1930 January, February, March.

In the present quarter there are 116 epicentres, 36 being new and 80 from old epicentres. According to the new notation the quality of the material is as follows :—

N1= 8	R1= 8	X=23
N2=11	R2=19	
N3=17	R3=30	

There are only three cases of abnormal focal depth :—

	Date.				Epicentre		Focal Depth. Below Normal.
	d.	h.	m.	s.	°	°	
Jan.	5	1	19	48	49·7N.	154·8E.	+0·015
Mar.	6	3	31	36	26·5N.	139·0E.	+0·060
Mar.	10	16	27	30	50·0N.	149·0E.	+0·090

The following literature on earthquakes during this quarter has been received :

"Das Taunusbeben vom 22, Januar, 1930" Von B. Gutenberg und H. Landsberg ;

Sonderdruk aus "Gerlands Beiträge zur Geophysik," Bd. 26, Sept. 2, 1930.

UNIVERSITY OBSERVATORY,
OXFORD.

1934, April 19.

1930 JANUARY, FEBRUARY, MARCH.

Jan. 1d. Readings at 4h. (Bombay and near Manila), 8h. (near Kobe and Sumoto), 11h. (La Plata, La Paz, and Rio de Janeiro), 12h. (Copiapo), 15h. (near Manila), 16h. (Samarkand and Rocca di Papa), 17h. (Andijan, La Paz, and Tyosi), 20h. (Apia, La Paz, La Plata, near Santiago, and near Wellington), 21h. (Wellington).

Jan. 2d. Readings at 0h. (near Tyosi), 1h. (Wellington), 2h. (near Hukuoka and Nagasaki), 3h. (Wellington), 8h. (Samarkand), 9h. (Andijan and Taihoku), 13h. (near Santiago), 16h. (near Amboina (2)), 18h. (Samarkand, near Almata and Andijan), 19h. (Amboina), 20h. and 21h. (Port au Prince), 22h. (Andijan and near Samarkand), 23h. (Marseilles).

Jan. 3d. Readings at 1h. (Zagreb), 2h. (Tyosi and Wellington), 3h. (Tacubaya), 4h. (Baku, Ekaterinburg, and Irkutsk), 5h. (near Kobe and Toyooka), 7h. (Andijan and near Samarkand), 8h. (La Paz), 9h. (Wellington), 10h. (near Manila), 11h. (Mizusawa and near Tyosi), 12h. (near Wellington), 17h. (La Paz), 18h. (Samarkand, Mizusawa, Ekaterinburg, and near Manila), 19h. (near Yalta), 21h. (La Paz), 22h. (La Plata, Phu-Lien (2), near Andijan, and near Tucson).

Jan. 4d. Readings at 1h. and 5h. (Taihoku), 6h. (Suva), 7h. (Bombay), 10h. (near La Paz), 13h. (Samarkand), 15h. (Samarkand, Zagreb, near Manila, and Taihoku), 19h. (Port au Prince and Samarkand), 21h. (Andijan and Samarkand).

Jan. 5d. 1h. 19m. 48s. Epicentre **49°·7N. 154°·8E.** R.1.

(as on 1929 Jan. 13d.).

Probable error ± 0°·3.

$A = -\cdot585$, $B = +\cdot275$, $C = +\cdot763$; $D = +\cdot426$, $E = +\cdot905$; $G = -\cdot690$, $H = +\cdot325$, $K = -\cdot647$.

A depth of focus 0·015 is assumed as for 1929 Jan. 13d.

		Corr. for Focus	Δ	Az.	P.	O–C.	S.	O–C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Mizusawa		−0·4	14·4	228	3 13	− 2	5 43	− 8	—	—
Vladivostok		−0·5	17·0	256	3 45	− 3	i 6 45	− 5	—	7·5
Tyosi		−0·5	17·3	221	e 3 51	− 1	(7 0)	+ 3	7·0	—
Nagoya		−0·6	19·5	229	i 4 18	+ 1	7 48	+ 4	—	—
Toyooka		−0·6	20·3	233	4 26	0	(8 0)	0	8·0	8·1
Osaka		−0·6	20·7	231	4 10	−21	(8 9)	+ 1	8·2	8·3
Kobe		−0·6	20·8	231	4 28	− 4	8 9	− 1	—	8·3
Sumoto		−0·6	21·2	231	4 34	− 2	8 16	− 2	—	8·5
Koti		−0·7	22·5	232	e 4 43	− 6	i 8 39	− 3	—	—
Hukuoka		−0·8	24·1	237	5 3	− 1	9 12	+ 2	—	—
Nagasaki		−0·8	25·1	237	5 13	0	9 27	− 1	—	—
Zi-ka-wei	E.	−1·0	31·0	249	e 6 4	− 1	10 56	− 8	—	16·4
Irkutsk		−1·0	31·3	297	i 6 6	− 2	e 11 3	− 6	18·2	20·4
Taihoku	E.	−1·2	35·7	240	e 4 15	?	(12 16)	+ 2	12·3	—
Sitka	E.	−1·3	40·4	51	—	—	e 13 4	−18	e 16·5	—
Hong Kong		−1·3	42·0	245	7 35	− 3	13 42	− 5	19·4	20·9
Manila		−1·4	44·6	231	i 8 3	+ 5	i 14 24	0	—	—
Phu-Lien		−1·5	47·7	252	8 24	+ 2	e 15 2	− 5	22·2	—
Victoria	E.	−1·5	50·9	58	—	—	(15 40)	−12	15·7	21·3
Almata		−1·6	51·5	296	e 8 58	+ 7	—	—	—	—

Continued on next page.

