2
Tainan	0·4	240	c 0 9	S	(e 0 9)	− 1
Takao	0·6	198	e 0 28	?	—	—
Taito	0·7	132	i −0 5	−15	i 0 10	P
Taityu	1·0	5	0 5	− 9	—	—
Hokoto	1·0	289	e 0 28	S	(e 0 28)	+ 2
Kosyun	1·2	174	0 31	S	(0 31)	0
Karenko	1·2	49	e 0 17	0	0 29	− 2
Taihoku	2·0	25	e 0 29	0	0 48	− 3
Nanking	9·0	351	e 3 30	?	e 4 33	S*

Nanking gives also eN = +5m.3s.
Long waves at Hong Kong.

April 14d. 10h. 49m. 23s. Epicentre 32°·6N. 132°·1E. (as on 1932 June 18d.). X.

A = −·565, B = +·625, C = +·539.

	△	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Hukuoka	1·7	305	0 24	0	0 44	0	0·8
Hukuoka B	1·7	305	0 26	P*	0 47	S*	—
Nagasaki	1·9	274	0 32	P_g	e 0 56	S*	—
Sumoto	2·9	53	c 0 55	P_g	1 33	S_g	0·7

Sumoto gives also ePZ = +58s., SN = +1m.36s.

April 14d. Readings also at 0h. (Christchurch), 5h. (Tiflis), 7h. (Tiflis, Mizusawa, and Nagoya), 8h. (Arisan and Nagoya), 9h. (Tacubaya, Mizusawa and Nagoya), 10h. (Wellington and Nagoya), 11h. (Tiflis), 15h. (Almata, Andijan, and Frunse), 16h. (Tiflis), 20h. (Tiflis), 22h. (Lick, Arisan, Taihoku, Taityu, and Taito), 23h. (Tiflis (2) and Pasadena).

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April 15d. 7h. Readings for which no determination has been made :—

Puebla P = 3m.9s.?
Tacubaya P = 3m.13s.
Tucson e = 6m.59s., e = 11m.17s., i = 12m.9s., eL = 13m.0s.
Grozny eP = 7m.23s.
Sverdlovsk iP = 7m.28s., e = 16m.55s., L = 31m.
Perth P = 7m.30s.
La Jolla iNZ = 7m.32s.
Riverside eNZ = 7m.36s., cZ = 14m.28s.
Pasadena iPNZ = 7m.43s., iENZ = 7m.52s., iZ = 14m.24s., eL = 30m.48s.
Mount Wilson eZ = 7m.44s.
Haiwee eZ = 7m.56s.
Santa Barbara eZ = 7m.57s.
Tinemaha iEZ = 8m.3s., eN = 13m.12s.
Malabar P = 8m.55s.
Oak Ridge i = 15m.0s., i = 15m.2s., i = 15m.13s., i = 15m.24s.
Tashkent eL = 30m.0s., M = 38m.48s.

April 15d. 11h. 15m. 7s. Epicentre 36°·2N. 137°·1E. N.1.

Given by the Japanese stations.

A = −·591, B = +·549, C = +·591 ; D = +·681, E = +·732 ;
G = −·433, H = +·402, K = −·807.

A *depth* of focus 0·045 has been assumed.

	Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	°	m. s.	s.	m. s.	s.	m.	m.
Takayama	+1·8	0·1	108	0 32	+ 4	0 59	+10	—	—
Kanazawa	+1·7	0·5	310	0 24	− 7	0 48	− 9	—	—
Toyama	+1·7	0·5	12	0 34	+ 3	1 1	+ 4	—	—
Husiki	+1·7	0·6	2	0 35	+ 2	1 3	+ 4	—	—
Matumoto	+1·6	0·7	85	0 31	− 2	0 59	0	—	—
Gihu	+1·6	0·9	195	0 38	+ 2	1 5	+ 1	—	—
Iida	+1·6	0·9	137	0 43	+ 7	1 14	+10	—	—
Ibukisan	+1·5	1·0	214	0 37	+ 1	1 6	+ 2	—	—
Nagano	+1·5	1·0	64	0 37	+ 1	1 6	+ 2	—	—
Nagoya	+1·5	1·1	182	i 0 36	− 1	i 1 4	− 3	—	1·1
Hikone	+1·4	1·2	215	0 36	− 1	1 5	− 2	—	—
Oiwake	+1·4	1·2	82	0 38	+ 1	1 6	− 1	—	—
Wazima	+1·4	1·2	354	0 38	+ 1	1 7	0	—	—
Kohu	+1·4	1·3	115	0 37	− 2	1 6	− 3	—	—
Takada	+1·4	1·3	47	0 37	− 2	1 9	0	—	—
Hunatu	+1·3	1·5	118	0 39	− 1	1 10	− 2	—	—
Kameyama	+1·3	1·5	200	0 39	− 1	1 11	− 1	—	—
Tu	+1·3	1·6	198	0 45	+ 4	1 17	+ 3	—	—
Hamamatu	+1·3	1·6	161	0 40	− 1	1 11	− 3	—	—
Kyoto	+1·3	1·6	222	0 42	+ 1	1 13	− 1	—	—
Miyadu	+1·3	1·7	247	0 41	− 2	1 13	− 4	—	—
Maebasi	+1·3	1·8	84	0 40	− 4	1 9	−11	—	—
Numadu	+1·3	1·8	128	0 42	− 2	1 17	− 3	—	—
Misima	+1·3	1·8	123	0 42	− 2	1 15	− 5	—	—
Kamagaya	+1·3	1·8	200	0 41	− 3	1 13	− 7	—	—
Yagi	+1·3	1·9	210	0 44	− 2	1 19	− 3	—	—
Omaesaki	+1·3	1·9	150	0 43	− 3	1 17	− 5	—	—
Osaka	+1·2	2·0	216	0 46	0	1 22	0	—	1·8
Toyooka	+1·2	2·0	250	0 44	− 2	1 18	− 4	—	1·9
Kobe	+1·2	2·2	224	i 0 46	− 3	i 1 22	− 5	—	2·7
Tokyo	+1·2	2·2	104	0 46	− 3	1 20	− 7	—	2·8
Yokohama	+1·2	2·2	110	0 46	− 3	1 19	− 8	—	—
Utunomiya	+1·2	2·2	81	0 42	− 7	1 15	−12	—	—
Tukubasan	+1·1	2·3	90	0 45	− 4	1 19	− 8	—	—
Kakioka	+1·0	2·5	89	0 44	− 6	1 19	−11	—	—

Continued on next page.

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	Corr. for Focus	Δ	Az.	P.	O–C.	S.	O–C.	L.	M.
	°	°	°	m. s.	s.	m. s.	s.	m.	m.
Wakayama	+1·0	2·5	218	0 49	− 1	1 28	− 2	—	—
Mera	+1·0	2·6	120	0 54	+ 3	1 23	− 9	—	—
Hukusima	+1·0	2·6	61	0 53	+ 2	1 32	0	—	—
Sumoto	+1·0	2·6	224	i 0 49	− 2	i 1 28	− 4	—	1·5
Mito	+1·0	2·7	86	0 49	− 4	1 25	−10	—	—
Kiyosumi	+0·9	2·8	113	0 40	−13	1 14	−21	—	—
Siomisaki	+0·9	3·0	200	0 53	− 3	1 35	− 5	—	—
Tyosi	+0·9	3·1	99	0 54	− 3	1 34	− 8	—	—
Sakai	+0·9	3·2	258	0 57	− 1	1 42	− 3	—	—
Yamagata	+0·8	3·3	52	0 52	− 6	1 35	−10	—	—
Tadotu	+0·7	3·4	235	0 58	0	1 46	+ 1	—	—
Sendai	+0·6	3·7	56	0 58	− 3	1 41	− 9	—	—
Muroto	+0·6	3·9	218	1 3	− 1	1 53	− 2	—	—
Hatidyozima	+0·6	3·9	145	1 5	+ 1	1 50	− 5	—	—
Koti	+0·5	4·0	226	1 4	0	1 54	− 1	—	—
Akita	+0·5	4·2	34	1 6	− 1	1 47	−13	—	—
Matuyama	+0·5	4·3	236	1 8	0	2 0	− 3	—	—
Hamada	+0·5	4·3	252	1 8	0	2 3	0	—	—
Mizusawa	+0·5	4·3	48	i 1 7	− 1	i 1 57	− 6	—	—
Morioka	+0·3	4·7	43	1 11	0	2 5	− 3	—	—
Simidu	+0·4	4·8	224	1 15	+ 1	2 14	+ 1	—	—
Uwazima	+0·4	4·8	231	1 17	+ 3	2 17	+ 4	—	—
Hukuoka	0·0	6·1	244	i 1 30	+ 3	2 45	+ 9	—	—
Hukuoka B	0·0	6·1	245	1 31	+ 4	2 45	+ 9	—	—
Kumamoto	0·0	6·3	236	1 33	+ 3	2 39	− 2	—	—
Miyazaki	0·0	6·3	227	1 35	+ 5	2 51	+10	—	—
Unzendake	−0·1	6·6	239	1 35	+ 3	2 54	+ 8	—	—
Nagasaki	−0·2	6·9	240	1 40	+ 5	e 3 2	+11	—	3·4
Taikyu	−0·2	6·9	267	1 41	+ 6	2 59	+ 8	—	—
Sapporo	−0·2	7·6	27	1 45	0	3 7	− 2	—	—
Vladivostok	−0·2	7·9	330	i 1 55	+ 6	i 3 25	+ 9	4·1	12·3
Keizyo	−0·3	8·2	279	1 58	+ 6	3 36	+15	—	—
Zinsen	−0·3	8·4	278	e 1 54	− 1	e 3 40	+14	—	4·1
Nemuro	−0·4	9·6	43	2 10	0	3 47	− 7	—	—
Nanking	−1·1	15·7	259	3 29	+ 6	6 18	+13	8·9	—
Chiufeng	−1·4	16·9	290	e 4 22	?	6 41	+14	7·6	8·4
Hong Kong	−2·2	24·2	242	5 44	?	8 53	+ 7	10·5	17·5
Manila	−2·4	26·0	218	5 11	+ 5	11 1	?	14·4	—
Tashkent	−4·4	51·8	298	—	—	i 15 45	+21	e 24·5	31·1
Sverdlovsk	−4·6	53·3	319	e 8 53	+12	i 16 6	+23	28·9	—
Baku	−5·3	65·6	303	—	—	e 18 44	+24	33·9	—
Pulkovo	−5·3	66·9	328	—	—	e 18 56	+19	39·9	—
Copenhagen	−5·5	76·8	332	—	—	20 47	+10	38·9	—
Tinemaha	−5·6	78·8	52	i 11 35	+ 5	—	—	—	—
Santa Barbara	−5·7	79·5	55	i 11 38k	+ 5	—	—	—	—
Haiwee	−5·7	79·6	52	i 11 38	+ 4	—	—	—	—
Pasadena	−5·7	80·7	54	i 11 44k	+ 4	—	—	—	—
Mount Wilson	−5·7	80·7	54	i 11 44	+ 4	—	—	—	—
Riverside	−5·7	81·3	54	i 11 46k	+ 2	—	—	—	—
La Jolla	−5·7	82·1	55	i 11 51k	+ 3	—	—	—	—

Additional readings :—
Zinsen iPZ = +2m.0s.
Manila iEZ = +6m.1s. and +9m.26s. = S +10s.
Tashkent e = +10m.43s. and +15m.38s., i = +17m.23s., e = +18m.2s. and +21m.53s.
Baku e = +27m.14s.
Pulkovo e = +20m.42s.
Copenhagen +22m.41s., e = +25m.59s.
Santa Barbara eZ = +12m.12s. and +12m.42s.
Pasadena eZ = +12m.49s. and +14m.48s.
Riverside eZ = +12m.51s.
Long waves at De Bilt, Strasbourg, and Stuttgart.

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April 15d. 23h. 4m. 47s. Epicentre 36°·3N. 53°·5E. (as at 12d. 22h.). E.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Baku	5·0	327	1 10	− 1	i 2 10	+ 2	3·4	7·4
Erevan	8·1	299	e 2 7	P*	—	—	—	—
Grozny	9·2	320	2 6	− 4	3 46	− 8	—	3·9
Samarkand	11·1	68	e 3 38	+ 2	e 4 28	−13	—	—
Tashkent	13·2	63	—	—	e 4 56	−36	e 5·5	11·9
Tchimkent	13·8	59	e 3 45	+32	—	—	—	—
Ksara	14·6	266	e 3 26	+ 3	e 6 31	+26	—	8·4
Andijan	15·4	67	e 3 46	+12	—	—	—	—
Theodosia	16·2	310	e 3 49	+ 5	e 6 58	SS	—	—
Yalta	16·8	305	e 3 51	− 1	7 4	SS	—	—
Simferopol	17·0	306	e 3 54	0	7 8	+ 6	—	—
Sebastopol	17·3	305	e 3 59	+ 1	7 14	+ 5	—	—
Frunse	17·4	61	e 4 9	PP	—	—	—	—
Almata	19·2	62	e 4 13	− 8	—	—	—	—
Sverdlovsk	21·1	11	e 4 38	− 3	i 8 35	+ 7	14·1	14·3
Pulkovo	27·8	335	5 47	+ 2	10 39	+11	17·7	20·2

Additional readings :—
Sverdlovsk e = +8m.29s., i = +8m.43s., L_q = +11m.49s.
Long waves at Copenhagen and Bombay.

April 15d. Readings also at 0h. (Arisan), 3h. (Arisan and Taityu), 6h. (Baku, Tashkent, Medan, Batavia, and Malabar), 8h. (Christchurch, Wellington, Florence (3), and Prato), 9h. (Tacubaya), 10h. (Tacubaya), 14h. (Christchurch, New Plymouth, and Wellington), 15h. (Chur), 16h. (Erevan and Grozny), 18h. (Andijan), 20h. (Wellington), 21h. (Kew, Baku, De Bilt, Pulkovo, Paris, Strasbourg, and Sverdlovsk), 22h. (Copenhagen and Stuttgart).

April 16d. 22h. 43m. 48s. Epicentre 34°·2N. 136°·2E. N.2.

Given by the Japanese stations.

A = −·597, B = +·572, C = +·562 ; D = +·692, E = +·722 ;
G = −·406, H = +·389, K = −·827.

	△	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Yagi	0·5	314	0 6	− 1	0 13	0	—
Tu	0·6	24	0 10	+ 1	0 19	S*	—
Kameyama	0·7	15	0 9	− 1	0 19	+ 1	—
Osaka	0·7	308	0 10	0	0 21	+ 3	0·4
Kobe	0·7	299	0 13	+ 3	i 0 26	+ 8	0·4
Sumoto	0·8	278	i 0 14	+ 3	i 0 25	+ 4	0·5
Wakayama	0·9	273	0 11	− 2	0 22	− 1	—
Kyoto	0·9	335	0 10	− 3	0 22	− 1	—
Siomisaki	0·9	204	0 11	− 2	0 22	− 1	—
Hikone	1·0	2	0 16	+ 2	0 30	S*	—
Nagoya	1·1	32	i 0 17	+ 1	i 0 33	S*	0·7
Ibukisan	1·2	6	0 15	− 2	0 32	+ 1	—
Hamamatu	1·3	70	0 18	0	0 33	0	—
Gihu	1·3	20	0 20	P_g	0 37	S*	—
Omaesaki	1·7	76	0 30	P_g	1 0	S_g	—
Toyooka	1·7	320	0 25	+ 1	0 45	+ 1	0·8
Numadu	2·4	67	0 36	+ 2	1 11	S*	—
Misima	2·4	68	0 32	− 2	1 11	S*	—
Kohu	2·4	53	0 39	P*	1 11	S*	—
Hunatu	2·5	58	0 38	+ 2	1 18	S_g	—

Continued on next page.

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	Δ	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Toyama	2·6	18	0 47	P_g	1 16	S*	—
Matuyama	2·9	262	0 42	+ 1	1 25	S*	—
Nagano	2·9	33	0 54	P_g	1 24	S*	—
Wazima	3·2	10	0 56	P_g	1 37	S*	—
Maebasi	3·2	47	0 58	P_g	1 34	S*	—
Tokyo	3·2	64	1 5	P_g	1 46	S_g	—
Yokohama	3·3	66	0 58	P_g	—	—	—
Utunomiya	3·8	50	1 3	P*	1 52	S*	—

Additional readings:—
Osaka i = +12s. and +15s.
Kobe eN = +1m.24s., eEN = +2m.16s., eZ = +2m.18s.

April 16d. Readings also at 0h. (Agra, Bombay, Tiflis (2), and Samarkand), 1h. (Tiflis and Sumoto), 3h. (Triest, Berkeley, Branner, and Lick), 4h. (Grozny), 5h. (Apia, Baku, Grozny, Samarkand, and Tashkent), 6h. (Sverdlovsk), 10h. (Sumoto), 11h. (Christchurch, New Plymouth (2), Wellington, and Sumoto), 13h. (Apia), 15h. (Batavia and Medan), 16h. (Sverdlovsk, Tashkent, and Batavia), 20h. (Sverdlovsk, Tashkent, Manila, Chiufeng, Nanking, Batavia, Melbourne, and Riverview), 21h. (Pulkovo, Christchurch, New Plymouth, and Wellington).

April 17d. 4h. Readings for which no determination has been made:—
Little Rock ePN = 44m.42s.
Florissant iP = 45m.8s., iSEN = 52m.28s., esS?E = 54m.47s.
Oak Ridge i = 45m.19s., i = 45m.47s.
La Jolla iZ = 46m.7s.
Riverside iZ = 46m.11s., iZ = 46m.42s.
Pasadena iZ = 46m.16s., iZ = 46m.44s., eE = 47m.14s.
Mount Wilson iZ = 46m.16s., iZ = 46m.46s.
Tinemaha iPEZ = 46m.28s., iZ = 46m.59s.
Scoresby Sund = 59m.36s.

April 17d. 4h. 47m. 7s. Epicentre 35°·0N. 137°·2E. (as on 1932 Aug. 22d.). R.3.

A = −·601, B = +·557, C = +·574.

	Δ	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Nagoya	0·3	311	i 0 4	0	i 0 9	+ 1	0·2
Osaka	1·4	255	0 21	+ 1	0 41	S*	0·9
Kobe	1·7	259	0 23	− 1	i 0 54	S_g	1·0
Sumoto	2·0	251	e 0 31	P*	e 0 50	− 1	1·1
Toyooka	2·0	285	e 0 31	P*	0 55	S*	1·0

Additional readings:—
Osaka i = +26s. and +37s. = S + 1s.
Kobe i = +31s. = P_g + 3s., eZ = +37s., eE = +40s., iE = +44s. = S + 0s.
Sumoto eZ = +1m.1s. = S_g + 1s.
Toyooka iE = +35s. = P_g + 1s.

April 17d. 13h. 36m. 35s. Epicentre 36°·3N. 53°·5E. (as on 15d.). X.

A = +·479, B = +·648, C = +·592.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Baku	5·0	327	e 1 11	0	2 22	S*	3·6	6·5
Erevan	8·1	299	e 1 58	+ 3	—	—	—	—
Tiflis	8·7	311	e 1 57	− 6	e 3 53	+12	e 5·4	—
Grozny	9·2	320	e 1 55	−15	e 3 39	−15	—	—
Tashkent	13·2	63	—	—	i 5 27	− 5	e 6·4	10·0
Sverdlovsk	21·1	11	i 4 36	− 5	8 29	+ 1	12·4	—
Pulkovo	27·8	335	e 6 14	PP	e 10 31	+ 3	13·4	—

Long waves at Ksara.

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April 17d. Readings also at 0h. (Apia and Wellington), 1h. (Apia, Pasadena, and Tinemaha), 3h. (La Paz), 4h. (La Paz and Sucre), 6h. (Berkeley and Nagoya), 8h. (Ksara, Tashkent, and Sverdlovsk), 9h. (Nagoya and Mizusawa), 14h. (Andijan), 15h. (Sverdlovsk), 17h. (Andijan, Samarkand, Tchimkent, Tashkent, Christchurch, and Tananarive), 19h. (Tacubaya and Oaxaca), 21h. (Sverdlovsk), 22h. (Sverdlovsk (2)), 23h. (Andijan, Honolulu, Tacubaya, and Mizusawa).

April 18d. 15h. Readings for which no determination has been made :—
Calcutta P = 1m.36s., S = 2m.28s., L = 3m.7s., M = 3m.37s.
Phu-Lien = 3m.
Nanking eP = 5m.42s., e = 10m., eL = 14m.4s.
Frunse eP = 6m.0s.
Almata eP = 6m.8s.
Andijan eP = 6m.14s., eS = 11m.2s.
Samarkand eP = 6m.20s.
Agra e = 6m.26s.
Bombay eEN = 8m., M = 12m.4s.
Tashkent e = 8m.3s., e = 11m.3s., e = 12m.0s., e = 15m.12s., eL = 16m.42s., M = 19m.42s.
Hong Kong ? = 8m.48s., ME = 13m.8s.
Chiufeng eEN = 10m.29s.
Hyderabad MN = 11m.38s.

April 18d. 16h. 30m. 39s. Epicentre 36°·9N. 139°·8E. (as on 1934 Nov. 4d.). X.
Tokyo gives 36°·9N. 139°·9E.

A = −·611, B = +·516, C = +·600.

	Δ	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Tokyo	1·2	182	0 12	− 5	0 20	P_g	0·3
Mizusawa	2·5	25	e 1 2	S	i 1 29	S_g	—
Nagoya	2·9	233	0 43	+ 2	1 18	+ 4	1·6
Osaka	4·1	238	1 9	P*	2 12	S_g	2·5
Toyooka	4·2	254	e 1 18	P_g	2 5	S*	2·3
Kobe	4·4	241	—	—	e 2 9	S*	2·5
Sumoto	4·7	239	—	—	2 18	S*	2·6

Additional readings :—
Osaka i = +1m.38s.
Toyooka SN = +2m.8s. = S* + 5s.
Kobe eE = +1m.37s., eZ = +2m.12s., eE = +3m.45s.
Sumoto eEN = +2m.6s., eZ = +2m.22s. = S_g − 7s.

April 18d. 22h. 15m. 37s. Epicentre 70°·8N. 73°·0W. N.3.

A = +·096, B = −·315, C = +·944 ; D = −·956, E = −·292 ;
G = +·276, H = −·903, K = −·329.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Scoresby Sund	16·5	68	3 57	PP	6 47	− 3	7·4	—
Saskatoon	24·0	238	e 5 4	− 6	e 9 23	0	—	—
Ottawa	25·4	184	e 5 26	+ 2	e 9 59	+11	e 12·4	—
Toronto	27·3	189	e 5 34	− 7	e 10 11	− 9	12·7	—
Oak Ridge	28·2	178	e 5 52	+ 3	e 11 47	SS	i 14·4	—
Ann Arbor	29·0	198	e 11 5	S	(e 11 5)	+17	i 14·9	15·1
Chicago	29·9	205	—	—	e 12 57	?	i 15·5	—
Pennsylvania	30·1	188	—	—	e 12 37	SS	i 15·3	—
Philadelphia	30·8	182	—	—	e 11 40	+23	i 15·1	—
Des Moines	30·9	212	—	—	e 13 5	SSS	16·7	—

Continued on next page.

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Victoria	32·2	253	14 51	?	—	—	16·7	17·5
Seattle	32·6	252	—	—	e 16 59	(+ 1)	17·2	—
Charlottesville	32·9	188	—	—	i 16 51	(− 9)	19·1	—
Florissant	33·2	205	i 6 36	+ 2	i 17 4	(+ 2)	—	i 19·5
St. Louis	33·4	206	e 6 36	+ 1	e 13 3	?	e 17·2	—
Denver	35·1	225	—	—	e 12 59	+36	18·0	—
Copenhagen	37·4	67	—	—	12 59	+ 2	20·4	—
Little Rock	37·5	206	e 7 7	− 4	—	—	i 18·8	—
Pulkovo	39·0	51	e 7 23	− 1	e 13 26	+ 5	15·9	22·3
Stuttgart	42·3	75	—	—	e 17 23	SSS	e 21·4	—
Tucson	43·6	229	—	—	e 19 42	?	23·0	—
Santa Barbara	43·9	240	e 8 6	+ 2	—	—	—	—
Pasadena	43·9	238	i 8 4	0	—	—	22·3	—
Mount Wilson	44·1	240	i 8 5	− 1	—	—	—	—
Simferopol	53·2	57	e 9 18	+ 3	—	—	—	—
Yalta	53·7	57	e 9 14	− 5	—	—	—	—
Grozny	57·8	49	e 9 57	+ 8	—	—	—	—
Tiflis	59·1	50	e 9 59	+ 1	—	—	e 33·4	—
Tashkent	64·7	31	—	—	e 18 54	−22	e 33·4	40·2

Additional readings and note :—
Ottawa eE = +10m.31s. =SS − 8s. ; T_0 =22h.15m.30s.
Ann Arbor eE = +12m.11s. =SS +5s. and +12m.47s., eN = +13m.35s., i = +14m.41s.
Chicago e = +13m.25s. and +15m.4s.
Pennsylvania e = +12m.48s., i = +13m.16s.
Philadelphia e = +12m.34s., eSS = +13m.31s., i = +15m.38s.
Des Moines e = +15m.21s. and +15m.53s. Readings given as 21h.
Seattle e = +14m.55s.
Florissant eS?E = +13m.4s., iN = +17m.21s., iENZ = +17m.26s.
Denver eSSEN = +15m.22s., eSSSEN = +16m.13s.
Little Rock iN = +12m.23s., +14m.56s., +15m.30s. =SS +7s., +15m.49s., and +16m.21s.
Tucson e = +21m.15s.
Pasadena ePPZ = +9m.46s. =PP +6s.
Long waves also at Edinburgh, Chiufeng, and other European and American stations.

April 18d. Readings also at 2h. (Pasadena, Riverside, and Tinemaha), 3h. (Manila), 4h. (Sverdlovsk), 6h. (Sverdlovsk), 8h. (Sverdlovsk), 9h. (Lick, Pasadena, Mount Wilson, Riverside, and Tinemaha), 10h. (Philadelphia, Pasadena, Mount Wilson, and Tinemaha), 11h. (Medan), 12h. (Samarkand), 18h. (Apia and Perth), 21h. (Hong Kong, Nanking, Nagoya, and Malabar), 22h. (Grozny, Tashkent, Tiflis, La Jolla, Pasadena, and Tinemaha), 23h. (Andijan)

April 19d. 4h. Readings for which no determination has been made :—
Erevan eP =31m.58s.
Grozny eP =32m.5s., eS =33m.45s.
Baku e =32m.14s., e =32m.56s., L =34m., M =34m.42s.
Almata eP =33m.38s., eS =38m.18s.
Tiflis e =33m.42s., e =33m.56s., e =35m.28s., e =36m.24s., eL=40m.30s.
Frunse eP =34m.0s.
Tashkent e =34m.4s., e =35m.6s., e =36m.3s., e =36m.58s., i =37m.23s., M = 38m.6s.
Tchimkent eP =35m.27s.
Pulkovo e =39m.0s.
Copenhagen L =54m.

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April 19d. 15h. 23m. 24s. Epicentre 31°·0N. 15°·2E. N.1.

A = +·827, B = +·225, C = +·515; D = +·262, E = −·965;
G = +·497, H = +·135, K = −·857.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Messina	7·2	3	1 44	+ 2	3 6	+ 2	3·6	3·7
Tunis	7·2	324	i 1 48	+ 6	3 53	S_g	—	—
Algiers	11·6	304	i 2 45	+ 2	i 5 49	− 4	7·6	—
Florence	13·2	348	i 3 6k	+ 1	i 5 32	0	—	7·6
Prato	13·3	350	i 3 7	+ 1	i 6 6	+32	—	i 7·8
Sofia	13·4	27	i 3 3	− 4	5 36?	− 1	—	—
Helwan	13·9	89	i 3 11	− 3	6 51	S*	—	12·8
Belgrade	14·4	17	3 17	− 4	i 5 55	− 6	8·2	9·7
Marseilles	14·6	332	3 24	+ 1	6 7	+ 2	7·1	—
Padova	14·7	353	i 3 21	− 4	5 57	−11	—	—
Triest	14·7	357	i 3 23	− 2	6 4	− 4	7·4	8·6
Piacenza	14·7	345	i 3 29	+ 4	i 6 23	SS	i 9·0	11·8
Zagreb	14·8	4	e 3 24k	− 2	e 6 7	− 3	e 9·4	11·6
Barcelona	14·8	320	i 3 25	− 1	i 6 20	+10	e 6·7	10·4
Alicante	14·8	305	i 3 28	+ 2	i 6 24	+14	e 7·7	10·3
Laibach	15·1	0	i 3 30	0	i 5 23	?	i 6·0	9·3
Tortosa	15·4	315	3 34	0	6 35	+11	7·9	—
Almeria	15·8	299	i 3 38	− 1	i 6 36?	+ 2	e 8·3	8·9
Bucharest	15·9	30	i 3 37	− 3	6 45	SS	—	9·0
Graz	16·1	3	i 3 40	− 3	i 6 58	SS	i 7·6	9·7
Sion	16·4	344	e 3 47	+ 1	e 6 58	SS	—	—
Chur	16·5	345	e 3 47k	− 1	e 7 5	SS	—	—
Granada	16·7	298	i 3 55	+ 5	i 7 0	SS	—	—
Budapest	16·7	10	3 44	− 6	6 37	−18	7·1	11·1
Zurich	17·1	345	3 55k	0	e 7 1	− 3	—	—
Neuchatel	17·2	342	e 3 56	− 1	e 7 10	+ 4	—	—
Malaga	17·3	296	i 4 0	+ 2	i 7 6	− 3	9·6	—
Vienna	17·3	3	i 3 57	− 1	i 7 1	− 8	—	7·4
Ravensburg	17·4	347	i 3 58	− 1	i 7 9	− 2	e 11·0	—
Ksara	17·6	76	e 4 1	− 1	i 7 21	+ 6	—	—
Basle	17·6	344	e 4 0	− 2	e 7 17	+ 2	—	—
Besançon	17·7	343	i 4 3	0	i 7 19	+ 2	e 10·6	—
Toledo	18·0	305	i 4 8	+ 1	i 7 27	+ 2	e 8·7	—
Stuttgart	18·4	350	i 4 11	0	i 7 27	− 6	e 11·1	14·6
Strasbourg	18·5	347	i 4 12k	− 1	i 7 32	− 4	e 9·6	13·1
San Fernando	18·6	293	i 4 15k	+ 1	7 7	−31	8·1	—
Karlsruhe	18·7	348	i 3 16	−59	i 6 36	−64	e 8·6	—
Prague	19·0	359	i 4 23	+ 4	i 7 41	− 5	e 8·6	10·1
Cheb	19·2	353	e 4 21	0	e 7 45	− 5	e 8·9	11·8
Sebastopol	19·8	40	i 4 26	− 1	i 8 6	+ 4	—	—
Paris	20·0	336	i 4 33k	+ 3	i 8 11	+ 5	9·6	10·6
Lemberg	20·0	330	−e 1 42	?	e 4 42	P	8·3	8·6
Jena	20·1	353	i 4 30	− 1	i 8 3	− 5	e 9·1	10·6
Yalta	20·1	43	i 4 30	− 1	i 8 13	+ 5	—	—
Simferopol	20·2	41	i 4 33	+ 1	8 16	+ 6	—	—
Leipzig	20·5	356	i 4 33	− 2	i 8 10	− 6	e 9·6	11·3
Göttingen	20·9	351	i 4 40k	+ 1	i 8 26	+ 2	e 11·6	13·6
Theodosia	21·1	42	4 42	+ 1	8 34	+ 6	—	—
Uccle	21·4	341	i 4 42k	− 2	i 8 23	−11	9·6	—
Lille	21·6	337	i 4 47	+ 1	8 49	+11	10·6	—
Serra do Pilar	21·7	305	i 4 45	− 3	i 8 37	− 3	10·8	—
De Bilt	22·3	345	i 4 51k	− 3	8 52	0	e 11·6	16·8
Hamburg	22·9	353	i 4 59k	− 1	i 9 4	+ 1	—	15·6
Sotchi	23·1	50	4 5	−57	e 7 55	?	—	—
Kew	23·4	337	i 5 6	+ 1	i 9 13	+ 1	e 10·6	12·3

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	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Königsberg	24·1	8	i 5 14	+ 3	9 26	+ 1	—	15·6
Oxford	24·1	335	i 5 9	− 2	i 9 29	+ 4	—	13·1
Copenhagen	24·7	356	i 5 17	0	9 38	+ 2	—	—
Erevan	25·3	61	5 27	+ 4	9 54	+ 8	—	—
Piatigorsk	25·5	51	4 34	−51	8 57	−53	12·7	—
Tiflis	25·9	57	i 5 33	+ 5	i 10 4	+ 7	15·4	—
Bidston	26·0	338	i 5 29	0	i 9 56	− 2	e 10·6	11·6
Stonyhurst	26·2	337	i 5 29	− 2	i 10 9	+ 7	—	17·2
Durham	26·6	339	i 5 34	− 1	i 10 18	+ 9	—	19·6
Grozny	27·0	54	e 5 37	− 1	10 41	+26	21·6	—
Rathfarnham Castle	27·2	340	i 5 40	0	i 10 19	+ 1	12·9	15·6
Edinburgh	28·0	338	i 5 48	+ 1	i 10 41	+ 9	—	11·4
Upsala	28·9	3	5 56	+ 1	10 39	− 8	e 13·6	17·9
Moscow	29·3	26	i 6 4	+ 5	i 10 52	− 1	12·9	17·2
Baku	29·5	61	i 6 3	+ 2	i 11 12	+16	—	—
Bergen	30·1	352	e 6 3	− 3	i 10 53	−13	13·4	16·8
Pulkovo	30·5	15	i 6 9	0	11 5	− 7	14·6	17·7
Dakar	34·1	251	6 48	+ 7	12 15	+ 7	—	—
Reykjavik	40·4	336	e 7 39	+ 4	e 13 49	+ 7	18·9	—
Sverdlovsk	40·5	37	i 7 38	+ 2	i 13 41	− 3	24·6	25·1
Samarkand	42·5	63	7 54	+ 1	14 16	+ 3	—	—
Tashkent	44·1	60	i 8 7	+ 1	i 14 43	+ 6	—	34·2
Tchimkent	44·3	58	e 8 8	+ 1	e 15 34	+54	—	—
Scoresby Sund	44·5	343	i 8 11a	+ 2	14 47	+ 4	—	—
Andijan	46·5	61	e 8 30	+ 5	—	—	e 21·2	—
Frunse	47·9	58	e 8 36	+ 1	e 15 40	+ 9	—	—
Almata	49·6	56	8 52	+ 4	16 0	+ 5	—	—
Semipalatinsk	51·1	57	i 8 54	− 6	16 14	− 2	e 26·6	—
Bombay	53·1	88	i 9 17	+ 2	i 16 45	+ 2	25·1	34·1
Dehra Dun	53·2	73	9 16	+ 1	16 46	+ 1	27·3	33·6
Agra	54·3	77	i 9 25	+ 2	i 17 1	+ 2	26·0	32·3
Hyderabad	58·5	87	10 0	+ 6	17 55	− 1	27·1	35·2
Tananarive	58·5	143	e 9 58	+ 4	17 58	+ 2	26·8	34·9
Kodaikanal	61·0	64	i 10 17	+ 6	i 18 29	0	i 31·8	38·0
Halifax	61·3	308	e 10 16	+ 2	i 18 30	− 3	—	—
Calcutta	64·7	77	10 50	+13	19 34	+18	31·7	38·8
Colombo	64·8	97	10 35	− 2	19 9	− 8	34·9	40·2
Cape Town	65·1	178	8 44	?	18 37	−44	33·6	—
Weston	67·3	308	i 10 55	+ 1	i 19 51	+ 3	—	—
Oak Ridge	67·5	308	i 10 57	+ 2	e 19 53	+ 2	e 35·2	—
Vermont	67·8	311	i 10 56	− 1	i 19 51	− 3	29·5	—
Ottawa	69·1	312	e 11 6	+ 1	i 20 10	0	e 32·6	—
Ithaca	70·8	310	i 11 29	+13	i 20 31	0	—	—
Philadelphia	71·0	307	i 11 18	+ 1	i 20 32	− 1	28·3	—
Toronto	72·2	311	—	—	i 20 47	0	34·6	—
Pennsylvania	72·4	308	i 11 31	+ 6	e 20 47	− 3	—	39·9
Georgetown	72·7	307	i 11 33k	+ 6	i 20 55	+ 2	e 32·6	—
San Juan	73·5	283	i 11 42	+10	i 20 56	− 7	e 30·6	—
Charlottesville	74·1	306	—	—	i 21 6	− 4	e 32·6	—
Ann Arbor	75·6	311	e 12 0	+16	i 21 30	+ 3	e 35·6	48·1
Columbia	77·9	303	e 12 6	+ 9	i 21 54	+ 1	e 38·0	—
Chiufeng	78·0	50	i 11 58a	+ 1	i 21 49	− 5	—	50·3
Chicago	78·3	313	e 12 1	+ 2	i 21 49	− 8	i 39·9	—
Port au Prince	78·5	286	e 12 15	+15	i 22 4	+ 5	—	—
Phu-Lien	80·8	72	e 12 16	+ 4	e 22 18	− 6	32·6	56·7
St. Louis	81·8	311	e 12 18	+ 1	i 22 26	− 9	—	—
Florissant	81·8	311	e 12 20k	+ 3	i 22 27	− 8	e 39·3	42·8
Des Moines	82·2	315	—	—	e 22 36	− 3	e 34·8	—
Medan	82·6	90	12 20	− 1	22 35	[− 6]	e 38·6	—
Nanking	84·1	56	12 33	+ 4	22 47	[− 5]	39·8	47·3

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	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Heizyo	84·8	48	31 27	?	—	—	—	—
Little Rock	85·3	308	e 12 35	0	e 22 46	[−15]	e 39·8	45·0
Hong Kong	85·9	67	12 41	+ 3	23 6	[0]	—	52·6
Vladivostok	86·0	41	e 12 42	+ 4	(22 54)	[−12]	22·9	55·9
Zinsen	86·3	48	e 12 41	+ 1	e 23 1	[− 7]	40·6	—
Zi-ka-wei	86·4	55	e 12 40	0	23 3	[− 6]	50·1	58·9
Keizyo	86·5	47	e 12 42	+ 1	25 56	?	—	57·2
Taikyu	88·5	50	e 12 56	+ 6	e 23 4	[−19]	—	—
Sitka	88·5	345	—	—	e 23 36	[+13]	36·0	—
Husan	89·2	50	13 3	+ 9	23 13	[−15]	49·7	—
Bozeman	89·2	326	e 14 6	?	i 23 45	− 3	36·6	—
Taihoku	90·0	62	e 18 44	?	e 23 53	− 3	—	—
Hukuoka B	91·1	50	e 16 42	PP	25 14	PS	46·9	—
Hukuoka	91·1	50	—	—	e 23 50	{+ 6}	—	—
Nagasaki	91·3	51	e 14 44	?	e 23 33	[− 7]	e 30·3	—
Sucre	92·0	248	13 12	+ 5	i 24 7	− 8	39·6	—
Victoria	92·4	335	12 23	−46	23 41	[− 6]	35·2	51·8
Toyooka	92·6	52	e 13 44	+35	e 23 40	[− 8]	—	60·9
Seattle	92·6	334	—	—	e 23 35	[−13]	39·1	—
La Paz	93·0	254	i 13 23	+12	i 24 14	−10	42·1	54·9
Kobe	93·3	46	e 12 57	−16	e 23 31	[−21]	e 50·1	65·4
Sumoto	93·4	47	e 13 7	− 6	23 48	[− 4]	—	58·3
Osaka	93·6	47	13 8	− 6	24 37	+ 8	49·8	66·0
Mizusawa	93·7	40	13 57	+43	23 51	[− 3]	—	—
Nagana	93·8	43	13 57	+42	—	—	—	—
Nagoya	94·2	45	13 34	+17	(e 23 52)	[− 4]	e 23·9	—
Sendai	94·2	40	13 37	+20	24 50	+25	—	—
Batavia	94·6	90	13 21	+ 2	i 24 30	− 8	e 42·6	—
Kumagaya	94·9	44	13 34	+14	—	—	—	—
La Plata	95·2	234	23 56	S	(23 56)	[− 6]	43·6	—
Manila	95·5	71	13 26	+ 3	i 23 31	[−32]	—	—
Malabar	95·8	96	e 14 13	+49	e 24 49	0	—	—
Huancayo	96·6	261	e 13 26	− 2	i 24 45	−11	40·1	—
Tucson	98·7	317	e 13 28	−10	i 24 34	[+15]	e 40·5	—
Tinemaha	99·2	326	e 14 13	+33	i 26 39	PS	—	—
Ukiah	99·9	330	—	—	e 24 20	[− 5]	e 34·7	—
Berkeley	100·5	328	e 13 59	+13	i 25 49	+18	—	—
Lick	100·7	328	e 16 49	?	—	—	—	—
Riverside	101·1	324	e 14 4	+15	e 24 19	[−12]	—	—
Mount Wilson	101·3	324	e 13 55	+ 5	e 24 46	[+14]	—	—
Pasadena	101·5	323	i 13 54	+ 4	e 25 53	+13	e 40·9	—
Santiago	103·4	241	—	—	e 23 18	[−84]	—	—
Perth	114·0	115	26 26	SKKS	(26 26)	{− 9}	48·3	61·6
Honolulu	127·3	354	—	—	i 35 53	?	e 52·9	—
Melbourne	138·5	115	i 19 20	[0]	—	—	64·6	77·9
Riverview	143·0	107	—	—	e 41 34	SS	e 58·1	83·3
Adelaide	143·0	112	e 22 53	PP	i 32 49	SKSP	55·8	74·4
Wellington	160·6	128	20 0	[+ 6]	—	—	72·6	86·6

Additional readings :—
Tunis PsP = +2m.25s.
Algiers iP? = +3m.46s., iPP? = +3m.56s., SS = +6m.17s.
Sofia i = +3m.7s.
Belgrade i = +3m.46s., +4m.8s., +6m.20s., and +7m.5s.
Marseilles SS = +6m.23s.
Triest iSsS = +6m.31s., i = +6m.47s.
Piacenza PP = +5m.23s.
Zagreb ePP = +3m.38s., i = +4m.3s., eZ = +4m.12s., i = +4m.21s., and +5m.10s., iSS = +6m.18s., i = +6m.36s., +7m.17s., +8m.5s., and +8m.35s.
Alicante PPP = +4m.4s.
Tortosa PN = +4m.1s.
Graz i = +4m.13s.
Budapest PP = +3m.52s.

Continued on next page,

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Malaga i = +4m.8s. = PP + 3s., +4m.13s., +4m.27s., +4m.42s., +4m.58s., +5m.22s., +6m.20s., +7m.14s., +10m.56s., and +15m.36s.
Vienna i = +6m.45s.
Stuttgart iN = +12m.28s.
Strasbourg PP = +4m.26s., SSS = +8m.11s.
Cheb eSN = +7m.49s.
Jena iN = +5m.15s., iE = +6m.30s., eN = +7m.52s., iSZ = +8m.6s., iSN = +8m.13s.
Leipzig i = +4m.42s., +4m.47s. = PP − 2s. and +5m.17s., iN = +7m.25s., and +8m.31s. = SS − 8s., i = +9m.5s.
Göttingen iPZ = +4m.43s., iE = +8m.24s., iSN = +8m.28s.
Theodosia i = +4m.50s.
Uccle iSN = +8m.27s. and +8m.41s.
Serra do Pilar PP = +4m.53s.
De Bilt iE = +8m.57s.
Hamburg iSN = +9m.8s.
Kew iNZ = +5m.14s., iPP = +5m.28s., iEZ = +7m.30s.
Königsberg iZ = +5m.16s., i = +5m.28s., PP? = +5m.37s., iZ = +5m.46s., PPP = +6m.4s., i = +6m.23s., P_cP = +9m.8s., +9m.28s., +9m.32s., and +9m.44s.
Copenhagen i = +5m.27s.
Bidston iPP = +5m.59s.
Durham PP = +6m.11s., PPP = +6m.28s., P_cP = +10m.3s.
Grozny i = +6m.5s.
Rathfarnham Castle PP = +6m.15s., SS = +11m.45s.
Edinburgh i = +5m.56s., +6m.35s. = PP + 4s., +7m.23s., +9m.25s., and +10m.19s.
Bergen SS = +11m.33s.
Dakar PP = +7m.49s., S = +16m.36s.
Reykjavik PP? = +9m.19s., SSS = +17m.5s.
Sverdlovsk L_g = +22m.12s.
Samarkand PP = +9m.38s.
Scoresby Sund e = +9m.45s. = PP − 1s., i = +10m.0s., +10m.49s., e = +12m.24s. and +13m.6s., i = +15m.23s., eN = +16m.54s., iE = +18m.5s. = S_cS − 4s., iN = +18m.22s.
Almata PP = +10m.48s.
Bombay PPEN = +11m.13s., PPPEN = +12m.4s., PSEN = +17m.19s., SSEN = +20m.12s., SSSEN = +21m.40s.
Agra eN = +9m.31s., PP = +11m.26s., PPP = +12m.26s., iN = +16m.52s., PS = +17m.35s., SS = +20m.47s., SSS = +22m.34s.
Tananarive E = +11m.19s., ePP = +12m.14s., PPP = +13m.10s., PS = +18m.25s., SS = +22m.4s., E = +22m.40s. and +25m.34s.
Kodaikanal iPP = +12m.42s., iPS = +19m.2s., iSS = +22m.41s., iSSS = +25m.1s.
Calcutta PP = +13m.17s., PPP = +14m.32s., SS = +23m.59s., SSS = +26m.15s.
Cape Town PPN = +11m.41s., PPPN = +13m.7s., PS = +19m.14s., SSE = +23m.5s., SSSE = +27m.4s., SSSN = +27m.12s.
Oak Ridge i = +11m.4s., e = +13m.36s.?, i = +14m.39s., eSSS = +27m.19s.
Vermont ePP = +12m.36s., ePS = +20m.51s. = S_cS + 2s., iSS = +24m.11s., eSSS = +28m.31s.
Ottawa PP = +13m.42s., i = +20m.51s., SS = +24m.48s., SSS = +27m.18s.
Philadelphia i = +11m.27s., e = +13m.32s., i = +16m.43s. and +21m.1s.
Toronto SSE = +25m.35s.; T_0 = 15h.23m.24s.
Pennsylvania e = +23m.37s., e = +29m.6s. and +32m.22s.
San Juan eSS = +30m.16s.
Charlottesville ePP = +11m.46s., e = +14m.7s. = PP − 7s. and +17m.24s., i = +21m.47s., e = +29m.18s.
Ann Arbor ePP = +14m.42s., ePPP = +16m.42s., eSS = +26m.30s., eSSS = +29m.24s.; T_0 = 15h.23m.24s.
Columbia e = +19m.18s., eSS = +26m.46s.
Chiufeng PP?N = +14m.44s.
Chicago eSS = +26m.45s., e = +33m.51s.
Port au Prince PP = +13m.10s., SS = +27m.9s.
St. Louis epPEN = +12m.27s., iPPEN = +15m.18s., isPPEN = +15m.35s., iPPPE = +17m.20s., isSE = +22m.42s., iPSE = +23m.23s., iSS = +28m.9s., iSSS = +31m.20s.; T_0 = 15h.23m.32s.
Florissant ipPEZ = +12m.29s., iPPEZ = +15m.22s., iPPPZ = +17m.15s., isSN = +22m.45s., iSPZ = +23m.21s., iPSEN = +23m.24s., iSSEN = +28m.6s., iSSSE = +31m.29s.; T_0 = 15h.23m.32s.
Des Moines ePS = +24m.24s., eSS = +27m.59s.
Medan iNS = +22m.57s., iE = +23m.48s.
Nanking PP = +15m.13s., SS = +27m.14s., eSSSE = +30m.23s., eSSSN = +31m.2s.
Little Rock epPEN = +12m.45s., ePPE = +15m.49s., eSEN = +23m.8s., iSPE = +23m.53s., iE = +25m.54s., eSSE = +27m.17s., iE = +28m.42s. and +32m.49s.; T_0 = 15h.23m.32s.

Continued on next page.

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Hong Kong PP? = +16m.6s., S? = +23m.16s., SS = +29m.15s., SSS = +32m.10s.
Vladivostok e = +13m.32s., +17m.45s. =RPP +6s., and +19m.12s. =PPPP +8s.
Zinsen SSN? = +28m.49s.
Zi-ka-wei eN = +12m.56s., iZ = +13m.12s., +13m.52s., +15m.27s., +16m.14s., +18m.8s., +23m.24s. =S +3s., +24m.40s., +29m.16s., and +46m.40s.
Sitka ePS = +24m.26s., e = +32m.56s. =SSS +8s., and +33m.36s.
Bozeman ePP = +17m.59s., eSKS = +23m.7s., ePS = +24m.48s.
Hukuoka e = +30m.47s. and +46m.48s.
Sucre SS = +30m.13s.
Toyooka ePN = +14m.1s., SN = +25m.40s.
Seattle e = +15m.15s.
La Paz iPPZ = +17m.1s., iPPPN = +19m.16s., iPPPZ = +19m.20s., SKSZ = +23m.40s., iSKSN = +23m.46s., iSZ = +24m.16s., iPSN = +25m.18s., iPSZ = +25m.34s., iPPSN = +26m.4s., iSSN = +30m.32s., iSSSN = +34m.52s.
Kobe ePZ = +13m.10s., eZ = +16m.55s. =PP +3s., eN = +17m.36s., eSN = +23m.43s., eSZ = +25m.16s. =PS −14s., eN = +31m.9s., eN = +34m.9s., eE = +34m.54s.
Sumoto eE = +14m.7s.
Osaka PP = +17m.18s., PP = +19m.31s., SS = +31m.21s., SSS = +35m.47s.
Mizusawa PN = +14m.7s.
Batavia i = +14m.36s.
La Plata PP = +26m.2s. =PS +10s., S = +31m.18s. =SS +24s., SS = +35m.18s.
Manila iZ = +17m.27s. =PP +19s. and +19m.26s.
Malabar i = +14m.24s.
Huancayo ePP = +17m.22s., eSKS = +23m.53s., iPS = +25m.56s., eSS = +30m.28s.
Tucson ePP = +17m.44s., ePPP = +19m.45s., eSKS = +24m.6s., e = +28m.9s. and +35m.54s.
Ukiah ePP = +18m.0s., ePS = +26m.49s., e = +27m.36s.
Berkeley ePE = +14m.4s., ePPEZ = +17m.39s., iPPPEZ = +19m.54s., ePPNZ = +19m.59s., eSE = +25m.42s., iPSZ = +26m.44s., iN = +27m.4s.
Lick ePE = +16m.59s.
Pasadena iPPEZ = +18m.7s., iPPPZ = +20m.4s., eSKSEN = +24m.31s., iSKSEN = +24m.45s., iPSZ = +27m.1s., eS_cSPN = +27m.30s., iPPSN = +27m.56s., iSSN = +31m.25s.
Perth P_cP = +27m.6s., PP = +29m.36s., PPP = +30m.56s., PPPP = +31m.57s., S = +35m.41s., PS = +35m.58s.
Honolulu e = +38m.11s. =SS +5s. and +41m.13s.
Melbourne e = +22m.11s. =PP −1s., +28m.41s. and +36m.2s., i = +40m.43s. and +46m.30s.
Riverview e = +21m.42s. and +33m.42s.
Adelaide e = +34m.28s. and +45m.13s.
Wellington i = +44m.36s.? =SS −2s.
Long waves at Apia.

April 19d. 16h. 18m. 41s. Epicentre 31°·2N. 15°·0E. N.2.

A = +·826, B = +·221, C = +·518; D = +·259, E = −·966; G = +·500, H = +·134, K = −·855.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Messina	7·0	4	1 39	0	2 53	− 6	—	3·5
Algiers	11·3	303	(e 2 39)	0	(e 5 32)	S*	—	(8·1)
Belgrade	14·3	17	e 3 15	− 4	e 5 45	−13	—	—
Padova	14·4	352	(e 3 19)?	− 2	—	—	—	—
Triest	14·5	356	3 21	− 1	i 6 32	+29	—	—
Chur	16·2	344	e 3 44	0	e 6 53	SS	—	—
Granada	16·4	296	i 3 55	PP	i 7 0	SS	7·8	—
Zurich	16·9	345	e 3 51	− 2	—	—	—	—
Malaga	17·0	295	4 4	PP	—	—	—	—
Vienna	17·1	4	i 3 56	+ 1	—	—	—	—
Basle	17·3	341	e 3 56	− 2	e 7 11	+ 2	—	—
Ksara	17·8	78	e 4 4	0	—	—	—	—
Stuttgart	18·1	349	e 4 19	PP	—	—	—	—
Strasbourg	18·2	347	e 4 13	+ 4	—	—	—	—
San Fernando	18·3	292	4 15	+ 5	—	—	—	—

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Sebastopol	19·8	40	4 26	− 1	—	—	—	—
Yalta	20·1	42	4 31	0	8 9	+ 1	—	—
Simferopol	20·3	40	4 32	− 1	—	—	—	—
Theodosia	21·0	42	i 4 39	− 1	e 8 22	− 4	—	—
Uccle	21·1	340	e 4 47	+ 6	—	—	—	—
Sotchi	23·1	49	4 2	−60	—	—	—	—
Königsberg	23·9	8	i 5 14	+ 5	—	—	—	—
Copenhagen	24·5	356	i 5 17k	+ 2	—	—	—	—
Erevan	25·4	60	5 24	0	—	—	—	—
Piatigorsk	25·5	49	4 29	−56	—	—	—	—
Tiflis	26·0	56	e 5 25	− 4	e 10 0	+ 2	—	—
Grozny	27·1	54	5 36	− 3	—	—	—	—
Upsala	28·7	3	—	—	e 10 59	+16	—	—
Pulkovo	30·3	14	6 8	0	—	—	—	—
Sverdlovsk	40·5	35	e 7 58	+22	—	—	—	—
Andijan	46·5	61	e 8 37	+12	—	—	—	—
Frunse	47·9	58	e 8 34	− 1	—	—	—	—
Almata	49·6	56	e 8 49	+ 1	—	—	—	—

Additional readings and notes :—
Algiers readings have been *diminished* by 1m.
Belgrade i = +3m.25s. =PP +2s., e = +6m.30s.
Padova readings have been *diminished* by 1m.
Tiflis e = +5m.33s.
Pulkovo i = +10m.6s.

April 19d. 17h. 36m. 54s. (I) Epicentre 31°·2N. 15°·0E. X.
17h. 50m. 0s. (II) (as at 16h.). X.

	Δ	Az.	P.	O−C.	S.	O−C.	L.
	°	°	m. s.	s.	m. s.	s.	m.
II Messina	7·0	4	1 28	−11	3 6	+ 6	3·9
I Algiers	11·3	303	e 6 43	?	e 10 4	?	—
I Chur	16·2	344	e 3 46	+ 2	—	—	—
I Granada	16·4	296	i 3 53	PP	i 6 58	SS	—
II	16·4	296	i 3 50	PP	e 7 4	?	—
I Zurich	16·9	345	e 3 52	− 1	—	—	—
II	16·9	345	e 3 52	− 1	—	—	—
I Malaga	17·0	295	e 4 3	PP	—	—	—
II	17·0	295	e 4 12	?	—	—	—
I Vienna	17·1	4	i 4 7	PP	e 7 26	?	—
II	17·1	4	e 3 57	+ 2	e 7 8	+ 4	—
I Basle	17·3	341	e 3 57	− 1	—	—	—
II	17·3	341	e 3 56	− 2	e 7 13	+ 4	—
I Ksara	17·8	78	e 4 8	+ 4	e 7 23	+ 3	—
I Stuttgart	18·1	349	e 3 6?	?	—	—	—
II Yalta	20·1	42	4 33	+ 2	8 14	+ 6	—
II Simferopol	20·3	40	4 35	+ 2	8 15	+ 3	—
II Theodosia	21·0	42	4 39	− 1	8 22	− 4	—
I Piatigorsk	25·5	49	4 38	?	—	—	—
II Tiflis	26·0	56	e 5 28	− 1	—	—	—
I Grozny	27·1	54	e 5 39	0	—	—	—
II	27·1	54	e 5 52	+13	—	—	—
II Pulkovo	30·3	14	6 19	+11	—	—	—
I Sverdlovsk	40·4	35	7 33	− 2	—	—	—
II	40·4	35	e 7 34	− 1	—	—	—

II Tiflis e = +5m,56s.

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April 19d. 17h. 57m. 47s. Epicentre 30°·8N. 15°·5E. N.2.

A = +·828, B = +·230, C = +·512 ; D = +·267, E = −·964 ;
G = +·493, H = +·137, K = −·859.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Messina	7·4	0	1 56	P*	2 40	−29	3·2	3·5
Algiers	12·0	303	e 2 56	PP	i 6 17	S_g	i 8·2	—
Sofia	13·4	27	e 3 5	− 2	i 5 24	−13	—	—
Florence	13·4	348	i 3 13?	+ 6	5 38	+ 1	—	8·2
Prato	13·5	350	e 3 19	+10	i 6 5	+26	—	8·8
Helwan	13·7	90	—	—	8 15?	?	—	—
Belgrade	14·3	15	e 3 30	+11	i 6 24	+26	—	—
Padova	14·9	353	e 3 35	+ 8	—	—	—	—
Triest	14·9	356	3 23	− 4	6 1	−12	6·9	8·8
Zagreb	15·0	3	e 3 26	− 2	e 6 7	− 8	8·7	—
Piacenza	15·0	343	3 43	PP	6 9	− 6	—	8·2
Barcelona	15·1	319	e 5 54	S	(e 5 54)	−23	e 7·8	10·2
Alicante	15·2	305	e 3 34	+ 3	e 6 41	+21	e 8·8	—
Tortosa	15·7	314	3 42	+ 4	6 34	+ 3	8·5	9·0
Bucharest	16·0	30	e 3 31	−10	6 45	+ 7	—	—
Almeria	16·1	297	i 3 43	0	e 6 36	− 5	e 8·9	—
Budapest	16·2	10	3 42	− 2	6 55	SS	e 10·2	7·7
Graz	16·3	1	i 3 41	− 4	e 7 0	SS	e 8·2	10·1
Chur	16·7	344	e 3 45	− 5	e 6 53	− 2	—	—
Granada	17·1	298	i 3 59	+ 4	i 7 5	+ 1	8·4	11·2
Zurich	17·4	344	e 3 51	− 8	—	—	—	—
Ksara	17·5	77	e 4 2	+ 2	e 7 20	+ 7	—	—
Vienna	17·5	3	e 3 58	− 2	i 7 23	SS	—	—
Malaga	17·6	296	e 4 2	0	7 5	−10	—	—
Basle	17·9	346	e 3 55	−10	e 7 11	−11	—	—
Besançon	18·0	340	e 4 7	0	e 7 27	+ 2	—	—
Toledo	18·3	304	e 4 5	− 5	7 28	− 3	—	—
Stuttgart	18·6	349	e 4 13	− 1	e 7 26	−12	e 10·9	13·7
Strasbourg	18·7	345	i 4 10k	− 5	e 7 33	− 7	e 10·2	—
San Fernando	18·9	293	4 19k	+ 2	7 40	− 4	—	—
Karlsruhe	19·0	350	3 13	−66	6 43	−63	—	—
Prague	19·3	358	4 25	+ 3	e 7 52	0	e 11·7	16·2
Cheb	19·4	356	e 4 39	PP	e 7 58	+ 4	e 9·7	11·7
Sebastopol	19·8	40	e 4 31	+ 4	—	—	—	—
Yalta	20·0	42	i 4 34	+ 4	8 9	+ 3	—	—
Simferopol	20·3	40	4 34	+ 1	8 10	− 2	—	—
Jena	20·3	354	e 4 27	− 6	e 8 1	−11	e 9·2	12·2
Paris	20·6	334	i 4 35	− 1	e 8 16	− 2	10·2	10·2
Leipzig	20·7	355	e 4 1	−36	e 8 26	+ 6	—	12·2
Theodosia	21·0	42	e 4 38	− 2	8 27	+ 1	—	—
Göttingen	21·1	351	i 4 43	+ 2	e 8 33	+ 5	—	—
Uccle	21·7	340	e 4 45	− 3	8 35	− 5	9·2	—
Serra do Pilar	22·0	306	4 58	+ 7	9 3	+17	—	—
De Bilt	22·6	345	e 4 59	+ 2	e 9 3	+ 6	e 12·2	—
Sotchi	23·0	49	e 4 9	−52	—	—	—	—
Hamburg	23·2	351	e 5 4	+ 1	e 9 5	− 3	e 11·2	24·2
Kew	23·8	337	i 5 10	+ 2	i 9 18	− 1	e 10·2	12·5
Königsberg	24·3	7	i 5 17	+ 4	—	—	—	—
Copenhagen	25·0	356	5 16	− 4	9 37	− 4	11·4	—
Erevan	25·2	59	e 5 26	+ 4	—	—	—	—
Piatigorsk	25·4	49	e 4 31	−53	e 8 58	−50	—	—
Tiflis	25·8	57	5 28	+ 1	10 7	+12	15·0	—
Bidston	26·3	336	i 4 56	−36	i 9 11	−52	e 10·2	12·2
Stonyhurst	26·5	338	e 5 33	− 1	10 13	+ 6	14·2	17·7
Grozny	27·0	53	e 5 48	+10	e 10 37	+22	—	—

Continued on next page.

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	Δ	Az.	P.	O − C.	S.	O − C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Rathfarnham Castle	27·5	335	e 5 44	+ 1	e 10 21	− 3	11·6	13·8
Edinburgh	28·4	340	e 5 19	−32	—	—	—	—
Upsala	29·1	3	e 6 30	PP	i 11 4	+14	e 16·2	—
Moscow	29·4	25	e 6 1	+ 1	e 10 37	−18	—	—
Pulkovo	30·6	15	6 13	+ 3	11 11	− 3	15·2	17·5
Sverdlovsk	40·5	37	i 7 33	− 3	—	—	—	—
Tashkent	44·0	59	i 8 10	+ 5	i 14 44	+ 8	—	36·0
Florissant	82·1	310	e 12 23	+ 4	e 22 38	0	—	—

Additional readings :—
Algiers SS = +7m.25s.
Belgrade e = +6m.2s. =SS − 3s.
Triest iSSsS = +6m.27s.
Zagreb e = +4m.35s., eSS = +6m.31s., e = +6m.53s., eE = +7m.30s.
Tortosa SN = +6m.46s.
Ksara SS = +8m.49s.
Vienna iZ = +4m.4s. =PP − 4s., iEN = +7m.10s. =S − 3s.
Malaga i = +4m.9s. =PP + 0s. and +5m.2s.
Stuttgart eSS = +7m.59s.
Jena ePEZ = +4m.43s. =PP − 3s.
Leipzig eN = +4m.25s.
Göttingen eS = +8m.35s.
Uccle S = +8m.43s.
Copenhagen +9m.47s.
Tiflis e = +5m.37s.
Tashkent e = +7m.49s., +9m.55s. and +10m.19s.
Long waves at Scoresby Sund.

April 19d. 20h. 31m. 39s. Epicentre 30°·8N. 15°·5E. (as at 17h. 57m.). R.1.

	Δ	Az.	P.	O − C.	S.	O − C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Messina	7·4	0	e 1 46	+ 1	2 44	−25	3·3	3·5
Algiers	12·0	303	e 2 58	PP	i 6 0	S*	e 7·9	—
Sofia	13·4	27	e 3 2	− 5	6 51	S*	—	—
Florence	13·4	348	i 3 4k	− 3	5 25	−12	—	7·4
Prato	13·5	350	i 3 9	0	i 5 42	+ 3	—	9·2
Helwan	13·7	90	e 3 11	0	e 7 14	S_g	—	8·6
Belgrade	14·3	15	e 3 16	− 3	e 6 4	SS	e 8·6	—
Padova	14·9	353	e 3 31	PP	6 20	SS	—	—
Triest	14·9	356	i 3 23a	− 4	i 6 2	−11	i 6·7	8·6
Zagreb	15·0	3	e 3 24a	− 4	e 6 22	SS	e 8·8	10·4
Piacenza	15·0	343	3 39	+11	6 20	+ 5	—	9·2
Barcelona	15·1	319	e 3 49	+19	—	—	e 6·6	10·6
Alicante	15·2	305	i 3 31	0	i 6 34	SS	e 8·3	10·4
Tortosa	15·7	314	3 38	0	6 41	SS	7·5	11·4
Bucharest	16·0	30	i 3 42	+ 1	6 39	+ 1	—	6·9
Almeria	16·1	297	e 3 39	− 4	e 6 47	+ 6	e 9·6	—
Budapest	16·2	10	i 3 42	− 2	6 55	SS	e 9·9	11·4
Graz	16·3	1	i 3 41	− 4	i 6 49	+ 4	e 7·4	9·9
Chur	16·7	344	e 3 48	− 2	e 6 54	− 1	—	—
Granada	17·1	298	i 3 53	− 2	i 7 2	− 2	8·5	10·2
Zurich	17·4	344	e 3 55	− 4	—	—	—	—
Ksara	17·5	77	e 4 9	PP	i 7 28	SS	—	—
Vienna	17·5	3	i 4 0	0	i 7 15	+ 2	—	—
Malaga	17·6	296	i 4 2	0	7 13	− 2	—	—
Basle	17·9	346	e 4 0	− 5	e 7 16	− 6	—	—
Besançon	18·0	340	e 4 7	0	e 7 23	− 2	10·4	—
Toledo	18·3	304	i 4 9	− 1	i 7 35	+ 4	—	—
Stuttgart	18·6	349	e 4 10	− 4	e 7 26	−12	e 10·4	13·4
Strasbourg	18·7	345	e 4 12k	− 3	i 7 35	− 5	e 10·4	—
San Fernando	18·9	293	4 17	0	7 47	+ 3	—	—

Continued on page next.

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	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Karlsruhe	19·0	350	3 21	−58	6 46	−60	—	—
Prague	19·3	358	4 21	− 1	7 49	− 3	e 9·4	12·4
Cheb	19·4	356	e 4 22	− 1	e 7 46	− 8	9·4	12·2
Sebastopol	19·8	40	4 35	+ 8	8 4	+ 2	—	—
Yalta	20·0	42	i 4 31	+ 1	i 8 10	+ 4	—	—
Simferopol	20·3	40	4 33	0	8 18	+ 6	—	—
Jena	20·3	354	i 4 34	+ 1	e 8 5	− 7	e 9·4	10·4
Paris	20·6	334	e 4 35	− 1	i 8 12	− 6	9·4	10·4
Leipzig	20·7	355	i 4 34	− 3	i 8 17	− 3	10·4	10·9
Theodosia	21·0	42	4 41	+ 1	8 33	+ 7	—	—
Göttingen	21·1	351	i 4 40	− 1	8 25	− 3	8·8	13·4
Uccle	21·7	340	e 4 47	− 1	i 8 33	− 7	9·4	—
Serra do Pilar	22·0	306	4 58	+ 7	8 55	+ 9	—	—
De Bilt	22·6	345	e 4 58	+ 1	8 57	0	e 11·4	16·1
Sotchi	23·0	49	4 5	−56	e 8 21	−44	—	—
Hamburg	23·2	351	e 5 0	− 3	e 9 4	− 4	e 12·4	14·4
Kew	23·8	337	e 5 20	+12	i 9 14	− 5	e 10·4	12·8
Königsberg	24·3	7	i 5 13	0	i 9 43	+15	—	—
Oxford	24·4	344	5 22	+ 8	9 23	− 7	—	16·9
Copenhagen	25·0	356	i 5 18a	− 2	9 36	− 5	11·4	—
Erevan	25·2	59	e 5 32	+10	e 9 26	−18	—	—
Piatigorsk	25·4	49	4 34	−50	9 5	−43	—	—
Tiflis	25·8	57	5 33a	+ 6	i 10 4	+ 9	14·4	21·1
Bidston	26·3	336	e 5 33	+ 1	i 10 1	− 2	e 11·3	12·7
Stonyhurst	26·5	338	e 5 34	0	10 14	+ 7	13·4	17·8
Durham	26·9	340	e 5 49	+12	i 10 24	+10	—	20·4
Grozny	27·0	53	e 5 46	+ 8	i 9 57	−18	—	—
Rathfarnham Castle	27·5	335	e 5 57	+14	i 10 27	+ 3	12·6	14·4
Edinburgh	28·4	340	—	—	e 10 29	− 9	13·4	20·8
Upsala	29·1	3	e 5 50	− 7	e 10 36	−14	e 14·4	19·7
Baku	29·3	61	6 13	+14	11 0	+ 7	14·4	18·3
Moscow	29·4	25	e 6 4	+ 4	e 10 42	−13	16·7	21·4
Pulkovo	30·6	15	6 9	− 1	11 3	−11	13·4	15·0
Sverdlovsk	40·5	37	7 39	+ 3	i 13 43	− 1	25·1	25·6
Samarkand	42·4	63	e 8 21	+29	—	—	—	—
Tashkent	44·0	59	i 8 6	+ 1	i 14 34	− 2	e 24·4	33·2
Scoresby Sund	44·8	343	—	—	14 45	− 2	—	—
Andijan	46·4	60	e 8 36	+12	—	—	—	—
Frunse	47·8	58	e 8 41	+ 6	—	—	—	—
Bombay	52·8	88	—	—	i 16 51	PS	32·6	—
Agra	54·1	76	e 11 34	PP	e 17 1	PS	—	—
Kodaikanal	60·8	95	—	—	e 18 31	PS	—	—
Colombo	64·5	96	15 24?	?	—	—	—	39·0
Cape Town	64·8	188	19 16	S	(19 16)	− 1	—	—
Oak Ridge	67·8	308	e 10 57	0	—	—	—	—
Chiufeng	78·0	50	e 12 0	+ 3	21 51	− 3	e 39·1	53·8
Florissant	82·1	310	e 12 25	+ 6	i 22 29	− 9	e 38·3	44·9
Sucre	92·1	249	13 54	+47	(30 21)	SS	30·4	—
La Paz	93·2	253	e 17 53	?	—	—	40·8	48·8

Additional readings :—
Algiers PP = +3m.51s.
Sofia e = +5m.44s.
Belgrade e = +3m.59s.
Triest iPP = +3m.31s., iSS = +6m.27s.
Zagreb ePP = +3m.36s., ePPE = +3m.50s., eE = +4m.3s., e = +4m.11s. and +5m.41s.
Budapest PP = +3m.55s., PPP = +4m.10s., SS = +7m.12s., SSS = +7m.37s.
Vienna iZ = +4m.8s. = P + 0s.
Malaga i = +4m.33s., +4m.51s., and +4m.56s., e = +6m.32s., i = +6m.48s., e = +7m.6s., i = +10m.6s.
San Fernando ? = +4m.27s. = PP + 0s.
Leipzig i = +4m.45s.
Göttingen iP = +4m.48s., iZ = +8m.42s. = P_cP − 1s. and +8m.54s. = SS + 0s.

Continued on next page.

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Uccle iS = +8m.42s. = P_cP − 3s.
Kew iZ = +9m.21s.
Königsberg i = +5m.22s.
Copenhagen +9m.45s.
Tiflis i = +5m.40s.
Edinburgh i = +12m.58s.
Scoresby Sund +10m.6s. = P_cP +8s.
Cape Town PPN = +23m.24s., PPE = +23m.28s., PPPN = +24m.31s., S = +29m.0s., PS = +29m.32s., SS = +34m.6s., SSS = +37m.19s.
Chiufeng SS?N = +26m.59s.
Long waves at Wellington, Hong Kong, Bergen, Tunis, Hyderabad, and American stations.

April 19d. Readings also at 2h. (Sumoto), 4h. (Almata, Frunse, and Santiago), 6h. (Andijan, Baku, Frunse, Grozny, Ksara, Pulkovo, Tiflis, Tashkent, and Tchimkent), 7h. (Bucharest and Sofia), 8h. (Baku, Copenhagen, Pulkovo, Scoresby Sund, Tashkent, Tiflis, Chicago, Hawaii, La Jolla, Mount Wilson, Pasadena, Philadelphia, Riverside, Sitka, Tinemaha, and Nagasaki), 10h. (Pasadena, Riverside, and Tinemaha), 11h. (Sofia and Triest), 15h. (Zurich), 16h. (Batavia, Malabar, and Sydney), 18h. (Leipzig), 19h. (Oak Ridge), 22h. (Tiflis and Grozny), 23h. (Copenhagen, Scoresby Sund, and Wellington).

April 20d. 5h. 10m. 56s. Epicentre 30°·8N. 15°·5E. (as on 19d. 20h.).

	△	Az.	P.	O−C.	S.	O−C.	L.	E. M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Messina	7·4	0	e 1 41	− 4	3 1	− 8	3·4	4·1
Tunis	7·5	327	i 1 36	−10	3 41	S*	—	—
Algiers	12·0	303	e 2 51	+ 3	5 50	S*	e 8·1	—
Florence	13·4	348	i 3 4k	− 3	5 34	− 3	—	7·6
Sofia	13·4	27	i 3 20	PP	i 5 30	− 7	6·5	—
Prato	13·5	350	e 3 11	+ 2	i 6 4	+25	—	i 9·1
Helwan	13·7	90	i 3 9	− 2	6 53	S*	—	13·7
Belgrade	14·3	15	i 3 23	PP	i 6 13	SS	e 8·3	—
Padova	14·9	353	e 3 32	PP	6 9	− 4	—	—
Triest	14·9	356	i 3 25a	− 2	i 6 3	−10	6·7	8·7
Marseilles	14·9	330	3 31	PP	6 17	+ 4	7·1	—
Zagreb	15·0	3	e 3 25	− 3	e 6 27	SS	e 9·0	11·7
Piacenza	15·0	343	3 33	PP	i 6 9	− 6	i 8·7	12·8
Barcelona	15·1	319	e 3 26	− 4	e 6 19	+ 2	e 6·8	11·0
Alicante	15·2	305	i 3 34	+ 3	i 6 32	SS	e 8·1	10·1
Laibach	15·3	358	i 2 31	−61	i 5 30	−52	e 8·5	—
Tortosa	15·7	314	3 36	− 2	6 32	+ 1	7·4	—
Bucharest	16·0	30	i 3 40	− 1	6 42	+ 4	6·9	—
Almeria	16·1	297	i 3 43	0	i 6 42	+ 1	e 9·0	11·1
Budapest	16·2	10	i 3 44	0	6 56	SS	11·1	12·6
Graz	16·3	1	i 3 47	+ 2	i 7 6	SS	e 8·1	13·0
Chur	16·7	344	e 3 48	− 2	e 7 2	+ 7	—	—
Granada	17·1	298	i 4 0	PP	i 7 5	+ 1	8·1	11·7
Zurich	17·4	344	e 3 57	− 2	e 7 11	0	—	—
Ksara	17·5	77	—	—	i 7 27	SS	—	—
Vienna	17·5	3	e 3 58	− 2	i 7 20	+ 7	—	7·6
Neuchatel	17·5	342	e 3 58	− 2	e 7 17	+ 4	—	—
Malaga	17·6	296	i 4 7	PP	7 26	SS	—	9·6
Besançon	18·0	340	e 4 4	− 3	e 7 24	− 1	e 11·1	—
Toledo	18·3	304	4 9	− 1	i 7 33	+ 2	—	—
Stuttgart	18·6	349	4 11	− 3	i 7 33	− 5	e 9·6	14·1
Strasbourg	18·7	345	i 4 10k	− 5	i 7 40	0	e 10·1	13·1
San Fernando	18·9	293	i 4 17k	0	i 7 49	+ 5	—	—
Karlsruhe	19·0	350	3 22	−57	6 47	−59	—	—
Prague	19·3	358	i 4 23	+ 1	e 7 56	+ 4	e 9·1	12·6

Continued on next page.

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Cheb	19·4	356	e 4 21	− 2	e 8 19	SS	e 11·1	12·6
Sebastopol	19·8	40	4 24	− 3	8 6	+ 4	—	—
Yalta	20·0	42	4 25	− 5	i 8 8	+ 2	14·1	—
Simferopol	20·3	40	4 33	0	8 18	+ 6	—	—
Jena	20·3	354	i 4 31	− 2	e 8 12	0	9·1	12·1
Paris	20·6	334	i 4 33	− 3	i 8 27	+ 9	10·1	11·1
Leipzig	20·7	355	i 4 34	− 3	i 8 16	− 4	e 10·1	12·2
Theodosia	21·0	42	4 41	+ 1	8 42	SS	—	—
Göttingen	21·1	351	i 4 40a	− 1	e 8 29	+ 1	e 10·5	—
Uccle	21·7	340	e 4 47	− 1	8 27	−13	9·1	—
Serra do Pilar	22·0	306	4 52	+ 1	8 45	− 1	—	—
De Bilt	22·6	345	i 4 56	− 1	i 9 1	+ 4	e 12·1	17·0
Sotchi	23·0	49	4 2	−59	e 8 8	−57	—	—
Hamburg	23·2	351	e 4 59	− 4	e 9 8	0	e 13·2	14·2
Kew	23·8	337	i 5 12k	+ 4	e 9 18	− 1	e 10·1	12·6
Königsberg	24·3	7	i 5 14	+ 1	e 9 34	+ 6	16·1	—
Oxford	24·4	344	i 5 17	+ 3	i 9 26	− 4	e 12·1	16·8
Copenhagen	25·0	356	5 19a	− 1	9 41	0	—	—
Erevan	25·2	59	5 26	+ 4	e 9 52	+ 8	—	—
Piatigorsk	25·4	49	4 31	−53	9 5	−43	—	—
Tiflis	25·8	57	5 30	+ 3	i 10 3	+ 8	14·1	—
Bidston	26·3	336	i 5 34	+ 2	i 10 6	+ 3	e 11·1	19·6
Stonyhurst	26·5	338	i 5 37	+ 3	e 10 7	0	13·1	17·4
Durham	26·9	340	5 41	+ 4	10 17	+ 3	—	19·7
Grozny	27·0	53	5 40	+ 2	e 11 14	SS	—	—
Rathfarnham Castle	27·5	335	i 5 46	+ 3	i 10 22	− 2	12·7	15·5
Edinburgh	28·4	340	—	—	i 11 26	SS	13·1	20·8
Upsala	29·1	3	e 6 0	+ 3	11 12	+22	e 14·1	18·0
Baku	29·3	61	i 6 4	+ 5	11 0	+ 7	15·1	17·5
Moscow	29·4	25	e 5 51	− 9	e 10 46	− 9	14·1	21·5
Bergen	30·4	351	6 19	+10	—	—	e 14·1	—
Pulkovo	30·6	15	i 6 9	− 1	11 16	+ 2	14·1	16·0
Sverdlovsk	40·5	37	e 7 35	− 1	i 13 42	− 2	14·2	26·9
Samarkand	42·4	63	7 59	+ 7	—	—	—	—
Tashkent	44·0	59	i 8 5	0	i 14 37	+ 1	e 22·7	35·6
Tchimkent	44·2	59	8 3	− 3	—	—	e 31·1	—
Scoresby Sund	44·8	343	8 13	+ 2	14 58	+11	22·1	—
Andijan	46·4	60	8 26	+ 2	15 16	+ 6	e 29·1	—
Frunse	47·8	58	8 38	+ 3	15 33	+ 3	30·1	—
Almata	49·5	57	8 17	−30	—	—	31·1	—
Semipalatinsk	51·1	47	9 1	+ 1	e 16 17	+ 1	—	—
Bombay	52·8	88	i 9 14	+ 2	i 16 41	+ 2	24·1	33·7
Agra	54·1	76	9 15	− 7	i 16 56	− 1	25·8	34·6
Hyderabad	58·1	87	9 55	+ 4	17 55	+ 4	27·8	36·2
Tananarive	58·5	143	—	—	19 50	(+ 8)	28·1	31·7
Kodaikanal	60·8	95	i 10 12	+ 2	i 18 27	+ 1	32·1	37·9
Calcutta	64·5	78	10 36	+ 1	19 11	− 3	30·2	—
Colombo	64·5	96	10 35	0	20 31	(+ 6)	32·3	39·9
Cape Town	64·8	188	—	—	19 12	− 5	—	—
Oak Ridge	67·8	308	i 10 56	− 1	e 20 2	PS	32·1	—
Ottawa	69·5	312	e 11 13	+ 5	e 20 13	− 2	e 31·1	—
Philadelphia	71·3	308	e 11 18	− 1	i 20 32	− 5	e 31·6	—
Toronto	72·5	311	e 11 33	+ 7	i 20 38	−13	33·4	—
Georgetown	73·1	307	e 11 29	0	i 20 56	− 2	e 33·1	—
San Juan	73·6	283	e 11 31	− 1	e 20 54	−10	32·6	—
Charlottesville	74·5	54	—	—	e 21 4	−10	e 35·1	—
Ann Arbor	76·0	312	—	—	e 21 34	+ 2	37·6	—
Chiufeng	78·0	50	e 11 52	− 5	i 21 47	− 7	36·7	51·2
Columbia	78·2	303	—	—	e 21 54	− 2	e 41·3	—
Chicago	78·7	313	—	—	e 21 51	−11	e 37·4	—

Continued on next page.

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Phu-Lien	81·4	72	—	—	22 4?	−27	—	—
St. Louis	82·1	311	e 12 17	− 2	e 22 27	[−10]	e 39·9	—
Florissant	82·1	310	e 12 18a	− 1	i 22 27	[−10]	e 37·7	46·1
Medan	82·3	90	e 12 34	+14	e 22 36	[− 2]	e 45·1	—
Nanking	84·0	57	12 29	+ 1	e 22 48	[− 4]	—	—
Hong Kong	85·7	67	12 44	+ 7	23 10	− 5	—	52·2
Little Rock	85·7	308	e 12 33	− 4	i 23 2	[− 2]	e 42·4	46·4
Vladivostok	85·9	42	e 12 35	− 3	—	—	—	58·5
Keizyo	86·4	48	23 14	SKS	(23 14)	[+ 5]	—	—
Zi-ka-wei	86·4	56	e 12 39	− 1	—	—	49·9	62·5
Husan	89·2	50	—	—	e 23 32	[+ 4]	—	—
Bozeman	89·5	326	—	—	e 23 56	+ 5	37·8	—
Sucre	92·1	249	e 13 10	+ 3	i 24 3	−13	42·1	—
La Paz	93·2	253	e 13 39	+27	i 24 20	− 6	41·7	56·4
Batavia	94·3	96	13 7	−10	i 24 24	−12	e 56·1	—
Manila	95·3	70	16 27	?	23 27	?	30·6	—
Huancayo	96·8	261	—	—	i 24 7	[− 3]	e 41·1	—
Tucson	99·1	317	—	—	e 24 10	[−11]	e 48·5	—
Tinemaha	99·5	325	e 13 52	+11	—	—	—	—
Riverside	101·4	323	e 14 9	+19	—	—	—	—
Mount Wilson	101·7	323	e 18 4	PP	—	—	—	—
Pasadena	101·7	322	e 17 43	PP	—	—	e 41·3	—

Additional readings and note :—
Tunis PPsP = +2m.11s., SSsS = +3m.49s.
Algiers PP = +3m.43s.
Sofia PP = +3m.24s.
Belgrade i = +3m.33s., e = +4m.37s. and +5m.45s.
Triest iPP = +3m.35s., iSS = +6m.20s.
Zagreb ePPZ = +3m.35s., ePP = +3m.37s., eZ = +3m.54s., e = +4m.3s., eE = +4m.10s., e = +4m.20s. and +4m.30s., eE = +5m.22s., e = +5m.52s., iSS = +6m.36s., e = +8m.54s.
Tortosa SN = +6m.57s.
Bucharest readings are given as 4h.
Budapest PP = +4m.3s., PPP = +4m.18s., SS = +7m.18s., SSS = +7m.29s.
Vienna iZ = +4m.10s. = PP + 2s., iE = +4m.25s., eEN = +6m.18s.
Malaga i = +4m.32s., e = +6m.54s., i = +7m.32s. = SS + 5s. and +7m.40s., e = +9m.14s.
Toledo i = +4m.14s. and +4m.16s. = PP − 3s.
Stuttgart i = +4m.18s. = PP − 5s.
Strasbourg i = +4m.19s. = PP − 5s.
Jena iPE = +4m.34s., esE = +8m.4s., esN = +8m.16s., iSN = +8m.25s.
Leipzig i = +9m.16s.
Theodosia i = +4m.48s.
Göttingen iP = +4m.48s., ePE = +4m.53s. = PP − 4s., iSN = +8m.37s.
Uccle iP = +4m.56s., SE = +8m.31s., iSN = +8m.38s., iSE = +8m.47s.
De Bilt iZ = +5m.1s.
Kew iZ = +9m.22s., iE = +9m.26s., iN = +9m.29s.
Königsberg PP = +5m.18s.
Copenhagen +9m.51s.
Piatigorsk PP = +5m.45s.
Tiflis i = +5m.37s.
Bidston PPP = +6m.34s.
Stonyhurst iS = +10m.18s., iPS = +10m.52s. = SS − 14s.
Durham ? = +10m.31s.
Grozny i = +5m.44s.
Rathfarnham Castle iPPP = +6m.36s., iSS = +11m.38s.
Edinburgh e = +8m.56s. = P_cP − 9s.
Sverdlovsk L_q = +21m.28s.
Scoresby Sund +10m.1s. = P_cP + 3s. and +18m.16s. = S_cS + 5s.
Bombay PPPN = +12m.4s.
Agra PP = +11m.35s., PS = +17m.27s., SS = +20m.35s.
Hyderabad PPN = +12m.5s.
Calcutta SS = +23m.30s.
Colombo PP = +12m.53s.
Cape Town N = +20m.8s., E = +20m.31s. = S_cS + 4s., E = +23m.12s. = SS − 11s. and +24m.36s., N = +25m.8s., E = +26m.6s., +26m.39s., +28m.37s., E = +29m.50s., N = +30m.12s., +30m.52s., +31m.46s., and +33m.4s., E = +34m.12s., N = +34m.24s., +36m.18s., N = +37m.10s., E = +37m.33s.
Oak Ridge iZ = +11m.2s. = P_cP − 22s., ePP = +13m.20s., SSS = +27m.34s.

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Ottawa PPE = +13m.34s. ; T_0 = 5h.11m.18s.
Philadelphia e = +28m.30s.
Toronto SSN = +25m.31s. ; T_0 = 5h.11m.29s.
Georgetown i = +11m.38s. ; T_0 = 5h.11m.0s.
San Juan e = +30m.29s.
Ann Arbor e = +22m.40s.
Chiufeng PP? = +14m.59s.
Columbia e = +30m.7s.
St. Louis ipPE = +12m.25s., ePP = +15m.30s., isS = +22m.41s., eSS = +28m.5s.
Florissant ipPENZ = +12m.26s.k, ePPZ = +15m.21s., isSENZ = +22m.41s., iSSE = +28m.4s. ; T_0 = 5h.11m.4s.
Hong Kong PP? = +16m.4s., SS? = +28m.59s.
Little Rock epPEN = +12m.41s., ePPE = +15m.53s.
La Paz ePN = +14m.7s., iPPZ = +16m.53s., iSKSN = +23m.41s.
Huancayo iPS = +26m.12s., eSS = +31m.24s., e = +34m.39s.
Tucson e = +24m.40s., ePS = +25m.12s., eSS = +30m.12s., e = +41m.48s.
Riverside eZ = +17m.59s. = PP + 6s.
Pasadena eNZ = +18m.1s. = PP + 6s., +26m.18s. and +30m.26s.
Long waves at Sitka, Ukiah, Victoria, and Wellington.

April 20d. 7h. 47m. 22s. Epicentre 37°·5N. 70°·5E. (as on 1934 Sept. 18d.). X.

A = +·265, B = +·748, C = +·609.

	△	Az.	P.	O − C.	S.	O − C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Samarkand	3·4	310	0 58	P*	i 1 36	S*	—	1·3
Andijan	3·6	24	0 52	+ 1	i 1 32	0	—	2·1
Tashkent	3·9	347	i 1 0	P*	i 1 45	+ 5	1·9	2·5
Tchimkent	4·9	352	1 10	0	2 5	0	—	—
Frunse	6·2	29	e 1 36	P*	i 2 35	− 3	—	—
Almata	7·6	39	e 1 43	− 5	e 3 29	+15	—	—
Agra	12·1	146	—	—	i 4 25	?	—	—
Grozny	19·6	295	e 4 27	+ 2	e 8 20	SS	—	—
Tiflis	20·2	290	e 4 30	− 2	e 9 4	?	—	—
Sverdlovsk	20·4	345	4 30	− 4	e 10 6	L	(10·1)	—

Additional readings :—
Samarkand PP = +1m.12s., i = +1m.44s. = S_g − 2s., S_g = +1m.58s.
Andijan S_g = +1m.51s.
Tashkent i = +1m.41s.
Tchimkent iP_g = +1m.21s. = P* + 0s., i = +1m.33s. = P_g + 1s., i = +2m.44s.
Frunse i = +3m.15s. = S_g − 4s.
Long waves at Scoresby Sund, Stuttgart, De Bilt, and Paris.