		Corr. for Focus	Δ	Az.	P.	O–C.	S.	O–C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Ekaterinburg		−1·6	52·2	317	i 8 58	+ 2	16 11	+ 2	24·2	37·1
Andijan		−1·7	55·8	295	e 8 18	−69	—	—	—	—
Samarkand		−1·8	59·6	299	9 51	+ 2	—	—	—	—
Scoresby Sund		−1·8	59·8	359	—	—	18 12?	+23	—	—
Agra		−1·8	61·3	280	9 45	−16	e 19 20	+71	—	—
Pulkovo		−1·8	61·7	333	10 4	0	18 14	− 1	30·2	41·7
Kucino		−1·8	62·2	326	10 10	+ 3	18 24	+ 3	e 31·2	46·5
Helsingfors		−1·8	62·9	335	e 10 12	0	e 18 50	+20	—	—
Upsala		−1·9	65·1	340	—	—	e 19 51	+54	—	—
Medan		−1·9	66·0	246	12 12	?	i 19 54	+45	—	—
Ivigtut		−1·9	67·5	12	10 12?	−30	19 12?	−15	—	—
Hyderabad		−2·0	68·0	273	10 38	− 7	19 24	− 8	32·2	44·9
Baku		−2·0	68·5	309	10 50	+ 1	e 19 43	+ 4	36·2	45·1
Tucson	N.	−2·0	68·5	65	e 11 30	+41	e 19 50	+11	—	—
Batavia		−2·0	69·7	233	i 10 57	+ 1	i 19 48	− 5	—	—
Lund		−2·0	69·8	339	15 18	?	19 54	0	34·2	—
Copenhagen		−2·0	70·0	339	11 1	+ 3	20 1	+ 4	34·2	—
Bombay		−2·0	70·6	277	11 0	− 2	19 59	− 5	35·5	38·6
Suva		−2·0	71·0	158	10 12?	−53	—	—	—	—
Theodosia		−2·0	71·6	320	11 4	− 4	20 12	− 4	—	—
Simferopol		−2·0	72·2	320	11 11	− 1	—	—	—	—
Yalta		−2·0	72·5	320	11 13	− 1	—	—	—	—
Sebastopol		−2·0	72·7	321	11 16	+ 1	—	—	—	—
Kodaikanal		−2·0	74·1	270	14 24	PP	—	—	—	—
Florissant		−2·0	74·5	48	11 28	+ 2	20 53	+ 2	e 35·0	39·8
St. Louis		−2·0	74·7	48	i 11 30	+ 3	i 20 56	+ 3	e 35·2	—
Ann Arbor		−2·0	74·7	41	—	—	e 20 54	+ 1	e 38·0	—
Colombo		−2·0	75·0	265	20 53	S	(20 53)	− 4	—	—
De Bilt		−2·0	75·0	341	11 28	− 1	20 57	0	e 37·2	—
Cheb		−2·0	75·2	337	e 16 12?	?	—	—	e 29·2	37·2
Ottawa		−2·0	75·3	35	e 11 36	+ 5	i 20 57	− 3	e 33·2	51·2
Toronto	N.	−2·0	75·3	38	e 11 31	0	i 20 57	− 3	e 33·5	—
Budapest		−2·0	75·6	331	i 11 32	0	—	—	—	—
Vienna	Z.	−2·0	75·7	334	i 11 23	−10	—	—	—	—
Uccle		−2·0	76·4	342	e 11 36	− 1	21 7	− 6	e 35·2	—
Kew		−2·0	76·6	346	e 11 42	+ 4	—	—	e 37·2	—
Hohenheim		−2·0	77·2	339	e 11 41	0	—	—	—	—
Strasbourg		−2·1	77·7	340	e 11 41	− 3	—	—	42·2	—
Ravensburg		−2·1	77·9	339	e 11 44	− 1	—	—	—	—
Zagreb		−2·1	78·0	332	e 11 47	+ 2	e 21 24	− 6	e 31·2	—
Innsbruck		−2·1	78·0	337	e 11 42	− 3	e 21 24	− 6	—	—
Zurich		−2·1	78·6	338	e 11 49	0	—	—	—	—
Paris		−2·1	78·6	343	e 11 46	− 3	e 21 34	− 3	39·2	43·2
Chur		−2·1	78·9	338	e 11 50	0	—	—	—	—
Neuchatel		−2·1	79·4	338	e 11 52	− 2	—	—	—	—
Harvard		−2·1	79·5	33	—	—	i 21 49	+ 2	35·2	—
Fordham		−2·1	79·8	36	—	—	i 21 58	+ 7	e 30·2	—
Georgetown	Z.	−2·1	80·2	39	e 11 55	− 3	i 18 31	?	—	—
Ksara		−2·1	80·5	313	12 0	+ 1	21 55	− 3	34·2	—
Rocca di Papa		−2·1	82·7	333	12 10	− 1	22 18	− 4	48·6	—
Riverview		−2·1	83·6	184	e 12 10	− 6	i 22 22	−10	—	38·8
Adelaide		−2·1	85·9	193	e 12 57?	+30	i 22 28	−27	—	38·2
Melbourne		−2·1	88·0	188	—	—	e 22 47	−30	—	—
Toledo		−2·1	88·5	345	—	—	22 56	−25	—	—
Alicante		−2·1	89·3	341	—	—	e 22 25	−64	—	—
Granada		−2·1	91·0	345	e 3 57	?	—	—	e 39·2	54·2
Almeria		−2·1	91·1	344	e 12 42	−11	23 12	[−27]	—	44·9
Malaga		−2·1	91·6	345	—	—	e 23 14	[−28]	—	—
Wellington		−2·2	92·7	166	—	—	i 23 15	[−33]	e 50·2	—
La Paz		—	132·1	61	19 4	[− 6]	e 23 6	PKS	—	—
Rio de Janeiro			149·7	35	—	—	e 30 12?	{− 9}	—	—

For Notes see next page.

NOTES TO JAN. 5d. 1h. 19m. 48s.

Additional readings: Tyosi ePN = +3m.54s., ePE = +3m.58s. Koti iP = +4m.46s., eSZ = +8m.42s., eSS = +9m.36s. Nagasaki PP = +5m.46s., SS = +10m.19s. Sitka eE = +13m.58s. Hong Kong iSS = +17m.23s. Manila PPEN = +9m.43s., PPPPN = +10m.29s., PSE = +14m.29s., iE = +15m.1s. Phu-Lien eSS? = +18m.2s. Agra eN = +9m.50s. Helsingfors eNZ = +10m.51s. = P_cP − 14s. Medan i = +21m.54s. Tucson eE = +11m.56s. = P_cP + 29s. Florissant iP_cPEZ = +12m.3s., ePPZ = +14m.29s., ePPPZ = +16m.0s., eSSN = +25m.54s. St. Louis ePE = +11m.32s., iP_cP = +12m.5s., iE = +21m.28s. Ann Arbor iE = +21m.0s., e?E = +25m.6s., e?N = +25m.42s. De Bilt eN = +21m.1s., eEN = +22m.0s. Strasbourg e = +12m.16s. and +12m.54s. Zagreb e = +11m.54s. Fordham e = +23m.0s., eN = +26m.8s. Georgetown iZ? = +12m.36s., eZ? = +21m.3s., iSSZ = +22m.37s., eSSSZ = +23m.43s. Ksara PPN = +12m.47s.; T_o = 1h.19m.59s. Melbourne i = +23m.7s. = [S] − 13s. and +28m.55s. = SS − 16s. Long waves were also recorded at Gottingen.

Jan. 5d. 18h. 52m. 23s. Epicentre 45°·5N. 149°·4E. N.1
Probable error ±0°·3.

A = −·603, B = +·357, C = +·713; D = +·509. E = +·861; G = −·614, H = +·363, K = −·701.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Ootomari		4·6	286	2 10	+64	—	—	3·0	5·3
Sikka		5·6	315	1 33	+13	—	—	3·2	3·2
Mizusawa	E.	8·8	226	1 44	−21	3 15	−29	—	—
	N.	8·8	226	2 31	+26	3 18	−26	—	—
Tyosi		11·7	217	e 2 29	−15	(e 4 23)	−32	e 4·4	—
Vladivostok		12·7	265	2 49	− 9	i 5 6	−14	5·7	6·8
Nagoya		14·0	227	e 3 20	+ 5	5 44	− 7	—	6·3
Kobe		15·3	230	e 3 45	+13	—	—	—	—
Sumoto		15·7	230	e 3 34	− 4	—	—	—	—
Koti		17·0	231	e 4 1	+ 7	7 16	+14	—	—
Nagasaki		19·7	237	e 4 18	− 8	e 8 2	+ 2	—	—
Irkutsk		29·9	300	e 6 6	+ 2	10 56	− 7	15·6	19·9
Hong Kong		36·8	241	7 8	+ 3	12 34	−14	—	20·0
Manila		39·1	227	i 7 37?	+13	i 13 5	−17	—	—
Phu-Lien		42·8	249	e 7 57	+ 2	e 13 37	−41	17·6	—
Almata		49·9	295	8 56	+ 5	16 3	+ 4	—	—
Ekaterinburg		52·7	318	i 9 13	+ 1	16 40	+ 2	23·6	33·6
Andijan		54·2	294	9 21	− 2	17 1	− 3	28·0	—
Victoria	N.	56·3	53	9 42	+ 4	17 35	+ 8	28·6	29·8
Samarkand		58·2	297	i 9 52	0	i 17 51	− 1	27·6	—
Kucino		63·6	324	—	—	e 19 13	+11	e 33·2	35·8
Pulkovo		63·6	330	10 31	+ 2	19 7	+ 5	32·6	38·4
Scoresby Sund		63·9	357	10 33	+ 2	19 16	+10	31·6	—
Hyderabad		64·4	271	10 23	−12	18 56	−16	29·7	52·2
Helsingfors		65·1	333	i 10 33	− 6	e 19 15	− 6	e 33·6	—
Bombay		67·3	275	10 47	− 7	19 45	− 3	35·0	39·5
Upsala		67·5	336	e 10 55	0	—	—	e 39·6	45·4
Baku		68·0	307	e 11 2	+ 4	i 20 0	+ 3	35·6	46·1
Kodaikanal		70·1	266	19 25	?	—	—	—	—
Konigsberg	E.	70·7	331	e 10 37?	−38	—	—	—	—
Theodosia		72·3	319	i 11 20	− 5	20 44	− 4	—	—
Copenhagen		72·5	336	11 27	+ 1	20 55	+ 4	37·6	—
Simferopol		73·0	319	11 26	− 3	20 56	− 1	—	—
Yalta		73·3	319	11 30	− 1	—	—	—	—
Sebastopol		73·5	319	11 38	+ 6	21 7	+ 4	—	—
Hamburg	Z.	75·0	337	e 11 40	0	—	—	e 41·6	49·6
Potsdam		75·2	334	i 11 44	+ 3	—	—	—	—
Jena		76·9	335	e 11 50	− 1	—	—	—	—
Budapest		77·4	329	11 54	0	i 21 49	+ 2	39·6	—
Cheb		77·4	333	—	—	e 30 37?	?	e 40·6	43·6
De Bilt		77·7	339	11 55	− 1	21 48	− 3	e 36·6	43·4
Vienna	Z.	77·7	330	i 11 55	− 1	—	—	—	—
Uccle		79·0	340	12 3	0	e 22 1	− 4	e 36·6	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Riverview		79·4	178	e 12 1	− 4	e 21 41	−28	e 38·0	42·2
Hohenheim	N.	79·6	335	e 12 5	− 1	—	—	—	—
Kew		79·6	341	e 12 7	+ 1	e 22 13	+ 2	e 41·6	—
Zagreb		79·8	329	e 12 8	+ 1	e 22 8	− 6	e 40·6	—
Florissant		80·1	44	i 12 7	− 1	e 22 13	− 4	e 37·1	42·1
Innsbruck		80·2	333	12 19	+10	—	—	—	—
Ravensburg		80·2	335	e 12 7	− 2	—	—	—	—
Strasbourg		80·2	335	e 12 7	− 2	—	—	40·6	—
St. Louis		80·3	44	i 12 7	− 2	e 22 10	− 9	e 43·6	—
Ksara		80·5	310	—	—	21 37?	−44	—	—
Ottawa		80·8	29	—	—	e 22 17	− 7	42·6	—
Adelaide		81·0	189	e 13 23	+70	i 21 57	−29	33·5	50·1
Zurich		81·0	335	i 12 13	0	—	—	—	—
Paris		81·1	340	e 12 14	+ 1	—	—	43·6	50·6
Chur		81·2	334	e 12 14	0	e 22 24	− 4	—	—
Neuchatel		81·8	335	i 12 18	+ 1	—	—	—	—
Besançon		81·9	335	12 18	0	—	—	—	—
Rocca di Papa		84·6	329	i 12 30	− 1	e 22 51	−13	51·3	—
Fordham	E.	85·3	31	—	—	e 23 11	0	e 46·1	47·6
Georgetown	Z.	85·8	35	i 12 37	0	i 16 5	PP	e 45·8	—
Wellington		89·7	161	—	—	i 23 22	−31	42·6	—
La Paz		137·4	59	e 19 21	[+ 3]	—	—	67·6	72·4

Additional readings: Helsingfors iSN = +19m.18s. Jena ePE = iPEN = +11m.53s. Hohenheim iE = +12m.9s. Zagreb e = +12m.14s., ePS = +23m.4s. Florissant iPPZ = +15m.14s., iSEN = +22m.16s. Strasbourg e = +13m.9s. St. Louis iE = +22m.44s. Long waves were recorded at Ivigtut, Gottingen, Lund, and the Spanish stations.