April 20d. 9h. Readings for which no determination has been made, apparently from more than one epicentre :—
New Plymouth P = 37m.0s., S = 38m.45s.
Wellington P = 37m.44s., S = 39m.40s., S_cS = 49m.42s., sS_cS? = 53m.0s.
Christchurch P = 38m.16s., S = 40m.38s.
Apia iP = 39m.12s., eS = 42m.27s. ; T_0 = 9h.35m.9s.
Riverview e = 41m.30s.
Nanking PE = 47m.18s., PN = 47m.21s., SN = 57m.10s.
La Jolla eZ = 47m.21s.
Santa Barbara iPNZ = 47m.22s.
Pasadena iPENZ = 47m.23s., iZ = 50m.52s.
Mount Wilson iPZ = 47m.24s., eZ = 50m.52s.
Riverside ePZ = 47m.24s., eZ = 50m.49s.
Tinemaha ePZ = 47m.32s., eZ = 49m.28s.
Haiwee iPZ = 47m.34s.
Grozny eP = 53m.4s., eS = 57m.49s.
Piatigorsk eP = 53m.19s.
Sverdlovsk P = 53m.48s., i = 56m.41s., i = 57m.16s., e = 59m.18s., e = 67m.16s., L = 80m.
Tiflis i = 54m.6s., i = 55m.39s., e = 57m.50s.
Erevan eP = 54m.9s.
Pulkovo i = 54m.13s., i = 57m.33s., i = 57m.51s.
Batavia i = 55m.1s.
Hong Kong M = 59m.45s.
Copenhagen 60m.

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April 20d. 10h. 56m. 22s. Epicentre 37°·5N. 70°·5E. (as on 7h.). X.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Samarkand	3·4	310	e 0 48	− 1	e 1 23	− 4	—	—
Andijan	3·6	24	e 0 52	+ 1	1 37	+ 5	—	—
Tashkent	3·9	347	0 46	−10	e 2 3	S_g	2·1	2·4
Tchimkent	4·9	352	1 41	P_g	i 2 35	S_g	—	2·8
Frunse	6·2	29	e 2 8	P_g	e 2 58	S*	—	—
Almata	7·6	39	e 2 40	P_g	e 3 27	+13	—	—

Additional readings :—
Andijan $iP^* = +57s. = P^* - 1s.$, $i = +1m.18s. = P_g + 12s.$ and $+1m.39s.$, $S_g = +1m.45s. = S^* + 0s.$
Tashkent $e = +1m.25s.$
Tchimkent $iP_g = +1m.55s.$, $eS_g = +2m.43s.$
Long waves at Hong Kong.

April 20d. 11h. Readings for which no determination has been made :—
Manila PEZ =10m.50s., SE =14m.58s., L?E =17m.7s.
Osaka P =10m.59s., PP =12m.34s., i =14m.2s., S =16m.30s., i =17m.32s., i = 17m.35s., SS =18m.59s., L =22m.44s.
Nagasaki e =11m.4s.
Kobe eZ =11m.31s., eN =11m.34s., M =16m.53s.
Nanking eP =12m.52s., eS =16m.8s., LN =18m.23s., iN =19m.48s.
Chiufeng eNZ =13m.18s., eZ =18m.9s., eN =20m.56s., MN =24m.28s.
Husan eS =15m.57s.
Riverside eZ =18m.37s., eZ =24m.4s.
Tinemaha eZ =18m.42s., eZ =20m.43s.
Pasadena eZ =18m.43s., eZ =20m.19s.
Mount Wilson eZ =18m.48s.
Tashkent i =19m.7s., e =26m.18s., e =29m.55s., eL =38m., M =49m.12s.
Sverdlovsk e =19m.32s., e =27m.50s., L =38m.
Tiflis e =23m.10s., L =53m.
Pulkovo e =24m.0s., L =53m., M =58m.54s.
Long waves at Baku, Copenhagen, De Bilt, Paris, Strasbourg, Scoresby Sund, Stuttgart, and Hong Kong.

April 20d. 22h. 2m. 1s. Epicentre 24°·0N. 121°·0E. (as on 1928 Aug. 26d.). R.1.

A = −·470, B = +·783, C = +·407 ; D = +·857, E = +·515 ; G = −·210, H = +·349, K = −·914.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Taityu	0·3	300	i 0 3	− 1	0 7	− 1	—	—
Arisan	0·5	195	i 0 13	S	0 27	?	—	—
Karenko	0·6	95	i 0 15	S	0 30	?	—	—
Taihoku	1·1	24	0 16	0	0 32	S*	—	—
Tainan	1·2	214	i 0 19	P_g	0 45	+14	—	—
Taito	1·3	174	0 26	P_g	0 53	+20	—	—
Hokoto	1·4	252	0 21	+ 1	0 42	S*	—	—
Takao	1·5	201	0 31	+10	—	—	—	—
Kosyun	2·0	186	0 35	P_g	1 16	S_g	—	—
Isigakizima	2·9	82	0 49	P*	1 33	S_g	—	—
Naha	6·4	67	1 42	P*	2 53	+10	—	—
Hong Kong	6·5	257	1 29	− 3	2 57	+11	3·5	5·7
Zi-ka-wei	7·2	3	1 34	− 8	2 56	− 8	—	10·6
Nanking	8·3	332	i 1 50	− 8	3 30	− 1	3·8	—
Nake	9·2	53	2 8	− 2	3 58	+ 4	—	—
Manila	9·4	180	i 2 15a	+ 2	i 4 16	+17	5·8	7·2
Tomie	11·0	40	2 36	+ 1	5 1	+23	—	—
Kagosima	11·4	46	2 45	+ 5	5 29	S*	—	—
Nagasaki	11·8	39	e 2 45	− 1	5 0	+ 2	6·6	7·4
Unzendake	11·9	45	2 51	+ 4	6 45	S_g	—	—

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Kumamoto	12·2	42	2 53	+ 2	5 21	+13	—	—
Miyazaki	12·2	44	2 53	+ 2	5 21	+13	—	—
Saga	12·3	39	2 59	PP	—	—	—	—
Ituhara	12·5	33	3 50	+55	7 6	?	—	—.
Hukuoka	12·6	38	2 57	+ 1	5 31	+14	7·0	8·5
Hukuoka B	12·6	38	3 0	+ 4	5 33	+16	—	8·4
Husan	13·1	32	e 3 14	+11	5 45	SS	—	11·8
Simonoseki	13·2	40	3 15	+10	—	—	—	—
Ooita	13·5	45	3 4	− 5	5 45	SS	—	—
Taikyu	13·6	29	i 3 12	+ 2	i 6 4	+23	7·6	9·0
Uwazima	13·7	47	3 24	+13	—	—	—	—
Simidu	13·7	49	3 12	+ 1	6 23	?	—	—
Phu-Lien	13·7	259	e 3 9	− 2	e 6 3	+19	6·5	15·1
Matuyama	14·2	44	3 19	+ 1	6 3	SS	—	—
Zinsen	14·3	16	i 3 17	− 2	e 6 0	+ 2	i 7·0	12·5
Kure	14·4	43	3 50	+29	—	—	—	—
Hirosima	14·4	42	3 9	−12	—	—	—	—
Keizyo	14·5	19	3 20	− 2	6 3	0	7·3	12·0
Hamada	14·5	39	3 21	− 1	6 10	SS	—	—
Koti	14·6	45	3 19	− 4	6 30	+25	—	—
Muroto	14·8	52	3 35	+ 9	6 51	+41	—	—
Dairen	14·9	1	3 33	+ 6	6 30	+17	—	—
Tadotu	15·1	45	3 43	+13	6 58	+41	—	—
Okayama	15·5	44	3 31	− 4	6 45	SS	—	—
Sakai	15·6	38	3 44	PP	—	—	—	—
Heizyo	15·6	12	i 3 35	− 1	e 6 35	+ 6	8·0	9·4
Tokusima	15·6	46	3 32	− 4	6 49	+20	—	—
Wakayama	16·0	45	3 40	− 1	7 14	?	—	—
Siomisaki	16·0	50	3 43	+ 2	6 33	− 5	—	—
Sumoto	16·0	47	3 40	− 1	7 5	+27	—	12·3
Kobe	16·3	46	3 47	+ 2	e 6 56	+11	e 9·0	12·8
Osaka	16·5	46	3 46	− 2	6 52	+ 2	9·3	11·9
Yagi	16·6	47	3 51	+ 2	6 31	−21	—	—
Chiufeng	16·6	347	3 40	− 9	6 42	−10	8·2	9·3
Toyooka	16·6	43	3 50	+ 1	7 4	SS	8·8	11·7
Yingkow	16·7	6	3 46	− 4	—	—	—	—
Miyadu	16·8	46	3 47	− 5	7 55	+58	—	—
Kyoto	16·9	45	3 53	0	7 39	+40	—	—
Tu	17·2	44	4 3	+ 6	—	—	—	—
Hikone	17·3	44	4 1	+ 3	—	—	—	—
Kameyama	17·3	44	3 59	+ 1	7 5	− 4	—	—
Ibukisan	17·5	44	4 2	+ 2	—	—	—	—
Gihu	17·8	45	4 5	+ 1	7 38	SS	—	—
Nagoya	17·8	47	4 7	+ 3	9 10	?	10·5	13·7
Hukui	17·9	42	3 55	−10	—	—	—	—
Hamamatu	18·0	50	4 4	− 3	8 4	+39	—	—
Omaesaki	18·3	51	4 20	PP	7 56	+25	—	—
Kanazawa	18·4	45	4 19	PP	7 47	+14	—	—
Takayama	18·5	44	4 57	?	—	—	—	—
Iida	18·6	49	4 18	+ 4	—	—	—	—
Husiki	18·8	44	4 19	+ 3	—	—	—	—
Toyama	18·8	44	4 17	+ 1	7 56	SS	—	—
Hatidyozima	18·9	53	4 19	+ 2	8 4	SS	—	—
Matumoto	19·0	46	4 30	PP	—	—	—	—
Wazima	19·0	40	4 22	+ 3	7 55	+ 9	—	—
Numadu	19·0	51	4 21	+ 2	7 59	+13	—	—
Kohu	19·1	45	4 25	+ 5	9 18	L	(19·3)	—
Ito	19·1	51	4 21	+ 1	—	—	—	—
Misima	19·1	48	4 18	− 2	8 1	SS	—	—
Hunatu	19·2	45	4 20	− 1	8 4	SS	—	—

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		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Titizima		19·3	76	4 23	+ 1	8 7	SS	—	—
Nagano		19·4	48	4 35	PP	8 37	?	—	—
Oiwake		19·5	49	4 31	PP	8 14	SS	—	—
Mera		19·6	53	4 31	+ 6	8 30	?	—	—
Yokosuka		19·7	51	4 55	+29	—	—	—	—
Yokohama		19·8	51	4 35	PP	8 33	?	—	—
Maebasi		19·9	48	4 31	+ 2	8 40	?	—	—
Tokyo		20·0	50	4 38	+ 8	8 35	SSS	—	—
Kumagaya		20·0	48	4 38	+ 8	9 22	?	—	—
Utunomiya		20·5	48	4 44	+ 9	—	—	—	—
Takubasan		20·5	48	4 31	− 4	8 43	SS	—	—
Kakioka		20·6	49	4 44	+ 8	—	—	—	—
Mito		20·8	49	4 54	PP	—	—	—	—
Niigata		20·8	43	4 24	−14	—	—	—	—
Tyosi		20·9	51	4 56	PP	9 2	?	—	—
Vladivostok		21·1	22	i 4 40	− 1	i 8 46	+22	9·9	15·9
Aidu		21·2	46	5 6	PPP	10 6	L	(10·1)	—
Hukusima		21·6	47	4 48	+ 2	8 33	− 5	—	—
Yamagata		21·8	44	5 7	PP	—	—	—	—
Sendai		22·1	44	5 24	PP	9 49	?	—	—
Mizusawa	E.	22·8	44	e 4 57	− 2	i 9 27	SS	e 12·3	—
	N.	22·8	44	4 59	0	i 9 27	SS	11·2	—
Morioka		23·1	45	5 7	+ 5	9 54	SSS	—	—
Aomori		23·6	39	5 31	PP	9 43	SS	—	—
Hakodate		24·2	36	5 28	+16	—	—	—	—
Sapporo		25·4	34	5 47	PP	10 20	SS	—	—
Obihiro		26·3	37	5 49	+17	—	—	—	—
Asahigawa		26·4	34	5 47	+14	—	—	—	—
Haboro		26·5	34	6 3	PP	—	—	—	—
Nemuro		27·9	38	6 15	PP	—	—	—	—
Ootomari		28·6	32	6 25	PP	—	—	—	—
Medan		29·6	233	e 5 4	−57	—	—	—	—
Calcutta		30·0	273	6 6	+ 1	11 16	+12	15·0	21·0
Batavia		33·2	206	6 35	+ 1	—	—	e 17·0	—
Malabar		33·9	207	e 6 41	+ 2	—	—	e 19·0	—
Dehra Dun		38·5	290	13 29	S	(13 29)	+15	21·3	24·0
Agra		38·7	285	7 20	− 1	i 13 10	− 7	18·2	21·6
Hyderabad		40·2	270	7 38	+ 4	13 53	+14	17·9	25·9
Almata		40·7	310	e 7 39	+ 1	e 13 39	− 8	21·0	—
Semipalatinsk		41·1	321	i 7 37	− 4	—	—	i 22·0	—
Frunse		42·4	308	e 7 49	− 3	—	—	22·0	—
Colombo		42·9	255	7 56	0	14 26	+ 7	20·7	27·9
Kodaikanal		43·6	260	i 8 2	0	i 14 36	+ 6	i 22·3	29·9
Andijan		43·7	305	e 8 1	− 1	14 54	+23	24·0	—
Bombay		44·9	272	i 8 14	+ 2	e 14 44	− 5	e 21·0	26·1
Tashkent		46·0	307	i 8 18	− 3	i 15 4	0	i 25·5	32·0
Samarkand		47·7	303	e 8 29	− 5	—	—	24·0	—
Sverdlovsk		54·0	325	e 9 19	− 2	i 16 55	− 1	28·9	34·4
Perth		56·2	186	10 9	+32	18 19	+54	27·9	31·0
Baku		60·7	306	i 10 11	+ 2	i 18 32	+ 7	30·0	36·1
Adelaide		61·3	164	i 10 12	− 2	e 18 36	+ 3	e 27·6	35·5
Grozny		63·4	309	10 18	−10	e 18 36	−24	—	—
Piatigorsk		63·6	310	10 44	+15	e 19 33	PS	34·0	—
Tiflis		64·3	308	i 10 33k	− 1	19 13	+ 2	32·6	40·0
Riverview		64·6	152	e 11 1	(−10)	e 19 20	+ 5	e 29·3	36·9
Sydney		64·6	153	(e 11 29)	(+18)	(i 18 59)	−16	(28·3)	(33·0)
Erevan		64·8	306	10 40	+ 3	e 19 21	+ 4	37·3	—
Melbourne		65·8	158	—	—	i 19 29	− 1	32·2	38·6
Moscow		66·7	322	10 39	−11	19 31	−10	30·4	41·1
Sotchi		67·6	310	10 57	+ 1	e 19 53	+ 1	—	—

Continued on next page.

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	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Pulkovo	69·8	328	11 7	− 2	20 13	− 6	37·5	41·7
Theodosia	70·2	312	e 11 11	− 1	20 25	+ 1	38·0	—
Simferopol	71·2	312	e 11 18	0	20 35	0	28·0	—
Yalta	71·2	311	e 11 17	− 1	20 34	− 1	28·8	—
Sebastopol	71·6	312	e 11 21	+ 1	20 41	+ 1	29·0	—
Ksara	73·0	300	e 11 30	+ 1	21 1	+ 4	—	—
Honolulu	73·6	74	e 11 44	+12	e 21 12	+ 8	e 35·0	—
Upsala	75·8	330	11 42	− 3	21 22	− 7	e 35·0	41·7
Königsberg	76·6	325	i 11 46	− 3	e 21 31	− 7	e 38·6	42·0
Bucharest	76·8	314	e 11 58	+ 8	21 47	+ 6	—	—
Helwan	77·9	297	i 12 1	+ 4	i 21 52	− 1	47·0	53·4
Sofia	79·3	312	i 12 4	0	e 22 3	− 5	37·8	46·0
Copenhagen	80·0	328	12 6	− 2	22 12	− 4	34·0	—
Budapest	80·1	320	12 1	− 7	22 9	− 8	41·0	49·0
Belgrade	80·2	315	e 12 11	+ 2	e 22 18	0	e 54·9	—
Bergen	80·9	334	e 12 8	− 5	e 22 16	− 9	e 39·0	45·0
Vienna	81·3	320	i 12 15	0	e 22 31	+ 1	—	—
Prague	81·7	322	e 12 18	+ 1	e 22 32	− 2	e 41·0	45·5
Scoresby Sund	82·0	349	12 19	+ 1	i 22 35	− 2	—	—
Wellington	82·1	142	—	—	e 20 59?	?	34·0	—
Leipzig	82·2	325	e 12 15	− 4	e 22 31	− 8	e 38·0	44·7
Hamburg	82·3	326	e 12 16	− 4	e 22 36	− 4	—	52·0
Zagreb	82·7	318	e 12 19	− 3	e 22 41	[0]	e 41·0	47·2
Jena	82·8	323	e 12 17	− 5	e 22 41	[− 1]	e 38·0	49·4
Cheb	82·8	322	e 12 23	+ 1	e 22 46	+ 1	e 43·0	50·0
Tananarive	83·4	246	—	—	e 23 4	PS	36·0	48·0
Göttingen	83·4	325	12 25k	0	22 51	0	e 41·0	46·2
Triest	84·1	319	12 29	0	e 22 53	[+ 1]	e 41·0	49·3
Stuttgart	85·3	322	e 12 36	+ 1	e 23 7	− 4	e 42·0	50·0
Padova	85·4	319	e 12 36	+ 1	i 23 12	0	e 47·0	—
Karlsruhe	85·5	323	e 11 29	−67	—	—	45·3	49·9
De Bilt	85·6	326	12 36	0	e 23 3	[0]	e 39·0	47·6
Chur	86·1	321	e 12 36	− 3	e 23 5	[− 2]	—	—
Strasbourg	86·2	321	12 33	− 6	i 23 15	− 4	e 29·0	49·0
Zurich	86·4	322	e 12 38	− 2	e 23 17	− 4	—	—
Prato	86·6	318	e 12 40	− 1	i 24 12	PS	—	—
Florence	86·6	318	i 12 45k	+ 4	23 8	[− 3]	29·0	43·0
Uccle	86·7	326	e 12 41	− 1	e 23 10	[− 1]	e 39·0	47·8
Basle	86·8	322	e 12 40	− 2	e 23 25	0	—	—
Piacenza	86·9	319	12 47	+ 4	i 23 27	+ 1	43·0	57·2
Durham	87·2	331	e 12 36	− 8	23 22	− 7	—	50·0
Edinburgh	87·2	332	—	—	e 23 19	[+ 4]	41·0	49·9
Neuchatel	87·5	322	e 12 45	0	—	—	—	—
Victoria	87·6	37	23 31	S	(23 31)	− 2	47·5	52·4
Stonyhurst	88·2	330	e 12 50	+ 1	i 23 42	+ 3	42·0	50·0
Kew	88·6	328	e 12 51	0	i 23 49	+ 6	e 40·0	49·8
Seattle	88·6	37	—	—	e 23 12	[−12]	e 50·0	—
Bidston	88·7	330	—	—	i 23 38	− 6	40·0	51·2
Paris	88·9	325	e 12 53	+ 1	e 23 25	[− 1]	44·0	47·0
Oxford	89·0	329	—	—	23 24	[− 2]	e 37·0	52·4
Rathfarnham Castle	90·2	332	e 13 13	+15	i 24 3	+ 5	e 41·4	49·5
Ukiah	93·0	44	—	—	e 24 27	+ 3	e 56·2	—
Barcelona	93·5	319	—	—	e 24 20	− 8	e 45·7	53·3
Tortosa	94·8	320	—	—	e 24 37	− 3	46·0	57·4
Algiers	95·7	314	e 12 35	−49	24 34	−14	31·0	52·0
Bozeman	95·8	34	—	—	e 28 7	?	e 51·2	—
Alicante	96·9	318	—	—	e 22 5	?	e 49·8	60·3
Tinemaha	97·3	44	e 13 40	+ 9	i 24 12	[− 1]	—	—
Santa Barbara	97·9	46	e 13 44	+10	—	—	—	—
Toledo	98·1	321	e 13 29	− 6	e 24 50	{+11}	e 46·6	63·3

Continued on next page.

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		△ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Almeria		99·1	318	e 13 40	+ 1	e 25 8	−11	e 50·3	61·0
Pasadena		99·2	46	e 13 40	0	i 25 16	− 3	e 40·0	—
Mount Wilson		99·2	46	e 13 40	0	—	—	—	—
Granada		99·6	319	—	—	e 24 24	[+ 1]	55·8	64·0
Malaga		100·4	319	—	—	e 24 25	[− 3]	53·9	—
San Fernando		101·6	319	—	—	24 38	[+ 5]	52·5	58·0
Tucson		105·1	43	e 20 21	PPP	e 24 54	[+ 4]	e 44·6	—
Ottawa		109·0	12	—	—	e 24 59	[−10]	e 56·0	—
Chicago		109·1	22	—	—	e 26 13	{+13}	49·0	—
Toronto		109·8	16	—	—	e 24 32	[−40]	—	—
Ann Arbor		109·9	19	—	—	e 28 47	PS	e 57·6	72·4
Florissant		110·6	27	—	—	e 26 49	{+38}	e 50·5	—
St. Louis		110·9	26	—	—	e 26 57	{+44}	e 49·2	57·7
Cape Town	E.	113·1	243	(19 6)	PP	(29 42)	PS	(63·3)	(72·6)
	N.	113·1	243	(19 14)	PP	(29 28)	PS	(63·6)	(72·6)
Little Rock		113·2	30	e 18 23	[− 4]	e 27 9	{+39}	—	—
Philadelphia		114·2	12	—	—	e 26 20	{−17}	e 51·4	—
Georgetown		114·9	16	e 19 47	PP	i 26 38	{− 3}	e 51·0	—
Charlottesville		115·3	17	—	—	e 29 15	PS	58·0	—
Columbia		118·3	21	—	—	e 29 54	PS	e 62·2	—
San Juan		137·1	11	e 22 24	PP	—	—	e 63·0	—
Huancayo		160·5	54	e 20 29	{−17}	—	—	e 74·0	—
La Paz		168·6	50	i 20 8k	[+ 6]	26 30	?	83·0	90·3

Additional readings and notes :—
Zi-ka-wei eN = +1m.36s., iZ = +1m.44s., +1m.50s., +2m.8s., and +2m.18s. = P_g+0s., SN = +3m.23s., iN = +3m.30s. = S* − 2s. and +3m.50s. = S_g − 2s.
Manila iPE = +2m.18s., iN = +7m.6s.
Nagasaki iPZ = +2m.53s., PE = +3m.13s., iSN = +5m.9s., SN = +5m.46s. = S* − 3s.
Hukuoka B SZ = +5m.39s.
Zinsen eSZ = +6m.3s. = SS − 2s., iN = +7m.25s., iZ = +7m.28s.
Sumoto SEN = +7m.11s.
Kobe eSZ = +7m.3s., eSN = +7m.5s., iE = +7m.31s., iN = +7m.34s.
Osaka PP = +4m.15s., SS = +7m.39s.
Chiufeng PE = +3m.44s.
Toyooka eSZ = +7m.11s., iE = +8m.3s., iN = +8m.13s., iZ = +9m.13s.
Nagoya PP = +4m.43s.
Calcutta PPP = +7m.15s.
Dehra Dun S = +17m.19s. = S_cS − 14s.
Agra eN = +7m.46s., PP = +8m.44s., SS = +15m.39s., SSS = +16m.24s.
Kodaikanal iPS = +15m.20s., iSS = +18m.29s., iSSS = +19m.42s.
Bombay PPE = +9m.52s., PPPE = +10m.35s., SSE = +18m.1s. = S_cS − 10s., SSSEN = +19m.10s.
Sverdlovsk L_q = +24m.29s.
Perth P_cP = +10m.59s., PP = +12m.50s. = PPP + 3s., PPP = +13m.54s., PPPP = +14m.39s., P_cS = +15m.26s., PS = +18m.34s.
Adelaide e = +14m.29s. and +20m.58s.
Grozny e = +19m.3s. = PS − 6s.
Tiflis e = +11m.2s., P_cP = +11m.19s., ePPP = +13m.13s.
Sydney readings have been *diminished* by 10m.
Melbourne e = +14m.42s., i = +19m.54s. = PS + 13s. and +27m.25s.
Pulkovo L_q = +33m.59s.
Königsberg ePE = +11m.49s., eN = +11m.54s., iZ = +11m.56s., iP_cPZ = +12m.4s., e = +21m.35s., iE = +21m.40s. and +21m.51s., eN = +23m.59s. and +24m.23s., eSSSE = +29m.19s., eE = +30m.31s.
Bucharest PPN = +14m.59s., PPPN = +16m.49s.
Helwan iSS = +27m.11s.
Copenhagen +23m.11s. and +26m.53s.
Belgrade e = +15m.40s.
Leipzig e = +27m.5s.
Hamburg eSS = +28m.5s., eSSS = +31m.17s., eN = +37m.59s.?, eEN = +42m.47s.
Zagreb eP_cP = +12m.33s., eSS = +27m.59s.?
Jena eE = +23m.20s. = PS − 4s., eN = +23m.29s.
Cheb e = +28m.14s.
Tananarive eSSE = +28m.30s
Göttingen PE = +12m.9s. and +12m.16s., PP = +15m.51s., PS, S_cS = +23m.21s., iSSE = +28m.16s.
Triest PS = +23m.38s., SS = +28m.19s., eS = +29m.1s.

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Stuttgart eSKKS = +23m.45s. =PS − 10s., eSS = +28m.39s.
Strasbourg ePP = +15m.59s., SKS = +22m.59s., iPS = +24m.15s.
Zurich ePP = +16m.6s.
Uccle iP = +12m.43s., eSS = +29m.2s.
Durham SKS = +23m.10s.
Edinburgh e = +13m.14s., i = +23m.27s. =S − 2s. and +23m.39s.; all readings given as at 20h.
Stonyhurst eSKS = +23m.22s., SS = +29m.22s.
Kew eSKS = +23m.23s., eSS = +29m.31s.
Bidston e = +17m.41s., eSKS = +23m.22s., SSS? = +36m.17s.
Ukiah e = +39m.7s.
Barcelona eS = +33m.58s. =SSS − 9s.
Algiers eSKKS = +23m.59s.
Bozeman eSS = +31m.22s.
Tinemaha eE = +17m.46s.
Toledo PP = +17m.14s., SKS = +23m.59s., SKKS = +24m.28s., PS = +25m.56s., eLq = +40m.50s.
Pasadena iSKSEN = +24m.21s., iPSE = +26m.54s., iSSEN = +31m.59s.
Granada ePP = +16m.52s., iPPP = +18m.56s., e = +27m.38s., eSSS = +36m.5s., L_q = +47m.58s.
Malaga e = +24m.55s. =SKKS − 1s., +25m.35s. =S +5s., +26m.7s., +27m.41s., and +28m.20s.
San Fernando SS = +32m.11s.
Tucson e = +21m.5s., eSS = +32m.39s.
Ottawa eE = +26m.35s., eN = +28m.17s. =PS − 1s., eE = +33m.59s. =SS − 6s., and +46m.59s.?
Toronto eE = +26m.25s. =SKKS +20s., iE = +34m.32s. =SS +16s., eE = +46m.59s.?
Ann Arbor eN = +34m.53s.
Florissant ePPEN = +19m.6s., iPSEN = +28m.33s., iSSE = +34m.42s.
St. Louis ePPEN = +19m.7s., eSSE = +34m.44s.; T_o = 22h.1m.55s.
Cape Town PKPN = (+21m.44s.), PKPE = (+22m.7s.), PPN = (+23m.44s.), PPE = (+23m.54s.), SKPN = (+25m.24s.) = SKS − 3s., PPPE = (+26m.32s.) = SKKS + 3s., PPPN = (+26m.42s.), SKKSE = (+30m.55s.), SKKSN = (+31m.0s.), SE = (+41m.54s.), PS = (+33m.49s.), PPSE = (+35m.22s.), PPSN = (+35m.48s.), SSE = (+41m.50s.), SSN = (+42m.2s.), SSSN = (+44m.49s.), SSSE = (+45m.10s.); all readings have been *diminished* by 10m.
Little Rock ePPEN = +19m.21s., eSKKSEN = +26m.25s. =SKKS − 5s., eSSE = +35m.13s., eSSSEN = +39m.11s.
Philadelphia e = +32m.43s., eSS = +36m.20s.
Georgetown eSS = +41m.17s.; T_o = 22h.3m.9s.
Columbia eSS = +36m.34s.
San Juan e = +34m.13s., +39m.19s., and +54m.19s.
Huancayo e = +26m.59s., +30m.35s., +41m.29s., +46m.49s., +50m.34s., and +65m.59s.
La Paz SSN = +46m.6s., SSSN = +51m.34s.
Long waves at Lemberg, Laibach, Besançon, Tunis, Serra do Pilar, Reykjavik, Hof, La Plata, and Sitka.

April 20d. 22h. 26m. 33s. Epicentre 24°·8N. 120°·4E. (as on 1923 Aug. 27d.). R.3.

A = −·459, B = +·783, C = +·419; D = +·863, E = +·506; G = −·212, H = +·362, K = −·908.

	△	Az.	P.	O − C.	S.	O − C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Taityu	0·7	160	0 6	− 4	0 15	− 3	—	—
Taihoku	1·1	77	−0 1	−17	0 10	−18	—	—
Arisan	1·3	166	0 13	− 5	0 31	− 2	—	—
Karenko	1·4	131	0 12	− 8	0 26	P_g	—	—
Hokoto	1·5	211	0 29	P_g	0 52	S_g	—	—
Takao	2·1	180	0 38	P_g	1 12	S_g	—	—
Taito	2·1	164	0 32	+ 2	0 58	+ 4	—	—
Kosyun	2·8	182	0 37	− 3	1 21	S*	—	—
Zi-ka-wei	6·5	8	e 1 38	+ 6	i 3 18	S*	—	9·8
Nanking	7·4	348	1 46	+ 1	e 3 10	+ 1	i 3·8	4·2
Nagasaki	11·5	43	i 2 45	+ 3	e 4 44	− 4	—	—
Hukuoka	12·4	43	e 6 24	?	—	—	e 10·5	—
Hukuoka B	12·4	43	3 0	+ 6	6 29	S*	—	—
Husan	12·7	46	7 26	?	10 4	L	(10·1)	—
Taikyu	13·2	30	i 7 19	?	i 10 12	L	(10·2)	—

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	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Zinsen	13·8	20	e 3 12	− 1	—	—	6·7	7·6
Keizyo	14·0	22	6 13	S	(6 13)	+22	—	—
Kobe	16·2	48	e 4 32	+48	e 7 50	+67	e 10·6	12·1
Osaka	16·4	49	4 16	+30	7 23	+35	9·8	11·6
Nagoya	18·0	50	4 3	− 4	e 9 25	?	11·7	—
Vienna	80·4	320	i 12 11	+ 1	e 17 15	PPP	e 18·5	20·4
Triest	83·2	319	e 12 26	+ 2	—	—	—	—
Chur	85·1	321	e 12 35	+ 1	—	—	—	—
Zurich	85·4	322	e 12 36	+ 1	—	—	—	—
Prato	85·7	318	e 12 38	+ 1	—	—	—	—
Basle	85·9	322	e 12 40	+ 2	—	—	—	—
Tinemaha	97·1	44	e 13 27	− 3	—	—	—	—
Pasadena	99·7	46	e 13 37	− 5	—	—	—	—

Additional readings :—
Zi-ka-wei iN = +3m.21s., +3m.33s. = S_g +4s., +4m.18s., +4m.52s., +4m.58s., and +5m.22s., iZ = +5m.34s. and +5m.46s., iN = +10m.51s., +12m.5s., and +12m.35s.
Hukuoka eS? = +8m.56s.
Keizyo S = +7m.20s.
Kobe eSZ = +7m.55s., eSE = +8m.5s., iZ = +8m.37s., iN = +10m.33s.
Osaka SS = +7m.59s.
Vienna eP_cP = +14m.52s. = PP −15s.
Long waves at Hong Kong, Chiufeng, and Sumoto.

April 20d. 22h. 58m. 56s. Epicentre 24°·6N. 119°·8E. N.3.

A = −·452, B = +·789, C = +·416 ; D = +·868, E = +·497 ;
G = −·207, H = +·361, K = −·909.

	△	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Taityu	0·7	126	−0 1	−11	—	—
Hokoto	1·1	192	e 0 15	− 1	0 37	S*
Arisan	1·4	147	0 20	0	0 32	− 4
Taihoku	1·6	70	e 0 27	P_g	0 43	+ 2
Karenko	1·7	115	i 0 24	0	0 37	− 7
Takao	2·0	170	(e 0 22)	− 7	(0 52)	+ 1
Taito	2·2	150	e 0 35	P*	0 59	+ 2
Kosyun	2·7	164	e 0 46	P_g	1 16	S*

Takao readings *diminished* by 1m.

April 20d. Readings also at 3h. (Hong Kong), 4h. (Grozny and Lemberg), 5h. (Wellington), 6h. (Perth and Riverview), 7h. (Erevan, Tiflis (2), Strasbourg, Tucson, and Nagasaki), 8h. (Prato), 9h. (La Paz and Sucre), 17h. (Nanking and Wellington), 18h. (Wellington), 19h. (Chiufeng, Melbourne, Riverview, Tashkent, and Sverdlovsk), 20h. (Grozny and Sverdlovsk), 21h. (Copenhagen, De Bilt, Strasbourg, Tashkent, Scoresby Sund, Paris, and Malabar), 23h. (Arisan, Taityu, Taihoku, and Karenko).

April 21d. 3h. 23m. 16s. Epicentre 36°·4N. 138°·9E. N.3.
Given by the stations.

A = −·606, B = +·529, C = +·593 ; D = +·657, E = +·753 ;
G = −·447, H = +·390, K = −·805.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Tokyo	1·0	138	0 21	+ 7	0 40	+14	—	0·7
Nagoya	2·0	231	0 33	P_g	i 0 59	S*	—	1·0
Mizusawa	3·2	32	i 0 49	+ 3	i 1 22	0	—	—
Osaka	3·2	239	0 34	−12	1 24	+ 2	—	2·1
Kobe	3·5	242	e 1 17	P_g	e 1 30	0	—	1·6
Sumoto	3·8	239	e 0 53	− 1	1 33	− 4	—	2·0
Sverdlovsk	54·2	319	i 9 6	−17	—	—	26·7	—

Additional readings :—
Kobe eN = +1m.23s.
Sumoto ePN = +56s., ePZ = +59s.
Long waves at Tashkent.

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April 21d. 7h. 11m. 22s. (I) X.
9h. 0m. 49s. (II) X.
11h. 10m. 12s. (III) Epicentre 24°·6N. 119°·8E. (as on 20d. 22h.). X.
12h. 1m. 50s. (IV) X.
17h. 14m. 40s. (V) X.

A = −·452, B = +·789, C = +·416; D = +·868, E = +·497;
G = −·207, H = +·361, K = −·909.

		△	Az.	P.	O−C.	S.	O−C.
		°	°	m. s.	s.	m. s.	s.
I	Taityu	0·7	126	0 7	− 3	0 12	− 6
II		0·7	126	0 9	− 1	0 16	− 2
III		0·7	126	0 6	− 4	—	—
IV		0·7	126	0 6	− 4	—	—
V		0·7	126	0 8	− 2	—	—
II	Hokoto	1·1	192	e 0 34	S*	—	—
III		1·1	192	e 0 34	S*	—	—
I	Arisan	1·4	147	e 0 23	P*	0 36	0
II		1·4	147	e 0 24	P_g	—	—
III		1·4	147	e 0 23	P*	0 37	+ 1
IV		1·4	147	i 0 23	P*	e 0 43	S*
V		1·4	147	0 20	0	e 0 34	− 2
I	Taihoku	1·6	70	e 0 26	P_g	0 40	− 1
II		1·6	70	i 0 15	− 8	i 0 26	P_g
III		1·6	70	e 0 25	P*	0 38	− 3
IV		1·6	70	i 0 25	P*	i 0 39	− 2
V		1·6	70	e 0 35	S	0 49	S_g
I	Tainan	1·6	170	e 0 44	S*	—	—
II		1·6	170	e 0 39	S	(e 0 39)	− 2
III		1·6	170	e 0 48	S_g	—	—
IV		1·6	170	e 0 32	?	—	—
V		1·6	170	e 0 50	S_g	—	—
I	Karenko	1·7	115	e 0 25	+ 1	—	—
II		1·7	115	i 0 20	− 4	i 0 33	P_g
III		1·7	115	e 0 23	− 1	—	—
IV		1·7	115	i 0 23	− 1	i 0 33	P_g
V		1·7	115	e 0 30	P_g	—	—
I	Takao	2·0	170	e 0 43	?	—	—
II		2·0	170	e 0 42	?	1 6	S_g
III		2·0	170	e 0 48	S	(e 0 48)	− 3
IV		2·0	170	e 0 53	S	1 22	?
V		2·0	170	e 0 30	+ 1	—	—
I	Taito	2·2	150	e 0 39	P_g	1 0	+ 3
II		2·2	150	e 0 39	P_g	1 6	S_g
III		2·2	150	e 0 36	P*	—	—
IV		2·2	150	i 0 37	P*	1 1	S*
V		2·2	150	e 0 39	P_g	1 6	S_g
I	Kosyun	2·7	164	e 0 57	?	—	—
II		2·7	164	e 0 55	?	1 32	?
IV		2·7	164	e 0 47	P_g	1 25	S_g

Long waves II Hong Kong, IV Hong Kong.

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April 21d. 7h. 26m. 0s. Epicentre 5°·2S. 113°·5E. N.3.

A = −·397; B = +·913, C = −·091; D = +·917, E = +·399; G = +·036, H = −·083, K = −·996.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Malabar	6·2	255	e 1 38	P*	i 3 22	S_g	—	—
Batavia	6·7	262	e 1 50	P*	i 3 37	S_g	—	—
Medan	17·2	303	4 0	+ 3	i 7 28	SS	—	—
Manila	21·1	20	i 4 40k	− 1	i 8 43	+15	10·9	—
Perth	26·8	175	—	—	10 30	+18	16·3	17·0
Phu-Lien	26·9	345	e 5 38	+ 1	e 10 17	+ 3	14·0	—
Hong Kong	27·5	2	5 41	+ 2	10 18	− 6	—	19·5
Colombo	35·7	291	e 6 59	+ 4	(i 12 35)	+ 3	21·5	27·0
Calcutta	37·0	320	e 7 56	+50	13 5	+14	e 16·8	—
Nanking	37·6	7	i 7 10	− 2	i 12 56	− 4	18·0	25·3
Adelaide	37·7	146	e 7 30	+18	i 13 4	+ 2	20·0	24·6
Kodaikanal	39·1	293	e 7 30	+ 6	i 13 30	+ 8	—	24·0
Melbourne	43·4	142	—	—	e 14 21	− 6	21·2	29·7
Riverview	45·1	133	—	—	e 14 54	+ 2	e 24·0	27·1
Chiufeng	45·4	3	i 8 10k	− 6	14 47	− 9	e 21·1	26·5
Bombay	46·7	303	e 8 30	+ 4	i 15 18	+ 4	22·5	28·7
Agra	47·1	316	—	—	i 15 19	− 1	—	29·1
Dehra Dun	49·1	318	16 0	?	24 0	?	31·5	35·0
Vladivostok	51·2	17	e 8 58	− 2	e 16 14	− 4	—	43·9
Andijan	59·5	324	e 10 55	(+ 4)	e 17 33	−36	—	—
Tashkent	61·6	323	—	—	i 18 34	− 3	31·0	37·0
Baku	73·9	315	—	—	21 7	0	33·0	47·9
Sverdlovsk	75·4	333	i 11 39	− 4	i 21 18	− 7	41·8	42·0
Grozny	77·8	316	e 12 2	+ 5	e 21 40	−12	—	—
Tiflis	77·9	315	e 11 53	− 4	e 21 50	− 3	48·0	—
Ksara	83·1	305	e 12 0	−24	e 22 47	− 1	—	—
Pulkovo	91·1	330	—	—	23 37	[− 2]	49·0	56·9
Copenhagen	100·5	326	—	—	24 30	[+ 2]	46·0	—
Triest	100·5	316	—	—	e 31 38	?	—	57·1
Florence	102·4	314	—	—	e 27 30	PS	51·0	59·0
De Bilt	105·3	323	—	—	e 30 18	?	e 51·0	59·2
Scoresby Sund	108·8	347	—	—	24 12	[−56]	52·0	—
Tinemaha	123·1	48	e 18 53	[0]	—	—	—	—
Pasadena	124·2	51	i 18 54	[− 1]	—	—	—	—
Mount Wilson	124·2	52	e 18 55	[0]	—	—	—	—

Additional readings and note :—
Malabar i = +1m.58s. = P_g +0s.
Batavia i = +2m.12s. = P_g +4s.
Medan iE = +5m.36s., i = +8m.46s., +9m.37s., and +9m.47s.
Perth P_cS = +9m.45s.
Hong Kong PP = +6m.20s.
Colombo S = +19m.5s.; true S is given as iP.
Calcutta SS = +14m.40s.
Adelaide e = +5m.5s. and +9m.26s. = P_cP −8s., i = +16m.56s.
Melbourne i = +17m.51s., +19m.45s., and +20m.6s.
Riverview iN = +18m.16s. = S_cS +3s., eN = +21m.55s.
Chiufeng PPNZ = +9m.55s., iN = +18m.13s. = S_cS −2s.
Bombay SSEN = +18m.18s.
Agra eE = +10m.24s. = PP +12s.
Tashkent e = +4m.53s., +6m.16s., and +7m.44s.
Baku e = +12m.14s.
Sverdlovsk L_q = +35m.54s.
Tiflis e = +28m.50s.
Pulkovo PP = +16m.35s., SS = +30m.0s., L_q = +44m.
Copenhagen +25m.24s. = S −7s.
Long waves at Bidston, Edinburgh, Kew, Stonyhurst, Hyderabad, and other European stations.

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April 21d. Readings for which no determinations have been made; apparently they are not from the same epicentre :—

Arisan				Karenko				Taityu				Taihoku			
	h.	m.	s.		h.	m.	s.		h.	m.	s.		h.	m.	s.
P	0	31	22	eP	0	31	25	P	0	31	26	eP	0	31	28
eS			36					S			32				
eP	0	37	21	eP	0	37	21	P	0	37	0	iP	0	37	22
S		38	11	S			35	S			7	S			36
P	0	54	44	eP	0	54	45	P	0	54	24	P	0	54	47
eS			56	S			59	S			30	iS		55	1
P	1	10	54	eP	1	10	55	P	1	10	33	eP	1	10	56
S		11	11									eS		11	10
eP	1	57	32	eP	1	57	33	iP	1	57	13	P	1	57	37
S			45	S			47	S			18	iS			51
P	2	7	56	iP	2	7	14	P	2	6	56	eP	2	7	12
eS		8	30	iS			28					S			24
eP	2	10	42	eP	2	10	29	P	2	10	13	iP	2	10	25
S		11	16									iS			36
eP	2	35	12	eP	2	35	0	P	2	34	52	eP	2	35	10
S			25												
eP	3	26	14	eP	3	26	10	P	3	25	55	iP	3	26	6
S			31									iS			16
eP	3	37	44	iP	3	37	50	P	3	37	24	eP	3	37	52
S			56	iS		38	4					S		38	5
eP	3	47	6	iP	3	47	11	P	3	46	45	eP	3	47	11
S			18	iS			25	S			50	S			27

Taito				Tainan				Kosyun				Hokoto			
	h.	m.	s.		h.	m.	s.		h.	m.	s.		h.	m.	s.
eP	0	31	37	eP	0	32	3	eP	0	32	50				
iP	0	37	40	eP	0	37	52					eP	0	37	16
S		38	1												
iP	0	55	0	eP	0	55	1	eP	0	55	17	eP	0	54	38
iS			24												
eP	1	11	12	eP	1	11	20	eP	1	11	25				
S		11	38												
iP	1	57	48	eP	1	57	20					eP	1	57	48
S		58	11												
eP	2	7	27					eP	2	8	0				
S			51												
eP	2	10	41	e	2	10	43								
S		11	6												
iP	3	26	28	eP	3	26	29	eP	2	26	41				
iS			53												
iP	3	38	0	eP	3	38	2	eP	3	38	3	eP	3	37	50
S			23									S		38	13
iP	3	47	19	eP	3	47	19	eP	3	47	31	eP	3	47	13
iS			38					S			58	S			15

April 21d. 19h. 13m. 30s. Epicentre 24°·6 120°·9E. N.3.

Given by Taihoku.

A = −·467, B = +·780, C = +·416; D = +·858, E = +·513;
G = −·214, H = +·357, K = −·909.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Taityu	0·5	200	0 4	− 3	0 12	− 1	—	—
Taihoku	0·7	55	i 0 12	+ 2	i 0 22	+ 4	—	—
Karenko	0·9	131	i 0 14	+ 1	i 0 27	S*	—	—
Arisan	1·1	185	i 0 20	+ 4	i 0 37	S*	—	—
Tainan	1·7	200	e 0 35	P_g	—	—	—	—
Hokoto	1·7	227	e 0 22	− 2	0 45	+ 1	—	—
Taito	1·8	173	0 32	P_g	1 1	S_g	—	—
Takao	2·0	195	e 0 9	−20	0 43	P_g	—	—
Kosyun	2·6	185	i 0 47	P_g	i 1 29	S_g	—	—
Hong Kong	6·6	250	—	—	3 9	S*	3·6	4·9

Continued on next page.

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	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Zi-ka-wei	6·6	5	e 1 34	0	2 57	+ 9	—	4·4
Nanking	7·7	345	1 48	− 1	3 23	+ 7	i 4·0	5·0
Manila	10·0	183	2 38	+17	4 33	+20	—	—
Nagasaki	11·3	42	2 44	PP	e 4 54	SS	—	—
Husan	12·6	32	e 6 47	S_g	9 23	?	—	—
Taikyu	13·1	30	6 54	S_g	9 42	?	—	—
Phu-Lien	13·7	256	e 2 30?	−41	—	—	8·5	—
Chiufeng	16·0	346	3 43k	+ 2	—	—	—	9·1
Vladivostok	20·6	22	e 4 37	+ 1	—	—	12·7	—
Calcutta	29·8	273	—	—	e 11 26	+25	—	—
Tashkent	45·7	305	e 8 13	− 5	—	—	e 24·5	30·8
Sverdlovsk	53·5	324	i 9 19	+ 1	e 16 57	PS	29·5	—
Tiflis	63·9	307	e 10 30?	+ 1	—	—	e 39·5	—

Additional readings :—
Zi-ka-wei iZ = +3m.9s. =S* −6s., +3m.34s. =S_g +2s., and +3m.36s., iN = +3m.59s. and +4m.10s., iE = +4m.32s., iN = +4m.47s. and +5m.16s.
Nanking iN = +3m.45s. =S* −2s.
Husan e = +7m.45s.
Tashkent e = +18m.44s. and +23m.46s.
Sverdlovsk e = +21m.21s. and +27m.35s.
Long waves at Bombay and other European stations.

April 21d. 22h. 1m. 31s. Epicentre 24°·6N. 120°·9E. (as at 19h.). X.

	△	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Taityu	0·5	200	0 1	− 6	0 9	− 4
Taihoku	0·7	55	i 0 11	+ 1	i 0 22	+ 4
Karenko	0·9	131	e 0 15	+ 2	—	—
Arisan	1·1	185	e 0 16	0	e 0 33	S*
Taito	1·8	173	e 0 25	− 1	0 58	S_g
Takao	2·0	195	e 0 48	S	(e 0 48)	− 3

Long waves at Hong Kong.

April 21d. Readings also at 0h. (La Paz, Hong Kong (2)), 1h. (Hong Kong), 2h. (Chiufeng and Hong Kong), 3h. (Phu-Lien (2), Chiufeng, and Hong Kong (3)), 4h. (Kobe), 5h. (Tucson (4)), 6h. (La Paz and Wellington), 7h. (Andijan, Grozny, and Malabar), 9h. (Chiufeng, Phu-Lien, and Grozny), 10h. (Andijan), 12h. (Chiufeng, Malabar, Phu-Lien, Sverdlovsk, and Tashkent), 13h. (Arisan, Hukuoka B, Karenko, Nagoya (2)), 14h. (Sumoto), 15h. (Taityu, Taihoku, and Frunse), 16h. (Taityu and Apia), 17h. (Riverview and La Paz), 18h. (Lick (2) and Strasbourg), 21h. (La Paz), 22h. (Graz, Sverdlovsk, Tashkent, Batavia, Malabar, Medan, Manila, Hong Kong, Taihoku, and Taityu).

April 22d.
3h. 38m. 27s. (I) X.
5h. 4m. 41s. (II) X.
7h. 29m. 39s. (III) X.
13h. 25m. 29s. (IV) X.
18h. 10m. 11s. (V) X.
18h. 21m. 2s. (VI) X.
18h. 27m. 9s. (VII) X.
Epicentre 24°·6 119°·8E. (as on 21d.)

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
I Taityu	0·7	126	0 13	+ 3	e 0 19	+ 1	—	—
II	0·7	126	0 14	+ 4	0 22	S*	—	—
III	0·7	126	0 14	+ 4	i 0 19	+ 1	—	—
IV	0·7	126	0 10	0	—	—	—	—
V	0·7	126	0 13	+ 3	0 19	+ 1	—	—
VI	0·7	126	0 12	+ 2	—	—	—	—
VII	0·7	126	0 11	+ 1	—	—	—	—

Continued on next page.

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	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
II Hokoto	1·1	192	e 0 30	S	0 53	?	—	—
I Arisan	1·4	147	e 0 21	+ 1	0 34	− 2	—	—
II	1·4	147	i 0 20	0	i 0 32	− 4	—	—
III	1·4	147	e 0 18	− 2	e 0 31	− 5	—	—
IV	1·4	147	e 0 28	?	—	—	—	—
V	1·4	147	e 0 20	0	e 0 32	− 4	—	—
VI	1·4	147	e 0 19	− 1	e 0 35	− 1	—	—
VII	1·4	147	e 0 19	− 1	e 0 35	− 1	—	—
I Taihoku	1·6	70	e 0 28	P_g	e 0 42	+ 1	—	—
II	1·6	70	i 0 21	− 2	i 0 32	− 9	—	—
III	1·6	70	e 0 31	P_g	e 0 43	+ 2	—	—
V	1·6	70	0 34	+11	i 0 49	S_g	—	—
VI	1·6	70	e 0 36	+13	e 0 48	S_g	—	—
VII	1·6	70	e 0 31	P_g	0 45	S*	—	—
I Tainan	1·6	170	e 0 53	S_g	—	—	—	—
II	1·6	170	e 0 37	S	(e 0 37)	− 4	—	—
V	1·6	170	e 0 34	+11	0 55	S_g	—	—
VI	1·6	170	e 0 35	+12	—	—	—	—
VII	1·6	170	e 0 33	+10	—	—	—	—
I Karenko	1·7	115	e 0 27	P*	—	—	—	—
II	1·7	115	i 0 24	0	i 0 39	− 5	—	—
V	1·7	115	i 0 32	P_g	i 0 47	S*	—	—
VI	1·7	115	e 0 31	P_g	—	—	—	—
VII	1·7	115	e 0 31	P_g	—	—	—	—
I Takao	2·0	170	e 0 46	S	(e 0 46)	− 5	—	—
II	2·0	170	e 1 1	S_g	1 31	?	—	—
V	2·0	170	e 0 42	P_g	1 13	S_g	—	—
VI	2·0	170	e 0 43	P_g	—	—	—	—
VII	2·0	170	e 1 37	?	—	—	—	—
I Taito	2·2	150	e 0 44	P_g	e 1 8	S_g	—	—
II	2·2	150	i 0 39	P_g	1 8	S_g	—	—
III	2·2	150	e 0 26	− 5	0 56	− 1	—	—
V	2·2	150	e 0 41	P_g	1 6	S_g	—	—
VI	2·2	150	0 40	P_g	1 5	S*	—	—
VII	2·2	150	e 0 41	P_g	e 1 4	S*	—	—
I Kosyun	2·7	164	e 1 9	S	(e 1 9)	0	—	—
II	2·7	164	e 0 48	P_g	1 35	S_g	—	—
V	2·7	164	e 0 53	P_g	1 24	S*	—	—
VI	2·7	164	e 0 50	P_g	—	—	—	—
VII	2·7	164	e 0 49	P_g	—	—	—	—
II Zi-ka-wei	6·7	2	—	—	e 3 8	S*	—	4·6
II Nanking	7·5	346	e 1 59	P*	e 3 37	S*	4·0	—
II Nagasaki	12·0	47	e 2 49	+ 1	—	—	—	—
II Chiufeng	15·8	351	e 3 55	PP	—	—	e 7·7	9·2

Additional readings :—
II Zi-ka-wei iE = +3m.40s. = S_g +5s., iZ = +3m.55s., iE = +4m.0s., iN = +4m.6s.
Long waves II Vladivostok, Phu-Lien, and Hong Kong.

April 22d. 13h. Readings for which no determination has been made :—

Grozny eP = 14m.25s., e = 17m.25s., e = 18m.6s., e = 20m.5s.
Samarkand iP = 15m.11s.
Andijan eP = 16m.28s., iP* = 16m.34s., iPP = 16m.48s., S = 17m.18s., iS_g = 17m.38s., M = 18m.28s.
Frunse eP = 16m.59s., i = 17m.39s., i = 18m.26s., i = 18m.48s., S = 18m.16s.
Tiflis eP = 19m.30s., eS = 22m.52s., eL = 23m.30s.
Sverdlovsk P = 19m.35s., S = 22m.49s., L_q = 24m.54s., LR = 26m.30s., M = 26m.42s.
Agra i = 21m.31s.
Baku e = 22m.9s., e = 23m.23s., eL = 24m.0s.
Pulkovo e = 23m.25s., e = 27m.31s., e = 30m.43s., L = 32m., M = 34m.0s.

Continued on next page.

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Bombay e = 24m.
Moscow e = 26m.11s., e = 29m.36s., eL = 31m.30s.
Copenhagen e = 29m.18s., L = 36m.
De Bilt e = 34m., eL = 42m.
Paris e = 35m., L = 46m.
Cheb e = 42m.
Long waves at Bidston, Stuttgart, and Strasbourg.

April 22d. 23h. 24m. 20s. Epicentre 43°·5N. 11°·8E. (as on 1931 Dec. 19d.). R.3.

A = + ·710, B = + ·148, C = + ·688 ; D = + ·204, E = − ·979 ;
G = + ·674, H = + ·141, K = − ·725.

	△	Az.	P.	O − C.	S.	O − C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Florence	0·5	305	e 0 16	S	(e 0 16)	+ 3	0·5
Prato	0·6	307	e 0 10	+ 1	i 0 23	+ 8	—
Padova	1·9	1	e 0 36	P_g	—	—	—
Triest	2·6	33	e 0 37	0	i 1 6	− 1	—
Zagreb	3·8	51	e 1 0	P*	e 1 51	S*	—
Chur	3·8	335	e 0 51	− 3	e 1 28	− 9	—
Zurich	4·5	331	e 1 5	+ 1	—	—	—
Ravensburg	4·6	341	—	—	e 1 47	−11	—
Basle	5·0	319	e 1 13	+ 2	—	—	—
Stuttgart	5·6	342	—	—	e 2 10	−13	—
Vienna	5·7	33	e 2 13	S	(e 2 13)	−12	—
Strasbourg	5·8	333	—	—	e 2 15	−13	—

Additional readings :—
Florence S = + 22s.
Zagreb e = + 1m.28s.
Strasbourg e = + 2m.52s. = S* + 1s.

April 22d. Readings also at 0h. (Tananarive), 2h. (Batavia, Andijan, Frunse, Tashkent, and Samarkand), 4h. (Santiago), 5h. (Husan, Copenhagen, Sverdlovsk, and Tashkent), 6h. (Mizusawa), 9h. (Apia and Sumoto), 11h. (Apia, Medan, and Grozny), 13h. (Tiflis and Mizusawa), 16h. (Erevan, Grozny, Tiflis, Wellington, Osaka, and Sumoto), 18h. (Chiufeng, Hong Kong, Osaka, Sverdlovsk, Tashkent, and Sitka), 19h. (Baku, Sverdlovsk, and Tashkent), 20h. (Malaga).

April 23d. 16h. 29m. 2s. (I) } Epicentre 24°·5N. 121°·5E. X.
17h. 56m. 53s. (II) } (as on 4d. 6h.). X.

A = − ·476, B = + ·776, C = + ·415.

	△	Az.	P.	O − C.	S.	O − C.
	°	°	m. s.	s.	m. s.	s.
I Taihoku	0·5	0	e 0 9	+ 2	0 18	+ 5
II	0·5	0	0 7	0	—	—
II Karenko	0·5	174	0 12	S	(0 12)	− 1
I Taityu	0·9	241	0 12	− 1	0 21	− 2
II	0·9	241	0 11	− 2	—	—
I Arisan	1·2	210	e 0 18	+ 1	e 0 36	S*
II	1·2	210	e 0 17	0	e 0 33	+ 2
I Taito	1·8	190	e 0 40	S	1 3	?
I Tainan	1·9	216	e 0 30	+ 2	—	—
I Takao	2·2	206	e 0 54	S	(e 0 54)	− 3
I Kosyun	2·6	194	e 0 48	P_g	—	—

I Hong Kong records L waves.

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April 23d. 16h. 45m. 41s. Epicentre 25°·1N. 94°·7E. (as on 1934 June 2d.). R.2.

A = − ·074, B = + ·902, C = + ·424 ; D = + ·997, E = + ·082 ;
G = − ·035, H = + ·423, K = − ·906.

	△	Az.	P.	O − C.	S.	O − C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Calcutta	6·3	246	1 26	− 4	2 23	?	—	—
Phu-Lien	11·8	109	i 2 44	− 2	e 4 57	− 1	5·3	8·0
Agra	15·1	282	3 30	0	i 6 7	−10	—	—
Dehra Dun	15·6	293	3 39	+ 3	—	—	6·5	6·3
Hong Kong	18·0	94	4 4	− 3	7 28	+ 3	8·9	10·8
Bombay	21·2	257	i 4 35	− 7	i 8 15	−15	—	—
Medan	21·8	169	4 36	−13	i 8 25	−17	—	—
Kodaikanal	22·1	231	i 4 39	−13	8 30	−18	10·8	—
Nanking	22·3	65	i 4 56	+ 2	9 2	+10	12·8	—
Colombo	23·2	220	4 49	−14	8 40	−28	12·7	15·7
Chiufeng	23·4	45	i 5 11	+ 6	i 9 22	+10	—	—
Andijan	24·3	316	e 5 14	+ 1	e 9 50	+22	—	—
Frunse	24·3	322	e 5 11	− 2	e 9 35	+ 7	—	—
Taito	24·3	84	5 19	+ 6	—	—	—	—
Zi-ka-wei	24·3	68	5 12	− 1	9 28	0	—	16·3
Tashkent	26·6	314	i 5 59	+24	10 37	+28	10·9	17·0
Isigakizima	26·7	84	6 19	PP	—	—	—	—
Manila	26·8	108	i 5 31k	− 5	i 10 31	+19	14·7	17·0
Tchimkent	26·9	317	e 5 41	+ 4	—	—	—	—
Samarkand	27·4	310	e 5 45	+ 3	e 10 45	+23	—	—
Semipalatinsk	27·7	342	e 5 49	+ 5	—	—	—	—
Taikyu	31·0	63	e 6 30	+16	e 11 15	− 5	—	—
Husan	31·1	64	e 6 13	− 2	—	—	e 12·1	—
Nagasaki	31·5	66	e 6 38	+20	e 11 21	− 7	—	—
Miyazaki	32·9	69	7 5	+34	—	—	—	—
Batavia	33·5	158	i 6 18	−18	—	—	—	—
Vladivostok	35·4	51	e 6 54	+ 1	—	—	15·3	—
Sumoto	35·9	66	—	—	e 12 30	− 5	—	—
Kobe	36·1	65	e 8 46	PP	—	—	—	—
Gihu	37·5	63	7 11	0	12 55	− 4	—	—
Nagoya	37·7	64	7 11	− 1	12 57	− 5	—	13·0
Nagano	38·7	62	7 27	+ 6	13 15	− 2	—	—
Kohu	39·0	64	7 52	+28	13 31	+10	—	—
Oiwake	39·0	64	7 44	+20	13 18	− 3	—	—
Maebasi	39·4	64	8 10	?	13 47	+20	—	—
Sverdlovsk	40·1	332	i 7 37	+ 4	i 13 40	+ 2	25·7	25·9
Baku	40·2	304	e 7 36	+ 2	e 13 39	0	24·3	—
Hunatu	40·6	66	7 19	−18	—	—	—	—
Grozny	43·7	307	i 8 6	+ 4	14 30	− 1	—	—
Tiflis	44·1	306	i 8 7a	+ 1	14 36	− 1	24·0	—
Moscow	51·1	322	e 9 3	+ 3	16 14	− 2	—	30·2
Theodosia	51·2	308	9 0	0	16 14	− 4	—	—
Ksara	51·3	294	e 9 2	+ 1	16 19	0	—	—
Yalta	52·0	308	i 9 6	0	16 25	− 3	—	—
Simferopol	52·1	309	9 7	0	16 27	− 3	—	—
Sebastopol	52·5	309	9 10	0	16 32	− 3	—	—
Pulkovo	55·7	327	i 9 34	0	i 17 17	− 2	29·3	35·4
Bucharest	57·8	309	e 9 55	+ 6	—	—	—	—
Sofia	60·0	307	e 10 4	0	e 18 15	− 1	—	—
Königsberg	60·7	321	i 10 11	+ 2	i 18 18	− 7	—	36·3
Upsala	62·1	327	e 10 18	− 1	i 18 38	− 5	—	—
Vienna	64·0	313	i 10 30	− 2	e 19 29	PS	—	—
Prague	64·9	318	—	—	e 19 17	− 2	—	42·3
Copenhagen	65·2	323	i 10 39a	− 1	i 19 19	− 3	32·3	—
Leipzig	65·9	319	i 10 40	− 5	e 19 24	− 7	—	—

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Cheb	66·2	318	—	—	e 19 19?	−16	—	43·3
Triest	66·3	312	10 44	− 3	i 19 27	− 9	—	—
Jena	66·5	318	e 10 47	− 2	—	—	—	—
Hamburg	67·0	311	i 10 50a	− 2	e 19 41	− 4	—	—
Florence	68·4	310	i 10 57a	− 4	19 49	−13	—	—
Prato	68·5	310	e 10 57	− 4	i 19 52	−11	—	—
Stuttgart	68·6	315	11 0	− 2	19 56	− 8	e 37·3	—
Chur	68·6	314	i 10 59	− 3	e 19 55	− 9	—	—
Piacenza	69·1	312	11 4	− 1	20 6	− 4	—	—
Zurich	69·3	315	e 11 2	− 4	—	—	—	—
Strasbourg	69·5	316	e 11 0	− 8	e 20 7	− 8	e 29·3	—
Basle	69·9	316	e 11 7	− 3	—	—	—	—
De Bilt	70·1	320	i 11 10	− 1	20 19	− 3	e 37·3	39·7
Neuchatel	70·4	315	e 11 9	− 4	—	—	—	—
Uccle	71·0	320	e 11 14	− 3	e 19 27	−66	—	40·3
Paris	72·7	319	e 11 24	− 3	e 20 44	− 9	40·3	47·3
Durham	73·2	324	e 20 53	S	(e 20 53)	− 6	—	—
Kew	73·6	320	i 11 30a	− 2	i 20 56	− 8	36·3	—
Edinburgh	73·6	325	—	—	e 20 19?	−45	—	—
Oxford	74·0	320	—	—	e 20 54	−14	e 30·3	—
Bidston	74·5	322	—	—	i 20 59	−15	36·3	—
Scoresby Sund	74·7	342	11 39	0	21 14	− 3	—	—
Almeria	80·5	306	—	—	e 22 2	−19	—	—
Granada	81·2	307	e 10 6	?	e 19 36	?	28·3	—
San Fernando	83·4	307	e 22 34	S	(e 22 34)	−17	—	—
San Juan	132·6	334	e 22 32	PKS	—	—	—	—
La Paz	161·8	295	i 19 53	[− 2]	—	—	—	—

Additional readings :—
Hong Kong PP? = +4m.33s.
Bombay PPEN = +4m.57s., iEN = +8m.30s., SSEN = +8m.57s.
Nanking iPP = +5m.34s., i = +9m.10s.
Chiufeng pP = +5m.31s. = PP + 2s., sS?EN = +10m.2s.
Frunse i = +5m.43s. = PP + 2s.
Zi-ka-wei eN = +5m.15s., iZ = +5m.31s., +5m.56s., and +6m.25s., iN = +9m.38s.
Batavia i = +7m.42s. = PP + 0s. abd +17m.33s.
Kobe PE = +8m.55s., eEZ = +12m.33s., eE = +14m.30s.
Nagoya PP = +7m.40s.
Sverdlovsk L_q = +22m.25s.
Grozny i = +11m.25s. and +17m.48s.
Tiflis i = +8m.31s., ipP = +8m.50s., iPP = +10m.17s. = PPP + 3s., pPP = +10m.40s., SP = +14m.50s., esS = +15m.27s., eSS = +18m.16s., esSS = +19m.31s.
Yalta e = +17m.15s.
Simferopol e = +18m.21s.
Königsberg i = +10m.39s., iN = +19m.16s., eN = +30m.31s.
Prague eN = +19m.45s.
Copenhagen +13m.25s. and +20m.7s., SS = +23m.43s.
Leipzig eE = +15m.24s.
Triest i = +20m.19s., e = +24m.19s.
Jena e = +11m.12s. = P_cP − 7s.
Stuttgart e = +11m.24s. = P_cP − 4s., ePP = +13m.55s., ePS = +20m.51s. = S_cS − 4s.
Piacenza PS = +21m.0s. = S_cS + 1s.
Strasbourg e = +11m.29s. = P_cP − 2s., PP = +13m.59s., PS = +21m.2s.
Kew eNE = +29m.46s.
Bidston e = +24m.49s. and +30m.49s.
Scoresby Sund +22m.7s.
San Fernando S = +23m.34s. = PS + 3s.
Long waves at Cape Town.

April 23d. Readings also at 2h. (Apia, Granada, Malaga, San Fernando, and Samarkand), 3h. (Samarkand and Husan), 7h. (Balboa Heights), 13h. (Sofia and Tananarive), 14h. (Alicante and Arisan), 16h. (Andijan, Sverdlovsk, Santiago (2), and Wellington), 17h. (Adelaide, Melbourne, Perth, Riverview, and Sydney), 18h. (Kobe, Nagoya, and Tananarive), 20h. (Lick).

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April 24d. 4h. 17m. 53s. Epicentre 24°·8N. 120°·4E. (as on 20d. 22h.). X.

	△	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Taityu	0·7	160	0 13	+ 3	0 21	+ 3
Taihoku	1·1	77	e 0 14	− 2	—	—
Arisan	1·3	166	0 18	0	e 0 37	S*
Karenko	1·4	131	e 0 17	− 3	—	—
Taito	2·1	164	0 40	P_g	e 1 4	S_g

April 24d. 12h. Readings for which no determination has been made:—

Triest P_g =0m.2s., iS_g =0m.12s.
Graz iP =0m.19s., eS =0m.29s., M =0m.35s.
Zagreb eP =0m.20s., ePP =0m.41s., eS =0m.45s.
Padova e =0m.34s.
Chur e =0m.41s.
Ravensburg eP_g =0m.50s., eS_g =1m.35s.
Zurich eP =1m.1s.
Laibach P_g =1m.2s., S_g =1m.9s., M =1m.11s.
Vienna eP =1m.6s.
Stuttgart e =1m.55s., iS_g =2m.6s.
Jena e =2m.24s., M =2m.36s.

April 24d. 15h. 52m. 24s. Epicentre 0°·3N. 74°·0E. N.2.

A = +·276, B = +·961, C = +·005; D = +·961, E = −·276;
G = +·001, H = +·005, K = −1·000.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Colombo	8·8	35	1 58	− 7	3 31	−13	—	4·6
Kodaikanal	10·5	18	i 2 30	+ 2	4 38	+12	—	—
Hyderabad	17·7	15	4 0	− 3	7 40	SS	8·2	10·7
Bombay	18·6	357	i 4 21	PP	i 8 0	SS	9·5	12·1
Medan	24·9	81	i 5 16	− 3	9 45	+ 6	—	—
Calcutta	26·3	31	5 42	+10	10 21	+18	13·2	—
Agra	27·1	7	i 6 18	PP	10 41	+24	13·0	16·3
Dehra Dun	30·3	7	7 26	?	12 56	SS	17·1	18·6
Tananarive	32·3	232	—	—	11 46	+ 6	14·1	18·6
Batavia	33·4	101	i 6 33	− 2	—	—	—	—
Samarkand	39·9	351	e 7 37	+ 6	—	—	—	—
Andijan	40·5	358	e 7 42	+ 6	—	—	e 21·9	—
Tashkent	41·2	355	i 7 44	+ 2	13 59	+ 5	21·9	·25·7
Almata	43·0	4	e 7 55	− 2	e 14 18	− 3	24·2	—
Hong Kong	44·9	57	—	—	14 43	− 6	—	24·9
Baku	45·7	334	i 8 26	+ 8	i 15 15	+15	21·8	31·4
Erevan	47·9	330	e 7 43	−52	—	—	—	—
Manila	48·6	70	8 42	+ 1	15 32	− 9	—	27·4
Tiflis	49·0	332	i 8 50a	+ 6	i 16 0	+13	e 27·6	32·2
Ksara	49·0	316	e 8 50	+ 6	e 16 4	+17	24·1	30·1
Grozny	49·9	334	e 9 0	+ 9	e 16 15	+16	—	—
Semipalatinsk	50·4	5	e 8 56	+ 2	—	—	—	—
Perth	51·0	132	20 36	?	—	—	—	—
Nanking	52·9	48	9 1	−12	i 16 26	−15	i 26·7	32·2
Zi-ka-wei	54·5	51	e 9 20	− 5	—	—	29·1	34·8
Chiufeng	55·2	38	e 9 24	− 6	i 17 7	− 5	e 26·6	33·8
Theodosia	56·2	328	e 9 43	+ 6	—	—	—	—
Sverdlovsk	57·5	352	i 9 48	+ 1	17 44	+ 1	27·9	36·5
Sofia	62·0	321	e 10 36?	+18	—	—	—	—
Cape Town	62·5	231	—	—	24 59	?	—	37·3
Moscow	62·8	337	—	—	e 19 4	PS	e 39·1	41·5
Vladivostok	67·0	42	—	—	e 20 36	(− 7)	—	—
Nagoya	68·0	52	e 10 46	−12	—	—	—	—
Zagreb	68·1	321	e 11 2	+ 3	—	—	—	—
Pulkovo	68·4	339	i 11 0	− 1	i 20 0	− 2	34·6	44·0

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Vienna	68·8	323	i 11 4	+ 1	—	—	—	—
Triest	69·5	323	i 11 10	+ 2	20 18	+ 3	—	44·1
Königsberg	69·7	331	i 11 12	+ 3	e 20 30	PS	—	48·6
Florence	70·5	317	i 11 13	− 1	21 36	+69	29·1	35·6
Cheb	72·0	324	—	—	e 20 50	+ 5	e 47·6	51·6
Piacenza	72·2	319	11 26	+ 2	20 52	+ 5	—	49·8
Chur	72·6	320	e 11 29	+ 3	—	—	—	—
Zurich	73·4	321	e 11 34a	+ 3	—	—	—	—
Stuttgart	73·5	321	11 34	+ 2	e 21 5	+ 2	35·6	—
Basle	74·1	321	e 11 38	+ 3	—	—	—	—
Copenhagen	74·2	330	11 38	+ 2	21 12	+ 1	37·6	—
Neuchatel	74·3	320	e 11 39	+ 3	—	—	—	—
Strasbourg	74·3	322	e 11 28	− 8	e 21 13	+ 1	e 30·6	—
Hamburg	74·7	327	e 11 37	− 2	—	—	—	—
Uccle	77·1	323	e 11 54	+ 1	—	—	—	—
De Bilt	77·4	325	e 11 54	0	—	—	e 36·6	54·9
Paris	77·7	320	i 11 58	+ 2	e 22 2	PS	41·6	57·6
Riverview	79·5	124	—	—	e 34 18	?	e 36·3	43·2
Sydney	79·6	124	—	—	e 38 54	?	47·1	50·1
Granada	79·9	308	e 12 17	+10	—	—	32·6	—
Kew	80·0	323	i 12 12a	+ 4	—	—	e 48·6	56·9
Malaga	80·6	308	e 12 15	+ 4	—	—	—	—
Oxford	80·7	323	e 12 13	+ 1	e 22 14	− 9	e 44·6	59·2
San Fernando	82·0	309	12 23a	+ 5	e 22 54	+17	44·6	—
Bidston	82·1	325	—	—	e 27 56	SS	—	—
Edinburgh	82·6	327	—	—	e 23 0	+17	—	—
Rathfarnham Castle	83·9	325	—	—	e 21 16	?	e 47·8	55·7
Scoresby Sund	91·7	340	—	—	23 55	[+12]	49·6	—
La Paz	139·3	246	i 19 27k	[+ 6]	—	—	73·5	86·8
Tinemaha	141·0	15	e 19 22	[− 1]	—	—	—	—
Pasadena	143·2	18	i 19 30a	[+ 2]	—	—	—	—
Mount Wilson	143·5	16	i 19 29	[0]	—	—	—	—
Riverside	144·1	15	i 19 30a	[− 2]	—	—	—	—
La Jolla	145·3	16	i 19 36a	[+ 2]	—	—	—	—

Additional readings :—
Calcutta PP = +6m.36s.
Agra PP = +6m.43s., SS = +11m.46s.
Tananarive E = +2m.34s.
Batavia e = +12m.53s. and +15m.59s.
Tiflis i = +9m.0s., ePcP = +10m.22s., ePP = +10m.58s.
Perth = +22m.36s. and +26m.36s.
Theodosia e = +7m.1s.
Triest e = +20m.38s. =PS +7s.
Cheb e = +25m.5s.
Stuttgart ePPP = +16m.24s., e = +21m.54s., eSSS = +29m.54s.
Strasbourg i = +11m.37s.
Uccle i = +14m.52s. =PP +13s.
De Bilt ePPZE = +15m.0s.
Granada e = +12m.52s. and +16m.4s.
Kew ePP = +15m.8s.
San Fernando eS = +23m.11s. =PS − 3s.
Rathfarnham Castle e = +10m.14s.
Scoresby Sund +16m.51s.
Pasadena iZ = +22m.40s. =PP − 1s.
Mount Wilson iZ = +22m.44s. =PP +1s.
La Jolla iNZ = +22m.41s.
Long wave at Durham and Wellington.

April 24d. 18h. 15m. 43s. Epicentre 24°·8N. 120°·4E. (as at 4h.). **X.**

	Δ	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Taityu	0·7	160	0 11	+ 1	0 19	+ 1
Taihoku	1·1	77	0 14	− 2	e 0 24	− 4
Arisan	1·3	166	e 0 25	P_g	e 0 40	S*
Karenko	1·4	131	0 21	+ 1	—	—

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April 24d. 18h. 51m. 45s. Epicentre 15°·2N. 93°·0W. N.2.

A = − ·051, B = − ·964, C = + ·262 ; D = − ·999, E = + ·052 ;
G = − ·014, H = − ·262, K = − ·965.

	△	Az.	P.	O − C.	S.	O − C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Vera Cruz	5·0	325	1 10	− 1	—	—	—	—
Tacubaya	7·2	306	1 44	+ 2	—	—	—	—
Little Rock	18·7	4	i 4 25	PP	e 8 7	?	—	—
Columbia	21·7	27	e 4 50	+ 2	e 9 2	SS	e 12·1	—
St. Louis	23·6	6	i 5 4	− 2	e 9 17	+ 1	—	—
Florissant	23·8	6	i 5 7a	− 1	e 9 19	0	e 12·1	—
San Juan	25·9	78	e 5 30	+ 2	(e 9 57)	0	e 9·9	—
Charlottesville	26·2	27	e 7 11	?	e 10 19	+17	14·2	—
La Jolla	28·2	314	i 6 0	+11	—	—	—	—
Ann Arbor	28·3	15	—	—	e 11 27	?	21·1	—
Philadelphia	29·3	29	e 6 36	PP	e 11 21	?	15·2	—
Pasadena	29·5	315	i 6 2	+ 1	e 10 39	−17	e 15·9	—
Mount Wilson	29·5	316	e 5 56	− 5	—	—	—	—
Toronto	30·8	18	—	—	i 10 31	−46	16·3	—
Tinemaha	31·3	320	e 6 12	− 5	—	—	—	—
Huancayo	32·4	147	e 6 26	0	11 36	− 5	e 14·2	—
Ottawa	33·5	20	—	—	e 11 57	− 1	e 17·3	—
La Paz	40·1	139	7 48	+15	i 13 38	0	17·6	22·5
Scoresby Sund	69·4	20	11 4	− 3	20 14	0	32·3	—
Rathfarnham Castle	76·0	37	e 12 29	+43	e 19 15	?	e 36·3	44·6
Edinburgh	77·4	35	—	—	e 21 45	− 2	—	—
Bidston	77·5	37	i 11 55	0	i 21 37	−11	—	—
Kew	79·9	39	i 12 6	− 1	e 22 8	− 7	e 38·3	—
Granada	80·5	54	i 12 11	+ 1	—	—	39·0	—
Paris	82·2	42	e 12 19	0	e 22 34	− 5	42·3	46·3
Uccle	82·9	39	12 22	− 1	—	—	e 39·3	—
De Bilt	83·1	37	i 12 23	− 1	22 44	− 4	e 39·3	45·7
Hamburg	85·4	36	i 12 36	+ 1	e 22 58	[− 4]	—	—
Strasbourg	85·9	41	i 12 36	− 2	e 23 15	− 2	e 38·3	—
Copenhagen	86·0	33	12 38	0	23 14	− 4	44·3	—
Stuttgart	86·4	40	12 41	+ 1	e 23 3	[− 5]	e 44·3	—
Cheb	88·0	41	—	—	e 23 15	[− 5]	e 44·3	51·3
Florence	89·5	45	12 44	−11	22 15?	[−75]	—	—
Triest	89·8	40	12 58	+ 2	23 26	[− 5]	e 46·3	—
Pulkovo	92·3	25	e 16 43	PP	23 39	[− 7]	46·3	48·6
Sverdlovsk	104·7	15	e 18 23	PP	e 24 39	[− 9]	41·3	60·2
Tiflis	111·1	32	19 7	PP	e 28 45	PS	53·3	63·9
Baku	115·1	31	—	—	e 29 30	PS	54·3	66·9
Tashkent	121·2	16	i 20 21	PP	i 25 43	[−11]	e 56·3	71·2

Additional readings and note :—
Little Rock ipPN = +4m.34s., iPPN = +4m.42s., isPN = +4m.52s., iN = +8m.17s., iSS = +8m.42s.
St. Louis epPEN = +5m.14s., esSEN = +9m.36s. ; T_0 = 18h.51m.41s.
Florissant ipPZ = +5m.17s.k, esSEN = +9m.38s., iE = +9m.42s.
Charlottesville S is given as P_cP.
Ann Arbor e = +12m.57s., eE = +14m.57s., e = +16m.33s.
Philadelphia e = +14m.51s.
Mount Wilson iENZ = +6m.3s.
Toronto eN = +1m.50s.
Ottawa e = +15m.21s.
Strasbourg +12m.55s., eSKS = +22m.46s.
Copenhagen +22m.59s. = SKS − 7s.
Cheb e = +18m.35s.
Triest i = +23m.57s. = S + 3s. and +24m.28s., e = +30m.12s.
Tashkent e = +30m.15s. = PS + 2s.
Long waves at Ukiah.

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April 24d. Readings also at 0h. (Berkeley, Sverdlovsk, Tiflis, Manila, Hong Kong, and Taityu), 1h. (Oak Ridge and Wellington), 3h. (Basle, Chur, Grozny, Ravensburg, Stuttgart, Sverdlovsk, Tashkent, and Zurich), 8h. (Mount Wilson, Pasadena, Riverside, Tinemaha, Sverdlovsk (2), and Wellington), 9h. (Paris and Strasbourg), 10h. (Wellington), 11h. (Triest and Zurich), 13h. (Malaga), 14h. (Malaga), 15h. (Apia), 16h. (Tashkent), 17h. (Agra, Calcutta, Hyderabad, and Kodaikanal), 18h. (Baku, Sverdlovsk, Bombay, Chiufeng, Hong Kong, and Nanking), 20h. (Bombay), 21h. (Oak Ridge), 22h. (Oak Ridge), 23h. (Branner).

April 25d. 5h. 15m. 18s. Epicentre 24°·8N. 120°·4E. (as on 24d. 18h.). R.3.

A = −·459, B = +·783, C = +·419.

	Δ	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Taityu	0·7	160	0 10	0	0 19	+ 1
Taihoku	1·1	77	0 12	− 4	e 0 22	− 6
Arisan	1·3	166	0 19	+ 1	e 0 34	+ 1
Karenko	1·4	131	0 17	− 3	e 0 32	− 4
Takao	2·1	180	0 48	S	(0 48)	− 6
Taito	2·1	164	0 34	P*	i 1 1	S*
Kosyun	2·8	182	i 0 46	P*	i 1 23	S*
Nanking	7·4	348	—	—	e 3 52	S_g

Long waves at Hong Kong.

April 25d. 19h. 55m. 37s. Epicentre 37°·1N. 137°·0E. (as on 1933 Sept. 21d.). X.

A = −·583, B = +·544, C = +·603.

	Δ	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Nagoya	1·9	181	0 27	− 1	0 50	+ 1	1·2
Osaka	2·7	206	0 42	P*	1 29	S_g	2·0
Kobe	2·8	207	e 0 44	P*	e 1 21	S*	1·6
Sumoto	3·2	213	e 0 52	P*	1 28	+ 6	1·7

April 25d. 23h. Readings for which no determination has been made :—

Karenko eP = 39m.6s., eS = 39m.31s.
Taihoku eP = 39m.9s., S = 39m.29s.
Taito eP = 39m.24s., S = 39m.59s.
Taityu P = 39m.34s.
Kosyun eP = 39m.38s., S = 40m.14s.
Takao P = 39m.57s.

April 25d. Readings also at 0h. (Baku, Ksara, and Tiflis), 1h. (Berkeley, Granada, Paris, San Fernando, Sverdlovsk, Strasbourg, Stuttgart, and Tashkent) 3h. (Arisan, Taityu, and Taihoku), 4h. (Mount Wilson (2), Pasadena (2), Riverside, and Tinemaha (2)), 9h. (Samarkand), 12h. (Samarkand), 15h. (Batavia, Malabar, Medan, Hong Kong, Tashkent, Tchimkent, Samarkand, and Frunse), 17h. (Neuchatel and Mizusawa), 18h. (Theodosia, Yalta, and La Plata), 22h. (Branner).

April 26d. Readings at 0h. (Balboa Heights), 1h. (Andijan, Baku, Frunse, Grozny, Mount Wilson, Pasadena, Tinemaha, Karenko, Taihoku, and Manila), 3h. (Triest), 5h. (Baku, Calcutta, Grozny, and Tashkent), 8h. (Bombay, De Bilt, Paris, Strasbourg, Stuttgart, and Uccle), 11h. (Batavia), 15h. (Ferndale), 16h. (La Paz), 18h. (Arisan, Taityu, and Taihoku), 21h. (Berkeley), 22h. (Oak Ridge (2) and Zagreb).

April 27d. 2h. Readings for which no determination has been made :—

Nagoya P = 27m.36s., S = 27m.58s., ME = 28m.19s., MN = 28m.29s.
Osaka P = 27m.46s., S = 28m.40s., ME = 29m.14s., MN = 29m.20s.
Mizusawa eP = 27m.59s., iS = 28m.37s.
Kobe ePEZ = 28m.22s., eSN = 29m.0s., M = 29m.3s.

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April 27d. 19h. 4m. 24s. Epicentre 37°·7N. 25°·4W. N.3.

Given by the Stations.

A = +·715, B = −·339, C = +·611 ; D = −·429, E = −·903 ;
G = +·552, H = −·262, K = −·791.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Angro do Heroismo	1·8	305	0 22	− 4	0 46	0	—	—
Toledo	16·7	76	e 3 48	− 2	—	—	e 7·5	—
Malaga	16·8	81	e 3 47	− 5	e 6 57	0	—	—
Granada	17·2	80	e 3 56	− 1	e 7 26	SS	8·8	10·7
Alicante	19·5	76	e 4 28	+ 4	e 8 4	SS	e 10·9	—
Rathfarnham Castle	20·5	33	i 4 39	+ 4	e 8 30	SS	—	11·4
Oxford	22·0	42	e 4 57	+ 6	e 8 54	+ 8	—	—
Bidston	22·0	36	e 4 56	+ 5	e 8 56	+10	e 10·9	—
Stonyhurst	22·6	36	—	—	e 9 4	+ 7	e 11·6	—
Kew	22·7	43	e 4 52	− 6	e 9 1	+ 2	e 10·6	—
Paris	23·0	52	e 4 59	− 2	e 9 12	+ 7	10·6	12·6
Edinburgh	23·5	32	—	—	e 9 36?	+22	—	—
Durham	23·6	35	—	—	9 19	+ 3	—	13·6
Uccle	24·8	47	e 5 14	− 4	e 9 50	+13	e 11·6	—
De Bilt	25·7	45	e 5 28	+ 2	e 10 24	+31	e 12·1	14·1
Strasbourg	26·2	54	e 5 49	+18	e 10 33	+31	e 12·6	—
Stuttgart	27·2	55	e 5 48	+ 8	e 10 18	0	e 13·6	—
Cheb	29·5	51	—	—	e 10 36?	−20	—	18·1
Triest	30·0	55	−0 39	?	e 9 47	?	e 16·4	—
Copenhagen	31·0	41	—	—	11 18	− 2	15·6	—
Pulkovo	41·2	39	7 39	− 3	14 0	+ 6	20·6	25·1
Sverdlovsk	57·2	41	e 9 41	− 4	e 17 39	0	27·1	—
Tashkent	69·2	53	—	—	e 20 2	− 9	e 33·6	43·1

Additional readings and note :—
Angra do Heroismo iPP = +30s. = P_g +0s., iSS = +58s. = S_g +5s.
Toledo readings given as for 29d.
Malaga e = +4m.37s., +5m.5s., +6m.17s., +7m.9s. = SS +2s., and +8m.19s.
Bidston e = +3m.29s.
Tashkent e = +28m.6s. and +32m.6s.
Long waves at other European stations.

April 27d. Readings also at 3h. (Arisan, Karenko, Taityu, and Taihoku), 7h. (Berkeley), 9h. (Branner, Berkeley (2), and Lick), 11h. (Edinburgh), 12h. (Tiflis), 14h. (Erevan, Ksara, and Tiflis), 16h. (La Paz and Sucre), 17h. (Bombay, Sverdlovsk, and Tashkent), 18h. (Taityu), 19h. (Wellington), 20h. (Karenko (2), Taityu (2), and Taihoku), 22h. (Tiflis), 23h. (Taihoku, Taityu, Arisan, Tiflis, Christchurch, and Wellington).

April 28d. Readings at 0h. (Medan), 1h. (Tacubaya), 3h. (Tiflis), 5h. (Apia and Christchurch), 6h. (Batavia, Medan, Arisan, Taihoku, Taityu, and Taito), 7h. (Sverdlovsk, Sofia, Tiflis, Wellington, and New Plymouth), 12h. (Sumoto), 13h. (Sverdlovsk, Nanking, Nagasaki, and Sumoto), 14h. (Wellington and Nanking), 15h. (Malaga), 16h. (La Paz), 20h. (Tiflis and Mizusawa).