Jan. 5d. Readings also at 0h. (near Ootomari), 1h. (Colombo), 8h. (La Paz and Tucson), 9h. (Baku, Ekaterinburg, Samarkand, Ottawa, and Rio de Janeiro), 10h. (Irkutsk), 11h. (Marseilles, near Andijan, near Neuchatel, and Zurich), 12h. (Zurich, near Chur, and Neuchatel), 14h. (Samarkand and near Andijan), 16h. (Wellington, Suva, and near Apia), 17h. (Taihoku), 20h. (Riverview), 22h. (near Tacubaya), 23h. (Wellington, near Nagoya, and Tyosi).

Jan. 6d. 0h. 7m. 44s. Epicentre 43°·5N. 79°·0E. (as on 1928 Jan. 5d.). X.
A = +·138, B = +·712, C = +·688.

	Δ	P.	O−C.	S.	O−C.	L.	M.
	°	m. s.	s.	m. s.	s.	m.	m.
Almata	1·5	i 0 16	− 5	(i 0 29)	−10	i 0·5	—
Andijan	5·6	1 33	+13	(2 36)	+ 3	2·6	2·9
Samarkand	9·8	e 2 18	0	—	—	—	—

Long waves were recorded at Ekaterinburg, Irkutsk, Budapest, and Zagreb.

Jan. 6d. 23h. 50m. 0s. Epicentre 55°·0S. 131°·0W. N.3.
A = −·376, B = −·433, C = −·819; D = −·755, E = +·656;
G = +·537, H = +·618, K = −·574.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Christchurch	37·4	266	—	—	13 11	+14	19·2	—
Wellington	37·6	270	i 8 28	PP	i 13 0	0	i 15·6	21·0
Riverview	56·2	260	—	—	e 17 36	+11	e 24·5	29·9
Melbourne	56·7	251	—	—	e 17 32	0	26·0	29·6
La Paz	61·1	77	e 10 12	0	e 18 44	+14	30·2	34·3
Adelaide	62·2	249	—	—	e 18 40	− 5	28·7	33·4
Florissant	100·0	31	—	—	e 30 30	?	—	—
Fordham	107·5	41	—	—	e 25 50	{+ 1}	52·5	56·5
Irkutsk	148·0	289	e 19 51	[+12]	e 42 0	SS	e 69·0	90·6
Zurich	153·9	90	—	—	e 33 46	SKSP	—	—
Baku	165·4	182	—	—	e 38 11	?	79·5	102·6
Ekaterinburg	173·2	291	e 25 53	PP	e 46 26	SS	72·0	93·2

Additional readings: Christchurch SSS? = +16m.41s. Riverview e = +14m.48s., +17m.16s. = PS − 13s., and +23m.29s. = SSSS − 3s. La Paz iP = +10m.20s. Adelaide e = +13m.57s. = PPP + 5s. Fordham e = +26m.39s., eE = +31m.14s., eN = +32m.20s., e = +33m.50s. Baku e = +46m.38s. Long waves were recorded at Apia, Bombay, La Plata, and the American and European stations.

Jan. 6d. Readings also at 1h. (near Neuchatel and Zurich), 8h. (near Almeria), 9h. (La Paz), 12h. (near Tyosi), 13h. (Hohenheim, Ravensburg, Strasbourg, near Neuchatel, and Zurich), 23h. (near Bombay).

Jan. 7d. 17h. 27m. 42s. Epicentre 39°·1N. 71°·6E. (as on 1929 Mar. 27d.). R.2.

A = +·245, B = +·736, C = +·631; D = +·949, E = −·316; G = +·199, H = +·598, K = −·776.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Andijan		1·8	20	0 22	− 4	—	—	0·7	1·0
Samarkand		3·6	280	i 0 54	+ 3	—	—	i 1·9	2·5
Almata		5·8	42	1 22	0	2 31	+ 3	2·8	3·0
Ekaterinburg		19·1	342	i 4 15	− 5	i 7 53	+ 5	i 9·9	11·5
Bombay		20·3	176	4 32	− 1	8 26	+14	e 12·0	—
Hyderabad		22·5	162	4 52	− 4	9 0	+ 5	—	13·7
Irkutsk		26·0	49	e 5 28	− 1	e 9 58	0	14·3	14·5
Ksara	N.	29·0	271	e 6 4	+ 8	e 10 46	− 2	—	—
Pulkovo		33·0	322	6 32	0	—	—	19·3	20·3

Long waves were recorded at Kucino, Lund, Copenhagen, and De Bilt.

Jan. 7d. Readings also at 1h. (Baku), 4h. (Wellington), 10h. (Tyosi and near Mizusawa), 13h. (Samarkand), 21h. (Simferopol).

Jan. 8d. Readings at 2h. (Andijan (2) and near Samarkand), 3h. (near Balboa Heights), 4h. (Andijan and near Samarkand), 6h. (near Sumoto), 11h. (Ekaterinburg, Irkutsk, near Almata, Andijan, and Samarkand), 14h. (Fordham, Georgetown, Ottawa, and Florissant), 18h. (near Lick), 19h. (Andijan), 22h. (Ekaterinburg, Irkutsk, Rio de Janeiro, La Plata, near La Paz, and near Nagasaki), 23h. (near La Paz).

Jan. 9d. 19h. 38m. 38s. Epicentre 47°·0N. 1°·5W. N.2.

Destructive at Nantes and Vannes, Brittany.

A = +·682, B = −·018, C = +·731; D = −·026, E = −1·000; G = +·731, H = −·019, K = −·682.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Paris		3·3	56	0 53	+ 6	1 41	S*	1·8	2·0
Puy de Dôme		3·3	112	i 1 42	S*	i 1 58	S_g	—	—
Bagnères		4·1	160	1 19	P_g	2 22	S_g	—	—
Kew		4·6	11	e 1 5	− 1	e 1 46	−12	e2·4	—
Oxford		4·8	2	i 1 39	P_g	1 58	− 5	—	—
Besançon		5·1	85	e 1 39	P_g	2 52	S_g	—	—
Uccle		5·4	44	e 1 7	−10	e 2 15	− 3	—	—
Neuchatel		5·7	87	1 22	+ 1	e 2 34	+ 9	—	—
Marseilles		6·1	124	—	—	i 3 34	S_g	i 3·8	—
Tortosa		6·3	165	2 1	P*	e 2 52	+11	3·2	4·0
Strasbourg		6·4	72	2 9	P_g	3 33	S_g	—	—
De Bilt		6·7	38	—	—	e 2 52	+ 1	—	—
Zurich		6·8	83	e 1 36	− 1	3 45	S_g	—	—
Stonyhurst		6·9	356	i 3 7	S	(i 3 7)	+11	i 3·2	3·6
Karlsruhe		7·0	70	2 20	P_g	3 52	S_g	—	4·0
Feldberg	N.	7·3	60	e 2 37	P_g	e 2 55	− 9	3·6	4·1
Hohenheim		7·4	72	e 2 32	P_g	i 4 3	S_g	i 4·4	—
Chur		7·5	88	e 1 46	0	e 4 23	S_g	—	—
Ravensburg		7·6	80	e 2 42	P_g	i 4 16	S_g	i 4·7	—
Gottingen		8·8	55	e 2 7	+ 2	e 3 52	+ 8	—	6·5
Innsbruck		8·8	83	—	—	e 3 52	+ 8	—	—
Edinburgh		9·0	354	—	—	4 22?	S*	—	—
Jena		9·4	61	e 2 42	P*	e 4 39	S*	i 4·9	5·6
Florence		9·5	103	—	—	e 5 2	S_g	—	6·0