April 29d. 3h. 52m. 45s. Epicentre 24°·8N. 120°·4E. (as on 25d. 5h.). X.

	△	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Taityu	0·7	160	0 8	− 2	0 16	− 2
Taihoku	1·1	77	0 17	+ 1	0 31	S*
Arisan	1·3	166	0 23	P_g	e 0 36	S*
Karenko	1·4	131	e 0 21	+ 1	0 34	− 2
Takao	2·1	180	e 1 19	?	—	—
Taito	2·1	164	e 0 38	P_g	1 1	S*

Long waves at Nanking.

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April 29d. 11h. Readings for which no determination has been made :—

Perth 41m.30s., PP =41m.47s., PPP =41m.57s., i =43m.50s., S =46m.5s., L = 48m.51s.
Malabar P =43m.35s., iS =47m.9s.
Batavia P =43m.41s., iS =47m.18s.
Manila iPEZ =43m.51s.a, SEZ =48m.14s.
Medan P =46m.48s.
Frunse e =49m.36s.
Tashkent eP =50m.8s., eS =59m.22s., M =81m.48s.
Samarkand e =50m.15s.
Melbourne i =50m.44s., i =53m.0s., L =55·3m., M =57·7m.
Sverdlovsk iP =51m.15s., i =51m.50s., e =54m.33s., iS =61m.22s., L =77m.; epicentre 20°S. 30°E.
Sydney e =51m.15s., L =57m.45s., M =59m.0s.
Baku e =51m.25s., eL =61m.30s.
Riverview e =51m.30s., e =55m.18s., M =57m.16s.
Grozny eP =51m.42s., S =62m.16s.
Tiflis e =51m.43s., e =62m.23s., e =62m.55s.
Bombay e =57m.
Pasadena iPZ =57m.19s.
Mount Wilson ePZ =57m.19s.
Tinemaha iPZ =57m.19s.
Riverside ePZ =57m.20s.
Oak Ridge i =58m.4s., i =61m.33s.
Stuttgart ePZ =58m.21s., e =67m.35s.
La Paz ePN =58m.31s.

Long waves at Hong Kong.

April 29d. 19h. 27m. 14s. Epicentre 30°·8N. 15°·5E. (as on 20d. 5h.). R.3.

A = +·828, B = +·230, C = +·512.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Tunis	7·5	327	—	—	e 3 14	+ 3	—	—
Chur	16·7	344	e 3 53	+ 3	—	—	—	—
Granada	17·1	298	e 3 36	−19	e 7 6	+ 2	8·8	—
Zurich	17·4	344	e 3 59	0	—	—	—	—
Neuchatel	17·5	342	e 4 0	0	—	—	—	—
Vienna	17·5	3	e 4 6	PP	—	—	—	—
Basle	17·9	346	e 4 4	− 1	—	—	—	—
Stuttgart	18·6	349	e 4 9	− 5	e 7 34	− 4	e 12·4	—
Cheb	19·4	356	—	—	e 7 58	+ 4	e 9·8	11·8
Paris	20·6	334	e 4 36	0	—	—	12·8	—
Uccle	21·7	340	—	—	e 8 46	+ 6	—	—
De Bilt	22·6	345	—	—	e 9 22	SS	—	—
Copenhagen	25·0	356	—	—	9 52	+11	12·8	—
Sverdlovsk	40·5	37	—	—	e 16 30	SS	20·3	—
Tashkent	44·0	59	—	—	e 17 22	SS	—	40·1

Additional readings :—
Granada iPP = +3m.58s. =P +3s.
Long waves at Strasbourg and Almeria.

April 29d. 20h. Readings for which no determination has been made :—

Seattle e =6m.57s.
Tucson e =9m.24s., i =9m.42s., i =9m.54s., i =10m.16s., iL =10m.39s.
Branner ePE =10m.2s., eN =14m.17s.
Berkeley eZ =11m.52s., eE =12m.2s., eN =12m.7s., iEN =12m.39s., eZ = 13m.27s., iN =13m.32s., iN =14m.34s., iE =14m.47s., eZ =14m.48s.
Florissant iPE =13m.5s., iSN =17m.17s., eLN =19m.52s.
St. Louis iPEN =13m.7s., eL =19m.52s.
Little Rock eN =13m.8s., eN =18m.39s., iN =18m.55s.
Bozeman e =16m.12s.
Philadelphia e =25m.8s., eL =25m.50s.
Long waves at Ukiah.

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April 29d. 23h. Readings for which no determination has been made :—

Taito eP =19m.58s., eS =20m.23s.
Arisan iP =20m.5s.
Takao eP =20m.21s., S =20m.33s.
Taityu P =20m.22s.
Karenko eP =20m.24s.
Kosyun P =20m.40s.

April 29d. Readings also at 2h. (Balboa Heights), 7h. (Hamburg), 8h. (La Paz), 10h. (Neuchatel), 15h. (Baku, Ksara, and Tiflis), 17h. (Oak Ridge), 18h. (Oak Ridge), 19h. (Toledo), 20h. (Paris, Strasbourg, Scoresby Sund, Sverdlovsk, and Nagoya), 21h. (Tashkent and Oak Ridge), 22h. (Lick), 23h. (Manila).

April 30d. 8h. 33m. 28s. Epicentre 24°·8N. 120°·4E. (as on 29d. 3h.). R.3

	△	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Taityu	0·7	160	0 12	+ 2	—	—
Taihoku	1·1	77	0 15	− 1	0 26	− 2
Arisan	1·3	166	e 0 18	0	e 0 35	+ 2
Karenko	1·4	131	e 0 19	− 1	—	—
Taito	2·1	164	e 0 34	P*	e 1 2	S*

April 30d. Readings also at 0h. (Manila, Tashkent, and Sverdlovsk), 2h. (Florence, Prato, and Triest), 4h. (Lick), 5h. (Manila and Sverdlovsk), 8h. (Algiers, Sverdlovsk, Tashkent, and Triest (2), 11h. (Nanking), 12h. (Malaga), 13h. (Lick), 17h. (Prato), 18h. (Neuchatel), 20h. (Oak Ridge).

May 1d. 2h. Readings for which no determination has been made :—

Takao P =9m.0s.
Arisan eP =9m.1s., S =9m.10s.
Taito P =9m.4s., S =9m.16s.
Karenko eP =9m.5s., S =9m.14s.
Taityu P =9m.11s.
Kosyun P =9m.29s.

May 1d. 4h. Readings for which no determination has been made :—

Bombay eE =32m.
Sofia eP =32m.52s., eL =32m.39s., M =34m.7s.
Bucharest ePE =33m.42s., SEN =35m.0s.
Zagreb eP =33m.59s., eS =36m.53s., M =37m.42s.
Baku eP =34m.5s., eS =35m.8s., L =36m.42s.
Belgrade eP =34m.5s., e =35m.24s., eS =36m.12s., e =36m.51s.
Triest eP =35m.0s., eS =37m.8s., i =37m.24s., e =37m.31s., iSsS =37m.45s., e =38m.38s., i =38m.53s.
Zurich eP =35m.1s.
Grozny eP =35m.6s., e =36m.49s.
Tashkent e =35m.40s., eL =40m., M =41m.54s.
Piacenza e? =36m.34s., ME =44m.0s.
Florence P =36m.40s., S =37m.45s., M =38m.25s.
Padova eP =38m.27s.
Sverdlovsk e =38m.51s., e =41m.36s., L =47m.
Pulkovo eS =40m.39s., L =43m., M =44m.42s.
Long waves at Bidston, Edinburgh, and other European stations.

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May 1d. 10h. 24m. 44s. Epicentre 39°·6N. 43°·1E. N.1.

A = + ·563, B = + ·526, C = + ·637 ; D = + ·683, E = − ·730 ;
G = + ·465, H = + ·436, K = − ·770.

	Δ	Az.	P.	O − C.	S.	O − C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Erevan	1·2	60	i 0 12	− 5	i 0 26	− 5	—	0·5
Tiflis	2·5	29	0 24	−12	—	—	1·8	—
Grozny	4·2	26	0 53	− 7	1 43	− 5	—	2·5
Piatigorsk	4·5	358	e 0 49	−15	—	—	—	—
Sotchi	4·7	323	1 5	− 2	2 11	S*	—	2·9
Baku	5·3	81	i 1 16	+ 1	i 2 16	+ 1	—	—
Theodosia	7·9	310	1 50	− 2	3 18	− 3	—	—
Ksara	8·1	225	e 2 9	P*	3 43	S*	—	—
Yalta	8·3	310	1 52	− 6	3 26	− 5	—	—
Simferopol	8·5	305	1 57	− 3	3 39	+ 3	—	—
Sebastopol	8·7	302	—	—	3 46	+ 5	—	—
Bucharest	13·5	298	e 4 15	+66	5 44	+ 5	—	—
Helwan	13·7	228	3 23	+12	6 12	+28	—	10·1
Sofia	15·1	290	e 3 34	+ 4	i 6 36	+19	8·5	9·6
Moscow	16·6	347	i 3 36	−13	6 36	−16	7·4	9·6
Lemberg	16·9	315	e 4 0	+ 7	e 7 18	SS	—	9·9
Belgrade	17·6	295	4 0	− 2	i 7 32	SS	e 11·9	—
Samarkand	18·4	83	4 8	− 3	7 38	+ 5	11·5	—
Budapest	19·0	303	4 18	− 1	8 0	SS	12·3	16·3
Tashkent	20·0	77	i 4 35	+ 5	i 8 15	+ 9	—	13·0
Tchimkent	20·1	73	i 4 27	− 4	8 16	+ 8	—	—
Sverdlovsk	20·7	27	i 4 28	− 9	i 8 7	−13	11·8r	14·3
Zagreb	20·7	298	e 4 37a	0	e 8 32	+12	—	—
Vienna	20·9	304	i 4 37	− 2	e 8 44	SS	—	8·9
Graz	21·2	301	i 4 40	− 2	e 8 46	SS	e 11·3	13·8
Königsberg	21·4	323	i 4 45	+ 1	i 8 52	SS	e 11·3	13·3
Messina	21·4	303	4 48	+ 4	8 43	+ 9	—	14·5
Pulkovo	21·7	343	i 4 42	− 6	e 8 25	−15	11·3	12·8
Laibach	21·8	298	5 0	+11	9 1	SS	—	—
Capodimonte	21·9	285	e 5 4	PP	e 8 29	−15	17·3	—
Andijan	22·3	78	e 4 51	− 3	e 9 7	+15	—	—
Triest	22·3	297	i 4 53a	− 1	i 9 0	+ 8	—	14·2
Prague	22·7	308	e 5 0	+ 2	9 9	+10	e 12·3	15·3
Padova	23·6	296	e 5 8	+ 2	9 15	− 1	—	—
Frunse	23·8	72	e 5 14	+ 6	9 40	SS	—	—
Cheb	23·9	308	(e 5 9)	0	(e 9 30)	+ 9	(e 14·3)	(16·3)
Florence	24·0	292	i 5 16a	+ 6	9 45	+22	—	11·3
Prato	24·1	291	i 5 16	+ 5	i 9 36	+11	e 12·4	15·9
Leipzig	24·3	309	e 5 8	− 5	e 9 34	+ 6	e 14·3	17·4
Jena	24·6	308	e 5 16	0	e 9 44	+10	e 11·3	16·6
Piacenza	25·1	295	5 42	+21	i 10 3	+20	17·3	18·5
Chur	25·3	299	i 5 22	− 1	e 9 50	+ 4	—	—
Almata	25·5	69	5 26	+ 1	9 54	+ 4	—	—
Stuttgart	25·7	303	5 26	0	i 9 57	+ 4	e 15·3	17·3
Göttingen	25·7	310	i 5 26	0	i 9 59	+ 6	14·1	—
Upsala	25·8	330	e 5 31	+ 4	i 9 56	+ 1	12·3	18·8
Copenhagen	25·8	317	5 26	− 1	9 55	0	12·3	—
Zurich	26·0	301	e 5 28a	− 1	e 10 6	+ 8	—	—
Karlsruhe	26·2	304	5 59	PP	10 16?	+14	14·3	—
Hamburg	26·3	313	e 5 32k	0	e 10 7	+ 4	—	16·1
Strasbourg	26·6	301	5 33a	− 2	i 10 21	+12	e 14·3	16·8
Basle	26·6	301	i 5 35	0	e 10 23	+14	—	—
Neuchatel	27·0	299	e 5 39	+ 1	e 10 21	+ 6	—	—
Semipalatinsk	28·1	54	e 6 25	PP	—	—	—	—
De Bilt	28·8	310	5 55	+ 1	10 47	+ 2	e 14·3	19·5

Continued on next page.

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		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Uccle		29·0	306	5 57	+ 1	i 10 53	+ 5	14·3	21·5
Dehra Dun		29·9	96	10 26	?	13 26	?	19·4	22·3
Paris		30·1	302	e 6 16?	+10	(11 16?)	+10	11·3	20·3
Barcelona		30·9	288	e 5 32	?	—	—	e 12·3	21·4
Bergen		31·2	326	e 7 4	+48	e 12 26	+63	—	—
Algiers		31·3	279	e 6 40	+23	e 12 17	+53	e 14·3	—
Agra		31·5	103	e 6 15	− 3	11 30	+ 2	15·6	—
Kew		32·0	306	e 6 22	− 1	i 11 35	0	e 13·3	19·8
Tortosa		32·2	287	5 45	−39	—	—	—	17·8
Oxford		32·7	307	—	—	i 11 41	− 5	e 17·4	22·3
Bombay		32·9	120	e 6 41	+10	i 12 1	+12	16·6	21·9
Durham		33·2	312	—	—	11 53	− 1	—	23·4
Stonyhurst		33·6	311	—	—	e 12 4	+ 4	22·6	24·0
Alicante		33·6	284	e 6 59	+22	e 12 36	+36	e 15·2	—
Bidston		33·9	310	—	—	i 11 55	− 9	e 16·3	20·1
Edinburgh		34·3	314	e 7 54	PP	e 12 10	− 1	19·3	26·8
Almeria		35·5	281	e 7 5	+12	i 12 34	+ 5	e 17·3	—
Rathfarnham Castle		35·8	309	e 6 42	−14	i 12 27	− 6	17·9	21·3
Toledo		35·8	287	e 6 48	− 8	e 12 40	+ 7	—	—
Granada		36·2	281	e 6 59	− 1	i 12 45	+ 6	17·2	20·3
Malaga		37·0	282	7 10	+ 4	—	—	17·4	21·0
Hyderabad		37·8	114	7 30	+17	13 10	+ 7	17·6	25·1
San Fernando		38·5	282	e 8 10	+51	i 13 21	+ 7	17·3	—
Serra do Pilar		38·8	291	11 16?	?	—	—	—	—
Calcutta	R.	41·9	99	e 7 49	+ 1	14 8	+ 3	e 19·9	—
Kodaikanal	E.	42·3	123	e 7 58	+ 7	e 14 21	+11	20·3	—
Scoresby Sund		44·8	335	i 8 9a	− 2	14 46	− 1	—	—
Colombo		46·4	124	8 45	+21	—	—	—	30·4
Chiufeng		54·4	64	e 9 23	− 1	e 16 56	− 5	26·5	34·4
Tananarive		58·6	175	—	—	17 16	−41	30·3	33·8
Nanking		60·0	72	e 10 0	− 4	18 19	+ 3	e 30·7	38·7
Hong Kong		61·8	83	18 38	S	(18 38)	− 1	—	36·9
Zi-ka-wei		62·4	70	e 10 18	− 3	—	—	—	40·9
Vladivostok		63·5	55	—	—	e 18 59	− 2	25·9	43·1
Manila		71·5	86	11 23	+ 3	20 44	+ 5	—	41·3
Batavia		74·4	111	—	—	e 21 40	PS	—	—
Cape Town		77·0	201	—	—	21 50	+ 7	—	—
Ottawa		78·9	322	—	—	e 22 0	− 4	e 32·3	—
Philadelphia		82·5	317	—	—	e 22 35	[− 5]	e 36·2	—
Sitka		83·4	0	—	—	e 22 46	[− 1]	42·9	—
Georgetown		84·3	318	e 12 26	− 4	i 22 51	[− 3]	e 39·3	—
Florissant		90·7	325	—	—	e 23 52	−11	e 41·9	—
St. Louis		90·8	326	—	—	e 23 34	[− 3]	e 40·9	—
Ukiah		100·3	350	—	—	e 52 52	?	57·3	—
Tucson		104·2	337	—	—	e 27 32	PS	50·8	—

Additional readings and notes :—
Erevan PsP = +16s., PP = +22s.
Grozny P* = +1m.0s., P_g = +1m.4s., PP = +1m.9s., i = +1m.23s.
Sotchi P* = +1m.15s., P_g = +1m.21s., S* = +1m.59s.
Ksara iSsS = +4m.45s.
Sofia i = +12m.42s.
Lemberg ePN = +4m.4s.
Budapest PP = +4m.29s., PPP = +4m.56s., SS = +8m.26s., SSS = +8m.43s.
Sverdlovsk L_q = +9m.40s.
Zagreb eE = +4m.59s., eEZ = +5m.18s., e = +6m.5s., +8m.57s., and +14m.16s.
Vienna iE = +6m.22s.
Königsberg iPP = +5m.5s., iPPPZ = +5m.21s., e = +6m.39s., eN = +7m.31s., iP_gP? = +8m.35s. =S +1s., eE = +8m.39s., eE = +9m.0s. =SS −1s., eZ = +9m.37s., eZ = +9m.58s., eN = +10m.6s.
Laibach e = +5m.46s.
Triest iPP = +5m.11s., iPPP = +5m.33s., iPS = +9m.10s., i = +9m.30s. and +11m.31s.
Cheb readings have been *diminished* by 2m.
Leipzig iPPE = +5m.38s., iE = +6m.31s. and +7m.5s., eSE = +9m.9s.

Continued on next page.

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Jena e = +10m.32s.
Piacenza PP = +7m.31s., PS = +10m.34s. =SS+2s., SS = +12m.33s.
Stuttgart eEZ = +5m.48s., ePPP = +6m.29s., iZ = +10m.6s.
Göttingen +6m.4s. =PPP+0s., +6m.32s. and +6m.54s.
Copenhagen +6m.22s. and +10m.3s.
Hamburg eSE = +10m.10s.
Strasbourg iPP = +6m.9s., iPPP +6m.36s., i = +7m.17s., +10m.52s., and +11m.9s. =SS+1s., iSS = +11m.42s., i = +13m.49s.
Semipalatinsk e = +13m.28s.
Uccle iSS = +12m.19s.
Agra PP = +7m.11s., SS = +13m.18s.
Kew iPP = +7m.44s.
Bombay PPE = +7m.39s.
Rathfarnham Castle i = +7m.45s.
Granada PP = +8m.0s., PPP = +8m.36s.
Malaga e = +7m.21s., PP = +8m.4s., PPP = +8m.44s., SS = +14m.47s.
San Fernando PP = +9m.29s. =P_cP −8s.
Calcutta PPP = +9m.47s., SSS = +17m.28s.
Kodaikanal iSSS = +17m.49s.
Scoresby Sund +18m.4s. =S_cS −7s.
Chiufeng iS = +17m.8s.
Tananarive SSE = +20m.47s.
Nanking eSSS = +25m.29s., e = +28m.22s.
Hong Kong PP = +19m.56s. =S_cS −9s., S = +25m.23s.
Cape Town E = +20m.4s., N = +22m.16s. =PS+5s., E = +22m.54s., +27m.8s., and +35m.16s., EN = +38m.58s., E = +45m.16s., N = +45m.53s.
Philadelphia eSS = +27m.38s.
Sitka eSS = +28m.16s., e = +41m.36s.
Georgetown eSS = +28m.26s. ; T_0 =10h.24m.22s.
Florissant ePP?E = +16m.19s. ; T_0 =10h.24m.44s.
St. Louis eSN = +23m.59s., ePSE = +24m.53s.
Tucson e = +41m.10s.
Long waves at Perth, Sydney, Chicago, Bozeman, Huancayo, Keizyo, and Zinsen.

May 1d. 14h. 7m. 36s. Epicentre 24°·8N. 120°·4E. (as on April 30d.). X.

A = −·459, B = +·783, C = +·419.

	△	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Taityu	0·7	160	0 14	+ 4	0 21	S*
Taihoku	1·1	77	0 12	− 4	0 24	− 4
Arisan	1·3	166	e 0 19	+ 1	0 34	+ 1
Karenko	1·4	131	e 0 13	− 7	e 0 28	− 8
Taito	2·1	164	0 31	+ 1	0 55	+ 1
Takao	2·1	180	e 0 52	S	(e 0 52)	− 2
Nanking	7·4	348	—	—	e 4 5	S_g

May 1d. **Readings also at 0h. (Tucson and San Juan), 3h. (Balboa Heights), 4h. (Florence (2)), 5h. (Grozny), 7h. (Tucson), 8h. (Capodimonte, Granada, Trieste, and Wellington), 9h. (Apia, Paris, and Strasbourg), 10h. (Almeria, Erevan (7), Grozny (4), Malaga, Piatigorsk, Sebastopol, Simferopol, Theodosia, and Yalta), 11h. (Chur, Erevan (3), Grozny (3), Ksara, Piatigorsk (2), Sverdlovsk, Vienna, and Zurich), 12h. (Erevan), 13h. (Erevan (2)), 14h. (Baku, Grozny (2), Ksara, Sverdlovsk, Tashkent, Tiflis (3), Yalta, Bombay, Kodaikanal, and Hong Kong), 15h. (Erevan, Grozny (2), Ksara, and Tiflis (3)), 16h. (Erevan, Grozny, Tiflis, Apia, and Taityu), 17h. (Erevan, Grozny, Tiflis (2), and Wellington), 19h. (Erevan and Tiflis (2)), 20h. (Serra do Pilar), 21h. (Erevan (3) and Tiflis (2)), 23h. (Erevan and Tiflis).**

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May 2d. 8h. Readings for which no determination has been made :—

Granada e = 10m., e = 21m.
Belgrade eP = 18m.4s., e = 19m.16s., e = 21m.18s.
Sofia e = 18m.9s., e = 19m.55s.
Capodimonte eP = 18m.47s., eS = 22m.12s.
Zagreb e = 20m.2s., e = 21m.49s., e = 22m.36s.
Florence e = 20m.15s., L = 22m.30s., M = 23m.0s.
Triest e = 20m.23s., i = 22m.38s., i = 23m.34s.
Pulkovo eP = 22m.15s., eS = 26m.7s., L = 29m., M = 31m.30s.
Budapest e = 22m.30s., L = 24m.
Prague e = 24m.30s., M = 26m.
Hamburg e = 26m.
Baku e = 26m.18s., eL = 30m.30s.
De Bilt e = 32m.30s.
Long waves at Kew and other European stations.

May 2d. 10h. Readings for which no determination has been made ; probably more than one shock.

Baku eP = 15m.50s., eS = 16m.51s., L = 18m.12s.
Andijan eP = 17m.27s., eS = 20m.12s.
Erevan eP = 18m.2s., S = 20m.7s.
Grozny eP = 18m.21s., e = 20m.4s.
Piatigorsk eP = 18m.56s., e = 20m.41s., e = 21m.46s.
Sverdlovsk eP = 19m.15s., S = 23m.18s., L = 26m.30s. ; epicentre 37°N. 44°·5E.
Ksara eP = 20m.55s., eS = 22m.33s.
Pulkovo eP = 20m.56s., eS = 25m.14s., L = 28m.30s.
Theodosia eP = 22m.8s., S = 25m.55s.
Yalta eP = 22m.11s.
Simferopol eP = 22m.31s.
Sebastopol eP = 22m.36s.
Tiflis e = 23m.
Frunse e = 23m.0s.
Triest e = 28m.1s., e = 31m.6s.
Long waves at Copenhagen, De Bilt, Paris, Piacenza, and Strasbourg.

May 2d. 20h. 57m. 30s. (I) } Epicentre 39°·8N. 43°·5E. N.3.
21h. 56m. 26s. (II) } X.

A = +·557, **B** = +·529, C = +·640 ; D = +·688, E = −·725 ;
G = +·464, H = +·441, K = −·768.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
I **Erevan**	0·8	62	0 12	+ 1	0 26	S*	—	0·5
II	0·8	62	i 0 11	0	0 25	S*	—	0·6
I **Tiflis**	2·1	27	e 0 27	− 3	(e 0 49)	− 5	e 0·8	—
II	2·1	27	0 26	− 4	(i 0 49)	− 5	—	—
I **Grozny**	3·9	26	e 1 10	P_g	—	—	—	—
II	3·9	26	e 0 57	+ 1	e 1 47	+ 7	—	1·9
I **Piatigorsk**	4·2	355	e 1 0	0	1 45	− 3	—	—
II	4·2	355	e 1 4	+ 4	e 1 49	+ 1	—	—
I **Sotchi**	4·7	320	e 1 10	+ 3	e 2 14	S*	—	—
II	4·7	320	e 1 11	+ 4	e 2 15	S*	—	—
II **Baku**	5·0	82	e 1 33	P_g	e 2 35	S_g	3·3	4·2
II **Theodosia**	8·0	309	—	—	e 4 54	?	—	—
II **Ksara**	8·5	226	e 2 59	P_g	e 4 47	S_g	—	—
II **Tashkent**	19·6	78	—	—	i 8 3	+ 5	10·5	13·0
II **Pulkovo**	21·6	344	e 4 42	− 4	e 8 39	+ 1	11·5	—

Additional readings :—
Erevan II PsP = +15s., PP = +21s.
Piatigorsk I S_g = +1m.54s., II eS_g = +1m.58s.
Long waves at Copenhagen,

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May 2d. Readings also at 0h. (Erevan, Grozny, Tiflis, and Triest), 1h. (Andijan), 2h. (Amboina and Tiflis), 5h. (Erevan, Grozny, and Tiflis), 7h. (Erevan, Piacenza, Tiflis, Taityu, Christchurch, and Wellington), 8h. (Santiago, Arisan, Karenko, and Taihoku), 9h. (Bucharest), 10h. (Amboina, Grozny, and Sotchi), 11h. (Baku, Erevan, Grozny, Ksara, Piatigorsk, Sotchi, Strasbourg, Sverdlovsk, Tiflis, and Nagoya), 12h. (Belgrade, Capodimonte, Triest, Uccle, and Lick), 13h. (Amboina and Lick), 16h. (Baku, Erevan, Grozny, Ksara, Sotchi, and Tiflis), 18h. (Berkeley, Branner, and Lick), 20h. (Baku, De Bilt, Granada, Ksara, Paris, Strasbourg, Tashkent, Tiflis, Uccle, and Wellington), 21h. (Branner, Berkeley, Lick, San Francisco, and Ukiah), 22h. (Tiflis), 23h. (Berkeley, Branner, and Lick).

May 3d. 15h. 11m. 31s. Epicentre 35°·7N. 134°·8E. (as on 1934 Oct. 5d.). R.3.

A = −·572, B = +·576, C = +·584.

	△	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Toyooka	0·2	175	0 3	0	0 6	+ 1	0·1
Kobe	1·1	163	i 0 15	− 1	i 0 28	0	0·5
Osaka	1·2	154	0 18	+ 1	0 34	S*	0·6
Sumoto	1·4	177	0 21	+ 1	0 39	S*	0·7
Nagoya	1·8	107	i 0 30	P_g	i 0 48	+ 2	1·0

Additional readings :—
Kobe PE = +17s.
Osaka i = +1m.34s.

May 3d. 23h. 47m. 30s. Epicentre 23°·5N. 123°·2E. (as on 1934 Oct. 28d.). R.3.

Taihoku gives 23°·8N. 123°·7E.

A = −·501, B = +·767, C = +·399.

	△	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Karenko	1·5	290	e 0 19	− 2	e 0 39	0
Taito	2·0	246	i 0 28	− 1	i 0 55	S*
Taihoku	2·1	315	e 0 37	P_g	1 2	S*
Arisan	2·1	272	i 0 41	P_g	i 1 9	S_g
Kosyun	2·1	234	0 48	S	1 19	?
Takao	2·8	249	0 54	P_g	1 36	?
Nanking	9·4	335	e 1 54	−19	e 4 22	S*
Chiufeng	17·6	342	e 3 59	− 3	—	—

Long waves at Pulkovo and Sverdlovsk.

May 3d. Readings also at 0h. (Erevan, Grozny, Ksara, and Tiflis), 1h. (Ksara, Tiflis, Adelaide, Melbourne, and Riverview), 2h. (Christchurch, Glenmuick, and Wellington), 3h. (Tiflis (2)), 5h. (Cheb, Copenhagen, De Bilt, Paris, Strasbourg, Stuttgart, Riverside, Tinemaha, and Tucson), 7h. (Amboina, Mount Wilson, Pasadena, Riverside, Santa Barbara, and Tinemaha), 10h. (Baku, Grozny, Ksara, Piatigorsk, and Sverdlovsk), 11h. (Batavia), 12h. (Medan), 13h. (Alicante, New Plymouth, and Wellington), 15h. (Lick), 16h. (Pasadena and Tinemaha), 18h. (New Plymouth and Wellington), 19h. (Erevan and Tiflis), 20h. (Sumoto), 22h. (Tiflis), 23h. (Baku, Grozny (2), Moscow, and Tashkent).

May 4d. 0h. Readings for which no determination has been made :—

Tashkent e = 22m.42s., e = 23m.6s., e = 23m.29s., e = 23m.36s., iL = 24m.6s., M = 24m.36s.
Samarkand P = 24m.0s., iPP = 24m.17s., S = 24m.47s., S* = 24m.52s., S_g = 25m.4s., M = 25m.25s.
Andijan eP = 24m.12s., eS = 25m.20s.
Tchimkent e = 24m.29s., iS = 25m.28s., i = 26m.0s.
Frunse e = 26m.30s.
Sverdlovsk e = 27m.39s., e = 34m.13s., L_q = 35m., L_r = 36m.18s.
Long waves at Baku and Copenhagen.

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May 4d. 23h. 2m. 30s. Epicentre 24°·0N. 121°·3E. (as on 1933 April 19d.). R.2.

A = −·475, B = +·781, C = +·407 ; D = +·854, E = +·520 ;
G = −·211, H = +·348, K = −·914.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Karenko		0·3	93	e 0 17	?	e 0 31	?	—	—
Taityu		0·6	285	0 8	− 1	0 13	− 2	—	—
Arisan		0·7	222	i 0 22	S	0 42	?	—	—
Taihoku		1·1	11	0 16	0	0 28	0	—	—
Taito		1·2	186	0 33	S	1 3	?	—	—
Takao		1·7	210	0 40	S	1 8	?	—	—
Hokoto		1·7	254	e 0 26	+ 2	0 47	+ 3	—	—
Kosyun		2·1	195	0 44	P_g	1 27	?	—	—
Hong Kong		6·8	257	1 37	0	2 54	+ 1	3·6	4·2
Zi-ka-wei		7·1	1	e 1 38	− 3	3 28	S*	—	12·4
Nanking		8·4	345	1 51	− 8	3 32	− 2	4·0	9·2
Manila		9·4	182	2 31	+18	4 33	S*	5·7	—
Nagasaki		11·5	39	2 40	− 2	e 5 9	?	e 6·4	9·3
Hukuoka B		12·5	37	e 3 3	+ 8	e 6 51	S_g	—	—
Hukuoka		12·5	37	e 2 50	− 5	e 5 24	+ 9	e 6·9	—
Husan		12·9	29	3 4	+ 3	7 40	?	—	—
Taikyu		13·5	26	3 17	+ 8	7 11	S_g	8·4	—
Zinsen		14·2	17	e 3 19	+ 1	e 6 12	SS	e 7·4	9·1
Keizyo		14·4	18	—	—	7 21	?	—	—
Heizyo		15·5	13	e 7 41	L	—	—	(7·7)	—
Sumoto		15·7	46	e 3 38	0	—	—	—	—
Kobe		16·1	45	e 3 27	−16	e 6 53	SS	—	12·5
Osaka		16·3	46	3 13	−32	6 16	−29	8·7	11·7
Toyooka		16·4	42	(e 4 3)	+17	(e 6 45)	− 3	—	—
Chiufeng		16·7	346	i 3 48k	− 2	6 53	− 2	8·1	10·8
Nagoya		17·6	47	e 4 20	+18	—	—	—	—
Vladivostok		21·1	22	i 4 43	+ 2	e 8 40	+12	10·6	18·6
Medan		29·8	230	7 29	?	12 34	?	—	—
Calcutta	E.	30·2	274	e 5 42	−25	11 28	+21	16·2	19·2
Agra	E.	38·9	284	e 8 53	PP	—	—	—	—
Almata		41·1	310	e 8 45	+64	—	—	—	—
Frunse		42·7	308	e 8 40	+46	—	—	e 24·1	—
Andijan		43·9	305	e 8 28	+24	—	—	e 23·8	—
Bombay		45·2	273	—	—	e 14 57	+ 3	—	27·3
Tashkent		46·3	306	i 8 20	− 3	e 15 12	+ 3	24·4	29·7
Sverdlovsk		54·1	324	9 20	− 2	16 57	0	32·9r	35·1
Baku		61·0	304	e 9 11	−60	e 19 21	+52	34·0	42·8
Tiflis		64·6	307	e 10 37	+ 1	e 19 19	+ 4	38·7	42·6
Moscow		66·9	323	10 50	− 1	e 19 40	− 3	e 30·1	41·8
Pulkovo		69·9	328	e 11 10	0	20 14	− 6	40·5r	43·5
Ksara		73·3	300	i 11 31k	0	21 7	+ 7	—	—
Copenhagen		80·2	327	12 11	+ 2	22 16	− 2	39·5	—
Triest		84·4	318	e 12 20	−10	22 56	[+ 1]	e 39·5	47·2
Stuttgart		85·5	322	—	—	e 23 6	[+ 3]	46·5	55·5
De Bilt		85·7	327	e 12 37	0	e 23 15	0	e 45·5	55·4
Florence		86·8	317	12 30	−12	22 45	[−27]	—	52·5
Uccle		86·9	326	—	—	e 23 24	− 2	e 46·5	—
Piacenza		87·1	319	23 26	S	(23 26)	− 2	—	57·0

Additional readings and notes :—
Zi-ka-wei eN = +1m.44s., iE = +3m.43s., iN = +3m.48s. = S_g +0s., +3m.55s., +4m.44s., and +4m.50s., iE = +4m.59s., +5m.53s., and +6m.1s., iZ = +6m.20s., iE = +7m.30s., iZ = +7m.36s., iE = +7m.54s.
Sumoto eN = +8m.57s., eZ = +9m.5s., eE = +9m.51s.
Kobe ePE = +3m.29s., eZ = +8m.33s., eN = +9m.17s.
Toyooka SN = (+7m.27s.) ; all readings have been *diminished* by 3m.
Sverdlovsk L_q = +29m.6s.
Tiflis ePPS = +19m.57s., eSSS = +26m.37s., e = +32m.54s.
Pulkovo L_q = +37m.
Triest ePS = +23m.48s., e = +33m.15s.
Stuttgart e = +43m.30s.
Florence readings given for 5d.
Long waves at Bidston, Durham, Edinburgh, Kew, Stonyhurst, Rathfarnham Castle, Hyderabad, and other European stations.

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May 4d. 23h. 6m. 14s. Epicentre 24°·0N. 121°·3E. X.

(As above).

	Δ	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Taityu	0·6	285	(0 12)	+ 3	(0 19)	S*
Arisan	0·7	222	e 0 8	− 2	—	—
Tainan	1·4	225	e 0 21	+ 1	—	—
Kosyun	2·1	195	e 0 34	P*	0 56	+ 2

Taityu readings *increased* by 1m.

May 4d. Readings also at 0h. (Tiflis), 1h. (Mizusawa), 2h. (Baku, Copenhagen, Pulkovo, Tiflis, Triest, and Berkeley), 3h. (Malabar), 7h. (Tiflis), 8h. (Santiago), 16h. (Taihoku), 18h. (Jena and Santiago), 20h. (Branner), 21h. (Erevan, Tiflis, and Santiago), 22h. (Andijan (2)), 23h. (Taityu, Erevan, and Tiflis).

May 5d. 0h. 11m. 3s. (I) } Epicentre 36°·4N. 121°·3W. X.
0h. 38m. 7s. (II) } (as on 1935 Jan. 8d.). X.

A = − ·418, B = − ·688, C = + ·593.

	Δ	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
I Lick	1·0	343	e 0 14	0	e 0 22	− 4
II	1·0	343	i 0 16	+ 2	e 0 24	− 2
I Branner	1·3	325	i 0 20	+ 2	i 0 30	− 3
II	1·3	325	e 0 21	P_g	e 0 33	0
I Berkeley	1·7	332	e 0 26	P*	i 0 43	− 1
II	1·7	332	i 0 28	P_g	e 0 44	0

May 5d. 18h. Readings for which no determination has been made :—

Kobe P = 7m.28s., S = 7m.32s., M = 7m.33s.
Sumoto eEN = 7m.44s.
Manila PEZ = 16m.30s., SE = 20m.4s., M = 23m.55s.
Vladivostok e = 17m.46s.
Chiufeng e = 18m.47s.
Nanking P = 19m.0s., S = 23m.16s.
Sverdlovsk P = 23m.6s., S = 32m.45s., L = 47m.30s., M = 58m.24s.
Tashkent P = 23m.33s., S = 31m.52s., eL = 46m., M = 56m.0s.
Tinemaha ePZ = 24m.8s.
Haiwee eE = 24m.10s.
Pasadena ePZ = 24m.12s.
Mount Wilson ePZ = 24m.13s.
Riverside ePZ = 24m.14s.
Pulkovo e = 29m.55s., e = 34m.47s., e = 45m.8s., L = 60m.
Long waves at Hong Kong and other European stations.

May 5d. Readings also at 0h. (Santiago, Tiflis, and Kosyun (2)), 1h. (Santiago and Kosyun), 2h. (Taihoku and Taityu), 3h. (Copenhagen, Paris, and Strasbourg), 5h. (Manila and Tananarive), 8h. (Wellington and Nagoya), 9h. (Riverside and Tinemaha), 10h. (Kobe, Nagoya, Osaka, Sumoto, and Toyooka), 11h. (Piacenza), 13h. (Ksara, Prague, and Manila), 14h. (Andijan, Tashkent, Wellington, and Nagasaki), 15h. (Arisan, Karenko, Taityu, Taihoku, and Batavia), 18h. (Oaxaca), 19h. (Berkeley), 23h. (Philadelphia, Tucson, San Juan, Merida, Oaxaca, and Tacubaya).

May 6d. 0h. 47m. 24s. Epicentre 22°·5N. 121°·5E. (as on 1935 March 5d.). X.

A = − ·483, B = + ·788, C = + ·383.

	Δ	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Taito	0·4	308	e 0 8	+ 2	0 16	+ 6
Kosyun	0·9	234	0 11	− 2	0 22	− 1
Takao	1·2	276	0 14	− 3	—	—
Tainan	1·3	293	e 0 20	P*	—	—
Karenko	1·5	4	0 27	P_g	—	—
Taityu	1·8	335	0 26	0	—	—

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May 6d. 15h. 9m. 52s. Epicentre 24°·8N. 120°·4E. (as on 1d. 14h.). R.3.

A = −·459, B = +·783, C = +·419.

	△	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Taityu	0·7	160	0 8	− 2	0 16	− 2
Taihoku	1·1	77	0 16	0	e 0 28	0
Arisan	1·3	166	0 20	P_g	0 35	+ 2
Karenko	1·4	131	e 0 19	+ 1	e 0 34	− 2
Takao	2·1	180	0 39	P_g	—	—
Taito	2·1	164	e 0 35	P_g	1 1	S*
Kosyun	2·8	182	e 0 53	P_g	—	—

Long waves at Hong Kong.

May 6d. 17h. 40m. 25s. Epicentre 24°·8N. 122°·2E. (as on 1934 Oct. 12d.). X

A = −·484, B = +·768, C = +·420.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Taihoku	0·6	295	0 21	+12	0 30	+15	—	—
Karenko	1·0	210	e 0 14	0	e 0 19	− 7	—	—
Taityu	1·5	243	0 21	0	0 37	− 2	—	—
Arisan	1·8	220	i 0 27	+ 1	i 0 44	− 2	—	—
Taito	2·3	204	e 0 37	P*	e 1 4	S*	—	—
Takao	2·8	215	0 27	−13	0 59	−13	—	—
Hokoto	2·8	239	e 0 35	− 5	1 7	− 5	—	—
Kosyun	3·1	204	0 48	P*	1 30	S*	—	—
Nanking	7·8	339	2 5	P*	3 53	S*	4·6	5·4
Hong Kong	7·8	250	3 27	S	4 15	S_g	4·7	5·0
Nagasaki	10·3	38	e 2 51	+26	—	—	—	—
Manila	10·3	188	2 42	+17	4 44	+23	—	—
Husan	11·8	28	—	—	e 6 58	S_g	—	—
Chiufeng	16·1	343	e 3 51	PP	e 7 24	?	—	11·2
Sverdlovsk	54·0	324	e 9 34	+13	—	—	28·1	—
Pulkovo	69·7	328	—	—	e 20 23	+ 5	34·6	—

Additional readings :—
Nanking iN = +4m.24s.
Long waves at Copenhagen, Paris, Strasbourg, and Tashkent.

May 6d. Readings also at 0h. (Paris, Sverdlovsk, Strasbourg, Scoresby Sund, and Tashkent), 3h. (Pasadena and Tinemaha), 5h. (La Paz, Pasadena, Riverside, Tinemaha, and Sucre), 8h. (Sumoto), 9h. (Malaga), 10h. (Malaga), 11h. (Erevan, Granada, Malaga, Samarkand, and Tiflis), 12h. (Malaga and Malabar), 13h. (Malaga), 14h. (Malaga (2) and Tananarive), 15h. (Andijan and Tashkent), 17h. (Malaga), 19h. (Branner, Lick, Port au Prince, and San Juan), 20h. (La Paz, Halwee, Huancayo, Pasadena, Philadelphia, Tinemaha, Copenhagen, De Bilt, Paris, Sverdlovsk, Strasbourg, and Tashkent), 21h. (La Plata), 22h. (San Juan and Nagoya), 23h. (Nagoya).

May 7d. 1h. 4m. 38s. Epicentre 46°·4N. 10°·0E. (as on 1931 Nov. 28d.). X.

A = +·679, B = +·120, C = +·724.

	△	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Chur	0·5	325	i 0 6	− 1	i 0 15	+ 2
Zurich	1·4	314	e 0 19	− 1	e 0 34	− 2
Ravensburg	1·4	349	—	—	e 0 26	P_g
Basle	2·0	301	e 0 31	P*	e 0 55	S*
Neuchatel	2·2	286	e 0 38	P_g	e 1 7	S_g
Stuttgart	2·4	346	—	—	e 0 53	− 9

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May 7d. 5h. Readings for which no determination has been made. Samarkand suggests 42°·6N. 77°·4E.

Frunse P =17m.54s., P_g =17m.57s., PP =18m.5s., i =18m.20s., iS_g =18m.26s.
Almata iP_g =17m.54s., iS_g =18m.2s.
Andijan P =18m.20s., S* =19m.18s., S_g =19m.31s., M =19m.32s.
Tashkent P =18m.51s., e =20m.14s., iL =20m.25s., M =20m.54s.
Tchimkent P =18m.52s., S =20m.3s.
Samarkand e =20m.46s., e =21m.31s.
Sverdlovsk e =25m.59s., e =26m.5s., e =26m.19s., L =27m.24s.

May 7d. 5h. 55m. 28s. Epicentre 5°·6N. 126°·3E. (as on 1933 Sept. 25d.). R.2.

A = −·589, B = +·802, C = +·098; D = +·806, E = +·592;
G = −·058, H = +·079, K = −·995.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		9·5	169	2 19	+ 5	i 4 3	+ 2	6·5	--
Manila		10·4	330	i 2 33	+ 7	i 5 6	S*	6·4	7·8
Kosyun		17·2	340	4 3	+ 6	—	—	—	—
Taito		17·8	341	4 14	PP	—	—	—	—
Isigakizima		18·8	354	4 23	PP	—	—	—	—
Hong Kong		20·4	326	4 32	− 2	8 29	+15	10·4	13·2
Batavia		22·7	239	5 1	+ 3	e 8 53	− 6	—	—
Phu-Lien		24·4	310	e 5 13	− 1	e 9 37	+ 7	11·5	—
Zi-ka-wei		25·9	350	5 27	− 1	10 8	+11	13·7	18·9
Kagosima		26·3	7	5 33	+ 1	—	—	—	—
Nagasaki		27·3	7	e 6 20	PP	—	—	e 10·3	—
Nanking		27·4	346	i 5 41	− 1	i 10 26	+ 4	14·2	18·2
Kumamoto		27·5	8	5 44	+ 1	—	—	—	—
Medan		27·6	267	i 5 49	+ 5	—	—	—	—
Koti		28·7	13	5 36	−17	—	—	—	—
Husan		29·6	4	e 6 56	PP	10 55	− 3	—	—
Sumoto		29·8	14	e 6 4	+ 1	e 10 52	− 9	—	—
Kobe		30·2	15	e 6 8	+ 1	e 9 19	P_cP	—	19·8
Osaka		30·3	15	6 13	+ 5	11 29	+20	17·4	—
Taikyu		30·3	4	e 8 35	?	—	—	—	—
Kameyama		30·7	14	6 18	+ 7	—	—	—	—
Nagoya		31·1	17	e 6 12	− 3	—	—	—	—
Hunatu		32·0	19	6 24	+ 1	—	—	—	—
Hukusima		34·6	20	6 45	− 1	—	—	—	—
Chiufeng		35·6	347	6 53a	− 1	i 12 31	+ 1	17·1	21·8
Vladivostok		37·8	6	e 7 12	− 1	e 13 7	+ 4	18·5	27·1
Perth		38·9	193	11 32	?	—	—	—	—
Calcutta	E.	40·3	300	e 7 40	+ 5	13 41	0	—	—
Adelaide		42·2	165	e 7 58	+ 8	e 13 42	−27	—	28·2
Riverview		45·9	150	e 10 2	(0)	e 14 56	− 7	e 27·1	29·6
Sydney		45·9	150	—	—	e 14 56	− 7	28·9	30·5
Colombo		46·2	274	5 34	?	—	—	—	30·7
Melbourne		46·8	160	i 8 42	+15	i 15 5	−11	27·1	—
Kodaikanal	E.	48·6	279	e 7 32	−69	—	—	—	—
Agra	E.	50·6	301	e 8 53	− 3	16 5	− 4	—	33·4
Bombay		53·7	290	e 9 17	− 2	16 47	− 5	—	31·1
Frunse		59·3	318	e 10 22	+22	—	—	—	—
Tashkent		61·5	314	10 11	− 4	i 18 44	+ 8	e 29·0	40·0
Samarkand		63·0	313	e 10 23	− 2	—	—	—	—
Sverdlovsk		72·1	329	11 15	− 8	e 20 33	−13	33·5	44·6
Tiflis		79·9	312	e 12 2	− 5	e 22 2	−13	e 43·5	54·8
Moscow		84·6	325	12 25	− 6	22 54	[− 2]	e 42·5	—
Simferopol		87·6	316	—	—	e 23 3	[−14]	—	—
Yalta		87·6	316	—	—	e 23 3	[−14]	—	—
Sebastopol		88·0	314	—	—	e 23 7	[−13]	—	—

Continued on next page.

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Pulkovo	88·2	330	12 43	− 6	23 25	[+ 4]	46·5r	51·9
Sitka	89·7	33	—	—	e 23 40	[+ 9]	e 41·7	—
Copenhagen	98·4	330	—	—	24 8	[−10]	46·5	—
Hamburg	100·5	327	—	—	e 23 32?	[−56]	e 50·5	53·5
Cheb	100·6	325	—	—	e 24 32?	[+ 3]	e 53·5	62·5
Scoresby Sund	101·0	350	—	—	24 20	[−11]	40·5	—
Triest	101·4	320	—	—	i 24 21	[−12]	e 49·5	58·4
Florence	103·6	317	e 18 15	PP	e 24 32	[−11]	32·5	58·5
De Bilt	103·8	327	—	—	e 24 34	[−10]	e 50·5	56·0
Piacenza	104·2	320	—	—	24 32	[−14]	—	70·7
Paris	106·9	326	e 18 32?	PP	—	—	36·5	66·5
Oxford	107·4	330	—	—	e 24 53	[− 8]	e 54·5	60·5
Serra do Pilar	117·7	322	18 32?	[− 7]	—	—	—	—
Oak Ridge	129·2	16	i 19 3	[− 2]	—	—	—	—
Huancayo	157·7	108	e 19 46	[− 5]	e 44 26	SS	72·5	—
La Paz	162·2	129	20 1	[+ 5]	—	—	78·0	—

Additional readings :—
Hong Kong PP? = +5m.9s., SS = +8m.52s.
Nanking iN = +11m.32s. = SS +4s.
Sumoto ePN = +6m.11s., ePE = +6m.33s., eSN = +10m.0s.
Kobe ePE = +6m.19s., ePZ = +6m.35s., eZ = +7m.9s. = PPP +3s., eN = +7m.23s., eE = +7m.37s., SZ = +9m.10s., eSN = +9m.25s.
Osaka PP = +7m.46s., iN = +9m.19s.
Vladivostok ePP = +7m.49s.
Perth i = +12m.57s.
Adelaide i = +17m.42s. = S_cS −13s. and +21m.24s.
Riverview e?E = +7m.50s., eN = +18m.18s. = S_cS +0s., eE = +18m.22s.
Melbourne i = +18m.35s. = SS +11s.
Tiflis e = +21m.26s. and +22m.59s. = PS +12s.
Pulkovo SKS = +23m.7s., PS = +24m.5s., SS = +29m.14s., L_q = +42m.
Sitka e = +30m.2s.
Oak Ridge i = +22m.23s. = PKS.
La Paz PPZ = +24m.26s.
Long waves also at Bidston, Edinburgh, Kew, Stonyhurst, Cape Town, Wellington, Philadelphia, and other European stations.

May 7d. 16h. Readings for which H. P. Berlage in "A Provisional Catalogue of deep focus Earquakes, 1918-36" suggests T_0 16h. 35m. 25s., 7°S 120°E., depth of focus 500 km.

Amboina iP = 37m.21s., iS = 39m.2s.
Malabar P = 38m.6s., S = 40m.15s.
Batavia iP = 38m.10s., S = 40m.28s.
Nanking iPE = 47m.36s., eS? = 50m.8s.
Sverdlovsk eP = 48m.21s., eS = 55m.56s., L = 64m.
Santa Barbara ePZ = 53m.14s. a.
Tinemaha iPZ = 53m.15s.
Pasadena iPZ = 53m.16s. a.
Riverside iPZ = 53m.17s.
Mount Wilson ePNZ = 53m.17s.
La Jolla iPZ = 53m.19s.
Tashkent e = 53m.35s.
Oak Ridge i = 53m.57s.
Erevan e = 56m.27s.
Tiflis e = 56m.30s., e = 56m.36s.

May 7d. Readings also at 1h. (Wellington), 3h. (Batavia, Medan, Malabar, Sverdlovsk, Tashkent, Chiufeng, Nanking, and Hong Kong), 6h. (Tiflis and Nagoya), 7h. (Rathfarnham Castle, Florence (2), Triest, and Kobe), 8h. (Granada, Malaga, Toledo, and Prato), 9h. (Erevan and Tiflis), 10h. (Baku, Ksara, Paris, Sverdlovsk, Stuttgart, Strasbourg, Tiflis, Tashkent, Pasadena, Riverside, and Tinemaha), 11h. (Tiflis (2)), 12h. (Sofia), 14h. (Tiflis and La Jolla), 15h. (Andijan, Malaga, Pasadena, Riverside, and Tinemaha), 17h. (Erevan), 18h. (Sverdlovsk and Tashkent), 21h. (Barcelona), 22h. (Medan).

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May 8d. 15h. Readings for which no determination has been made :—
Andijan eP =23m.52s., S_g =24m.26s., M =24m.29s.
Tashkent eP =24m.2s., i =24m.38s., L =24m.54s., M =25m.6s.
Samarkand P =24m.14s., e =24m.52s., M =25m.14s.
Tchimkent P =24m.25s., e =25m.11s., M =25m.41s.
Frunse e =25m.16s., e =26m.12s.

May 8d. Readings for which no determination has been made :—
Ksara eP =20h.57m.6s., iS =58m.36s., iSsS =59m.23s.
Erevan eP =20h.57m.9s.
Tiflis eP =20h.57m.14s., e =57m.29s., L =59m.12s., M =59m.36s.
Grozny eP =20h.57m.37s.
Baku eP =20h.58m.38s., eS =21h.0m.35s., L =1m.30s., M =2m.6s.
Yalta e =20h.59m.15s.
Simferopol e =20h.59m.24s.
Huancayo eP =21h.0m.53s., eS =3m.37s., iS =3m.42s., eL =5m.22s.
Sverdlovsk e =21h.5m.27s., L =10m.
Tashkent e =21h.6m.35s., M =10m.30s.
Riverside iPZ =21h.8m.54s., eZ =9m.16s.
Pasadena ePNZ =21h.8m.58s., eZ =10m.10s.
Tinemaha iPZ =21h.9m.9s., eZ =10m.3s.
San Juan e =21h.14m.23s.

May 8d. Readings also at 0h. (Tiflis and Tortosa), 5h. (Andijan), 6h. (Husan), 8h. (Medan), 13h. (Wellington), 15h. (Montezuma and Taihoku), 16h. (Malaga), 17h. (Pasadena, Riverside, and Tinemaha), 19h. (Basle and Sofia), 20h. (La Paz and Sucre).

May 9d. 4h. Readings for which no determination has been made :—
Zi-ka-wei eZ =46m.11s., L =49m.30s., M =51m.21s.
Nanking eP =46m.41s.?, SN =50m.5s., LE =52m.40s.
Manila P =47m.13s., S =50m.25s., LE =52m.3s.
Chiufeng P =48m.16s.k, eEN =51m.20s., S?EN =51m.47s., MN =56m.49s.
Tashkent iP =53m.5s., e =60m.30s., eL =73m., M =78m.0s.
Sverdlovsk P =53m.50s., L_q =73m., L_r =80m.18s., M =80m.48s.
Long waves at Kew, Baku, Copenhagen, De Bilt, Hong Kong, Paris, Stuttgart, Strasbourg, Tiflis, Uccle, and Vladivostok.

May 9d. 9h. Readings for which no determination has been made :—
Toyooka P =(17m.)52s., S =18m.33s., M =18m.34s.
Kobe eN =17m.55s., iZ =18m.43s., eSE =18m.41s., M =18m.45s.
Nagoya iP =17m.57s., eS =18m.28s., ME =19m.43s.
Osaka P =17m.59s., S =18m.47s., M =18m.47s.
Sumoto ePEN =18m.4s., S =18m.48s., M =18m.50s., eE =19m.17s., eN =19m.26s.
Mizusawa iP =18m.20s., iS =19m.22s.
Hukuoka B eP =18m.25s., S =19m.32s.
Nanking i =20m.3s.
Chiufeng PEZ =20m.9s.k, S =22m.50s.

May 9d. Readings also at 1h. (Nagoya and Tucson), 4h. (Wellington), 5h. (Serra do Pilar), 6h. (Tiflis), 7h. (Pasadena, Riverside, and Tinemaha), 8h. (Amboina and Malaga), 9h. (Malaga, Pasadena, Riverside, Santa Barbara, and Tinemaha), 11h. (Lick), 12h. (Sverdlovsk and Tashkent), 13h. (Husan, Erevan (2), Tiflis, and Manila), 14h. (Tiflis), 18h. (Tashkent, La Paz, and Sucre), 20h. (Tiflis), 22h. (Berkeley).

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May 10d. 16h. 13m. 12s. Epicentre 35°·2N. 140°·7E. (as on 1931 Nov. 12d.). R.3.

Tokyo gives 35°·6N. 140°·2E.

A = −·632, B = +·518, C = +·576.

	△	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Tokyo	0·9	302	0 13	0	0 22	− 1	0·4
Nagoya	3·0	270	e 0 42	− 1	1 19	+ 2	—
Mizusawa	4·0	5	e 1 0	+ 3	e 1 35	?	—
Osaka	4·2	264	1 6	P*	2 3	S*	3·1
Kobe	4·5	265	e 1 5	+ 1	e 1 37	?	2·7
Sumoto	4·8	261	—	—	2 21	S*	2·5
Toyooka	4·8	276	e 1 27	P_g	2 32	S_g	2·7

Additional readings :—
Kobe eSZ = +1m.40s., eSN = +1m.42s., eZ = +2m.6s., eE = +2m.8s.
Sumoto eE = +1m.54s., eN = +1m.58s.

May 10d. 17h. Readings for which no determination has been made :—
Phu-Lien eP = 6m.15s., eS = 7m.11s., L = 7m.30s., M = 8m.2s.
Calcutta eP = 6m.25s., S = 10m.43s., L = 13m.5s., M = 15m.11s.
Manila P = 9m.17s., S = 13m.4s., LN = 15m.25s., ME = 17m.34s.
Nanking ePE = 9m.18s., iS = 13m.6s., i = 14m.38s., i = 15m.8s., iL = 15m.40s., M = 16m.32s.
Agra eP = 9m.29s., S = 13m.45s., SS = 14m.49s., eL = 16m.6s., M = 18m.13s.
Bombay eEN = 9m.45s., iEN = 15m.15s., M = 24m.41s.
Chiufeng ePEN = 10m.13s., P = 10m.16s., SN = 14m.31s., SEZ = 14m.41s., iZ = 18m.1s., MNZ = 20m.12s.
Hong Kong S? = 10m.51s., L = 11m.34s., MN = 11m.45s.
Tashkent iP = 11m.17s., eS = 16m.37s., eL = 21m.0s., M = 27m.6s.
Sverdlovsk P = 13m.18s., e = 20m.13s., L = 29m., M = 32m.54s.
Zi-ka-wei eZ = 13m.29s., iN = 16m.34s., iN = 16m.37s., iZ = 16m.51s., iZ = 16m.57s., iZ = 17m.5s., M = 17m.53s.
Kobe ePN = 13m.48s., M = 23m.30s.
Ksara e = 15m.12s., e = 23m.8s.
Batavia eP = 17m.48s.
Medan P = 18m.33s., i = 22m.36s., S = 23m.28s.
Vladivostok e = 19m.21s., L = 23m.6s., M = 28m.36s.
Baku e = 20m.23s., e = 24m.1s., L = 32m., M = 35m.48s.
Husan S = 20m.38s.
Long waves at Kew, Copenhagen, De Bilt, Paris, Pulkovo, Strasbourg, Stuttgart, Tiflis, Hukuoka B, and Zinsen.

May 10d. Readings also at 0h. (Strasbourg and San Juan), 5h. (Prato), 6h. (Malabar), 7h. (Kobe), 9h. (Tiflis), 12h. (Tiflis), 15h. (Andijan), 19h. (Baku and Tashkent), 20h. (Baku, Erevan, and Tashkent).

May 11d. 14h. 34m. 14s. Epicentre 34°·9N. 139°·2E. (as on 1932 Dec. 4d.). X.

A = −·621, B = +·536, C = +·572.

	△	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Nagoya	1·9	278	0 32	P_g	0 57	S_g	—
Osaka	3·0	265	0 49	P*	1 37	S_g	2·0
Kobe	3·3	267	0 52	P*	e 1 30	+ 5	1·6
Toyooka	3·6	282	0 53	+ 2	—	—	—
Sumoto	3·6	262	i 0 55	P*	1 37	+ 5	1·6
Mizusawa	4·5	19	e 1 3	− 1	e 1 45	−10	—

Kobe iN = +57s. = P_g − 3s.

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May 11d. 18h. 44m. 31s. Epicentre 2°·6N. 127°·2E. N.3.

Given by Batavia.

A = −·604, B = +·796, C = +·045 ; D = +·796, E = +·605 ;
G = −·027, H = +·036, K = −1·000.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina	6·3	170	1 33	+ 3	2 44	+ 3	—	—
Manila	13·5	334	i 3 14	+ 5	5 58	SS	—	8·9
Batavia	22·2	247	i 4 55	+ 2	i 8 56	+ 6	—	—
Hong Kong	23·4	329	5 41	PP	9 1	−11	—	11·2
Nagoya	33·8	17	6 28	−11	—	—	e 11·5	—
Chiufeng	38·8	348	e 8 0	?	i 12 52	−26	—	—
Andijan	62·3	316	e 10 18	− 2	—	—	—	—
Tashkent	64·7	316	e 11 7	(− 5)	i 19 41	PS	e 32·5	35·6
Sverdlovsk	75·2	330	—	—	e 20 49	−33	37·5	—
Baku	78·7	311	—	—	e 21 41	−21	—	—
Tiflis	82·6	313	e 12 49	+28	(22 17)	−26	—	—
Ksara	89·7	304	e 12 51	− 5	e 23 36	[+ 5]	—	61·0
Vienna	101·7	319	e 14 25	?	e 15 10	?	—	—
Zagreb	102·7	317	13 41	−15	—	—	—	—
Triest	104·2	317	e 14 2	− 1	14 39	?	—	—
Padova	105·6	318	e 14 29	+20	—	—	—	—
Stuttgart	106·0	322	e 17 41	[−24]	—	—	e 43·5	—
Tinemaha	107·7	49	e 18 28	[+18]	—	—	—	—
Pasadena	108·6	52	e 18 12	[− 1]	—	—	—	—

Additional readings and note :—
Manila PPZ = +3m.21s.
Hong Kong SS? = +9m.29s.
Chiufeng iEN = +12m.55s.
Baku e = +25m.24s., +27m.42s., and +33m.52s.
Tiflis e = +30m.17s., S is given as P and P as e for an earlier shock.
Zagreb e = +13m.44s., +13m.50s., and +13m.59s., eZ = +14m.2s., +14m.4s., and +14m.7s., e = +14m.14s. and +14m.25s.
Triest P_g = +14m.9s.
Long waves at Sofia.

May 11d. 19h. 15m. 16s. Epicentre 76°·0N. 5°·0E. N.3.

A = +·241, B = +·021, C = +·970 ; D = +·087, E = −·996 ;
G = +·966, H = +·084, K = −·242.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Scoresby Sund	9·4	248	2 14	+ 1	—	—	4·7	—
Pulkovo	18·5	137	4 6	− 7	e 7 46	+10	9·5	10·8
Copenhagen	20·5	169	—	—	8 50	SS	10·7	—
Moscow	23·5	131	e 5 5	0	e 9 12	− 2	—	—
Simferopol	33·4	140	e 6 39	+ 4	—	—	—	—
Yalta	33·8	139	6 40	+ 1	—	—	—	—
Tiflis	38·4	130	e 7 20	+ 2	e 13 10	− 2	e 21·2	—
Ksara	44·5	142	e 8 6	− 3	—	—	—	—
Tinemaha	61·4	309	e 9 54	−20	—	—	—	—
Pasadena	64·2	310	e 10 13	−21	—	—	—	—

Additional readings :—
Pulkovo L_q = +9m.26s.
Tiflis e = +8m.40s. = PP − 2s.
Ksara e = +13m.58s.
Long waves also at Baku, De Bilt, Paris, Strasbourg, and Tashkent.

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May 11d. 23h. 48m. 42s. Epicentre 5°·0N. 126°·0E. N.3.

A = −·586, B = +·806, C = +·087 ; D = +·809, E = +·587 ;
G = −·051, H = +·070, K = −·995.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		8·9	165	2 18?	+12	—	—	—	—
Manila		10·8	335	2 32	0	6 9	?	8·1	—
Hong Kong		20·8	328	4 48	PP	8 38	SS	—	11·8
Batavia		22·2	241	4 55	+ 2	9 48	SS	—	—
Nanking		27·9	347	e 5 48	+ 2	—	—	—	—
Chiufeng		36·2	347	e 6 59	− 1	i 12 37	− 2	—	—
Tashkent		62·1	315	10 18	− 1	e 18 38	− 5	e 26·7	37·8
Samarkand		63·3	312	e 10 34	+ 7	—	—	—	—
Baku		76·3	311	—	—	e 21 37	+ 2	40·3	—
Tiflis		80·1	311	e 12 14	+ 6	—	—	46·3	—
Moscow		86·2	325	e 12 42	+ 3	e 23 3	[− 5]	—	—
Ksara		87·4	313	e 12 56	+11	e 24 20	PS	—	46·3
Pulkovo		88·6	330	12 50	− 1	23 36	− 7	43·3	50·6
Triest		101·6	319	—	—	e 37 18	?	—	59·1

Additional readings :—
Hong Kong ? = +9m.48s.
Chiufeng ePE = +7m.5s., iEN = +17m.18s. = S_eS − 1s.
Baku e = +30m.34s.
Tiflis e = +12m.22s.
Long waves at other European stations.

May 11d. Readings also at 5h. (Andijan, Frunse, Samarkand, and Apia), 6h. (Branner, Lick, and Nagasaki), 7h. (Arisan, Karenko, Taityu, and Taihoku), 9h. (Arisan, Karenko, Taityu, and Taihoku), 12h. (Erevan and Tiflis), 13h. (Alicante and Toledo), 14h. (Alicante, New Plymouth, and Wellington), 15h (Erevan), 16h. (Tiflis), 17h. (Erevan and Tiflis), 18h. (Nagoya and Budapest), 20h. (Erevan, Granada, and Tiflis), 21h. (Medan), 23h. (Amboina).

May 12d. 5h. 20m. 24s. Epicentre 37°·1N. 71°·1E. N.3.

A = +·258, B = +·755, C = +·603 ; D = +·946, E = −·323 ;
G = +·195, H = +·572, K = −·797.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Andijan		3·6	16	e 0 53	+ 2	1 47	S*	—	1·8
Samarkand		4·1	307	e 1 0	+ 2	1 46	+ 1	—	—
Tashkent		4·5	341	0 57	− 7	(1 49)	− 6	1·8	2·6
Tchimkent		5·3	347	e 0 36	−39	—	—	—	—
Dehra Dun		8·8	140	3 6	?	3 46	+ 2	—	5·6
Agra		11·5	145	e 2 36?	− 6	e 4 44	− 6	—	6·8
Baku		16·8	290	3 54	+ 2	7 22	SS	10·1	10·9
Bombay		18·2	173	e 4 6	− 3	e 7 30	+ 1	9·6	10·5
Calcutta	E.	20·8	130	e 4 38	0	e 8 22	0	9·8	11·6
Tiflis		20·8	292	e 4 38	0	8 38	SS	12·6	17·7
Sverdlovsk		21·0	343	4 34	− 6	8 22	− 4	12·3r	12·6
Erevan		21·0	289	e 4 45	+ 5	—	—	—	—
Kodaikanal	E.	27·4	165	—	—	e 10 22	0	—	—
Ksara		28·7	274	e 6 14	+21	11 22	+39	—	—
Moscow		29·3	320	—	—	e 11 18	+25	16·2	20·4
Colombo		31·2	162	11 6	S	(11 6)	−17	—	18·8
Pulkovo		34·4	325	i 6 56	+12	—	—	17·6	21·3
Chiufeng		31·9	71	—	—	e 12 18	− 2	e 18·7	22·7
Prague		42·0	308	—	—	e 19 0	?	—	28·1
Copenhagen		43·0	316	—	—	14 30	+ 9	21·6	—

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Triest	43·0	301	e 9 35	PP	—	—	—	24·7
Cheb	43·3	308	—	—	e 17 36?	SS	—	28·6
Hamburg	44·5	313	—	—	e 18 36?	(+27)	26·6	—
Stuttgart	45·5	306	—	—	e 18 36?	(+21)	—	—
Paris	49·8	308	—	—	e 17 36?	?	28·6	—
Bidston	52·2	314	—	—	e 17 13	+42	e 26·8	—
Scoresby Sund	56·4	337	—	—	22 36?	SSS	—	—

Additional readings :—
Andijan iP* = +59s., P_g = +1m.3s., iPP = +1m.10s.
Samarkand P_g = +1m.15s., iS_g = +2m.8s.
Agra S_g = +5m.58s.
Sverdlovsk L_Q = +10m.54s.
Kodaikanal i = +13m.52s.
Ksara ePP = +7m.48s., SS = +12m.54s.
Moscow e = +13m.58s. and +15m.49s.
Prague e = +24m.54s.
Copenhagen +17m.42s.
Long waves at Edinburgh, Kew, De Bilt, Granada, Strasbourg, Vladivostok, and Hong Kong.

May 12d. 19h. 45m. 38s. Epicentre 6°·0S. 155°·3E. (as on 1932 Jan. 9d.). X.

A = −·903, B = +·416, C = −·105 ; D = +·418, E = +·909 ;
G = +·095, H = −·044, K = −·995.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Riverview	28·1	187	e 5 58	+10	e 10 34	0	e 15·2	18·4
Adelaide	32·7	206	—	—	i 11 33	−13	—	22·6
Melbourne	33·1	195	—	—	e 11 54	+ 2	16·0	19·8
Manila	39·8	303	7 3	−27	13 5	−28	19·2	22·5
Hong Kong	49·2	308	—	—	15 29	−21	—	24·0
Nanking	51·6	321	e 9 2	− 1	i 16 34	+11	24·4	26·4
Vladivostok	53·5	340	e 14 53	?	i 20 25	SS	22·9	31·8
Chiufeng	58·5	325	10 18a	+24	e 18 22	PS	e 27·8	31·6
Bombay	84·9	290	—	—	e 22 22?	[−36]	—	52·6
Pasadena	90·6	55	i 13 1	+ 1	—	—	—	—
Mount Wilson	90·7	55	e 13 1	0	—	—	—	—
Tinemaha	90·8	52	e 13 11	+10	—	—	—	—
Tashkent	91·0	313	—	—	e 23 27	[−12]	e 41·4	53·0
Riverside	91·2	55	e 13 4	+ 1	—	—	—	—
Sverdlovsk	97·6	327	e 17 6	PP	e 24 1	[−13]	40·4	56·0
Baku	105·6	311	e 18 32	PP	e 24 48	[− 5]	49·4	58·6
Tiflis	109·2	313	e 18 36a	PP	e 25 5	[− 5]	54·9	66·2
Pulkovo	112·2	335	—	—	e 28 42	PS	54·4	61·3
Scoresby Sund	115·5	359	—	—	29 26	PS	56·4	—
Ksara	117·6	306	—	—	29 16	PS	—	61·0
Stuttgart	128·6	332	e 20 49	PP	e 43 16	SSS	e 68·4	—
Strasbourg	129·3	333	e 20 22?	?	—	—	e 62·4	—
Paris	131·4	337	—	—	e 40 22?	?	76·4	80·4
La Paz	131·5	118	23 8	?	—	—	—	—
Granada	143·3	332	e 19 35	[+ 6]	e 26 29	SKS	80·9	—

Additional readings :—
Adelaide e = +7m.39s. = PP +7s., +9m.34s. = P_cP +16s. and +15m.47s.
Melbourne i = +12m.1s.
Nanking e = +20m.5s.
Tashkent i = +13m.51s., e = +14m.52s., +23m.1s. and +36m.22s.
Baku e = +27m.29s. and +33m.15s = SS −4s.
Tiflis e = +21m.11s. = PPP +7s.
Pulkovo e = +34m.56s. = SS +8s.
Ksara ePP = +19m.35s., *PPS = +30m.25s.
Long waves at Wellington, Edinburgh, Kew, Cheb, Copenhagen, De Bilt, San Fernando, Huancayo, Philadelphia, Tucson, and Ukiah.

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May 12d. Readings also at 0h. (Erevan and Tiflis), 1h. (Mizusawa), 3h. (Kodaikanal), 5h. (Andijan, Granada, Samarkand, and Tashkent), 6h. (Andijan, Samarkand, and San Juan), 7h. (Andijan (2), Erevan, Frunse, Samarkand, Sverdlovsk, and Tashkent), 8h. (Perth), 13h. (Kew, Baku, Scoresby Sund, Sverdlovsk, Tashkent, Pasadena, and Tinemaha), 14h. (Batavia and Malabar), 15h. (Erevan and Tiflis), 16h. (Scoresby Sund), 22h. (Tiflis and Uccle).

May 13d. 0h. Readings for which no determination has been made :—

Andijan eP = 25m.11s., S_g = 26m.0s., M = 26m.11s.
Samarkand P = 25m.24s., e = 26m.28s.
Tashkent eP = 25m.48s., eL = 26m.48s., M = 27m.6s.
Tchimkent eP = 25m.56s., i = 26m.44s., i = 26m.58s., M = 27m.12s.
Almata e = 27m.0s.
Sverdlovsk e = 35m.25s.

May 13d. 2h. Readings for which no determination has been made, but Pulkovo suggests 34° 30′N. 56° 0′E. :—

Samarkand P = 12m.14s., e = 13m.54s.
Tashkent eP = 13m.8s., eS = 15m.30s., eL = 16m.0s., M = 19m.24s.
Andijan eP = 13m.19s., eS = 15m.22s., eL = 17m.0s.
Tchimkent eP = 13m.21s., S = 15m.23s., M = 16m.29s.
Tiflis eP = 13m.50s., e = 16m.36s., eS = 18m.20s., eSS = 20m.22s., eL = 23m.
Baku e = 14m.17s., e = 15m.33s., L = 17m.24s.
Almata e = 15m.0s.
Ksara eP = 15m.1s., eS = 18m.44s., eSS = 19m.25s.
Sverdlovsk P = 15m.18s., S = 19m.17s., L_q = 21m.6s., L_r = 23m.48s., M = 24m.36s.
Pulkovo e = 17m.29s., L = 29m.
Agra e = 19m.17s.
Long waves at Scoresby Sund and Bombay.

May 13d. 19h. 53m. 41s. Epicentre 19°·2N. 100°·9E. N.2.

A = −·179, B = +·927, C = +·329 ; D = +·982, E = +·189 ; G = −·062, H = +·323, K = −·944.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Phu-Lien		5·6	74	e 1 15	− 5	e 2 19	− 4	2·8	3·5
Calcutta	E.	12·2	288	2 47	− 4	4 56	−12	5·6	9·3
Hong Kong		12·8	74	2 50	− 9	5 22	0	6·7	7·1
Medan		15·8	188	i 3 49	PP	i 7 51	?	—	—
Hokoto		17·8	71	7 37	SS	—	—	—	—
Kosyun		18·7	78	i 4 20	+ 5	e 9 26	?	—	—
Taityu		19·0	72	4 12	− 7	8 36	?	—	—
Arisan		19·0	72	e 4 18	− 1	8 38	?	—	—
Taito		19·2	77	4 26	+ 5	8 2	SS	—	—
Manila		19·7	100	i 4 30	+ 4	i 8 21	SS	10·3	13·3
Karenko		19·8	73	i 4 29	+ 2	10 27	?	—	—
Taihoku		19·9	70	4 31	+ 2	e 8 24	SS	—	—
Nanking		20·5	47	i 5 8?	?	i 7 56	−20	—	12·2
Zi-ka-wei		21·7	53	i 4 49k	+ 1	8 47	+ 7	—	12·1
Isigakizima		22·2	72	4 54	+ 1	—	—	—	—
Agra		22·5	295	e 4 50	− 6	i 8 57	+ 2	e 11·2	16·1
Dehra Dun		23·5	303	5 19	+14	9 49	SS	13·8	15·3
Colombo		24·0	241	5 15	+ 5	9 42	+19	—	18·6
Kodaikanal	E.	24·4	254	i 5 20	+ 6	i 9 40	+10	12·3	—
Chiufeng		24·6	29	i 5 13k	− 3	i 9 33	− 1	12·1	—
Batavia		26·1	166	i 5 31	+ 1	e 10 9	+ 9	—	—
Bombay		26·5	274	i 5 40	+ 6	i 10 16	+ 9	—	20·1
Zinsen		28·9	45	e 10 5	?	e 13 30	?	e 14·9	16·7
Nagasaki		29·2	56	e 8 31	?	e 13 25	?	15·0	16·4
Keizyo		29·2	44	e 11 17	?	15 44	?	—	—
Heizyo		29·2	42	e 15 1	?	—	—	—	—
Husan		29·4	50	e 8 39	?	i 15 44	?	—	16·3
Hukuoka B		29·9	54	10 55	S	(10 55)	− 8	—	16·8
Hukuoka		29·9	54	e 15 37	?	16 30	?	—	16·8
Almata		31·3	325	e 7 19	PP	—	—	e 18·3	—

Continued on next page.

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	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Andijan	32·6	317	e 6 28	0	e 11 53	+ 8	e 18·1	—
Sumoto	33·7	56	e 10 22	?	e 17 3	(− 2)	—	18·9
Toyooka	34·0	55	e 7 16	?	—	—	16·4	19·9
Kobe	34·0	55	e 12 5	S	(e 12 5)	− 1	e 16·4	18·9
Osaka	34·3	55	(6 41)	− 2	(11 41)	−30	(16·8)	—
Tashkent	34·8	316	i 6 46	− 1	i 12 15	− 3	19·1	33·7
Tchimkent	35·1	317	e 6 49	− 1	—	—	—	—
Amboina	35·2	128	e 6 36	−15	e 12 18	− 6	e 23·3	—
Nagoya	35·5	55	7 0	+ 7	—	—	19·2	21·7
Samarkand	35·6	311	6 53	− 1	12 11	−19	—	—
Mizusawa	39·9	49	13 28	S	13 28	− 7	—	—
Sverdlovsk	47·9	332	i 8 32	− 3	15 31	0	$23·4_q$	28·3
Baku	48·3	308	8 48	+10	i 15 44	+ 7	26·3	31·0
Tiflis	52·3	309	i 9 13	+ 4	16 39	+ 6	31·3	40·4
Erevan	52·3	307	e 9 11	+ 2	—	—	—	—
Perth	53·1	164	22 14	?	26 24	?	28·7	—
Ksara	59·1	298	i 9 59a	+ 1	i 18 17	PS	—	—
Moscow	59·3	324	9 57	− 3	18 6	− 1	e 24·8	36·3
Yalta	60·2	311	e 10 5	− 1	—	—	—	—
Simferopol	60·3	311	e 10 6	− 1	—	—	—	—
Helwan	63·3	295	i 10 27	0	i 19 2	+ 3	—	44·2
Pulkovo	63·8	328	e 10 28	− 3	e 19 1	− 4	31·3	39·1
Tananarive	64·8	237	—	—	e 19 25	PS	33·0	—
Adelaide	64·9	146	—	—	e 28 33	?	33·8	38·8
Königsberg	69·0	323	11 0	− 5	20 6	− 3	36·6	38·0
Upsala	70·1	328	—	—	e 20 19	− 3	e 36·3	43·2
Budapest	70·5	315	e 11 19	+ 5	28 15	?	41·3	44·3
Melbourne	70·5	144	—	—	i 20 31	+ 4	33·4	44·7
Riverview	71·4	138	—	—	e 20 37	− 1	e 35·8	41·1
Vienna	72·2	316	e 11 22	− 2	e 20 47	0	e 41·3	—
Zagreb	72·9	314	e 11 26	− 2	e 20 55	− 1	—	43·3
Prague	73·2	319	—	—	e 20 58	− 1	e 37·8	42·3
Copenhagen	73·4	324	11 29	− 2	20 59	− 2	36·3	—
Leipzig	74·2	319	—	—	e 21 13	+ 2	e 39·3	49·3
Cheb	74·4	319	e 11 38	+ 1	e 21 17	+ 4	e 41·3	48·3
Triest	74·7	315	11 35	− 4	21 10	− 7	—	42·2
Hamburg	75·2	322	e 11 41	0	e 21 25	+ 3	e 40·3	41·3
Göttingen	75·6	321	i 11 43	− 1	—	—	e 42·3	42·6
Florence	76·6	312	e 11 47	− 2	21 39	+ 1	29·3	—
Stuttgart	76·8	318	11 51	+ 1	e 21 37	− 4	e 40·8	52·3
Chur	77·0	314	e 11 49	− 3	—	—	—	—
Piacenza	77·4	314	12 19	+25	21 39	− 8	—	47·1
Zurich	77·6	315	e 11 55	0	e 21 46	− 3	—	—
Strasbourg	77·8	317	i 11 55a	− 2	—	—	e 30·3	—
Basle	78·1	316	e 11 55	− 3	—	—	—	—
De Bilt	78·3	321	e 11 57	− 2	e 22 1	+ 4	e 39·3	43·9
Neuchatel	78·7	316	e 11 59	− 2	e 22 0	− 2	—	—
Uccle	79·2	320	e 12 5	+ 1	e 22 1	− 6	e 41·3	44·2
Durham	81·4	325	22 27	S	(22 27)	− 4	—	45·8
Edinburgh	81·7	326	—	—	e 22 19?	−15	e 43·3	—
Kew	81·7	322	e 12 17	0	e 22 31	[− 2]	e 31·3	45·3
Scoresby Sund	82·0	343	12 18	0	22 31	[− 5]	42·3	—
Stonyhurst	82·1	325	e 12 46	+27	e 22 36	[− 1]	43·3	44·8
Oxford	82·3	322	—	—	22 34	[− 4]	e 42·3	47·0
Bidston	82·6	324	—	—	e 22 41	[0]	e 40·3	46·3
Rathfarnham Castle	83·9	325	—	—	e 30 39	?	40·6	44·7
Alicante	86·7	310	—	—	e 24 23	PS	e 51·5	—
Almeria	88·7	309	—	—	e 24 21	PS	59·8	—
Granada	89·4	310	e 13 11	+16	i 23 47	− 3	50·0	—
Malaga	90·2	309	e 12 22	−36	24 18	+20	e 44·2	53·2
San Fernando	91·6	309	e 12 50	−15	24 5	− 6	52·3	—
Ottawa	115·3	3	—	—	e 47 19?	?	e 53·3	—
Huancayo	172·0	332	—	—	e 32 2	{−20}	74·9	—

For Notes see next page.

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NOTES TO MAY 13d. 19h. 53m. 41s.

Additional readings and note :—
Calcutta SS = +5m.16s.
Medan iN = +6m.55s., iE = +8m.47s., iN = +8m.56s.
Taihoku SN = +9m.50s.
Nanking e = +10m.15s., i = +11m.10s.
Zi-ka-wei iZ = +9m.1s., +9m.19s., and +10m.49s., iN = +11m.29s., iZ = +11m.48s.
Agra PPP = +5m.28s., eS = +9m.4s., SSE = +9m.50s., eSSN = +9m.56s.
Kodaikanal SSS = +10m.52s.
Chiufeng iSNZ = +9m.35s.
Batavia iN = +7m.12s., iSN = +10m.29s., eE = +14m.4s., i = +14m.11s., iN = +14m.38s.
Bombay SSEN = +11m.27s.
Hukuoka B S = +16m.17s.
Sumoto ePE = +10m.35s., eSN = +16m.40s., eZ = +18m.46s.
Toyooka ePZ = +9m.1s.
Kobe eE = +15m.9s.
Osaka PP =(+7m.43s.), SS =(+13m.9s.), SSS =(+13m.56s.) ; all readings have been *diminished* by 5m.
Mizusawa SN = +19m.39s., SE = +20m.35s.
Tiflis eP_cP = +10m.26s., ePP = +11m.15s., PS = +16m.57s., S_cS = +19m.3s., SS = +20m.41s.
Perth PP = +22m.30s., P_cP = +25m.24s., SS = +27m.26s.
Ksara i = +13m.41s.
Yalta PP = +12m.58s.
Tananarive e = +27m.1s. and +28m.19s.
Königsberg iZ = +11m.4s., eZ = +12m.22s., +13m.32s. =PP +3s., and +14m.54s., eN = +19m.33s.
Melbourne i = +24m.56s. =SS +6s., e = +32m.19s.
Riverview eN = +20m.43s. =PS −14s.
Zagreb ePPP = +16m.2s.
Prague e = +29m.31s.
Copenhagen +14m.13s. =PP +5s., +21m.39s., SS = +25m.37s., SSS = +29m.7s.
Leipzig e = +29m.25s.
Cheb ePPP = +16m.13s.
Triest PP = +14m.22s., PS = +21m.52s., e = +23m.55s. and +29m.4s.
Göttingen i = +14m.35s. =PP +8s., eN = +30m.19s. ?
Stuttgart ePP = +14m.31s., eSS = +26m.27s., eE = +30m.19s.
Strasbourg iPP = +14m.54s.
De Bilt iPPZ = +15m.0s.
Uccle PP = +15m.5s., eSS = +27m.1s.
Durham S? = +30m.29s.
Scoresby Sund +15m.20s. =PP −1s.
Bidston e = +20m.56s.
Malaga e = +16m.34s. =PP +7s.
Huancayo e = +33m.23s. and +47m.34s.
Long waves at Wellington, La Paz, and other European and American stations.

May 13d. 23h. 9m. 28s. Epicentre 7°·4S. 111°·7E. N.3.

Given by Batavia.

A = −·367, B = +·921, C = −·129 ; D = +·929, E = +·370 ;
G = +·048, H = −·120, K = −·992.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Malabar	4·1	272	i 0 59	+ 1	i 1 53	S*	—	--
Batavia	5·0	287	e 1 14	+ 3	i 2 12	+ 4	—	—
Medan	17·1	310	i 3 55	0	i 8 59	?	—	—
Manila	23·8	22	5 9	+ 1	9 33	+14	—	—
Tashkent	62·3	325	—	—	e 20 29	(+20)	e 30·5	43·4
Sverdlovsk	76·5	334	11 41	− 8	—	—	36·5	—
Oak Ridge	144·8	6	i 19 28	[− 5]	—	—	e 33·7	—

Additional readings :—
Batavia i = +2m.39s. =S_g +0s.
Tashkent e = +19m.44s.
Oak Ridge i = +19m.37s.
Long waves at Baku, Bombay, and Chiufeng.

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May 13d. 23h. Readings for which no determination has been made, apparently more than one shock, see 14d. 0h.

Santiago P =35m.16s., S =(36m.)6s.
La Paz ePKPN =37m.53s., PPN =41m.24s., iPPP? =43m.53s., L_q =93m.5s., L_r =98m.0s., M =102m.42s.
Sucre P =37m.54s., PP =41m.42s.
La Plata S =39m.31s., L =40m.6s.
Sydney e =46m.40s., L =57m.40s., M =62m.22s.
Vladivostok e =48m.24s., L =65m.30s.
Wellington i =51m.34s., i =53m.51s., iL =57m.20s., M =59m.
Manila P?ENZ =54m.35s., SN =60m.1s., MEN =64m.15s.
Pasadena iPZ =55m.1s., eL =82m.
Tinemaha ePEZ =55m.11s.
Chiufeng P =56m.1s.k, eSEN =66m.32s., MN =98m.26s.
Riverview e =56m.18s., eL =59m.6s., M =60m.53s.
Adelaide e =56m.21s., e =63m.18s., M =66m.18s.
Melbourne e =59m.0s., i =64m.10s., M =66m.30s.
Long waves at Ksara.

May 13d. Readings also at 2h. (Tiflis (2)), 3h. (Tiflis), 5h. (Baku, Tashkent, Huancayo, Pasadena, Tinemaha, Tucson, and La Paz), 6h. (Scoresby Sund and Sverdlovsk), 8h. (Pasadena and Tinemaha), 11h. (New Plymouth (2) and Wellington (3)), 12h. (Simferopol and Yalta), 14h. (Alicante), 15h. (Yalta), 16h. (Apia), 18h. (Nagoya and Osaka), 22h. (Ukiah), 23h. (Berkeley, Pasadena, and Tinemaha).

May 14d. 0h. Readings for which no determination has been made. See 13d. 23h.

Sverdlovsk e =2m.8s., e =4m.0s., e =9m.14s., e =11m.8s., e =14m.8s., L =39m.
Tiflis e(P) =2m.35s., e =5m.47s., e(PKP) =6m.22s., e(PP) =10m.18s., e(SKKS) =14m.14s., e(PPS) =18m.24s., e =20m.13s., e =66m., M =74m.
Copenhagen 2m.44s., L =66m.
Simferopol e =2m.49s.
Yalta e =2m.51s.
Ksara iPKP =2m.52s., PP =6m.36s., PSKS =17m.0s., PPS =20m.7s., M =68m.30s.
De Bilt eZ =2m.57s., eE =25m.48s., eL =68m.
Uccle P =2m.59s., eE =25m.54s.
Strasbourg eP =3m., e =7m., eL =30m.
Stuttgart e =3m.12s., eL =70m., M =76m.
Tashkent e =3m.54s., iS =9m.7s., e =13m.36s., e =20m.25s., e =46m.30s., M =58m.54s.
Pulkovo e =5m.19s., i =6m.3s., L =60m., M =63m.12s.
Baku e =6m.1s., e =10m.0s., e =14m.1s., e =18m.24s., e =40m.0s., L =54m., M =68m.6s.
Ottawa eE =12m., eL =38m.
Scoresby Sund 12m., L =54m.
Berkeley eN =17m.13s., iE =17m.21s., i =19m.31s., eN =22m.26s., iN =24m.6s., iE =24m.31s.
Long waves at Kew, Stonyhurst, Triest, San Fernando, Hong Kong, Honolulu, Huancayo, Philadelphia, Sitka, and Tucson.