For Notes see next page.

NOTES TO JAN. 9d. 19h. 38m. 38s.

Additional readings: Kew e = +1m.41s., eS* = +1m.57s., eS$_g$EN = +2m.14s., eEN = +2m.31s. Uccle i = +1m.33s. = P*. Neuchatel eP = +1m.55s. = P$_g$, eS = +2m.59s. = S* Strasbourg PP = +2m.34s., SS = +4m.29s., SSS = +4m.38s. De Bilt e = +3m.28s. = S*. Hohenheim iSS = +4m.6s. Ravensburg iSS = +4m.19s. Gottingen ePN = +3m.32s., i = +4m.29s., iS = +4m.42s. = S$_g$. Innsbruck e = +4m.46s. and +5m.10s. = S$_g$. Long waves are also recorded at Cheb, Venice, Zagreb, Vienna, Budapest, and Rocca di Papa.

Jan. 9d. Readings also at 3h. (Andijan, Samarkand, Sebastopol, Simferopol, Theodosia, Ksara, Zagreb, Zurich, Rio de Janeiro, and near La Paz (2)), 4h. (Ekaterinburg, Irkutsk, Entebbe, Algiers, Alicante, Toledo, Cape Town, Andijan, and near Samarkand), 5h. (La Paz, near Chur, Neuchatel, and Zurich), 6h. (La Paz (2)), 7h. (near Santiago), 8h. (La Paz, La Plata, Rio de Janeiro, near Lick (4), and Berkeley (2)), 9h. (near Berkeley and Lick), 10h. (Mizusawa), 11h. (Alicante), 13h. (Samarkand), 18h. (Andijan and near Samarkand), 19h. (Samarkand and near Granada), 20h. (Samarkand, near Almata, and Andijan), 21h. (near Wellington), 23h. (near Santiago).

Jan. 10d. 18h. 14m. 23s. Epicentre 31°·0N. 132°·0E. (as on 1927 May 18d.). R.2. (Epicentre 31°·1N. 132°·0E. is given in Geophysical Mag. of Tokyo, Vol. IV, No. 4).

A = −·574, B = +·637, C = +·515; D = +·743, E = +·669; G = −·345, H = +·383, K = −·857.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Nagasaki	2·6	314	i 0 29	− 8	0 55	−12	—	1·2
Hukuoka	2·9	333	0 34	− 7	1 7	− 7	—	1·2
Matuyama	2·9	13	e 0 30	−11	i 0 54	−20	i 1·1	1·2
Koti	2·9	27	e 0 42	+ 1	i 1 25	+11	e 2·0	—
Sumoto	4·1	36	0 58	0	—	—	—	2·5
Kobe	4·5	35	e 1 5	+ 1	e 1 44	−11	e 2·4	2·6
Osaka	4·7	39	1 17	+10	—	—	2·4	3·3
Toyooka	5·1	27	e 1 29	+16	2 21	+11	2·6	2·9
Nagoya	5·9	43	e 1 25	+ 1	2 23	− 8	—	—
Vladivostok	12·1	0	2 41	− 9	(5 7)	+ 2	5·1	7·3
Hong Kong	18·1	246	4 9	+ 1	7 46	+19	—	12·6
Irkutsk	29·3	325	7 8	+69	e 11 0	+ 7	16·6	18·8
Ekaterinburg	54·5	322	—	—	e 17 20	+18	29·6	35·1
Pulkovo	69·1	330	—	—	e 21 7	(+ 8)	35·6	42·8

Additional readings: Nagasaki SZ = +57s. Matuyama iP = +40s. Koti iZ = +55s., eS*N? = +1m.49s. Kobe ePZ = +1m.22s., e = +1m.25s., eN = +1m.33s. Toyooka PN = +1m.34s. Irkutsk e = +13m.55s. Long waves are also recorded at De Bilt, Paris, Strasbourg, Uccle, Copenhagen, Cheb, San Fernando, and Rocca di Papa.

Jan. 10d. 21h. 53m. 0s. Epicentre 48°·0N. 15°·0E. N.2.

A = +·646, B = +·173, C = +·743; D = +·259, E = −·966; G = +·719, H = +·192, K = −·669.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Graz		1·0	162	e 0 42	+28	—	—	—	1·0
Vienna	Z.	1·0	75	e 1 7	+53	—	—	—	—
Laibach		2·0	190	i 0 29	0	i 0 48	− 3	—	0·8
Zagreb		2·3	163	—	—	e 0 50	− 9	1·1	1·6
Innsbruck		2·5	253	e 0 36	0	i 0 52	−12	—	—
Treviso		3·0	220	0 40	− 3	—	—	—	—
Venice		3·1	216	0 44	0	0 59	−21	—	—
Ravensburg		3·6	269	1 0	+ 9	i 1 33	+ 1	i 1·7	—
Chur		3·9	254	e 0 54	− 2	e 1 27	−13	—	—
Hohenheim		3·9	283	e 1 20	+24	(e 1 20)	−20	i 2·1	—
Zurich		4·4	264	e 1 2	− 1	e 1 53	0	—	—
Karlsruhe		4·5	286	2 17?	S*	—	—	—	—
Gottingen	N.	4·8	319	—	—	e 1 54	− 9	—	3·2
Strasbourg		4·9	280	e 1 26	+16	—	—	e 2·5	—
Neuchatel		5·6	262	e 1 17	− 3	e 2 25	+ 2	—	—
Besançon		6·1	264	—	—	e 2 52	+16	e 2·9	—

Additional readings: Vienna iZ = +1m.39s. Laibach i = +44s. Zagreb e = +1m.26s.

Jan. 10d. Readings also at 11h. (Ekaterinburg, Pulkovo, and La Paz), 12h. (Samarkand), 15h. (La Paz), 16h. (Andijan and Samarkand), 17h. and 18h. (Taihoku), 19h. (Lick, Almata, Andijan, and Samarkand), 22h. (Andijan and Samarkand).

Jan. 11d. 21h. 21m. 0s. Epicentre 30°·2N. 140°·3E. R.3.
(as on 1929 Sept. 8d.).

A = −·665, B = +·552, C = +·503; D = +·639, E = +·769;
G = −·387, H = +·321, K = −·864.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Tyosi	5·6	5	1 30	+10	(2 36)	+13	2·6	—
Nagoya	5·7	331	e 1 24	+ 3	2 33	+ 8	—	2·6
Osaka	6·1	317	1 24	− 3	(2 45)	+ 9	2·8	3·6
Sumoto	6·2	313	1 28	0	2 37	− 1	—	2·6
Kobe	6·3	318	1 26	− 4	(2 37)	− 4	2·6	2·7
Toyooka	7·1	322	1 36	− 5	(2 54)	− 7	2·9	3·0
Mizusawa	8·9	5	2 5	− 1	3 47	+ 1	—	—
Nagasaki	9·3	289	1 58	−13	3 34	−22	—	3·6

Additional readings: Tyosi PE = +1m.33s. Mizusawa PE = +2m.8s.

Jan. 11d. Readings also at 1h. (La Paz), 3h. (Ksara and Samarkand), 6h. (near Tyosi), 7h. (Suva, Nagoya, near Mizusawa, Tyosi, and near Lick (2)), 12h. (Wellington), 14h. (San Fernando), 15h. (Ottawa), 20h. (near Santiago), 21h. (Almata, Andijan, and Samarkand), 22h. (Florissant), 23h. (near Sumoto).

Jan. 12d. 12h. A European shock not giving a definite determination. The principle readings are as follows:
Taranto P = 48m.6s.
Laibach eP = 48m.21s., e = 48m.34s. and 48m.40s., eP_2S = 49m.0s., eS = 49m.15s., M = 49m.31s.
Belgrade eP = 48m.50s. and 49m.10s., i = 49m.38s., iS = 49m.48s. and 49m.51s.
Zagreb eP = 49m.30s.?, eNW = 50m.18s. and 50m.34s., eS = 50m.43s.?, M = 51m.14s.
Zurich eP = 49m.32s.
Budapest e = 49m.37s., S = 51m.30s., L = 52·5m.
Vienna PZ = 49m.42s.
Chur ePN = 49m.50s., iS = 51m.40s.
Ravensburg e = 52m.30s.?
Rocca di Papa P = 50m.16s., M = 52m.12s.

Jan. 12d. Readings also at 1h. (Lick and near La Paz), 2h. (Strasbourg), 3h. (Florissant), 5h. (Ann Arbor, Charlottesville, Chicago, Fordham, Florissant, Georgetown, Harvard, and St. Louis), 6h. (Samarkand, near Almata, and Andijan), 10h. (near Taihoku), 11h. (Bombay, Colombo, Hyderabad, Kodaikanal, Andijan, Samarkand (2), Ekaterinburg, and near Tyosi), 13h. (near Malabar), 14h. (near Merida), 15h. (Fordham and Ottawa), 21h. (Andijan), 22h. (Zagreb).

Jan. 13d. Readings at 0h. (Lick), 2h. (Andijan, near Samarkand, and near Ksara), 5h. (Georgetown, Harvard, Ottawa, Fordham, Florissant, St. Louis, Victoria, and Sitka), 6h. (Almata, Andijan, Samarkand, Sebastopol, Ottawa, and Victoria), 7h. (Simferopol, Theodosia, and Wellington), 11h. (Andijan, Samarkand, and near Almata), 13h. (La Paz, La Plata, and near Nagasaki (2)), 14h. (Lick, Andijan (2), and Samarkand (2)), 15h. and 16h. (near La Paz), 20h. (near Kobe, Osaka, and Sumoto), 21h. (near Oaxaca and Tacubaya), 22h. (near Wellington), 23h. (Phu-Lien).

Jan. 14d. 22h. 1m. 19s. Epicentre 16°·5S. 171°·5W. N.2.

A = −·948, B = −·142, C = −·284 ; D = −·148, E = +·989 ;
G = +·281, H = +·042, K = −·959.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Apia		2·7	355	(e 0 36)	− 3	—	—	—	(0·9)
Wellington		27·5	203	e 5 46	+ 3	i 11 25	+61	i 16·6	16·7
Christchurch		30·2	203	e 5 54	−13	11 18	+11	15·9	—
Riverview		37·7	235	e 7 9	− 3	e 13 11	+ 9	e 18·4	25·4
Sydney	E.	37·7	235	8 17	PP	12 13	−49	18·7	20·6
Honolulu T.H.		40·1	20	—	—	e 13 41	+ 3	i 18·4	—
Melbourne		43·7	232	8 1	− 1	14 31	0	20·2	26·7
Adelaide		48·0	239	e 8 48	+12	i 15 21	−12	i 20·8	25·0
Manila		73·6	291	e 11 41?	+ 9	21 41?	+37	—	—
Victoria	E.	77·8	30	—	—	21 55	+ 3	36·0	37·9
Vladivostok		78·9	322	11 58	− 4	21 42	−22	31·9	—
Batavia		80·3	269	e 12 14	+ 5	i 22 27	+ 8	—	—
Hong Kong		82·4	296	12 19	− 1	e 22 21	−20	—	28·0
Phu-Lien		88·6	292	8 41?	?	—	—	—	—
St. Louis	E.	93·6	50	e 14 3	+49	e 24 8	{+ 4}	e 46·0	54·0
La Paz		97·6	110	e 13 47	+15	i 22 15	?	44·1	50·1
Irkutsk		99·6	323	e 14 1	+19	24 5	[−18]	e 42·7	49·7
Toronto	E.	102·8	48	—	—	e 24 11	[−28]	45·7	—
Ottawa		105·6	47	—	—	e 24 41	[−12]	48·7	—
Colombo		109·8	271	18 2	[−15]	25 2	[−10]	—	34·8
Hyderabad		113·5	282	27 12	?	—	—	—	73·9
Bombay		119·0	283	e 24 4	PPPP	—	—	—	76·5
Ekaterinburg		124·0	329	e 18 29	[−26]	—	—	49·7	61·2
Samarkand		124·6	309	e 19 1	[+ 5]	—	—	—	—
Pulkovo		133·9	345	—	—	e 35 0	?	58·7	73·2
Kucino		134·8	336	21 27	PP	—	—	e 58·1	70·1
Baku		137·1	313	19 22	[+ 4]	—	—	58·7	75·3
Copenhagen		140·7	357	22 47	PP	—	—	64·7	—
De Bilt		144·3	4	e 23 19	PKS	e 41 41	SS	e 71·7	78·6
Kew		144·4	10	—	—	e 45 59	?	70·7	—
Cheb		146·3	355	—	—	e 46 41?	?	—	94·7
Paris		147·3	9	e 19 42	[+ 4]	—	—	76·7	81·7
Vienna	Z.	147·6	350	e 19 37	[− 1]	—	—	—	—
Strasbourg		147·9	1	i 19 46	[+ 7]	—	—	74·7	—
Innsbruck		149·1	356	19 41?	[+ 1]	—	—	—	—
Zurich		149·1	0	e 19 35	[− 5]	—	—	—	—
Neuchatel		149·5	2	e 19 44	[+ 3]	—	—	—	—
Zagreb		150·0	350	e 19 41?	[− 1]	—	—	—	—
Entebbe		151·2	238	31 41?	?	—	—	—	—
Florence		152·6	356	19 41	[− 4]	—	—	—	88·7
Rocca di Papa		154·5	353	e 19 53	[+ 5]	e 45 34	?	e 76·1	119·0