May 14d. 23h. 23m. 0s. Epicentre 59°·0S. 27°·0W. N.2.

Given by the U.S. Coast and Geodetic Survey.

A = +·459, B = −·234, C = −·857 ; D = −·454, E = −·891 ; G = −·764, H = +·389, K = −·515.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
La Plata	31·5	305	6 24	+ 6	e 11 18	−10	14·0	—
Santiago	38·4	292	6 47	−31	12 31	−41	—	—
Cape Town	38·9	70	7 23	0	13 26	+ 6	19·1	22·5
Sucre	48·6	309	i 8 41	0	i 15 32	− 9	22·0	—
La Paz	52·0	307	9 12	+ 6	i 16 26	− 2	23·0	29·4
Huancayo	59·0	302	i 10 5	+ 8	i 18 3	0	i 24·9	—
Tananarive	65·9	89	i 10 48	+ 3	e 19 24	− 7	31·0	36·5
Wellington	78·0	197	12 0	+ 3	21 45	− 9	41·0	—
Melbourne	83·0	179	e 12 54	+31	i 22 30	−17	36·6	—
San Juan	83·7	323	e 12 36	+ 9	e 22 30	−24	e 33·5	—

Continued on next page.

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	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Perth	84·0	149	13 47	?	22 10	−48	—	36·0
Adelaide	85·3	167	i 12 44	+ 9	i 22 50	[−11]	e 36·6	49·2
Riverview	87·2	177	e 12 47	+ 3	i 23 1	[−14]	e 43·4	56·2
San Fernando	97·0	16	13 29a	− 1	i 23 55	[−16]	43·0	54·0
Malaga	97·5	18	13 28	− 4	24 47	{−13}	46·5	—
Almeria	98·0	20	e 13 33	− 1	i 23 0	?	e 46·7	—
Granada	98·4	18	i 13 34	− 2	i 23 58	[−20]	46·5r	47·5
Algiers	99·0	24	e 13 36	− 3	24 4	[−17]	e 41·0	52·0
Alicante	99·9	21	e 13 33	−10	i 24 7	[−18]	e 39·6	—
Toledo	100·7	17	e 13 50	+ 3	i 24 14	[−15]	e 49·4r	55 1
Helwan	101·1	49	e 13 50	+ 1	i 25 37	+ 1	47·2	55·5
Serra do Pilar	101·2	14	—	—	e 24 11	[−21]	—	—
Apia	101·8	214	—	—	e 24 22	[−12]	—	—
Tortosa	102·4	21	e 17 50	PP	24 21	[−16]	46·0	48·1
Columbia	103·2	316	—	—	e 24 20	[−21]	e 42·5	—
Barcelona	103·3	21	17 57	PP	24 23	[−19]	48·4	54·8
Colombo	104·5	101	18 21	PP	33 5	SS	43·2	49·3
Batavia	105·2	132	17 40	?	i 24 37	[−14]	—	—
Charlottesville	106·0	320	—	—	e 24 32	[−23]	e 43·5	—
Kodaikanal E.	106·2	97	—	—	24 41	[−15]	—	—
Georgetown	106·3	323	e 17 25	?	i 24 35	[−20]	42·0	—
Ksara	106·4	50	i 14 14a	+ 1	i 26 18	− 3	—	—
Philadelphia	106·7	324	e 17 35	[−32]	e 24 24	[−34]	i 43·7	—
Florence	107·2	29	14 15	− 2	24 37	[−23]	64·1	110·0
Vienna	107·6	30	e 15 11	?	26 15	?	—	—
Prato	107·6	28	e 14 18	− 1	24 41	[−21]	33·3	49·0
Oak Ridge	107·9	333	—	—	i 24 43	[−21]	37·3	—
Little Rock	108·2	308	e 17 54	[−18]	i 24 40	[−25]	e 50·5	—
Piacenza	108·4	26	e 18 26	[+13]	24 44	[−22]	47·0	59·2
Padova	109·2	27	e 18 53	PP	24 54	[−16]	e 51·0	60·0
Neuchatel	109·6	23	e 18 28	[+12]	—	—	—	—
Sofia	109·8	37	e 18 2	[−15]	i 28 32	PS	—	52·0
Triest	109·9	27	e 14 25	− 6	i 24 54	[−19]	e 46·0	57·7
Chur	110·0	26	e 14 28	− 3	—	—	—	—
Basle	110·3	24	e 14 29	− 3	—	—	—	—
Zurich	110·4	24	e 14 34	+ 1	—	—	—	—
Paris	110·5	20	e 15 0?	+27	e 25 38	[+22]	34·0	53·0
Zagreb	110·6	30	e 18 36	[+16]	e 25 50	[+34]	e 52·0	—
Medan	110·7	119	18 48	[+28]	i 24 26	[−50]	e 55·0	—
St. Louis	110·7	312	e 18 32	[+12]	e 26 29	{+18}	e 45·0	—
Florissant	110·9	312	e 18 50	PP	e 25 0	[−17]	e 47·5	—
Strasbourg	111·2	24	e 14 29	− 7	i 25 0	[−19]	e 45·0	61·0
Bombay	111·2	88	e 14 36	0	25 0	[−19]	—	62·6
Toronto	111·3	322	e 19 9	PP	i 25 0?	[−19]	46·0	—
Ann Arbor	111·6	320	—	—	e 26 24	{+ 6}	e 46·7	—
Stuttgart	111·7	25	e 14 33	− 6	e 25 0	[−21]	e 51·0	61·0
Graz	111·7	30	e 18 42	[+19]	i 25 56	[+35]	e 34·8	61·6
Karlsruhe	111·8	25	e 18 55	[+32]	—	—	—	—
Ottawa	111·8	327	e 19 12	PP	e 26 36	{+16}	e 46·3	—
Uccle	112·1	27	e 19 2	PP	i 25 6	[−17]	45·0	54·9
Chicago	112·6	317	—	—	e 26 34	{+ 9}	e 45·8	—
Kew	112·6	19	—	—	e 26 59	{+34}	e 46·0	59·9
Oxford	112·7	18	—	—	i 26 59	{+33}	e 53·0	54·5
Budapest	113·0	33	e 19 0?	PP	29 0?	PS	e 48·0	63·0
Rathfarnham Castle	113·5	15	—	—	i 29 10	PS	i 44·7	55·3
Cheb	113·7	27	e 19 27	PP	e 28 49	PS	e 45·0	58·0
Prague	114·1	27	e 19 21	PP	e 25 11	[−19]	e 46·0	57·0
De Bilt	114·1	22	i 19 26	PP	e 25 13	[−17]	e 53·0	55·3
Bidston	114·1	16	—	—	e 25 4	[−26]	—	55·0
Tucson	114·3	294	e 19 15	PP	e 27 2	{+25}	50·5	—
Amboina	114·3	154	e 19 29	PP	i 24 56	[−35]	e 35·0	—
Jena	114·4	28	e 19 30	PP	e 25 0	[−31]	e 39·0	63·0
Göttingen	114·5	25	e 19 12	PP	e 29 12	PS	—	55·3
Leipzig	114·9	27	e 18 30	[− 2]	e 25 0	[−33]	e 51·0	58·0
Sebastopol	115·0	44	e 18 31	[− 2]	e 25 23	[−11]	—	—

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		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Yalta		115·1	44	e 18 24	[− 9]	e 25 4	[−30]	—	—
Erevan		115·2	54	e 15 31	+35	—	—	—	—
Stonyhurst		115·3	17	e 19 58	PP	i 27 17	{+33}	48·0	61·8
Simferopol		115·4	44	e 18 31	[− 3]	e 25 14	[−21]	—	—
Durham		115·6	17	25 12	SKS	(25 12)	[−24]	—	57·0
Hamburg		116·4	24	e 18 41	[+ 5]	e 25 17	[−22]	e 54·0	55·0
Edinburgh		116·5	16	—	—	i 25 18	[−21]	e 49·0	64·0
Tiflis		116·7	52	14 59	− 5	i 25 20	[−20]	—	—
Baku		117·8	58	e 16 10	+62	26 30	{−31}	46·0	—
La Jolla		117·9	290	e 18 45	[+ 5]	—	—	—	—
Piatigorsk		118·0	51	e 19 16	[+35]	—	—	—	—
Riverside		118·8	290	i 18 46	[+ 3]	i 29 3	PS	—	—
Copenhagen		118·9	24	18 42	[− 1]	25 28	[−19]	49·0	—
Mount Wilson		119·3	291	i 18 47	[+ 3]	—	—	—	—
Pasadena		119·3	288	i 18 47	[+ 3]	e 25 27	[−21]	—	—
Königsberg		120·0	30	i 15 33	P	i 25 29	[−21]	e 50·5	—
Santa Barbara		120·3	289	e 18 49	[+ 3]	—	—	—	—
Agra		120·6	88	—	—	25 33	[−19]	—	—
Tinemaha		121·7	292	i 18 51	[+ 2]	—	—	—	—
Bergen		122·0	18	—	—	24 20	?	—	—
Calcutta	E.	122·2	100	—	—	25 43	[−14]	—	—
Dehra Dun		123·3	86	21 10	?	—	—	39·8	45·0
Upsala		123·8	25	—	—	i 27 20	{−22}	e 58·0	67·7
Branner		123·9	290	e 18 57	[+ 3]	—	—	—	—
Berkeley		124·2	290	e 18 48	[− 7]	—	—	—	—
Samarkand		125·1	71	e 18 56	[− 1]	—	—	—	—
Bozeman		125·2	304	—	—	e 37 49	SS	e 55·4	—
Ukiah		125·7	291	e 21 16	?	e 26 14	[+ 7]	e 49·3	—
Moscow		125·8	40	18 38	[−21]	25 48	[−19]	62·0	79·1
Pulkovo		126·9	32	18 59	[− 2]	25 50	[−20]	61·0	70·4
Tashkent		127·4	71	15 56	0	i 25 49	[−23]	e 54·0	70·4
Andijan		128·2	73	e 19 5	[+ 2]	—	—	67·0	—
Tchimkent		128·4	70	e 19 7	[+ 3]	—	—	—	—
Honolulu		128·7	246	—	—	e 28 56	{+43}	—	—
Phu-Lien		129·5	199	e 21 14	PP	—	—	—	—
Scoresby Sund		129·5	3	e 19 5	[− 1]	e 26 6	[−12]	—	—
Manila		129·7	138	19 8	[+ 2]	28 10	{−10}	36·3	41·0
Frunse		131·2	73	e 19 10	[+ 1]	—	—	—	—
Seattle		131·7	298	e 18 14	[−56]	—	—	64·3	—
Victoria		132·7	298	e 20 21	?	—	—	e 54·3	66·6
Almata		132·7	74	e 19 16	[+ 5]	—	—	—	—
Hong Kong		134·2	126	21 50	PP	28 29	{−19}	—	56·3
Sverdlovsk		134·9	51	19 1	[−14]	i 26 16	[−17]	58·0	71·4
Sitka		143·9	301	e 19 42	[+11]	—	—	e 60·0	—
Nanking		144·7	125	i 19 59	[+26]	i 29 59	{+ 7}	47·4	—
Zi-ka-wei		145·0	128	e 19 33	[− 1]	—	—	—	77·5
Nake		145·2	143	19 37	[+ 3]	—	—	—	—
Miyazaki		149·3	142	19 44	[+ 3]	—	—	—	—
Nagasaki		149·5	140	e 19 33	[− 8]	—	—	—	—
Unzendake		149·7	140	19 52	[+11]	—	—	—	—
Chiufeng		150·1	112	i 19 42a	[0]	29 56	{−27}	e 64·1	—
Hukuoka B		150·5	141	e 19 57	[+15]	30 6	{−19}	—	—
Kobe		153·0	148	e 19 4	[−42]	e 31 11	{+31}	—	—
Toyooka		153·7	149	e 20 1	{−14}	—	—	—	—
Nagoya		153·9	151	20 17	{+ 1}	—	—	—	—
Vladivostok		159·5	131	19 55	[+ 2]	—	—	—	—

Additional readings and note :—
La Plata PP = +7m.0s., PPP = +7m.30s. ; T_o = 23h.22m.48s.
Cape Town PP = +8m.49s., PPP = +9m.21s., PS? = +13m.57s., SSN = +16m.5s. SSE = +16m.9s.
La Paz ipPZ = +9m.37s., isPZ = +10m.11s., iN = +10m.35s., PPZ = +11m.23s., ipPPZ = +12m.15s., isPPZ = +12m.59s., isSN = +17m.15s., isSZ = +17m.31s., iS_cS = +18m.41s., SS = +20m.53s.
Huancayo P_cP = +10m.33s., SS = +22m.6s.

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Tananarive PP = +13m.10s., e = +14m.45s. =PPP +14s., PS = +19m.56s., e = +20m.6s., SS = +23m.45s., e = +27m.
Wellington PP = +15m.5s., PPP = +16m.51s., i = +19m.33s., S_cS? = +22m.3s., PPS? = +22m.30s., i = +23m.40s., L_q = +37m.
Melbourne i = +28m.8s. =SS +11s., e = +31m.20s. =SSS +1s., i = +34m.53s.
San Juan i = +13m.25s., ePS = +23m.19s., eSS = +28m.40s.
Perth P_cP = +14m.35s., PP = +16m.37s., PPP = +18m.0s., SP = +22m.45s., SS = +26m.40s., SSS = +28m.20s. =SS +8s., SSSS = +29m.35s.
Adelaide iPP = +15m.56s., i = +22m.58s., +23m.53s. =PS −2s. and +24m.10s., iSS = +28m.32s.
Riverview ePP = +16m.10s., iSE = +23m.4s., iN = +23m.18s., eSSE = +29m.6s.
San Fernando iPS = +24m.55s. =S −5s., SSS = +21m.26s.
Malaga PP = +17m.8s., PPP = +18m.0s., SKS = +23m.53s., Z = +25m.53s., PPS = +26m.25s., SS = +30m.53s., S_cSS_cS = +37m.5s.
Almeria PPP = +17m.57s., PS = +24m.47s. =SKKS +9s.
Granada SKS = +23m.46s., iPS = +24m.58s., L_q = +40m.0s.
Algiers PP = +18m.4s., SKKS = +25m.11s. =S −7s., PS = +27m.13s.
Alicante PPP = +18m.21s., PS = +25m.17s. =S −9s.
Toledo i = +18m.17s., PS = +25m.4s. =SKKS +6s., eL_q = +25m.20s.
Helwan PP = +17m.48s., SKS = +24m.13s.
Serra do Pilar e = +25m.16s. and +25m.19s.
Apia e = +23m.40s., i = +26m.23s.
Columbia ePP = +17m.36s., e = +19m.5s., eSKKS = +25m.20s., eS = +26m.17s., ePS = +27m.35s., eSS = +33m.26s.
Colombo PP = +24m.27s. =SKS −20s.
Charlottesville ePP = +18m.32s., ePS = +28m.0s., e = +31m.32s., eSS = +33m.16s.
Kodaikanal PP = +18m.32s., PS = +27m.38s.
Georgetown e = +14m.22s. =P +9s., ePP = +18m.32s., iPS = +27m.36s.
Ksara iPP = +18m.36s., PS = +27m.52s., PPS = +28m.42s.
Philadelphia ePP = +18m.36s., i = +19m.11s., e = +21m.56s., +25m.6s., and +26m.45s., ePS = +28m.6s., e = +32m.24s., eSS = +33m.54s.
Vienna PP = +19m.14s., PS = +28m.33s., PPS = +29m.1s.
Oak Ridge ePP = +18m.39s., iSKKS = +25m.42s., iS = +26m.9s., iPS = +27m.1s., e = +29m.11s. and +29m.52s., i = +30m.13s., iSS = +34m.33s., i = +44m.55s.
Little Rock ePKPEN = +18m.30s., ePPEN = +18m.48s., ePPPEN = +20m.18s., iE = +25m.30s., eSKKS = +26m.0s., eS = +26m.47s., ePS = +28m.9s., ePPS = +29m.7s., eE = +33m.45s. =SS −5s., eSSEN = +34m.20s., eE = +45m.10s.
Piacenza P = +19m.0s.
Sofia ePN = +19m.0s. =PP +4s., i = +24m.53s. =SKS −19s., +25m.46s. = SKKS −19s., +26m.36s., +34m.12s. =SS −4s., and +40m.12s.
Triest iPP = +19m.0s., i = +19m.24s. and +19m.41s., iSKKS = +25m.47s., iS = +26m.32s., i = +28m.47s. and +29m.22s., iSS = +34m.12s., i = +34m.55s., iSSS = +38m.23s.
Chur ePP = +18m.57s.
Basle ePP = +19m.1s.
Zurich ePKP = +18m.40s., ePP = +19m.27s.
Paris PP = +18m.55s.
Zagreb e = +19m.30s., +19m.56s., and +24m.56s., eE = +28m.46s. =PS +13s., e = +29m.33s. and +34m.36s. =SS +9s.
St. Louis ePPEN = +19m.6s., eSKP = +19m.48s., ePSN = +28m.30s., ePPSN = +29m.30s., iSSE = +34m.8s.
Florissant iPPNZ = +19m.11s., iZ = +19m.35s., iNZ = +20m.9s., iSKKS? = +25m.50s., iSN = +26m.29s. =SKKS +16s., ePSN = +28m.40s., iNZ = +28m.58s., iSS = +34m.24s.; T_e = 23h.23m.0s.
Strasbourg e = +15m.9s., PP = +19m.8s., iPPP = +22m.9s., iSKKS = +26m.2s., iPS = +28m.31s., iPPS = +29m.25s.
Bombay ePPEN = +19m.6s., SKKS = +26m.0s., SE = +26m.45s., iPS = +28m.36s., SSEN = +35m.16s.
Toronto i = +29m.11s., iN = +30m.12s., SSN = +36m.22s.
Ann Arbor ePPN = +19m.54s., ePPPN = +22n.48s., ePSN = +29m.18s., e = +34m.42s. =SS +2s., iSS = +35m.30s.; T_e = 23h.23m.12s.
Stuttgart e = +15m.6s., ePKP = +18m.36s., PP = +19m.13s., e = +19m.50s. and +20m.10s., ePPP = +21m.48s., eSKKS = +25m.54s., eS = +28m.50s., ePS = +28m.30s., ePPS = +29m.30s., eSS = +34m.32s., eSSS = +38m.46s., eZ = +47m.18s.
Graz iP = +19m.3s. =PP −7s., iSS = +29m.31s.
Ottawa eE = +24m.36s., eN = +25m.2s., e = +29m.14s., eE = +34m.40s.
Uccle iPP = +19m.19s., iSKKS = +27m.3s., iPS = +28m.47s., iPPS = +29m.43s. SS = +34m.53s., SSS = +38m.58s.
Chicago ePP = +19m.17s., eSS = +34m.34s., eSSS = +39m.24s.
Kew ePP = +19m.41s., iPS = +28m.49s., iPPS = +29m.33s., iZ = +29m.56s., eSS = +34m.48s., eZ = +35m.39s., iN = +35m.41s. and +40m.11s.
Oxford iN = +26m.8s. =SKKS −18s. and +28m.55s. =PS +1s., iE = +29m.34s.

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Budapest i = +19m.20s. =PP +1s. and +19m.44s.
Rathfarnham Castle e = +20m.2s., i = +27m.9s., +29m.44s., +39m.3s. =SSS −9s.. and +39m.56s.
Cheb e? = +25m.11s. =SKS −18s., eSS? = +35m.0s., e = +39m.3s. =SSS −12s.
Prague ePP = +19m.46s., ePPP = +22m.12s., eSKKS = +26m.0s., ePS = +29m.0s., ePPS = +30m.0s., eSS = +35m.0s., eSSS = +38m.54s.
De Bilt eZ = +15m.20s., eE = +27m.16s., iNZ = +29m.3s. =PS −4s.
Bidston e = +20m.0s., +26m.10s., and +30m.43s.
Tucson pP = +20m.16s., ePS = +29m.52s., eSS = +35m.10s.
Jena eN = +20m.0s., eZ = +20m.12s., eN = +25m.52s., eE = +26m.0s., eN = +29m.0s. =PS −10s., eE = +35m.0s., eN = +35m.12s. =SS −6s.
Göttingen eE = +19m.48s. =PP +18s., +27m.15s., and +35m.12s. =SS −7s.
Leipzig eN = +19m.18s., eE = +19m.30s. =PP −3s., +20m.15s., and +38m.49s.
Sebastopol e = +19m.31s. =PP −2s.
Yalta e = +19m.14s. =PP −20s.
Erevan e = +19m.47s. =PP +12s.
Simferopol e = +19m.27s. =PP −9s.
Hamburg eZ = +20m.18s., eN = +26m.11s. and +30m.6s.
Edinburgh i = +27m.40s. and +30m.14s.
Tiflis e = +15m.7s., PP = +19m.31s., pPP = +20m.25s., PPP = +22m.10s., i = +26m.39s. =SKKS −15s., pS = +29m.18s., sS = +29m.33s., i = +30m.6s., e = +32m.12s., sSS = +35m.49s.
Baku PP = +21m.2s.
Piatigorsk e = +25m.10s.
Riverside iZ = +20m.9s. =PP +9s., iPPEZ = +20m.37s., iPKKPZ = +29m.35s.
Copenhagen PP = +20m.1s., eNZ = +20m.41s., eE = +21m.12s., eEN = +26m.19s., SKKS = +26m.54s., eE = +27m.36s., +29m.6s., PS = +29m.47s., e = +30m.25s., eZ = +30m.48s., SS = +36m.6s., SSS = +40m.36s.
Mount Wilson iPPZ = +20m.34s.
Pasadena ipPZ? = +20m.12s., iPPENZ = +20m.39s., iZ = +22m.13s., ipPKKPZ? = +28m.59s., iPKKPZ = +29m.31s., iPSZ = +29m.43s., iSSENZ = +36m.24s.
Königsberg eE = +17m.11s., PPN = +20m.10s., PPZ = +20m.12s., iZ = +20m.25s., +20m.37s., and +20m.44s., eEZ = +20m.54s., PPP?E = +22m.38s., iZ = +26m.22s., SSE = +36m.16s.
Agra ePP = +20m.5s., PS = +29m.51s.
Tinemaha iZ = +20m.27s. =PP +6s., iPPEZ = +20m.56s., iZ = +22m.18s., i = +28m.51s., eZ = +32m.16s.
Calcutta PP = +20m.27s., PS = +30m.13s., SS = +26m.44s.
Upsala eN = +20m.35s. =PP +0s.
Branner eN = +19m.28s., iE = +19m.47s., eN = +20m.44s. =PP +8s., and +21m.37s.
Berkeley eE = +18m.58s., eZ = +19m.3s., +19m.12s. and +20m.21s. =PP +17s. eN = +20m.36s., eE = +20m.47s., iZ = +22m.13s., eZ = +22m.21s., eN = +22m.45s., iN = +33m.1s., iE = +33m.30s., iEN = +37m.31s. =SS +4s., iE = +38m.30s.
Bozeman e = +33m.6s.
Ukiah e = +23m.6s., ePS = +31m.0s., eSS = +37m.36s.
Moscow PP = +20m.46s., SKKS = +27m.33s., PS = +30m.46s., iSS = +38m.24s.
Pulkovo PP = +20m.53s., SKKS = +27m.39s., PPS = +33m.5s., SS = +38m.45s.
Tashkent ePKP = +19m.1s., iPPS = +21m.4s., iSKKS = +27m.41s., ePS = +30m.57s., ePPS = +32m.41s., SS = +38m.12s., eSSS = +43m.0s.
Honolulu ePP = +22m.20s., eSS = +38m.20s., e = +54m.24s.
Scoresby Sund eZ = +19m.36s., eN = +21m.12s. =PP −2s., e = +21m.50s., i = +22m.17s. and +23m.5s., eE = +29m.24s., eN = +33m.43s., eE = +38m.30s. =SS −4s., eN = +39m.12s., eE = +40m.54s.
Manila iZ = +22m.18s. =PKS, iE = +25m.9s.
Frunse i = +21m.40s.
Seattle e = +22m.27s. =PKS −14s.
Almata i = +21m.46s.
Hong Kong ? = +22m.32s. =PKS −19s., S? = +31m.29s. =SKSP −16s., SKS? = +32m.4s. =PS −4s., SSS = +39m.35s. =SS +3s.
Sverdlovsk iPP = +21m.47s., PKS = +22m.24s., SKKS = +28m.17s., iPS = +31m.47s., iSS = +39m.24s.
Sitka iPP = +20m.52s., e = +41m.22s. =SS −7s., i = +42m.16s., e = +47m.14s.
Nanking ePP = +24m.2s., SS = +33m.16s. =SKSP +14s., iSS = +35m.47s.
Zi-ka-wei iZ = +20m.21s.
Nagasaki iP = +19m.48s.
Chiufeng ePKPE = +19m.44s., iZ = +22m.58s., PP = +23m.18s., PPPZ = +26m.42s., iSKKS?N = +30m.2s., SKSPNZ = +33m.25s., PPP = +36m.2s., PPPS? = +38m.6s., iZ = +38m.19s., SSE = +42m.19s., SS?N = +42m.25s., iN = +47m.4s., SSSEZ = +48m.4s.
Kobe eZ = +19m.18s., eN = +19m.56s. and +21m.14s., iE = +42m.58s.
Nagoya S = +22m.3s.
Vladivostok e = +20m.36s. =PKP, −6s., PP = +23m.53s., e = +27m.53s. = PPP +8s. and +29m.54s. =PPPP −10s.
Long waves also at Bucharest, Columbia, and Ukiah.

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May 14d. Readings also at 1h. (Florence and Kew), 2h. (Toyooka), 4h. (Karenko, Taihoku, and Taityu), 6h. (Tiflis), 9h. (Yalta), 10h. (Nagoya), 11h. (Tiflis), 14h. (Alicante, Arisan, Karenko, Taihoku, and Taito), 16h. (Tiflis), 19h. (Bombay), 21h. (Apia and Cheb), 22h. (Berkeley, Branner, and Lick).

May 15d. 2h. 1m. 30s. Epicentre 28°·0N. 68°·1E. N.1.

A = + ·329, B = + ·819, C = + ·469 ; D = + ·928, E = − ·373 ;
G = + ·175, H = + ·436, K = − ·883.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Agra		8·8	90	2 18	+13	4 1	+17	—	—
Dehra Dun		9·0	73	4 0	S	(4 0)	+11	6·0	6·5
Bombay		10·0	155	2 37	+16	4 27	+14	—	7·4
Samarkand		11·7	354	2 46	+ 2	5 13	?	—	—
Andijan		13·2	14	e 3 6	+ 1	e 5 35	+ 3	e 7·9	—
Tashkent		13·3	3	i 3 5	− 1	i 5 53	+19	—	10·5
Hyderabad		14·2	136	2 45	−33	5 52	− 4	7·8	10·9
Tchimkent		14·3	4	e 3 20	+ 1	—	—	—	—
Frunse		15·8	17	e 3 52	+13	—	—	—	—
Almata		16·9	23	e 3 52	− 1	e 6 55	− 4	e 9·0	—
Calcutta	E.	19·1	101	4 36	PP	8 12	SS	9·8	—
Kodaikanal	E.	19·8	152	i 4 45	PP	8 30	SS	10·2	12·3
Erevan		22·9	308	e 5 1	+ 1	e 9 15	+12	—	—
Tiflis		23·4	312	i 5 2a	− 3	i 9 12	0	13·6	15·4
Colombo		23·8	151	5 28	PP	9 57	SS	13·3	16·4
Piatigorsk		25·7	315	e 5 20	− 6	e 9 41	−12	—	—
Ksara		28·1	290	i 5 49	+ 1	10 39	+ 5	—	—
Sverdlovsk		29·3	351	i 6 0	+ 1	10 49	− 4	15·7	18·7
Yalta		31·5	310	6 21	+ 3	—	—	—	—
Simferopol		31·8	311	6 22	+ 1	e 11 30	− 2	23·2	—
Helwan		32·1	283	e 6 28	+ 4	e 11 40	+ 3	—	22·2
Sebastopol		32·6	311	e 6 58	+30	—	—	—	—
Moscow		35·3	329	6 51	− 1	12 23	− 3	21·4	27·2
Phu-Lien		35·7	92	8 30?	?	—	—	—	—
Sofia		38·9	305	e 7 30?	+ 7	—	—	—	33·5
Pulkovo		40·8	331	e 7 37	− 2	13 45	− 3	22·0	26·0
Chiufeng		41·0	59	7 52a	+12	13 38	−13	e 20·1	28·4
Hong Kong		41·8	87	14 21	S	(14 21)	+18	—	28·7
Königsberg		43·4	323	—	—	e 18 30	(+28)	26·1	27·5
Nanking		43·8	71	—	—	i 15 13	+40	e 22·7	26·9
Vienna		44·4	312	e 8 6	− 2	e 18 20	(+12)	e 29·5	—
Zagreb		44·4	309	e 8 7	− 1	e 17 30?	SS	—	28·5
Graz		44·8	310	—	—	e 13 28	−79	e 30·4	—
Prague		45·9	315	—	—	e 15 30?	+27	e 24·5	29·0
Triest		45·9	309	e 8 21	+ 1	14 57	− 6	—	29·0
Zi-ka-wei		46·0	72	e 8 31	+10	—	—	—	34·8
Upsala		46·5	328	e 8 24	− 1	e 15 6	− 6	e 25·5	30·6
Cheb		47·2	314	e 8 28	− 2	e 15 25	+ 4	e 29·5	33·5
Leipzig		47·4	316	e 8 28	− 4	15 12	−12	e 26·0	29·0
Florence		47·4	305	8 30	− 2	15 21	− 3	—	—
Prato		47·8	306	e 8 44	+ 9	14 30	−60	22·8	31·5
Jena		47·8	315	e 8 30	− 5	—	—	e 25·5	30·0
Copenhagen		48·1	321	8 37	0	15 31	− 3	28·5	—
Piacenza		48·8	308	9 4	+22	15 48	+ 4	—	35·2
Chur		48·9	308	e 8 42	− 1	—	—	—	—
Hamburg		49·1	319	e 8 42	− 2	e 15 43	− 5	i 28·4	33·5
Stuttgart		49·2	313	e 8 44	− 1	—	—	30·5	34·5
Zurich		49·6	311	e 8 46	− 2	—	—	—	—
Strasbourg		50·2	312	e 8 51	− 2	—	—	e 28·5	—
Basle		50·2	311	e 8 52	− 1	—	—	—	—

Continued on next page.

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	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Manila	50·6	94	9 15	+19	16 30	+21	24·9	29·2
Neuchatel	50·6	310	e 8 55	− 1	—	—	—	—
De Bilt	51·9	316	e 9 9	+ 3	e 16 31	+ 4	e 29·5	32·2
Uccle	52·4	313	e 9 11	+ 2	e 16 37	+ 3	e 28·5	32·4
Vladivostok	52·8	55	—	—	e 16 56	+17	—	36·5
Bergen	53·1	327	—	—	e 16 30?	−13	e 27·5	—
Paris	53·6	312	e 9 19	+ 1	e 17 1	+11	30·5	38·5
Oxford	55·3	315	—	—	i 17 23	+10	e 30·5	36·5
Kew	55·3	315	e 9 37	+ 6	e 17 43	+30	e 31·5	34·1
Stonyhurst	56·5	319	e 9 46	+ 7	e 17 33	+ 3	35·2	40·3
Edinburgh	56·8	320	e 9 42	0	i 17 40	+ 6	e 33·5	40·6
Bidston	56·8	317	—	—	e 17 30	− 4	—	34·3
Rathfarnham Castle	58·2	318	e 9 54	+ 2	e 18 2	PS	e 31·2	34·5
Almeria	58·9	299	—	—	e 17 57	− 4	—	—
Granada	59·7	299	e 10 7	+ 5	18 14	+ 2	37·3r	46·8
Malaga	60·5	298	e 10 1	− 7	18 13	−10	28·8	32·7
San Fernando	61·9	298	—	—	18 35	− 6	41·0	—
Scoresby Sund	63·8	339	10 30	− 1	19 6	+ 1	—	—

Additional readings :—
Agra P = +2m.48s. = P_g.
Dehra Dun S = +5m.0s.
Bombay P_gEN = +3m.33s., S* = +4m.57s.
Almata e = +6m.38s.
Tiflis PP = +5m.26s., PPP = +5m.46s., e = +6m.46s. and +8m.1s., S = +9m.8s., iP_cS = +12m.26s.
Ksara PP = +6m.29s., SS = +11m.59s.
Chiufeng iE = +9m.36s. = P_cP − 9s., iSN = +14m.9s.
Hong Kong S? = +18m.0s. = S_cS + 7s.
Königsberg eE = +10m.6s. = PPP + 2s., iE = +15m.0s., eSN = +18m.36s., eN = +19m.6s., iN = +22m.13s.
Nanking eE = +8m.37s., iSSN = +18m.38s.
Zagreb ePP = +10m.1s. = P_cP + 5s.
Prague e = +18m.30s.? = S_cS + 12s. and +21m.30s.?
Triest e = +18m.22s. = S_cS + 4s.
Leipzig eE = +8m.54s., +9m.2s., and +10m.20s. = SS + 5s., eS?E = +14m.20s.
Copenhagen +10m.32s. = PP + 10s.
Strasbourg ePP = +10m.50s.
Manila PE = +9m.20s., PN = +9m.31s.
Kew eN = +20m.38s.
Granada P_cP = +11m.17s., S_cS = +20m.20s., L_q = +27m.17s.
Malaga e = +10m.37s., PP = +11m.59s., e = +13m.27s., S_cS = +19m.43s.
San Fernando PP = +18m.42s. = PS − 6s.
Scoresby Sund +26m.18s.
Long waves at Durham, Cape Town, La Paz, Göttingen, Karlsruhe, Alicante, Toledo, Philadelphia, and Huancayo.

May 15d. Readings also at 0h. (Toledo, Triest (2), and Sofia), 1h. (Medan and Santiago), 2h. (Erevan), 10h. (Erevan and Ksara), 14h. (Alicante and Mizusawa), 15h. (Alicante, Andijan, Almata, Sverdlovsk, Tashkent, Tchimkent, and Hastings (2)), 16h. (Berkeley, Branner, and San Juan), 17h. (Lick and Malabar), 21h. (Erevan and Tiflis), 22h. (Amboina), 23h. (Sumoto).

May 16d. 17h. 24m. 16s. Epicentre 36°·8N. 69°·5E. (as on 1934 June 18d.). X.

A = +·280, B = +·750, C = +·599.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Samarkand	3·5	327	0 49	− 1	1 27	− 3	—	—
Tashkent	4·5	358	i 1 0	− 4	—	—	i 2·8	11·8
Andijan	4·6	39	e 1 10	+ 4	i 1 50	− 8	—	—
Tchimkent	5·5	5	1 15	− 3	2 33	S*	—	—
Frunse	7·1	31	1 6?	−35	i 3 19	S*	—	3·5

Continued on next page.

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Almata	8·6	39	i 2 7	+ 5	e 4 16	S*	—	—
Dehra Dun	9·6	130	4 4	S	(4 4)	+ 1	6·7	—
Agra	12·1	140	e 2 56	+ 6	5 14	+ 9	—	7·0
Bombay	18·1	170	e 4 17	PP	7 47	SS	9·4	13·2
Tiflis	19·7	292	4 21	− 5	7 58	− 2	10·7	14·0
Erevan	19·8	289	e 4 17	−10	—	—	—	—
Hyderabad	20·9	155	5 44	+65	9 44	+80	11·1	15·7
Sverdlovsk	20·9	346	4 38	− 1	8 19	− 5	12·0r	12·1
Calcutta	21·6	126	5 5	PP	9 4	SS	11·0	14·7
Sotchi	23·6	297	e 5 17	+11	—	—	—	—
Kodaikanal	27·5	163	—	—	10 32	+ 8	12·9	15·4
Ksara	27·5	274	5 43	0	10 26	+ 2	—	—
Yalta	27·7	297	e 5 46	+ 2	—	—	—	—
Simferopol	27·7	298	e 5 44	0	—	—	—	—
Sebastopol	28·1	298	e 3 44	?	e 10 2	−32	—	—
Moscow	28·7	319	e 5 53	0	10 39	− 4	—	17·4
Colombo	31·3	162	12 48	SS	—	—	—	21·5
Pulkovo	33·9	325	—	—	e 11 51	−13	15·7	19·4
Chiufeng	36·2	69	e 7 6	+ 6	e 12 54	+15	—	25·0
Königsberg	37·1	315	—	—	e 20 8	?	—	—
Budapest	38·2	303	e 8 44	PP	—	—	e 24·7	—
Nanking	40·5	81	e 7 49	+13	i 14 4	+20	—	28·7
Prague	41·1	307	—	—	e 16 44?	SS	e 22·2	24·7
Triest	42·0	301	—	—	e 14 0	− 6	—	28·4
Copenhagen	42·3	316	—	—	14 14	+ 4	23·7	—
Leipzig	42·3	309	e 9 26	PP	—	—	e 25·7	—
Cheb	42·4	308	e 9 32	PP	e 14 15	+ 4	e 24·7	31·7
Zi-ka-wei	42·9	83	—	—	e 13 44	−35	—	34·3
Hamburg	43·7	312	—	—	e 13 36	−55	—	28·7
Florence	44·1	298	14 6	?	e 17 44	SS	—	30·2
Stuttgart	44·6	306	e 8 7	− 3	—	—	e 25·7	—
Piacenza	44·9	302	e 10 44	?	—	—	—	32·2
Strasbourg	45·6	305	—	—	e 15 5	+ 6	e 21·7	—
Vladivostok	47·2	62	e 8 36	+ 6	—	—	—	40·6
Paris	48·9	305	—	—	e 20 44?	?	30·7	31·7
Bidston	51·4	312	—	—	e 24 25	?	e 28·1	—
Rathfarnham Castle	53·3	315	e 8 44?	−32	—	—	25·7	36·7
Scoresby Sund	56·1	337	—	—	17 28	+ 4	29·7	—

Additional readings :—
Samarkand iP* = +54s., P_g = +1m.0s.
Andijan PP = +1m.32s., i = +1m.37s., S_g = +2m.22s., i = +2m.26s.
Tchimkent iPP = +1m.36s. =P* +5s., i = +1m.51s., S_g = +2m.39s.
Almata e = +3m.21s.
Dehra Dun S = +5m.24s.
Bombay PP = +4m.36s.
Tiflis iP = +4m.24s., i = +4m.36s.
Sverdlovsk L_q = +11m.2s.
Pulkovo e = +7m.20s. and +13m.20s.
Königsberg eN = +20m.35s., eE = +24m.14s., iE = +25m.25s.
Nanking eN = +17m.42s. =S_eS −3s.
Triest e = +19m.36s. and +23m.44s.
Leipzig eN = +16m.14s., eE = +19m.20s.
Cheb e = +17m.44s.
Stuttgart e = +9m.35s. and +21m.20s.
Strasbourg ePP = +10m.4s., eSS = +18m.24s.
Long waves at Durham, Edinburgh, Kew, Hong Kong, and other European stations.

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May 16d. 20h. 41m. 34s. Epicentre 55°·0S. 124°·0W. (as on 1929 Aug. 4d.). X.

A = −·321, B = −·476, C = −·819; D = −·829, E = +·559; G = +·458, H = +·679, K = −·574.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Wellington		41·6	265	7 54	+ 9	14 20	+20	19·4	—
La Plata		48·8	94	8 34	− 8	15 32	−12	22·3	—
Apia		55·2	300	—	—	e 23 49	L	(e 23·8)	28·3
Sucre		56·8	75	9 42	0	17 36	+ 2	24·4	—
La Paz		57·2	70	i 9 44a	− 1	17 44	+ 5	24·6	27·2
Huancayo		57·2	61	e 9 47	+ 2	i 17 43	+ 4	i 24·2	—
Sydney		60·0	254	e 18 49	?	e 25 11	?	31·2	33·8
Riverview		60·1	255	—	—	e 18 40	?	e 25·8	31·6
Melbourne		60·5	246	—	—	i 18 33	PS	28·2	30·9
Adelaide		65·9	244	—	—	i 19 43	+12	31·2	38·9
Perth		79·2	228	21 56	S	21 56	−11	—	44·4
Honolulu		81·6	329	e 11 58	−18	e 22 46	+13	e 36·2	—
Cape Town		85·4	149	—	—	i 22 59	[− 3]	44·9	—
Tucson		88·0	11	e 12 58	+10	e 23 41	+ 4	e 42·0	—
San Juan		88·2	53	(e 12 48)	− 1	(e 23 40)	+ 1	(e 41·7)	—
Riverside		89·1	4	e 12 53	0	—	—	—	—
Pasadena		89·2	5	i 12 59	+ 5	—	—	e 40·4	—
Tinemaha		92·2	5	e 13 13	+ 5	—	—	—	—
Berkeley		92·9	2	—	—	i 24 27	+ 4	—	—
Ukiah		94·1	0	—	—	e 24 38	+ 4	e 44·0	—
Philadelphia		103·6	37	—	—	e 32 59	SS	e 49·9	—
Ottawa		108·3	35	—	—	e 34 14	SS	e 44·4	—
Zi-ka-wei		128·9	272	e 21 19	PP	—	—	63·1	67·9
Nanking		131·1	271	e 21 43	PP	—	—	63·9	—
Vladivostok		131·4	291	e 19 34	[+25]	—	—	—	89·3
Malaga		135·8	87	e 21 53	PP	—	—	66·3	—
Granada		136·6	88	e 21 26?	PP	—	—	66·0	—
Chiufeng		138·4	277	e 22 21	PP	i 29 9	{− 5}	58·5	74·0
Calcutta	E.	139·6	231	e 22 22	PP	—	—	—	—
Bombay		141·7	208	e 22 26?	PP	—	—	—	79·0
Scoresby Sund		144·3	34	19 50	[+18]	—	—	60·4	—
Rathfarnham Castle		144·7	65	—	—	e 30 26?	{+34}	e 68·4	75·0
Kew		147·0	73	e 19 36	[− 1]	—	—	e 68·4	99·1
Paris		147·3	79	i 19 38	[0]	—	—	71·4	97·4
Agra	E.	147·9	221	e 19 47	[+ 8]	—	—	—	—
Neuchatel		148·8	83	e 19 40	[0]	—	—	—	—
Uccle		149·3	77	e 19 41	[0]	e 42 14	SS	59·4	—
Zurich		149·4	83	e 19 43	[+ 2]	—	—	—	—
Basle		149·5	84	e 19 38	[− 3]	—	—	—	—
Strasbourg		150·1	82	e 19 44	[+ 2]	e 29 26?	?	e 48·4	—
Chur		150·2	87	e 19 43	[+ 1]	—	—	—	—
Stuttgart		151·0	82	e 19 43	[0]	—	—	e 77·4	100·4
Triest		152·0	80	—	—	e 55 49	?	—	78·2
Cheb		153·5	81	e 19 26?	[−20]	—	—	e 82·4	87·4
Prague		154·6	84	e 20 26?	[+38]	—	—	—	97·4
Ksara		154·7	138	i 19 56	[+ 8]	—	—	71·4	—
Copenhagen		155·6	70	—	—	43 32	SS	72·4	—
Sebastopol		162·3	113	e 20 32	{−23}	—	—	—	—
Yalta		162·6	118	e 20 39	{−17}	—	—	—	—
Simferopol		162·9	114	e 20 40	{−17}	—	—	—	—
Tashkent		163·8	218	e 19 34	[−24]	—	—	e 70·7	114·7
Tiflis		164·7	144	e 19 55	[− 4]	—	—	e 77·4	90·9
Baku		164·9	162	e 20 38	[+39]	—	—	79·4	90·9
Pulkovo		165·4	60	e 20 29	[+29]	—	—	87·4	91·3
Sverdlovsk		176·8	305	e 20 10	[+ 3]	e 32 43	{− 4}	72·4	94·7

For Notes see next page.

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NOTES TO 16d. 20h. 41m. 34s.

Additional readings and note :—
Wellington i = +9m.41s. = P_cP − 6s. and +17m.41s. = S_cS − 10s.
Apia e = +24m.20s.
Huancayo eSS = +21m.18s.
Melbourne i = +16m.28s.
Adelaide i = +23m.57s.
San Juan eSS = (+28m.10s.); all readings have been *diminished* by 1m.
Berkeley iZ = +24m.37s. and +25m.42s., eE = +30m.35s., iN = +31m.9s., iZ = +32m.7s., eE = +38m.57s.
Ukiah eSKS = +25m.58s., ePS = +31m.11s.
Philadelphia e = +43m.53s.
Nanking iPKP = +22m.50s.
Malaga e = +22m.37s., +24m.17s., and +30m.17s.
Chiufeng iN = +35m.29s. and +40m.46s.
Scoresby Sund +47m.8s.
Paris PKP = +19m.58s.
Strasbourg ePP = +23m.34s., eSS = +42m.26s.?
Stuttgart e = +27m.58s. and +42m.32s.
Prague e = +14m.26s.?
Ksara PP = +23m.31s., PPS = +36m.35s.
Tashkent e = +20m.45s. and +25m.23s., i = +26m.37s. and +29m.48s., e = +44m.57s. = SS − 15s. and +51m.44s.
Tiflis e = +20m.40s. and +42m.51s.
Baku e = +28m.30s. = PPP + 5s., +39m.46s., +47m.16s. and +64m.26s.
Pulkovo e = +30m.1s.
Sverdlovsk i = +22m.3s. = PKP_2 + 3s. and +26m.11s., e = +30m.25s., i = +36m.57s. and +47m.35s. = SS + 14s., e = +54m.37s.
Long waves at Bidston, Edinburgh, Stonyhurst, De Bilt, Piacenza, Florence, Moscow, San Fernando, Bozeman, Seattle, Sitka, Amboina, Hong Kong, and Tananarive.

May 16d. Readings also at 2h. (Budapest and Sumoto), 3h. (Berkeley, Branner, Lick, Tucson, and Strasbourg), 4h. (Andijan, Strasbourg, Hong Kong, Kobé, Sumoto, and Perth), 6h. (Andijan, Almata, and Wellington), 7h. (Amboina), 8h. (Cheb and Zurich), 10h. (Lick, Hastings, New Plymouth, and Wellington), 14h. (Alicante), 17h. (Pasadena, Riverside, Tinemaha, Oak Ridge, and Tiflis), 21h. (Pasadena, Riverside, and Tinemaha), 22h. (Amboina, Leipzig, and Oak Ridge), 23h. (Mizusawa and Nagoya)

May 17d. 19h. 51m. 7s. Epicentre 24°·6N. 120°·9E. R.3.
(as on 1935 April 21d. 19h.).

A = −·467, B = +·780, C = +·416; D = +·858, E = +·513;
G = −·214, H = +·357, K = −·909.

	△	Az.	P.	O − C.	S.	O − C.
	°	°	m. s.	s.	m. s.	s.
Taityu	0·5	200	0 5	− 2	0 13	0
Taihoku	0·7	55	0 10	0	0 19	+ 1
Karenko	0·9	131	e 0 13	0	e 0 27	S*
Arisan	1·1	185	i 0 17	+ 1	i 0 33	S*
Taito	1·8	173	e 0 34	P_g	0 58	S_g
Takao	2·0	195	0 26	− 3	—	—
Kosyun	2·6	185	e 0 45	P_g	1 16	S*
Nanking	7·7	345	—	—	e 4 4	S_g

May 17d. Readings also at 0h. (Amboina), 1h. (Amboina), 2h. (Andijan, Samarkand, Sverdlovsk, Tashkent, and Tchimkent), 8h. (Baku, Tiflis, and Tashkent), 12h. (Pasadena, Tinemaha, and Tucson), 13h. (Scoresby Sund), 15h. (Oak Ridge), 16h. (Tacubaya), 17h. (Oak Ridge), 18h. (Sverdlovsk and Tashkent), 19h. (Oak Ridge, Erevan, Tiflis, and Nagoya), 23h. (Tiflis).

May 18d. 17h. Readings for which no determination has been made :—
Sitka eP = 23m.46s., iS = 25m.12s., iL = 25m.34s.
Tinemaha iP = 28m.9s.
Mount Wilson iP = 28m.30s.
Pasadena iP = 28m.30s.k.

Continued on next page.

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Riverside iPZ = 28m.33s.
La Jolla iP = 28m.46s.
Sverdlovsk e = 31m.32s., e = 43m.52s., L = 50m.
Balboa Heights e = 32m.18s., e = 36m.7s., eL = 36m.30s.
Seattle e = 32m.48s.
Philadelphia e = 41m.42s., e = 44m.33s., eL = 46m.0s.
Ann Arbor e?E = 42m.6s., e = 43m.6s., e = 44m.0s., eLN = 46m.24s.
Copenhagen 44m., L = 54m.
Oak Ridge i = 45m.41s., i = 46m.5s., e = 46m.8s.
Georgetown eP = 45m.50s., eS = 49m.2s.; T_0 = 17h.42m.12s.
Chiufeng (e) E = 51m.28s., eM = 57m.18s.
Wellington 55m.
Long waves at De Bilt, Paris, Scoresby Sund, Strasbourg, Tashkent, Nanking, and Tucson.

May 18d. 21h. 31m. 52s. Epicentre 16°·6S. 167°·0E. N.3.

A = −·934, B = +·216, C = −·286; D = +·225, E = +·974; G = +·278, H = −·064, K = −·958.

	△ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Riverview	22·3	216	e 4 38	−16	i 8 31	−21	e 11·1	12·9
Sydney	22·3	217	e 4 56	+ 2	e 8 40	−12	11·1	12·6
Wellington	25·6	166	—	—	i 8 28	?	10·1	—
Melbourne	28·3	219	e 5 38	−12	i 10 18	−19	13·3	15·0
Perth	48·6	242	e 18 8	S	(e 18 8)	(−27)	—	—
Manila	55·1	302	14 32	?	16 49	−22	—	—
Batavia	59·7	273	10 11	+ 9	i 18 28	+16	—	—
Nanking	67·1	316	e 10 24	−28	i 20 25	(−19)	e 31·1	—
Chiufeng	73·8	322	i 11 25a	− 8	i 21 37	PS	—	—
Santa Barbara	86·3	52	e 12 40	0	—	—	—	—
Pasadena	87·3	53	i 12 35a	−10	—	—	—	—
Mount Wilson	87·5	53	e 12 36	− 9	—	—	—	—
Riverside	87·9	53	e 12 37	−10	—	—	—	—
Tinemaha	88·4	51	i 12 42	− 8	—	—	—	—
Tashkent	106·6	309	e 9 27	?	—	—	—	52·3
Sverdlovsk	112·7	325	e 18 30	[+ 4]	—	—	51·1	—
Tiflis	124·8	310	e 22 8	?	—	—	66·1	—
Pulkovo	126·7	334	i 22 20	?	—	—	68·1	—
Simferopol	131·5	316	e 22 39	{− 1}	—	—	—	—
Yalta	131·6	315	e 22 41	{+ 1}	—	—	—	—
Ksara	133·0	300	i 19 12	[0]	22 45	PKS	69·1	—
Copenhagen	136·4	340	22 56	{− 2}	—	—	70·1	—
Jena	140·0	335	e 19 23	[+ 2]	—	—	—	—
Vienna	140·3	329	i 19 22	[0]	—	—	—	—
De Bilt	141·7	341	i 19 25a	[+ 2]	—	—	e 77·1	—
Stuttgart	143·1	337	19 30	[+ 2]	—	—	e 78·1	—
Uccle	143·1	342	e 19 29	[+ 1]	—	—	e 71·1	—
Triest	143·4	329	e 19 30	[+ 1]	—	—	—	—
Kew	143·7	346	e 19 40	[+10]	—	—	e 78·1	—
Strasbourg	143·8	337	i 19 32a	[+ 1]	—	—	e 78·1	—
Zurich	144·5	335	e 19 13a	[−20]	—	—	—	—
Chur	144·5	333	e 19 34	[+ 1]	—	—	—	—
Basle	144·7	338	e 19 34	[+ 1]	—	—	—	—
Neuchatel	145·4	336	e 19 36	[+ 2]	—	—	—	—
Paris	145·4	342	19 8?	[−26]	—	—	79·1	—

Additional readings:—
Riverview iE = +4m.47s., iSN = +8m.33s.
Melbourne i = +10m.44s.
Pasadena iZ = +12m.44s. and +16m.17s. = PP +13s.
Tinemaha eE = +16m.3s. = PP −10s.
Tashkent e = +38m.50s. and +47m.50s.
Tiflis e = +22m.49s.
Pulkovo i = +22m.30s.
Ksara PP = +21m.57s.
Stuttgart iZ = +19m.40s.
Triest i = +20m.51s., e = +23m.31s. = PKS +14s.
Strasbourg e = +20m.3s. = PKS −14s.
Long waves at Baku, Granada, Huancayo, and Philadelphia.

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May 18d. Readings also at 2h. (Taikyu), 3h. (Taikyu), 4h. (Nagasaki), 8h. (Glenmuick, Wellington, Balboa Heights, Huancayo, San Juan, and Manzanillo) 9h. (La Paz), 11h. (Nagoya), 14h. (Tiflis), 16h. (Karenko), 17h. (San Juan), 19h. (Chiufeng, Glenmuick, Hastings, Wellington, Pulkovo, Simferopol, Sverdlovsk, Pasadena, Riverside, and Tinemaha), 21h. (Mizusawa), 22h. (Wellington), 23h. (Basle, Chur, Triest, Zurich, Samarkand, and Wellington).

May 19d. Readings at 0h. (Samarkand), 2h. (Manila), 3h. (Erevan, Tiflis, Andijan, Almata, Samarkand, and Wellington), 5h. (Serra do Pilar), 6h. (Almeria, Granada, Rathfarnham Castle, New Plymouth, and Wellington), 7h. (Tacubaya), 8h. (Amboina, Wellington, and Tacubaya), 9h. (Yalta), 10h. (Apia, Ksara, Stuttgart, La Jolla, Mount Wilson, Pasadena, Riverside, and Tinemaha), 11h. (Riverside and Tinemaha), 13h. (Almata, Andijan, Samarkand, and Tchimkent), 14h. (Andijan), 15h. (Tacubaya), 16h. (Tucson), 17h. (Tucson, Pasadena, and Tinemaha), 21h. (Sverdlovsk), 22h. (Scoresby Sund, Tashkent and Tiflis).

May 20d. 5h. 21m. 37s. Epicentre 3°·6N. 126°·7E. N.2.

Given by Batavia.

$A = -\cdot596$, $B = +\cdot800$, $C = +\cdot063$; $D = +\cdot802$, $E = +\cdot598$; $G = -\cdot038$, $H = +\cdot051$, $K = -\cdot998$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		7·4	168	e 1 48	+ 3	i 2 39	P_g	—	—
Palau		8·6	61	2 7	+ 5	3 35	− 4	—	—
Manila		12·3	334	2 57	PP	5 25	+15	6·9	8·1
Kosyun		19·3	344	4 25	+ 3	—	—	—	—
Isigakizima		20·9	355	5 11	?	9 2	?	—	—
Karenko		21·0	346	4 40	0	—	—	—	—
Malabar		21·9	243	e 5 6	PP	—	—	—	—
Taihoku		22·0	347	e 5 4	PP	e 8 48	+ 2	—	—
Batavia		22·1	244	4 55	+ 3	—	—	—	—
Hong Kong		22·3	329	4 53	− 1	8 52	0	10·9	13·7
Medan		27·9	272	5 47	+ 1	—	—	—	—
Nagasaki		29·3	5	5 58	− 1	e 12 3	SS	—	—
Kumamoto		29·4	6	5 59	− 1	—	—	—	—
Nanking		29·4	347	6 0	0	10 43	−12	—	—
Sumoto		31·6	13	e 6 20	+ 1	e 12 57	SS	—	20·7
Husan		31·6	6	—	—	e 15 22	?	—	—
Kobe		32·0	15	e 6 16	− 7	—	—	—	20·6
Osaka		32·1	14	3 57	?	10 1	?	—	—
Nagoya		32·9	17	e 6 32	+ 1	—	—	—	—
Kohu		33·9	19	6 39	0	—	—	—	—
Oiwake		34·5	18	6 46	+ 1	—	—	—	—
Nagano		34·7	17	6 48	+ 2	—	—	—	—
Hukusima		36·4	18	7 0	− 1	—	—	—	—
Sendai		37·0	18	7 4	− 2	—	—	—	—
Perth		37·0	196	7 23	+17	—	—	—	—
Chiufeng		37·7	347	i 7 11a	− 1	12 59	− 3	17·8	23·5
Adelaide		40·2	165	i 9 16	PPP	i 13 39	0	21·9	29·5
Calcutta	E.	41·6	301	e 7 46	+ 1	—	—	—	—
Riverview		44·0	150	—	—	e 14 35	− 1	e 26·1	28·9
Sydney		44·0	150	—	—	e 14 31	− 5	26·4	30·4
Melbourne		44·7	158	—	—	i 14 49	+ 3	26·7	27·7
Hyderabad		49·2	289	9 12	+27	16 37	+47	26·4	33·5
Kodaikanal	E.	49·3	282	e 8 23	−23	—	—	—	—
Bombay		54·7	291	e 9 23	− 3	e 17 7	+ 2	—	38·8
Almata		59·1	320	e 9 23	−35	—	—	—	—

Continued on next page.

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Andijan	61·2	314	e 10 9	− 4	—	—	—	—
Tashkent	63·5	315	10 28	− 1	i 18 50	−11	e 29·7	39·0
Tchimkent	63·7	316	e 10 23	− 7	—	—	—	—
Sverdlovsk	74·0	329	i 11 32	− 3	20 55	−13	33·4	46·0
Baku	77·6	312	e 11 54	− 1	e 22 27	PS	37·4	56·6
Tiflis	81·5	312	12 15	− 1	e 22 25	− 7	32·4	54·0
Moscow	86·5	326	12 39	− 2	23 13	[+ 3]	35·4	51·9
Ksara	88·6	303	i 12 52a	+ 1	23 58	+15	—	—
Simferopol	88·7	315	e 13 19	+28	e 23 29	[+ 5]	—	—
Yalta	89·2	314	e 13 28	+34	—	—	—	—
Copenhagen	100·3	329	13 23?	−22	24 11	[−16]	50·4	—
Cheb	102·4	323	e 20 23?	PPP	—	—	e 55·4	60·4
Hamburg	102·4	327	e 21 23?	PPPP	—	—	e 53·4	—
Scoresby Sund	103·0	349	18 15	PP	24 59	[+19]	50·4	—
Triest	103·1	319	—	—	e 24 54	[+13]	e 55·9	69·0
Stuttgart	104·9	323	—	—	e 28 23?	?	e 56·4	—
Florence	105·4	317	17 23	[−40]	26 33	S	—	38·4
De Bilt	105·7	327	—	—	e 24 53	[0]	e 54·4	65·6
Piacenza	106·0	320	e 17 23	[−42]	—	—	—	72·4
Paris	108·8	324	e 18 23?	[+ 9]	—	—	58·4	63·4
San Juan	154·7	29	e 20 3	[−17]	—	—	e 77·8	—
Huancayo	156·7	111	—	—	e 44 53	?	74·7	—
La Paz	160·6	133	20 4k	[+10]	—	—	82·4	—

Additional readings :—
Hong Kong SS? = +9m.34s.
Sumoto eSN = +12m.53s.
Kobe eN? = +4m.27s., eZ = +7m.7s., eE = +7m.27s. =PP +4s.
Osaka PP = +5m.29s., i = +7m.11s., SS = +12m.23s.
Adelaide e = +6m.18s.
Riverview eEN = +17m.47s. =SS +15s.
Melbourne i = +18m.16s. = S_gS + 6s.
Tiflis PP = +15m.49s., PPP = +18m.5s., SP = +22m.49s., S = +23m.45s., SS = +27m.50s.
Ksara PP = +16m.33s., PPS = +25m.34s.
Scoresby Sund e = +28m.5s.
Triest i = +37m.55s.
La Paz PPZ = +24m.22s.
Long waves at Wellington, Philadelphia, Bidston, Durham, Edinburgh, Kew, Stonyhurst, and other European stations.

May 20d. 8h. 28m. 47s. Epicentre 24°·6N. 120°·9E. (as on May 17d.). R.3.

A = −·467, B = +·780, C = +·416.

	Δ	Az.	P.	O−C.	S.	O−C.	L.
	°	°	m. s.	s.	m. s.	s.	m.
Taityu	0·5	200	0 5	− 2	0 11	− 2	—
Taihoku	0·7	55	0 18	S	0 32	?	—
Karenko	0·9	131	i 0 15	+ 2	i 0 28	S*	—
Arisan	1·1	185	i 0 16	0	i 0 26	− 2	—
Tainan	1·7	200	e 0 23	− 1	—	—	—
Taito	1·8	173	i 0 37	P_g	1 5	?	—
Takao	2·0	195	0 8	?	0 21	?	—
Kosyun	2·6	185	e 0 42	P*	1 13	S*	—
Nanking	7·7	345	1 49	0	—	—	3·9

Long waves at Hong Kong, Tashkent, and Sverdlovsk.

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May 20d. 11h. 40m. 52s. Epicentre 48°·4N. 7°·2E. (as on 1934 Aug. 9d.). **X.**

A = +·659, B = +·083, C = +·748.

	Δ	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Strasbourg	0·4	64	i 0 5	− 1	i 0 10	0
Basle	0·9	164	e 0 14	+ 1	e 0 24	+ 1
Stuttgart	1·3	74	—	—	e 0 28	− 5
Neuchatel	1·4	187	e 0 23	P_g	e 0 40	S*
Zurich	1·4	137	e 0 19	− 1	e 0 37	+ 1
Ravensburg	1·7	110	—	—	e 0 48	S*
Chur	2·2	135	e 0 38	P_g	e 1 3	S*

Additional readings :—
Stuttgart e = +37s. = S* +0s., iS_g = +43s.
Ravensburg eS_g = +52s.

May 20d. Readings also at 1h. (Branner), 2h. (Wellington), 3h. (Triest), 6h. (Andijan and Messina), 7h. (Almata, Samarkand, Tchimkent, and Lick), 8h. (Berkeley and Tucson), 10h. (Santiago), 11h. (Pasadena, Riverside, Tinemaha, and Wellington), 13h. (Wellington), 15h. (Hastings), 17h. (Baku, Erevan, Granada, Ksara, Sverdlovsk, Tashkent, and Tiflis), 18h. (Kew, Cheb, Copenhagen, De Bilt, Paris, Sverdlovsk, Stuttgart, Strasbourg, Tashkent, Uccle, San Juan, and Wellington), 21h. (Amboina (2) and Sydney).

21d. 1h. Readings for which no determination has been made :—
Taihoku iP = 1m.28s., iS = 2m.4s.
Karenko e = 1m.29s., e = 2m.22s.
Arisan e = 1m.42s.
Kosyun e = 2m.12s.
Taityu P = 2m.20s.
Takao P = 2m.27s.
Nanking eP = 2m.41s., S = 4m.33s.
Chiufeng PEN = 4m.25s.
Sverdlovsk iP = 10m.0s., L = 28m.
Long waves at Tashkent.

May 21d. 4h. 22m. 27s. Epicentre 29°·0N. 89°·2E. **N.2.**

A = +·012, B = +·875, C = +·485 ; D = +1·000, E = −·014 ;
G = +·007, H = +·485, K = −·875.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Calcutta		6·5	188	1 38	+ 6	2 52	+ 6	3·2	—
Agra		10·1	263	2 18	− 4	4 2	−14	—	—
Hyderabad		15·2	224	3 40	+ 9	5 50	−30	7·5	10·5
Almata		17·3	330	4 6	PP	7 38	SS	—	—
Phu-Lien		17·7	111	e 4 1	− 2	—	—	—	—
Bombay		18·0	240	4 6	− 1	7 9	−16	8·3	9·8
Andijan		18·1	315	e 4 13	+ 5	e 7 41	SS	—	—
Tashkent		20·3	313	i 4 42	PP	i 8 42	SS	11·0	12·6
Samarkand		21·1	315	i 4 48	+ 7	e 8 38	+10	—	—
Kodaikanal	E.	21·8	215	e 4 48	− 1	i 8 38	− 4	i 10·6	12·4
Hong Kong		23·4	101	5 2	− 3	9 10	− 2	—	13·2
Chiufeng		24·7	54	e 5 36	PP	i 9 38	+ 2	—	14·2
Nanking		25·6	76	i 5 26	+ 1	i 9 46	− 5	e 13·2	15·0
Medan		27·0	158	—	—	10 51	+36	—	—
Manila		32·7	109	6 55	+26	11 39	− 7	—	17·2
Baku		34·0	301	6 44	+ 4	—	—	18·5	—
Sverdlovsk		34·3	332	i 6 46	+ 3	i 12 11	0	—	—
Tiflis		37·9	301	7 15	+ 1	e 13 5	0	—	—
Erevan		38·1	299	e 7 17	+ 1	—	—	—	—
Moscow		45·1	320	8 14	0	e 14 45	− 7	—	—

Continued on next page.

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Ksara	45·3	290	i 8 17k	+ 2	15 17	+22	—	—
Yalta	45·8	305	8 19	0	14 59	− 3	—	—
Simferopol	45·9	305	8 20	0	e 15 1	− 2	—	—
Pulkovo	49·8	326	8 50	0	15 55	− 3	22·5	32·3
Copenhagen	59·1	321	9 59	+ 1	18 3	− 1	—	—
Triest	60·0	309	10 2	− 2	i 18 13	− 3	—	—
Hamburg	60·9	318	—	—	e 17 39	?	—	—
Stuttgart	62·4	313	i 10 20	− 1	e 18 39	− 8	e 39·5	—
Chur	62·6	309	e 10 20k	− 2	—	—	—	—
Piacenza	62·9	309	e 8 33	?	17 33	?	—	—
Zurich	63·1	311	e 10 24	− 2	—	—	—	—
Strasbourg	63·4	313	i 10 25k	− 3	—	—	e 25·5	—
De Bilt	64·0	317	e 10 32	0	e 19 6	− 1	e 31·5	—
Neuchatel	64·2	311	e 10 28	− 6	—	—	—	—
Uccle	64·5	316	e 10 37	+ 2	—	—	e 35·5	—
Paris	66·6	313	e 10 33?	−16	—	—	39·5	—
Kew	67·4	318	i 10 54	0	—	—	e 31·5	—
Tinemaha	109·2	22	i 18 57	PP	i 29 29	?	—	—
Pasadena	111·8	24	e 19 11	PP	—	—	—	—
Riverside	112·2	24	—	—	e 29 18	PS	—	—

Additional readings :—
Agra P* = +2m.45s., P_g = +3m.11s., S*N = +4m.36s., S_g = +5m.10s.
Bombay iEN = +4m.31s., SSEN = +7m.35s.
Kodaikanal PP = +5m.13s., iSS = +9m.33s.
Hong Kong PP = +5m.31s., SS = +10m.2s.
Chiufeng iN = +6m.3s.
Nanking iE = +10m.21s.
Baku e = +11m.26s.
Tiflis e = +7m.45s., pP = +8m.49s., iPP = +9m.15s., eS = +13m.45s. sS = +15m.57s., eSS = +16m.45s.
Moscow PP = +9m.11s., PS = +15m.46s.
Ksara pP = +8m.43s., P_cP = +9m.51s., PP = +10m.7s., sPP = +10m.39s., epS = +15m.42s., esS = +15m.59s., S_cS = +18m.3s., SS = +18m.25s.
Yalta PP = +10m.9s.
Simferopol PP = +10m.3s.
Triest PS = +18m.47s., e = +33m.18s.
Stuttgart e = +10m.48s.
Long waves at Cheb.

May 21d. 6h. 51m. 43s. Epicentre 5°·8S. 146°·0E. N.1.

A = −·825, B = +·556, C = −·101 ; D = +·559, E = +·829 ; G = +·084, H = −·057, K = −·995.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Palau	17·5	319	4 5	+ 5	—	—	—	—
Amboina	17·9	276	i 4 7	+ 2	i 7 35	SS	10·1	—
Riverview	28·4	170	e 5 54	+ 3	10 41	+ 3	e 16·5	18·7
Adelaide	30·0	192	i 6 7	+ 2	i 11 4	0	15·1	20·3
Melbourne	32·0	180	e 6 50	?	11 37	+ 2	15·3	20·2
Manila	32·1	310	i 6 26	+ 2	11 40	+ 3	15·8	28·8
Titizima	33·1	354	6 37	+ 4	—	—	—	—
Kosyun	37·2	319	7 10	+ 2	—	—	—	—
Karenko	38·1	322	7 20	+ 4	—	—	—	—
Malabar	38·2	266	7 24	+ 7	—	—	—	—
Perth	38·4	223	6 17	−61	i 13 17	+ 5	20·1	21·9
Taihoku	38·9	323	7 25	+ 2	i 13 20	0	—	—
Batavia	39·0	268	i 7 24	0	—	—	e 26·3	—
Kagosima	40·2	339	7 33	− 1	—	—	—	—
Miyazaki	40·2	339	7 31	− 3	13 0	−39	—	—

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		△ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Siomisaki		40·4	346	7 33	− 2	13 40	− 2	—	—
Koti		41·1	344	7 42	+ 1	13 49	− 4	—	—
Kumamoto		41·3	340	7 43	0	—	—	—	—
Wakayama		41·3	346	7 41	− 2	13 49	− 7	—	—
Misima		41·4	351	7 38	− 6	13 44	−13	—	—
Sumoto		41·5	348	7 44	0	13 54	− 5	—	4·0
Nagasaki		41·5	340	7 43	− 1	(13 55)	− 4	13·9	—
Kameyama		41·6	349	7 44	− 1	13 55	− 5	—	—
Osaka		41·7	347	7 47	+ 1	14 0	− 2	22·1	—
Kobe		41·8	347	7 45	− 2	13 59	− 4	—	22·6
Nagoya		41·8	350	e 7 35	−12	—	—	—	—
Hong Kong		42·0	312	7 47	− 2	14 3	− 3	20·2	28·5
Kohu		42·0	351	7 49	0	14 3	− 3	—	—
Hukuoka B		42·1	341	e 7 49	0	e 14 3	− 5	e 19·4	—
Apia		42·3	104	e 7 54	+ 3	e 14 12	+ 2	e 17·7	—
Tukubasan		42·4	352	7 47	− 5	14 3	− 8	—	—
Kakioka		42·4	353	7 51	− 1	—	—	—	—
Mito		42·5	353	7 52	− 1	14 8	− 5	—	—
Maebasi		42·7	353	7 54	0	14 12	− 4	—	—
Oiwake		42·7	351	7 53	− 1	14 13	− 3	—	—
Nagano		43·1	351	7 58	0	14 20	− 2	—	—
Toyama		43·3	349	8 1	+ 2	14 22	− 3	—	—
Wellington		43·8	148	8 2	− 1	14 31	− 2	23·3	—
Hukusima		43·8	353	8 3	0	14 28	− 5	—	—
Husan		43·9	339	i 8 4	0	i 14 32	− 2	e 20·6	—
Wazima		44·0	350	8 13	+ 8	—	—	—	—
Sendai		44·3	355	8 4	− 3	14 28	−12	—	—
Mizusawa	E.	45·1	355	e 7 8	−66	14 3	−49	—	—
	N.	45·1	355	8 0	−14	14 30	−22	—	—
Nanking		45·9	326	i 8 17	− 3	i 14 59	− 4	e 20·3	25·4
Keizyo		46·9	339	8 28	0	15 15	− 2	—	—
Zinsen		47·0	339	e 8 16	−13	e 15 12	− 7	—	—
Medan		48·2	280	8 48	+10	i 15 37	+ 1	e 26·3	—
Chiufeng	N.	53·5	331	i 9 17	− 1	i 16 46	− 3	25·4	31·4
Honolulu		61·3	61	—	—	e 18 31	− 2	—	—
Colombo		67·2	280	10 40	−13	19 41	− 6	—	—
Kodaikanal	E.	70·2	283	e 9 17	−115	—	—	—	—
Hyderabad		70·6	291	11 27	+13	20 40	PS	34·3	43·3
Agra	E.	73·4	300	i 11 29	− 2	i 20 52	− 9	—	—
Bombay		76·1	291	e 11 49	+ 2	i 21 29	− 4	—	—
Almata		79·0	316	e 11 17	−46	—	—	—	—
Andijan		81·6	312	e 12 13	− 3	—	—	—	—
Tashkent		84·0	313	12 28	0	i 22 44	[− 8]	e 39·3	45·8
Samarkand		85·3	310	e 12 32	− 3	—	—	—	—
Sitka		88·7	32	—	—	i 23 35	− 9	e 41·7	—
Sverdlovsk		92·3	326	i 13 6	− 2	23 34	[−12]	39·3	56·8
Ukiah		94·3	51	—	—	e 24 44	+ 8	e 43·3	—
Berkeley		94·9	52	i 13 18	− 2	i 25 48	PS	—	—
Santa Barbara		96·6	55	i 13 29	+ 1	—	—	—	—
Pasadena		98·0	56	e 13 31a	− 3	i 24 37	{− 1}	e 46·3	—
Tinemaha		98·0	53	i 13 35k	+ 1	—	—	—	—
Baku		98·4	310	e 13 20	−16	e 26 30	PS	48·3	68·2
Riverside		98·7	56	i 13 36	− 2	—	—	—	—
Tiflis		102·2	311	—	—	e 24 37	[+ 1]	44·3	66·1
Tucson		104·2	57	—	—	e 27 48	PS	e 43·2	—
Pulkovo		107·8	331	14 15	− 5	28 6	PS	48·3	62·7
Yalta		109·5	315	e 19 5	PP	—	—	—	—
Simferopol		109·5	316	e 19 1	PP	—	—	—	—
Ksara		109·9	303	e 14 28	− 3	—	—	—	64·3
Scoresby Sund		114·8	355	19 41	PP	29 29	PS	56·3	—

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	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Copenhagen	118·0	332	20 0	PP	25 53	[+ 9]	56·3	—
Prague	120·1	326	—	—	e 36 47	SS	—	73·3
Hamburg	120·7	332	e 21 17?	?	—	—	58·3	60·3
Cheb	121·2	327	—	—	e 24 17?	[−97]	—	—
Triest	122·7	322	e 21 39	?	e 32 38	?	e 61·8	74·6
De Bilt	123·6	332	e 20 41	PP	e 30 40	PS	e 58·3	75·9
Stuttgart	123·7	327	e 18 54	[0]	e 30 23	SKSP	e 62·3	—
Edinburgh	124·2	338	—	—	e 29 17?	?	67·3	—
Strasbourg	124·5	327	e 20 17?	PP	e 32 17?	?	e 48·3	—
Uccle	124·8	331	—	—	e 30 50	PS	55·3	—
Florence	125·1	321	e 20 29	PP	e 31 57	PS	—	58·3
Piacenza	125·4	325	e 20 53	PP	29 57	?	—	77·3
Ottawa	126·4	35	e 20 53	PP	e 30 59	PS	55·3	—
Kew	126·5	334	e 20 59	PP	—	—	e 61·3	77·9
Oxford	126·7	345	—	—	e 32 45	?	e 57·3	80·3
Paris	127·0	330	e 21 2	PP	—	—	53·3	73·3
Columbia	128·2	50	—	—	e 26 8	[− 6]	e 61·8	—
Georgetown	129·0	41	e 21 8	PP	e 31 3	SKSP	e 58·3	—
Philadelphia	129·7	38	i 22 26	PKS	—	—	e 57·3	—
Huancayo	135·2	112	e 19 21	[+ 6]	—	—	65·9	—
Granada	138·2	323	e 22 57	PKS	—	—	—	—
La Paz	139·5	124	19 25a	[+ 4]	—	—	73·3	95·6
San Fernando	140·2	324	e 22 27	PP	—	—	76·3	—
Sucre	140·5	128	e 19 39	[+17]	—	—	—	—
San Juan	146·2	65	i 19 37	[+ 1]	—	—	68·3	—

Additional readings and note :—
Riverview iE = +13m.50s.
Adelaide ePP = +6m.48s., i = +7m.17s. and +11m.8s., iSS? = +12m.40s.
Melbourne i = +13m.39s.
Manila ePEN = +6m.29s.
Malabar e = +17m.55s.
Perth PPP = +9m.17s., PPP = +9m.42s., P_cS = +12m.17s., PS = +13m.32s., SS = +15m.52s., SSS = +17m.52s., SSSS = +18m.27s. ; readings given as for 5h.
Batavia iE = +8m.56s.
Osaka PP = +9m.38s., PPP = +9m.54s., SS = +16m.35s., SSS = +17m.10s.
Kobe eZ = +7m.46s., PPE = +8m.14s., SSN = +14m.51s.
Hong Kong SSS = +17m.37s.
Apia eE = +13m.43s., eN = +13m.53s., eN = +14m.47s., eN = +18m.4s. = S_cS +8s.
Wellington SS = +17m.52s., L_g = +23m.2s.
Nanking iSN = +15m.2s., SS = +18m.37s.
Medan i = +9m.24s.
Honolulu eS_cS = +20m.2s., e = +25m.5s.
Agra PS = +21m.26s.
Sverdlovsk iPP = +16m.50s., PS = +25m.23s., PPS = +26m.14s., SS = +30m.47s., SSS = +34m.29s.
Ukiah ePP = +18m.0s., ePS = +25m.41s., eSS = +30m.57s., e = +38m.34s.
Berkeley eE = +17m.8s. =PP +4s., iE = +26m.3s. =PS +14s.
Pasadena iENZ = +13m.34s.k, iZ = +14m.0s. and +15m.21s., eZ = +17m.53s., iEN = +24m.6s. =SKS −10s.
Tinemaha iZ = +14m.19s., eZ = +15m.4s. and +17m.55s.
Baku PP = +17m.40s., e = +38m.23s.
Riverside eZ = +17m.45s. =PP +12s.
Tiflis ePP = +17m.47s., e = +18m.39s.
Tucson ePP = +17m.17s.
Pulkovo PP = +18m.40s., SS = +33m.59s., SSS = +40m.23s.
Ksara iPP = +19m.7s., PPS = +29m.53s.
Scoresby Sund SS = +35m.41s.
Copenhagen e = +29m.35s. =PS −9s., SS = +36m.17s.
Stuttgart ePP = +20m.38s., eZ = +35m.57s.
Strasbourg eSS = +35m.58s.
Ottawa e = +37m.53s. =SS −2s.
Columbia ePS = +31m.31s., eSS = +37m.33s., e = +44m.19s. and +46m.19s.
Georgetown ePS = +33m.10s., eSS = +38m.42s. ; T_o =6h.59m.40s.
Philadelphia e = +22m.59s. and +33m.17s., eSS = +38m.24s., e = +43m.24s. and +53m.55s.
Huancayo iPKS = +22m.56s., iSS = +40m.28s., e = +45m.37s.
La Paz PPZ = +22m.33s., PPN = +23m.5s. =PKS −3s., SSN = +41m.5s.
San Fernando eSSS = +50m.21s.
Sucre PP = +23m.3s. =PKS −7s.
San Juan ePP = +23m.15s. =PKS −7s., e = +34m.27s.
Long waves at Stonyhurst, Rathfarnham Castle, Cape Town, Tananarive, Upsala, Bozeman, Chicago, and Charlottesville.

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May 21d. 12h. Readings for which no determination has been made :—

Pasadena iZ = 49m.28s., eL = 78m.
Wellington e = 50m., L = 53m., i = 58m.50s.
Huancayo e = 54m.10s., e = 58m.0s., e = 61m.26s.
Sydney e = 54m.45s., L = 82m.22s., M = 83m.5s.
Melbourne e = 54m.46s., e = 64m.36s.
Stuttgart eZ = 57m.30s., eL = 76m.
Ksara ePKP = 57m.40s., ePP = 61m.36s.
Copenhagen 57m, 84m., L = 120m.
Apia eN = 59m.27s., eE = 60m.42s., eN = 61m.48s., eE? = 61m.54s., ME = 62m.11s.
Moscow e = 61m.51s., e = 63m.55s., e = 66m.52s., e = 69m.30s., e = 70m.31s.
Tiflis e = 62m.30s.
Pulkovo e = 65m.21s., e = 68m.24s., e = 73m.18s.
Sverdlovsk e = 68m.58s.
Long waves at Edinburgh, Kew, Paris, Strasbourg, Honolulu, Tucson, Sitka, and Ukiah.

May 21d. 13h. 6m. 6s. Epicentre 5°·8S. 146°·0E. (as at 6h.). R.3.

		△	Az.	P.	O − C.	S.	O − C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		17·9	276	(i 4 15)	+10	(i 7 32)	+10	—	—
Adelaide		30·0	192	i 6 8	+ 3	i 11 1	− 3	13·4	20·1
Melbourne		32·0	180	—	—	i 11 41	+ 6	—	—
Manila		32·1	310	6 36	+12	11 51	+14	15·8	—
Perth		38·4	223	—	—	13 15	+ 3	19·9	23·4
Batavia		39·0	268	e 7 26	+ 2	14 40	+79	19·9	—
Sumoto		41·5	348	7 42	− 2	13 53	− 6	—	—
Kobe		41·8	347	e 8 44	+57	e 14 52	+49	—	—
Nagoya		41·8	350	e 7 47	0	—	—	—	—
Hong Kong		42·0	312	—	—	14 3	− 3	—	—
Mizusawa		45·1	355	(e 8 19)	+ 5	e 8 19	P	—	—
Nanking		45·9	326	8 21	+ 1	i 15 5	+ 2	e 25·3	—
Medan		48·2	280	8 6	−32	i 15 37	+ 1	—	—
Chiufeng		53·5	331	9 16	− 2	e 16 35	−14	e 24·9	31·4
Agra	E.	73·4	300	i 11 27	− 4	—	—	—	—
Bombay		76·1	291	—	—	e 21 26	− 7	—	—
Sverdlovsk		92·3	326	i 13 5	− 3	e 24 37	[+20]	40·9	62·3
Pasadena		98·0	56	i 13 33a	− 1	—	—	—	—
Tinemaha		98·0	53	i 13 34	0	—	—	—	—
Riverside		98·7	56	e 13 35	− 3	—	—	—	—
Tiflis		102·2	311	e 18 2	PP	—	—	e 33·9	—
Pulkovo		107·8	331	e 14 31	+11	—	—	43·9	61·3
Ksara		109·9	303	e 19 4	PP	e 29 46	?	47·9	—
La Paz		139·5	124	22 54	PKS	—	—	—	—

Additional readings and notes :—
Amboina readings have been *increased* by 1m.
Adelaide i = +11m.7s. and +14m.11s.
Melbourne i = +14m.0s.
Perth e = +54s., SS = +13m.29s., SSS = +16m.15s. ; all readings given as for 11h.
Kobe ePE = +9m.8s. = PP − 10s., eSN = +14m.55s., eSE = +14m.57s., eN = +15m.53s., eE = +15m.58s.
Nanking iE = +15m.34s., eE = +18m.39s. = S_eS + 21s.
Sverdlovsk e = +16m.27s. = PP − 17s. and +16m.59s.
Tinemaha eZ = +14m.30s. and +15m.22s.
Long waves at Kew, Baku, De Bilt, Paris, Tashkent, Scoresby Sund, and Strasbourg.

May 21d. 15h. Readings for which no determination has been made :—

Amboina iP = 19m.37s., iS = 20m.0s.
Manila iP = 23m.39s., SEN = 27m.17s.
Batavia P = 24m.42s., S = 28m.52s.
Sverdlovsk eP = 31m.29s., S = 41m.31s., L = 60m.
Nanking eN = 31m.45s., eSE = 35m.19s., SN = 36m.29s.
Chiufeng eN = 33m.54s.
Tashkent i = 39m.30s., e = 42m.11s., e = 47m.50s., eL = 56m., M = 62m.48s.
Tiflis e = 42m.40s.
Long waves at Copenhagen and Hong Kong.

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May 21d. Readings also at 5h. (Sverdlovsk), 6h. (Tashkent), 8h. (Erevan), 7h. (La Paz and Wellington), 10h. (Amboina), 11h. (Ksara), 13h. (Perth and Edinburgh), 15h. (Manila), 17h. (Simferopol and Yalta), 18h. (Ksara and Tiflis), 20h. (Nanking), 21h. (Columbia), 22h. (Perth).

May 22d. Readings at 1h. (Branner), 4h. (Pulkovo), 5h. (Moscow), 7h. (Triest), 8h. (Kew, Rathfarnham Castle, Paris, and Scoresby Sund), 9h. (Copenhagen, De Bilt, Ksara, Stuttgart, and Strasbourg), 10h. (Kew, Copenhagen, De Bilt, Paris, Scoresby Sund, Strasbourg, and Stuttgart), 13h. (Wellington), 15h. (Edinburgh), 17h. (Wellington (2) and Sumoto (2)), 18h. (Ksara), 19h. (Wellington and Oak Ridge), 20h. (Oak Ridge (2)), 23h. (Tananarive).

May 23d. 2h. 9m. 57s. Epicentre 38°·2N. 142°·3E. N.1.

Given by the stations.

A = −·622, B = +·481, C = +·618; D = +·611, E = +·791; G = −·489, H = +·378, K = −·786.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Isinomaki	0·8	284	0 9	− 2	0 21	0	—	—
Sendai	1·1	272	0 18	+ 2	0 33	S*	—	—
Mizusawa	1·3	315	i 0 20	+ 2	i 0 35	+ 2	—	—
Miyako	1·5	349	0 22	+ 1	0 43	S*	—	—
Hukusima	1·5	252	0 24	P_g	0 46	S*	—	—
Yamagata	1·5	270	0 25	P_g	0 46	S*	—	—
Onahama	1·6	222	0 39	S	0 59	?	—	—
Morioka	1·8	330	0 25	− 1	0 46	0	—	—
Mito	2·3	218	0 36	P*	1 5	S*	—	—
Akita	2·3	309	0 34	+ 1	1 4	S*	—	—
Utunomiya	2·5	230	0 36	0	1 9	S*	—	—
Kakioka	2·6	220	0 39	+ 2	1 11	+ 4	—	—
Niigata	2·6	264	0 51	P_g	1 23	S_g	—	—
Tukubasan	2·7	221	0 38	− 1	1 10	+ 1	—	—
Tyosi	2·7	205	0 45	P*	1 15	S*	—	—
Kumagaya	3·1	229	0 45	+ 1	1 28	S*	—	—
Maebasi	3·1	234	0 49	P*	1 30	S*	—	—
Tokyo	3·2	220	0 51	P*	1 30	S*	—	—
Oiwake	3·4	238	0 54	P*	1 47	S_g	—	—
Yokohama	3·5	218	0 56	P*	1 37	S*	—	—
Nagano	3·6	245	0 57	P*	1 45	S*	—	—
Hakodate	3·8	340	0 55	+ 1	1 49	S*	—	—
Mera	3·8	210	0 57	+ 3	2 10	?	—	—
Hunatu	3·9	226	1 0	+ 4	1 53	S*	—	—
Kohu	3·9	229	1 1	P*	1 51	S*	—	—
Numadu	4·1	220	1 6	P*	1 55	S*	—	—
Misima	4·1	220	1 0	+ 2	2 1	S*	—	—
Toyama	4·3	249	1 11	P*	2 6	S*	—	—
Sapporo	5·0	350	1 4	− 7	2 5	− 3	—	—
Hamamatu	5·0	225	1 17	P*	1 57	−11	—	—
Hatidyozima	5·2	199	1 23	P*	2 18	+ 5	—	—
Nagoya	5·2	234	1 21	P*	2 30	S*	—	2·8
Gihu	5·2	238	1 14	0	2 23	+10	—	—
Nemuro	5·7	27	1 16	− 5	2 11	−14	—	—
Hikone	5·7	238	1 26	+ 5	2 43	S*	—	—
Kameyama	5·7	234	1 32	P*	2 33	+ 8	—	—
Osaka	6·4	235	1 45	P*	3 16	S*	—	4·1
Toyooka	6·4	244	e 2 7	P_g	e 3 1	S*	—	3·1
Kobe	6·7	238	e 1 37	+ 2	e 3 15	S*	—	3·6
Wakayama	6·9	235	1 40	+ 2	—	—	—	—

Continued on next page.

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Sumoto	7·1	235	e 1 40	− 1	e 3 21	S*	—	4·1
Nanking	20·1	259	4 28	− 3	8 28	SS	e 10·9	—
Chiufeng	20·3	284	e 4 39	+ 6	—	—	—	12·6
Sverdlovsk	54·6	319	i 9 23	− 3	e 17 44	+40	27·1	34·9
Tashkent	54·6	298	—	—	e 18 25	?	e 29·6	33·4

Additional readings :—
Osaka i = +2m.16s.
Toyooka eE = +2m.12s.
Kobe eZ = +2m.11s. = P_g +3s., eN = +2m.40s. and +3m.5s.
Sumoto ePE = +1m.44s., eZ = +2m.9s., eSN = +3m.34s.
Sverdlovsk i = +9m.34s.
Long waves at Baku, Copenhagen, Tiflis, and Hong Kong.

May 23d. 6h. 10m. 11s. Epicentre 32°·7N. 131°·9E. (as on 1934 Oct. 23d.). R.3.

A = −·562, B = +·626, C = +·540.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Hukuoka	1·5	305	i 0 25	P_g	0 43	S*	—	—
Hukuoka B	1·5	305	i 0 25	P_g	0 46	S_g	—	—
Nagasaki	1·7	271	i 0 28	P_g	0 44	0	—	—
Sumoto	3·0	56	0 49	P*	1 38	S_g	—	1·7
Kobe	3·3	54	e 0 54	P*	1 40	S*	—	2·0
Husan	3·4	316	i 0 48	− 1	1 38	S*	2·3	—
Osaka	3·5	56	1 0	P*	1 58	S_g	—	2·8
Toyooka	3·7	39	1 6	P_g	1 57	S_g	—	2·0
Taikyu	4·2	320	e 1 2	+ 2	2 11	S_g	—	—
Nagoya	4·8	58	1 16	P*	2 12	+ 9	—	2·3
Nanking	11·1	270	e 1 49?	?	—	—	—	—
Chiufeng	14·7	305	e 3 24	− 1	—	—	—	10·4

Additional readings :—
Hukuoka iN = +28s.
Sumoto eEZ = +1m.12s., SZ = +1m.40s.
Kobe iZ = +1m.18s., SZ = +1m.42s. = S_g − 1s., iSN = +1m.49s., iEZ = +3m.16s., iN = +3m.29s.
Osaka i = +1m.20s. and +1m.28s. = S − 2s.
Toyooka SZ = +2m.0s.

May 23d. 17h. 58m. 59s. Epicentre 21°·6N. 45°·1W. N.2.

A = +·656, B = −·659, C = +·368 ; D = −·708, E = −·706 ;
G = +·260, H = −·261, K = −·930.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
San Juan	20·0	265	e 4 41	+11	i 8 28	+22	9·4	—
Oak Ridge	31·0	321	6 17	+ 3	—	—	—	—
Philadelphia	31·4	316	e 6 49	?	i 11 18	− 8	e 13·8	—
Georgetown	32·3	311	i 6 29$_a$	+ 4	e 11 31	− 9	e 15·0	—
Vermont	32·5	323	—	—	e 11 34	− 9	14·8	—
Charlottesville	33·1	307	—	—	e 11 51	− 1	13·4	—
Ottawa	34·5	321	e 6 41	− 4	e 12 6	− 8	e 15·5	—
Toronto	35·9	317	—	—	e 12 25	−10	16·5	—
San Fernando	36·9	57	—	—	e 12 46	− 4	16·5	23·0
Ann Arbor	38·3	313	e 9 31	(− 5)	e 13 25	+14	e 19·3	—
Malaga	38·3	57	7 19	+ 1	13 11	0	23·6	—
Granada	39·0	56	e 7 26	+ 2	e 13 26	+ 5	20·0	20·8
Toledo	39·3	52	e 7 25	− 1	e 13 26	0	e 18·4	—
Almeria	39·9	57	e 7 38	+ 7	e 13 34	− 1	e 19·8	—
Chicago	40·9	310	—	—	e 13 35	−15	e 17·1	—

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	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Alicante	41·6	55	—	—	e 12 13	?	e 21·4	—
St. Louis	42·0	304	e 7 49	0	e 14 3	− 3	e 20·2	—
Florissant	42·2	305	e 7 51	+ 1	e 14 6	− 3	e 20·5	—
Rathfarnham Castle	43·3	33	e 7 46	−13	i 14 28	+ 3	—	—
La Paz	44·3	213	8 31	+24	i 15 21	+41	22·4	26·5
Huancayo	44·8	224	—	—	i 15 17	+30	e 23·3	—
Bidston	45·1	34	e 9 28	?	i 13 26	?	e 17·0	—
Sucre	45·1	207	8 46	+32	15 37	+45	22·0	—
Oxford	45·3	37	—	—	e 14 38	−17	18·3	21·7
Kew	45·7	38	i 8 14	− 4	—	—	e 20·0	22·1
Edinburgh	46·2	32	—	—	e 15 1?	− 6	—	23·0
Paris	46·4	42	e 8 22	− 2	e 14 58	−12	19·0	23·0
Uccle	48·2	40	e 8 36	− 2	15 26	−10	20·0	—
De Bilt	49·1	38	e 8 42	− 2	e 15 41	− 7	e 21·5	23·5
Strasbourg	49·7	43	e 8 47	− 2	i 15 51	− 6	e 20·0	—
Stuttgart	50·6	43	e 8 54	− 2	e 16 3	− 6	e 23·0	—
Scoresby Sund	50·8	10	9 14	+17	16 1	−11	20·0	—
Florence	51·2	50	—	—	15 48	−30	—	24·0
Hamburg	52·3	38	e 9 6	− 3	e 16 26	− 7	e 24·0	27·0
Cheb	53·0	42	e 9 14	0	e 16 35	− 7	e 25·0	27·0
Triest	53·2	47	9 15	0	i 16 38	− 7	21·7	27·2
Copenhagen	54·2	36	9 22	− 1	16 51	− 7	25·0	—
Prague	54·2	43	—	—	e 17 1	+ 3	e 25·0	33·0
Vienna	55·3	45	e 9 29	− 2	—	—	—	—
Bozeman	58·1	312	—	—	e 17 41	−10	e 26·6	—
Riverside	63·8	300	i 10 35	+ 4	—	—	—	—
Haiwee	64·0	302	e 10 34	+ 2	—	—	—	—
La Jolla	64·0	298	e 10 34	+ 2	—	—	—	—
Tinemaha	64·1	303	e 10 34	+ 1	—	—	—	—
Pulkovo	64·1	33	10 31	− 2	e 19 3	− 6	29·0	32·5
Pasadena	64·2	299	i 10 36	+ 2	—	—	e 35·0	—
Mount Wilson	64·4	300	i 10 35	0	—	—	—	—
Santa Barbara	65·4	300	10 45	+ 4	—	—	—	—
Sebastopol	67·1	49	e 11 7	+15	—	—	—	—
Simferopol	67·5	49	e 10 55	0	—	—	—	—
Yalta	67·6	49	e 10 55	− 1	e 19 19	−33	—	—
Moscow	68·2	37	e 10 59	0	—	—	—	37·9
Ksara	71·0	61	i 11 21a	+ 4	20 36	+ 3	34·0	40·5
Erevan	76·1	52	e 11 50	+ 3	—	—	—	—
Baku	79·9	51	e 12 11	+ 4	e 23 10	+55	34·0	41·8
Sverdlovsk	80·2	33	12 9	0	22 8	−10	32·0	42·3
Tashkent	92·6	43	—	—	i 23 49	[+ 1]	e 40·0	53·5
Nanking	124·2	16	—	—	e 27 5	{−39}	e 64·0	—

Additional readings and notes :—
Oak Ridge iE = +6m.4s., +6m.20s., and +6m.25s., iZ = +6m.33s., i = +6m.41s.
Georgetown ePP = +7m.17s. ; T_0 = 17h.58m.50s.
Vermont e = +7m.11s.
Charlottesville ePP = +7m.25s., e = +8m.23s.
Ottawa PPE = +7m.44s. ; T_0 = 17h.59m.2s.
Toronto iN = +7m.37s. and +9m.49s.
San Fernando eS = +9m.18s. ; S is given as eSS.
Ann Arbor e?N = +10m.13s., eE = +14m.43s., eN = +17m.19s. = S_eS − 13s.
Malaga PP = +8m.37s., +8m.59s. = PPP + 3s., +9m.49s. = P_eP + 13s.
Granada PP = +8m.53s., PPP = +9m.20s.
St. Louis eSSEN = +17m.7s.
Florissant iSSSN = +17m.10s., eN = +18m.21s. ; T_0 = 17h.59m.13s.
Rathfarnham Castle e = +14m.0s., i = +17m.47s.
La Paz iPZ = +8m.34s.
Strasbourg e = +10m.37s. = PP + 0s., ePP = +11m.3s., e = +13m.25s.
Stuttgart ePP = +10m.51s.
Cheb e = +6m.1s. ?
Triest i = +17m.0s.
Moscow e = +11m.11s. = P_eP − 15s.
Ksara PS = +21m.11s.
Tashkent i = +24m.17s. = S − 3s., e = +25m.15s. = PS − 7s.
Long waves at Durham, Sitka, Tucson, and Chiufeng.

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May 23d. 21h. 56m. 17s. Epicentre 24°·5N. 122°·2E. (as on 1934 Nov. 10d.). X.

A = −·485, B = +·770, C = +·415.

	Δ	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Karenko	0·7	227	e 0 10	0	e 0 20	S*
Taihoku	0·8	311	e 0 20	S	e 0 29	?
Taityu	1·4	256	0 20	0	0 38	+ 2
Taito	2·0	209	e 0 53	S	(e 0 53)	+ 2
Takao	2·6	223	1 7	S	(1 7)	0

May 23d. Readings also at 0h. (Wellington), 4h. (Columbia), 7h. (La Paz), 8h. (Amboina, Sucre, Pasadena, Riverside, and Tinemaha), 9h. (Ksara and Triest), 11h. (Mizusawa, Nagoya, and Osaka), 12h. (La Paz, Sucre, and Tucson), 14h. (Triest and La Paz), 15h. (Erevan and Sumoto), 17h. (Sotchi), 18h. (Karenko, Taihoku, and Taityu), 19h. (Chiufeng and Erevan), 20h. (Wellington and Christchurch), 23h. (Sverdlovsk).

May 24d. 5h. 36m. 38s. Epicentre 12°·0N. 125°·5E. N.1.

A = −·568, B = +·796, C = +·208; D = +·814, E = +·581;
G = −·121, H = +·169, K = −·978.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Manila	5·1	300	i 1 13$_a$	0	2 28	S*	—	—
Kosyun	11·0	339	e 2 26	− 9	4 52	+14	—	—
Taito	11·5	340	e 2 41	− 1	e 5 50	0	—	—
Takao	11·7	336	3 11	?	5 41	S*	—	—
Arisan	12·4	340	e 2 53	− 1	—	—	—	—
Karenko	12·5	345	i 2 59	PP	i 8 9	?	—	—
Taityu	13·0	341	3 21	+19	—	—	—	—
Taihoku	13·5	345	e 3 6	− 3	e 5 37	− 2	—	—
Naha	14·4	6	3 25	PP	—	—	—	—
Hong Kong	14·9	315	3 23	− 4	6 32	?	8·4	9·4
Amboina	15·9	170	i 3 52	PP	i 6 42	SS	8·4	—
Nake	16·8	10	3 55	+ 3	—	—	—	—
Zi-ka-wei	19·6	351	4 20	− 5	i 7 56	− 2	10·5	29·1
Kagosima	20·1	12	4 31	0	—	—	—	—
Phu-Lien	20·1	298	e 3 55	?	e 7 48	−20	8·9	—
Miyazaki	20·7	16	4 37	0	8 20	0	—	—
Tomie	20·8	5	4 36	− 2	8 26	+ 4	—	—
Nanking	21·0	344	i 4 36	− 4	i 8 40	P$_c$P	10·5	—
Nagasaki	21·1	10	4 40	− 1	8 33	+ 5	11·0	18·0
Unzendake	21·2	10	4 45	+ 3	8 38	+ 8	—	—
Kumamoto	21·4	11	4 46	+ 2	8 32	− 2	—	—
Titizima	21·7	43	5 4	PP	8 45	+ 5	—	—
Hukuoka	22·0	12	e 4 28	−23	8 43	− 3	—	—
Hukuoka B	22·0	12	4 49	− 2	8 42	− 4	—	26·5
Uwazima	22·2	15	4 56	+ 3	—	—	—	—
Matuyama	22·8	14	5 1	+ 2	9 5	+ 4	—	—
Husan	23·3	8	4 58	− 6	9 13	+ 3	—	—
Siomisaki	23·4	15	5 4	− 1	9 12	0	—	—
Hamada	23·6	18	5 5	− 1	—	—	—	—
Tokusima	23·6	20	5 4	− 2	—	—	—	—
Wakayama	23·9	20	5 10	+ 1	9 19	− 2	—	—
Sumoto	23·9	19	i 5 10	+ 1	9 20	− 1	—	29·9
Okayama	23·9	18	5 7	− 2	9 16	− 5	—	—
Taikyu	24·0	6	e 5 18	+ 8	9 38	+15	e 15·9	—
Kobe	24·3	20	e 5 14	+ 1	9 35	+ 7	e 11·6	27·5
Osaka	24·4	21	5 17	+ 3	9 53	+23	14·7	26·5
Yagi	24·4	21	5 15	+ 1	—	—	—	—
Tu	24·8	22	5 23	+ 5	9 51	+14	—	—
Hatidyozima	24·8	30	5 31	+13	9 53	+16	—	—
Kameyama	24·9	19	5 21	+ 2	9 52	+13	—	—

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		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Toyooka		25·0	17	5 21	+ 1	9 38	− 3	e 10·1	28·4
Miyadu		25·1	19	5 32	+11	—	—	—	—
Hikone		25·2	21	5 25	+ 3	9 55	+11	—	—
Hamamatu		25·3	22	5 23	0	—	—	—	—
Nagoya		25·4	22	5 28	+ 4	10 4	+16	12·4	27·3
Ibukisan		25·4	19	5 29	+ 5	—	—	—	—
Gihu		25·5	19	5 32	+ 7	10 1	+11	—	—
Zinsen		25·5	1	e 5 23	− 2	e 9 40	−10	—	19·8
Keizyo		25·6	2	i 5 24	− 1	9 26	−25	13·3	16·2
Iida		26·0	25	5 47	+18	—	—	—	—
Batavia		26·0	227	i 5 22	− 7	i 9 47	−11	e 13·4	—
Misima		26·1	27	5 35	+ 5	—	—	—	—
Malabar		26·2	227	5 33	+ 2	i 10 33	+31	15·4	—
Mera		26·3	28	5 46	+14	11 0	SS	—	—
Hunatu		26·4	26	5 39	+ 6	—	—	—	—
Kohu		26·4	25	5 45	+12	10 45	SS	—	—
Kanazawa		26·5	22	5 41	+ 7	10 8	+ 1	—	—
Yokohama		26·7	26	5 53	+18	10 51	SS	—	—
Matumoto		26·7	24	5 58	+23	—	—	—	—
Toyama		26·8	21	5 46	+10	—	—	—	—
Tokyo		26·9	25	5 44	+ 8	10 51	SS	—	—
Oiwake		27·0	24	5 42	+ 4	—	—	—	—
Heizyo		27·0	0	e 4 46	−52	10 11	− 4	—	—
Nagano		27·1	23	5 43	+ 4	—	—	—	—
Kumagaya		27·2	24	5 50	+10	—	—	—	—
Maebasi		27·3	24	5 55	+14	—	—	—	—
Wazima		27·3	20	5 51	+10	—	—	—	—
Tukubasan		27·5	25	5 47	+ 4	—	—	—	—
Kakioka		27·6	24	5 49	+ 5	11 6	SS	—	—
Utunomiya		27·7	24	5 56	+12	11 23	SS	—	—
Medan		27·8	257	i 5 49	+ 4	i 11 8	SS	15·9	—
Mito		27·9	26	5 32	−14	10 50	+20	—	—
Niigata		28·6	25	5 54	+ 1	—	—	—	—
Yingkow		28·8	355	5 57	+ 3	—	—	—	—
Hukusima		29·0	25	6 2	+ 6	—	—	—	—
Chiufeng		29·3	345	5 54a	− 5	i 10 41	−12	i 13·7	—
Yamagata		29·4	25	6 21	+21	—	—	—	—
Sendai		29·6	26	6 1	0	—	—	—	—
Mizusawa	E.	30·4	24	e 5 28	−41	e 11 20	+10	—	—
	N.	30·4	24	e 6 12	+ 3	e 11 6	− 4	—	—
Morioka		30·4	24	6 18	+ 9	—	—	—	—
Akita		30·5	22	6 19	+10	13 13	?	—	—
Vladivostok		31·6	8	e 6 18	− 1	i 11 32	+ 3	17·7	23·5
Hakodate		32·6	21	6 26	− 2	—	—	—	—
Sapporo		34·0	20	7 1	+21	—	—	—	—
Calcutta	E.	36·8	292	7 8	+ 3	12 58	+10	17·7	36·7
Perth		44·9	191	i 8 12	0	14 57	+ 8	21·9	31·4
Colombo		45·3	270	8 9	− 6	14 18	−37	29·6	31·9
Hyderabad		45·7	284	e 8 2	−16	14 52	− 8	21·9	30·4
Agra		46·9	297	i 8 23	− 5	15 16	− 1	22·8	30·7
Dehra Dun		47·5	300	8 2	−30	15 12	−14	23·0	35·4
Adelaide		48·6	165	i 8 44	+ 3	i 15 38	− 3	i 22·6	33·7
Bombay		51·0	285	i 8 57	− 2	i 16 19	+ 4	24·4	36·6
Riverview		51·9	152	e 9 13	+ 7	i 16 31	+ 4	e 25·2	26·8
Sydney		52·0	152	i 9 22	+16	i 16 52	+24	26·7	27·6
Almata		52·1	318	e 9 30	+23	e 17 19	?	—	—
Melbourne		53·0	161	e 9 22	+ 8	e 16 42	0	23·4	28·7
Semipalatinsk		53·2	326	e 9 6	− 9	—	—	e 26·9	—
Frunse		53·6	314	e 9 18	0	—	—	e 24·6	—
Tashkent		56·9	312	i 9 39	− 3	i 17 42	+ 7	28·4	38·0

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	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Samarkand	58·3	310	9 51	− 1	e 17 51	− 2	e 22·9	—
Sverdlovsk	66·3	327	i 10 42	− 5	i 19 29	− 7	36·0R	43·7
Apia	67·3	110	11 5	+11	e 19 58	+10	e 31·1	33·0
Arapuni	68·6	139	—	—	20 58	(+ 3)	30·4	—
Wellington	70·0	142	11 12	+ 1	20 12	− 9	34·4	—
Honolulu	73·4	71	e 11 46	+15	i 20 58	− 3	31·1	—
Erevan	75·5	309	e 11 40	− 3	—	—	—	—
Sotchi	78·7	313	e 11 3	−58	—	—	—	—
Moscow	79·0	325	11 58	− 5	21 55	−10	33·5	49·8
Pulkovo	82·2	330	—	—	22 27	[−10]	42·4R	49·1
Yalta	82·5	314	12 18	− 3	22 31	[− 9]	—	—
Simferopol	82·5	315	12 18	− 3	e 22 32	[− 8]	—	—
Tananarive	82·8	249	e 12 24	+ 2	22 48	+ 3	e 40·2	46·0
Sebastopol	82·9	314	12 21	− 2	e 22 40	[− 3]	—	—
Ksara	83·0	313	i 12 22	− 1	22 55	+ 8	—	—
Sitka	84·8	35	i 12 34	+ 2	i 23 3	− 3	e 40·1	—
Helwan	87·6	300	12 46	0	23 9	[− 8]	—	—
Bucharest	88·2	315	e 13 2	+13	23 40	+ 1	—	24·0
Upsala	88·4	332	e 12 47	− 3	i 23 31	−10	e 40·9	56·6
Königsberg	88·6	327	e 13 4	+13	e 22 58	[−26]	e 37·9	45·4
Sofia	90·6	314	e 13 1	+ 1	e 23 29	[− 7]	44·4	—
Budapest	91·9	319	13 5	− 1	23 44	[0]	e 44·9	55·4
Belgrade	91·9	317	e 13 5	− 1	e 23 58	{+ 8}	e 37·6	—
Copenhagen	92·5	329	13 7	− 2	23 52	{− 3}	—	—
Vienna	93·3	321	e 13 11	− 2	e 23 39	[−13]	—	—
Bergen	93·5	335	e 14 27	+73	e 23 17	[−36]	43·1	—
Prague	93·8	324	e 13 7	− 8	e 23 58	[+ 4]	e 43·4	59·4
Graz	94·3	320	e 13 14	− 3	—	—	e 45·4	75·0
Leipzig	94·4	325	e 13 14	− 4	—	—	e 41·4	48·4
Victoria	94·5	39	e 13 24	+ 6	e 23 54	[− 4]	e 43·9	50·8
Zagreb	94·5	319	e 13 17	− 1	e 23 49	[− 9]	e 45·4	—
Scoresby Sund	94·6	349	13 18	− 1	23 52	[− 7]	—	—
Hamburg	94·8	327	e 13 18	− 2	e 23 55	[− 5]	e 48·4	63·4
Jena	95·0	324	e 13 22	+ 2	e 23 52	[− 9]	47·4	59·9
Cheb	95·0	324	e 13 25	+ 5	e 24 57	+13	e 47·4	60·4
Seattle	95·4	40	—	—	e 23 22	[−41]	—	—
Göttingen	95·7	326	i 13 22	− 2	e 24 40	− 8	e 48·4	53·4
Triest	96·0	320	e 13 21	− 4	24 1	[− 5]	—	63·9
Padova	97·0	320	e 13 22?	− 8	—	—	—	—
Stuttgart	97·4	324	e 13 29	− 3	e 23 10	[−63]	e 48·4	61·4
Karlsruhe	97·8	324	e 13 22	−11	e 24 13	[− 2]	e 48·0	—
De Bilt	98·0	328	e 13 36	+ 2	e 24 12	[− 4]	e 44·4	56·2
Ukiah	98·3	47	—	—	e 24 12	[− 5]	e 44·3	—
Florence	98·4	319	13 43	+ 7	23 39	[−39]	—	—
Strasbourg	98·4	324	13 35a	− 1	24 22	+ 4	e 47·4	61·9
Zurich	98·4	322	e 13 33	− 3	—	—	—	—
Prato	98·4	320	e 13 43	+ 7	23 42	[−36]	43·4	—
Piacenza	98·8	321	14 26	+48	24 14	[− 6]	52·4	67·1
Basle	99·0	323	e 13 38	− 1	—	—	—	—
Uccle	99·1	327	e 13 39	0	24 20	[− 1]	e 44·4	55·6
Berkeley	99·5	49	e 14 43	+62	—	—	—	—
Neuchatel	99·6	323	e 13 39	− 3	—	—	—	—
Edinburgh	99·7	333	—	—	i 24 40	{−11}	e 45·4	70·0
Durham	99·8	332	—	—	25 12	[−13]	—	57·4
Stonyhurst	100·7	331	—	—	e 24 46	{−12}	e 47·4	51·5
Kew	101·1	328	e 13 53	+ 4	e 24 24	[− 7]	e 46·4	50·5
Paris	101·2	325	e 13 48	− 1	e 24 48	{−14}	49·4	56·4
Bidston	101·3	331	e 13 54	+ 4	—	—	e 37·4	66·4
Oxford	101·5	330	—	—	e 24 43	[+10]	e 41·4	64·9
Santa Barbara	102·7	50	e 17 28	?	—	—	—	—

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	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Tinemaha	102·7	48	e 13 58	+ 2	—	—	—	—
Rathfarnham Castle	102·8	332	e 14 10	+14	e 24 35	[− 4]	i 25·4	53·6
Bozeman	103·2	36	—	—	e 24 38	[− 3]	47·6	—
Pasadena	104·0	50	e 14 27	+25	—	—	—	—
Riverside	104·7	49	e 14 19	+23	—	—	—	—
Barcelona	105·4	319	e 18 34	PP	—	—	e 56·7	68·2
Algiers	107·2	315	14 22?	+ 5	24 22?	[−38]	54·4	73·4
Alicante	108·7	318	e 19 11	PP	25 23	[+16]	e 62·4	—
Toledo	110·2	320	e 19 2	PP	28 34	PS	61·0	—
Tucson	110·3	48	—	—	e 27 4	{+55}	e 51·2	—
Cape Town	110·7	238	14 31	− 3	25 19	[+ 3]	—	63·2
Almeria	110·9	318	e 19 7	PP	29 51	?	e 65·5	—
Granada	111·4	318	e 19 13	PP	29 57	?	57·4	71·7
Malaga	112·2	318	19 16	PP	26 17	{− 6}	—	—
San Fernando	113·6	318	—	—	e 25 13	[−15]	55·4	76·9
Chicago	118·1	27	—	—	e 27 52	{+49}	e 58·1	—
Ann Arbor	119·4	24	—	—	e 30 34	PS	e 56·2	—
St. Louis	119·4	32	—	—	e 27 5	{− 7}	e 49·7	—
Ottawa	119·5	16	—	—	e 27 52	{+39}	e 50·4	
Florissant	119·5	31	e 15 17	0	e 25 40	[− 9]	—	—
Toronto	119·9	20	e 20 3	PP	30 39	PS	—	67·4
Little Rock	121·0	36	—	—	e 30 3	PS	—	—
Oak Ridge	123·3	14	e 18 53	[0]	e 25 41	[−19]	—	—
Philadelphia	124·6	17	—	—	e 25 36	[−28]	e 61·6	—
Georgetown	124·9	21	e 18 54	[− 2]	—	—	—	—
Charlottesville	125·1	23	—	—	e 28 22	{+32}	e 51·0	—
Columbia	127·5	27	—	—	e 41 8	?	57·3	—
San Juan	147·5	20	e 19 47	[+ 9]	—	—	74·1	—
La Plata	156·9	173	20 28	{− 2}	—	—	82·7	—
Huancayo	159·7	90	e 20 14	[+21]	e 34 55	SKSP	67·1	—
La Paz	166·0	110	i 20 6a	[+ 6]	31 54	{+ 3}	78·1	81·2
Sucre	167·5	125	e 20 3	[+ 2]	26 43	?	77·2	—

Additional readings :—
Taihoku ePE = +3m.16s.
Hong Kong PP = +3m.32s.
Zi-ka-wei iE = +8m.22s.
Nanking iPP = +4m.44s., e = +5m.32s., iN = +7m.23s., eN = +8m.12s.
Nagasaki PE = +4m.44s.
Sumoto eSZ = +9m.26s.
Kobe eEN = +5m.26s., eZ = +5m.33s., iN = +5m.36s., iZ = +5m.52s., eN = +9m.9s., eZ = +9m.12s., eE = +9m.23s., iE = +9m.57s.
Osaka PP = +6m.13s.
Toyooka SN = +9m.44s.
Batavia i = +11m.0s. = SSS − 1s.
Medan iE = +7m.48s., iN = +9m.20s., i = +12m.22s.
Chiufeng iNZ = +9m.42s.
Calcutta PP = +8m.43s.
Perth P_cP = +9m.51s. = PP + 1s., PP = +10m.7s. = P_cP + 9s., P_cS = +13m.27s., PS = +15m.12s., SS = +17m.57s., SSS = +19m.42s., SSSS = +20m.12s.
Agra PP = +10m.15s., iS = +15m.22s.?, SS = +18m.26s., SSS = +19m.36s.
Adelaide i = +8m.57s., iPPP = +11m.24s., +15m.43s. and +16m.7s., iSSS = +20m.18s.
Bombay PPE = +10m.56s., PSEN = +16m.44s.
Riverview iSE = +16m.34s., iE = +20m.5s., iN = +20m.36s., iEN = +20m.57s.
Sydney PP = +11m.52s., SS = +22m.52s.
Almata i = +9m.48s.
Melbourne PP = +11m.42s., iS = +16m.47s., SS = +20m.25s.
Sverdlovsk L_q = +33m.4s.
Apia ePS = +20m.32s., SS = +27m.13s., eE = +27m.48s., E = +31m.19s.
Arapuni i = +21m.40s., SS = +24m.58s.
Wellington PP? = +13m.53s., S_cS? = +20m.58s., i = +21m.24s. and +21m.42s., SS = +24m.22s.?, SSS = +27m.22s.?, L_q = +29m.52s.
Honolulu i = +21m.47s.
Pulkovo L_q = +37m.22s.?
Tananarive PPE = +15m.41s., PSEN = +23m.33s., SSEN = +28m.21s., SSSE = +31m.41s., eN = +34m.29s., E = +37m.18s.
Ksara PP = +15m.45s.

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Sitka eSS = +27m.38s., iSSS = +35m.25s.
Bucharest eP$_c$P? = +14m.9s., ePPE = +16m.36s., PPPEN = +18m.39s., eSKSEN = +23m.30s., PSE = +24m.40s., PPSE = +24m.53s.
Upsala SSN = +29m.22s.
Königsberg eN = +13m.52s., eE = +13m.58s., eN = +21m.22s., iSN = +23m.21s. =SKS −3s.
Sofia eSNW = +23m.44s. =SKKS +4s.
Belgrade ePP = +16m.58s.
Copenhagen PP = +17m.1s., SKKS = +24m.13s. =S −6s., PS = +25m.34s., SS = +30m.52s.
Prague ePS = +24m.39s. =S +8s.
Graz e = +22m.46s.
Leipzig eE = +15m.34s., +17m.3s. =PP +3s. and +19m.22s.?, e = +23m.28s., eE = +25m.4s., e = +29m.46s.
Zagreb ePP = +17m.9s., eSKKS = +24m.22s.?, ePPSE = +25m.49s. =PS +5s.
Scoresby Sund e = +16m.22s., PS = +25m.58s., SS = +31m.10s.
Jena ePEN = +13m.4s.
Göttingen eE = +22m.22s.?
Triest S? = +24m.54s., iPS = +26m.6s., i = +26m.41s., SS = +31m.35s., i = +34m.19s., SSS = +35m.29s., i = +38m.2s., +46m.31s., +47m.8s., +52m.11s., and +55m.52s.
Stuttgart ePP = +17m.36s., eSKKS = +25m.1s. =S −3s., eSS = +31m.22s.
De Bilt iPPZ = +17m.43s.
Ukiah ePP = +17m.32s., e = +26m.7s., ePS = +26m.42s., eSS = +31m.22s., e = +40m.37s.
Strasbourg i = +13m.53s., e = +14m.45s., PP = +17m.38s., iSKKS = +25m.8s. = S −4s., ePS = +26m.35s., SS = +31m.52s., SSS = +37m.32s., SSSS = +40m.51s.
Zurich ePP = +17m.42s.
Basle ePP = +17m.40s.
Uccle PP = +17m.47s., iSKKS = +25m.16s. =S −3s., SS = +32m.3s.
Berkeley eZ = +14m.55s., iZ = +17m.3s. and +29m.35s., eN = +29m.58s., iN = +37m.13s.
Edinburgh e = +17m.47s. =PP +7s.
Stonyhurst e = +17m.57s. =PP +9s.
Kew ePP = +18m.4s., iN = +18m.39s.
Paris PP = +18m.5s.
Bidston e = +17m.57s. =PP +5s., i = +20m.7s.
Oxford e = +16m.8s.
Santa Barbara ePPZ = +18m.22s.
Tinemaha iZ = +14m.34s., iPPZ = +18m.14s., ePKKPZ = +30m.5s.
Rathfarnham Castle e = +18m.15s. =PP +11s.
Bozeman ePP = +18m.24s., eSS = +33m.0s.
Pasadena ePKPZ = +17m.17s., ePPZ = +18m.23s., ePKKPZ = +30m.10s.
Riverside ePKPZ = +17m.5s., ePPE = +18m.23s., ePKKPZ = +30m.4s.
Alicante SKKS = +31m.7s.
Toledo PP = +25m.15s. =SKS +1s.
Tucson ePP = +19m.28s., ePS = +28m.26s., eSS = +34m.4s.
Cape Town PPN = +19m.7s., PPE = +19m.13s., PPPE = +21m.11s., PPPN = +21m.29s., SKKSN = +26m.19s., SKKSE = +26m.23s., SN = +26m.59s., PSE = +28m.51s., PPSN = +29m.59s., PPSE = +30m.17s., SSEN = +34m.19s., SSSE = +39m.29s.
Almeria PPP = +25m.23s. =SKS +6s.
Malaga e = +20m.16s., PP = +20m.41s., e = +28m.57s. =PS +8s., +37m.57s., and +39m.57s.
San Fernando ePP = +19m.37s., eSKP = +21m.18s., iPS = +29m.18s., PPS = +30m.47s., eSS = +35m.56s., SSS = +40m.22s.
Chicago ePP = +20m.14s., ePS = +29m.34s., eSS = +35m.54s., eSSS = +40m.54s., e = +49m.22s.
Ann Arbor ePP = +21m.46s., eSS = +37m.16s., eSSSN = +42m.4s.
St. Louis ePPEN = +20m.10s., eSE = +28m.4s., iPSEN = +30m.0s., eSSE = +36m.28s.
Ottawa e = +20m.12s., eN = +33m.4s., eE = +36m.22s.
Florissant ePKPZ = +18m.51s., ePPN = +20m.6s., eSKSNZ = +21m.22s., eSKKSN = +27m.4s., eS?Z = +28m.0s., ePSN = +30m.7s., ePPSN = +31m.14s., eSSN = +36m.22s., eSSSN = +41m.18s.; T_0 = 5h.36m.42s.
Toronto ePP = +20m.42s., iSSN = +37m.6s.; T_0 = 5h.37m.21s.
Little Rock ePPN = +20m.10s., eSKPN = +21m.26s., eSSN = +36m.25s., eSSSN = +41m.18s.
Oak Ridge iZ = +18m.59s., ePP = +20m.35s., eN = +29m.29s., iZ = +36m.18s. and +36m.49s.
Philadelphia ePP = +20m.48s., eSKKS = +28m.8s., e = +35m.32s., eSS = +37m.38s., e = +40m.45s., +54m.2s., and +58m.32s.
Georgetown ePP = +20m.48s., ePS = +31m.5s., eSS = +37m.30s.
Charlottesville ePP = +21m.38s., e = +28m.22s., ePS = +32m.22s., eSS = +37m.10s.

Continued on next page.

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Columbia ePP = +21m.25s., eSS = +37m.16s.
San Juan e = +21m.59s., +31m.1s., +36m.2s., +41m.56s., and +61m.22s.
La Plata PP = +24m.55s.
Huancayo ePKS = +24m.8s. = PP − 6s., i = +28m.14s., +31m.14s. = SKKS − 3s., and +39m.22s., iSS = +45m.26s., SSS = +50m.42s., iSSS = +50m.58s.
La Paz ipPKPZ = +21m.14s., iPPZ = +25m.12s., PPPZ = +29m.12s., SKSPN = +35m.18s., PPSZ = +39m.46s., iSSZ = +47m.6s., iSSS = +52m.54s., SSSS = +56m.58s.
Sucre PP = +23m.28s. = PKS.

May 24d. 22h. Readings for which no determination has been made :—
Kobe eN = 34m.16s., eE = 34m.50s.
Chiufeng ePNZ = 35m.26s., ePPP?NZ = 36m.51s., eS?N = 41m.10s., eLNZ = 46m.0s.
Nanking P = 35m.27s., eS = 39m.31s., eL = 42m.12s.
Vladivostok e = 35m.58s.
Tashkent iP = 39m.29s., eS = 48m.41s., eL = 65m.36s., M = 73m.30s.
Sverdlovsk P = 40m.3s., S = 49m.43s., L = 66m.
Pasadena ePZ = 41m.18s.
Riverside ePS = 41m.20s.
Santa Barbara ePZ = 41m.23s.
Tinemaha eE = 41m.23s.
Tiflis e = 51m.37s., eL = 80m.36s.
Pulkovo e = 51m.43s., L = 76m., M = 85m.48s.; suggested epicentre 12°·5N. 145°·0E.
Long waves at Hong Kong, Copenhagen, Leipzig, Paris, Strasbourg, and Stuttgart.

May 24d. Readings also at 2h. (Manila and La Paz), 3h. (Ksara, Paris, Pulkovo, Sverdlovsk, Strasbourg, Tashkent, Amboina, Hong Kong, Karenko, Taihoku, and Taityu), 5h. (Manila), 6h. (Almata, Erevan, Samarkand, Sebastopol, Simeropol, Sverdlovsk, and Yalta), 7h. (Nagoya), 8h. (Amboina, Manila, and Nanking), 9h. (Malabar), 10h. (Hong Kong), 13h. (Karenko, Taityu, and Taihoku), 14h. (Hong Kong), 15h. (Hong Kong, Nanking, Sverdlovsk, Toledo, and Tashkent), 16h. (Ksara, Mizusawa, Nagoya, and Strasbourg), 18h. (Almeria), 20h. (Wellington), and 21h. (Padova).

May 25d. 0h. 8m. 1s. Epicentre 12°·0N. 125°·5E. (as on 24d. 5h.). R.1.

		△	Az.	P.	O − C.	S.	O − C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Manila		5·1	300	i 1 12a	− 1	2 27	S*	—	—
Palau		9·9	117	2 20	+ 1	4 6	− 5	—	—
Kosyun		11·0	339	2 34	− 1	5 7	S*	—	—
Taito		11·5	340	2 41	− 1	5 28	S*	—	—
Takao		11·7	336	2 48	+ 4	—	—	—	—
Karenko		12·5	345	2 59	PP	—	—	—	—
Taihoku		13·5	345	3 13	+ 4	—	—	—	—
Hong Kong		14·9	315	3 30	+ 3	—	—	7·6	8·5
Amboina		15·9	170	4 16	+36	—	—	e 20·0	—
Zi-ka-wei	z.	19·6	351	e 4 19	− 6	7 59	+ 1	—	—
Kagosima		20·1	12	4 23	− 8	—	—	—	—
Phu-Lien		20·1	298	e 4 31	0	e 8 27	SS	9·5	—
Miyazaki		20·7	16	4 35	− 2	8 18	− 2	—	—
Nanking		21·0	344	i 4 39	− 1	i 8 32	+ 6	i 11·1	12·2
Nagasaki		21·1	10	4 42	+ 1	(8 32)	+ 4	8·5	—
Kumamoto		21·4	11	4 45	+ 1	—	—	—	—
Hukuoka B		22·0	12	e 5 2	PP	e 8 47	+ 1	—	—
Koti		22·8	17	4 57	− 2	9 1	0	—	—
Husan		23·3	8	5 4	0	9 14	+ 4	—	—
Siomisaki		23·4	15	5 4	− 1	9 18	+ 6	—	—
Tokusima		23·6	20	5 9	+ 3	—	—	—	—
Wakayama		23·9	20	5 8	− 1	9 37	+16	—	—
Sumoto		23·9	19	5 10	+ 1	9 27	+ 6	—	—
Taikyu		24·0	6	e 5 19	+ 9	—	—	—	—

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		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Kobe	E.	24·3	20	e 5 6	− 7	9 34	+ 6	—	—
	N.	24·3	20	e 5 3	−10	e 9 29	+ 1	—	—
	Z.	24·3	20	e 5 11	− 2	e 9 33	+ 5	e 11·5	—
Osaka		24·4	21	5 6	− 8	9 38	+ 8	—	—
Kameyama		24·9	19	5 22	+ 3	9 44	+ 5	—	—
Toyooka	N.	25·0	17	4 25	−55	8 42	−59	—	—
Nagoya		25·4	22	5 27	+ 3	—	—	e 11·1	—
Hukisan		25·4	19	5 22	− 2	—	—	—	—
Gihu		25·5	19	5 27	+ 2	9 51	+ 1	—	—
Zinsen		25·5	1	e 5 25	0	e 9 53	+ 3	e 12·8	—
Keizyo		25·6	2	5 23	− 2	9 55	+ 4	12·7	—
Batavia		26·0	227	i 5 34	+ 5	i 10 9	+11	—	—
Medan		27·8	257	6 6	+21	10 55	+27	16·0	—
Chiufeng		29·3	345	e 5 53	− 6	i 10 43	−10	—	19·1
Vladivostok		31·6	8	e 6 17	− 2	e 11 25	− 4	16·6	31·0
Calcutta	E.	36·8	292	e 7 7	+ 2	12 54	+ 6	17·6	—
Perth		44·9	191	14 59	S	(14 59)	+10	—	—
Colombo		45·3	270	8 22	+ 7	—	—	—	27·7
Adelaide		48·6	165	e 8 20	−21	e 15 35	− 6	—	39·4
Bombay		51·0	285	9 4	+ 5	i 16 26	+11	25·5	34·5
Riverview		51·9	152	e 9 17	+11	i 16 36	+ 9	e 31·4	36·5
Almata		52·1	318	e 8 59	− 8	—	—	28·5	—
Melbourne		53·0	161	—	—	e 16 51	+ 9	27·2	—
Frunse		53·6	314	e 9 13	− 5	—	—	28·0	—
Tashkent		56·9	312	9 39	− 3	17 32	− 3	e 28·0	34·6
Samarkand		58·3	310	e 9 57	+ 5	—	—	e 33·0	—
Sverdlovsk		66·3	327	i 10 42	− 5	i 19 31	− 5	31·0	41·9
Tiflis		75·1	310	e 11 41	0	e 21 20	− 1	e 38·0	51·2
Erevan		75·5	309	e 11 45	+ 2	e 20 49	−37	—	—
Moscow		79·0	325	12 0	− 3	22 3	− 2	34·8	48·0
Pulkovo		82·2	330	12 18	− 1	22 33	− 6	42·0	48·1
Simferopol		82·5	315	e 12 21	0	—	—	—	—
Yalta		82·5	314	e 12 20	− 1	—	—	—	—
Sebastopol		82·9	314	e 12 23	0	—	—	—	—
Ksara		83·0	313	i 12 22	− 1	22 56	+ 9	—	—
Upsala		88·4	332	e 23 26	S	(e 23 26)	[+ 3]	47·0	56·6
Copenhagen		92·5	329	13 10	+ 1	23 35	[−12]	46·0	—
Scoresby Sund		94·6	349	13 21	+ 2	23 47	[−12]	—	—
Hamburg		94·8	327	e 13 20	0	e 23 59	[− 1]	e 51·0	—
Cheb		95·0	324	—	—	e 37 28	?	e 52·0	60·0
Triest		96·0	320	e 13 23	− 2	23 58	[− 8]	e 50·3	64·3
Stuttgart		97·4	324	e 13 29	− 3	e 24 5	[− 8]	e 52·0	59·0
De Bilt		98·0	328	e 13 38	+ 4	e 24 15	[− 1]	49·0	62·0
Florence		98·4	319	13 35	− 1	24 22	[+ 4]	40·0	52·0
Strasbourg		98·4	324	13 35a	− 1	e 24 59	−13	e 45·0	—
Piacenza		98·8	321	24 11	S	(24 11)	[− 9]	55·0	65·8
Uccle		99·1	327	—	—	e 24 28	[+ 7]	e 49·0	—
Edinburgh		99·7	333	—	—	e 24 59?	{+ 8}	e 51·0	—
Kew		101·1	328	—	—	e 27 4	PS	e 49·0	64·1
Paris		101·2	325	e 16 59?	?	e 25 59?	+22	55·0	56·0
Bidston		101·3	331	—	—	e 24 34	[+ 2]	e 49·0	—
Rathfarnham Castle		102·8	332	—	—	e 27 9	PS	50·0	58·4
Granada		111·4	318	—	—	e 28 36	PS	e 67·0	—
San Fernando		113·6	318	—	—	e 39 17	SSS	63·5	—
Ottawa		119·5	16	—	—	e 35 17	?	e 47·0	—
Philadelphia		124·6	17	—	—	e 33 34	?	e 68·4	—
San Juan		147·5	20	e 19 46	[+ 8]	—	—	e 75·1	—

Additional readings :—
Hong Kong PP = +3m.39s.
Zi-ka-wei iZ = +4m.24s., +4m.38s. = PP + 2s., +11m.30s., +15m.54s., +20m.16s., +23m.20s., +24m.45s., +26m.16s., +29m.54s., and +31m.39s.
Kobe i = +5m.19s., iN = +5m.25s., iE = +11m.17s., iN = +11m.15s.

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Osaka i = +5m.22s., PP = +5m.52s., P_cP = +8m.27s.
Toyooka PZ = +4m.28s., SE = +8m.45s.
Chiufeng iZ = +11m.16s., iN = +12m.53s.
Adelaide i = +10m.30s. =PP +3s. and +24m.39s.
Bombay PSE = +16m.57s.
Riverview eN = +20m.32s.
Melbourne i = +20m.36s.
Tiflis e = +11m.37s. and +11m.47s.
Ksara PP = +15m.41s.
Copenhagen PP = +16m.53s., +25m.29s. =PS +8s., SS = +30m.47s.
Scoresby Sund +24m.29s. =S −9s., e = +28m.11s., SS = +31m.5s.
Triest ePP = +17m.20s., i = +24m.8s. =SKKS −15s., e = +24m.45s. =S −6s., ePS = +26m.13s., SS? = +32m.52s.
Stuttgart ePP = +17m.28s., eSKKSN = +24m.53s., ePS = +26m.20s.
De Bilt ePPZ = +17m.39s.
Florence i = +17m.42s. =PP +11s.
Strasbourg ePP = +17m.36s., ePS = +26m.27s.
Bidston e = +36m.32s.
Long waves at Durham, Stonyhurst, Alicante, Toledo, Göttingen, and Prague

May 25d. 0h. 16m. 55s. Epicentre 12°·0N. 125°·5E. X.
(As at 0h. 8m.; some of the readings have been given as belonging to the earlier shock).

	△	Az.	P.	O −C.	S.	O −C.
	°	°	m. s.	s.	m. s.	s.
Nagasaki	21·1	10	4 46	+ 5	8 28	0
Kobe	24·3	20	e 5 13	0	9 34	+ 6
Osaka	24·4	21	e 4 43	−31	9 23	− 7
Wellington	70·0	142	11 5?	− 6	—	—
Tiflis	75·1	310	e 11 47	+ 6	21 26	+ 5
Pulkovo	82·2	330	i 12 19	0	22 30	[− 7]
Ksara	83·0	313	i 12 26	+ 3	—	—
Upsala	88·4	332	—	—	e 23 27	[+ 4]
Stuttgart	97·4	324	e 13 30	− 2	—	—
San Fernando	113·6	318	—	—	e 26 27	{− 5}

Additional readings :—
Kobe ePZ = +5m.16s., eENZ = +5m.19s., eZ = +9m.6s., SN = +9m.37s., iN = +11m.14s., iE = +11m.17s., eN = +12m.3s., eE = +12m.12s.
Osaka PP = +5m.43s., P_cP = +8m.21s., SS = +10m.56s.
Pulkovo PP = +15m.49s.
San Fernando ePP = +24m.23s., ePP = +24m.26s.

May 25d. 4h. 4m. 51s. Epicentre 40°·4N. 70°·5E. N.3.

Given by Almata.

A = +·254, B = +·718, C = +·648; D = +·942, E = −·334;
G = +·216, H = +·611, K = −·761.

	△	Az.	P.	O −C.	S.	O −C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Tashkent	1·3	313	i 0 18	0	—	—	i 0·6	0·7
Samarkand	2·8	255	0 40	0	e 1 24	S_g	—	1·7
Frunse	3·9	51	e 1 12	P_g	e 2 5	S_g	—	—
Almata	5·6	60	e 1 47	P_g	e 2 56	S_g	—	—

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May 25d. 8h. 33m. 7s. Epicentre 12°·0N. 125°·5E. (as at 0h. 16m.). R.3.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Manila	5·1	300	1 15	+ 2	2 29	S*	—	—
Hong Kong	14·9	315	3 25	− 2	—	—	—	8·7
Nanking	21·0	344	e 4 47	+ 7	e 8 37	+11	i 11·3	12·1
Kobe	24·3	20	e 5 12	− 1	e 9 34	+ 6	—	—
Osaka	24·4	21	4 41	−33	9 29	− 1	—	—
Nagoya	25·4	22	e 5 22	− 2	—	—	—	—
Batavia	26·0	227	e 5 21	− 8	10 11	+13	—	—
Chiufeng	29·3	345	e 5 56	− 3	—	—	—	13·0
Tashkent	56·9	312	e 9 46	+ 4	i 17 37	+ 2	e 27·6	40·2
Sverdlovsk	66·3	327	10 45	− 2	19 32	− 4	32·9	37·1
Baku	71·4	309	11 20	+ 1	e 21 32	PS	40·9	54·8
Tiflis	75·1	310	e 11 41	0	21 21	0	e 38·9	—
Pulkovo	82·2	330	e 12 29	+10	22 32	[− 5]	43·9	50·2
Ksara	83·0	313	i 12 25a	+ 2	22 56	[+12]	—	—

Additional readings :—
Kobe eZ = +5m.14s., eE = +5m.18s. and +9m.34s., eN = +9m.43s., eN = +11m.7s., eE = +11m.17s.
Osaka PP = +5m.41s., SS = +11m.1s.
Tashkent i = +9m.48s.
Pulkovo SS = +28m.17s.
Ksara +15m.44s.
Long waves at Medan and other European stations.

May 25d. 21h. Readings for which no determination has been made, but 24°N. 143°E. has been suggested :—
Nanking PN = 33m.44s., S = 37m.40s., L = 40m.12s.
Chiufeng eNZ = 34m.59s.
Sverdlovsk iP = 39m.48s., S = 48m.32s., L = 62m., M = 66m.18s.
Tiflis e = 40m.42s., e = 50m.18s., L = 73m.
Pulkovo eP = 41m.21s., eS = 51m.23s., L = 73m., M = 78m.24s.
Ksara iP = 41m.30s., S = 51m.29s., M = 84m.30s.
Tashkent e = 46m.36s., eL = 57m.6s., M = 62m.42s.
Long waves at Hong Kong, Baku, Copenhagen, De Bilt, Paris, Scoresby Sund, Strasbourg, Stuttgart, and Uccle.

May 25d. Readings also at 0h. (Malaga, Toledo, and Tunis), 1h. (Perth), 2h. (Osaka), 3h. (Pasadena and Tinemaha), 4h. (Amboina), 5h. (Simferopol), 6h. (Simferopol), 9h. (Nagasaki), 10h. (Nagoya and Nanking), 11h. (Edinburgh, Ksara, and Tiflis), 13h. (Königsberg), 17h. (Oak Ridge and Wellington), 18h. (Hong Kong, Sverdlovsk, and Tashkent), 20h. (Mizusawa, Nagoya, Frunse, and Samarkand), 21h. (Oak Ridge), 22h. (Nanking, Kew, and Tiflis), 23h. (Frunse, Samarkand, Ksars, Tashkent, and Tiflis).

May 26d. 22h. 3m. 56s. Epicentre 12°·0N. 125°·5E. (as at 25d. 8h.). R.1.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Manila	5·1	300	i 1 18a	+ 5	i 2 12	+ 2	—	—
Palau	9·9	117	2 9	−10	3 58	−13	—	—
Kosyun	11·0	339	2 38	+ 3	e 5 10	?	—	—
Taito	11·5	340	e 2 38	− 4	5 7	?	—	—
Takao	11·7	336	5 30	?	—	—	—	—
Arisan	12·4	340	e 2 55	+ 1	—	—	—	—
Isigakizima	12·4	355	2 39	−15	—	—	—	—
Karenko	12·5	345	e 3 2	+ 7	e 5 55	?	—	—
Taityu	13·0	341	2 55	− 7	—	—	—	—
Taihoku	13·5	345	e 3 17	PP	e 5 55	SS	—	—
Naha	14·4	6	2 41	−40	—	—	—	—
Hong Kong	14·9	315	3 26	− 1	6 34	?	8·0	10·0
Amboina	15·9	170	3 40	0	7 23	?	17·1	—
Nake	16·8	10	3 54	+ 2	—	—	—	—
Kagosima	20·1	12	4 33	+ 2	—	—	—	—

Continued on next page.

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		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Phu-Lien		20·1	298	e 4 33	+ 2	e 8 28	SS	10·1	—
Miyazaki		20·7	16	4 35	− 2	—	—	—	—
Tomie		20·8	5	3 52	−46	7 56	−26	—	—
Nanking		21·0	344	i 4 39	− 1	i 8 33	+ 7	i 11·1	12·1
Nagasaki		21·1	10	e 4 1	−40	8 33	+ 5	10·7	—
Kumamoto		21·4	11	4 52	+ 8	—	—	—	—
Hukuoka		22·0	12	e 4 46	− 5	8 51	+ 5	—	—
Hukuoka B		22·0	12	e 5 3	PP	8 51	+ 5	—	—
Koti		22·8	17	4 53	− 6	9 9	+ 8	—	—
Matuyama		22·8	14	5 1	+ 2	9 10	+ 9	—	—
Husan		23·3	8	5 3	− 1	9 13	+ 3	15·2	—
Siomisaki		23·4	15	5 2	− 3	9 12	0	—	—
Hamada		23·6	18	5 7	+ 1	—	—	—	—
Wakayama		23·9	20	5 8	− 1	—	—	—	—
Sumoto		23·9	19	e 5 5	− 4	9 42	+21	—	—
Kobe		24·3	20	e 5 6	− 7	e 9 29	+ 1	e 9·6	14·4
Osaka		24·4	21	4 54	−20	9 20	−10	13·4	—
Hatidyozima		24·8	30	5 26	+ 8	10 5	SS	—	—
Kameyama		24·9	19	5 19	0	—	—	—	—
Toyooka		25·0	17	5 15	− 5	9 42	+ 1	—	—
Hikone		25·2	21	5 21	− 1	—	—	—	—
Nagoya		25·4	22	5 23	− 1	—	—	e 10·4	—
Gihu		25·5	19	5 25	0	—	—	—	—
Zinsen		25·5	1	—	—	e 9 16	−34	—	—
Keizyo		25·6	2	9 41	S	(9 41)	−10	12·8	—
Batavia		26·0	227	i 5 30	+ 1	e 10 1	+ 3	—	—
Numadu		26·1	26	5 50	+20	—	—	—	—
Yokohama		26·7	26	6 6	PP	11 0	+50	—	—
Toyama		26·8	21	5 34	− 2	—	—	—	—
Tokyo		26·9	25	5 53	+16	10 43	+29	—	—
Oiwake		27·0	24	5 57	+19	—	—	—	—
Nagano		27·1	23	6 0	+21	—	—	—	—
Kumagaya		27·2	24	6 8	+28	12 0	?	—	—
Maebasi		27·3	24	6 3	+22	—	—	—	—
Tukubasan		27·5	25	6 22	PP	—	—	—	—
Medan		27·8	257	5 52	+ 7	11 4	?	—	—
Niigata		28·6	25	6 25	+32	—	—	—	—
Hukusima		29·0	25	6 42	PP	—	—	—	—
Chiufeng		29·3	345	5 57a	− 2	i 10 43	−10	13·9	16·4
Akita		30·5	22	6 25	+16	—	—	—	—
Sapporo		34·0	20	6 54	+14	—	—	—	—
Calcutta	E.	36·8	292	7 11	+ 6	13 8	+20	e 18·3	29·6
Perth		44·9	191	20 4	?	—	—	—	—
Hyderabad		45·7	284	8 14	− 4	15 6	+ 6	21·6	30·1
Agra	E.	46·9	297	8 23	− 5	15 18	+ 1	22·5	—
Kodaikanal	E.	47·1	274	e 8 4	−25	—	—	—	—
Adelaide		48·6	165	i 8 34	− 7	i 15 33	− 8	e 24·6	35·0
Bombay		51·0	285	i 9 6	+ 7	i 16 21	+ 6	—	33·7
Riverview		51·9	152	i 9 13	+ 7	e 16 23	− 4	e 29·2	44·4
Almata		52·1	318	e 9 15	+ 8	—	—	e 29·1	—
Melbourne		53·0	161	—	—	16 39	− 3	—	—
Frunse		53·6	314	e 9 14	− 4	—	—	29·1	—
Andijan		54·6	310	e 9 12	−14	—	—	e 30·1	—
Tashkent		56·9	312	10 3	+21	i 18 7	+32	28·1	34·8
Sverdlovsk		66·3	327	i 10 45	− 2	i 19 35	− 1	36·7	40·1
Honolulu		73·4	71	—	—	e 22 4	+63	e 34·8	—
Tiflis		75·1	310	11 41	0	i 21 20	− 1	43·1	—
Erevan		75·5	309	e 11 45	+ 2	—	—	—	—
Moscow		79·0	325	e 11 58	− 5	21 59	− 6	e 30·4	49·3
Pulkovo		82·2	330	i 12 18	− 1	22 32	− 7	43·1$_q$	50·6

Continued on next page.

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	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Simferopol	82·5	315	e 12 20	− 1	e 22 37	[− 3]	—	—
Yalta	82·5	314	12 19	− 2	22 34	[− 6]	—	—
Sebastopol	82·9	314	12 22	− 1	22 40	[− 3]	—	—
Ksara	83·0	313	i 12 24a	+ 1	i 22 56	+ 9	—	—
Sitka	84·8	35	—	—	e 22 58	[0]	—	—
Helwan	87·6	300	12 46	0	23 13	[− 4]	—	—
Bucharest	88·2	315	—	—	e 23 34	− 5	—	—
Upsala	88·4	332	—	—	e 23 14	[− 9]	e 50·1	—
Sofia	90·6	314	e 16 34	PP	e 23 28	[− 8]	—	—
Budapest	91·9	319	—	—	e 23 34	[−10]	e 53·1	—
Copenhagen	92·5	329	13 10	+ 1	23 42	[− 5]	50·1	—
Prague	93·8	324	—	—	e 23 50	[− 4]	e 50·1	59·6
Leipzig	94·4	325	—	—	e 26 4?	PS	e 43·1	59·1
Scoresby Sund	94·6	349	13 34	+15	23 55	[− 4]	56·1	—
Hamburg	94·8	327	e 13 17	− 3	—	—	e 50·1	59·1
Cheb	95·0	324	e 14 4?	?	e 24 0	[− 1]	e 51·1	61·3
Triest	96·0	320	e 13 41	+16	i 23 57	[− 9]	—	65·1
Stuttgart	97·4	324	e 13 31	− 1	e 24 4	[− 9]	e 52·1	62·1
De Bilt	98·0	328	—	—	e 24 12	[− 4]	e 51·1	62·4
Florence	98·4	319	13 34	− 2	24 6	[−12]	35·1	43·1
Strasbourg	98·4	324	e 13 4?	−32	e 24 11	[− 7]	31·1	—
Prato	98·4	320	e 17 29	PP	26 8	PS	55·1	—
Piacenza	98·8	321	e 14 4	+26	24 16	[− 4]	—	66·1
Uccle	99·1	327	e 17 40	PS	e 24 17	[− 4]	e 51·1	56·1
Edinburgh	99·7	333	—	—	e 24 4?	[−20]	—	—
Durham	99·8	332	—	—	25 17	− 8	—	62·1
Stonyhurst	100·7	331	—	—	e 24 24	[− 5]	56·1	64·4
Kew	101·1	328	—	—	e 27 4?	PS	e 53·1	64·9
Paris	101·2	325	e 18 3	PP	e 26 59	PS	55·1	55·1
Bidston	101·3	331	—	—	e 24 26	[− 6]	49·1	63·4
Oxford	101·5	330	—	—	e 24 22	[−11]	e 50·5	65·4
Rathfarnham Castle	102·8	332	—	—	e 24 26	[−13]	—	62·4
Bozeman	103·2	36	—	—	e 24 35	[− 6]	e 57·3	—
Granada	111·4	318	e 17 10	[−72]	32 28	?	62·9	71·7
Ottawa	119·5	16	—	—	e 30 4?	PS	e 52·1	—
Philadelphia	124·6	17	—	—	e 30 49	PS	73·5	—
San Juan	147·5	20	e 19 44	[+ 6]	—	—	e 73·1	—

Additional readings :—
Nagasaki SE = +8m.36s.
Sumoto ePZ = +5m.8s.
Kobe ePN = +5m.9s., ePZ = +5m.11s., iZ = +5m.31s., iN = +5m.33s., eE = +9m.9s.
Osaka PP = +5m.37s., P_cP = +8m.38s., S_cS = +16m.5s.
Toyooka PZ = +5m.20s., PE = +5m.29s.
Medan e = +11m.58s. and +13m.35s.
Chiufeng iSE = +10m.48s., SS?EN = +12m.6s., iZ = +12m.47s., iN = +13m.10s.
Calcutta PPP = +8m.54s., SSS = +16m.0s.
Agra PP = +10m.13s., PPP = +10m.51s., SS = +18m.25s.
Adelaide i = +10m.54s. and +15m.39s., e = +17m.3s., i = +19m.9s. and +20m.21s.
Bombay SSN = +19m.51s.
Riverview eE = +16m.29s. and +19m.56s. =SS +1s., eN = +20m.9s.
Melbourne e = +10m.17s. and +20m.18s. =SS +4s.
Tiflis ePPP = +16m.44s., eSS = +26m.47s., e = +30m.30s.
Ksara iPP = +15m.39s., PS = +23m.49s., SS = +28m.51s.
Upsala i = +23m.34s. =S −7s.
Copenhagen PP = +16m.58s., +24m.16s. =S −3s.
Prague e = +24m.33s. =S +2s. and +34m.22s.
Scoresby Sund +24m.34s. =S −4s.
Triest ePS = +24m.42s. =S −9s., e = +25m.50s., +29m.6s., and +40m.35s.
Stuttgart ePP = +17m.28s., eSKKS = +24m.52s., ePS = +26m.17s.
De Bilt ePPZ = +17m.40s., eN = +25m.6s. =S −3s.
Florence i = +17m.27s. =PP −4s.
Strasbourg eS = +25m.9s., ePS = +26m.26s.
Uccle eN = +25m.14s. =S −5s.
Rathfarnham Castle e = +26m.4s.
Granada PP = +19m.10s.
Ottawa e = +36m.28s. =SS +3s.
Philadelphia e = +37m.39s. =SS +7s. and +49m.10s., eSS = +63m.58s.
San Juan eSS = +42m.4s.
Long waves at Tucson, Huancayo, Wellington, and other European stations.

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May 26d. Readings also at 1h. (Apia), 3h. (Apia), 4h. (Philadelphia), 7h. (Samarkand), 8h. (Apia), 10h. (Almata), 12h. (Amboina), 13h. (Amboina and Soengei Langka), 14h. (Sverdlovsk and Hong Kong), 15h. (Tashkent and Mizusawa), 16h. (Mizusawa (2), Sumoto, Almata, and Tacubaya), 17h. (Chiufeng, Pasadena, Tinemaha, Tashkent, and Sverdlovsk), 18h. (Kew), 23h. (Almata, Andijan, Frunse, and Samarkand).

May 27d. 3h. Readings for which no determination has been made :—

Adelaide i = 12m.49s., i = 22m.32s., M = 36m.36s.
Apia eP = 15m.36s., ePP = 18m.41s., ePPP = 19m.48s., e? = 21m.12s., eS = 23m.2s., eSN = 23m.15s., eE = 26m.27s., eSSN = 27m.5s., eL = 32m.16s., MN = 33m.40s.
Wellington e? = 16m., i = 17m.15s., i = 18m.40s., LR = 20m.
Riverview e = 16m.36s., eL = 23m.18s., M = 28m.21s.
Sydney eP = 17m.10s., eS = 22m.42s., L = 26m.48s., M = 28m.15s.
Melbourne e = 19m.20s., e = 23m.17s., L = 27m.22s., M = 30m.24s.
Uccle eN = 22m., eN = 46m.
Santa Barbara ePZ = 23m.56s.
Pasadena iP = 23m.57s., eL = 50m.
Riverside eP = 23m.57s.
Mount Wilson ePZ = 23m.58s.
Tinemaha ePZ = 24m.3s., iZ = 24m.11s.
Haiwee eP = 24m.5s.
Chiufeng eP = 24m.45s., eSE = 35m.17s., SEN = 35m.21s., iPS?EZ = 36m.4s., eLN = 52m.6s., M = 70m.56s.
Piacenza e? = 28m.0s., ME = 61m.24s.
Arapuni 30m.
Tashkent e = 30m.16s., e = 32m.10s., e = 33m.30s., e = 35m.0s., e = 49m.0s., e = 59m.54s. ; suggested epicentre 22°N.150°E.
Sverdlovsk e = 30m.40s., e = 34m.3s., i = 34m.11s., L = 98m., M = 105m.36s.
Moscow eP = 30m.54s., eS = 41m.13s., M = 53m.12s.
Pulkovo eP = 30m.57s., eS = 41m.22s., L = 80m., M = 95m.30s.
Paris e = 31m., L = 96m., M = 101m.
Strasbourg e = 31m., eL = 40m. ; suggested epicentre 21°S. 175°·5W.
Erevan eP = 31m.0s.
Tiflis e = 31m.1s., e = 35m.10s., e = 41m.21s., eL = 83m.
Baku eP = 31m.1s., eS = 41m.19s.
Ksara iPKP = 31m.17s., PP = 34m.2s., PPS = 46m.22s., SS = 52m.24s., M = 89m.
De Bilt eZ = 31m.18s., eZ = 32m.0s., eE = 55m.42s., eL = 96m., M = 105m.50s.
Stuttgart ePKP = 31m.25s., ePPP = 35m.54s., eSS = 49m.0s., eEN = 56m.6s., eL = 104m.
Copenhagen 31m.36s., 42m.12s., L = 90m.
Granada e = 31m.37s., L = 99m.0s., M = 114m.40s.
Florence P = 32m.2s., eS = 42m.0s., M = 100m.0s.
Triest e(P) = 32m.2s., eS = 43m.0s., e = 49m.41s., e = 57m.24s., eL = 95m.10s., M = 104m.40s.
Scoresby Sund P = 33m.30s., L = 84m.
Berkeley iN = 34m.26s., iE = 34m.31s., iEN = 39m.37s., iN = 49m.45s.
Ukiah e = 34m.44s., e = 50m.52s., eL = 107m.0s.
Nanking iS = 34m.56s., e = 40m.15s., M = 66m.42s.
Sitka eP = 35m.52s., eL = 53m.0s.
Kew eZ = 36m., eL = 92m.
Edinburgh e = 36m.
Agra e = 36m.54s.
Ottawa eE = 37m., eE = 41m., eE = 47m.30s., eL = 65m.0s.
Bombay eEN = 37m.0s., M = 83m.25s.
San Juan e = 37m.4s., eL = 67m.30s.
Perth P = 43m.0s.
Cheb e = 45m., eL = 105m., M = 117m.
Bozeman e = 54m.24s.
Rathfarnham Castle e = 55m.21s., L = 92m., M = 98m.
Tucson S = 60m.12s., L = 71m.8s.
Philadelphia e = 66m.28s., L = 74m.12s.
Long waves at Bidston, Stonyhurst, Hong Kong, Alicante, Hamburg, Prague, San Fernando, Chicago, Honolulu, Huancayo.

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May 27d. 5h. 35m. 44s. Epicentre 21°·5N. 119°·6E. N.3.

A = −·460, B = +·809, C = +·366; D = +·870, E = +·494;
G = −·181, H = +·319, K = −·931.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Kosyun	1·2	62	i 0 17	0	0 28	− 3	—	—
Takao	1·3	27	0 19	+ 1	0 32	− 1	—	—
Tainan	1·7	20	e 0 26	+ 2	—	—	—	—
Taito	1·9	46	i 0 28	0	i 0 46	− 3	—	—
Arisan	2·3	25	e 0 38	P*	—	—	—	—
Taityu	2·8	18	1 11	S	(1 11)	− 1	—	—
Karenko	3·1	32	0 41	− 3	—	—	—	—
Taihoku	4·0	24	e 1 5	P*	2 3	S_g	—	—
Hong Kong	5·1	279	1 27	P*	2 37	S_g	3·4	4·0
Manila	7·0	170	2 30	?	4 1	?	—	—
Nanking	10·6	356	—	—	e 5 6	S*	—	—
Phu-Lien	12·1	271	—	—	6 16	S*	—	—
Chiufeng	18·9	352	e 4 25	+ 8	i 8 57	?	—	14·5
Mizusawa	25·5	42	—	—	i 14 34	L	(14·6)	—

Additional readings :—
Taityu S = +1m.49s.
Nanking eN = +8m.27s.
Chiufeng eN = +10m.30s.
Long waves at Copenhagen, De Bilt, Pulkovo, Tiflis, Sverdlovsk, Uccle, and Amboina.

May 27d. 11h. 41m. 6s. Epicentre 21°·5N. 119°·6E. (as at 5h.). R.3.

	△	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Kosyun	1·2	62	0 18	+ 1	0 34	+ 3
Takao	1·3	27	e 0 34	S	(e 0 34)	+ 1
Tainan	1·7	20	e 0 38	S	(e 0 38)	− 6
Taito	1·9	46	e 0 28	0	e 0 52	+ 3
Arisan	2·3	25	0 20	−13	—	—
Taityu	2·8	18	1 10	S	(1 10)	− 2
Karenko	3·1	32	e 0 50	P*	e 1 29	S*
Taihoku	4·0	24	e 1 14	P_g	e 1 49	+ 7
Manila	7·0	170	2 44	?	4 10	?

Additional readings :—
Takao S = +1m.8s.
Hong Kong records M.

May 27d. Readings also at 0h. (Manila), 1h. (Manila and Wellington), 4h. (Baku, Ksara, and Hong Kong), 5h. (Nagoya), 7h. (La Jolla, Pasadena, Riverside, Tinemaha, and Wellington), 8h. (Hong Kong (2) and Manila (2)), 11h. (Sumoto and Manila), 14h. (Tananarive (2)), 15h. (Alicante), 20h. (Nagasaki), 21h. (Ksara), 23h. (Huancayo and Taikyu).

May 28d. 2h. 15m. 50s. Epicentre 35°·1N. 133°·9E. N.3.

A = −·567, B = +·590, C = +·575; D = +·721, E = +·693;
G = −·399, H = +·414, K = −·818.

	△	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Toyooka	0·9	59	0 14	+ 1	0 24	+ 1	0·5
Kobe	1·1	115	0 16	0	i 0 27	− 1	0·6
Sumoto	1·1	134	0 15	− 1	0 28	0	0·5
Osaka	1·4	110	0 21	+ 1	0 40	S*	0·7
Nagoya	2·6	89	e 0 35	− 2	1 12	+ 5	—

Additional readings :—
Kobe iN = +29s., iZ = +38s., iN = +41s.
Osaka i = +1m.13s. and +1m.44s.

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May 28d. 12h. Readings for which no determination has been made :—

Santiago P =9m.37s., S =10m.8s.
La Plata P =10m.49s., S =12m.8s., L =12m.36s. ; T_0 =12h.9m.6s.
Sucre iP =12m.7s., L =14m.42s.
La Paz iPZ =12m.39s., M =15m.51s.
Huancayo iP =13m.36s., iS =17m.30s.
La Jolla iP =20m.43s.a, iZ =21m.33s.
Riverside iP =20m.49s.a, eZ =21m.36s.
Mount Wilson iP =20m.51s.
Pasadena iP =20m.52s.a, iZ =21m.37s.
Santa Barbara iP =20m.58s.
Haiwee iP =21m.1s.
Tinemaha iP =21m.3s a, iZ =21m.53s.

May 28d. 14h. 16m. 14s. Epicentre 13°·1N. 128°·2E. N.2.

A = − ·602, B = + ·765, C = + ·227 ; D = + ·786, E = + ·618 ;
G = − ·140, H = + ·176, K = − ·974.

	△	Az.	P.	O −C.	S.	O −C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Manila	7·2	283	1 22	−20	2 58	− 6	—	—
Nanking	20·8	336	e 4 39	+ 1	8 35	+13	10·4	12·3
Osaka	22·5	15	4 54	− 2	9 2	+ 7	—	11·4
Chiufeng	29·0	342	e 6 1	+ 5	e 10 51	+ 3	—	19·6
Tashkent	58·2	311	—	—	e 21 16	SS	e 28·8	36·0
Sverdlovsk	66·8	327	10 50	− 1	(19 42)	0	29·8	—
Ksara	84·6	304	i 12 32	+ 1	e 23 7	+ 3	—	—

Additional readings and notes :—
Osaka P = +4m.24s., S = +8m.1s. ; true P and S are given as PP and SS.
Chiufeng iEN = +13m.9s.
Sverdlovsk S has been *increased* by 3m.
Ksara PP = +15m.51s.
Long waves at Baku, Copenhagen, De Bilt, Pulkovo, Stuttgart, Strasbourg, and Hong Kong.

May 28d. 17h. Readings for which no determination has been made :—

Nagoya e =4m.1s.
Mizusawa eP =4m.17s., eS =5m.12s.
Osaka P =4m.22s., PP =4m.35s., S =7m.33s.
Husan eS? =4m.44s.
Nagasaki P =5m.1s.
Tashkent e =7m.30s., e =11m.36s., e =18m.0s., e =22m.0s., eL =29m.0s., M =36m.0s.
Tinemaha iPZ =10m.0s.
Pasadena iPZ =10m.12s.
Mount Wilson iPZ =10m.13s.
Sverdlovsk e =11m.14s., e =17m.0s., e =20m.28s., L =25m., M =35m.18s.
De Bilt ePZ =11m.33s., eSN =21m.23s., eL =40m.
Uccle (e) =11m.39s., eN =21m.24s., eL =40m.
Stuttgart eZ =11m.42s., eL =40m.
Paris iP =11m.53s., L =48m. ; epicentre 48°N. 154°E.
Ksara iP =12m.1s., eS =22m.40s., L =44m.0s., M =53m.30s.
Florence P =12m.4s., eS =21m.30s., M =45m.0s.
Prague e =13m.0s., M =18m.0s.
Long waves at Edinburgh, Kew, Rathfarnham Castle, Agra, Hong Kong, Nanking, and other European stations.

May 28d. Readings also at 0h. (La Paz, La Plata, Sucre, and Santiago), 1h. (Hong Kong, Manila, Tashkent, and Sverdlovsk), 3h. (Wellington and Christchurch), 8h. (Lick), 11h. (Amboina), 13h. (Sumoto), 15h. (Wellington), 16h. (Chiufeng, Hong Kong, Manila, and Nanking), 18h. (La Paz and Sucre), 20h. (Apia), 21h. (Sofia).

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May 29d. 19h. 42m.48s. Epicentre 24°·0N. 120°·8E. N.2.

Given by Taihoku.

A = −·468, B = +·785, C = +·407; D = +·859, E = +·512;
G = −·208, H = +·349, K = −·914.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m
Taityu	0·2	319	0 1	− 2	0 7	+ 2	—	—
Arisan	0·5	180	i 0 5	− 2	i 0 11	− 2	—	—
Karenko	0·8	100	i 0 0	?	i 0 12	P	—	—
Tainan	1·1	205	e 0 10	− 6	1 35	S_g	—	—
Taihoku	1·2	26	0 20	+ 3	0 40	S*	—	—
Taito	1·3	167	i 0 21	+ 3	0 39	S*	—	—
Takao	1·4	198	0 26	P_g	0 52	S_g	—	—
Kosyun	2·0	185	e 0 30	+ 1	1 6	S_g	—	—
Hong Kong	6·4	252	1 57	P_g	3 12	S*	3·8	4·9
Zi-ka-wei	7·2	1	1 48	+ 6	3 18	+14	—	—
Nanking	8·3	349	e 1 55	− 3	i 3 53	?	—	5·5
Manila	9·6	180	2 16	0	4 21	+18	5·5	6·7
Nagasaki	11·8	39	e 2 27	−19	e 6 14	S_g	—	—
Hukuoka B	12·7	39	e 3 6	PP	5 47	+27	7·5	—
Husan	13·2	33	—	—	e 7 21	S_g	—	—
Phu-Lien	13·5	259	3 12?	+ 3	6 12?	+33	7·2	—
Taikyu	13·7	30	e 7 28	?	e 9 17	?	—	—
Zinsen	14·4	18	e 3 27	+ 6	e 7 35	?	—	—
Heizyo	15·6	14	e 7 57	?	—	—	—	—
Chiufeng	16·4	348	3 55a	PP	7 2	SS	i 8·8	11·2
Calcutta E.	29·8	275	—	—	e 11 41	+40	—	—
Agra	38·6	284	—	—	e 13 15	0	—	—
Almata	40·6	309	e 8 12	+35	—	—	—	—
Frunse	42·3	308	e 10 22	?	—	—	—	—
Bombay	44·8	274	—	—	e 18 12?	(+ 1)	—	—
Tashkent	46·0	305	e 8 20	− 1	i 15 11	+ 7	e 24·5	30·5
Sverdlovsk	53·9	324	i 9 21	0	17 0	+ 6	$27·7_q$	35·2
Baku	60·6	305	—	—	e 28 35	?	e 41·2	—
Tiflis	64·2	307	e 10 32	− 2	e 19 20	+10	e 39·2	—
Moscow	66·6	323	—	—	e 24 47	?	—	42·8
Pulkovo	69·7	328	11 9	0	20 21	+ 3	37·2	53·3
Simferopol	71·1	312	e 11 18	+ 1	—	—	—	—
Yalta	71·1	310	e 11 20	+ 3	—	—	—	—
Ksara	73·0	300	e 11 30	+ 1	e 21 0	− 3	—	47·2
Copenhagen	80·0	328	—	—	e 22 18	+ 2	41·2	—
De Bilt	85·5	326	—	—	e 23 17	+ 4	e 46·2	47·8

Additional readings :—
Zi-ka-wei iZ = +4m.10s., iN = +4m.19s., iZ = +4m.48s., +5m.26s., +5m.53s., and +25m.6s.
Nanking eE = +1m.59s., iE = +4m.17s.
Chiufeng SNZ = +7m.5s., iNZ = +7m.53s.
Baku e = +36m.17s.
Long waves at Bidston, Edinburgh, Kew, Rathfarnham Castle, Stonyhurst, and other European stations.

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May 29d. 20h. 3m. 0s. Epicentre 24°·0N. 120°·8E. (as at 19h.). X.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Taityu	0·2	319	0 0	− 3	0 6	+ 1	—	—
Karenko	0·8	100	−0 10	−21	0 2	−19	—	—
Tainan	1·1	205	e 0 16	0	0 40	S_g	—	—
Taihoku	1·2	26	i 0 22	P_g	0 41	?	—	—
Taito	1·3	167	i 0 19	+ 1	0 38	S*	—	—
Hokoto	1·3	245	e 0 21	P_g	e 0 41	S_g	—	—
Takao	1·4	198	e 0 25	P_g	0 51	?	—	—
Kosyun	2·0	185	0 23	− 6	0 59	S*	—	—
Nanking	8·3	349	—	—	i 4 14	S*	4·5	5·6
Husan	13·2	33	—	—	e 6 34	S*	—	—
Phu-Lien	13·5	259	—	—	7 0?	S_g	—	—

Additional readings :—
Nanking iN = +5m.18s.
Hong Kong gives M only.

May 29d. Readings also at 8h. (Nagoya), 11h. (Apia, Pasadena, Tinemaha, and Mizusawa), 16h. (La Paz and Sucre), 17h. (Mizusawa), 19h. (Karenko and Taityu), 20h. (Arisan, Karenko, and Taityu (2)), 22h. (Erevan).

May 30d. 21h. 33m. 0s. Epicentre 29°·6N. 66°·5E. N.1.

Given by the following authors :
West (W.D.) " Prel. Geol. report of the Quetta Earthquake " (Rec. Geol. Survey, India, LXIX, Pt. 2, p.203, 1936).
Ramanathan (K.R.) and Mukherji (S.M.) " A Seismol. Study, of the Quetta Earthquake " (Rec. Geol. Survey, India, Vol. 73, Pt. 4, p.483, 1938).

A = +·347, B = +·797, C = +·494 ; D = +·917, E = −·399 ;
G = +·197, H = +·453, K = −·870.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Samarkand		10·0	0	2 30	+ 9	4 30	+17	—	—
Dehra Dun		10·0	83	2 50	+29	4 20	+ 7	—	13·0
Agra		10·4	100	e 2 15	−11	5 10	S*	—	—
Tashkent		11·9	9	i 2 46	− 1	—	—	—	—
Andijan		12·1	20	i 2 53	+ 3	5 24	+19	i 7·0	7·9
Bombay		12·2	151	i 2 33	−18	i 4 55	−13	e 5·7	—
Frunse		14·8	23	3 34	+ 8	i 6 27	+17	8·3	—
Almata		16·1	28	i 3 44	+ 1	6 48	SS	7·5	—
Hyderabad		16·3	135	3 58	+13	7 28	?	—	14·5
Baku		17·3	313	i 4 2	+ 4	—	—	—	—
Erevan		20·8	306	4 41	+ 3	9 0	+38	—	—
Calcutta	E.	21·0	106	4 36	− 4	8 31	+ 5	—	—
	N.E.	21·0	106	4 40	0	8 35	+ 9	—	—
Tiflis		21·3	310	i 4 45	+ 2	8 56	SS	10·5	19·5
Kodaikanal	E.	21·9	150	i 4 36	−14	i 8 37	− 7	10·6	18·0
Semipalatinsk		23·3	22	i 5 3	− 1	i 9 24	+14	10·9	13·6
Sotchi		25·4	312	5 20	− 4	e 9 58	+10	—	—
Ksara		26·3	288	i 5 31k	− 1	10 13	+10	—	—
Sverdlovsk		27·5	352	i 5 42	− 1	i 10 28	+ 4	—	—
Yalta		29·5	310	6 0	− 1	11 9	+13	—	—
Simferopol		29·7	310	6 2	0	11 13	+14	—	—
Sebastopol		30·1	310	6 4	− 2	11 16	+10	—	—
Helwan		30·4	280	6 6	− 3	i 11 47	+37	—	—
Moscow		33·2	329	e 6 33	− 1	11 59	+ 3	—	23·5
Bucharest		35·1	307	e 6 53	+ 3	13 0	+37	—	22·0

Continued on next page.

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		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m, s.	s.	m. s.	s.	m.	m.
Sofia		36·7	304	e 7 5	+ 1	—	—	—	21·0
Phu-Lien		37·2	95	e 7 5	− 3	e 12 18	−36	15·0	22·7
Lemberg	E.	37·7	316	e 7 24	+12	e 13 48	+46	20·9	31·5
	N.	37·7	316	e 7 27	+15	e 13 33	+31	20·1	25·7
Pulkovo		38·7	332	e 7 21	0	e 13 21	+ 4	20·0	23·5
Belgrade		39·1	306	e 7 23	− 1	—	—	21·5	28·2
Medan		40·1	134	7 48	+15	i 14 3	+25	—	—
Budapest		40·4	311	7 33	− 2	14 11	+29	17·0	28·0
Königsberg		41·3	321	e 7 47	+ 4	i 14 7	+11	e 19·2	26·0
Chiufeng		41·5	62	e 7 48	+ 4	e 13 55	− 4	20·4	25·7
Vienna		42·3	312	i 7 49	− 2	14 13	+ 3	e 19·0	33·0
Zagreb		42·3	307	e 7 49	− 2	e 14 38	+38	e 21·4	29·6
Messina		42·6	297	7 55	+ 2	14 20	+ 5	—	—
Graz		43·0	308	i 7 48	− 9	i 14 18	− 3	e 22·0	25·4
Hong Kong		43·2	88	7 52	− 6	14 20	− 4	20·8	30·2
Laibach		43·3	307	e 8 0	+ 1	i 15 0	+35	e 24·1	30·0
Capodimonte		43·5	301	e 8 3	+ 2	e 14 0	−28	e 22·0	33·0
Prague		43·8	314	8 1	− 2	e 15 4	+31	e 19·0	28·5
Entebbe		43·8	234	8 0	− 3	14 32	− 1	—	27·0
Triest		43·8	309	e 8 1k	− 2	i 15 4	+31	21·6	30·5
Upsala		44·4	328	i 8 6	− 2	i 14 46	+ 5	e 22·0	28·1
Nanking		44·6	73	i 8 7	− 3	14 49	+ 5	i 21·3	31·3
Cheb		45·1	313	e 8 18	+ 4	e 15 0	+ 8	e 26·0	35·0
Leipzig		45·2	315	e 8 11	− 3	i 14 54	0	e 21·0	29·0
Hof		45·5	314	e 9 0	+43	e 15 30	+33	e 23·0	29·5
Florence		45·6	305	i 8 21a	+ 3	e 15 0	+ 1	—	—
Jena		45·6	314	e 8 16	− 2	e 15 0	+ 1	e 21·0	28·5
Prato		45·7	307	i 8 21	+ 3	i 14 52	− 8	23·6	32·0
Dairan		45·8	63	8 19	0	15 18	+16	—	—
Copenhagen		45·9	321	8 20	0	15 6	+ 3	22·0	33·0
Yingkow		46·2	60	8 22	0	15 18	+11	—	—
Piacenza		46·7	308	i 8 32	+ 6	i 15 20	+ 6	i 23·2	37·5
Göttingen		46·7	316	i 8 26a	0	i 15 24	+10	e 25·0	30·0
Chur		46·8	307	e 8 24	− 3	e 15 32	+16	—	—
Hamburg		46·9	318	e 8 27k	− 1	e 15 19	+ 2	22·3	29·0
Zi-ka-wei		46·9	73	e 8 22	− 6	15 20	+ 3	26·3	29·5
Tunis		47·0	308	e 8 34	+ 5	15 44	+25	22·0	—
Stuttgart		47·1	312	e 8 27	− 2	i 15 12	− 8	e 30·0	—
Zurich		47·4	310	e 8 30	− 2	e 15 43	+19	—	—
Hokoto		47·4	84	e 8 0	−32	—	—	—	—
Karlsruhe		47·6	312	i 8 37	+ 4	e 15 40	+13	e 26·3	31·0
Strasbourg		48·0	311	8 34k	− 2	i 15 28	− 5	e 22·0	31·0
Basle		48·1	309	e 8 36	+ 1	—	—	—	—
Sinkyo		48·2	55	8 21	−17	15 11	−25	—	—
Taityu		48·3	82	8 33	− 5	—	—	—	—
Neuchatel		48·5	309	e 8 37	− 3	e 16 1	+21	—	—
Arisan		48·6	84	e 8 50	+ 9	—	—	—	—
Taihoku		48·7	81	9 8	+27	e 16 20	+37	i 26·6	—
Heizyo		49·0	62	8 43	− 1	15 56	+ 9	26·5	33·4
Kosyun		49·0	85	e 8 45	+ 1	e 16 45	+58	—	—
Taito		49·1	85	e 8 47	+ 3	15 39	− 9	—	—
Karenko		49·1	83	e 8 49	+ 5	e 15 51	+ 3	—	—
Besançon		49·2	309	e 8 44	− 1	e 15 30	−20	e 22·0	—
Takao		49·4	84	e 8 44	− 3	e 16 30	+38	—	—
De Bilt		49·7	316	8 49	0	16 6	+ 9	e 26·0	31·9
Zinsen		49·9	64	e 8 41	−10	i 16 3	+ 4	e 28·3	31·9
Marseilles		49·9	304	8 22	−29	16 2	+ 3	21·0	—
Uccle		50·2	314	e 8 52	− 1	16 12	+ 8	25·0	32·1
Bergen		50·4	326	i 8 55	+ 1	16 12	+ 6	24·2	35·0
Lille		51·0	313	e 9 3	+ 4	16 49	+34	27·0	—

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	△ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Isigakizima	51·2	81	8 56	− 4	16 18	0	—	—
Paris	51·4	311	i 9 2	0	e 16 13	− 7	25·0	32·1
Tananarive	51·8	203	e 8 55	−10	e 16 15	−10	25·2	28·5
Taikyu	51·8	66	e 9 2	− 3	i 16 29	+ 4	e 25·0	31·8
Husan	52·2	66	i 9 6	− 2	16 4	−27	—	34·4
Manila	52·2	94	i 9 7	− 1	16 49	+18	26·2	30·7
Barcelona	52·5	302	9 8	− 2	16 39	+ 4	23·1	29·7
Algiers	52·6	296	i 9 9	− 2	i 16 40	+ 3	22·0	33·0
Tomie	52·6	69	9 7	− 4	16 36	− 1	—	—
Ituhara	52·7	67	9 31	+19	—	—	—	—
Batavia	52·8	126	9 20	+ 8	i 18 48	(−15)	27·0	—
Kew	53·1	314	i 9 14k	− 1	i 16 51	+ 8	26·0	39·0
Nagasaki	53·5	69	9 18	0	16 36	−13	21·0	34·3
Oxford	53·7	314	e 9 23	+ 4	i 16 55	+ 3	—	34·0
Saga	53·7	68	9 21	+ 2	—	—	—	—
Hukuoka	53·7	68	9 17	− 2	16 59	+ 7	26·7	33·9
Hukuoka B	53·7	68	9 19	0	e 16 55	+ 3	21·0	30·9
Tortosa	53·8	300	i 9 15	− 5	i 17 0	+ 7	23·5	36·1
Durham	53·8	319	9 26	+ 6	16 56	+ 3	—	33·0
Unzendake	53·9	69	9 19	− 2	—	—	—	—
Kumamoto	54·2	68	9 23	0	17 3	+ 5	—	—
Stonyhurst	54·3	317	e 9 25	+ 2	i 17 2	+ 3	26·7	39·5
Kagosima	54·4	70	9 26	+ 2	—	—	—	—
Nake	54·4	73	9 33	+ 9	—	—	—	—
Edinburgh	54·6	320	i 9 28	+ 2	i 17 11	+ 7	26·0	35·0
Bidston	54·7	317	i 9 30	+ 4	i 17 10	+ 5	22·4	36·0
Hamada	54·8	66	9 5	−22	—	—	—	—
Ooita	54·8	68	9 28	+ 1	—	—	—	—
Alicante	55·0	299	e 9 30	+ 1	i 17 28	+19	e 28·6	37·6
Miyazaki	55·0	68	9 25	− 4	17 1	− 8	—	—
Hirosima	55·2	68	9 37	+ 7	17 18	+ 6	—	—
Uwazima	55·6	68	9 51	+18	—	—	—	—
Matuyama	55·6	66	9 31	− 2	17 22	+ 5	—	—
Simidu	56·0	68	9 38	+ 2	—	—	—	—
Koti	56·3	67	9 34	− 4	17 32	+ 5	—	—
Okayama	56·3	66	9 41	+ 3	—	—	—	—
Rathfarnham Castle	56·6	317	i 9 42	+ 2	i 17 40	+ 9	26·5	31·1
Toyooka E.	56·8	65	9 42	0	17 43	+ 9	22·7	34·8
N.	56·8	65	9 45	+ 3	17 41	+ 7	—	34·8
Z.	56·8	65	9 40	− 2	17 45	+11	—	38·0
Almeria	56·9	298	i 9 41	− 1	i 17 47	+12	e 26·6	46·6
Tokusima	57·0	52	9 39	− 4	—	—	—	—
Miyadu	57·0	64	9 43	0	17 45	+ 9	—	—
Sumoto E.	57·1	67	i 9 43	− 1	17 45	+ 7	—	37·8
N.	57·1	67	i 9 38	− 6	17 43	+ 5	—	32·8
Kobe	57·2	64	e 9 44	− 1	17 53	+14	e 22·7	38·0
Toledo	57·3	302	e 9 41	− 4	i 17 42	+ 2	e 26·0R	43·3
Wakayama	57·4	65	9 43	− 3	17 40	− 2	—	—
Osaka A	57·5	65	9 48	+ 1	17 33	−10	32·3	35·4
Osaka	57·5	65	9 48	+ 1	—	—	—	—
Kyoto	57·6	65	9 43	− 4	17 49	+ 5	—	—
Granada	57·7	298	i 9 47	− 1	i 17 48	+ 2	28·4	46·5
Yagi	57·8	65	9 47	− 2	—	—	—	—
Hikone	57·9	65	9 53	+ 3	—	—	—	—
Wazima	57·9	63	9 48	− 2	17 56	+ 8	—	—
Ibukisan	58·0	64	9 44	− 6	—	—	—	—
Husiki	58·1	63	9 52	+ 1	—	—	—	—
Siomisaki	58·1	67	9 49	− 2	—	—	—	—
Kameyama	58·2	64	9 45	− 7	17 58	+ 6	—	—
Gihu	58·3	65	9 50	− 2	17 57	+ 4	—	—

Continued on next page.