Additional readings and note : Apia readings have been *increased* by 1m. Wellington iPPN = +7m.25s., SS = +14m.11s. Christchurch SS = +13m.16s. Riverview PP = +8m.45s., PPP = +9m.14s., eSSS = +16m.29s., eSSSS = +16m.51s. Melbourne PP = +9m.46s., SS = +18m.11s. = S_cS +7s. Adelaide iSS = +18m.31s. = S_cS +0s., i = +19m.41s. = SSS −15s. Batavia iNE = +13m.25s., i = +24m.29s. Irkutsk PP = +17m.13s. Toronto iE = +28m.3s. and +33m.7s. Ottawa e = +33m.41s. = SS +22s., eN = +44m.11s. Ekaterinburg PP = +20m.32s., PPS = +32m.6s., SS = +37m.17s. Pulkovo PP = +21m.36s., SS = +39m.23s. Kucino PP = +21m.27s., PS = +31m.25s. = SKSP −24s., SS = +39m.17s. Baku PKS = +22m.59s., SS = +40m.23s. Strasbourg e = +18m.41s. ? Florence e = +19m.9s. Long waves were also recorded from stations in N. America and Europe.

Jan. 14d. Readings also at 1h. (near Phu-Lien), 3h. (Phu-Lien, near Ksara, and near Sumoto), 4h. (La Paz and near Santiago), 6h. (Andijan, Ekaterinburg, Irkutsk, Kucino, Melbourne, Pulkovo, Riverview, Taihoku, and Wellington), 9h. (Irkutsk, near Vladivostok, and near La Paz), 10h. (Baku, Ekaterinburg, Hong Kong, Andijan, Almata, and Samarkand), 12h. (Andijan and Samarkand), 14h. (Andijan, Samarkand, and La Paz), 16h. (near Koti), 17h. (near Almata, Andijan (2), and Samarkand (2)), 18h. (Basle, near Zagreb, and near Sumoto), 19h. (Lick), 20h. (Apia, Wellington, Lick, Besançon, and Strasbourg), 21h. (Fordham, Florissant, St. Louis, Georgetown, Ottawa, Toronto, near Tucson, near Neuchatel (2), and Zurich), 23h. (near Hukuoka and Nagasaki).

Jan. 15d. 23h. 58m. 4s. Epicentre 35°·0N. 27°·5E. (as on 1929 April 17d.). R.2.

A = +·727, B = +·378, C = +·574 ; D = +·462, E = −·887 ;
G = +·509, H = +·265, K = −·819.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Ksara		7·0	95	1 54	+15	3 53	+54	4·1	—
Yalta		10·8	26	2 23	− 9	—	—	—	—
Belgrade		11·2	333	—	—	e 4 41	− 2	e 5·7	—
Theodosia		11·7	28	2 36	− 8	—	—	—	—
Rocca di Papa		13·4	304	e 3 14	+ 7	—	—	—	4·1
Budapest		13·9	336	—	—	e 5 56?	+ 7	7·4	—
Florence		15·3	310	4 51	+79	—	—	—	9·9
Vienna	Z.	15·6	331	e 3 34	− 2	—	—	—	—
Innsbruck		17·2	320	3 56?	− 1	—	—	—	—
Baku		18·5	66	e 4 14	+ 1	e 7 41	+ 5	9·3	12·0
Neuchatel		19·9	313	e 4 32	+ 3	—	—	—	—
Strasbourg		19·9	319	e 3 56?	−33	—	—	9·9	—
Kucino		22·0	19	—	—	e 7 56	−50	e 11·3	12·3
Copenhagen		23·1	338	—	—	9 14	+ 7	13·9	—
Pulkovo		24·8	3	5 14	− 4	e 9 46	+ 9	13·9	15·1
Ekaterinburg		31·2	35	e 6 20	+ 4	e 11 20	− 3	16·9	—
Samarkand		31·5	70	e 7 27	+69	—	—	—	—

Additional readings: Belgrade i = +4m.57s. and +5m.8s. Kucino e = +10m.48s. Long waves were also recorded at other European stations.

Jan. 15d. Readings also at 0h. (Phu-Lien, Florissant, Harvard (2), and Tacubaya), 1h. (Fordham and Ottawa), 3h. (Tyosi and near Nagasaki), 4h. (Zagreb), 5h., 7h., and 8h. (Nagasaki), 9h. (Apia), 10h. (near Lick and near Mizusawa), 11h. (Florissant, Georgetown, Ottawa, Tyosi, and near Manila), 12h. (Apia), 13h. (Nagasaki), 16h. (Baku, Ekaterinburg and Nagasaki), 19h. (Toledo), 21h. (Andijan (2) and Samarkand).

Jan. 16d. 0h. 24m. 30s. Epicentre 32°·0N. 119°·0W. (as on 1918 June 21d.). X.