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		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Malaga		58·4	298	9 49	− 4	17 59	+ 4	28·4	—
Nagoya		58·6	64	9 54	− 1	18 3	+ 6	23·6	35·2
Takada		59·0	62	10 9	+12	—	—	—	—
Iida		59·1	64	10 4	+ 6	—	—	—	—
Nagano		59·1	62	9 59	+ 1	18 9	+ 5	—	—
Hamamatu		59·3	63	10 4	+ 4	—	—	—	—
Oiwake		59·4	62	10 1	+ 1	—	—	—	—
Sikka		59·6	47	10 13	+11	—	—	—	—
Kohu		59·6	63	10 5	+ 3	18 37	+26	—	—
Hakodate		59·7	61	10 26	+24	—	—	—	—
Muroran		59·7	55	10 4	+ 2	18 29	+17	—	—
Haboro		59·7	53	10 56	(+ 4)	—	—	—	—
Akita		59·7	58	10 1	− 1	18 30	+18	—	—
Maebasi		59·8	63	10 1	− 2	—	—	—	—
Sapporo		59·8	55	10 3	0	18 29	+16	—	—
Otiai		59·8	51	10 27	+24	19 0	+47	—	—
Aomori		59·9	57	10 3	− 1	18 31	+16	—	—
San Fernando		59·9	297	i 10 1k	− 3	i 18 36	+21	29·0	32·0
Misima		60·1	63	10 4	− 1	—	—	—	—
Kumagaya		60·1	52	10 3	− 2	18 27	+10	—	—
Ito		60·2	64	10 8	+ 2	—	—	—	—
Yamagata		60·3	59	10 3	− 4	—	—	—	—
Asahigawa		60·3	53	10 15	+ 8	—	—	—	—
Aidu		60·3	62	10 9	+ 2	18 41	+21	—	—
Morioka		60·4	58	10 9	+ 2	—	—	—	—
Serra do Pilar		60·5	304	e 10 4	− 4	18 19	− 4	28·4	—
Hukusima		60·5	61	10 6	− 2	18 29	+ 6	—	—
Mizusawa	E.	60·6	59	e 10 6	− 3	18 37	+13	31·6	—
	N.	60·6	59	e 10 13	+ 4	18 37	+13	31·4	—
Tokyo		60·6	53	10 2	− 7	18 22	− 2	—	—
Tukubasan		60·7	61	10 3	− 6	18 24	− 1	—	—
Sendai		60·7	60	10 7	− 2	—	—	—	—
Kakioka		60·8	61	10 4	− 6	—	—	—	—
Mera		60·9	62	10 32	+21	19 7	+39	—	—
Mito		60·9	61	10 6	− 5	18 34	+ 6	—	—
Isinomaki		61·0	59	10 8	− 3	—	—	—	—
Obihiro		61·1	53	10 43	+31	—	—	—	—
Miyako		61·2	56	10 7	− 6	18 47	+15	—	—
Hatidyozima		61·4	65	9 48	−26	—	—	—	—
Tyosi		61·4	62	10 22	+ 8	18 48	+14	—	—
Scoresby Sund		61·7	338	i 10 17	+ 1	i 18 52	+14	—	—
Nemuro		62·7	53	10 22	− 1	—	—	—	—
Reykjavik		62·9	330	—	—	e 19 10	+29	31·8	—
Titizima		65·4	71	10 42	+ 1	19 39	PS	—	—
Palau		67·3	94	10 52	− 2	19 48	0	—	—
Amboina		67·7	108	10 54	− 2	19 45	− 8	36·0	—
Perth		77·4	138	—	—	22 0	+13	32·0	52·3
Dakar		77·6	280	11 15	−40	21 37	−12	34·5	42·5
Cape Town		78·1	219	11 51	− 7	21 34	−21	36·6	43·5
Sitka		91·4	11	e 13 6	+ 2	i 24 11	+ 2	e 45·3	—
Halifax		92·9	328	e 13 12	+ 1	24 11	−12	45·0	—
Adelaide		93·7	130	i 13 41	+27	i 24 10	{+ 5}	e 38·3	56·9
Vermont		97·3	334	e 13 39	+ 8	i 25 30	+27	44·9	—
Ottawa		97·5	335	e 13 38	+ 6	i 24 32	{− 2}	e 47·0	—
Saskatoon		98·1	357	e 13 48	+13	24 16	[0]	47·0	—
Oak Ridge		98·2	330	e 13 38	+ 3	e 25 10	− 1	e 46·0	—
Weston		98·2	332	—	—	i 24 35	{− 4}	—	—
Melbourne		99·5	129	—	—	e 24 13	[−10]	50·1	60·0
Ithaca		100·3	334	—	—	e 24 24	[− 3]	—	—
Toronto		100·4	337	e 13 55	+10	24 29	[+ 1]	48·8	—

Continued on next page.

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Victoria	101·5	6	e 14 8	+18	i 24 57	{− 7}	e 42·1	60·6
Philadelphia	101·8	332	e 14 14	+22	25 35	− 7	48·0	—
Riverview	102·0	122	—	—	i 25 1	{− 7}	e 44·4	66·6
Sydney	102·1	122	e 17 18	?	i 29 30	?	49·3	67·3
Seattle	102·3	6	—	—	e 24 31	[− 6]	53·6	—
Pennsylvania	102·3	334	—	—	i 25 0	{−11}	e 49·9	63·3
Ann Arbor	103·0	338	—	—	i 25 0	{−16}	50·7	70·4
Pittsburgh	103·3	336	e 14 28	+29	i 24 29	[−13]	48·5	—
Georgetown	103·5	333	e 13 59	− 1	e 27 11	PS	e 49·0	—
Chicago	104·6	341	e 17 48	PKP	i 24 43	[− 5]	e 46·0	—
Bozeman	104·7	358	—	—	e 25 17	{−11}	50·0	—
Charlottesville	104·9	332	—	—	e 24 41	[− 8]	e 48·2	—
Florissant	108·2	342	e 14 21k	− 1	i 26 21	{+27}	i 51·3	56·8
St. Louis	108·4	342	—	—	e 24 58	[− 8]	e 51·4	56·7
Columbia	109·4	332	—	—	e 25 25	[+14]	e 50·9	—
Denver	110·2	354	—	—	e 24 55	[−19]	e 44·0	58·4
Ukiah	110·7	8	—	—	i 29 3	?	45·2	—
Berkeley	112·0	8	i 19 18	PP	i 31 36	?	—	—
Little Rock	112·6	341	e 18 31	[+ 5]	e 27 5	?	e 53·3	62·2
Tinemaha	113·2	4	e 18 34	[+ 7]	e 29 29	PS	—	—
Honolulu	113·6	45	—	—	e 29 24	PS	49·7	—
San Juan	113·8	311	—	—	e 24 45	[−44]	e 48·0	—
Pasadena	116·1	6	e 18 49	[+14]	e 25 35	[− 3]	e 49·9	—
Tucson	118·1	353	—	—	29 18	PS	59·2	—
Arapuni	122·0	119	—	—	e 32 0?	?	68·0?	—
Wellington	122·1	124	—	—	32 42	?	62·0	—
Apia	124·2	88	—	—	e 38 0?	SS	e 72·0R	—
Tacubaya	129·1	344	19 36	[+31]	—	—	—	—
La Plata	133·2	251	19 26	[+14]	—	—	68·0	—
Sucre	135·1	271	e 19 37	[+22]	26 0	?	65·0R	—
La Paz	136·5	277	i 19 21a	[+ 4]	26 22	[− 1]	67·7	83·5
Huancayo	140·5	290	e 19 52	[+30]	—	—	62·3	—

Additional readings :—
Samarkand PP = +2m.50s.
Agra P = +2m.11s., P* = +2m.46s., P_g = +3m.10s., S* = +4m.34s.
Bombay SSEN = +5m.17s.
Frunse iPP = +3m.52s.
Erevan i = +7m.56s.
Calcutta PPE = +4m.59s.
Tiflis i = +4m.56s. = PP − 4s., +8m.42s. = S + 10s. and +9m.17s.
Kodaikanal iPP = +5m.0s., iPPP = +5m.10s., SS = +9m.29s.
Ksara PP = +6m.5s., SS = +11m.27s.
Helwan iPP = +7m.12s., SS = +12m.48s.
Bucharest +6m.57s., +7m.5s., PPE = +8m.2s., PPPE = +8m.59s., P_cPE = +12m.33s., SSN = +15m.28s., SSSEN = +15m.58s., S_cSEN = +16m.58s.
Sofia e = +16m.
Belgrade i = +11m.41s., +14m.26s., +16m.55s., and +19m.17s.
Medan i = +10m.40s., iN = +19m.28s., iE = +20m.10s.
Königsberg iPZ = +7m.50s., PPN = +9m.10s., PPPZ = +9m.40s., P_cPN = +10m.27s., PSE = +14m.30s., iZ = +14m.35s., SSE = +16m.25s. SSSE = +17m.30s., eE = +18m.17s.
Chiufeng ePEN = +7m.52s., i = +9m.43s. = P_cP − 4s., iN = +14m.12s., iEN = +17m.43s. = S_cS − 8s.
Vienna iE = +8m.25s., PP = +9m.30s., PPP = +10m.7s., P_cS = +13m.27s., SS = +17m.20s., S_cS = +17m.41s.
Zagreb e = +7m.55s. and +8m.35s., PP = +9m.4s., ePPP = +9m.31s., ePPPP = +10m.30s., iE = +12m.3s., eZ = +12m.18s., eSS = +18m.26s., eSSS = +19m.22s.
Graz iSS = +17m.43s.
Hong Kong PP? = +9m.29s., PPP = +9m.58s. = P_cP + 6s., ? = +10m.50s. and +12m.37s.
Laibach iPP = +10m.48s., i = +12m.14s.
Prague eSS = +18m.14s.
Triest iP = +8m.7s., iE = +8m.52s., iN = +10m.44s., iE = +10m.51s., i = +11m.30s., +12m.7s., +12m.57s., +14m.39s., and +15m.19s., iPS = +15m.42s., i = +18m.2s. = S_cS − 3s., iSS = +18m.49s., SSS = +19m.32s., i = +21m.1s.

Continued on next page.

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Upsala iPP = +9m.57s.
Nanking iEZ = +8m.26s., P_cPE = +9m.28s., iPP = +9m.37s., iPPP = +10m.15s., PPPP = +10m.46s., P_cS = +13m.12s., iN = +15m.7s., SS = +17m.25s., SSS = +18m.46s., iZ = +23m.47s., S_cS = +24m.51s.
Cheb eS = +15m.30s.
Leipzig iE = +8m.16s., +8m.19s., +8m.44s., and +8m.46s., iPPE = +10m.4s., iE = +10m.30s., i = +10m.44s., iE = +11m.6s., i = +11m.13s., iE = +12m.2s., +13m.16s., +13m.49s., +14m.31s., and +14m.44s., iE = +15m.19s. and +15m.46s., eE = +17m.30s., e = +18m.56s., eE = +18m.59s.
Jena iPEZ = +8m.22s., eN = +9m.0s., iZ = +9m.4s., iE = +9m.6s., iNE = +10m.40s., iZ = +10m.42s., eNE = +11m.16s., eN = +15m.34s., iSSN = +18m.42s.
Copenhagen eE = +15m.36s. and +17m.48s., eNE = +19m.6s. =SSS + 0s.
Piacenza PP = +9m.56s., PPP = +12m.4s., PPPP = +13m.0s., SS = +16m.28s., SSS = +18m.0s., SSSS = +19m.32s., SSSS = +22m.12s.
Gottingen P = +8m.33s., ePN = +8m.35s., iE = +9m.24s., eE = +13m.6s., iSEZ = +15m.51s.
Hamburg iNE = +15m.55s., eZ = +19m.29s.
Zi-ka-wei eE = +7m.32s., PPE = +9m.34s., PPPE = +10m.54s., iE = +15m.54s., SSN = +19m.23s., SSSN = +20m.34s.
Tunis PP = +10m.5s., PPP = +11m.8s., PS = +16m.20s.
Stuttgart i = +9m.17s., ePP = +11m.5s., e = +13m.30s. and +22m.19s.
Strasbourg PP = +10m.5s. =P_cP − 4s., PPP = +11m.10s., PPPP = +11m.30s., i = +16m.0s., iSS = +18m.39s. =S_cS + 7s., i = +19m.8s., iSSS = +20m.0s.
Taihoku SS = +19m.55s.
Zinsen SS = +19m.54s.
Uccle iE = +11m.7s., +12m.8s., +13m.21s., +16m.41s., and +17m.2s.
Bergen PPP = +11m.44s., i? = +13m.18s.
Paris PS = +16m.51s.
Tananarive PSN = +16m.41s., E = +16m.48s., SSN = +19m.21s., E = +19m.29s. SSSS = +21m.30s.
Barcelona PP = +11m.4s., PS = +17m.4s.
Kew i = +9m.19s., iPPP = +12m.21s., iSP = +17m.5s., iPS = +17m.13s., iE = +17m.22s., iSSE = +20m.49s., iZ = +21m.35s., iSSSN = +21m.46s., iZ = +24m.11s.
Tortosa S = +17m.55s.
Durham PS? = +17m.25s.
Stonyhurst iP = +9m.30s., i = +10m.5s., +11m.35s., +12m.4s., and +13m.40s., iSS = +21m.15s., iSSS = +23m.12s., iSSSS = +23m.45s., i = +24m.55s. and +25m.45s.
Edinburgh i = +17m.16s., +19m.13s. =S_cS − 1s., +21m.12s. and +22m.14s.
Alicante iP = +9m.35s., PP = +11m.40s., PPP = +12m.43s.
Rathfarnham Castle PPP = +12m.51s., i = +20m.3s., iSS = +23m.11s., i = +25m.8s.
Almeria PP = +11m.56s., SS = +21m.45s., SSS = +22m.55s.
Kobe ePZ = +9m.41s., iZ = +10m.13s., iE = +10m.35s. =P_cP − 8s., and +13m.6s. =PPP + 7s., eSZ = +17m.40s. =PS − 3s., iE = +18m.1s., iN = +18m.33s., iE = +20m.6s. and +22m.30s., iN = +29m.8s.
Toledo iP = +9m.45s., PP = +11m.57s., PPP = +12m.9s., PS = +18m.12s., L_g = +22m.54s.
Osaka A. i = +10m.8s., +12m.8s., and +12m.47s.
Granada P_cP = +10m.44s., PP = +12m.20s.
Malaga P_cP = +11m.11s., PP = +12m.13s., S = +18m.16s., S_cS = +20m.4s., SS = +21m.55s., SS = +24m.19s., e = +26m.21s.
Nagoya PP = +11m.21s.
San Fernando PP = +10m.31s., iPPP = +13m.23s., iSS = +23m.5s., iSSS = +25m.0s.
Scoresby Sund PPZ = +12m.30s., eZ = +14m.54s., PS = +19m.12s., SS = +22m.40s.
Perth ePP = +10m.50s., iS = +17m.35s. =PPPP + 5s., PS = +18m.0s., SSS = +25m.55s., SSSS = +27m.45s.
Dakar PP = +14m.12s., PS = +22m.52s., SS = +26m.23s.
Cape Town PE = +11m.55s., E = +12m.35s., N = +12m.57s., PPE = +14m.9s., PPN = +14m.33s., PPPE = +16m.27s., PS = +22m.5s., E = +22m.39s. = PS + 14s., N? = +22m.47s., SSN = +26m.37s., SSE = +26m.40s., SSSE = +29m.51s.
Sitka ePP = +16m.14s., i = +18m.41s., iSKS = +23m.42s., eSS = +30m.44s., SSS = +37m.26s.
Halifax PPE = +16m.48s., i = +27m.0s., SSE = +30m.54s.
Adelaide i = +19m.11s., e = +23m.48s. =SKS − 6s., i = +27m.3s., +30m.18s. = SS − 14s. and +34m.5s. =SSS − 5s.
Vermont ePP = +18m.10s., iSKS = +24m.30s., SS = +32m.0s.
Ottawa PPN = +17m.24s., PPPN = +19m.30s., SSE = +31m.24s., e = +39m.24s. and +41m.12s.; T_o = 21h.32m.54s.
Saskatoon SSE = +32m.
Oak Ridge ePP = +17m.18s., eSKS = +24m.36s.

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Weston SS = +33m.59s.
Melbourne i = +24m.38s. =SKKS −11s., +25m.10s. =S −12s., +27m.53s., and +29m.34s., e = +36m.20s., i = +41m.58s., +44m.37s. and +45m.46s.
Ithaca ePP = +18m.30s., eEN = +24m.48s. =SKKS −7s., eE = +27m.12s.
Toronto PPN = +18m.3s., PS = +27m.3s., PPS = +27m.49s., iSSN = +33m.9s., iSSS = +36m.56s. ; T_0 = 21h.32m.57s.
Philadelphia ePP = +17m.48s. and +18m.5s., e = +20m.47s., iSKS = +24m.47s., PS = +27m.6s., SS = +33m.16s.
Riverview e = +18m.12s. =PP +14s., iN = +25m.25s.
Seattle ePP = +18m.8s., e = +41m.21s. and +43m.8s.
Pennsylvania i = +31m.30s., e = +33m.12s.
Ann Arbor ePP = +18m.30s., ePPPN = +20m.48s., ePS = +27m.36s., eSSE = +33m.24s., eSSN = +34m.0s., iSSS = +37m.12s. ; T_0 = 21h.33m.30s.
Pittsburgh ePP = +18m.12s., e = +20m.25s. =PPP +13s., PS = +27m.25s., SS = +34m.13s.
Georgetown ePP = +18m.14s., SS = +33m.29s. ; T_0 = 21h.32m.55s.
Chicago e = +18m.23s. =PP +6s., iPS = +28m.3s., i = +30m.8s., eSS = +33m.33s., e = +36m.26s., i = +41m.56s.
Bozeman ePP = +18m.22s., ePS = +26m.51s., e = +29m.48s. and +31m.2s., eSS = +33m.22s., e = +42m.30s.
Charlottesville ePP = +18m.17s., eSS = +33m.21s., e = +38m.17s., +41m.5s. and +44m.25s.
Florissant iPPZ = +18m.51s., eSKSNZ = +24m.56s., iSKKSN = +25m.21s., ePSNZ = +27m.56s., ePPSN = +28m.55s., iZ = +29m.31s., iPKKPN = +29m.47s., iSSSN = +38m.15s. ; T_0 = 21h.32m.58s.
St. Louis ePPN = +18m.45s., eSKKSE = +25m.22s., iSEN = +26m.26s., ePSEN = +27m.57s., ePKKPN = +29m.45s., eSSE = +34m.7s., eSSSE = +38m.15s. ; T_0 = 21h.32m.58s.
Columbia ePP = +19m.10s., e = +23m.13s., ePS = +28m.33s., e = +29m.40s. and +31m.42s., eSS = +35m.43s., e = +45m.30s.
Denver ePPPE = +21m.29s., eSKKSE = +26m.14s., ePSE = +28m.25s., ePPSE = +29m.29s., iE = +30m.4s., eSSE = +35m.8s., e = +38m.39s. = SSS +17s. ; T_0 = 21h.32m.58s.
Ukiah ePP = +19m.20s., e = +22m.20s. and +27m.16s., eSS = +34m.25s., e = +39m.0s.
Berkeley iPPZ = +23m.33s., iPPPN = +26m.36s., iPPPZ = +26m.41s., eSKKSZ = +30m.41s., eSN = +32m.11s., iSE = +32m.13s.
Little Rock ePPEN = +19m.14s., ePPPN = +21m.42s., eSKSEN = +25m.13s., eSKKSEN = +26m.6s., ePSEN = +28m.53s., ePPSEN = +29m.51s., eSSN = +35m.5s.
Tinemaha ePPZ = +19m.30s.
Honolulu ePP = +20m.12s., e = +22m.14s. and +27m.13s., eSS = +35m.33s., e = +37m.40s.
San Juan ePP = +19m.12s., i = +20m.18s., e = +26m.18s., ePS = +29m.17s., eSS = +36m.0s., SSS = +42m.20s.
Pasadena iNZ = +19m.33s. =PP −8s., iPPNZ = +19m.47s., ePPPZ = +22m.20s., eSZ = +27m.49s., iPSE = +29m.25s., ePKKPZ = +29m.28s., ePPSZ = +31m.0s.
Tucson PP = +20m.0s., SSS = +41m.27s.
Wellington PKP? = +21m.49s.?, PPS? = +33m.45s., SS = +38m.47s., L_q = +54m.
Apia ePP = +33m., eSS = +50m.18s., eL_q = +61m.48s.
La Plata PP = +22m.12s., SS = +40m.42s.
Sucre PP = +23m.3s., L_q = +58m.0s.
La Paz iPPZ = +22m.4s., SKPZ = +22m.58s., PPPZ = +25m.26s., iN = +26m.0s., SKKS = +28m.36s., PSZ = +32m.42s., iSSN = +40m.1s., iSSS = +44m.36s.
Huancayo PKS = +23m.12s., e = +31m.28s., +38m.0s. and +39m.54s., SS = +41m.27s., SSS = +46m.0s.
Long waves at Keizyo.

May 30d. Readings also at 3h. (La Plata), 4h. (La Paz and Sucre), 6h. (Erevan and La Paz), 7h. (Arisan, Karenko, and Taityu), 8h. (Apia), 9h. (Nanking), 10h. (Nanking), 11h. (Ksara), 12h. (Cheb), 13h. (Santiago and Wellington), 14h (Santiago), 19h. (Sverdlovsk, Tashkent, Hukuoka B, Husan, Hong Kong, Nagasaki, Nanking, and Mizusawa), 21h. (Glenmuick, New Plymouth, Wellington, and Santiago), 22h. (Erevan, Samarkand, Semipalatinsk, Simferopol, and Tiflis (2)), 23h. (Agra, Almata, Erevan, Frunse, Samarkand, and Tiflis).

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May 31d. 2h. 3m. 49s. Epicentre 29°·6N. 66°·5E. (as at 30d. 21h.). R.3.

A = +·347, B = +·797, C = +·494.

		Δ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Samarkand		10·0	0	e 2 26	+ 5	4 46	S*	—	—
Dehra Dun		10·0	83	4 11	S	(4 11)	− 2	—	6·2
Agra		10·4	100	2 2	−24	3 56	−27	—	9·5
Tashkent		11·9	9	i 2 51	+ 4	i 5 37	?	6·3	9·7
Bombay		12·2	151	e 2 13	−38	e 4 37	−31	—	9·6
Frunse		14·8	23	3 31	+ 5	—	—	—	—
Almata		16·1	28	i 3 43	0	6 55	SS	—	—
Hyderabad		16·3	135	4 0	+15	7 15	+30	9·0	11·5
Baku		17·3	313	i 5 5	+67	—	—	13·6	15·2
Erevan		20·8	306	4 40	+ 2	—	—	—	—
Calcutta	E.	21·0	106	e 4 32	− 8	8 27	+ 1	10·2	11·1
Tiflis		21·3	310	4 45	+ 2	8 54	SS	e 12·4	14·2
Kodaikanal	E.	21·9	150	e 4 34	−16	8 33	−11	i 10·5	12·4
Semipalatinsk		23·3	22	e 5 1	− 3	e 9 20	+10	—	—
Colombo		26·0	148	5 21	− 8	10 4	+ 6	15·0	16·2
Ksara		26·3	288	e 5 34	+ 2	10 14	+11	—	—
Sverdlovsk		27·5	352	e 5 45	+ 2	e 10 31	+ 7	17·0R	19·0
Helwan		30·4	280	e 6 .8	− 1	e 11 48	+38	—	21·7
Moscow		33·2	329	e 6 28	− 6	11 58	+ 4	e 14·8	26·7
Pulkovo		38·7	332	7 22	+ 1	13 19	+ 2	20·7	24·9
Chiufeng		41·5	62	e 7 40	− 4	14 0	+ 1	e 17·0	25·1
Triest		43·8	309	e 8 3	0	e 15 5	+32	—	34·9
Nanking		44·6	73	8 5	− 5	i 14 40	− 4	e 24·0	25·9
Cheb		45·1	313	—	—	e 15 11?	+19	e 28·2	33·7
Leipzig		45·2	315	—	—	e 16 11?	+77	—	—
Florence		45·6	305	8 14	− 4	15 6	+ 7	—	28·2
Copenhagen		45·9	321	8 22	+ 2	15 11	+ 8	26·2	—
Hamburg		46·9	318	e 8 27	− 1	—	—	27·2	30·2
Stuttgart		47·1	312	e 8 28	− 1	—	—	e 30·2	—

Additional readings :—
Dehra Dun S = +5m.41s.
Agra P* = +2m.31s., S* = +4m.34s., S_g = +5m.10s.
Almata e = +8m.7s.
Baku e = +10m.5s.
Tiflis e = +5m.5s. = PP + 5s., +8m.40s. = P_cP − 4s., and +11m.15s.
Kodaikanal SS = +9m.24s.
Ksara ePP = +6m.8s., SS = +12m.28s.
Sverdlovsk L_g = +14m.17s.
Triest e = +17m.53s., eSS = +18m.19s. = S_cS + 14s.
Nanking SS = +18m.12s. = S_cS + 2s.
Long waves at Bidston, Edinburgh, Kew, Rathfarnham Castle, Stonyhurst, De Bilt, Piacenza, Scoresby Sund, Hong Kong, and La Paz.

May 31d. 8h. 18m. 41s. Epicentre 38°·6N. 134°·2E. N.1.

Given by the Japanese stations.

A = −·545, B = +·560, C = +·624 ; D = +·717, E = +·697 ;
G = −·435, H = +·447, K = −·781.

A *depth* of focus 0·070 has been assumed.

	Corr. for Focus °	Δ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Wazima	+2·1	2·4	120	1 4	0	1 56	+ 1	—	—
Kanazawa	+1·9	2·8	136	1 4	− 3	1 58	− 2	—	—
Toyama	+1·8	3·0	128	1 8	0	2 6	+ 3	—	—
Miyedu	+1·8	3·1	165	1 8	− 2	2 3	− 2	—	—
Toyooka	+1·8	3·2	170	1 6	− 5	1 59	− 9	—	2·1

Continued on next page.

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	Corr. for Focus	Δ	Az.		P.	O−C.		S.	O−C.	L.	M.
	°	°	°		m. s.	s.		m. s.	s.	m.	m.
Takada	+1·6	3·5	115		1 15	+ 2		2 14	+ 4	—	—
Ibukisan	+1·6	3·6	151		1 11	− 3		2 10	− 3	—	—
Nagano	+1·5	3·7	120		1 15	+ 1		2 17	+ 4	—	—
Hikone	+1·5	3·7	154		1 12	− 2		2 9	− 4	—	—
Okayama	+1·4	3·9	182		1 10	− 5		2 9	− 6	—	—
Niigata	+1·4	3·9	99		1 14	− 1		2 10	− 5	—	—
Kobe	+1·3	4·0	170	e	1 12	− 3	i	2 14	− 1	—	2·3
Osaka	+1·3	4·1	165		1 16	− 1		2 17	− 1	—	3·2
Hamada	+1·3	4·1	205		1 11	− 6		2 10	− 8	—	—
Nagoya	+1·3	4·1	146	i	1 16	− 1	i	2 17	− 1	—	2·4
Iida	+1·2	4·2	136		1 18	+ 1		2 21	+ 3	—	—
Kameyama	+1·2	4·2	154		1 15	− 2		2 17	− 1	—	—
Sumoto	+1·1	4·3	172	i	1 16	− 1		2 15	− 3	—	2·4
Tadotu	+1·1	4·4	185		1 16	− 2		2 16	− 4	—	—
Wakayama	+1·1	4·4	171		1 18	0		2 20	0	—	—
Hirosima	+1·1	4·5	199		1 16	− 4		2 18	− 5	—	—
Maebasi	+1·1	4·5	119		1 18	− 2		2 34	+ 9	—	—
Kohu	+1·1	4·5	130		1 20	0		2 27	+ 4	—	—
Akita	+1·0	4·7	76		1 23	+ 2		2 32	+ 7	—	—
Hunatu	+1·0	4·7	130		1 22	+ 1		2 29	+ 4	—	—
Kumagaya	+0·9	4·8	120		1 21	0		2 26	+ 1	—	—
Hamamatu	+0·9	4·8	144		1 22	+ 1		2 28	+ 3	—	—
Yamagata	+0·9	4·8	94		1 23	+ 2		2 31	+ 6	—	—
Matuyama	+0·9	4·9	195		1 21	− 1		2 26	− 2	—	—
Hukusima	+0·8	5·0	98		1 25	+ 3		2 35	+ 7	—	—
Numadu	+0·8	5·1	132		1 25	+ 1		2 37	+ 6	—	—
Koti	+0·8	5·1	186		1 23	− 1		2 30	− 1	—	—
Sendai	+0·8	5·2	94		1 27	+ 2		2 37	+ 4	—	—
Tukubasan	+0·8	5·2	115		1 25	0		2 35	+ 2	—	—
Misima	+0·8	5·2	130		1 25	0		2 36	+ 3	—	—
Yokohama	+0·7	5·3	125		1 28	+ 3		2 26	− 7	—	—
Tokyo	+0·7	5·3	122		1 26	+ 1		2 34	+ 1	—	—
Siomisaki	+0·7	5·3	166		1 26	+ 1		2 35	+ 2	—	—
Kakioka	+0·7	5·3	115		1 26	+ 1		2 35	+ 2	—	—
Simonoseki	+0·7	5·3	201		1 25	0		2 33	0	—	—
Ito	+0·7	5·3	132		1 29	+ 4		2 39	+ 6	—	—
Mizusawa	+0·7	5·4	83	i	1 30	+ 3	i	2 41	+ 5	—	—
Onahama	+0·7	5·4	106		1 27	0		2 40	+ 4	—	—
Husan	+0·6	5·5	230	i	1 23	− 4	i	2 25	−11	—	2·6
Uwazima	+0·6	5·6	194		1 17	−11		2 28	−10	—	—
Morioka	+0·6	5·7	78		1 29	− 1		2 41	0	—	—
Keizyo	+0·5	5·8	261	i	1 28	− 2	i	2 38	− 3	—	2·7
Mera	+0·5	5·8	129		1 32	+ 2		2 44	+ 3	—	—
Hukuoka	+0·5	5·9	212	i	1 30	− 1		2 44	+ 1	—	—
Hukuoka B	+0·5	5·9	212	i	1 28	− 3		2 40	− 3	—	—
Hakodate	+0·5	5·9	59		1 37	+ 6		2 53	−10	—	—
Simidu	+0·5	5·9	190		1 31	0		2 43	0	—	—
Zinsen	+0·4	6·0	260	i	1 31	0	i	2 41	− 2	—	2·8
Tyosi	+0·4	6·1	117		1 33	+ 1		2 49	+ 3	—	—
Miyako	+0·4	6·1	80		1 34	+ 2		2 40	− 6	—	—
Kumamoto	+0·3	6·4	205		1 35	0		2 52	+ 1	—	—
Heizyo	+0·2	6·6	273	i	1 38	− 1		2 56	+ 3	—	—
Nagasaki	+0·1	6·8	211	i	1 38	0		3 1	+ 5	—	—
Sapporo	0·0	7·0	51		1 36	− 3		2 59	0	—	—
Hatidyozima	0·0	7·1	140		1 48	+ 7		3 12	+11	—	—
Tomie	0·0	7·4	216		1 44	− 1		3 10	+ 1	—	—
Kagosima	−0·1	7·6	203		1 48	+ 2		—	—	—	—
Yingkow	−0·6	9·4	282		2 7	+ 2		3 50	+ 6	—	—
Dairen	−0·7	9·8	270		2 12	+ 2		3 59	+ 5	—	—
Nemuro	−0·7	9·8	54		3 16	+66		5 5	+71	—	—

Continued on next page.

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		Corr. for Focus	Δ	Az.	P.		O–C.	S.		O–C.	L.	M.
		°	°	°	m.	s.	s.	m.	s.	s.	m.	m.
Nake		−1·0	10·9	206	2	21	− 2	4	17	− 6	—	—
Zi-ka-wei		−1·4	12·8	241	2	40	0	i 4	56	+ 8	—	—
Chiufeng		−1·8	14·0	286	i 2	55a	+ 4	i 5	22	+14	—	—
Nanking		−1·8	14·2	250	i 2	56	+ 2	i 5	22	+ 9	17·3	—
Taihoku		−2·2	17·3	224	e 3	30	0	6	23	+ 6	—	—
Karenko		−2·4	18·1	223	e 3	35	− 3	—		—	—	—
Taityu		−2·5	18·5	224	e 5	46	?	—		—	—	—
Arisan		−2·6	18·9	223	e 4	19	+34	—		—	—	—
Taito		−2·7	19·4	222	e 3	59	+ 9	7	1	+ 6	—	—
Takao		−2·7	19·9	223	e 7	20	S	(e 7	20)	+14	—	—
Kosyun		−2·8	20·2	222	e 3	59	0	7	13	+ 2	—	—
Hong Kong		−3·3	23·6	233	4	29	− 4	8	10	− 2	10·3	11·8
Manila		−3·8	26·7	209	i 6	11	?	9	1	− 2	—	—
Calcutta	E.	−5·6	42·1	262	e 7	10	+ 8	—		—	—	—
Medan		−6·0	47·6	232	7	51	+ 6	14	7	+ 7	—	—
Agra	E.	−6·0	47·8	274	i 7	44	− 3	—		—	—	—
Tashkent		−6·1	48·7	295	i 7	57	+ 4	i 14	25	+10	e 20·1	27·4
Sverdlovsk		−6·2	50·0	317	i 8	7	+ 4	i 14	42	+ 9	21·8	31·1
Batavia		−6·3	51·5	216	i 8	18	+ 4	i 14	58	+ 4	—	—
Hyderabad		−6·4	52·7	263	8	27	+ 4	15	23	+14	—	—
Bombay		−6·7	56·3	268	i 8	51	+ 3	i 16	0	+ 5	—	—
Kodaikanal	E.	−6·8	57·8	257	e 8	19	−40	—		—	—	—
Baku		−7·1	62·4	301	i 9	36	+ 5	i 17	32	+19	e 28·3	40·8
Pulkovo		−7·2	63·6	323	i 9	43	+ 4	17	39	+11	24·3	—
Tiflis		−7·3	65·1	305	i 9	52	+ 3	i 17	56	+ 9	e 24·8	—
Erevan		−7·4	66·2	303	e 10	0	+ 4	e 18	8	+ 8	—	—
Sotchi		−7·5	67·3	308	i 10	11	+ 8	18	27	+14	—	—
Scoresby Sund		−7·6	69·6	351	—		—	18	56	+14	—	—
Simferopol		−7·7	69·9	312	i 9	22	+ 2	i 18	53	+ 8	—	—
Yalta		−7·7	70·1	312	i 9	23	+ 2	i 18	55	+ 8	—	—
Sebastopol		−7·7	70·4	312	e 9	26	+ 3	i 18	59	+ 8	—	—
Copenhagen		−7·8	73·6	330	10	47	+ 3	19	36	+ 6	—	—
Bucharest		−7·9	74·8	316	e 9	55	−56	(e 19	48)	+ 5	e 19·8	—
Ksara		−8·0	75·3	302	i 10	54k	0	19	55	+ 7	—	—
Hamburg		−8·0	76·1	330	i 10	58k	− 1	i 20	4	+ 6	—	48·3
Budapest		−8·0	76·4	321	e 9	19?	?	—		—	—	—
Prague		−8·0	76·8	325	i 11	3	0	i 20	13	+ 6	e 30·0	46·3
Vienna		−8·1	77·2	323	i 11	5	0	i 20	19	+ 9	—	—
Jena		−8·1	77·3	327	e 11	6	0	e 20	19	+ 8	—	—
Sofia		−8·1	77·4	315	i 11	7	+ 1	e 20	18	+ 5	—	—
Cheb		−8·1	77·6	327	e 20	22	S	(e 20	22)	+ 7	—	47·3
Graz		−8·1	78·4	322	i 11	6	− 7	i 20	22	− 3	—	—
Zagreb		−8·1	79·0	321	e 11	11	− 5	e 20	35	+ 3	—	—
De Bilt		−8·1	79·1	331	i 11	15k	− 2	20	36	+ 3	e 40·3	—
Tinemaha		−8·1	79·2	51	i 11	18a	+ 1	—		—	—	—
Santa Barbara		−8·1	79·9	53	i 11	23	+ 1	—		—	—	—
Haiwee		−8·1	79·9	51	i 11	22	+ 1	—		—	—	—
Stuttgart		−8·2	80·0	327	i 11	20	− 2	20	45	+ 2	—	50·3
Uccle		−8·2	80·4	330	e 11	20	− 4	e 20	46	− 1	—	—
Triest		−8·2	80·6	323	i 11	20	− 5	i 20	47	− 3	—	—
Helwan		−8·2	80·8	302	11	22	− 4	20	52	0	—	—
Strasbourg		−8·2	80·8	328	i 11	23k	− 3	i 20	53	+ 1	e 31·3	—
Bidston		−8·2	80·9	336	—		—	i 20	55	+ 2	—	—
Mount Wilson		−8·2	81·1	52	i 11	27	− 1	—		—	—	—
Pasadena		−8·2	81·1	52	i 11	28a	0	—		—	—	—
Chur		−8·2	81·4	325	e 11	26	− 4	e 20	58	− 1	—	—
Padova		−8·2	81·4	323	e 11	19?	−11	19	58	−61	—	—
Zurich		−8·2	81·4	326	e 11	26k	− 4	21	0	+ 1	—	—
Riverside		−8·2	81·5	52	i 11	28	− 3	—		—	—	—
Basle		−8·2	81·6	327	e 11	28	− 3	e 21	2	+ 1	—	—

Continued on next page.

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	Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	°	m. s.	s.	m. s.	s.	m.	m.
Rathfarnham Castle	−8·2	82·0	337	—	—	e 20 44	−22	—	—
Prato	−8·2	82·2	323	e 11 35	0	i 21 8	0	—	—
Neuchatel	−8·2	82·3	326	e 11 31	− 4	e 21 16	+ 6	—	—
La Jolla	−8·3	82·5	53	i 11 36	0	—	—	—	—
Florence	−8·3	82·8	322	i 11 35k	− 2	21 11	− 3	33·7	68·3
Ottawa	−8·6	91·8	20	—	—	e 22 7	−42	—	—
Florissant	−8·6	92·4	33	i 12 22a	− 5	i 22 51	− 4	—	—
St. Louis	−8·4	92·6	33	—	—	i 22 49	−11	—	—
Little Rock	−8·6	94·9	37	—	—	e 22 56	−24	—	—
Pittsburgh	−8·7	95·0	25	—	—	i 23 9	−11	—	—
San Fernando	−8·7	96·6	329	—	—	e 22 31	−65	—	—
Philadelphia	−8·7	96·9	21	—	—	i 22 34	−65	—	—
La Paz	—	150·3	48	19 1	[−41]	—	—	—	—

Additional readings :—
Kobe i = +1m.15s., iN = +1m.47s. and +2m.10s.
Nagoya P_g = +1m.30s.
Zinsen iSN = +2m.45s., iSZ = +2m.47s., S_cSE = +13m.57s.
Heizyo i = +14m.0s.
Nagasaki ? = +3m.58s. and +5m.7s.
Zi-ka-wei iN = +2m.42s., iE = +5m.3s. and +5m.22s., iN = +6m.1s. and +7m.10s.
Nanking i = +5m.45s.
Hong Kong ? = +6m.40s.
Batavia ipP = +9m.50s.
Bombay eEN = +12m.22s.
Tiflis i = +10m.2s., pP = +11m.28s., sP = +12m.22s., SP = +18m.17s., i = +18m.40s., sS = +21m.32s.
Scoresby Sund +12m.0s. and +23m.7s.
Bucharest eEN = +10m.52s., eE = +11m.28s. and +13m.29s., eN = +14m.47s.
Ksara i = +13m.46s., PS = +20m.32s., SS = +24m.23s.
Vienna eEN = +21m.27s.
Cheb e = +28m.26s.
Zagreb eP_cP = +11m.57s.
Tinemaha iZ = +12m.59s. and +13m.37s.
Stuttgart epP = +12m.59s., eZ = +14m.25s.
Strasbourg epP = +13m.2s., ePP = +14m.38s., iS_cS = +21m.9s., esS = +23m.46s.
Mount Wilson iZ = +13m.9s.
Pasadena iZ = +13m.8s.
Rathfarnham Castle i = +20m.56s.
St. Louis ePPEN = +16m.9s., iSKSEN = +22m.11s., esSKSE = +25m.27s., esSE = +25m.51s. ; T_0 = 8h.18m.35s.
Ottawa eE = +22m.55s. and +25m.39s.
Florissant ipPZ = +14m.5s., ePPZ = +16m.8s., eNZ = +20m.2s., iSKSN = +22m.10s., iNZ = +24m.7s., esSKSN = +25m.25s., isSN = +25m.56s.
Little Rock ePPEN = +16m.13s., eSKSEN = +22m.7s., esSE = +26m.2s.
Pittsburgh iSKS = +22m.31s., e = +26m.7s., eSS = +29m.52s.
La Paz iE = +21m.8s.
Long waves at Paris.

May 31d. 13h. 16m. 43s. Epicentre 32°·1N. 47°·8E. N.3.

A = +·569, B = +·627, C = +·531 ; D = +·741, E = −·672 ;
G = +·357, H = +·394, K = −·847.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Erevan	8·3	341	e 2 5	+ 9	—	—	—	—
Baku	8·4	9	e 2 15	P*	e 3 41	+ 7	—	5·3
Tiflis	9·9	346	e 2 18	− 1	4 54	S*	i 5·1	5·5
Ksara	10·1	283	e 2 26	+ 4	4 14	− 2	—	—
Sotchi	13·1	335	e 3 4	+ 1	—	—	—	—
Helwan	14·3	266	i 3 19	0	7 56	S_g	—	12·5
Yalta	16·3	325	3 45	0	6 48	+ 3	—	—
Simferopol	16·7	325	e 3 51	+ 1	6 55	0	—	—
Sebastopol	16·7	323	e 3 53	+ 3	6 57	+ 2	—	—
Samarkand	17·3	57	4 0	+ 2	7 10	+ 1	—	—

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		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tashkent		19·5	56	e 4 21	− 3	i 7 54	− 2	—	12·7
Bucharest		20·9	53	e 4 57	PP	—	—	e 7·3	—
Andijan		21·5	58	e 4 31	−14	e 8 51	+15	—	—
Sofia		22·0	307	e 4 59	+ 8	e 8 11	−35	—	—
Moscow		24·7	345	5 10	− 7	9 28	− 8	12·6	19·9
Almata		25·5	53	e 5 31	+ 6	—	—	—	—
Bombay		26·1	115	—	—	i 10 9	+ 9	—	—
Sverdlovsk		26·3	16	5 23	− 9	e 9 54	− 9	17·6R	17·9
Agra	E.	26·7	91	—	—	e 9 56	−14	—	—
Vienna		28·6	314	e 5 56	+ 3	—	—	—	—
Triest		29·5	309	e 6 32	PP	e 10 37	−19	—	—
Pulkovo		30·0	343	6 11	+ 6	e 10 57	− 7	22·3	24·2
Prague		30·5	316	—	—	e 11 46	+34	—	19·3
Florence		30·8	303	e 8 17?	?	—	—	16·3	20·3
Cheb		31·7	317	e 3 17?	?	—	—	—	21·3
Chur		32·6	307	e 6 31	+ 7	—	—	—	—
Stuttgart		33·3	312	e 6 36	+ 2	—	—	—	26·3
Zurich		33·3	310	e 6 30	− 4	e 11 47	− 8	—	—
Basle		34·0	310	e 6 37	− 3	—	—	—	—
Copenhagen		34·0	325	—	—	12 0	− 6	15·3	—
Neuchatel		34·3	308	e 6 42	− 1	—	—	—	—
Kew		39·8	314	—	—	e 11 17?	?	—	—
Chiufeng		54·5	61	—	—	e 16 56	− 6	e 28·7	31·9

Additional readings :—
Baku e = +2m.43s. and +4m.41s.
Tiflis e = +4m.10s. = S −1s. and +4m.40s.
Ksara S_cS = +5m.10s.
Sofia e = +8m.50s. = P_cP +4s. and +12m.4s.
Sverdlovsk L_q = +14m.35s.
Triest e = +16m.41s. = S_cS +0s. and +20m.50s.
Pulkovo e = +12m.59s.
Stuttgart e = +14m.17s.
Long waves at Bidston, De Bilt, Granada, Paris, Strasbourg, Uccle, Cape Town, Hong Kong, and Nanking.

May 31d. 17h. 12m. 19s. Epicentre 29°·6N. 66°·5E. (as at 2h.). R.3.

A = +·347, B = +·797, C = +·494.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Samarkand		10·0	0	e 2 21	0	—	—	—	—
Dehra Dun		10·0	83	2 51	+30	4 11	− 2	—	7·7
Agra	E.	10·4	100	e 2 17	− 9	i 4 9	−14	—	8·0
Tashkent		11·9	9	i 2 44	− 3	i 4 55	− 5	6·5	7·8
Andijan		12·1	20	e 2 47	− 3	e 6 23	S_g	—	—
Bombay		12·2	151	e 2 54	+ 3	5 32	+24	6·3	10·8
Frunse		14·8	23	e 3 29	+ 3	—	—	—	—
Almata		16·1	28	e 3 41	− 2	e 7 51	?	8·7	—
Hyderabad		16·3	135	3 48	+ 3	7 33	?	8·5	10·5
Baku		17·3	313	4 5	PP	9 15	?	12·7	14·0
Erevan		20·8	306	e 4 52	PP	—	—	—	—
Calcutta	E.	21·0	106	e 4 37	− 3	8 32	+ 6	10·3	11·6
Tiflis		21·3	310	4 48	+ 5	8 53	SS	e 12·0	14·8
Kodaikanal	E.	21·9	150	e 4 57	+ 7	9 2	SS	—	—
Semipalatinsk		23·3	22	e 5 11?	+ 7	—	—	—	—
Ksara		26·3	288	e 5 42	+10	10 18	+15	—	—
Sverdlovsk		27·5	352	5 42	− 1	i 11 55	SS	16·8R	19·4
Moscow		33·2	329	e 6 34	0	—	—	e 13·9	18·7
Pulkovo		38·7	332	e 7 18	− 3	—	—	24·7	27·0
Chiufeng		41·5	62	e 7 45	+ 1	—	—	22·7	30·0

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	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Nanking	44·6	73	—	—	e 14 45	+ 1	i 24·8	—
Cheb	45·1	313	—	—	e 18 41?	SSS	—	32·7
Copenhagen	45·9	321	10 17	(+15)	15 11	+ 8	—	—
Hamburg	46·9	318	—	—	e 18 41?	SS	—	34·7
De Bilt	49·7	316	—	—	e 19 41?	SS	e 30·7	—
Scoresby Sund	61·7	338	—	—	18 41	+ 3	35·7	—

Additional readings :—
Agra S* = +4m.43s., S_g = +5m.16s.
Tashkent i = +5m.23s.
Andijan e = +5m.7s. =S +2s.
Bombay SS = +5m.55s. =S* −6s.
Ksara PP = +6m.18s.
Sverdlovsk L_q = +14m.59s.
Pulkovo e = +8m.55s. =PP +9s., +15m.57s. =SS +9s., and +21m.30s.
Copenhagen e = +18m.23s. =S_gS +5s.
Long waves at Bidston, Edinburgh, Kew, Florence, Paris, Prague, Strasbourg, Stuttgart, Uccle, and Hong Kong.

May 31d. 23h. 30m. 9s. Epicentre 34°·8N. 135°·7E. (as on 1932 Sept. 22d.). X.

A = −·588, B = +·574, C = +·571.

	△	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Osaka	0·2	218	0 0	− 3	0 3	− 2	0·1
Kobe	0·4	254	i 0 6	0	i 0 10	0	0·2
Sumoto	0·8	236	0 13	+ 2	0 21	0	0·3
Toyooka	1·0	316	0 15	+ 1	0 26	0	0·4
Nagoya	1·1	71	0 20	P_g	0 35	S*	—

Additional readings :—
Osaka i = +5s., +35s., and +1m.3s.

May 31d. Readings also at 0h. (Sumoto, Andijan, Stuttgart, Tiflis, and Santiago), 1h. (Andijan, Almata (2), and Frunse), 2h. (Frunse and Andijan), 3h. (Andijan, Almata, Frunse, Samarkand, and Semipalatinsk), 4h. (Ksara, Sverdlovsk, Tashkent, and Manila), 6h. (Sumoto, Sverdlovsk, and Tashkent), 7h. (Rathfarnham Castle), 8h. (Nanking), 9h. (Andijan and Agra), 10h. (Wellington (2), New Plymouth, Sverdlovsk, Tashkent, Haiwee, Mount Wilson, Pasadena, Riverside, and Tinemaha), 12h. (Nagoya), 13h. (Tacubaya), 15h. (Ann Arbor), 18h. (Ann Arbor, Sebastopol, Simferopol, and Yalta), 19h. (Tashkent), 20h. (Sverdlovsk, Pasadena, Riverside, Santa Barbara, Tinemaha, and Mizusawa), 21h. (Durham), 23h. (Sverdlovsk, Tashkent, and Wellington).

June 1d. 4h. 30m. 16s. Epicentre 29°·6N. 66°·5E. (as on May 31d. 17h.). R.2.

A = +·347, B = +·797, C = +·494.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Dehra Dun	10·0	83	2 54	+33	4 34	+21	—	7·7
Samarkand	10·0	0	2 29	+ 8	—	—	5·7	—
Agra	10·4	100	e 2 20	− 6	e 4 9	−14	—	8·1
Tashkent	11·9	9	i 2 44	− 3	i 4 55	− 5	6·1	8·0
Andijan	12·1	20	e 2 50	0	5 18	+13	—	—
Bombay	12·2	151	e 2 45	− 6	e 4 55	−13	5·4	9·5
Tchimkent	12·9	11	e 2 54	− 7	—	—	6·7	—
Almata	16·1	28	3 43	0	6 55	SS	8·3	—
Hyderabad	16·3	135	3 44	− 1	7 14	+29	8·7	11·7
Baku	17·3	313	i 4 4	+ 6	7 34	+25	9·7	15·6
Erevan	20·8	306	e 4 50	+12	—	—	—	—
Calcutta	21·0	106	4 39	− 1	8 34	+ 8	9·7	10·7
Tiflis	21·3	310	e 4 46	+ 3	8 53	SS	e 13·1	16·8
Kodaikanal	21·9	150	e 4 57	+ 7	e 8 57	−13	11·0	—
Colombo	26·0	149	5 29	0	—	—	—	15·7

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	△ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Ksara	26·3	288	i 5 37	+ 5	10 31	+28	—	—
Sverdlovsk	27·5	352	5 41	− 2	10 23	− 1	16·7	18·4
Moscow	33·2	329	6 33	− 1	11 53	− 1	19·1	24·4
Pulkovo	38·7	332	e 7 21	0	e 13 20	+ 3	20·7	25·7
Chiufeng	41·5	62	e 7 43	− 1	i 17 55	(+ 4)	23·0	30·5
Prague	43·8	314	—	—	e 18 44?	?	26·7	29·7
Triest	43·8	309	e 8 6	+ 3	e 14 41	+ 8	—	29·0
Cheb	45·1	313	e 14 59	S	(e 14 59)	+ 7	e 29·7	34·0
Copenhagen	45·9	321	8 21	+ 1	15 9	+ 6	26·7	—
Hamburg	46·9	318	e 8 28	0	—	—	e 26·7	31·7
Stuttgart	47·1	312	e 8 27	− 2	—	—	e 28·7	—
De Bilt	49·7	316	—	—	e 16 5	+ 8	e 30·2	31·3
Paris	51·4	311	—	—	e 20 44?	?	30·7	38·7
Oxford	53·7	314	—	—	e 16 52	0	e 32·7	39·7
Rathfarnham Castle	56·6	317	—	—	e 17 24	− 7	34·9	40·7
Scoresby Sund	61·7	338	—	—	18 38	0	35·7	—

Additional readings :—
Agra $P_gE = +3m.19s.$, $S_g = +5m.16s.$
Kodaikanal $ePP = +5m.18s.$, $SS = +9m.45s.$
Sverdlovsk $L_q = +14m.56s.$
Chiufeng $eZ = +9m.19s. = PP + 4s.$
Triest $e = +6m.6s.$ and $+17m.58s.$
Cheb $eS = +19m.38s.$
Copenhagen $+18m.38s. = S_cS + 20s.$
Stuttgart $e = +20m.44s.$
De Bilt $eE = +19m.44s.$
Rathfarnham Castle $e = +22m.14s.$
Scoresby Sund $+23m.20s.$ and $+25m.14s.$
Long waves also at Bidston, Edinburgh, Kew, Stonyhurst, Strasbourg, Uccle, and Hong Kong.

June 1d. 14h. 39m. 47s. Epicentre 7°·5N. 126°·0E. (as on 1934 Sept. 6d.). R.1.

$A = -·583$, $B = +·802$, $C = +·131$; $D = +·809$, $E = +·588$; $G = -·077$, $H = +·106$, $K = -·991$.

	△ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Palau	8·4	91	1 50	− 9	3 10	?	—	—
Manila	8·6	326	i 2 15a	+13	4 25	S*	—	—
Amboina	11·4	169	(2 39)	− 1	(i 4 55)	SS	—	—
Hong Kong	18·7	324	(4 23)	+ 8	4 23	P	—	10·3
Phu-Lien	23·0	307	e 5 7	+ 6	e 9 18	+13	—	—
Zi-ka-wei	24·1	350	i 5 41	PP	i 9 37	+12	—	—
Kagosima	24·4	8	5 15	+ 1	—	—	—	—
Titizima	24·8	36	5 39	+21	—	—	—	—
Miyazaki	25·0	10	5 19	− 1	9 17	−24	—	—
Tomie	25·2	16	5 23	+ 1	—	—	—	—
Nagasaki	25·5	16	e 5 24	− 1	9 43	− 7	—	—
Nanking	25·5	346	i 5 27	+ 2	i 9 59	+ 9	13·8	—
Kumamoto	25·7	9	5 26	0	—	—	—	—
Siomisaki	27·4	18	5 40	− 2	10 15	− 7	—	—
Medan	27·5	263	i 5 50	+ 7	i 10 50	+26	—	—
Husan	27·7	5	5 43	− 1	e 10 5	−22	—	—
Sumoto	28·0	16	5 47	0	e 10 25	− 7	—	—
Wakayama	28·0	16	5 47	0	—	—	—	—
Kobe	28·4	16	5 51	0	i 10 30	− 8	—	17·1
Taikyu	28·4	354	e 6 17	?	e 9 34	−64	—	—
Osaka	28·5	17	5 44	− 8	9 28	?	12·5	—
Kameyama	28·9	18	5 53	− 2	—	—	—	—
Nagoya	29·4	18	e 5 59	− 1	—	—	—	—
Ibukisan	29·4	17	5 59	− 1	—	—	—	—
Gihu	29·6	18	5 56	− 5	—	—	—	—

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Misima	30·0	22	6 1	− 4	—	—	—	—
Kohu	30·4	21	6 7	− 2	10 59	−11	—	—
Tokyo	30·8	22	6 16	+ 4	—	—	—	—
Kumagaya	30·8	23	6 15	+ 3	—	—	—	—
Toyama	30·9	16	6 14	+ 1	11 9	− 9	—	—
Oiwake	31·0	20	6 12	− 2	11 8	−12	—	—
Nagano	31·2	19	6 14	− 2	11 12	−11	—	—
Maebasi	31·2	20	6 14	− 2	—	—	—	—
Hukusima	32·9	21	6 29	− 2	11 39	−10	—	—
Sendai	33·6	20	6 34	− 3	11 49	−11	—	—
Chiufeng	33·7	346	i 6 39$_a$	+ 1	i 11 59	− 2	—	—
Mizusawa	34·4	23	6 45	+ 1	—	—	—	—
Sapporo	38·0	20	7 13	− 2	12 59	− 7	—	—
Agra	49·4	300	i 8 48	+ 1	—	—	—	—
Almata	55·7	320	e 10 13	+39	—	—	—	—
Frunse	57·2	318	9 57	+12	—	—	—	—
Andijan	57·9	315	e 9 51	+ 1	—	—	—	—
Tashkent	60·3	315	10 13	+ 6	—	—	e 16·6	17·8
Sverdlovsk	70·4	329	i 11 11	− 2	i 20 20	− 6	33·2	—
Baku	74·6	311	i 11 39	+ 1	e 21 27	+12	44·2	—
Tiflis	78·5	311	i 12 0	0	22 10	+11	e 43·2	—
Erevan	78·7	310	e 12 2	+ 1	—	—	—	—
Moscow	82·9	325	i 12 20	− 3	e 22 30	[−13]	—	45·9
Ksara	86·0	305	i 12 38$_a$	0	23 16	− 2	—	—
Yalta	86·0	316	i 12 43	+ 5	—	—	—	—
Simferopol	86·0	316	i 12 38	0	—	—	—	—
Pulkovo	86·4	330	12 38	− 2	23 9	[0]	43·2	53·8
Copenhagen	96·6	330	13 25	− 3	24 31	{+ 4}	50·2	—

Additional readings and note :—
Amboina readings have been *increased* by 1m.
Hong Kong P? = +1m.21s., SS? = +4m.54s.
Zi-ka-wei PZ = +4m.49s.
Nanking i = +10m.31s.
Husan e = +6m.37s.
Sumoto eNZ = +6m.41s.
Kobe iPZ = +5m.49s., PPN = +6m.47s., iZ = +7m.2s., eE = +7m.53s., iN = +12m.1s., eE = +12m.8s.
Osaka PP = +6m.15s., SS = +9m.57s.
Chiufeng iS_eSEN = +16m.57s.
Agra i = +10m.46s.
Tashkent i = +10m.25s. and +11m.37s.
Baku e = +19m.49s. and +23m.45s.
Tiflis eP_eP = +12m.16s., ePP = +15m.26s.
Ksara PS = +24m.10s., SS = +29m.12s.
Copenhagen +17m.27s. =PP +10s.
Long waves at some European and American stations.

June 1d. Readings also at 0h. (Mizusawa and Toyooka), 1h. (Sumoto), 2h. (Andijan, Arisan, Taito, Taityu, and Taihoku), 3h. (Manila and Wellington), 4h. (Malaga, Hong Kong, Manila, Nanking, La Paz, and Sucre), 5h. (Kobe, Osaka, and Sumoto), 6h. (Andijan, Almata, Frunse, Granada, Samarkand, Tashkent, Tchimkent, and Triest), 10h. (Amboina), 11h. (Tashkent), 12h. (Agra, Bombay (2), Baku, Copenhagen, Ksara, Sverdlovsk, and Tashkent), 16h. (San Juan), 17h. (Glemuick, New Plymouth, Wellington, Nanking, and Phu-Lien), 18h. (Wellington), 21h. (Riverview).

June 2d. 4h. Readings for which no determination has been made, but 38°·4N. 70°·0E. has been suggested by Tchimkent.

Samarkand P =17m.10s., iPP =17m.28s., i =17m.38s., iS =17m.56s., S_g =18m.0s.
Andijan P =17m.12s., iP* =17m.17s., P_g =17m.20s., i =17m.28s., i =17m.42s., iS_g =18m.5s.
Tchimkent P =17m.31s., P_g =17m.42s., PP =17m.50s., S_g =18m.35s.
Agra eP =18m.46s., eS =20m.36s., S* =21m.11s.
Tiflis e =20m.28s., e =21m.31s., e =24m.16s.
Sverdlovsk e =20m.47s., i =21m.40s., iS =24m.21s.
Pulkovo P =22m.36s., L =51m.
Moscow e =39m.47s., e =40m.42s., e =40m.56s., e =41m.49s.

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June 2d. 9h. 16m. 32s. Epicentre 30°·0N. 66°·8E. N.1.

A = +·341, B = +·796, C = +·500 ; D = +·919, E = −·394 ; G = +·197, H = +·460, K = −·866.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Samarkand	9·6	0	2 10	− 6	—	—	—	5·5
Dehra Dun	9·7	84	1 58	−19	3 28	?	4·8	5·5
Agra	10·2	104	e 2 24	0	4 8	−10	—	—
Tashkent	11·4	11	2 32	− 8	i 4 46	− 2	5·5	7·5
Andijan	11·7	22	2 40	− 4	4 53	− 2	—	—
Bombay	12·4	153	i 2 54	0	i 5 9	− 4	5·9	7·6
Tchimkent	12·5	11	2 51	− 4	5 28	+13	—	—
Frunse	14·3	25	e 3 20	+ 1	6 7	+ 9	—	8·4
Hyderabad	16·4	137	3 50	+ 4	6 58	SS	8·0	10·0
Baku	17·2	313	i 4 1	+ 4	7 19	SS	9·5	15·2
Calcutta	20·7	106	4 38	+ 1	8 33	+13	10·3	11·6
Erevan	20·8	306	e 4 44	+ 6	e 9 1	?	—	—
Tiflis	21·2	310	4 41	− 1	i 8 48	+18	e 11·8	15·0
Kodaikanal	22·1	152	i 4 55	+ 3	i 9 0	+12	11·0	13·3
Colombo	26·2	148	e 5 26	− 5	10 11	+ 9	—	15·3
Ksara	26·4	286	e 5 38	+ 5	10 33	+28	—	—
Sverdlovsk	27·2	353	i 5 42	+ 2	i 10 16	− 2	16·8	17·0
Yalta	29·4	309	6 2	+ 2	e 10 57	+ 2	—	—
Simferopol	29·7	310	6 3	+ 1	e 11 6	+ 7	—	—
Sebastopol	29·9	309	6 6	+ 2	e 11 11	+ 8	—	—
Helwan	30·6	279	i 6 11	+ 1	11 32	+18	17·9	22·9
Moscow	33·0	328	6 30	− 2	11 56	+ 5	13·9	24·6
Bucharest	35·1	307	e 7 0	+10	—	—	—	16·2
Sofia	36·8	303	e 7 7	+ 2	e 12 57	+ 9	20·8	—
Phu-Lien	36·9	94	e 7 3	− 3	e 12 52	+ 2	15·5	—
Pulkovo	38·5	332	i 7 19	0	13 15	+ 1	19·5	21·5
Belgrade	39·1	306	e 7 25	+ 1	e 13 4	−18	33·0	—
Medan	40·1	125	e 8 4	+31	e 16 41	SSS	—	—
Budapest	40·3	310	7 37	+ 2	13 19	−22	17·5	32·5
Chiufeng	41·1	61	i 7 41a	0	i 14 0	+ 7	i 20·4	26·4
Konigsberg	41·1	322	i 7 47	+ 6	14 3	+10	—	26·5
Vienna	42·2	311	e 7 50	0	13 50	−19	—	—
Zagreb	42·3	307	e 7 52	+ 1	e 14 15	—	—	—
Hong Kong	42·9	89	7 58	+ 2	14 24	+ 5	—	25·6
Prague	43·7	314	i 8 5	+ 3	e 14 40	+ 9	e 26·5	33·5
Triest	43·8	307	i 8 2	− 1	14 38	+ 5	—	22·8
Nanking	44·1	73	i 8 11	+ 5	i 14 45	+ 8	23·1	25·6
Upsala	44·2	327	8 4	− 2	14 38	− 1	22·5	28·6
Cheb	45·0	313	e 8 28	+15	e 14 57	+ 7	e 29·5	34·5
Padova	45·2	307	e 8 16	+ 2	—	—	—	—
Leipzig	45·2	315	e 8 12	− 2	e 14 41	−13	e 26·5	32·5
Jena	45·6	313	e 8 18	·0	—	—	—	32·5
Florence	45·6	304	i 8 16k	− 2	15 8	+ 9	23·6	—
Prato	45·7	304	i 8 18	0	i 14 50	0	e 22·5	33·0
Copenhagen	45·8	321	i 8 20	+ 1	15 7	+ 5	—	—
Zi-ka-wei	46·5	73	e 8 22	− 3	—	—	—	—
Gottingen	46·7	316	i 8 25a	− 1	e 15 22	+ 8	—	—
Chur	46·8	310	e 8 29	+ 2	—	—	—	—
Hamburg	46·9	318	i 8 31k	+ 3	e 15 28	+11	—	34·5
Stuttgart	47·0	311	8 29	0	e 15 22	+ 3	e 27·5	32·0
Zurich	47·4	310	e 8 31a	− 1	—	—	—	—
Strasbourg	48·0	311	i 8 41a	+ 5	e 15 44	+11	e 22·5	—
Basle	48·1	310	e 8 36	− 1	—	—	—	—
Neuchatel	48·5	309	e 8 40	0	—	—	—	—
Zinsen	49·5	64	e 8 47	0	—	—	—	—

Continued on next page.

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		△ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
De Bilt		49·6	316	i 8 50a	+ 2	16 3	+ 8	e 26·5	33·6
Uccle		50·2	314	i 8 53a	0	16 8	+ 4	27·5	—
Bergen		50·3	326	e 8 48	− 6	e 15 58	− 7	—	—
Paris		51·4	311	i 9 3a	+ 1	e 16 30	+10	19·5	36·5
Husan		51·8	67	9 3	− 2	—	—	28·8	—
Manila		51·9	95	i 9 7a	+ 1	16 30	+ 3	25·3	30·5
Vladivostok		52·6	57	i 9 12	+ 1	i 16 43	+ 6	27·1	50·3
Algiers		52·7	297	9 28?	+16	16 28?	−10	33·5	—
Batavia		52·8	126	e 9 53	+41	17 52	+73	—	—
Kew		53·0	316	i 9 15	+ 1	e 16 45	+ 3	e 29·5	33·2
Nagasaki		53·1	70	e 10 13	+58	—	—	—	—
Oxford		53·7	315	9 17	− 2	—	—	—	38·5
Durham		53·7	319	6 50	?	17 1	+ 9	—	32·5
Kumamoto		53·8	69	9 17	− 3	—	—	—	—
Stonyhurst		54·2	318	—	—	e 17 5	+ 7	—	37·5
Edinburgh		54·5	320	e 9 30	+ 5	e 17 13	+11	—	38·0
Bidston		54·6	318	e 9 38	+12	i 17 10	+ 6	e 29·5	—
Alicante		55·1	299	e 9 35	+ 5	e 17 29	+18	e 36·9	—
Rathfarnham Castle		56·5	318	i 9 39	0	—	—	e 31·3	37·3
Kobe		56·8	66	e 17 20	S	(e 17 20)	−14	31·6	58·7
Almeria		57·0	297	e 9 42	− 1	e 17 38	+ 2	e 36·9	—
Toledo		57·4	301	e 9 45	− 1	e 17 48	+ 6	e 27·6	—
Ibukisan		57·6	65	9 47	0	—	—	—	—
Granada		57·7	298	i 9 50	+ 2	e 17 59	+13	26·5	33·4
Siomisaki		57·7	67	9 43	− 5	—	—	—	—
Gihu		57·9	65	9 51	+ 1	—	—	—	—
Nagoya		58·1	65	e 9 46	− 5	—	—	—	—
Malaga		58·5	298	9 52	− 2	17 56	0	—	—
Nagano		58·6	64	9 56	+ 1	—	—	—	—
Oiwake		59·0	64	9 58	+ 1	—	—	—	—
Kohu		59·2	65	10 2	+ 3	—	—	—	—
Maebasi		59·4	64	10 3	+ 3	—	—	—	—
Misima		59·7	64	9 55	− 7	18 15	+ 3	—	—
San Fernando		60·0	298	10 1	− 3	e 18 21	+ 5	34·5	—
Tokyo		60·1	64	10 6	+ 1	18 48	+31	—	—
Mizusawa	E.	60·2	59	(e 10 7)	+ 1	(e 14 7)	?	—	—
	N.	60·2	59	(10 3)	− 3	(14 10)	?	—	—
Sapporo		60·5	55	10 11	+ 3	—	—	—	—
Scoresby Sund		61·5	339	10 15	0	18 40	+ 4	—	—
Amboina		67·5	108	e 10 1	−54	e 18 18	?	—	—
Cape Town		78·6	220	—	—	e 21 54	− 6	39·5	44·8
Sitka		91·0	12	—	—	e 45 34	?	e 51·0	—
Ottawa		97·3	334	—	—	e 24 10	[− 3]	e 50·5	—
Philadelphia		101·7	331	—	—	e 24 33	[− 1]	61·3	—
Tinemaha		112·8	5	e 19 15	PP	—	—	—	—
San Juan		113·7	311	e 19 41	PP	—	—	e 49·5	—
Mount Wilson		115·5	4	e 19 49	PP	—	—	—	—
Pasadena		115·7	4	e 19 36	PP	—	—	—	—
Riverside		115·9	4	e 19 46	PP	—	—	—	—
La Paz		136·8	278	i 19 22k	[+ 5]	—	—	75·0	83·9
Huancayo		140·6	289	—	—	e 23 5	PKS	e 65·5	—

Additional readings and notes :—
Agra iPE = +2m.20s., P* = +2m.47s., P_g = +3m.20s., S* = +4m.45s., S_g = +5m.16s.
Andijan i = +3m.14s.
Bombay SSEN = +5m.32s.
Frunse i = +3m.29s.
Erevan e = +13m.59s.
Tiflis iP = +4m.45s.
Kodaikanal PP = +5m.18s.
Colombo iP = +6m.16s.
Sverdlovsk L_q = +13m.52s.
Bucharest eE = +6s. ; all readings given for 10h.

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Sofia e = +15m.51s.
Belgrade e = +17m.19s. = S_cS −17s.
Medan iE = +8m.53s. = PP −7s.
Budapest PP = +9m.11s., PPP = +9m.52s.
Chiufeng PPEZ = +9m.11s., iE = +13m.34s., iS_cSN = +17m.47s.
Königsberg eP = +7m.49s., PP = +9m.17s., N = +9m.23s., PPP = +9m.29s., PS = +14m.12s., SSS = +17m.29s., N = +19m.23s.
Vienna PPP = +9m.44s. = P_cP −5s., SSS = +17m.31s.
Zagreb ePP = +9m.36s., eSS = +19m.28s.?, e = +22m.28s.?, eE = +27m.9s., e = +47m.1s.
Hong Kong SS? = +17m.37s.
Prague ePP = +9m.58s. = P_cP +4s., eSS = +18m.16s. = SSS +2s.
Triest i = +9m.56s., +10m.9s. = PPP −1s., +10m.25s., and +15m.6s., SS? = +17m.59s., i = +19m.2s. and +19m.34s.
Nanking eSS = +18m.9s. = S_cS +2s.
Upsala PP = +9m.48s., SS = +18m.1s. = S_cS −6s.
Leipzig eE = +9m.46s., ePPE = +10m.11s., eE = +10m.46s. and +12m.7s., eN = +19m.58s., eE = +20m.0s.
Jena i = +8m.22s., eN = +15m.28s., eE = +21m.28s.
Florence PP = +10m.8s. = P_cP +7s.
Copenhagen +10m.8s. = P_cP +7s., +18m.22s. = S_cS +5s.
Zi-ka-wei iE = +10m.14s.
Göttingen PEZ = +8m.28s., iPPE = +10m.18s.
Hamburg eSS = +18m.40s., iN = +22m.3s.
Stuttgart ePP = +10m.22s., eSS = +18m.58s.; T_o = 9h.16m.10s.
Zurich ePP = +10m.21s.
Strasbourg ePP = +10m.36s., eSS = +19m.18s.
De Bilt PPZ = +10m.49s., SSE = +19m.42s.
Uccle PP = +10m.49s., S = +16m.14s., SS = +19m.55s.
Manila PEN = +9m.9s.
Kew eNE = +27m.6s.
Bidston e = +26m.18s.
Kobe eN = +31m.37s.
Almeria PPP = +14m.10s.
Malaga e = +10m.15s. and +10m.37s. = P_cP −11s., P_cP = +10m.56s., PP = +12m.7s., S = +18m.11s. = PS +10s., SSS = +23m.51s.
San Fernando i? = +18m.33s. = PS +11s.
Mizusawa readings have been *diminished* by 30m.
Scoresby Sund +12m.28s. = PP +5s., +13m.52s. = PPP +7s.
Sitka e = +47m.36s.
Ottawa e = +31m.28s.? = SS +4s., eN = +35m.40s., e = +44m.58s.
Philadelphia i = +17m.30s., e = +49m.57s.
Pasadena iZ = +19m.48s. = PP +10s.
La Paz iPPZ = +22m.56s. = PKS −4s., L_qN = +67m.28s.
Huancayo e = +41m.8s.
Long waves at Tucson.

June 2d. 10h. 33m. 52s. (I) } Epicentre 24°·0N. 121°·6E. X.
16h. 56m. 13s. (II) } (as on 1935 March 3d.). X.

A = −·479, B = +·778, C = +·407.

	Δ	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
I Karenko	0·0	0	e 0 0	0	0 5	+ 5	—
II	0·0	0	e −0 4	− 4	e −0 3	− 3	—
I Arisan	0·9	232	e 0 21	S	(e 0 21)	− 2	—
II	0·9	232	i 0 12	− 1	i 0 22	− 1	—
I Taityu	0·9	232	0 16	+ 3	0 34	?	—
II	0·9	232	0 12	− 1	0 21	− 2	—
I Taihoku	1·0	354	e 0 11	− 3	0 24	− 2	—
II	1·0	354	e 0 16	+ 2	e 0 30	S*	—
I Taito	1·3	198	e 0 32	S	e 0 55	?	—
II	1·3	198	i 0 20	P_g	0 40	S_g	—
II Tainan	1·6	230	e 0 27	P_g	—	—	—
I Takao	1·8	218	1 1	S_g	—	—	—
II	1·8	218	0 31	P_g	0 55	S_g	—
II Hokoto	2·0	255	e 0 35	P_g	1 0	S_g	—
I Kosyun	2·1	1	e 0 51	S	(e 0 51)	− 3	—
II	2·1	1	0 37	P_g	1 4	S_g	—
I Nanking	8·4	344	—	—	e 4 0	S*	—
II	8·4	344	e 1 56	− 3	e 4 9	S*	5·6
II Chiufeng	16·7	345	e 3 52	+ 2	—	—	11·2

Taihoku I S = +30s. = S*+2s.
Long waves II at Hong Kong.

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June 2d. 10h. Readings, for which no determination has been made, but 32°·8N. 72°·0E. has been suggested by Pulkovo.

Sverdlovsk eP = 0m.55s., i = 1m.21s., i = 2m.8s., L = 15m., M = 25m.24s.
Andijan e = 1m.39s.
Pulkovo iP = 1m.49s., S = 7m.37s., L = 23m., M = 29m.6s.
Copenhagen iP = 2m.39s., L = 30m.
Tiflis e(P) = 3m., e(S) = 12m.12s., L = 23m., M = 27m.54s.
Sebastopol e = 3m.5s.
Yalta e = 3m.7s.
Simferopol e = 3m.7s.
Erevan eP = 3m.9s.
Vienna ePZ = 3m.17s.
Triest eZ = 3m.36s., e = 13m.18s., e = 14m.47s., M = 35m.34s.
Florence iPZ = 3m.48s., S = 9m.30s., L = 14m.0s., M = 37m.0s.
Prato eP = 3m.49s., S? = 4m.1s.
Ksara e = 4m., e = 9m.
Basle eP = 4m.32s.
Tashkent e = 20m., M = 28m.42s.
Prague e = 32m., M = 35m.

June 2d. Readings also at 1h. (La Paz), 3h. (Erevan, Tiflis, and Tashkent), 4h. (Manila), 6h. (Apia), 9h. (Samarkand and Nagoya), 10h. (Haiwee, La Jolla, Mount Wilson, Pasadena, Riverside, Santa Barbara, Tinemaha, Hong Kong, and Chiufeng), 11h. (Florissant, Little Rock, Pasadena, St. Louis, Tinemaha, and Wellington), 14h. (Andijan), 15h. (Cheb, Copenhagen, Erevan, and Tiflis), 16h. (Tiflis), 17h. (Manila, Copenhagen, Sverdlovsk, Stuttgart, Tiflis, and Tashkent), 18h. (Manila), 19h. (Tashkent, Hong Kong, Manila, and Perth), 20h. (Sverdlovsk), 22h. (Cape Town and Manila), 23h. (Manila)

June 3d. 2h. 1m. 11s. Epicentre 24°·0N. 121°·3E. (as on May 4d.). X.

A = −·475, B = +·781, C = +·407.

	△	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Karenko	0·3	93	e 0 7	+ 3	0 17	?
Taityu	0·6	285	0 18	S	(0 18)	S*
Arisan	0·7	222	i 0 9	− 1	i 0 19	+ 1
Taihoku	1·1	11	0 38	S_g	—	—
Taito	1·2	186	e 0 12	− 5	0 27	− 4
Tainan	1·4	225	0 21	+ 1	—	—
Takao	1·7	210	0 23	− 1	—	—
Kosyun	2·1	195	0 27	− 3	0 49	− 5

June 3d. 2h. 31m. 14s. Epicentre 3°·2S. 127°·5E. N.2.

A = −·608, B = +·792, C = −·056; D = +·793, E = +·609;
G = +·034, H = −·044, K = −·998.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina	0·6	133	i 0 50	?	i 1 34	?	—	—
Manila	19·0	340	(4 18)	− 1	(8 10)	SS	—	—
Batavia	20·8	292	4 40	+ 2	8 16	− 6	—	—
Riverview	37·7	147	—	—	e 10 55	?	—	—
Chiufeng	44·5	348	8 23a	+14	—	—	—	—
Andijan	66·7	317	e 10 41	− 9	—	—	—	—
Tashkent	69·0	317	i 11 5	0	i 20 16	+ 7	e 35·8	40·3
Tchimkent	69·2	318	e 11 7	+ 1	—	—	—	—
Samarkand	70·0	315	e 11 8	− 3	—	—	—	—
Sverdlovsk	80·3	330	i 12 9	0	22 15	− 4	38·8	—
Tiflis	86·7	312	12 39	− 4	23 19	[+ 8]	—	—
Pasadena	111·8	54	i 18 16	[− 7]	—	—	—	—
Oak Ridge	137·2	21	e 18 39	[−39]	—	—	—	—

Additional readings and note :—
Manila readings have been *diminished* by 30s.
Batavia i = +7m.16s.
Tiflis e = +22m.55s.
Oak Ridge iEZ = +18m.47s., iZ = +22m.9s. = PP + 5s.

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June 3d. 4h. 57m. 17s. Epicentre 38°·5N. 69°·9E. N.3.

Given by the stations.

A = +·269, B = +·735, C = +·623; D = +·939, E = −·344;
G = +·214, H = +·584, K = −·782.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Samarkand	2·5	296	0 57	S	(0 57)	− 7	—	1·7
Tashkent	2·8	350	i 0 41	+ 1	—	—	i 1·6	2·1
Andijan	2·9	40	e 0 40	− 1	e 1 30	S_g	—	—
Tchimkent	3·8	356	0 54	0	1 57	S_g	—	—

Additional readings :—
Samarkand eS* = +1m.22s., S_g = +1m.39s.

June 3d. Readings also at 0h. (Taikyu), 2h. (Nagoya, Tokyo, and La Paz), 4h. (Ravensburg, Samarkand, and Stuttgart), 7h. (Ksara), 9h. (Tiflis (2)), 10h. (Manila and Tacubaya), 11h. (Jena and Tashkent), 12h. (Jena (2)), 13h. (Moscow, Sverdlovsk, Tashkent, and Wellington), 15h. (Amboina, Batavia, and Malabar), 16h. (Sverdlovsk, Tashkent, New Plymouth, and Wellington), 17h. (Haiwee, Pasadena, Tinemaha, and Tucson), 18h. (Tiflis), 19h. (Jena), 22h. (Andijan).

June 4d. 1h. Readings for which no determination has been made, but 40°·9N. 75°·8E. has been suggested.

Frunse P = 46m.6s., S_g = 46m.39s.
Andijan P = 47m.5s., PsS = 47m.35s., S_g = 47m.47s., M = 48m.53s.
Almata eP = 48m.0s.
Tashkent e = 48m.2s., i = 48m.47s., iL = 49m.6s., M = 49m.36s.
Samarkand eP = 48m.28s., e = 50m.8s.
Tchimkent eP = 48m.48s., i = 49m.3s., i = 49m.22s., i = 49m.30s., eS = 49m.48s.
Sverdlovsk e = 56m.7s., e = 56m.31s.
Moscow e = 62m.25s., M = 62m.54s.

June 4d. 20h. 33m. 40s. Epicentre 35°·8N. 139°·9E. (as on 1931 Sept. 6d.). X.

A = −·620, B = +·523, C = +·585.

		△	Az.	P.	O−C.	S.	O−C.	M.
		°	°	m. s.	s.	m. s.	s.	m.
Tokyo		0·2	223	0 2	− 1	0 10	+ 5	0·2
Nagoya		2·4	255	0 37	P*	1 11	S*	1·6
Mizusawa	E.	3·5	21	e 0 59	P*	e 1 34	+ 4	—

June 4d. 21h. 4m. 46s. Epicentre 22°·6N. 121°·8E. N.3.

A = −·487, B = +·785, C = +·384; D = +·850, E = +·527;
G = −·202, H = +·327, K = −·923.

	△	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Taito	0·6	284	0 7	− 2	0 10	− 5
Kosyun	1·1	236	e 0 29	S	(e 0 29)	+ 1
Takao	1·4	268	e 0 20	0	0 34	− 2
Tainan	1·5	286	e 0 27	P_g	—	—
Karenko	1·5	350	e 0 21	0	e 0 41	+ 2
Taityu	1·9	328	0 27	− 1	—	—
Taihoku	2·5	352	e 0 48	P_g	—	—

June 4d. Readings also at 0h. (Columbia a), 8h. (Amboina, Manila (2), Sverdlovsk, and Baku), 11h. (Erevan and Tiflis), 12h. (Chicago), 14h. (Adelaide), 15h. (Tiflis), 16h. (Erevan, Tiflis, Mount Wilson, Pasadena, and Riverside), 18h. (La Paz, Mount Wilson, Pasadena, and Tinemaha), 19h. (Andijan (2), Copenhagen, Sverdlovsk, and Tashkent), 20h. (San Juan), 22h. (Arisan).

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June 5d. 6h. 25m. 5s. Epicentre 17°·3N. 95°·8W. N.3.

A = −·097, B = −·950, C = +·297; D = −·995, E = +·101;
G = −·030, H = −·296, K = −·955.

	△	Az.	P.	O−C.	S.	O−C.	L.
	°	°	m. s.	s.	m. s.	s.	m.
Oaxaca	0·9	250	1 33?	?	—	—	—
Vera Cruz	2·0	352	0 57	S	(0 57)	S*	—
Puebla	2·9	313	0 45?	P*	—	—	—
Ixtapalapa	3·7	308	0 55?	+ 2	—	—	—
Tacubaya	3·9	305	0 55	P_g	—	—	—
Tucson	20·2	321	e 4 48	PP	—	—	e 10·5
St. Louis	21·9	11	i 4 53	+ 3	i 8 53	+ 9	—
Florissant	22·1	11	i 4 51	− 1	e 8 51	+ 3	—
La Jolla	24·8	313	e 5 16	− 2	—	—	—
Riverside	25·5	315	e 5 23	− 2	—	—	—
Mount Wilson	26·1	315	i 5 27	− 3	—	—	—
Pasadena	26·1	315	e 5 28	− 2	—	—	—
Haiwee	27·2	319	e 5 41	+ 1	—	—	—
Santa Barbara	27·4	314	e 6 3	PP	—	—	—
Tinemaha	28·0	320	e 5 46	− 1	—	—	—
Oak Ridge	32·6	34	e 6 30	+ 2	—	—	—

Additional readings:—
St. Louis epPEN = +5m.11s., isSE = +8m.25s.
Florissant ipPNE = +5m.7s., isSEN = +9m.18s.
La Jolla eZ = +5m.31s.
Riverside eN = +5m.39s.
Pasadena iZ = +5m.45s.
Haiwee eN = +6m.4s.
Tinemaha eE = +6m.1s.

June 5d. 7h. 4m. 36s. (I) } Epicentre 33°·7N. 135°·2E. X.
13h. 38m. 39s. (II) } (as on 1935 April 1d.). X.

A = −·590, B = +·586, C = +·555.

	△	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
I Sumoto	0·7	338	i 0 10	0	i 0 21	S*	0·4
II	0·7	338	0 10	0	0 16	− 2	0·3
I Osaka	1·0	12	0 11	− 3	0 26	0	0·5
II	1·0	12	0 14	0	0 27	+ 1	0·6
I Kobe	1·0	359	0 13	− 1	i 0 27	+ 1	0·5
II	1·0	359	0 15	+ 1	i 0 25	− 1	0·6
I Toyooka	1·9	350	0 29	+ 1	0 48	− 1	0·9
II	1·9	350	e 0 32	P_g	0 53	S*	0·9
I Nagoya	2·0	45	0 29	0	0 53	+ 2	1·0
II	2·0	45	e 0 25	− 4	1 4	S_g	1·2

Additional readings:—
Osaka II i = +1m.27s. and +2m.54s.
Kobe II iN = +17s.

June 5d. 11h. 48m. 2s. Epicentre 44°·2N. 12°·0E. N.2.

Given by the stations.

A = +·701, B = +·149, C = +·697; D = +·208, E = −·978;
G = +·682, H = +·145, K = −·717.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Florence	0·7	235	i 0 11k	+ 1	—	—	—	0·6
Prato	0·7	244	i 0 12	+ 2	i 0 22	+ 4	—	—
Padova	1·2	352	i 0 22	P_g	0 36	S*	—	—
Triest	1·9	42	e 0 30k	P*	i 0 53	S*	—	—
Laibach	2·6	50	e 0 43	P*	i 1 3	− 4	—	1·5

Continued on next page.

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	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Zagreb	3·3	63	0 51k	P*	i 1 25	0	—	2·2
Graz	3·8	44	i 0 52	− 2	i 1 29	− 8	—	2·1
Zurich	4·0	318	e 1 1	P*	e 2 6	S_g	—	—
Ravensburg	4·3	330	e 1 3	+ 2	e 1 44	− 6	—	—
Neuchatel	4·5	304	e 1 7	+ 3	e 1 54	− 1	—	—
Basle	4·6	313	e 1 8	+ 2	e 2 23	S_g	—	—
Stuttgart	5·0	333	e 1 8	− 3	e 2 7	− 1	—	3·6
Besancon	5·2	301	e 1 38	P_g	—	—	—	—
Strasbourg	5·2	320	1 16k	+ 2	i 2 14	+ 1	—	—
Karlsruhe	5·4	329	1 27	P*	2 49	S_g	—	—
Vienna	5·5	42	e 1 11	− 7	2 5	−15	i 2·5	3·1
Budapest	5·9	60	2 11	?	3 23	?	3·6	—
Cheb	5·9	2	e 1 45	P_g	e 2 28	− 3	—	3·4
Prague	6·1	20	e 1 49	P*	e 3 13	S_g	e 3·5	3·9
Belgrade	6·3	85	e 1 44	P*	e 4 21	?	—	—
Jena	6·7	359	e 1 34	− 1	i 3 14	S*	e 3·0	4·0
Leipzig	7·1	2	i 1 44	+ 3	e 3 48	S_g	—	4·1
Gottingen	7·4	346	i 1 47	+ 2	i 3 7	− 2	—	—
Paris	7·9	300	e 3 23	S	(e 3 23)	+ 2	5·0	5·0
Uccle	8·4	316	e 1 58	− 1	—	—	—	—
Sofia	8·9	100	e 3 40	S	e 4 44	S_g	—	5·7
De Bilt	9·1	332	—	—	e 4 28	S*	—	6·5
Hamburg	9·5	350	—	—	e 4 34	S*	—	7·5
Kew	11·0	317	—	—	e 5 13	S*	—	—
Oxford	11·7	315	—	—	e 5 52	S*	e 6·3	—
Konigsberg	11·9	25	—	—	e 6 28	S_g	—	—
Granada	13·7	245	e 3 13	+ 2	e 6 49	S*	—	—
Pulkovo	19·1	29	e 4 48	+28	e 10 5	?	11·0	12·6
Moscow	19·9	46	e 4 39	PP	e 10 59	?	—	14·1
Tiflis	24·0	84	e 4 47	−23	e 9 43	+20	—	—

Additional readings :—
Triest $P_g = +32$s., iPP = +34s., iSW = +36s. and +41s., $iS_g = +59$s., iNW = +1m.1s., i = +1m.11s.
Laibach i = +53s., $iS_g = +1$m.12s. =S* −4s.
Zagreb $ePg = +1$m.1s., iPPsP = +1m.14s., iE = +1m.20s., i = +1m.28s., ePS = +1m.39s. =S* +2s., iS = +1m.51s., iSSsS = +1m.58s.
Zurich $ePg = +1$m.15s.
Ravensburg $ePg = +1$m.15s., e = +2m.2s.
Stuttgart $eP_g = +1$m.35s., eZ = +2m.19s., iEZ = +2m.37s. $=S_g - 2$s., iZ = +2m.41s.
Strasbourg ePPsP = +1m.45s., PPS = +1m.57s., i = +2m.21s., +2m.28s. and +2m.31s. =S* − 2s., $iS_g = +2$m.41s., iSsS = +2m.51s.
Vienna $P_g = +1$m.31s. =P* +0s., PS = +2m.2s., S* = +2m.23s. =S +3s.
Budapest $P_g = +2$m.34s. =P + −4s., PS = +3m.11s. $=S_g + 2$s.
Belgrade e = +1m.22s. and +3m.59s.
Jena eE = +2m.11s. $=P_g + 3$s., +2m.17s., +2m.20s., and +2m.28s.
Leipzig iE = +1m.52s., +2m.4s., and +2m.15s. $=P_g - 1$s., eZ = +2m.28s., iE = +2m.31s.
Gottingen $iP_gN = +2$m.23s., eEN = +4m.2s., iZ = +4m.8s.
Paris eS = +4m.26s.
Uccle e = +3m.29s.
Hamburg eN = +3m.30s.
Konigsberg eE = +7m.4s., eN = +7m.20s.
Granada $P_cP = +8$m.46s., $P_cS = +11$m.58s.?
Moscow e = +10m.34s. and +11m.30s.
Long waves at Bucharest, Copenhgen, Edinburgh, Scoresby Sund, Sverdlovsk, and Tashkent.

June 5d. Readings also at 0h. (Nagoya), 3h. (Baku, Sverdlovsk, and Tashkent), 6h. (Manila), 7h. (Sverdlovsk, Tashkent, and Nagoya), 10h. (Baku, Sverdlovsk, and Tashkent), 12h. (Batavia), 14h. (Columbia), 15h. (Erevan and Tiflis), 16h. (Alicante), 19h. (Manila), 21h. (Samarkand and Oak Ridge (2)).

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June 6d. 11h. 5m. 21s. Epicentre 43°·0N. 12°·5E. (as on 1931 April 21d.). X.

A = +·714, B = +·158, C = +·682.

	△	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Florence	1·2	311	0 21	P_g	0 32	+ 1	0·8
Prato	1·3	311	e 0 22	P_g	i 0 39	S*	—
Padova	2·4	349	e 0 59	S	(e 0 59)	− 3	—
Triest	2·8	18	e 0 39	− 1	i 1 14	+ 2	—
Zagreb	3·8	40	e 1 2	P*	e 1 35	− 2	2·0
Chur	4·4	332	e 1 2	− 1	e 1 53	0	

Triest i = +47s. = P* + 2s., iS_g = +1m.6s., iSS = +1m.41s.
Long waves at Granada.

June 6d. 12h. 58m. 51s. Epicentre 32°·0N. 139°·0E. (as on 1927 Aug. 24d.). X.

A = −·640, B = +·556, C = +·530.

	△	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Nagoya	3·6	332	i 0 53	+ 2	i 1 34	+ 2	1·6
Osaka	4·0	313	0 58	+ 1	1 42	0	2·0
Sumoto	4·2	306	0 58	− 2	1 44	− 4	1·7
Kobe	4·2	311	1 0	0	i 1 44	− 4	2·9

June 6d. Readings also at 0h. (Riverview and Mizusawa), 1h. (Sverdlovsk and Tashkent), 5h. (Philadelphia), 6h. (Scoresby Sund, Tiflis, Mount Wilson, Sitka, Pasadena, Riverside, and Tinemaha), 7h. (Mount Wilson, Pasadena, Riverside, and Nagasaki), 12h. (Almata, Belgrade, Edinburgh, Frunse, and Kew), 13h. (Mizusawa and Toyooka), 16h. (Andijan, Frunse, Sofia, Tchimkent), 20h. (Grandada (2), Sverdlovsk, Tashkent, Santiago, Mount Wilson, Pasadena, and Tinemaha), 21h. (Tiflis), 22h. (Nagasaki and Phu-Lien).

June 7d. 2h. 50m. 58s. Epicentre 24°·2N. 120°·5E. N.3.

Given by Taihoku.

A = −·463, B = +·786, C = +·410; D = +·862, E = +·508;
G = −·208, H = +·353, K = −·912.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Taityu	0·2	125	i 0 0	− 3	0 3	− 2	—	—
Arisan	0·8	161	i 0 12	+ 1	0 22	+ 1	—	—
Karenko	1·0	108	i 0 16	+ 2	0 31	S*	—	—
Hokoto	1·1	229	e 0 26	S	(e 0 26)	− 2	—	—
Tainan	1·2	189	e 0 27	S	e 0 27	− 4	—	—
Taihoku	1·3	41	0 20	P_g	0 38	S*	—	—
Takao	1·6	186	0 32	P_g	0 58	?	—	—
Taito	1·6	199	i 0 27	P_g	i 0 50	S_g	—	—
Kosyun	2·2	175	0 35	P*	1 19	?	—	—
Hong Kong	6·1	249	—	—	2 55	S*	3·7	4·2
Zi-ka-wei	7·1	5	—	—	e 3 10	+ 9	—	5·0
Nanking	8·0	351	—	—	3 26	+ 2	3·9	5·1
Manila	9·6	181	4 21	?	6 45	?	—	9·4
Nagasaki	11·9	40	e 7 21	?	—	—	—	—
Phu-Lien	13·2	258	—	—	e 6 46	S*	7·0	—
Husan	13·1	30	e 3 59	+56	7 40	?	—	—
Keizyo	14·5	21	e 7 41	L	—	—	(e 7·7)	—
Chiufeng	16·3	348	e 3 50	PP	e 6 56	SS	e 8·5	10·9

Additional readings:—
Hokoto S = +42s.
Tainan S = +48s.
Zi-ka-wei Sz = +4m.26s.
Long waves at Vladivostok, Tashkent, and Sverdlovsk.

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June 7d. 12h. Readings for which no determination has been made :—

Medan i = 18m.39s.
Sucre eP = 22m.24s., iS = 23m.40s.
La Paz iPN = 22m.28s., iSN = 23m.31s., LN = 23m.51s., M = 24m.42s.
Huancayo e = 24m.30s., e = 25m.25s., eL = 26m.0s.
Oak Ridge iZ = 31m.37s., iZ = 31m.45s.
Riverside eZ = 32m.27s.
Mount Wilson eZ = 32m.31s.
Tinemaha eZ = 32m.35s.
San Juan e = 34m.27s., e = 37m.47s.
Ksara ePP = 40m.46s., ePS = 50m.33s., M = 88m.
Long waves at La Plata.

June 7d. 13h. Readings for two shocks for which no determination has been made :

Ksara e = 8m.42s., e = 10m.18s.
Prato eP = 10m.15s., iS = 10m.24s., M = 10m.35s.
Florence P = 11m.20s., M = 11m.39s.
Triest eP = 11m.40s., S_g = 12m.19s.
Zagreb e = 12m.42s.
Granada e = 13m.35s.

Prato eP = 15m.52s., iS = 16m.2s., M = 16m.13s.
Florence P = 16m.59s., M = 17m.12s.
Triest eP = 17m.9s., S_g = 17m.45s.
Zagreb e = 18m.6s.
Granada e = 19m.2s.

June 7d. Readings also at 3h. (Granada, Tashkent, Tiflis (2), Andijan, Erevan, Frunse, Ksara, Samarkand, Stuttgart, and Tacubaya), 4h. (Amboina, Batavia, Manila, Hong Kong, Granada, Tashkent, and Sverdlovsk), 5h. (Scoresby Sund), 7h. (Montezuma), 10h. (Montezuma), 12h. (Apia), 13h. (Apia, Riverside, Tinemaha, and Wellington), 14h. (Andijan), 15h. (La Paz, La Plata, Sucre, Haiwee, Mount Wilson, Oak Ridge, Pasadena, Riverside, Tinemaha, and Apia), 16h. (Oak Ridge, La Paz, and Sucre), 17h. (Oak Ridge, Andijan, Samarkand, and Frunse), 22h. (Tucson, Wellington, and Ixtapalapa, Oaxaca, and Tacubaya), 23h. (Santiago and Wellington).

June 8d. 4h. 57m. 17s. Epicentre 36°·0N. 139°·9E. N.3.

A = −·619, B = +·521, C = +·588 ; D = +·644, E = +·765 ;
G = −·450, H = +·379, K = −·809.

	Δ	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Tokyo	0·4	207	0 7	+ 1	0 17	+ 7	0·3
Nagoya	2·5	250	0 35	− 1	1 11	S*	1·9
Mizusawa	3·3	15	e 0 44	− 3	i 1 21	− 4	—
Osaka	3·8	249	1 0	P*	2 1	S_g	2·9
Toyooka	4·1	263	e 1 3	+ 5	e 2 7	S_g	2·4
Kobe	4·1	250	e 1 7	P*	e 1 58	S*	2·4
Sumoto	4·4	249	e 1 11	P*	2 20	S_g	2·4

Additional readings :—
Osaka i = +1m.7s. = P_g − 3s.
Toyooka PN = +1m.10s., P* + 3s., PZ = +1m.12s. = P_g − 4s.
Kobe iZ = +1m.14s., eE = +1m.16s. = P_g + 0s., eSE = +2m.0s., eE = +2m.8s. = S_g − 1s.

June 8d. Readings also at 0h. (Apia, Ksara, Pulkovo, Scoresby Sund, Sverdlovsk, and Tashkent), 1h. (Manila, Cheb, De Bilt, Florence, Granada, Kew, Paris, Pulkovo, Scoresby Sund, Sverdlovsk, Strasbourg, Stuttgart, and Triest), 2h. (Wellington), 3h. (Oak Ridge, Port au Prince, San Juan, and Reykjavik), 4h. (Reykjavik and Scoresby Sund), 5h. (Ksara, Tiflis, and Reykjavik), 7h. (Chur and Balboa Heights), 9h. (Oak Ridge), 10h. (Manila), 13h. (Nagasaki), 14h. (Apia and San Juan), 15h. (Branner and Lick), 22h. (Chiufeng and Malabar), 23h. (Baku, Copenhagen, Granada, Ksara (2), Moscow, Pulkovo, Scoresby Sund, Strasbourg, Stuttgart, Sverdlovsk, Tashkent, Nanking, Manila, and Oak Ridge).

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June 9d. 1h. 31m. 10s. Epicentre 21°·3N. 122°·1E. N.3.

Given by Kosyun.

A = −·495, B = +·789, C = +·363; D = +·847, E = +·531; G = −·193, H = +·308, K = −·932.

	△	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Kosyun	1·5	300	e 0 17	− 4	0 36	− 3
Taito	1·7	331	0 26	+ 2	0 50	S_g
Takao	2·2	308	e 0 13	−18	—	—
Arisan	2·5	345	e 0 38	+ 2	—	—
Taityu	3·1	338	0 58	P_g	—	—
Taihoku	3·8	352	e 1 7	P*	1 42	+ 5
Manila	6·8	189	2 37	?	4 5	?

Long waves at Hong Kong and Nanking.

June 9d. 6h. 34m. 4s. Epicentre 12°·0N. 126°·0E. (as on 1926 Nov. 27d.). R.3.

A = −·575, B = +·791, C = +·208; D = +·809, E = +·588; G = −·122, H = +·168, K = −·978.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Manila	5·5	298	1 17	− 1	2 47	S*	—	—
Palau	9·6	120	3 58	S	(3 58)	− 5	—	—
Kosyun	11·2	335	2 30	− 7	—	—	—	—
Taito	11·7	336	2 51	+ 7	—	—	—	—
Taihoku	13·7	343	3 18	+ 7	—	—	—	—
Hong Kong	15·2	314	(3 26)	− 5	3 26	P	6·5	8·6
Zi-ka-wei	19·6	348	e 4 22	− 3	8 5	+ 7	—	27·4
Miyazaki	20·5	14	4 36	+ 1	8 29	SS	—	—
Phu-Lien	20·6	298	3 56	−40	—	—	—	—
Nagasaki	21·0	9	e 4 46	+ 6	8 36	+10	—	—
Nanking	21·1	342	i 4 40	− 1	e 8 32	+ 4	e 11·2	16·0
Kumamoto	21·3	11	4 49	+ 6	—	—	—	—
Titizima	21·4	44	5 0	PP	—	—	—	—
Husan	23·2	6	e 5 6	+ 3	9 28	+20	—	—
Siomisaki	23·2	22	5 4	+ 1	—	—	—	—
Sumoto	23·7	18	e 5 9	+ 2	9 28	+10	—	—
Taikyu	24·0	6	—	—	e 8 6	?	—	—
Kobe	24·1	18	e 5 11	0	e 9 38	+13	—	13·4
Osaka	24·2	19	5 1	−11	8 51	P_cP	12·0	—
Kameyama	24·7	22	5 18	+ 1	—	—	—	—
Nagoya	25·2	22	e 5 16	− 6	—	—	—	—
Batavia	26·4	227	5 41	+ 8	10 24	+19	—	—
Yokohama	26·5	25	5 56?	+22	—	—	—	—
Medan	28·3	256	e 5 12	−38	10 20	−17	—	—
Chiufeng	29·4	345	5 58a	− 2	i 10 48	− 7	—	—
Vladivostok	31·6	8	—	—	e 11 22	− 7	—	—
Agra	47·4	296	e 6 22	?	—	—	—	—
Sverdlovsk	66·6	328	i 10 48	− 1	i 19 37	− 3	31·9	37·6
Baku	71·7	310	e 10 18	−53	e 20 48	+ 7	36·9	—
Tiflis	75·5	311	e 11 46	+ 3	e 21 20	− 6	30·9	—
Moscow	79·2	326	e 11 58	− 6	—	—	—	—
Pulkovo	82·5	330	e 12 17	− 4	22 33	[− 7]	45·9	50·6
Ksara	83·4	303	i 12 23k	− 2	22 52	+ 1	—	—
Granada	111·8	319	e 14 42	+ 3	—	—	—	—

Additional readings :—
Zi-ka-wei iZ = +4m.43s., +4m.51s., and +17m.31s.
Kobe Pz = +5m.16s., eEZ = +5m.41s., eN = +6m.23s., eE = +6m.55s., eSZ = +9m.35s., eE = +10m.38s., eN = +10m.48s.
Osaka PP = +5m.37s.
Vladivostok e = +7m.22s. = PP + 4s.
Moscow e = +12m.55s., PP = +15m.7s.
Ksara PP = +15m.32s.
Long wave at Bombay and other European stations.

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June 9d. Readings also at 0h. (Andijan, Frunse, Granada, and Samarkand), 4h. (Branner), 5h. (Ksara), 8h. (Manila), 9h. (Manila, La Paz, and Sucre), 11h. (Nanking), 13h. (Batavia and Branner), 14h. (Amboina), 16h. (Manila), 18h. (Amboina), 20h. (Granada, Malaga, Sverdlovsk, and Tashkent), 23h. (Chiufeng, Hong Kong, Nanking, and Wellington).

June 10d. 6h. 51m. 58s. Epicentre 35°·2N. 140°·7E. (as on May 10d.). R.3.

A = −·632, B = +·518, C = +·576; D = +·633, E = +·774; G = −·446, H = +·365, K = −·817.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Nagoya	3·0	270	i 0 51	P*	i 1 39	S_g	—	2·4
Mizusawa	4·0	5	e 1 31	?	i 2 32	?	—	—
Osaka	4·2	264	1 9	P*	2 6	S*	—	3·5
Kobe	4·5	265	i 1 13	P*	2 15	S*	—	3·4
Toyooka	4·8	276	1 15	P*	2 27	S*	—	2·6
Sumoto	4·8	261	1 8	0	2 2	− 1	—	2·3
Hukuoka B	8·6	262	2 2	0	3 42	+ 3	—	—
Nagasaki	9·3	258	e 3 41	S	(e 3 41)	−15	—	—
Husan	9·5	270	e 2 14	0	e 4 56	S_g	—	—
Taikyu	9·8	272	e 2 25	+ 7	—	—	—	—
Nanking	18·4	267	i 4 8	− 3	7 52	SS	11·3	—
Chiufeng	20·0	292	e 4 44	PP	e 8 22	SS	e 10·0	11·6
Tashkent	54·8	300	—	—	e 17 2	− 4	26·0	36·2
Sverdlovsk	55·9	321	e 9 43	+ 8	e 17 35	+14	31·0	—
Tiflis	71·3	308	e 12 14	+55	e 20 38	+ 1	e 38·0	45·7
Pasadena	78·9	56	i 11 58	− 4	—	—	—	—
Mount Wilson	79·0	56	i 11 59	− 4	—	—	—	—
Riverside	79·5	56	e 12 1	− 4	—	—	—	—

Additional readings :—
Osaka i = +6m.11s. and +8m.22s.
Kobe P_gEN = +1m.17s., eSN = +2m.2s., SZ = +2m.4s.
Nanking ePP = +4m.23s.
Tashkent e = +17m.7s.
Tiflis e = +22m.32s.
Long waves at other European stations.

June 10d. 16h. Readings for which no determination has been made :—
Almata e = 13m.3s., e = 14m.1s., S = 14m.25s., M = 14m.33s.
Frunse e = 14m.39s., eS = 15m.24s., M = 15m.30s.
Andijan eP = 15m.37s., eS = 16m.48s.
Tashkent e = 16m.28s., e = 16m.40s., i = 17m.28s., i = 17m.35s., e = 17m.49s., eL = 17m.36s., M = 18m.48s.
Sverdlovsk e = 20m.11s.

June 10d. Readings also at 0h. (Sverdlovsk and Tashkent), 6h. (Apia), 7h. (Manila), 9h. (Malaga), 15h. (Karenko (3) and Taihoku), 16h. (Andijan, Frunse, Samarkand, Chiufeng, and Karenko), 18h. (Prato), 19h. (Amboina), 20h. (Malabar).

June 11d. 21h. 55m. 58s. Epicentre 3°·5N. 82°·5W. N.3.

A = +·130, B = −·990, C = +·061; D = −·991, E = −·131; G = +·008, H = −·061, K = −·998.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Huancayo	17·1	154	i 4 2	PP	i 7 24	SS	—	—
San Juan	21·9	44	i 4 52	+ 2	i 8 57	+13	—	—
Columbia	30·5	3	—	—	e 11 12	0	e 13·2	—
Charlottesville	34·8	6	—	—	e 12 10	− 8	—	—
Georgetown	35·8	8	e 6 59	+ 3	e 12 28	− 5	e 16·0	—

Continued on next page.

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	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
St. Louis	35·8	349	e 6 55	− 1	i 12 29	− 4	—	—
Florissant	36·1	349	i 6 59	0	e 12 25	−13	—	—
Philadelphia	37·1	10	e 7 5	− 2	e 12 47	− 6	e 15·0	—
Ann Arbor	38·8	359	—	—	e 13 8	−10	17·2	—
Tucson	39·2	320	e 7 26	+ 1	e 13 16	− 8	18·5	—
Toronto	40·3	4	e 7 58	+23	e 13 27	−14	16·4	—
Ottawa	42·3	6	e 7 54	+ 3	i 14 9	− 1	e 20·0	—
Riverside	44·5	317	e 8 9	0	—	—	—	—
Pasadena	45·1	317	i 8 15	+ 1	—	—	—	—
Mount Wilson	45·1	317	i 8 13	− 1	—	—	—	—
Santa Barbara	46·4	316	e 8 7	−17	—	—	—	—
Tinemaha	46·9	320	e 8 29	+ 1	—	—	—	—
Bozeman	49·0	334	—	—	e 24 17	?	e 29·0	—
Ukiah	51·3	319	—	—	e 16 22	+ 3	e 25·7	—
Scoresby Sund	77·2	18	—	—	e 21 38	− 7	34·2	—
Paris	84·1	41	—	—	e 22 2?	−57	40·0	—
De Bilt	85·8	38	—	—	e 23 11	− 5	e 40·0	—
Strasbourg	87·6	42	—	—	(21 2?)	?	21·0	—
Stuttgart	88·5	41	—	—	e 23 38	− 4	e 43·0	—
Copenhagen	89·9	33	—	—	23 32	[0]	46·0	—
Pulkovo	98·2	28	e 17 32	PP	e 24 17	[0]	44·0	52·2
Moscow	103·3	30	—	—	e 24 39	− 3	—	—
Ksara	111·3	53	e 19 17	PP	i 29 11	PS	—	64·0
Sverdlovsk	112·7	21	—	—	e 29 44	PS	58·0	—
Tashkent	128·3	27	e 21 2	PP	e 26 20	[+ 6]	e 52·0	69·2
Chiufeng	133·2	340	e 22 51	PKS	—	—	—	68·8

Additional readings :—
Huancayo i = +5m.17s.
San Juan i = +4m.58s.
Charlottesville eSS = +15m.38s.
St. Louis epPN = +8m.17s. =PP +6s., iE = +15m.5s. =SSS +2s.
Florissant ipPNZ = +8m.15s. =PP +1s., eNZ = +9m.36s. =P_cP +7s., eZ = +12m.8s., isSNZ = +24m.22s. ; T_0 =21h.56m.37s.
Philadelphia e = +10m.11s., eSS = +14m.32s.
Ann Arbor eN = +13m.44s.
Ottawa PPPN = +9m.46s. =P_cP −3s., SSSE = +17m.18s. =SS +19s.
Ukiah e = +22m.19s.
Stuttgart ePP = +16m.2s.?, ePS = +24m.39s.
Copenhagen +23m.55s. =S +0s.
Tashkent e = +21m.48s., +24m.12s., and +29m.8s.
Long waves at Cape Town, La Plata, Chicago, Sitka, Kew, and other European stations.

June 11d. Readings also at 2h. (La Paz, Manila, and Nagasaki), 7h. (Karenko), 9h. (Almata, Andijan, and Frunse), 10h. (Sumoto), 11h. (Capodimonte), 13h. (Cape Town), 16h. (Lick and Tucson), 17h. (Hamburg and Ksara), 18h. (Lick), 21h. (Almata, Andijan, Frunse, and Triest).

June 12d. 0h. 36m. 22s. Epicentre 23°·5N. 122°·2E. N.3.

A = −·489, B = +·776, C = +·399 ; D = +·846, E = +·533 ;
G = −·212, H = +·337, K = −·917.

	△	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Karenko	0·7	314	i 0 12	+ 2	0 20	+ 2
Taito	1·2	228	e 0 18	+ 1	0 30	− 1
Arisan	1·3	272	i 0 16	− 2	0 25	P_g
Taityu	1·5	298	i 0 22	+ 1	0 36	− 3
Taihoku	1·6	342	e 0 37	S	e 0 47	S_g
Tainan	1·9	252	e 0 30	P*	—	—
Takao	2·0	242	−0 3	?	0 11	?
Kosyun	2·0	220	e 0 34	P_g	0 47	− 4
Hokoto	2·5	271	e 0 31	− 5	0 33	?

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June 12d. 17h. Readings for which no determination has been made :—

Tashkent iP = 9m.12s., iL = 9m.50s., M = 10m.24s.
Frunse ePg = 9m.29s., e = 10m.14s., M = 10m.29s.
Andijan ePg = 9m.48s., iSg = 10m.8s., M = 10m.18s.
Samarkand eP = 10m.32s., eS = 11m.32s., M = 12m.4s.

June 12d. 20h. 1m. 25s. Epicentre 24°·4N. 120°·6E. N.3.

A = −·464, B = +·784, C = +·413 ; D = +·861, E = +·509 ;
G = −·210, H = +·356, K = −·911.

	△	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Taityu	0·3	167	i 0 1	− 3	0 5	− 3
Arisan	0·9	170	i 0 14	+ 1	0 25	+ 2
Karenko	1·0	120	e 0 16	+ 2	—	—
Taihoku	1·1	45	e 0 15	− 1	0 29	+ 1
Tainan	1·4	190	e 0 20	0	—	—
Taito	1·7	165	e 0 27	P_g	0 50	S*
Kosyun	2·4	179	e 0 40	P*	—	—

Long waves at Hong Kong.

June 12d. Readings also at 0h. (Batavia, Malabar, Andijan, Frunse, and Samarkand), 1h. (Mount Wilson, Pasadena, Riverside, and Toyooka), 2h. (Scoresby Sund, Nagoya, and Osaka), 3h. (Hastings and Wellington), 7h. (Granada and Malaga), 11h. (Nagasaki), 13h. (Mount Wilson, Pasadena, Riverside, Tinemaha, Paris, and La Paz), 14h. (Apia and Sitka), 15h. (Baku, Ksara, and Tashkent), 17h. (Malaga, Triest, Malabar, and Batavia), 19h. (Mizusawa), 20h. (Apia), 23h. (Huancayo, La Jolla, La Paz (2), Pasadena, Riverside, and San Juan).

June 13d. Readings at 0h. (Tucson), 2h. (Ksara and Tananarive), 7h. (Apia and La Laz), 11h. (Sebastopol), 16h. (Tacubaya), 17h. (Samarkand and Zagreb), 19h. (Zagreb), 20h. (Tucson), 22h. (Tucson).

June 14d. 21h. 9m. 28s. Epicentre 34°·6N. 140°·7E. (as on 1929 March 27d.). R.1

A = −·637, B = +·521, C = +·568 ; D = +·633, E = +·774 ;
G = −·439, H = +·360, K = −·823.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Kiyosumi	0·6	321	0 11	+ 2	0 18	+ 3	—	—
Mera	0·8	294	0 12	+ 1	0 21	0	—	—
Yokosuka	1·1	310	0 19	+ 3	0 30	S*	—	—
Tyosi	1·1	5	0 19	+ 3	0 33	S_g	—	—
Yokohama	1·2	315	0 19	P_g	0 32	+ 1	—	—
Tokyo	1·3	324	0 19	P*	0 33	0	—	0·6
Misima	1·5	292	0 22	+ 1	0 38	− 1	—	—
Numadu	1·6	287	0 23	0	0 42	+ 1	—	—
Hatidyozima	1·7	205	0 31	P_g	0 51	S_g	—	—
Tukubasan	1·7	343	0 24	0	0 44	0	—	—
Kakioka	1·7	345	0 24	0	0 45	+ 1	—	—
Kumagaya	1·9	325	0 28	0	0 48	− 1	—	—
Hunatu	1·9	300	0 26	− 2	0 44	− 5	—	—
Utunomiya	2·1	340	0 26	− 4	0 52	− 2	—	—
Kohu	2·1	300	0 28	− 2	0 49	− 5	—	—
Omaesaki	2·1	270	0 32	+ 2	0 57	+ 3	—	—
Maebasi	2·2	324	0 32	+ 1	0 58	+ 1	—	—
Hamamatu	2·5	270	0 37	+ 1	1 5	+ 1	—	—
Nagano	2·9	315	0 44	P*	1 12	− 2	—	—
Nagoya	3·2	284	i 0 47	+ 1	1 33	S*	—	1·8

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	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Hukusima	3·2	357	0 45	− 1	1 22	0	—	—
Gihu	3·3	284	0 49	+ 2	1 30	+ 5	—	—
Kameyama	3·5	274	0 51	+ 1	1 32	+ 2	—	—
Sendai	3·7	2	0 52	− 1	1 37	+ 2	—	—
Hikone	3·7	279	0 53	0	1 34	− 1	—	—
Kyoto	4·1	275	1 1	+ 3	1 58	S*	—	—
Osaka	4·3	272	1 3	+ 2	2 2	S*	—	3·0
Siomisaki	4·3	252	1 2	+ 1	1 48	− 2	—	—
Mizusawa	4·5	358	i 1 7	+ 3	i 1 51	− 4	—	—
Kobe	4·6	272	e 1 3	− 3	1 55	− 3	—	2·2
Wakayama	4·6	265	1 6	0	1 54	− 4	—	—
Sumoto	4·8	268	1 12	+ 4	2 4	+ 1	—	2·3
Toyooka	4·9	283	1 11	+ 1	2 22	S*	—	2·9
Akita	5·1	354	1 14	+ 1	2 7	− 3	—	—
Morioka	5·1	2	1 12	− 1	2 9	− 1	—	—
Titizima	7·6	168	1 54	+ 6	2 14	0	—	—
Miyazaki	8·2	250	1 59	+ 3	3 33	+ 4	—	—
Sapporo	8·5	2	2 23	P*	3 42	+ 6	—	—
Kumamoto	8·5	267	2 3	+ 3	3 43	+ 7	—	—
Nagasaki	9·2	263	e 4 39	S*	—	—	—	—
Husan	9·6	272	e 1 30	−46	—	—	—	—
Taikyu	9·9	276	2 25	+ 6	—	—	—	—
Vladivostok	10·9	326	i 2 31	− 2	e 4 36	0	4·8	13·1
Nanking	18·5	270	4 13	0	7 55	SS	10·4	—
Chiufeng	20·2	295	(e 4 35)	PP	(e 8 8)	− 2	(10·0)	—
Tashkent	55·1	300	—	—	e 17 18	+ 7	e 25·8	32·3
Moscow	68·7	324	e 11 0	− 3	—	—	e 35·7	39·5
Pulkovo	69·8	331	—	—	e 20 19	0	36·5	—
Tinemaha	77·5	53	i 11 55	0	—	—	—	—
Santa Barbara	77·9	56	e 11 57	0	—	—	—	—
Haiwee	78·1	53	i 11 59	+ 1	—	—	—	—
Pasadena	79·2	55	i 12 2	− 2	—	—	—	—
Riverside	79·8	55	i 12 6	− 1	—	—	—	—

Additional readings and note :—
Osaka i = +1m.13s. = P* +3s., i = +1m.28s. = P_g +8s.
Mizusawa iSN = +1m.54s. ; epicentre 34°·7N. 140°·3E.
Kobe PENZ = +1m.6s., iZ = +1m.8s., eN = +1m.11s., SZ = +1m.58s., S_gN = +2m.3s.
Chiufeng readings have been *diminished* by 5m.
Long waves at other European stations.

June 14d. Readings also at 0h. (San Juan), 2h. (Almata, Andijan, and Frunse), 9h. (Kobe, Nagoya, Osaka, and Sumoto), 12h. (New Plymouth and Wellington), 13h. (Wellington, Andijan, Almata, Frunse, and Samarkand), 17h. (Andijan, Almata, Frunse, and Wellington), 18h. (Branner, Lick, and Tananarive), 19h. (Helwan and Medan), 20h. (Granada, Tiflis, and Adelaide), 21h. (Granada), 23h. (Oak Ridge).

June 15d. Readings at 0h. (Philadelphia, Tucson, and Merida), 1h. (Apia), 4h. (Wellington and Apia), 5h. (Lick and Santiago), 6h. (Lick), 7h. (Cape Town), 8h. (Hong Kong and Manila), 14h. (Hong Kong and Manila), 15h. (Mizusawa), 18h. (Karenko), 21h. (Branner).

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June 16d. 6h. 18m. 41s. Epicentre 4°·8S. 147°·2E. (as on 1934 Nov. 16d.). R.2.

A = −·838, B = +·540, C = −·084; D = +·542, E = +·841;
G = +·070, H = −·045, K = −·997.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Palau	17·6	314	4 7	+ 5	—	—	—	—
Amboina	19·0	274	i 2 55	−84	i 6 33	−73	—	—
Riverview	29·3	173	—	—	e 10 47	− 6	e 15·1	16·0
Sydney	29·3	173	e 10 1	?	e 12 14	SS	15·0	16 3
Adelaide	31·2	194	e 4 47	?	i 10 49	−34	i 16·2	19 7
Manila	32·5	308	6 28	+ 1	12 3	+20	—	—
Melbourne	33·1	184	—	—	e 11 32	−20	—	21·8
Malabar	39·5	266	7 23	− 5	—	—	—	—
Siomisaki	39·8	345	7 34	+ 4	13 40	+ 7	—	—
Batavia	40·2	268	i 7 26a	− 8	14 28	+49	—	—
Numadu	40·7	350	7 49	+11	—	—	—	—
Misima	40·7	350	7 41	+ 3	—	—	—	—
Kumamoto	40·8	339	7 37	− 2	—	—	—	—
Kameyama	40·9	348	7 48	+ 8	—	—	—	—
Tyosi	41·0	353	7 48	+ 8	—	—	—	—
Tokyo	41·1	352	7 54	+13	14 3	+10	—	—
Hunatu	41·1	350	7 42	+ 1	—	—	—	—
Kohu	41·3	350	7 46	+ 3	14 4	+ 8	—	—
Kumagaya	41·6	351	7 41	− 4	—	—	—	—
Kakioka	41·6	353	7 47	+ 2	—	—	—	—
Mito	41·7	354	7 49	+ 3	—	—	—	—
Maebasi	41·9	351	7 53	+ 5	—	—	—	—
Oiwake	42·0	350	7 50	+ 1	14 14	+ 8	—	—
Hong Kong	42·2	311	9 40	(− 9)	14 9	0	—	18·8
Nagano	42·3	350	7 55	+ 4	—	—	—	—
Hukusima	43·0	352	8 0	+ 3	—	—	—	—
Wazima	43·3	349	8 3	+ 4	—	—	—	—
Mizusawa	44·3	355	(8 6)	− 1	8 6	P	—	—
Nanking	45·7	326	e 8 20	+ 2	15 8	+ 8	22·0	—
Sapporo	48·2	355	8 41	+ 3	—	—	—	—
Medan	49·2	279	i 8 46	+ 1	i 15 47	− 3	—	—
Vladivostok	49·9	347	e 9 43	+52	e 17 1	+62	18·8	29·5
Chiufeng	53·2	330	9 16a	+ 1	i 16 51	+ 6	e 22·5	29·9
Frunse	80·8	316	e 12 7	− 5	—	—	—	—
Andijan	81·9	312	e 12 12	− 6	—	—	—	—
Tashkent	84·3	313	—	—	e 28 46	SS	e 43·3	53·1
Samarkand	85·6	311	e 12 29	− 7	—	—	—	—
Sitka	87·3	33	—	—	e 22 54	[−21]	e 40·4	—
Pasadena	96·6	57	i 13 25	− 3	—	—	—	—
Haiwee	96·7	55	e 13 26	− 2	—	—	—	—
Riverside	97·2	57	i 13 27	− 4	—	—	—	—
Baku	98·7	311	e 17 40	PP	e 24 33	{−10}	49·3	—
Tiflis	102·4	312	e 18 42	?	—	—	—	—
Pulkovo	107·4	332	e 18 32	PP	e 28 6	PS	54·3	64·2
Ksara	110·4	304	19 2	PP	28 36	PS	—	68·3
Scoresby Sund	113·9	357	20 1	?	29 19	PS	59·3	—

Additional readings:—
Riverview e = +6m.42s. = PP − 6s.
Adelaide i = +11m.8s. and +12m.29s.
Manila iN = +14m.4s.
Melbourne i = +16m.0s. and +16m.47s. = S_cS − 14s.
Batavia i = +9m.32s. = P_cP − 10s.
Mizusawa eS = +8m.11s.
Nanking SS = +18m.40s., SSS = +20m.8s.
Chiufeng iEZ = +14m.26s., S = +15m.49s.
Tashkent e = +14m.27s.
Sitka e = +27m.19s.
Ksara PKS = +20m.41s.
Long waves at Edinburgh, Kew, Honolulu, Wellington, and other European stations.

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June 16d. Readings also at 1h. (Malabar), 2h. (Andijan and Frunse), 5h. (Sebastopol), 8h. (Malabar and Medan), 10h. (Pennsylvania and Nagasaki). 19h. (Balboa Heights), 21h. (Tiflis), 22h. (Medan, Sydney, and Tiflis), 23h. (Tiflis).

June 17d. 16h. 59m. 1s. Epicentre 24°·7N. 122°·4E. N.3.

A = −·487, B = +·767, C = +·418; D = +·844, E = +·536; G = −·224, H = +·353, K = −·908.

	△	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Taihoku	0·8	295	0 11	0	i 0 20	− 1
Karenko	1·0	220	e 0 14	0	e 0 25	− 1
Taityu	1·7	245	0 26	P*	—	—
Taito	2·3	204	0 33	0	0 58	−1
Takao	2·6	220	e 0 20	−17	—	—
Kosyun	3·1	205	e 0 44	0	—	—
Nanking	8·0	338	e 1 52	− 1	e 3 21	− 3

Nanking e = +3m.59s.? = S* +3s.

June 17d. Readings also at 0h. (Andijan and Lick), 1h. (Sebastopol, Simferopol, and Yalta), 9h. (Serra do Pilar), 17h. (Nagoya and Wellington (2)), 18h. (Tiflis), 20h. (Tananarive).

June 18d. 4h. Two shocks for which no determination has been made:—

Lick eP_g = 13m.19s., eSE = 13m.26s.
Branner eP_gEN = 13m.26s., eSE = 13m.33s., iE = 13m.37s.
Berkeley eP_gZ = 13m.32s., iSZ = 13m.50s.

Lick PEN = 15m.26s., SEN = 15m.32s.
Branner eP_gEN = 15m.32s., iSE = 15m.43s., iSN = 15m.45s.
Berkeley iP_gZ = 15m.39s., iZ = 15m.53s., iNZ = 15m.55s.

June 18d. 7h. 9m. 42s. Epicentre 24°·7N. 122°·4E. (as on 17d. 16h.). R.3.

A = −·487, B = +·767, C = +·418.

	△	Az.	P.	O−C.	S.	O−C.	L.
	°	°	m. s.	s.	m. s.	s.	m.
Taihoku	0·8	295	i 0 12	+ 1	0 19	− 2	—
Karenko	1·0	220	i 0 14	0	0 23	− 3	—
Taityu	1·7	245	e 0 22	− 2	0 37	− 7	—
Arisan	1·9	225	i 0 16	−12	0 40	− 9	—
Taito	2·3	204	0 38	P*	1 8	S*	—
Takao	2·6	220	0 54	P_g	1 25	S_g	—
Tainan	2·6	221	0 43	P*	—	—	—
Hokoto	2·9	242	0 14	?	—	—	—
Kosyun	3·1	205	e 0 47	P*	1 29	S*	—
Nanking	8·0	338	e 1 55	+ 2	e 3 21	− 3	4·2

Long waves at Chiufeng, Hong Kong, and Phu-Lien.

June 18d. 10h. Readings for which no determination has been made:—
Riverview eEN = 19m.41s., i = 20m.3s., M = 20m.32s.
Almata iP = 24m.21s., P_g = 24m.28s., iPP = 24m.35s., i = 24m.43s., S_g = 25m.54s., M = 25m.57s.
Andijan eP = 24m.59s., S = 26m.0s., M = 26m.29s.
Tchimkent eP = 26m.27s., e = 27m.23s.
Samarkand e = 27m.34s.
Tashkent P = 51m.0s., eS = 54m.30s., eL = 56m.48s., M = 60m.6s.

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June 18d. 22h. 27m. 47s. Epicentre 12°·2N. 125°·6E. N.1.

A = −·569, B = +·795, C = +·211 ; D = +·813, E = +·582 ;
G = −·123, H = +·172, K = −·978.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Manila	5·1	299	1 11a	− 2	2 13	+ 3	—	—
Palau	10·0	118	2 24	+ 3	4 5	− 8	—	—
Kosyun	10·9	339	2 31	− 2	—	—	—	—
Taito	11·4	337	2 40	0	—	—	—	—
Karenko	12·5	340	2 40	−15	—	—	—	—
Taihoku	13·4	345	e 3 30	+23	e 5 44	+ 7	—	—
Naha	14·2	8	3 47	+29	—	—	—	—
Hong Kong	14·8	316	3 29	+ 3	5 59	−11	7·1	8·7
Amboina	16·1	170	4 45	+62	7 39	+58	e 21·2	—
Zi-ka-wei	19·4	350	4 19	− 4	7 55	+ 1	13·8	24·2
Kagosima	19·9	13	4 28	− 1	—	—	—	—
Phu-Lien	20·1	298	e 4 45	PP	e 8 18	+10	10·2	—
Miyazaki	20·5	16	4 32	− 3	8 22	+ 6	—	—
Tomie	20·6	8	4 35	− 1	8 24	+ 6	—	—
Nanking	20·8	343	4 37	− 1	i 8 24	+ 2	10·5	11·8
Nagasaki	20·9	11	5 57	+78	9 32	+68	—	—
Kumamoto	21·2	13	4 40	− 2	—	—	—	—
Titizima	21·5	44	4 44	− 1	—	—	—	—
Hukuoka	21·8	12	e 0 42	?	e 7 49	−53	—	—
Hukuoka B	21·8	12	e 4 57	+ 8	8 45	+ 3	—	—
Husan	23·1	8	e 2 48	?	9 11	+ 4	—	—
Siomisaki	23·2	23	5 2	− 1	9 13	+ 4	—	—
Wakayama	23·7	22	5 7	0	9 21	+ 3	—	—
Sumoto	23·7	22	5 4	− 3	9 19	+ 1	—	9·6
Taikyu	23·8	7	5 6	− 2	9 21	+ 2	—	—
Kobe	24·1	21	5 11	0	9 25	0	—	—
Osaka	24·2	21	5 1	−11	8 47	−40	9·7	10·8
Tu	24·6	24	5 19	+ 3	—	—	—	—
Kameyama	24·7	24	5 15	− 2	9 37	+ 1	—	—
Toyooka	24·8	18	5 18	0	9 44	+ 7	—	—
Nagoya	25·2	24	e 5 21	− 1	—	—	—	—
Ibukisan	25·2	22	5 18	− 4	—	—	—	—
Omaesaki	25·2	28	5 20	− 2	—	—	—	—
Keizyo	25·4	3	5 25	+ 1	9 50	+ 2	—	16·0
Batavia	26·2	226	5 34	+ 3	8 52	PcP	—	—
Malabar	26·4	225	e 5 43	+10	—	—	—	—
Tokyo	26·7	27	5 42	+ 7	10 9	+ 1	—	—
Oiwake	26·9	24	5 37	0	—	—	—	—
Nagano	27·0	23	5 43	+ 5	10 19	+ 4	—	—
Maebasi	27·1	25	5 37	− 2	10 13	− 4	—	—
Medan	28·0	257	e 6 20	PP	10 9	−23	19·2	—
Chiufeng	29·1	345	e 5 54	− 3	10 37	−13	13·6	14·6
Vladivostok	31·4	8	e 6 2	−15	i 11 9	−17	—	20·0
Calcutta	36·9	291	e 7 6	0	i 12 57	+ 7	—	—
Perth	45·1	192	19 13	?	—	—	—	—
Hyderabad	45·8	283	8 18	− 1	15 5	+ 3	20·2	30·7
Agra	47·0	296	8 18	−11	i 15 12	− 7	22·4	31·5
Dehra Dun	47·5	301	15 3	S	(15 3)	−23	22·0	—
Adelaide	48·7	165	—	—	i 15 45	+ 2	—	43·5
Bombay	50·5	285	i 8 59	+ 4	i 16 13	+ 5	—	35·1
Almata	52·0	317	e 9 14	+ 8	—	—	—	—
Melbourne	53·2	160	—	—	16 45	0	—	—
Frunse	53·5	315	9 13	− 5	—	—	—	—
Tashkent	56·9	313	9 38	− 4	i 17 32	− 3	e 28·2	35·9
Samarkand	58·2	309	e 9 55	+ 3	—	—	—	—

Continued on next page

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	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Baku	71·3	310	e 11 18	− 1	i 20 38	+ 1	36·2	40·0
Honolulu	73·3	70	—	—	e 20 38	−22	—	—
Tiflis	75·1	311	11 38	− 3	i 21 16	− 5	40·2	51·3
Moscow	78·9	326	11 54	− 8	21 50	−14	33·1	53·0
Pulkovo	82·2	329	e 12 16	− 3	22 24	−15	43·2	48·1
Simferopol	82·5	315	e 12 20	− 1	22 31	−11	—	—
Yalta	82·5	314	e 12 24	+ 3	—	—	—	—
Sebastopol	82·9	314	e 12 27	+ 4	—	—	—	—
Ksara	83·0	303	e 12 33	+10	22 47	0	—	—
Sitka	84·6	33	e 12 33	+ 2	i 22 51	[− 5]	e 39·5	—
Bucharest	88·2	316	—	—	i 23 33	− 6	—	—
Upsala	88·2	332	—	—	e 22 29	[−52]	e 48·2	—
Konigsberg	88·5	327	—	—	e 23 30	[+ 7]	—	—
Budapest	91·9	320	—	—	e 23 13	[−31]	e 51·2	—
Copenhagen	92·4	329	—	—	23 42	[− 5]	50·2	—
Prague	93·8	323	—	—	e 24 19	{+14}	e 49·2	56·2
Zagreb	94·4	318	e 13 13?	− 5	e 24 32	− 5	—	53·2
Scoresby Sund	94·5	349	13 31	+13	24 26	−12	56·2	—
Hamburg	94·7	327	—	—	e 23 55	[− 4]	e 52·2	59·2
Cheb	94·9	325	e 16 13?	?	e 25 13?	?	—	60·2
Triest	95·9	317	e 13 30	+ 5	e 23 54	[−11]	—	53·5
Stuttgart	96·6	323	e 13 43	+15	e 24 51	− 5	e 52·2	51·6
Florence	98·3	318	17 49	PP	24 43	{+ 3}	33·1	53·2
Strasbourg	98·3	323	—	—	e 25 1	−11	32·2	—
Ukiah	98·6	47	—	—	e 24 13	[− 6]	e 59·8	—
Piacenza	98·7	318	23 13	SKS	(23 13)	[−66]	—	66·2
Uccle	99·0	326	—	—	e 25 9	− 9	—	55·2
Edinburgh	99·6	333	—	—	e 24 13?	[−10]	e 56·2	—
Paris	101·1	325	e 20 13?	?	—	—	55·2	67·2
Kew	101·1	329	—	—	e 25 13?	{+12}	e 54·2	—
Oxford	101·4	329	—	—	e 25 11	{+ 7}	e 52·2	64 5
Granada	111·4	317	e 18 13?	[− 9]	—	—	83·2	—
San Fernando	113·6	318	—	—	e 35 55	SS	63·2	—
Ottawa	119·3	17	—	—	e 25 43	[− 5]	e 51·2	—
San Juan	147·4	20	e 19 37	[− 1]	—	—	—	—

Additional readings :—
Hong Kong SS? = +6m.24s.
Zi-ka-wei iZ = +8m.47s.
Nanking iN = +6m.8s., iSN = +8m.15s., i = +8m.36s.
Kobe eN = +7m.31s., eSSN = +9m.57s., eE = +10m.58s., eN = +14m.31s., eE = +18m.49s., eN = +22m.2s.
Osaka PP = +5m.41s., SS = +9m.22s.
Chiufeng iZ = +8m.50s., SE = +10m.41s., SSE = +11m.39s.
Agra PP = +10m.8s., iSS = +18m.20s., SSS = +19m.28s.
Dehra Dun S = +18m.3s.
Adelaide i = +18m.33s. = S_cS − 3s. and +28m.32s.
Bombay PSE = +16m.51s.
Melbourne i = +17m.24s., +20m.30s. = SS +13s., +26m.28s., and +28m.3s.
Samarkand e = +10m.25s.
Tiflis P_cP = +11m.58s., e = +17m.2s., iPS = +21m.51s., PPS = +22m.21s., SS = +26m.24s., e = +32m.13s.
Sitka e = +28m.33s. = SS +12s.
Konigsberg eN = +23m.36s. = S − 6s.
Copenhagen +17m.1s., e = +24m.12s. = S − 6s.
Prague e = +17m.43s.
Scoresby Sund PP = +17m.8s., +23m.51s. = SKS − 7s.
Hamburg eE = +9m.13s. ?
Triest e = +12m.22s., i = +24m.42s. = S − 8s., e = +26m.14s.
Stuttgart e = +21m.7s.
Strasbourg e = +18m.13s. ?
Granada e = +27m.43s.
Ottawa eN = +30m.1s. = PS +5s., eE = +36m.31s. = SS +8s.
San Juan e = +20m.30s.
Long waves at Bidston, Stonyhurst, De Bilt, Toledo, and Cape Town.

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June 18d. Readings also at 2h. (Malabar), 4h. (Scoresby Sund), 6h. (Santiago), 8h. (Triest and San Juan), 11h. (Berkeley and Nanking), 12h. (Glenmuick), 14h. (Jena, Arisan, Karenko, Taihoku, and Taito), 16h. (Agra, Bombay, Calcutta, Tiflis, Chiufeng, Hong Kong, and Nanking), 17h. (Apia, Adelaide (2), Melbourne (2), Wellington, Honolulu, Copenhagen, De Bilt, Stuttgart, Tashkent, and Tiflis), 18h. (Baku, Copenhagen, Paris, Scoresby Sund, Pasadena, Riverside, Sitka, and Tinemaha), 20h. (Kobe), 21h. (Amboina), 23h. (Samarkand, Haiwee, Riverside, La Jolla, Pasadena, Santa Barbara, Tucson, and Tacubaya).

June 19d. 6h. Readings for which no determination has been made, but 39°0N. 71°·5E. is suggested :—

Tashkent e =29m.20s., i =30m.33s., i =31m.0s., iS =31m.8s., iL =31m.12s., M =31m.48s. readings given for 5h.
Andijan P =29m.49s., P_g =29m.52s., iPP =29m.59s., S_g =30m.15s., iSsS = 39m.19s., M =30m.21s.
Frunse eP =30m.10s., eP_g =30m.16s., e =31m.0s.
Tchimkent eP =30m.35s., e =31m.29s., S_g =31m.37s.
Samarkand e =30m.54s., e =31m.34s.

June 19d. 8h. 10m. 2s. Epicentre 24°·2N. 121°·8E. (as on April 13d. 13h.). R.3.

A = −·481, B = +·775, C = +·410.

	△	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Karenko	0·3	218	e 0 4	0	0 11	+ 3
Taihoku	0·9	343	e 0 12	− 1	0 22	− 1
Taityu	1·0	268	0 16	+ 2	0 36	+10
Arisan	1·2	230	0 28	S	(0 28)	− 3
Taito	1·6	201	e 0 27	P_g	0 50	S_g
Takao	2·1	218	0 49	?	—	—
Kosyun	2·4	203	e 0 41	P_g	—	—
Nanking	8·3	342	—	—	e 3 26	− 5

Long waves at Hong Kong.

June 19d. 10h. Readings for which no determination has been made, but 38°·9N. 71°·4E. has been suggested :—

Tashkent iP =25m.20s., iL =26m.19s., M =26m.48s.
Andijan P =25m.38s., P_g =25m.41s., iPP =25m.47s., S_g =26m.8s., M =26m.12s.
Samarkand P =25m.58s., PsS =26m.39s., S =26m.47s., M =27m.3s.
Frunse eP =26m.0s., e =27m.4s., M =27m.24s.
Tchimkent P =26m.15s., iPP =26m.24s., i =26m.48s., S_g =26m.55s.
Almata eP =26m.53s., iS =28m.7s., M =28m.27s.
Scoresby Sund P =48m.
Long waves at Baku.

June 19d. 22h. 15m. 0s. Epicentre 10°·1S. 161°·2E. N.3.

A = −·932, B = +·317, C = −·175 ; D = +·322, E = +·947 ;
G = +·166, H = −·057, K = −·984.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Riverview	25·5	200	e 5 18	− 7	e 9 40	−10	e 12·6	15·1
Sydney	25·5	200	—	—	e 11 18	?	14·3	15·6
Apia	26·7	99	e 5 0?	−35	e 10 16	+ 6	e 13·1	—
Melbourne	31·3	205	—	—	e 11 33	+ 9	13·5	16·9
Adelaide	32·3	217	—	—	i 11 37	− 3	13·4	17·6
Wellington	33·4	161	e 10 0?	?	—	—	16·0	20·0
Manila	46·9	301	8 28	0	15 13	− 4	—	—
Perth	47·2	236	i 15 30	S	(i 15 30)	+ 9	—	31·0
Honolulu	51·0	51	—	—	e 16 15	0	e 17·2	—
Hong Kong	56·3	305	—	—	17 28	+ 1	—	29·7

Continued on next page.

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	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Nanking	58·5	318	e 9 54	0	i 17 49	− 7	e 29·1	32·8
Vladivostok	59·5	335	e 9 52	− 9	e 17 57	−12	—	34·8
Chiufeng	65·2	324	e 10 39	− 1	19 16	− 6	e 30·7	34·6
Sitka	84·7	30	—	—	e 22 52	[− 5]	e 34·7	—
Santa Barbara	86·9	56	e 12 43	0	—	—	—	—
Pasadena	88·0	55	i 12 48a	0	i 23 30	− 7	e 41·0	—
Victoria	88·1	41	e 23 18	S	(e 23 18)	[− 3]	e 40·9	42·5
Mount Wilson	88·2	55	i 12 49	0	—	—	—	—
La Jolla	88·5	57	i 12 51	+ 1	—	—	—	—
Haiwee	88·6	54	e 12 52	+ 1	—	—	—	—
Riverside	88·6	55	i 12 51	0	—	—	—	—
Tinemaha	88·6	53	i 12 52	+ 1	e 23 42	− 1	—	—
Tucson	93·6	59	—	—	e 23 52	[− 1]	e 43·5	—
Tashkent	98·1	310	—	—	e 24 4	[−12]	—	—
Baku	112·7	310	—	—	29 13	PS	40·0	61·5
Tiflis	116·4	312	e 20 1	PP	—	—	60·0	77·9
Moscow	116·8	329	—	—	29 26	PS	—	74·6
Pulkovo	118·4	335	—	—	25 35	[−10]	56·0	68·3
Scoresby Sund	119·5	2	21 0?	?	—	—	51·0	—
Ksara	124·8	304	e 20 41	PP	33 5	?	66·0	73·5
Copenhagen	128·2	339	21 12	PP	—	—	63·0	—
San Juan	133·5	75	e 22 45	PKS	—	—	—	—
De Bilt	133·7	340	e 21 48	PP	—	—	e 65·0	75·2
Stuttgart	134·8	335	e 19 20	[+ 5]	—	—	67·0	85·0
Triest	134·9	327	e 22 45	PKS	—	—	e 64·0	80·3
Uccle	135·1	340	e 22 12	PP	—	—	e 61·0	—
Strasbourg	135·6	335	e 21 56	PP	—	—	68·0	—
Piacenza	137·3	330	e 23 0	PKS	—	—	—	83·1
Paris	137·4	339	e 19 0?	[−18]	—	—	72·0	77·0
Florence	137·4	328	(e 19 28)	[+10]	(e 29 0)	{− 8}	(74·0)	(79·0)
Granada	149·6	337	e 19 49	[+ 8]	—	—	74·9	84·3

Additional readings and note :—
Manila PEN = +8m.33s.
Sitka e = +28m.40s. and +29m.6s.
Pasadena eSKSE = +23m.13s.
Tucson e = +24m.29s. =S +0s.
Tashkent PP = +15m.0s., SKKS = +24m.54s.
Baku ePP = +19m.22s.
Moscow PP = +19m.48s., e = +61m.13s. and +63m.16s.
Pulkovo PP = +20m.6s., PKSP = +30m.52s., SS = +37m.12s.
Ksara PP = +22m.49s., SS = +40m.19s.
Stuttgart ePP = +21m.50s., ePPS = +33m.46s.
Florence readings have been *increased* by 7m.
Long waves at Edinburgh, Kew, Stonyhurst, Cape Town, Arapuni, and other European and American stations.

June 19d. Readings also at 8h. (Wellington), 9h. (Berkeley, Branner, Lick, and Tucson), 10h. (Berkeley, Lick, and Seattle), 11h. (Lick and Tucson), 12h. (Honolulu), 13h. (Sofia), 14h. (Oaxaca, Tacubaya, and Vera Cruz), 16h. (Messina), 18h. (Nagoya), 22h. (Tiflis).

June 20d. 19h. 29m. 31s. Epicentre 36°·3N. 141°·2E. (as on 1934 Feb. 22d.). R.3.

A = −·628, B = +·505, C = +·592.

	△	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Tokyo	1·3	242	0 18	0	0 28	+ 5	0·5
Mizusawa	2·8	359	i 0 53	P_g	i 1 28	S_g	—
Nagoya	3·6	253	0 49	− 2	1 31	− 1	1·9
Osaka	4·9	251	1 9	− 1	2 9	+ 4	2·5
Kobe	5·2	252	e 1 23	P*	2 13	0	2·3
Sumoto	5·5	250	e 1 32	P*	2 24	+ 4	2·7

Additional readings :—
Osaka i = +1m.26s. =P* +5s. and +1m.32s. =P_g +0s.
Kobe ePN = +1m.25s., iN = +1m.35s. =P_g −3s. and +1m.38s., iE = +1m.40s., SE = +2m.17s.
Sumoto ePZ = +1m.34s.

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June 20d. Readings also at 0h. (Mount Wilson, Pasadena, and Riverside), 1h. (Copenhagen and Scoresby Sund), 2h. (Adelaide and Tiflis), 4h. (Nagoya), 5h. (Tacubaya), 6h. (Tiflis (2)), 7h. (Andijan, Frunse, Samarkand, and Tashkent), 10h. (Medan, Lick, and San Juan), 15h. (Andijan, Frunse, Samarkand, and Tchimkent), 16h. (Andijan, Frunse, Samarkand, and Tchimkent), 17h. (Amboina), 18h. (Apia), 19h. (Frunse, Florence, and Tashkent), 20h. (Baku and Oak Ridge), 22h. (Osaka, Sumoto (2), and Tacubaya), 23h. (Samarkand).

June 21d. Readings at 0h. (Ksara), 2h. (Nagasaki), 3h. (Nagoya), 5h. (Manzanillo), 6h. (Baku and Tiflis), 9h. (Tiflis), 10h. (Tananarive), 12h. (Tananarive), 14h. (Kobe and Sumoto), 17h. (Lick, Karenko, Taihoku, and Taityu), 21h. (Sverdlovsk and Tashkent), 23h. (Almata, Frunse, and Tchimkent).

June 22d. 10h. 54m. 10s. Epicentre 33°·7N. 135°·2E. (as on June 5d.). R.3.

A = −·590, B = +·586, C = +·555.

	△	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Sumoto	0·7	338	0 9	− 1	0 15	− 3	0·3
Kobe	1·0	359	0 14	0	0 25	− 1	0·4
Osaka	1·0	12	0 15	+ 1	0 28	+ 2	0·5
Nagoya	2·0	45	e 0 28	− 1	1 4	S_g	—

June 22d. 15h. 48m. 36s. Epicentre 6°·0S. 120°·6E. N.2.

A = −·506, B = +·856, C = −·105; D = +·861, E = +·509; G = +·053, H = −·090, K = −·994.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina	7·9	73	i 1 57	+ 5	3 54	S^*	—	—
Malabar	13·0	265	i 3 12	+10	i 6 36	S^*	—	—
Batavia	13·7	269	i 3 10	− 1	i 7 15	S_g	—	—
Palau	19·3	48	4 29	+ 7	—	—	—	—
Manila	20·6	2	4 40k	+ 4	8 29	+11	i 10·6	—
Medan	23·9	294	i 5 12	+ 3	i 9 32	+11	i 12·6	—
Perth	26·3	190	10 24	S	(10 24)	+21	—	17·4
Kosyun	28·0	1	5 50	+ 3	—	—	—	—
Taito	28·8	2	5 57	+ 3	—	—	—	—
Hong Kong	29·0	347	5 57	+ 1	10 40	− 8	—	28·6
Phu-Lien	30·1	333	e 6 5	− 1	—	—	13·4	—
Adelaide	33·4	153	e 5 38	−57	i 12 8	+11	e 18·1	23·7
Zi-ka-wei	37·2	3	e 7 10	+ 2	—	—	22·6	43·0
Nanking	38·1	358	7 18	+ 2	i 13 8	0	18·9	28·3
Melbourne	38·3	149	—	—	i 13 32	+21	20·6	22·6
Miyazaki	39·4	16	7 29	+ 2	—	—	—	—
Riverview	39·7	139	—	—	e 13 46	+14	e 22·2	23·5
Sydney	39·7	139	—	—	i 22 24	?	26·5	27·7
Kumamoto	40·0	15	7 34	+ 2	—	—	—	—
Calcutta	42·5	314	e 6 30	?	14 11	− 2	23·4	31·5
Sumoto	42·6	19	7 55	+ 2	14 9	− 6	—	—
Wakayama	42·6	20	7 50	− 3	14 13	− 2	—	—
Colombo	42·7	287	14 29	S	(14 29)	+13	—	27·9
Kobe	43·0	19	7 59	+ 2	14 20	− 1	—	—
Osaka	43·1	20	7 50	− 8	14 19	− 3	—	—
Kameyama	43·5	21	7 59	− 2	—	—	—	—
Hikone	43·8	21	7 51	−12	—	—	—	—
Ibukisan	44·0	21	8 7	+ 2	—	—	—	—
Nagoya	44·0	22	8 6	+ 1	—	—	—	—
Kohu	45·0	23	8 14	+ 1	—	—	—	—
Toyama	45·2	20	8 0	−14	14 57	+ 3	—	—
Tokyo	45·4	23	8 12	− 4	14 51	− 5	—	—
Oiwake	45·6	22	8 15	− 3	—	—	—	—
Nagano	45·7	22	8 24	+ 6	—	—	—	—
Chiufeng	46·3	356	e 8 22	− 1	i 15 4	− 5	20·7	30·6

Continued on next page.

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Hukusima	47·5	23	8 31	− 1	—	—	—	—
Hyderabad	47·8	300	8 27	− 8	15 27	− 3	22·0	29·0
Vladivostok	50·2	11	e 8 52	− 1	i 16 6	+ 2	19·2	—
Sapporo	52·6	20	9 48	+37	—	—	—	—
Agra	52·9	312	9 5	− 8	i 16 23	−18	25·1	35·7
Bombay	53·2	299	i 9 16	+ 1	i 16 39	− 6	25·4	32·1
Debra Dun	54·6	315	—	—	16 34	−30	19·1	39·4
Wellington	59·6	134	—	—	e 17 24?	−47	29·4	34·4
Almata	63·1	327	e 10 24	− 2	—	—	—	—
Frunse	64·3	325	e 10 22	−12	—	—	e 35·4	—
Tashkent	66·6	320	—	—	i 19 32	− 8	e 30·4	39·9
Tchimkent	66·9	322	e 11 34	(+13)	—	—	—	—
Samarkand	67·2	318	e 10 47	− 6	—	—	—	—
Sverdlovsk	79·3	331	i 12 2	− 2	i 21 58	−10	36·4	52·2
Baku	79·4	313	—	—	22 5	− 4	41·4	52·2
Grozny	83·3	316	e 12 22	− 3	—	—	—	—
Tiflis	83·5	314	i 12 25	− 1	e 22 51	− 1	e 38·4	51·8
Ksara	89·0	304	i 12 53k	0	e 23 43	− 3	41·9	48·4
Moscow	91·1	326	e 12 59	− 4	23 56	− 8	55·2	62·0
Yalta	91·7	313	e 14 11	+66	e 23 35	[− 8]	—	—
Pulkovo	95·3	329	13 24	+ 2	24 19	{+ 2}	47·4	57·5
Copenhagen	105·1	326	—	—	24 50	[0]	47·4	—
Cheb	106·3	320	—	—	e 21 24?	?	—	69·4
Florence	108·1	313	e 20 39	PPP	e 27 24	?	56·4	61·4
Stuttgart	108·6	318	—	—	e 28 12	PS	e 55·4	70·9
Piacenza	108·9	314	—	—	e 29 14	?	—	70·9
Strasbourg	109·6	319	e 18 56	PP	e 28 24?	PS	e 41·4	—
De Bilt	110·2	322	e 19 9	PP	e 26 56	{+48}	e 55·4	65·0
Scoresby Sund	111·3	347	—	—	26 24?	{+ 8}	59·4	—
Paris	112·8	320	e 18 8	[−18]	e 28 24?	PS	61·4	68·4
Haiwee	118·7	51	e 18 51	[+ 9]	—	—	—	—
Pasadena	119·1	53	i 18 48	[+ 5]	—	—	—	—
Mount Wilson	119·1	53	i 18 48	[+ 5]	—	—	—	—
Riverside	119·8	53	e 18 52	[+ 7]	—	—	—	—
Granada	120·6	308	e 18 34	[−13]	—	—	56·4	73·3
Ottawa	138·2	16	e 22 24?	PP	—	—	e 46·4	—
La Paz	155·9	159	e 20 6	[+17]	—	—	—	—
Huancayo	156·0	138	—	—	e 45 4	?	e 78·9	—
San Juan	166·0	28	e 21 43	{+32}	e 39 57	?	e 80·4	—

Additional readings :—
Adelaide iSS? = +14m.52s.
Zi-ka-wei iZ = +8m.45s. =PPP +4s.
Nanking iSSE = +16m.7s.
Melbourne e = +9m.12s., i = +18m.51s.
Riverview e? = +6m.36s.
Calcutta SS = +17m.54s. =S_cS −3s.
Sumoto SE = +14m.12s.
Kobe PZ = +8m.1s., iE = +9m.7s., eN = +9m.22s. =PP −9s., SZ = +14m.18s., SSE = +15m.45s., SSN = +15m.50s.
Osaka PP = +9m.27s., PPP = +11m.22s., SS = +17m.19s.
Agra PS = +16m.59s., SS = +19m.55s., SSS = +21m.25s.
Bombay PPE = +11m.27s.
Tashkent e = +16m.54s., +17m.48s., and +23m.24s.
Baku e = +14m.5s.
Tiflis ePS = +23m.43s., eSS = +28m.31s.
Ksara PP = +16m.23s., ePS = +24m.41s., SS = +29m.52s.
Moscow PP = +16m.48s., SKS = +23m.25s.
Pulkovo PP = +17m.12s., PPP = +19m.12s., SS = +31m.6s.
Copenhagen +18m.24s. =PP +3s., e = +27m.43s. =PS +4s., +33m.24s.? = SS +12s.
Stuttgart ePP = +18m.50s.
Strasbourg e = +21m.24s.?
De Bilt eE = +28m.33s. =PS +4s.
Granada PP = +19m.52s.
Huancayo e = +45m.24s., +62m.38s., and +65m.47s.
Long waves at Bidston, Edinburgh, Kew, Stonyhurst, Arapuni, Sitka, and other European stations.

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June 22d. 16h. 59m. 0s. Epicentre 22°·7N. 120°·3E. N.3.

A = − ·465, B = + ·796, C = + ·386 ; D = + ·863, E = + ·505 ;
G = − ·195, H = + ·333, K = − ·923.

	△	Az.	P.	O − C.	S.	O − C.
	°	°	m. s.	s.	m. s.	s.
Takao	0·1	218	0 4	+ 3	0 10	+ 7
Tainan	0·3	359	e 0 5	+ 1	—	—
Kosyun	0·8	160	e 0 9	− 2	0 18	− 3
Taito	0·8	86	i 0 10	− 1	0 20	− 1
Arisan	0·9	22	e 0 13	0	0 24	+ 1
Taityu	1·5	12	0 34	S	(0 34)	− 5
Taihoku	2·6	22	e 0 53	?	—	—

June 22d. Readings also at 3h. (Lick), 5h. (Mount Wilson, Pasadena, Riverside, and Tinemaha), 6h. (Malabar and Nagoya), 7h. (Gottingen), 8h. (Belgrade and Sofia), 11h. (Belgrade and Sofia), 12h. (Bucharest), 15h. (Lick), 16h (Amboina, Sebastopol, Simferopol, and Yalta), 20h. (Almata, Frunse, Samarkand, and Tchimkent), 22h. (Sitka).

June 23d. 7h. Readings for which no determination has been made ; 43°·5N. 90°E. has been suggested :—

Almata P = 15m.15s., i = 16m.1s., i = 16m.41s., i = 17m.23s., M = 17m.53s.
Frunse eP = 16m.0s., e = 18m.10s., M = 19m.20s.
Tashkent iP = 16m.32s., eS = 19m.17s., M = 23m.12s
Tchimkent eP = 16m.40s., S = 20m.30s.
Samarkand e = 17m.17s., e = 22m.7s.
Sverdlovsk iP = 18m.5s., S = 22m.3s., L_q = 24m.36s., LR = 24m.42s., M = 24m.54s
Chiufeng eEN = 18m.12s., e = 22m.12s., iEN = 24m.30s., ME = 27m.32s.
Tiflis eP = 20m.7s., L = 27m.24s., M = 28m.36s.
Pulkovo eP = 20m.31s., eS = 26m.31s., L_q = 31m., LR = 33m., M = 36m.12s.
Yalta e = 20m.34s.
Agra e = 21m.27s.
Baku e = 25m.36s.
Vladivostok e = 25m.55s., M = 33m.12s.
Bombay e = 29m.
Moscow e = 29m.5s., e = 30m.19s., e = 31m.6s., eL = 34m.48s., M = 35m.48s.
Prague e? = 38m.32s., e = 39m.31s., eL = 40m., M = 41m.
Long waves at other European stations and Hong Kong.

June 23d. 9h. Readings for which no determination has been made :—

Amboina P = 25m.40s., i = 26m.20s., iS = 35m.46s.
Manila P = 29m.41s., S = 34m.6s.
Batavia eP = 30m.
Tashkent i = 36m.14s., iS = 45m.36s., e = 49m.0s., eL = 58m.0s., M = 69m.18s.
Melbourne e = 38m.14s.?, L = 41m.38s., M = 42m.18s.
Riverview e = 39m.8s., eS = 41m.18s.
Sverdlovsk e = 47m.33s., L = 67m.
Baku e = 48m.8s., eL = 72m.
Wellington eL = 56m.

June 23d. 15h. Readings for which no determination has been made —
Riverview e?N = 17m.42s., iSEN = 22m.23s., eL = 24m.36s., M = 29m.12s.
Wellington e = 22m., L = 25m.
Chiufeng eP = 25m.4s., SN = 34m.41s.
Ksara ePKP = 32m.42s., SKP = 36m.15s., PP = 36m.38s., PPS = 50m.0s., M = 98m.20s.
De Bilt eZ = 32m.49s., eL = 84m.
Stuttgart e = 32m.55s.
Strasbourg iP = 32m.58s.a, eL = 97m.
Paris e = 33m.4s.
Tashkent e = 39m.41s., e = 47m.13s., eL = 65m.0s., M = 71m.24s.
Sverdlovsk e = 50m.59s., L = 64m.
Long waves at Melbourne and Copenhagen.

June 23d. Readings also at 1h. (Chur), 3h. (Baku, Ksara, and Tashkent), 4h. (Sverdlovsk, Tashkent, and Batavia), 5h. (Taityu, Taihoku, and Takao), 7h. (Tiflis), 8h. (Almata, Taihoku, Oaxaca, Tacubaya, and Vera Cruz), 10h. (Tananarive), 11h. (Yalta), 12h. (Almata), 14h. (Batavia, Manila, Medan, Wellington, Sverdlovsk), Tashkent, Mount Wilson, Pasadena, and Riverside), 15h. (Alicante), 22h. (Tiflis).

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June 24d. 23h. 23m. 8s. Epicentre 15°·0S. 167°·5E. N.1.

A = −·943, B = +·209, C = −·259; D = +216, E = +976; G = +·253, H = −·056, K = −·966.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Apia	20·1	89	i 4 30	− 1	—	—	—	11·5
Riverview	23·9	215	i 5 9a	0	e 8 58	PcP	11·9	12·8
Sydney	23·9	215	i 5 14	+ 5	i 9 2	−19	11·5	13·4
Arapuni	24·2	165	5 4	− 8	i 9 37	+10	—	10·9
Wellington	27·0	168	i 5 32	− 6	10 31	+16	—	—
Christchurch	28·9	170	5 52?	− 3	—	—	—	—
Melbourne	30·3	217	6 5	− 3	11 13	+ 4	13·6	16·4
Chatham Ils.	32·0	159	6 22	− 1	11 52	+17	14·9	18·9
Adelaide	32·7	227	i 6 22	− 7	i 11 27	−19	i 13·8	15·7
Palau	39·7	301	7 35	+ 6	—	—	—	—
Amboina	40·3	282	i 7 39	+ 4	13 7	−34	25·9	—
Titizima	48·7	330	8 43	+ 2	15 38	− 5	—	—
Perth	49·8	242	e 9 22	?	i 15 57	− 1	—	25·9
Honolulu	49·8	44	i 8 51	+ 1	i 16 46	+48	—	—
Manila	54·7	301	i 9 29k	+ 3	i 17 4	− 1	26·2	—
Hatidyozima	54·9	332	9 35	+ 7	—	—	—	—
Mera	56·4	333	9 38	− 1	17 20	− 8	—	—
Naha	56·6	316	9 45	+ 5	17 28	− 3	—	—
Tyosi	56·6	335	9 38	− 2	17 21	−10	—	—
Nake	56·9	320	9 44	+ 2	—	—	—	—
Omaesaki	56·9	331	9 51	+ 9	—	—	—	—
Yokohama	57·0	333	9 51	+ 8	—	—	—	—
Misima	57·0	332	9 43	0	17 30	− 6	—	—
Numadu	57·0	332	9 40	− 3	17 16	−20	—	—
Tokyo	57·1	333	9 50	+ 6	17 50	+12	—	—
Siomisaki	57·1	329	9 44	0	—	—	—	—
Tukubasan	57·4	335	9 47	+ 1	17 28	−14	—	—
Hunatu	57·4	332	9 48	+ 2	—	—	—	—
Kakioka	57·4	335	9 47	+ 1	17 31	−11	—	—
Kohu	57·6	332	9 48	+ 1	17 36	− 8	—	—
Kumagaya	57·7	333	9 43	− 5	—	—	—	—
Tu	57·8	330	9 49	0	—	—	—	—
Isigakizima	57·8	313	9 49	0	—	—	—	—
Utunomiya	57·8	333	9 51	+ 2	—	—	—	—
Nagoya	57·9	331	i 9 59	+ 9	18 38	?	23·1	—
Kameyama	57·9	330	9 37	−13	—	—	—	—
Maebasi	58·0	332	9 43	− 7	—	—	—	—
Wakayama	58·1	328	9 42	− 9	—	—	—	—
Simidu	58·1	326	9 55	+ 4	—	—	—	—
Gihu	58·2	331	9 56	+ 4	—	—	—	—
Osaka	58·2	329	9 55	+ 3	17 48	− 4	31·1	—
Oiwake	58·2	331	9 53	+ 1	17 45	− 7	—	—
Miyazaki	58·3	326	9 46	− 6	17 44	− 9	—	—
Sumoto	58·3	328	9 54	+ 2	17 45	− 8	e 22·4	26·9
Hikone	58·3	330	9 54	+ 2	—	—	—	—
Ibukisan	58·4	330	9 54	+ 1	17 48	− 7	—	—
Kobe	58·4	329	i 9 54	+ 1	17 48	− 7	e 24·9	27·0
Koti	58·4	326	9 55	+ 2	17 48	− 7	—	—
Hukusima	58·5	335	9 55	+ 1	—	—	—	—
Kagosima	58·5	322	9 56	+ 2	—	—	—	—
Nagano	58·6	333	9 57	+ 2	17 51	− 6	—	—
Sendai	58·8	336	9 56	0	17 52	− 7	—	—
Kosyun	58·9	308	9 58	+ 1	17 57	− 4	—	—
Takada	58·9	334	10 2	+ 5	18 6	+ 5	—	—
Okayama	59·0	328	9 58	+ 1	17 58	− 5	—	—

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Matuyama	59·0	327	9 58	+ 1	17 54	− 9	—	—
Taito	59·0	308	e 10 1	+ 4	17 26	−37	—	—
Yamagata	59·0	336	10 0	+ 3	—	—	—	—
Toyama	59·1	332	9 58	0	—	—	—	—
Malabar	59·1	270	10 1	+ 3	i 18 0	− 4	—	—
Ooita	59·2	325	9 59	0	—	—	—	—
Niigata	59·3	334	10 0	0	—	—	—	—
Toyooka	59·3	330	10 0	0	18 0	− 7	—	—
Husiki	59·3	332	10 4	+ 4	—	—	—	—
Kumamoto	59·4	325	10 1	+ 1	18 2	− 6	—	—
Karenko	59·4	310	i 10 2	+ 2	18 4	− 4	—	—
Mizusawa	59·5	337	i 10 0	− 1	i 18 1	− 8	e 24·7	—
Takao	59·6	309	e 10 33	+31	—	—	—	—
Unzendake	59·6	324	10 10	+ 8	18 17	+ 6	—	—
Arisan	59·7	309	e 10 0	− 2	—	—	—	—
Nagasaki	59·8	324	10 3	0	18 5	− 8	20·1	—
Wazima	59·8	332	10 3	0	18 5	− 8	—	—
Morioka	60·0	338	10 6	+ 2	18 6	−10	—	—
Hukuoka	60·1	325	e 9 46	−19	18 7	−10	—	—
Hukuoka B	60·1	325	i 10 6	+ 1	18 10	− 7	—	—
Batavia	60·1	272	i 10 4a	− 1	i 18 5	−12	e 27·9	—
Taihoku	60·1	311	e 10 7	+ 2	18 11	− 6	—	—
Taityu	60·2	310	10 13	+ 7	18 6	−13	—	—
Hamada	60·2	328	10 8	+ 2	—	—	—	—
Tomie	60·3	323	10 6	− 1	18 11	− 9	—	—
Akita	60·4	336	10 5	− 2	18 13	− 8	—	—
Hokoto	60·7	309	e 10 21	+12	e 18 14	−11	—	—
Aomori	61·1	338	10 15	+ 3	—	—	—	—
Urakawa	61·5	339	10 15	0	18 27	− 9	—	—
Hakodate	61·9	338	10 17	− 1	—	—	—	—
Husan	62·0	325	i 10 18	0	e 14 40	?	e 26·1	—
Obihiro	62·1	340	10 17	− 2	—	—	—	—
Muroran	62·3	339	10 22	+ 2	—	—	—	—
Taikyu	62·8	325	10 23	− 1	18 45	− 7	26·7	—
Sapporo	62·9	339	10 24	− 1	—	—	—	—
Asahigawa	63·1	341	10 28	+ 2	—	—	—	—
Zi-ka-wei	64·0	317	e 10 10	−22	—	—	24·2	30·1
Hong Kong	64·2	305	10 33	− 1	19 2	− 8	—	33·4
Keizyo	64·9	325	i 10 37	− 1	15 14	?	25·9	—
Zinsen	65·0	325	i 10 38	− 1	i 19 12	− 8	—	20·3
Nanking	66·3	316	i 9 54	−53	i 18 33	−63	23·1	—
Heizyo	66·6	325	10 50	+ 1	19 42	+ 2	—	—
Vladivostok	66·7	333	i 10 52	+ 2	i 19 36	− 5	23·7	34·0
Sikka	67·8	343	10 48	− 9	—	—	—	—
Phu-Lien	69·7	300	e 11 9	0	i 20 8	−10	30·9	—
Medan	70·6	280	i 11 15	+ 1	i 20 56	PS	—	—
Chiufeng	72·9	321	e 11 22	− 6	i 18 5	?	i 25·8	—
Branner	84·2	49	e 12 27	− 2	—	—	—	—
Ukiah	84·2	47	i 12 27	− 2	e 22 27	[−26]	38·5	—
Berkeley	84·5	49	12 26	− 5	i 23 41	PS	—	—
Santa Barbara	84·9	53	i 12 30	− 3	—	—	—	—
Pasadena	86·0	53	i 12 35a	− 3	i 23 51	PS	e 39·1	—
Calcutta	86·0	295	12 37	− 1	22 50	−18	—	—
Mount Wilson	86·1	53	i 12 34	− 5	—	—	—	—
Sitka	86·1	27	i 12 32	− 7	i 23 42	PS	e 35·4	—
La Jolla	86·2	55	i 12 38a	− 1	—	—	—	—
Riverside	86·5	53	i 12 34a	− 7	—	—	—	—
Haiwee	86·8	52	e 12 36	− 6	—	—	—	—
Tinemaha	87·0	51	i 12 40a	− 3	e 23 8	[− 5]	—	—
Victoria	88·1	39	i 12 44	− 4	i 23 18	[− 3]	e 46·8	55·3

Continued on next page.

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		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Seattle		88·3	40	e 12 34	−15	(e 22 42)	[−40]	e 22·7	—
Colombo		89·5	278	12 55	0	23 11	−19	—	54·1
Tucson		91·2	58	i 13 2	− 1	e 23 42	[+ 2]	e 36·4	—
Kodaikanal		92·7	281	i 13 11	+ 1	23 32	[−16]	—	—
Hyderabad		93·6	288	13 4	−10	23 32	[−21]	40·0	60·5
Bozeman		94·9	44	—	—	i 24 49	+ 8	e 37·9	—
Agra		96·3	297	13 21	− 5	23 46	[−18]	—	—
Dehra Dun		97·1	300	13 52	+22	23 52	[−20]	29·2	38·9
Tacubaya		98·0	73	e 13 43	+ 9	—	—	—	—
Bombay		99·8	287	i 13 38	− 5	24 4	[−21]	—	—
Almata		100·6	313	e 13 52	+ 6	e 24 13	[−16]	44·9	—
Frunse		102·0	311	e 13 32	−21	—	—	41·9	—
Andijan		103·7	309	e 14 2	+ 1	—	—	35·9	—
Tashkent		105·9	309	i 14 6	− 5	24 35	[−19]	49·4	61·1
Merida		107·1	73	12 58?	?	—	—	—	—
Samarkand		107·5	307	e 17 32	[−38]	e 24 44	[−18]	—	—
St. Louis		108·7	54	e 14 18	− 7	e 26 21	{+23}	—	—
Florissant		109·3	54	e 14 18	−10	i 26 21	{+19}	e 51·9	58·4
Chicago		111·0	51	—	—	e 26 45	{+31}	e 45·8	—
Sverdlovsk		111·7	325	i 14 33	− 1	i 26 44	{+25}	43·9	55·6
Tananarive		111·9	243	—	—	e 28 22	PS	49·4	60·5
Huancayo		112·2	111	e 19 2	PP	e 25 28	{+ 5]	e 43·2	—
Ann Arbor		113·9	50	e 19 34	PP	—	—	e 55·7	—
La Plata		114·1	142	19 22	PP	28 52	PS	78·9	—
Columbia		115·9	59	—	—	e 27 20	{+32}	e 46·3	—
La Paz		116·7	119	18 38	[+ 1]	i 30 11	?	55·4	57·2
Toronto		116·9	49	14 56	− 9	i 27 28	{+33}	54·7	—
Charlottesville		118·3	55	e 16 24	?	e 27 44	{+39}	e 48·4	—
Georgetown		119·0	54	—	—	e 26 31	[+44]	e 55·9	—
Ithaca		119·1	50	—	—	i 27 52	{+42}	—	—
Ottawa		119·3	46	15 10	− 6	27 54	{+42}	52·9	—
Philadelphia		120·4	53	—	—	i 30 4	PS	e 50·7	—
Baku		120·6	308	15 15	− 7	27 41	{+21}	46·9	—
Oak Ridge		120·7	49	i 17 14	?	e 32 10	?	—	—
Vermont		121·3	47	e 15 6	−19	e 22 52	?	—	—
Cape Town	E.	122·8	211	20 32	PP	30 51	PS	64·9	74·9
Port au Prince		122·9	78	e 20 26	PP	—	—	—	—
Grozny		123·2	312	i 18 28	[−25]	—	—	e 37·4	—
Scoresby Sund		123·9	4	15 28	−10	26 10	[+ 8]	—	—
Tiflis		124·2	311	e 15 29	−10	e 30 56	PS	e 55·2	63·9
Moscow		124·2	328	e 15 29	−10	25 45	[−18]	55·4	70·9
Erevan		124·7	309	i 17 57	[−59]	—	—	—	—
Piatigorsk		124·9	314	e 16 52	?	—	—	—	—
Pulkovo		125·5	335	e 15 33	−12	i 28 18	{+25}	56·9	63·9
Sotchi		127·4	314	e 24 3	?	—	—	—	—
San Juan		128·7	79	e 18 59	[− 5]	—	—	e 53·3	—
Upsala		130·1	341	18 58	[− 9]	—	—	e 55·9	66·5
Simferopol		130·7	317	i 19 1	[− 7]	—	—	—	—
Yalta		130·8	316	i 19 0	[− 8]	—	—	—	—
Sebastopol		131·3	317	19 7	[− 2]	—	—	—	—
Ksara		132·6	301	i 19 9a	[− 2]	—	—	—	—
Konigsberg		132·7	335	i 19 9	[− 2]	i 28 20	{−19}	31·4	61·9
Bergen		132·8	348	21 52?	PP	—	—	—	—
Copenhagen		135·0	340	19 14	[− 1]	28 32	{−20}	54·9	—
Bucharest		136·1	320	e 19 18	[+ ½]	—	—	—	—
Helwan		137·2	298	e 19 13	[− 5]	i 32 39	PS	—	77·1
Hamburg		137·6	341	e 19 9a	[− 9]	—	—	e 58·9	61·9
Budapest		138·3	326	19 11	[− 8]	29 16	{+ 3}	e 41·1	69·9
Leipzig		138·5	336	e 19 11	[− 9]	—	—	—	66·1
Edinburgh		138·5	352	e 19 24	[+ 4]	—	—	63·9	74·9

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Prague	138·7	334	e 19 12	[− 8]	—	—	e 49·9	66·9
Sofia	138·7	319	e 19 17	[− 3]	—	—	59·9	68·3
Vienna	139·1	330	19 15	[− 5]	—	—	—	—
Jena	139·2	336	e 18 52?	[−28]	—	—	—	—
Belgrade	139·2	323	e 19 21	[+ 1]	—	—	e 69·3	—
Durham	139·3	350	19 22	[+ 1]	—	—	—	—
Cheb	139·5	335	e 19 17	[− 4]	—	—	e 61·9	65·9
Göttingen	139·6	339	e 19 10	[−11]	—	—	—	66·9
De Bilt	140·3	343	e 19 14	[− 8]	—	—	—	68·3
Stonyhurst	140·3	351	e 17 45	?	i 40 45	SS	—	69·9
Graz	140·4	329	e 19 13	[− 9]	e 29 31	{+ 5}	e 62·9	82·5
Bidston	140·9	352	i 19 20	[− 2]	32 33	SKSP	e 66·9	—
Zagreb	141·1	329	e 19 19	[− 4]	—	—	e 66·9	—
Uccle	141·8	343	19 18	[− 5]	i 26 13	SKS	e 59·9	68·5
Karlsruhe	141·9	338	19 24	[+ 1]	—	—	—	—
Stuttgart	141·9	336	e 19 21	[− 2]	—	—	e 62·9	70·1
Oxford	142·1	349	i 19 20	[− 4]	—	—	e 65·9	84·3
Kew	142·2	348	i 19 22a	[− 2]	—	—	65·9	77·7
Triest	142·3	330	i 19 23a	[− 2]	i 30 1	{+24}	e 62·4	—
Strasbourg	142·5	337	i 19 22a	[− 3]	26 21	SKS	e 60·9	83·4
Zurich	143·2	336	e 19 24	[− 4]	—	—	—	—
Basle	143·5	337	e 19 27	[− 2]	—	—	—	—
Paris	144·0	342	19 27a	[− 4]	—	—	55·9	81·9
Neuchatel	144·2	337	e 19 27	[− 5]	—	—	—	—
Piacenza	144·6	333	i 19 32a	[− 1]	—	—	57·9	82·9
Prato	144·8	329	i 19 31	[− 2]	30 52	?	58·0	—
Florence	144·8	329	i 19 32a	[− 1]	—	—	62·4	76·9
Messina	146·1	311	19 40	[+ 4]	25 5	?	—	—
Tunis	150·3	322	i 19 52	[+10]	—	—	—	—
Barcelona	150·7	337	19 43	[0]	—	—	e 52·4	—
Tortosa	151·8	338	19 51	[+ 7]	—	—	—	—
Serra do Pilar	153·7	353	19 35	[−11]	—	—	—	—
Algiers	154·2	330	e 19 46	[− 1]	—	—	74·9	99·9
Alicante	154·3	338	e 19 40	[− 7]	30 18	{−29}	e 51·4	—
Toledo	154·5	346	e 19 45	[− 2]	—	—	50·4	—
Granada	156·5	341	i 19 50	[0]	i 30 39	{−20}	—	—
Almeria	156·6	340	e 19 51	[+ 1]	30 34	{−26}	e 53·6	—
Malaga	157·1	343	19 49	[− 1]	—	—	75·7	84·2
San Fernando	157·9	348	i 19 51a	[0]	37 52	?	76·9	80·4

Additional readings and note :—

Apia iPPE = +5m.9s., sPN = +5m.41s., sS = +8m.51s. ; T_0 = 23h.23m.12s.
Riverview iENZ = +5m.35s. = PP + 0s. and +5m.52s., eSE = +9m.1s., iN = +9m.20s., iE = +9m.35s, iEN = +9m.53s. = SS − 10s., iN = +10m.9s., iE = +10m.24s., iN = +10m.32s.
Arapuni isS = +10m.22s.
Wellington pP = +6m.12s., iPP = +6m.20s., P_cP = +9m.7s., i = +9m.52s. and +11m.5s., SS = +12m.12s., S_cS = +15m.49s., sS_cS = +17m.15s.
Adelaide i = +6m.56s., iPP = +7m.12s., iPPP? = +7m.36s., i = +12m.23s. and +13m.35s. = SS + 2s.
Amboina i = +8m.7s., +9m.36s., and +17m.33s. = S_cS − 10s.
Honolulu i = +9m.4s., iP_cP = +9m.39s., e = +10m.18s. = P_cP + 3s. and +14m.39s., iSS = +19m.20s.
Nagoya ME = +12m.8s. = PP + 17s., PP = +12m.55s. = PPP − 11s., MN = +19m.8s.
Osaka P_cP = +10m.50s., PP = +12m.10s., P_cS = +15m.10s., iE = +19m.10s., iN = +19m.29s. = S_cS − 10s., SS = +21m.49s.
Kobe iN = +10m.24s., iNZ = +10m.43s. = P_cP − 4s., ePPE = +12m.14s., SSN = +18m.46s., SN = +20m.20s., P'P'NZ = +39m.37s.
Toyooka ipPZ = +10m.47s. = P_cP − 4s., iN = +19m.2s.
Nagasaki PS = +19m.1s.
Batavia ipP = +10m.35s.
Taihoku SS = +19m.14s.
Husan SS? = +21m.3s.
Taikyu SS = +19m.41s.
Hong Kong ? = +11m.4s. = P_cP − 6s., PP = +12m.42s., ? = +13m.8s., PPP = +13m.46s., PPPP = +14m.41s., SS = +23m.28s.

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Keizyo e = +19m.10s. =S − 9s.
Zinsen iP$_c$PZ = +11m.10s., iS$_c$SN = +20m.6s., eP′P′Z? = +39m.18s.
Nanking iZ = +10m.27s. and +10m.44s., isS = +19m.34s.
Medan i = +12m.12s. and +16m.40s.
Chiufeng iPEN = +11m.27s., pPE = +12m.0s., sPE = +12m.12s., isSE = +19m.2s., iSSEN = +20m.44s.
Branner eEN = +13m.1s., eE = +15m.37s. =PP − 2s. and +15m.44s.
Ukiah ePP = +16m.28s., iPS = +23m.30s., eSS = +27m.36s., e = +34m.20s.
Santa Barbara ipPZ = +13m.3s., iPPENZ = +15m.48s.
Pasadena ipPENZ = +13m.6s., iPPENZ = +15m.57s., iEN = +24m.11s. = PS + 7s., iE = +24m.49s., iP′P′Z = +38m.43s.
Sitka i = +13m.5s., e = +19m.22s. and +21m.39s., iSKS = +22m.47s., iPS = +25m.11s., eSS = +28m.47s.
La Jolla ipPEZ = +13m.13s., iPPEZ = +16m.2s.
Riverside ipPEZ = +13m.11s., iPPEZ = +16m.1s.
Haiwee ipPZ = +13m.13s., iPPZ = +16m.4s., eN = +23m.51s.
Tinemaha ipPENZ = +13m.12s., iPPZ = +16m.7s., eN = +24m.9s. =PS − 7s.
Seattle e = +13m.30s., +17m.30s., +18m.27s., and +22m.2s.
Colombo SS = +23m.33s. =SKS + 3s., SSS = +24m.23s., SSSS = +30m.31s.
Tucson i = +13m.34s., e = +15m.40s., eSKS = +22m.44s., i = +23m.52s. = SKKS + 7s., iPS = +24m.27s., i = +24m.47s. and +25m.50s., eSS = +29m.0s.
Kodaikanal PP = +16m.52s., PPP = +19m.6s., SS = +30m.32s.
Bozeman ePP = +17m.10s., eSKS = +23m.32s., ePS = +25m.16s., e = +26m.38s., eSS = +30m.54s., e = +34m.35s.
Agra SKKS = +24m.28s., PSN = +25m.23s., PSE = +25m.57s., PPSE = +26m.33s., SSE = +31m.23s.
Bombay PSE = +26m.38s., PPSEN = +27m.28s., SSEN = +32m.22s.
Almata e = +18m.43s.
Frunse e = +17m.52s.
Andijan e = +18m.27s. =PP + 17s.
Tashkent SS = +33m.16s.
St. Louis epPE = +14m.52s., eE = +17m.44s., iPPE = +18m 50s., iSKSE = +25m.51s., iE = +26m.43s., isSN = +27m.20s., iPSE = +28m.17s., iSPPE = +28m.58s., iSSE = +34m.34s.
Florissant epPENZ = +14m.53s, iENZ = +16m.23s., eZ = +17m.44s., iPPENZ = +18m.50s., eEZ = +19m.9s., iSKSEN = +25m.51s., isSN = +27m.24s., iPSE = +28m.17s., isPPENZ = +28m.56s., iSSE = +34m.6s., iSSSE = +38m.22s., iN = +45m.44s. ; T_0 = 23h.23m.6s.
Chicago iPP = +19m.5s., e = +19m.29s., eSKS = +25m.25s., i = +28m.40s. = PS + 2s., iPS = +29m.11s., eSS = +34m.42s., e = +39m.5s.
Sverdlovsk iPKP = +18m.29s., iSKS = +24m.57s., SKKS = +26m.1s., PS = +28m.33s., SS = +34m.34s., SSS = +39m.28s.
Tananarive E = +20m.44s., +22m.29s., e = +25m.2s., E = +29m.14s. and +34m.53s.
Huancayo ePP = +20m.2s., ePPP = +22m.10s., iPS = +29m.52s., e = +31m.37s. iSS = +35m.9s.
Ann Arbor e = +27m.16s., +29m.34s., and +36m.16s.
La Plata pPPN = +19m.52s., sPPN = +20m.22s., E = +21m.22s., N = +21m.28s., pPPPE = +22m.46s., SSN = +34m.52s.?, sSSE = +35m.58s., SSSN = +38m.28s., SSSE = +38m.52s. ?, N = +46m.58s.
Columbia ePP = +19m.44s., e = +20m.2s., +23m.52s., and +26m.22s., ePS = +29m.32s., e = +35m.22s. and +37m.56s.
La Paz ipPZ = +19m.43s. =PP − 3s., isPZ = +20m.31s., iPPN = +22m.45s., SKS? = +29m.29s. =PS − 3s., iSN = +30m.17s., iPSZ = +31m.20s., iPSN = +31m.41s., iN = +34m.43s., iSSN = +37m.3s., iSSZ = +37m.11s.
Toronto PP = +19m.39s., SKSP = +26m.22s., PSE = +29m.19s., iPPSN = +30m.7s. ; T_0 = 23h.23m.14s.
Charlottesville ePP = +19m.52s., eSKS = +26m.30s., e = +28m.32s., ePS = +29m.28s., e = +30m.20s., eSS = +35m.52s.
Georgetown iPP = +19m.34s., i = +27m.51s., iPSE = +29m.31s., iPPSZ = +30m.37s., SS = +36m.14s. ; T_0 = 23h.22m.35s.
Ithaca iPPE = +20m.2s., isSKSE = +26m.32s., isSE = +28m.52s., eSSEN = +37m.16s.
Ottawa PKPZ = +18m.42s., PP = +20m.6s., i = +26m.34s. and +28m.54s., PSE = +29m.52s., SSN = +37m.4s.
Philadelphia e = +19m.58s., i = +20m.10s. =PP − 2s., e = +23m.14s., +26m.24s., and +27m.37s. =SKKS + 18s., i = +29m.4s., e = +32m.33s., i = +37m.22s., e = +40m.37s.
Baku iPKP = +18m.48s., PS = +29m.58s.
Oak Ridge iPP = +18m.49s. =PKP + 2s.
Vermont e = +34m.40s. and +43m.40s. ; T_0 = 23h.23m.6s. ; all readings given as for 25d.
Cape Town PP = +25m.40s., SKPE = +26m.44s., SKPN = +26m.48s., PPPN = +28m.11s., PPPE = +28m.15s., SKSN = +30m.41s., SKKS = +32m.32s., S = +33m.32s., PPSE = +36m.58s. =SS + 2s., PPSN = +37m.21s., SSE = +43m.13s., SSN = +43m.21s., SSSE = +47m.32s.

Continued on next page.

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Port au Prince e = +21m.16s. and +22m.56s. =PPP −4s.
Grozny e = +31m.22s.
Scoresby Sund iPKP = +18m.5s., iPP = +20m.39s., eZ = +21m.9s., PPP = +24m.11s., SKKS = +27m.28s., PS = +30m.28s., iN = +33m.59s., iZ = +35m.58s., eN = +36m.40s., iSSE = +37m.23s.
Tiflis iPKP = +18m.53s., e = +20m.23s. =PP −15s., ePP = +20m.47s., ePKS = +21m.17s., e = +24m.29s. and +25m.59s. =SKS −4s., eSS = +37m.37s., ePSS = +38m.5s.
Moscow PKP = +18m.51s., PPP = +23m.18s., PS = +30m.17s., SS = +41m.52s. =SSS +1s.
Erevan i = +18m.51s.
Pulkovo iPKP = +18m.53s., PP = +20m.49s., SKS = +25m.45s., SKKS = +27m.22s., PS = +30m.33s., PPS = +32m.23s., SS = +37m.16s., SSS = +42m.22s.
San Juan iPP = +21m.5s., i = +21m.42s., +22m.17s. and +22m.55s. =PPP +7s., e = +33m.42s., eSS = +38m.57s., e = +46m.12s.
Upsala iPP = +22m.16s. =PKS −18s., i = +22m.26s.
Simferopol i = +22m.20s. =PKS −16s., e = +32m.26s.
Yalta i = +22m.16s. =PKS −21s., e = +32m.21s.
Sebastopol i = +22m.27s. =PKS −12s., e = +32m.25s.
Ksara ipP = +19m.46s., sP = +20m.3s., ipPP = +21m.11s., i = +29m.57s., PPS = +33m.57s.
Konigsberg e?E = +20m.4s., iE = +21m.19s., iPPZ = +21m.41s., iZ = +22m.9s., iSKP = +22m.24s., iEN = +22m.27s., iZ = +22m.30s., iE = +22m.41s., iZ = +22m.47s. =PKS +2s., iEN = +23m.14s., iZ = +23m.30s., iPPP?E = +23m.46s., iZ = +23m.58s. and +24m.28s. =PPP +8s., iS = +29m.9s.
Copenhagen iZ = +19m.4s., eZ = +19m.49s., PP = +21m.50s., eZ = +22m.27s., iPKS = +22m.48s., i = +23m.24s., eZ = +23m.47s., PPP = +25m.11s., eNE = +27m.10s., eN = +31m.14s., PPS = +33m.52s., eN = +34m.30s., SSE = +39m.28s., eN = +39m.46s., eE = +41m.22s., eN = +42m.40s., eE = +42m.52s., SSSE = +44m.30s., eN = +44m.46s., eZ = +46m.34s.
Bucharest eEN = +19m.34s., iEN = +22m.30s., +22m.49s. =PKS +5s. and +23m.26s.
Helwan i = +22m.5s., +22m.41s. =PKS −20s. and +35m.32s.
Hamburg iZ = +19m.19s., +23m.9s. =PKS +7s. and +23m.43s., eE = +40m.59s., iE = +43m.17s.
Budapest i = +22m.5s. =PP −6s., PP = +22m.44s., i = +23m.20s. =PKS +16s., PPP = +25m.1s., SSS = +39m.5s.
Leipzig eZ = +19m.18s., iE = +19m.21s., +19m.31s., and +20m.35s., eZ = +22m.16s., eE = +22m.27s. =PP +15s., eZ = +22m.46s., eE = +22m.50s., iE = +22m.55s., iE = +23m.52s. and +24m.50s., eE = +25m.19s., +25m.39s., +26m.55s., +27m.34s., +27m.52s., and +28m.54s., eZ = +39m.52s. and +64m.4s.
Edinburgh i = +23m.31s., +28m.22s., +40m.25s. =SS +1s., and +43m.58s.
Prague e = +22m.51s. and +31m.46s.
Sofia iP = +19m.24s., e = +22m.15s. =PP +2s., +22m.53s., and +39m.52s. ?
Vienna PP = +22m.17s., SKP = +23m.1s., PPP = +25m.22s., SKKS = +28m.54s., SKSP = +31m.33s., PPP >180° = +34m.8s., SKKS >180° = +35m.29s., PSS = +41m.28s.
Belgrade e = +23m.22s. =PKS +15s. and +30m.10s.
Durham ? = +22m.58s. =PKS −9s.
Cheb e = +22m.26s. =PP +8s., i = +23m.38s., e = +34m.26s. and +41m.32s.
Gottingen iE = +19m.19s., iN = +19m.23s., iEZ = +20m.17s. and +21m.42s., iENZ = +22m.18s. =PP −1s., eEN = +23m.24s.
De Bilt iPPZ = +22m.28s., iZ = +26m.23s., e = +40m.53s. =SS +7s
Stonyhurst i = +41m.45s.
Graz iPP = +22m.55s.
Bidston iPP = +22m.32s., SKP = +23m.7s., iSS = +41m.27s.
Zagreb eP = +19m.21s., i = +19m.31s., eE = +19m.40s., e = +20m.29s., i = +22m.28s. =PP +0s. and +23m.5s. =PKS −6s., e = +23m.49s. and +40m.40s., eZ = +79m.52s.?
Uccle iPP = +22m.36s., iPKSE = +23m.3s., iPKSN = +23m.6s., i = +23m.42s., iSKKS = +29m.16s., iSS = +41m.4s., iE = +42m.0s., iSSS = +46m.9s.
Karlsruhe e = +22m.34s. =PP +1s.
Stuttgart iP = +19m.22s., ipP = +19m.57s., iPP = +22m.33s., i = +23m.5s. = PKS −8s., e = +23m.57s., eSS = +40m.58s.; T_o =23h.23m.14s.
Oxford i = +23m.2s. =PKS −12s.
Kew ipPKP = +19m.58s., PP = +22m.38s., isS = +41m.17s.
Triest iZ = +19m.31s., iE = +20m.52s. and +21m.10s., iP = +23m.5s. = PKS −9s., iPP? = +23m.41s., iN = +26m.45s. and +30m.15s., iE = +30m.32s., iN = +34m.44s., +34m.56s., and +35m.6s., iPPS = +35m.18s., iSS = +40m.56s., iN = +41m.3s. =SS −7s., iE = +41m.54s., iN = +42m.12s. and +42m.33s., iE = +43m.2s., iN = +46m.12s., i = +49m.16s., iN = +50m.32s., i = +65m.52s. and +69m.13s., iN = +71m.16s.
Strasbourg i = +19m.58s., +20m.20s., and +21m.3s., iPP = +22m.40s., iSKP = +23m.10s., i = +23m.33s., SKKS = +28m.10s., i = +29m.54s., +31m.2s., and +31m.37s., ePPS = +35m.0s., iSS = +41m.6s., iSSS = +46m.19s.

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Zurich e = +20m.19s., ePP = +22m.41s.
Basle ePP = +22m.45s.
Paris PKP = +19m.30s., SS = +41m.26s.
Piacenza PP = +20m.8s., PPP = +21m.32s.
Prato SS = +41m.37s.
Florence i = +20m.13s., +21m.35s., +23m.35s., +24m.36s., and +33m.7s. = SKSP +12s., SS = +41m.32s., i = +42m.12s., +43m.4s., +48m.52s., and +52m.22s.
Tunis i = +20m.25s., +21m.1s., and +22m.7s.
Serra do Pilar PP = +23m.36s.
Algiers ePKP$_2$ = +20m.11s., PP = +23m.37s., PPP = +27m.21s., PPS = +37m.46s , SS = +42m.16s., i = +44m.21s.
Alicante iP = +19m.52s., ePKP = +23m.35s., PP = +25m.10s.
Toledo i = +20m.7s. =PKP$_2$ −12s., PP = +20m.44s., PPP = +23m.40s. =PP −6s., PS = +25m.46s., L$_q$ = +44m.32s.
Granada iPKP$_2$ = +20m.26s., i = +22m.44s. and +32m.38s.
Almeria ePKP = +22m.26s., PP = +24m.57s.
Malaga pP = +20m.24s., e = +22m.37s., PP = +23m.59s., pPP = +24m.9s.
San Fernando i = +19m.55s. and +20m.32s. =PKP$_2$ −3s., PP = +24m.17s., PPP = +28m.9s.

June 24d. Readings also at 0h. (Tiflis), 1h. (Baku), 2h. (Wellington), 7h. (Wellington, Apia, Haiwee, La Jolla, Mount Wilson, Pasadena, Riverside, Tinemaha), 8h. (Amboina), 10h. (Santiago (2)), 11h. (Grozny, Ksara, Sverdlovsk, Tiflis (2), Medan, and Chiufeng), 12h. (Baku), 13h. (Samarkand, Sofia, and Wellington), 15h. (Nanking), 17h. (Andijan (2)), 19h. (Oak Ridge), 22h. (Messina, Lick, and Oak Ridge), 23h. (Baku, Erevan, Ksara, Sverdlovsk, Tashkent, and Tiflis).

June 25d. 11h. Readings for which no determination has been made :—
Padova eP =42m.42s.
Vladivostok eP =57m.30s., eS =60m.16s., eL =61m.0s., M =64m.0s.
Chiufeng eZ =59m.55s., e =64m.17s., MN =69m.10s.
Pasadena iPZ =65m.16s.
Mount Wilson iPZ =65m.17s.
Riverside ePZ =65m.20s.
Sverdlovsk e =75m.14s., L =84m.
Tashkent e =82m.55s., eL =83m.24s., M =85m.12s.
Long waves at Copenhagen, Pulkovo, and Scoresby Sund.

June 25d. 12h. 33m. 45s. Epicentre 46°·3N. 149°·9E. (as on 1934 May 28d.). R.1.

A = −·598, B = +·346, C = +·723 ; D = +·502, E = +·865 ; G = −·625, H = +·363, K = −·691.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Mizusawa		9·7	225	e 2 12	− 5	i 3 51	−15	—	—
Vladivostok		13·2	262	i 3 3	− 2	i 5 39	+ 7	6·6	9·4
Nagoya		14·8	226	3 20	− 6	—	—	7·7	—
Toyooka	N.	15·7	228	3 35	− 3	—	—	e 8·3	8·4
Osaka		16·0	228	3 35	− 6	6 49	+11	9·5	10·9
Kobe		16·1	229	3 45	+ 2	i 6 55	PP	e 8·8	11·2
Sumoto		16·5	229	i 3 50	+ 2	8 15	L	(8·3)	11·1
Taikyu		19·0	245	4 25	+ 6	e 7 52	+ 6	10·4	—
Keizyo		19·1	251	4 25	+ 5	7 54	+ 6	—	12·0
Husan		19·3	243	i 4 27	+ 5	e 7 57	+ 5	e 10·2	—
Zinsen		19·4	252	e 4 22	− 1	e 8 1	+ 7	—	—
Hukuoka		19·5	235	4 27	+ 3	8 1	+ 5	—	14·8
Hukuoka B		19·6	235	4 26	+ 1	8 2	+ 4	10·2	—
Heizyo		20·0	257	4 23	− 7	8 5	− 1	12·4	13·5
Nagasaki		20·2	236	4 39	+ 7	8 25	SS	9·9	—
Chiufeng		25·2	268	5 20k	− 2	i 9 55	+11	12·8	15·5
Zi-ka-wei		26·6	346	e 5 35	0	10 19	+10	14·0	19·1
Nanking		27·8	250	e 5 45	0	10 26	− 2	i 13·6	16·6
Hong Kong		37·5	243	7 19	+ 8	13 5	+ 6	—	25·1
Manila		39·9	227	i 7 32	+ 1	13 35	0	18·8	—

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Phu-Lien	43·4	248	e 7 56	− 4	e 14 27	0	19·2	—
Sitka	45·1	46	e 8 15	+ 1	e 15 1	+ 9	e 22·0	—
Honolulu	49·0	100	—	—	e 15 58	+11	20·1	—
Almata	50·0	295	e 9 15	+24	—	—	26·7	—
Frunse	51·7	296	e 9 5	+ 1	—	—	e 25·2	—
Sverdlovsk	52·4	317	9 11	+ 2	e 16 36	+ 2	i 28·2	34·2
Andijan	54·2	294	e 9 22	− 1	—	—	29·0	—
Calcutta	54·5	266	e 9 31	+ 6	17 4	+ 2	—	37·9
Tashkent	55·8	297	9 44	+10	i 17 19	− 1	e 27·2	30·7
Dehra Dun	56·6	281	16 55	S	(16 55)	−36	30·6	32·2
Samarkand	58·2	296	e 11 42	PP	e 19 37	(− 2)	—	—
Agra	58·7	278	9 54	− 1	e 17 52	− 7	—	33·9
Medan	61·5	244	—	—	e 27 15?	?	e 33·2	—
Pulkovo	63·1	331	10 27	+ 1	e 18 59	+ 3	31·2	34·6
Scoresby Sund	63·1	358	10 26	0	18 54	− 2	26·2	—
Moscow	63·4	325	10 20	− 8	e 18 53	− 7	35·3	40·2
Bozeman	63·8	51	—	—	e 19 17	PS	e 35·6	—
Hyderabad	64·8	268	e 10 44	+ 7	19 19	+ 2	29·1	36·1
Batavia	65·0	228	10 35	− 4	e 20 16	(−12)	—	—
Tinemaha	65·2	62	e 10 40	0	—	—	—	—
Santa Barbara	66·0	65	e 10 49	+ 4	—	—	—	—
Pasadena	67·2	64	i 10 50	− 3	—	—	—	—
Mount Wilson	67·3	64	e 10 51	− 3	—	—	—	—
Bombay	67·7	274	e 11 6	+10	19 52	− 1	—	38·6
Riverside	67·8	64	e 10 54	− 3	—	—	—	—
Baku	67·9	306	11 1	+ 3	20 0	+ 4	35·2	42·5
Grozny	68·1	311	e 10 47	−12	—	—	e 26·2	—
La Jolla	68·5	64	e 11 0	− 1	—	—	—	—
Tiflis	69·8	311	e 11 7	− 2	e 20 20	+ 1	33·7	44·3
Königsberg	70·3	332	—	—	e 22 15?	?	37·2	—
Copenhagen	72·0	337	11 24	+ 1	20 45	0	35·2	—
Tucson	73·0	59	—	—	e 20 55	− 2	e 38·7	—
Hamburg	74·5	337	i 12 50k	?	—	—	e 33·2	45·2
Edinburgh	75·3	345	e 17 15?	?	—	—	i 40·4	—
Leipzig	75·8	334	—	—	e 29 27	SSS	e 40·2	43·2
Prague	76·3	332	—	—	e 28 15?	?	39·2	42·2
Cheb	76·9	333	e 21 34	S	(e 21 34)	− 8	e 47·2	49·5
Budapest	76·9	328	e 17 15?	?	—	—	41·2	49·2
Stonyhurst	77·1	344	6 50	?	—	—	40·2	45·9
De Bilt	77·1	339	e 11 55	+ 2	e 21 39	− 5	e 35·2	41·8
Vienna	77·2	331	e 12 52	+59	—	—	e 41·2	—
Chicago	77·4	39	—	—	e 37 38	?	e 40·7	—
Bidston	77·7	345	e 12 2	+ 6	—	—	39·2	—
Graz	78·3	330	1 34	?	—	—	e 41·2	51·8
Oxford	78·7	343	—	—	22 47	PS	e 41·2	56·2
Kew	79·0	342	e 12 3	0	—	—	41·2	—
Stuttgart	79·0	335	e 12 4	+ 1	e 22 15	+10	e 38·2	45·2
Florissant	79·2	44	i 12 2	− 2	i 22 3	− 4	e 37·9	44·1
St. Louis	79·3	44	e 12 4	0	e 22 5	− 3	e 38·0	44·2
Strasbourg	79·6	336	e 11 15?	−51	—	—	e 35·2	—
Ottawa	79·9	31	—	—	e 22 15?	0	e 36·2	—
Toronto	80·0	34	—	—	e 22 15?	− 1	35·2	—
Ksara	80·3	309	i 12 8	− 1	22 31	−12	39·8	46·2
Triest	80·3	331	e 12 15	+ 6	→	—	41·2	52·3
Zurich	80·4	335	—	—	e 20 15?	?	—	—
Chur	80·6	336	e 12 12	+ 1	—	—	—	—
Paris	80·7	339	e 12 12	0	—	—	42·2	54·2
Piacenza	82·1	334	e 12 15	− 4	22 45	[+ 8]	45·2	54·3
Ithaca	82·1	33	—	—	e 23 15?	PS	44·2	—
Florence	82·8	332	i 12 23	+ 1	e 23 15	PS	40·2	44·2

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	Δ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Oak Ridge	83·8	29	i 12 26	− 1	—	—	—	—
Philadelphia	84·8	31	—	—	e 22 45	[−13]	e 44·1	—
Georgetown	84·9	35	e 12 30	− 3	e 22 40	[−18]	e 39·2	—
Columbia	87·5	39	—	—	e 23 35	+ 3	e 43·2	—
San Juan	107·6	36	—	—	e 29 40	?	e 55·9	—
Huancayo	128·8	64	—	—	e 39 25	?	e 68·6	—
La Paz	136·6	59	19 24	[+ 7]	—	—	72·2	87·3

Additional readings :—
Toyooka PZ = +3m.33s.
Osaka i = +4m.6s.
Kobe eZ = +3m.37s., iPE = +3m.48s. = PP +0s., eE = +4m.13s.
Sumoto SN = +8m.30s.
Chiufeng iP = +5m.26s., iSSE = +11m.4s.
Zi-ka-wei SSZ = +11m.47s., SSSZ = +12m.5s.
Nanking ePP = +6m.30s.
Hong Kong PP? = +8m.45s.
Sitka e = +16m.32s., eSS = +18m.35s.
Honolulu e = +16m.29s. and +17m.15s.
Dehra Dun S = +23m.25s.
Agra PSE = +18m.19s.
Bozeman e = +28m.29s.
Tiflis $ePcP$ = +11m.26s., e = +12m.34s., ePPP = +15m.22s., eSS = +24m.58s., eSSS = +28m.20s.
Konigsberg eE = +25m.39s.
Copenhagen +15m.39s.
Tucson e = +32m.37s.
Cheb eS = +30m.51s.
Stuttgart e = +18m.3s. and +24m.39s.
Florissant iPPZ = +15m.7s., iPSEN = +22m.49s., iSS = +27m.25s., iSSSN = +30m.33s. ; T_0 = 12h.33m.47s.
St. Louis ePSE = +22m.51s.
Ksara PS = +23m.13s., SS = +27m.59s.
Triest e = +18m.23s., +31m.24s., and +33m.59s.
Philadelphia e = +27m.58s. and +38m.33s.
Columbia e = +27m.27s. and +42m.3s.
San Juan eSS = +33m.58s., e = +41m.50s.
Huancayo eSSS = +43m.30s., e = +51m.51s., +54m.45s., and +62m.5s.
Long waves at Durham, Cape Town, Wellington, and other European stations.

June 25d. 23h. 52m. 43s. Epicentre 36°·2N. 70°·7E. (as on April 3d. 11h.). R.2.

A = +·267, B = +·762, C = +·591.

	Δ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Samarkand	4·5	321	e 1 7	+ 3	1 47	− 8	—	—
Andijan	4·7	16	e 1 9	+ 2	1 48	−12	—	2·9
Tashkent	5·2	349	i 1 14	0	i 2 10	− 3	i 2·2	3·1
Tchimkent	6·2	351	1 27	− 1	2 33	− 5	—	—
Frunse	7·3	20	e 1 23	−21	e 2 39	−27	—	—
Almata	8·5	32	e 2 0	0	e 3 29	− 7	—	4·5
Agra	11·0	143	—	—	i 4 13	?	—	—
Baku	16·8	291	3 56	+ 4	—	—	7·2	—
Grozny	20·4	298	e 4 35	+ 1	8 27	+13	—	—
Tiflis	20·8	293	e 4 38	0	e 9 0	SS	e 13·3	—
Erevan	20·9	289	e 4 39	0	—	—	—	—
Sverdlovsk	21·7	345	i 4 42	− 6	8 36	− 4	—	—
Moscow	29·7	320	5 57	− 5	—	—	15·2	—

Additional readings :—
Samarkand iPP = +1m.19s. = P* +5s., i = +1m.33s., S_g = +1m.57s.
Andijan P_g = +1m.18s. = P* +1s., i = +1m.34s., eS_g = +2m.0s.
Tchimkent i = +2m.7s.

June 25d. Readings also at 0h. (Pennsylvania and Tananarive), 5h. (Tashkent), 6h. (Andijan, Frunse, and Tchimkent), 7h. (Nanking, Riverview, Wellington, Pulkovo, Sverdlovsk, Stuttgart, La Jolla, Mount Wilson, Pasadena, Riverside, and Tinemaha), 9h. (Malabar), 10h. (Ksara, Prato, Tiflis, and Tananarive), 11h. (Andijan, Frunse, Tashkent, and Sverdlovsk), 15h. (Glenmuick), 16h. (Wellington), 17h. (Alicante), 21h. (Triest).

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June 26d. 23h. 43m. 4s. Epicentre 35°·7N. 134°·8E. (as on May 3d.). X.

A = −·572, B = +·576, C = +·584.

	Δ	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Toyooka	0·2	175	0 3	0	0 6	+ 1	0·1
Kobe	1·1	163	e 0 16	0	0 27	− 1	0·5
Sumoto	1·4	177	—	—	0 37	+ 1	0·6
Nagoya	1·8	107	0 31	P_g	0 48	+ 3	—

June 26d. Readings also at 0h. (Copenhagen and Medan), 4h. (Malabar and Medan), 6h. (Manila, Hong Kong, Nanking, and Sverdlovsk), 10h. (La Paz and Tashkent), 11h. (Taityu, Taihoku, and Vladivostok), 15h. (Tiflis and Mizusawa), 16h. (Kobe, Nagoya (2), Osaka, Sumoto, and Mizusawa (2)), 18h. (Paris), 19h. (Alicante), 20h. (Andijan, Almata, and Frunse), 21h. (Lick, Malabar, Taihoku, and Taityu), 23h. (Pulkovo).

June 27d. 12h. Readings for which no determination has been made, but 41°·5N. 43°·7E. has been suggested :—

Sotchi iP_g = 47m.35s., S_g = 47m.51s.
Tiflis eP = 47m.57s., L = 48m.37s.
Grozny eP = 48m.6s., P* = 48m.12s., P_g = 48m.14s., S = 48m.50s., S_g = 48m.58s., M = 49m.47s.
Erevan eP = 48m.20s., PsS = 48m.43s., S* = 49m.13s.
Yalta eP = 48m.25s., iS = 49m.43s.
Sebastopol eP = 48m.29s., iS = 49m.56s.
Simferopol eP = 48m.31s., iS = 50m.11s.
Moscow e = 49m.36s., e = 51m.55s., e = 53m.45s., e = 54m.36s.
Baku e = 51m.18s.
Sverdlovsk eP = 51m.21s., eS = 54m.52s., L = 56m.
Ksara e = 51m.46s., e = 53m.26s., e = 55m.5s.
Long waves at Pulkovo.

June 27d. 17h. 19m. 36s. Epicentre 48°·1N. 9°·5E. N.1.

Given by W. Hiller " Das Oberschwabische Erdbeben am 27 Juni, 1935," Stuttgart, 1936.

A = +·659, B = +·110, C = +·744 ; D = +·165, E = −·986 ;
G = +·734, H = +·123, K = −·668.

	Δ.	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Ebingen	0·3	283	i 0 4	0	i 0 8	0	—	—
Ravensburg	0·3	162	i 0 2	− 2	i 0 6	− 2	—	—
Stuttgart	0·7	339	i 0 10	0	i 0 21	S*	—	—
Zurich	0·9	225	i 0 13	0	i 0 25	S*	—	—
Karlsruhe	1·2	318	i 0 18	+ 1	—	—	—	—
Strasbourg	1·3	289	0 18a	0	i 0 37	S*	—	—
Chur	1·3	180	i 0 18	0	i 0 36	S*	—	—
Basle	1·7	250	i 0 19	− 5	—	—	—	—
Neuchatel	2·0	241	i 0 27	− 2	—	—	—	—
Sion	2·3	224	e 0 36	P*	—	—	—	—
Besancon	2·5	254	i 0 36	0	1 11	S*	—	—
Hof	2·7	42	e 0 24	−15	i 1 1	− 8	i 1·4	1·4
Cheb	2·8	50	e 0 45	P*	e 1 23	S*	—	2·0
Piacenza	3·0	178	e 0 47	P*	1 15	− 2	1·6	2·3
Padova	3·1	145	e 1 8	P_g	1 47	L	(1·8)	—
Jena	3·2	31	e 0 42	− 4	e 1 19	− 2	—	—
Gottingen	3·4	6	e 0 48	− 1	e 1 34	S*	—	—
Bochum	3·7	330	i 0 57	+ 4	i 1 45	S*	—	2·1
Leipzig	3·8	36	e 0 59	P*	e 1 35	− 2	e 1·8	2·5
Prague	3·8	63	e 0 57	+ 3	e 1 44	+ 7	—	2·1

Continued on next page.

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	△ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Triest	3·8	126	i 0 53k	− 1	1 51	S*	—	—
Laibach	3·9	117	i 1 22	?	i 2 11	?	—	2·7
Graz	4·2	102	i 0 53	− 7	i 1 55	+ 7	—	i 2·2
Uccle	4·3	303	e 1 1	0	i 1 48	− 2	—	—
Prato	4·3	161	e 1 1	0	i 2 4	S*	—	i 2·9
Florence	4·5	161	0 59	− 5	2 6	S*	—	3·4
Vienna	4·6	89	i 1 5	− 1	1 59	+ 1	2·4	2·6
Paris	4·7	276	e 1 9	+ 2	2 2	+ 2	2·4	2·4
De Bilt	4·8	320	i 1 13	+ 5	i 2 35	S_g	—	2·9
Lille	4·9	295	e 1 31	P_g	e 2 31	S_g	—	—
Zagreb	5·0	115	e 1 10	− 1	i 2 18	+10	—	2·9
Hamburg	5·5	358	e 1 35	P*	e 2 38	S*	—	3·7
Marseilles	5·6	215	e 1 50	P_g	—	—	—	—
Budapest	6·5	95	1 8	−24	2 36	−10	3·4	—
Copenhagen	7·8	10	2 27	P_g	—	—	4·4	—
Oxford	7·9	300	e 2 2	+10	—	—	e 3·6	4·2
Belgrade	8·2	109	e 2 41	P_g	e 3 58	S*	—	—
Barcelona	8·3	220	e 3 27	S	e 4 37	S_g	4·9	—
Stonyhurst	9·5	310	—	—	e 4 2	+ 1	6·7	—
Bidston	9·6	306	i 4 39	S*	i 4 59	S_g	e 5·1	—
Konigsberg	9·6	39	—	—	i 3 58	− 5	6·9	11·4
Durham	9·6	316	—	—	4 28	+25	—	6·9
Tortosa	9·6	221	4 2	S	(4 2)	− 1	5·4	—
Lemberg	9·7	75	—	—	e 4 9	+ 3	—	7·6
Sofia	11·1	114	—	—	e 4 52	+11	—	—
Bucharest	12·0	100	—	—	e 5 40	S*	—	—
Alicante	12·1	223	—	—	e 6 34	S_g	e 7·9	—
Bergen	12·5	353	e 2 46	− 9	(e 5 33)	+18	e 5·6	—
Upsala	12·7	20	—	—	i 6 37	S_g	e 7·4	—
Toledo	12·7	236	e 3 17	+19	i 5 58	S*	i 6·7	—
Almeria	14·2	225	—	—	e 7 37	?	e 9·3	—
Granada	14·5	228	e 3 21	− 1	i 6 18	+15	7·3	—
Serra do Pilar	14·6	252	—	—	8 16	?	10·1	—
Malaga	15·3	232	—	—	e 6 56	+34	—	—
San Fernando	16·4	233	e 3 52	+ 6	—	—	11·4	—
Pulkovo	16·8	39	3 51	− 1	e 7 2	+ 5	8·4	10·2
Sebastopol	16·9	93	e 9 31	?	—	—	—	—
Simferopol	17·2	91	e 9 52	?	—	—	—	—
Yalta	17·4	93	e 10 1	?	—	—	—	—
Moscow	18·8	57	4 12	− 4	7 47	+ 5	9·6	12·1
Ksara	24·3	117	i 5 12	− 1	9 42	+14	—	—
Grozny	25·5	87	e 5 26	+ 1	—	—	—	—
Tiflis	25·6	91	e 3 55	?	e 7 3	?	10·0	—
Sverdlovsk	31·6	54	e 6 23	+ 4	e 11 32	+ 3	16·1	19·5
Tashkent	42·0	75	—	—	e 17 1	?	22·0	27·8

Additional readings :—
Ravensburg i = +4s.
Strasbourg iP_g = +20s., iPP = +31s. =S − 2s.
Sion eP_g = +39s.
Besancon iP_g = +41s. =P* +1s., iS_g = +1m.15s.
Hof e = +47s. =P_g −1s. and +50s.
Cheb e = +47s.
Piacenza P = +55s. =P_g +1s.
Jena iEZ = +46s., iN = +51s. =P* −1s., +58s. =P_g +0s., +1m.3s., and +1m.35s. =S* +1s.
Gottingen iENZ = +57s. =P* +2s., e = +1m.1s. =P_g −1s., i = +1m.3s., eE = +1m.7s., eNZ = +1m.43s. =S* +4s., eE = +1m.47s. =S_g +1s.
Bochum P_g = +59s., iS_g = +1m.56s.
Leipzig eZ = +1m.7s. =P* +5s., +1m.10s. =P_g +0s., +1m.44s.
Prague iP_g = +1m.4s.
Triest iPP = +1m.7s. =P_g −3s., iS* = +1m.53s., iS_g = +1m.57s., iSS_g = +1m.59s., iSSS = +2m.15s.
Laibach e = +1m.46s., i = +2m.17s.
Uccle eP_g = +1m.20s., iN = +2m.1s., iS_g = +2m.8s.
Vienna P = +1m.10s., P* = +1m.18s., P_g = +1m.26s., PPsP = +1m.29s.

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De Bilt iZ = +1m.20s. =P* +1s.
Lille PPS = +2m.13s., iS$_g$ = +2m.39s.
Zagreb eP = +1m.18s., eP$_g$ = +1m.30s., esP = +1m.37s., ePS = +1m.44s., esPS = +2m.9s., iE = +2m.56s., i = +3m.13s., iZ = +3m.18s., i = +3m.43s., eZ = +4m.9s.
Hamburg eN = +1m.44s. =P$_g$ +0s., iN = +1m.53s., iE = +2m.53s. =S$_g$ −3s
Marseilles SsS = +3m.11s., SsSS = +3m.26s.
Budapest PP = +1m.40s., e = +2m.19s., ePS? = +3m.8s.
Oxford e = +2m.31s. =P$_g$ −1s. and +2m.58s.
Belgrade e = +2m.51s., +3m.33s., +4m.40s., and +5m.0s.
Stonyhurst iS = +5m.2s., i = +5m.17s.
Konigsberg PP = +3m.4s., iN = +3m.39s., S = +4m.22s., iZ = +4m.45s., i = +4m.50s. =S* +6s., iZ = +4m.58s. and +5m.7s. =S$_g$ −4s., iEN = +5m.23s., iE = +5m.57s., iN = +6m.2s., iNE = +6m.10s.
Durham ? = +51s. and +2m.58s.
Tortosa SN = +5m.19s. =S$_g$ +8s.
Lemberg eE = +4m.18s.
Sofia e = +6m.13s. =S$_g$ +12s. and +8m.52s.
Bucharest eEN = +6m.48s.
Upsala e = +5m.30s.
Granada SS = +6m.26s.
Malaga e = +8m.10s., SsS = +8m.21s., e = +8m.42s.
San Fernando e = +9m.19s.
Ksara SS = +10m.46s.
Grozny e = +13m.10s. and +14m.6s.
Sverdlovsk e = +12m.29s.
Tashkent e = +19m.48s.
Long waves at Edinburgh, Baku, Frunse, Scoresby Sund, and Chiufeng.

June 27d. Readings also at 0h. (Sverdlovsk and Manila), 1h. (Sebastopol, Tashkent, and Yalta), 2h. (Baku, Erevan, Ksara, Tashkent, and Sverdlovsk), 3h. (Agra, Andijan, Copenhagen, Frunse, Ksara, Sverdlovsk, and Tashkent), 4h. (Apia (2), Christchurch, Wellington, Andijan, Almata, Sverdlovsk, Tashkent, and Tchimkent), 5h. (Mizusawa (2)), 6h. (Santiago), 8h. (Hong Kong, Nanking, and Phu-Lien), 11h. (Berkeley and Tananarive), 16h. (Oak Ridge), 17h. (Almeria (2) and Granada), 21h. (Nanking).

June 28d. 2h. 0m. 40s. Epicentre 34°·2S. 76°·0W. N.2.

A = +·200, B = −·802, C = −·562; D = −·970, E = −·242; G = −·136, H = +·545, K = −·827.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Santiago		4·5	82	0 48	−16	2 0	+ 5	—	—
La Plata	E.	14·9	98	2 55	−32	5 50	−23	6·8	9·6
	N.	14·9	98	3 2	−25	6 8	− 5	6·7	7·6
	Z.	14·9	98	2 56	−31	5 44	−29	6·8	8·6
Sucre		17·9	35	i 4 4	− 1	—	—	—	—
La Paz		19·1	24	i 4 29$_a$	+ 9	—	—	11·4	14·5
Huancayo		22·2	2	i 5 6	+13	i 9 24	SS	10·1	—
San Juan		53·4	10	e 9 18	+ 1	e 16 50	+ 3	e 27·8	—
Georgetown		73·1	0	i 11 28	− 1	i 21 3	+ 5	e 34·3	—
St. Louis		74·0	348	e 11 30	− 5	i 21 13	+ 5	—	—
Tucson		74·1	330	e 11 37	+ 2	e 21 20	+10	e 38·2	—
Florissant		74·2	348	i 11 32	− 4	e 21 13	+ 2	—	—
Cape Town		74·9	119	—	—	e 20 20?	?	32·3	—
Ithaca		76·6	0	—	—	e 21 44	+ 6	—	—
Oak Ridge		77·1	5	i 11 46	− 7	—	—	—	—
La Jolla		77·5	326	i 11 56	+ 1	—	—	—	—
Toronto		77·9	358	e 11 53	− 4	e 21 47	− 6	—	—
Riverside		78·4	326	i 11 59	0	—	—	—	—
Pasadena		78·9	326	i 12 2	0	—	—	e 40·8	—
Ottawa		79·6	1	e 12 4	− 2	e 22 8	− 3	e 36·3	—
Santa Barbara		80·0	325	e 12 9	+ 1	—	—	—	—
Haiwee		80·5	327	i 12 9	− 1	—	—	—	—
Tinemaha		81·4	327	e 12 15	0	—	—	—	—
Berkeley		83·9	325	i 12 28	0	—	—	—	—
San Fernando		96·0	50	—	—	e 25 42	PS	52·3	—

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Kew	108·2	40	e 18 42	PP	—	—	57·3	—
Paris	108·2	43	e 18 42	PP	—	—	54·3	63·3
Edinburgh	109·2	35	—	—	e 28 20?	PS	—	—
Uccle	110·4	42	—	—	e 27 20?	?	e 51·3	—
Piacenza	110·7	49	e 20 50	?	—	—	—	79·3
Strasbourg	111·2	45	e 16 20?	?	e 27 20?	?	e 38·3	—
Florence	111·2	52	e 18 22	[+ 1]	—	—	60·3	—
De Bilt	111·5	41	e 19 7	PP	—	—	e 52·3	61·6
Scoresby Sund	111·6	17	19 8	PP	—	—	59·3	—
Stuttgart	112·2	45	—	—	e 28 38	PS	e 52·3	—
Triest	113·6	51	e 19 19	PP	e 28 58	PS	e 51·3	61·4
Copenhagen	116·9	39	19 56	PP	25 14	[−26]	53·3	—
Ksara	124·7	71	—	—	30 23	PS	—	—
Pulkovo	127·1	37	18 50	[−11]	26 9	[− 2]	63·3	72·0
Moscow	130·6	44	e 17 55	?	—	—	—	—
Tiflis	133·6	63	e 19 21	[+ 8]	—	—	—	—
Grozny	134·6	61	e 19 4	[−10]	—	—	—	—
Baku	137·2	66	i 19 12	[− 6]	—	—	67·6	85·4
Sverdlovsk	143·1	39	i 19 19	[− 9]	—	—	59·3	88·6
Samarkand	150·1	70	e 19 35	[− 7]	—	—	—	—
Tashkent	151·8	66	i 19 31	[−13]	—	—	e 64·3	88·0
Andijan	154·2	67	e 19 28	[−19]	—	—	—	—
Manila	155·1	223	i 19 39	[− 9]	22 40	?	—	—
Vladivostok	156·6	301	e 20 20	{− 9}	—	—	—	—
Almaṭa	157·2	58	e 19 20	[−31]	—	—	—	—
Nanking	167·4	264	e 24 55	PP	e 32 19	{+21}	e 84·1	—
Chiufeng	168·7	307	e 19 53	[− 9]	i 31 48	{−17}	—	46·6

Additional readings :—
La Plata Z = +3m.8s., PPPE = +3m.14s., E = +6m.26s.
Huancayo iPP = +5m.27s., iSS = +10m.0s.
San Juan eSS = +20m.30s.
St. Louis iN = +11m.32s.
Florissant iZ = +11m.34s., ipPZ = +11m.44s., iN = +21m.18s., esSE = +21m.35s., eSSE = +26m.14s. ; T_o = 2h.0m.34s.
Strasbourg e = +21m.20s.? = PPP − 1s.
Florence i = +19m.0s. = PP − 6s.
Stuttgart ePP = +19m.20s., ePPP = +21m.50s.
Copenhagen e = +29m.38s. = PS + 4s.
Ksara PP = +20m.23s.
Pulkovo PP = +20m.50s., PKS = +22m.8s., PS = +30m.56s., SS = +38m.8s., SSS = +41m.56s.
Moscow PP = +21m.4s., PKS = +22m.22s.
Tiflis e = +21m.28s. and +22m.33s.
Grozny e = +22m.32s.
Baku e = +21m.51s. = PP − 13s. and +34m.8s.
Sverdlovsk PP = +22m.34s., e = +42m.11s.
Tashkent PKS = +23m.18s., PPP = +26m.42s., PPS = +36m.38s., SS = +42m.38s.
Chiufeng iPPZ = +24m.56s., ePPEN = +25m.3s.
Long waves at Bombay, Wellington, Bozeman, Ukiah, and Almeria.

June 28d. 9h. 9m. 35s. Epicentre 48°·2N. 9°·3E. N.2.

A = +·658, B = +·108, C = +·745 ; D = +·162, E = −·987 ; G = +·736, H = +·120, K = −·667.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Ebingen	0·3	260	i 0 7	+ 3	i 0 12	+ 4	—	—
Ravensburg	0·4	150	i 0 5	− 1	i 0 9	− 1	—	—
Stuttgart	0·6	346	i 0 13	+ 4	i 0 24	+ 9	—	—
Zurich	1·0	215	i 0 13	− 1	i 0 25	− 1	—	—
Karlsruhe	1·0	319	0 25?	S	(0 25)	− 1	—	—

Continued on next page.

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Strasbourg	1·1	285	e 0 24	S	(e 0 24)	− 4	—	—
Basle	1·3	245	i 0 22	P_g	i 0 43	S_g	—	—
Chur	1·4	172	i 0 21	+ 1	i 0 37	+ 1	—	—
Neuchatel	1·9	238	i 0 31	P_g	e 1 3	S_g	—	—
Besancon	2·4	250	—	—	i 1 16	S_g	—	—
Hof	2·7	46	—	—	e 1 25	S_g	—	—
Cheb	2·8	52	e 0 50	P_g	e 1 26	S_g	—	1·5
Jena	3·1	33	e 0 55	P_g	i 1 30	S*	i 1·6	1·6
Padova	3·3	145	e 1 40	S_g	—	—	—	—
Göttingen	3·4	8	e 0 55	P*	i 1 27	0	—	—
Bochum	3·6	331	—	—	e 1 29	− 3	—	2·1
Leipzig	3·7	40	i 1 3	P*	—	—	—	2·4
Prague	3·8	65	e 2 10	?	e 2 44	?	—	3·1
Triest	3·9	125	e 0 57	+ 1	i 1 59	S*	—	—
Uccle	4·2	311	e 1 27	P_g	2 3	S*	—	—
Graz	4·3	103	i 1 14	P*	i 2 4	S*	—	i 2·2
Paris	4·5	276	e 2 30	S_g	—	—	—	—
Prato	4·5	161	e 1 16	P*	2 20	S_g	—	—
Florence	4·6	162	e 0 57	− 9	2 9	+11	—	3·4
Vienna	4·7	90	e 1 25	P_g	2 26	S_g	i 2·6	2·6
De Bilt	4·7	320	—	—	e 2 43	?	—	3·5
Zagreb	5·1	114	e 0 34	?	e 2 26	S*	—	—
Kew	7·0	300	—	—	e 3 43	S_g	—	—
Copenhagen	7·8	15	—	—	4 25?	?	—	—
Moscow	18·8	55	—	—	e 7 28	−14	—	—

Additional readings and note :—
Stuttgart iN = +20s.
Karlsruhe S = +39s.
Strasbourg iS_g = +40s.
Neuchatel iP_g = +36s.
Besançon iS_g = +1m.21s.
Jena iE = +1m.3s., +1m.6s., +1m.16s., and +1m.20s.
Göttingen iE = +1m.6s. = P_g +4s., iEN = +1m.48s. = S_g +2s., eE = +1m.51s., eEN = +2m.1s.
Bochum readings given as 10h.
Leipzig iE = +1m.8s. = P_g +0s., eZ = +2m.0s.
Prague e = +2m.34s.
Triest P_g = +1m.10s.
Uccle i = +2m.21s.
Vienna P* = +1m.34s.
Zagreb e = +2m.40s. = S_g −2s. and +3m.10s.
Kew N = +3m.53s. and +4m.29s.
Moscow e = +10m.4s.
Long wave at Pulkovo.

June 28d. 18h. 48m. 21s. Epicentre 34°·6N. 140°·7E. (as on 14d. 21h.). R.3.

A = −·637, B = +·521, C = +·568.

	Δ	Az.	P.	O−C.	S.	O−C.	M.
	°	°	m. s.	s.	m. s.	s.	m.
Tokyo	1·3	324	0 19	P*	0 34	+ 1	0·6
Nagoya	3·2	281	0 46	0	e 1 35	S*	1·9
Osaka	4·3	272	1 12	P*	2 13	S_g	2·5
Mizusawa	4·5	358	i 1 2	− 2	i 1 53	− 2	—
Sumoto	4·8	268	1 8	0	2 11	+ 8	2·3
Toyooka	4·9	283	e 1 9	− 1	2 22	S*	2·4

Additional readings :—
Mizusawa iSN = +1m.56s.
Sumoto iPZ = +1m.10s.
Toyooka ePN = +1m.14s.

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June 28d. 18h. 57m. 52s. Epicentre 34°·6N. 140°·7E. (as at 18h. 48m.). R.1.

A = − ·637, B = + ·521, C = + ·568.

		Δ	Az.	P.	O − C.	S.	O − C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Mera		0·8	294	0 14	+ 3	0 21	0	—	—
Tyosi		1·1	5	0 19	+ 3	0 33	S*	—	—
Yokosuka		1·1	310	0 10	− 6	0 20	− 8	—	—
Yokohama		1·2	315	0 20	P_g	0 32	+ 1	—	—
Tokyo		1·3	324	0 20	P_g	0 33	0	—	0·6
Ito		1·4	285	0 20	0	0 33	− 3	—	—
Misima		1·5	292	0 24	P_g	0 39	0	—	—
Numadu		1·6	287	0 24	+ 1	0 45	S*	—	—
Hatidyozima		1·7	205	0 32	+ 8	0 54	S_g	—	—
Mito		1·7	354	0 28	P_g	0 49	S*	—	—
Tukubasan		1·7	343	0 25	+ 1	0 43	− 1	—	—
Kakioka		1·7	345	0 25	+ 1	0 44	0	—	—
Kumagaya		1·9	325	0 28	0	0 48	− 1	—	—
Hunatu		1·9	300	0 27	− 1	0 46	− 3	—	—
Utunomiya		2·1	340	0 25	− 5	0 46	− 8	—	—
Kohu		2·1	300	0 29	− 1	0 52	− 2	—	—
Omaesaki		2·1	270	0 32	P*	1 2	S*	—	—
Maebasi		2·2	324	0 18	−13	0 42	−15	—	—
Hamamatu		2·5	270	0 39	P*	1 10	S*	—	—
Nagano		2·9	315	0 43	+ 2	1 15	+ 1	—	—
Nagoya		3·2	281	i 0 48	+ 2	1 19	− 3	—	2·3
Hukusima		3·2	357	0 46	0	1 24	+ 2	—	—
Gihu		3·3	284	0 50	+ 3	1 28	+ 3	—	—
Kameyama		3·5	274	0 52	+ 2	1 25	− 5	—	—
Toyama		3·5	305	0 52	+ 2	1 31	+ 1	—	—
Sendai		3·7	2	0 53	0	1 32	− 3	—	—
Hikone		3·7	279	0 54	+ 1	1 35	0	—	—
Kyoto		4·1	275	1 2	+ 4	1 51	+ 6	—	—
Wazima		4·1	321	0 59	+ 1	1 41	− 4	—	—
Siomisaki		4·3	252	1 3	+ 2	1 47	− 3	—	—
Osaka		4·3	272	0 42	−19	1 44	− 6	—	2·5
Mizusawa		4·5	358	e 1 3	− 1	i 1 54	− 1	—	—
Wakayama		4·6	265	1 8	+ 2	1 1	+ 3	—	—
Kobe	z.	4·6	272	e 1 2	− 4	1 51	− 7	—	2·9
Sumoto	z.	4·8	268	1 9	+ 1	2 11	+ 8	—	2·3
Toyooka		4·9	283	1 10	0	2 5	0	—	2·6
Morioka		5·1	2	1 13	0	2 10	0	—	—
Akita		5·1	354	1 17	+ 4	2 10	0	—	—
Koti		6·0	259	1 28	+ 3	2 38	+ 5	—	—
Hamada		7·1	271	1 41	0	3 2	+ 1	—	—
Miyazaki		8·2	250	2 0	+ 4	3 11	−18	—	—
Sapporo		8·5	2	1 53	− 7	3 11	−25	—	—
Kumamoto		8·5	267	2 6	+ 6	3 42	+ 6	—	—
Hukuoka B		8·6	266	2 13	+11	3 49	+10	—	4·9
Hukuoka		8·6	266	2 4	+ 2	4 10	S*	—	—
Nagasaki		9·2	263	e 3 48	S	(e 3 48)	− 6	—	—
Husan		9·6	272	e 2 16	0	e 4 13	+10	—	—
Taikyu		9·9	276	2 24	+ 5	4 12	+ 1	—	—
Vladivostok		10·9	326	i 2 36	+ 3	i 4 42	+ 6	5·8	13·7
Zinsen		11·7	283	i 2 46	+ 2	e 6 38	S_g	—	—
Heizyo		12·7	294	2 56	− 2	—	—	—	—
Zi-ka-wei		16·5	264	e 3 49	+ 1	7 12	SS	—	12·1
Nanking		18·5	270	i 4 14	+ 1	7 45	SS	9·4	—
Chiufeng		20·2	295	4 30a	− 2	i 8 5	− 5	9·9	13·7
Almata		49·1	301	e 8 8	−36	—	—	—	—
Frunse		50·9	301	e 8 34	−24	—	—	—	—
Andijan		53·1	299	e 8 39	−36	e 16 41	− 2	—	—
Tchimkent		54·6	301	e 9 25	− 1	—	—	—	—
Tashkent		55·1	300	i 9 28	− 2	i 17 0	−11	e 25·7	33·6
Sverdlovsk		56·4	320	i 9 40	+ 1	17 23	− 5	25·1	30·6

Continued on next page.

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	Δ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Moscow	68·7	324	e 11 0	− 3	e 19 54	−11	—	36·9
Baku	69·0	306	e 11 4	− 1	e 21 3	(+ 5)	34·1	—
Pulkovo	69·8	331	e 11 7	− 2	20 7	−12	36·1	41·9
Grozny	70·3	310	e 12 12	+59	—	—	—	—
Tiflis	71·7	309	e 10 59	−22	e 20 31	−10	e 33·1	39·4
Scoresby Sund	74·2	355	11 36	0	21 8	− 3	39·1	—
Tinemaha	77·5	53	e 11 55	0	—	—	—	—
Santa Barbara	77·9	56	e 12 9	+12	—	—	—	—
Haiwee	78·1	53	e 11 59	+ 1	—	—	—	—
Pasadena	79·2	55	i 12 4	0	—	—	—	—
Copenhagen	79·5	334	—	—	22 8?	− 2	38·1	—
Riverside	79·8	55	e 12 7	0	—	—	—	—
La Jolla	80·6	57	i 12 12	+ 1	—	—	—	—
Ksara	81·9	305	i 12 16	− 2	23 16	PS	—	—
Stuttgart	86·2	330	e 12 37	− 2	e 23 14	− 5	e 44·1	—
Strasbourg	86·9	331	e 12 8?	−35	e 23 8?	[− 5]	e 42·1	—

Additional readings :—
Toyama +1m.28s.
Osaka i = +2m.8s.
Wakayama +1m.57s.
Kobe ePEN = +1m.7s., iN = +1m.10s., iE = +1m.22s., SEN = +1m.57s.
Sumoto PEN = +1m.11s., SE = +2m.14s.
Toyooka iE = +1m.19s. = P* − 2s., iZ = +1m.25s.
Hamada +1m.59s. = P* +1s.
Nagasaki eSN = +5m.4s., eSE = +5m.9s.
Zi-ka-wei iZ = +10m.10s.
Nanking PP = +4m.53s., iN = +8m.7s.
Chiufeng iNZ = +4m.48s.
Tiflis e = +11m.27s. and +21m.13s. = PS +12s.
Ksara PP = +15m.25s.
Strasbourg ePS = +24m.8s. ?
Long waves at De Bilt, Paris, Uccle, and Hong Kong.

June 28d. 19h. 30m. 11s. Epicentre 19°·6N. 155°·2W. N.2.
Given by the U.S. Coast and Geodetic Survey.

A = −·855, B = −·395, C = +·335 ; D = −·420, E = +·908 ;
G = −·304, H = −·141, K = −·942.

	Δ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.
Honolulu	3·0	312	i 0 42	− 1	—	—	—
Ukiah	33·7	48	—	—	e 12 4	+ 3	e 14·0
Berkeley	33·9	51	—	—	e 13 18	?	—
Pasadena	35·8	58	i 6 56k	0	e 12 36	+ 3	e 15·1
La Jolla	36·3	60	e 7 2	+ 2	—	—	—
Riverside	36·4	60	e 7 1	0	—	—	—
Haiwee	36·5	55	e 7 8	+ 6	—	—	—
Tinemaha	36·6	54	e 7 3	0	e 12 54	+ 9	—
Sitka	40·2	18	—	—	e 16 49	SSS	—
Tucson	41·5	63	e 7 47	+ 3	e 14 7	+ 8	e 17·5
Bozeman	44·6	45	—	—	e 14 54	+10	e 21·3
Florissant	58·5	57	e 9 52	− 2	i 17 57	+ 1	e 27·6
Ann Arbor	63·4	52	—	—	e 29 13	?	31·1
Oak Ridge	72·3	51	(e 11 23)	− 2	e 11 23	P	—
Scoresby Sund	84·3	13	—	—	22 55	[+ 1]	41·8
Sverdlovsk	97·9	341	17 36	PP	e 24 16	[0]	44·8
Tashkent	106·5	327	i 18 42	PP	i 24 55	[− 2]	—

Additional readings :—
Honolulu i = +1m.2s. and +2m.0s.
Bozeman eSS = +18m.29s. = SSS − 6s.
Florissant eSPE = +18m.25s., iN = +18m.42s. ; T_0 = 19h.30m.14s.
Tashkent i = +27m.55s. = PS +2s.

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June 28d. 20h. **Readings for which no determination has been made :—**

Almata eP =48m.2s.
Frunse e =49m.14s., eS =50m.35s.
Andijan eP =49m.39s., eS =52m.2s.
Sverdlovsk eP =50m.29s., L_q =57m.18s., Lr =60m.6s., M =60m.48s.
Tchimkent e =52m.16s.
Tashkent e =52m.37s., e =53m.2s., iS =53m.24s., eL =55m.0s., M =56m.6s.
Samarkand e =53m.49s.
Vladivostok e =62m.20s.
Pulkovo e =63m.12s., L =66m.
Moscow e =63m.33s., e =67m.9s., M =68m.18s.
Long waves at Copenhagen, De Bilt, Stuttgart, and Tiflis.

June 28d. 21h. 3m. 40s. Epicentre 23°·0N. 121°·7E. (as on 1934 April 5d.). X.

A = −·484, B = +·783, C = +·391.

	△	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Taito	0·6	240	i 0 1	− 8	0 5	−10
Arisan	1·0	302	e 0 16	+ 2	—	—
Karenko	1·0	353	e 0 13	− 1	—	—
Kosyun	1·3	220	e 0 18	0	0 33	0
Taityu	1·5	324	0 22	+ 1	0 39	0
Taihoku	1·9	359	e 0 3	−25	e 0 16	−33

June 28d. Readings also at 0h. (Ebingen, Ravensburg, and Stuttgart), 1h. (Andijan, Samarkand, Sverdlovsk, Tchimkent, and Tashkent), 3h. (Andijan, Almata, Frunse, Samarkand, and Tchimkent), 6h. (Andijan, Frunse, Samarkand, and Tchimkent), 7h. (Seattle), 8h. (Gottingen), 9h. (Ebingen, Ravensburg, and Stuttgart), 10h. (Hukuoka B), 13h. (Almata, Ebingen, Frunse, Moscow, Ravensburg, Sverdlovsk, and Stuttgart), 17h. (Apia), 20h. (Berkeley, Branner, Lick, San Francisco, and Nagoya).

June 29d. 6h. 48m. 58s. Epicentre 18°·4N. 103°·6W. (as on 1933 Dec. 14d.). R.1.

A = −·223, B = −·922, C = +·316 ; D = −·972, E = +·235 ;
G = −·074, H = −·307, K = −·949.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Manzanillo	0·9	318	0 10	− 3	—	—	—	—
Guadalajara	2·2	6	0 18	−13	—	—	—	—
Tacubaya	4·3	76	1 8	P*	—	—	—	—
Ixtapalapa	4·4	76	1 12	P*	—	—	—	—
Puebla	5·2	77	1 21	P*	—	—	—	—
Mazatlan	5·4	335	0 59	−18	—	—	—	—
Oaxaca	6·8	103	1 50	P*	—	—	—	—
Vera Cruz	7·1	80	1 51	P*	—	—	—	—
Merida	13·4	76	3 20	PP	—	—	—	—
Tucson	15·3	336	i 3 34	+ 2	i 6 25	+ 3	i 7·5	—
La Jolla	18·9	323	i 4 17	0	—	—	—	—
Riverside	19·8	324	i 4 28a	+ 1	e 7 19	−43	—	—
Pasadena	20·4	323	i 4 33a	− 1	e 8 30	SS	i 9·5	—
Mount Wilson	20·4	324	i 4 34a	0	—	—	—	—
Denver	21·3	358	i 4 45	+ 2	e 8 41	+ 9	e 10·4	12·5
Santa Barbara	21·5	321	i 4 46	+ 1	—	—	—	—
Haiwee	21·8	327	i 4 48a	− 1	i 8 54	+12	—	—
Tinemaha	22·6	328	i 4 57a	0	—	—	—	—
Florissant	23·4	27	i 5 2	− 3	i 9 14	+ 2	i 12·0	i 12·4
St. Louis	23·4	27	i 5 1	− 4	i 9 12	0	e 11·9	14·5
Lick	24·6	324	i 5 17	+ 1	—	—	—	—
Branner	25·0	323	e 5 21	+ 1	—	—	—	—
Berkeley	25·3	324	i 5 24	+ 1	i 10 40	SS	—	—
Columbia	26·4	48	i 5 22	− 2	i 9 51	+ 3	i 17·3	—
Ukiah	26·8	325	i 5 38	+ 2	e 10 10	− 2	e 12·0	—

Continued on next page.

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		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Chicago		27·1	27	i 5 36	− 3	e 10 11	− 6	i 16·1	—
Bozeman		28·0	349	i 5 46	− 1	e 10 28	− 4	e 13·9	—
Ann Arbor		29·2	32	e 5 56	− 2	i 11 26	+35	i 17·7	19·1
Charlottesville		29·4	43	e 6 2	+ 2	e 10 50	− 5	15·6	—
Port au Prince		29·6	83	e 6 4	+ 3	e 11 6	+ 8	e 13·9	—
Georgetown		30·9	43	i 6 11	− 2	i 11 31	+13	—	—
Pennsylvania		31·4	39	e 11 46	S	(11 46)	+20	—	19·8
Toronto		32·4	34	i 6 23	− 3	i 11 47	+ 6	16·0	—
Philadelphia		32·6	44	i 6 28	0	i 11 46	+ 1	i 18·0	—
Seattle		33·0	336	e 6 31	− 1	e 11 59	+ 8	16·9	—
Ithaca		33·2	42	e 6 32	− 2	—	—	—	—
Saskatoon		33·8	357	e 6 44	+ 5	12 26	+23	18·0	—
Victoria		34·0	336	i 6 38	− 2	i 12 8	+ 2	e 17·7	19·2
San Juan		35·5	83	i 6 53	0	i 12 32	+ 3	i 17·6	—
Ottawa		35·5	34	e 6 52	− 1	e 12 24	− 5	e 16·5	—
Vermont		36·3	38	e 7 2	+ 2	16 17	?	17·7	—
Oak Ridge		36·3	41	i 6 58	− 2	—	—	—	—
Huancayo		41·3	135	e 7 44	+ 1	i 13 52	− 4	i 17·3	—
Sitka		45·3	336	e 7 59	−16	i 14 55	0	e 21·3	—
La Paz		49·4	132	i 8 49a	+ 2	i 15 55	+ 3	23·0	28·0
Honolulu		50·8	283	—	—	e 16 15	+ 3	e 20·9	—
Sucre		53·1	132	e 9 18	+ 3	i 16 47	+ 4	—	—
La Plata	E.	68·9	141	11 8	+ 4	20 2	− 6	33·1R	35·5
	N.	68·9	141	11 14	+10	—	—	35·4R	—
	Z.	68·9	141	11 14	+10	—	—	36·0R	—
Scoresby Sund		69·9	20	i 11 5	− 5	20 14	− 6	—	—
Edinburgh		80·5	34	12 12	+ 2	i 22 46	PS	41·0	48·0
Bidston		81·3	37	i 12 18	+ 3	i 23 22	PS	e 39·0	48·7
Stonyhurst		81·5	36	i 12 18	+ 2	e 22 26	− 6	39·0	49·2
Serra do Pilar		81·6	50	12 7	− 9	22 26	− 7	—	—
Durham		81·7	35	12 19	+ 2	22 39	+ 5	—	49·0
Bergen		83·0	28	i 11 52	−31	22 15	−32	—	—
Kew		83·6	38	i 12 27a	+ 1	i 23 4	+11	40·0	50·2
San Fernando		84·9	53	i 12 34a	+ 1	i 23 8	+ 1	42·0	54·0
Toledo		85·3	50	i 12 35	0	23 24	+13	e 41·1	52·4
Malaga		86·1	52	i 12 39	0	i 23 13	− 5	49·4	—
Paris		86·3	40	i 12 41a	+ 1	23 18	− 2	40·0	51·0
De Bilt		86·4	35	i 12 42a	+ 2	e 23 19	− 2	e 41·0	44·6
Uccle		86·5	37	i 12 41a	0	23 22	0	37·0	51·8
Granada		86·6	52	i 12 28	−13	i 23 7	[− 4]	41·0	—
Almeria		87·5	52	e 12 45	0	e 23 24	− 8	e 42·0	—
Hamburg		88·3	33	i 12 49a	0	e 23 22	−18	e 44·0	46·0
Alicante		88·4	50	e 12 53	+ 3	e 23 2?	[−21]	e 43·1	—
Copenhagen		88·5	30	i 12 50	0	23 29	[+ 6]	41·0	—
Upsala		88·5	26	12 49	− 1	23 21	[− 2]	e 38·0	54·0
Barcelona		89·1	46	e 12 13	−40	—	—	e 31·1	50·0
Göttingen		89·4	34	e 13 26	?	e 23 26	[− 3]	—	54·5
Strasbourg		89·5	37	e 12 50	− 5	e 23 55	+ 4	e 38·0	54·2
Karlsruhe		89·7	37	−e 17 28	?	—	—	e 45·5	54·1
Stuttgart		90·2	37	12 59	+ 1	e 24 8	+10	e 43·0	54·0
Jena		90·3	35	e 12 56	− 3	23 32	[− 2]	e 42·0	56·5
Zurich		90·6	39	e 12 57	− 3	e 23 43	[+ 7]	—	—
Chur		91·4	39	e 13 4	0	e 24 41	PS	—	—
Cheb		91·4	35	e 16 26	PP	e 25 16	PS	44·0	55·5
Algiers		91·6	51	e 12 2	−63	e 23 37	[− 5]	e 41·0	51·0
Piacenza		92·4	40	e 13 12	+ 3	23 50	[+ 3]	51·8	58·3
Prague		92·5	36	e 13 2?	− 7	e 23 2	[−45]	e 42·0	59·0
Königsberg		92·8	29	—	—	i 23 40	[− 9]	e 46·0	56·0
Pulkovo		93·3	22	13 11	− 2	23 47	[− 5]	44·0	56·1
Padova		93·5	40	e 13 14	0	i 24 0	{− 3}	e 56·0	—
Prato		93·8	42	e 13 15	0	23 50	[− 4]	46·7	54·3
Florence		94·0	41	13 14	− 2	24 32	− 1	35·0	49·0
Triest		94·5	39	i 13 18a	0	24 36	− 2	e 47·0	50·9
Vienna		94·6	36	e 13 19	0	e 23 55	[− 4]	e 47·0	—
Graz		95·0	37	—	—	e 23 31	[−30]	e 46·0	58·8

Continued on next page.

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	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Budapest	96·5	35	13 11	−16	23 37	[−31]	e 46·5	58·5
Moscow	98·9	22	13 38	0	24 16	[− 4]	43·8	60·7
Belgrade	98·9	37	—	—	e 24 16	[− 4]	62·6	—
Vladivostok	100·1	322	e 13 45	+ 1	24 26	[0]	—	73·4
Sverdlovsk	103·6	9	i 13 59	− 1	24 39	[− 4]	—	66·0
Yalta	107·3	30	e 14 10	− 8	24 0	[−61]	e 57·0	—
Chiufeng	110·7	328	e 14 32	− 2	25 9	[− 7]	e 53·7	73·8
Grozny	112·2	24	e 18 34	[+10]	—	—	e 46·0	—
Sydney	112·5	241	—	—	e 25 22	[− 2]	e 57·1	64·0
Tiflis	113·1	25	e 12 27	?	e 28 53	PS	39·0	69·8
Ksara	115·0	38	e 14 51	− 4	29 19	PS	55·7	—
Helwan	115·1	43	e 18 43	[+10]	i 29 27	PS	—	—
Nanking	115·2	321	—	—	26 41	{− 3}	55·2	63·3
Baku	116·2	22	—	—	29 33	PS	46·0	72·1
Melbourne	117·9	237	—	—	i 29 50	PS	54·5	57·7
Frunse	118·7	2	e 19 10	[+28]	—	—	e 65·0	—
Tashkent	119·9	6	15 10	− 9	25 45	[− 5]	58·0	75·4
Andijan	120·7	4	e 18 55	[+ 8]	—	—	65·1	—
Adelaide	122·9	241	—	—	e 43 37	?	—	69·7
Hong Kong	125·0	316	20 52	PP	30 41	PS	—	83·8
Manila	125·1	304	20 34	PP	—	—	—	58·5
Cape Town	126·5	119	20 56	PP	i 28 4	{+ 5}	63·0	66·0
Agra	134·4	357	e 22 11	PP	—	—	—	86·0
Calcutta	137·4	344	e 23 2	PKS	—	—	—	81·6
Bombay	142·5	6	19 29	[+ 4]	—	—	e 64·0	90·8
Hyderabad	144·1	357	19 26	[− 6]	—	—	—	26·4
Medan	148·9	314	19 59	[+19]	—	—	e 89·0	—
Tananarive	152·7	95	—	—	23 38	PP	—	82·6
Colombo	154·5	353	19 52	[+ 5]	—	—	—	98·6

Additional readings :—
Tucson i = +4m.9s., e = +5m.42s., i = +7m.11s.
Denver iPPEN = +5m.5s., iSSEN = +9m.5s., iSSSEN = +9m.15s.
Florissant iPP = +5m.29s., iP_cPZ = +8m.44s., iSSN = +9m.50s., iSSSN = +9m.58s. ; T_0 = 6h.48m.53s.
St. Louis iPPEN = +5m.33s., iSSE = +9m.48s. ; T_0 = 6h.48m.53s.
Berkeley iSE = +10m.48s.
Columbia iPP = +5m.51s., eP_cP = +8m.52s., e = +11m.57s., +12m.47s., and +14m.12s.
Ukiah eP_cP = +8m.37s.
Chicago iPP = +6m.21s., e = +9m.31s., iS = +10m.34s., i = +14m.23s., +14m.38s., and +15m.11s.
Bozeman ePP = +6m.33s., e = +9m.57s. and +12m.33s.
Ann Arbor iP = +6m.44s. = PP − 2s., i = +13m.20s.
Charlottesville iPP = +6m.42s., eSS = +12m.37s., e = +13m.10s.
Port au Prince PP = +6m.49s., PPP = +7m.7s.
Pennsylvania e = +13m.25s., i = +17m.32s. and +17m.46s., e = +18m.19s.
Toronto iPPN = +7m.22s., iPPP = +7m.46s. ; T_0 = 6h.48m.45s.
Philadelphia iPP = +7m.23s., e = +11m.17s.
Seattle ePP = +7m.47s., eSS = +14m.19s.
Ithaca iPP = +7m.32s., ePPP = +7m.56s.
Saskatoon PPP = +8m.2s., SSE = +14m.14s.
San Juan iPP = +8m.14s.
Ottawa PP = +8m.12s., SSN = +14m.18s. ; T_0 = 6h.49m.6s.
Vermont ePP = +8m.12s., e = +11m.52s., eSS = +15m.12s.
Oak Ridge e = +19m.54s. and +23m.38s.
Huancayo iP = +7m.52s., i = +8m.13s., e = +13m.36s.
Sitka i = +8m.12s., eP_cP = +10m.2s., ePP = +10m.52s., eS_cS = +18m.0s., eSS = +18m.29s.
La Paz iSE = +15m.57s., iSS = +18m.43s., iSSS = +19m.59s.
Scoresby Sund +13m.43s., +20m.56s., SS = +25m.2s. ?
Edinburgh i = +15m.20s., +17m.18s., +22m.16s. = S − 5s., and +28m.18s.
Bidston SKS = +22m.40s.
Stonyhurst i = +28m.6s.
Kew eSKS = +22m.49s., eSS = +28m.58s.
San Fernando i = +23m.22s.
Toledo SKS = +23m.7s.
Paris PP = +16m.26s.
De Bilt ePPZ = +15m.6s.
Uccle PP = +16m.9s., SS = +29m.21s., SSS = +32m.48s.
Hamburg iN = +26m.40s., eE = +29m.56s.

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Copenhagen PP = +16m.19s., +24m.44s. = PS + 10s., SS = +30m.2s. ?
Upsala PP = +16m.9s.
Gottingen E = +30m.2s. ?
Strasbourg eSKS = +23m.42s., ePS = +25m.13s.
Stuttgart iP_GP = +13m.16s., ePP = +16m.30s., ePPP = +18m.24s., eSKS = +23m.35s., ePS = +25m.2s., eN = +27m.8s., eSS = +30m.2s., eSSS = +33m.32s.
Jena e = +30m.2s.
Konigsberg PP? = +16m.22s., eE = +16m.52s. = PP + 4s., iSE = +23m.45s., PPS = +25m.34s.
Pulkovo PP = +16m.52s., PS = +25m.35s., SS = +31m.32s., SSS = +35m.20s.
Triest iPP = +17m.5s., SKS? = +23m.52s., iSKKS? = +24m.7s., iPS = +25m.56s., i = +26m.23s., iPPS = +26m.36s., e = +38m.35s.
Moscow PP = +17m.37s., PS = +26m.38s.
Vladivostok iPP = +17m.51s.
Sverdlovsk PP = +18m.13s., PPP = +20m.17s., PS = +27m.22s., PPS = +28m.24s., SS = +33m.8s.
Chiufeng PP = +19m.9s., PPP = +21m.32s., SKKSE = +26m.5s., S?EN = +26m.48s., PS = +28m.43s., iZ = +29m.7s.
Tiflis ePPP = +18m.5s., ePKKP = +30m.10s., e = +34m.28s.
Ksara PPS = +30m.31s., SS = +35m.51s.
Helwan i = +31m.8s.
Nanking PPN = +19m.41s., PPPN = +21m.53s., iPS = +29m.23s., eSS = +34m.47s., SSS = +39m.17s.
Baku PP = +19m.47s.
Melbourne e = +36m.28s. = SS + 24s. and +40m.28s. = SSS + 11s.
Tashkent ePKP = +18m.46s., PP = +20m.10s., iPS = +30m.0s., SS = +37m.32s., SSS = +41m.44s.
Adelaide i = +46m.11s. and +48m.7s., e = +59m.26s.
Hong Kong SS? = +37m.52s.
Cape Town PPP?N = +23m.27s., PSE = +31m.11s., PPS = +32m.38s., SSN = +38m.13s., SSE = +38m.16s., iE = +39m.41s., SSS = +43m.14s.
Bombay PPPEN = +22m.35s.
Tananarive N = +28m.44s., PSKS = +34m.8s., SS = +43m.53s.
Long waves at Apia, Perth, Riverview, Dehra Dun, Phu-Lien, Zinsen, and other European stations.

June 29d. 9h. Readings for which no determination has been made, 39°·2N. 70°·4E. has been suggested :—
Andijan P = 48m.22s., P_g = 48m.26s., PsP = 48m.28s., PP = 48m.30s., S_g = 48m.51s., M = 48m.54s.
Tashkent iP = 48m.28s., iS = 49m.10s., iL = 49m.12s., M = 49m.42s.
Frunse eP = 48m.38s., P_g = 48m.53s., i = 49m.16s., i = 49m.50s., S = 49m.38s., M = 50m.1s.
Samarkand eP = 48m.41s., iS_g = 49m.25s.
Tchimkent e = 48m.42s., e = 49m.24s.
Almata eP = 49m.5s., i = 50m.36s., i = 50m.59s., M = 51m.9s.
Sverdlovsk eP = 52m.9s., eS = 55m.46s., L_q = 58m.12s., Lr = 59m.6s., M = 59m.30s.
Grozny eP = 52m.17s., eS = 55m.3s.
Agra eE = 54m.7s.
Semipalatinsk e = 54m.20s.
Moscow eS = 58m.17s., e = 59m.1s., SS = 59m.22s.
Long waves at Baku, Copenhagen, Pulkvo, and Tiflis.

June 29d. Readings also at 0h. (Sverdlovsk and Tashkent), 1h. (Scoresby Sund), 2h. (Malabar), 3h. (Medan), 4h. (Triest), 5h. (Mizusawa and Strasbourg), 7h. (Santiago), 8h. (Wellington (2), Kodaikanal, Kobe, Nagasaki, and Oak Ridge), 9h. (Samarkand), 10h. (Grozny), 11h. (Erevan, Grozny, and Tiflis), 18h. (Ksara, Apia, Chatham Ils., Riverview, Sydney, and Wellington), 19h. (Chiufeng, Scoresby Sund, and Tiflis), 20h. (Baku, Ksara, Tashkent, and Tiflis), 21h. (Apia, Sverdlovsk, Mizusawa, and Nagoya), 23h. (Amboina).

June 30d. 8h. 8m. 22s. Epicentre 24°·7N. 66°·0E. N.3.

A = +·370, B = +·830, C = +·418 ; D = +·914, E = −·407 ;
G = +·170, H = +·382, K = −·908.

	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Bombay	8·6	132	e 2 38?	P*	—	—	—	—
Agra	11·1	76	—	—	i 5 19	S*	—	—
Samarkand	15·0	3	e 3 34	PP	e 5 56	−19	—	—
Tashkent	16·8	8	i 3 52	·0	i 7 3	SS	9·0	11·1
Andijan	16·9	15	e 3 59	PP	—	—	—	—

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	△	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Tchimkent	17·9	9	4 12	PP	—	—	—	—
Frunse	19·5	19	e 4 10	−14	—	—	—	—
Almata	20·6	23	e 4 50	PP	—	—	—	—
Baku	20·7	323	4 35	− 2	8 12	− 8	11·6	14·3
Erevan	23·7	316	e 5 8	+ 1	—	—	—	—
Tiflis	24·4	319	e 5 10	− 4	9 19	−11	12·0	15·0
Grozny	24·9	323	e 5 19	0	e 9 30	− 9	—	—
Ksara	27·7	295	e 5 42	− 2	e 10 26	+ 1	—	—
Sverdlovsk	32·4	355	6 30	+ 4	11 38	− 3	20·4	20·9
Moscow	37·4	333	7 8	− 2	12 41	−16	e 22·3	26·5
Pulkovo	42·9	334	8 2	+ 6	14 6	−13	25·6	28·3
Chiufeng	44·4	57	e 15 12	S	(e 15 12)	+31	e 24·7	—
Nanking	46·6	269	e 15 48	S	(e 15 48)	+35	e 27·2	—
Copenhagen	49·5	324	8 56	+ 9	—	—	27·6	—
Scoresby Sund	66·1	339	19 26	S	(19 26)	− 8	39·6	—

Sverdlovsk L_q = +17m.44s.
Long waves at other European stations.

June 30d. 9h. Readings for more than one shock for which no determinations have been made :—

Samarkand eP = 8m.0s., eS_g = 8m.38s.
Andijan e = 8m.31s.
Tashkent e = 9m.7s., i = 9m.35s., M = 10m.0s.
Frunse e = 9m.50s.
Tchimkent e = 9m.52s.

Tashkent e = 15m.1s., iS = 15m.19s., eL = 15m.24s.
Samarkand e = 15m.5s.
Andijan e = 15m.53s.
Frunse e = 17m.0s.
Calcutta e = 18m.15s.
Sverdlovsk M = 18m.

Calcutta e = 46m.54s., i = 47m.53s.
Agra eP*? = 47m.53s., eS = 49m.18s., S_g = 50m.28s.
Sverdlovsk P = 52m.24s., L = 62m.0s.
Bombay iEN = 54m.12s.
Chiufeng ME = 59m.43s.

June 30d. 18h. 8m. 56s. Epicentre 24°·4N. 120°·6E. (as on 12d. 20h.). R.3

A = −·464, B = +·784, C = +·413.

	△	Az.	P.	O−C.	S.	O−C.	L.
	°	°	m. s.	s.	m. s.	s.	m.
Taityu	0·3	167	0 3	− 1	0 7	− 1	—
Sintiku	0·6	32	0 44	?	0 51	?	—
Arisan	0·9	170	i 0 13	0	0 26	S*	—
Karenko	1·0	120	i 0 17	+ 3	0 29	S*	—
Taihoku	1·1	45	e 0 17	+ 1	0 31	S*	—
Tainan	1·4	190	e 0 25	P_g	—	—	—
Taito	1·7	165	i 0 28	P_g	0 52	S_g	—
Takao	1·8	190	−0 6	?	—	—	—
Kosyun	2·4	179	e 0 41	P_g	1 12	S_g	—
Nanking	7·8	351	—	—	4 4	S_g	5·1

Long waves at Chiufeng.

June 30d. Readings also at 0h. (Bucharest, Copenhagen, De Bilt, Paris, Samarkand, Scoresby Sund, Strasbourg, Stuttgart, Sverdlovsk, and Uccle), 1h. (Ksara, Simferopol, Tashkent, Yalta, and Batavia), 3h. (Capodimonte, Messina, and Stuttgart), 6h. (Calcutta), 7h. (Scoresby Sund), 9h. (Messina), 10h. (Samarkand and Santiago), 11h. (Amboina, Riverview, and Hukuoka), 12h. (Medan and Sverdlovsk), 13h. (Tashkent), 15h. (Berkeley, Branner, Lick, San Francisco, Tiflis, and Nagoya),,18h. (Nagasaki, Hong Kong, Tashkent, and Sverdlovsk), 19h. (Branner, Berkeley, and Nagasaki), 20h. (Taihoku), 21h. (Medan), 23h. (Branner, Berkeley, and Lick).