A = −·411, B = −·742, C = +·530 ; D = −·875, E = +·485 ;
G = −·257, H = −·463, K = −·848.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Lick	E.	5·5	338	i 1 24	+ 6	i 2 30	+10	—	—
Berkeley		6·4	336	e 1 36	+ 5	e 2 38	− 5	e 3·0	3·2
Tucson		6·9	86	e 1 37	− 1	—	—	i 2·8	—
Denver	E.	13·7	52	e 3 15	+ 4	—	—	—	15·2
Florissant		24·2	66	i 4 57	−15	i 9 5	−22	e 11·0	11·9
St. Louis	E.	24·3	66	i 4 57	−16	e 9 14	−14	—	13·4
Toronto		33·0	58	i 8 56	?	—	—	i 16·0	—
Georgetown	Z.	34·5	67	i 5 18	?	—	—	e 17·8	19·7

Additional readings: Lick iE = +1m.33s., +1m.40s., and +1m.59s., eN = +1m.37s. Berkeley e = +2m.1s., eN = +2m.45s., eE = +2m.55s. Tucson i = +2m.1s., +2m.11s., and +2m.26s. St. Louis eSE = +9m.4s. Toronto eN = +8m.57s. and +14m.54s. Georgetown iZ = +10m.52s., eZ = +14m.5s. = SS −10s., iZ = +15m.41s., and +16m.46s. Long waves are recorded at the other American stations and also at several European.

Jan. 16d. Readings also at 0h. (Berkeley, Lick, Tucson, Chicago, Charlottesville, and Toronto), 6h., 7h., and 8h. (La Paz), 10h. (near Malabar), 11h. (Suva, Wellington, Riverview, and Vienna), 12h. (Adelaide, Melbourne, Bombay, Ekaterinburg, Baku, Simferopol, Theodosia, and Yalta), 13h. (Ottawa), 14h. (Andijan), 19h. (Mizusawa), 22h. (Tortosa and Tucson).

Jan. 17d. 11h. 10m. 21s. Epicentre 34°·0S. 57°·0E. (as on 1929 Sept. 10d.). R.2.

$A = +\cdot452$, $B = +\cdot695$, $C = -\cdot559$; $D = +\cdot839$, $E = -\cdot545$; $G = -\cdot305$, $H = -\cdot469$, $K = -\cdot829$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tananarive		17·3	329	4 9	+11	7 30	+21	—	8·6
Batavia		53·7	70	i 9 12	− 7	i 16 41	−11	—	—
Medan		54·4	55	10 21	+57	i 17 51	+50	—	—
Bombay		55·0	19	e 9 24	− 5	17 5	− 4	28·4	36·0
Hyderabad		55·4	25	9 23	− 9	16 59	−16	26·0	36·2
Samarkand		74·2	9	e 11 8	−28	—	—	—	—
Baku		74·7	355	i 11 37	− 2	e 21 16	− 1	36·0	48·0
Andijan		76·1	13	e 11 48	+ 1	—	—	—	—
Tashkent		76·1	10	e 18 39?	?	e 27 39?	?	—	46·2
Hong Kong		78·3	53	—	—	26 50	SS	39·8	49·6
Almata		79·4	16	e 12 9	+ 4	—	—	—	—
Yalta		81·2	346	e 12 15	+ 1	—	—	—	—
Sebastopol		81·4	346	e 12 17	+ 2	—	—	—	—
Theodosia		81·4	346	e 12 14	− 1	—	—	—	—
Simferopol		81·6	346	e 12 16	0	—	—	—	—
Zagreb		88·0	334	e 12 39?	− 9	—	—	—	—
Vienna	Z.	89·8	335	e 12 55	− 1	—	—	—	—
Ekaterinburg		90·9	3	i 12 58	− 4	i 23 54	−10	40·6	—
Innsbruck		91·0	331	13 9	+ 7	—	—	—	—
Kucino		91·2	350	—	—	e 32 57	?	e 45·0	—
Irkutsk		95·6	27	—	—	e 25 59	PS	e 44·6	—

Additional readings: Tananarive SS = +7m.54s. Batavia i = +9m.24s. Medan i = +10m.33s. Ekaterinburg iSKS = +23m.30s., eSS = +30m.9s. Irkutsk e = +34m.49s. =SSS +9s. Long waves were also recorded by La Paz, Ottawa, Florissant, Wellington, and Granada.

Jan. 17d. 16h. 54m. 30s. Epicentre 8°·0N. 106°·3W. N.3.

$A = -\cdot278$, $B = -\cdot951$, $C = +\cdot139$; $D = -\cdot960$, $E = +\cdot281$; $G = -\cdot039$, $H = -\cdot134$, $K = -\cdot990$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tacubaya		13·3	31	3 6	0	5 47	+13	6·0	7·3
Vera Cruz		14·9	41	(3 30)	+ 3	—	—	(7·0)	(8·8)
Tucson	N.	24·7	351	e 5 42	+25	e 10 27	+51	e 15·5	—
Florissant		34·0	22	e 6 44	+ 4	i 12 6	0	e 16·5	20·1
Chicago	N.	37·6	23	—	—	i 17 59	(+32)	--	—
Charlottesville		39·1	35	—	—	e 12 46	−36	—	—
Georgetown	Z.	40·6	36	7 34	− 3	i 13 38	− 7	e 23·3	—
Toronto		42·7	29	i 9 42	?	i 14 11	− 5	e 20·5	—
Victoria	E.	42·9	345	—	—	18 18	(+19)	23·1	25·4
Fordham		43·7	36	e 7 57	− 5	e 14 22	− 9	e 20·0	26·5
La Paz		45·0	123	8 13	0	i 14 44	− 6	21·0	25·9
Ottawa		45·8	30	—	—	i 14 59	− 3	e 21·5	—
Rio de Janeiro	E.	68·9	119	e 13 55	PP	—	—	e 35·2	—
Ekaterinburg		114·3	7	—	—	e 29 19	PS	e 53·5	69·3
Irkutsk		114·3	340	—	—	e 31 34	?	e 58·5	—

Additional readings and notes: Vera Cruz readings have been *diminished* by 9m. Tucson eN = +12m.51s., all readings being given without phase. Florissant eEZ = +7m.59s. Chicago eN = +18m.50s. Charlottesville eN = +17m.0s. =S_cS −36s., eE = +22m.30s., eN = +26m.25s. Georgetown iPZ = +9m.13s. =PP +7s., eSZ = +16m.18s. =SS −7s., iZ? = +16m.56s. =SSS −3s., SSZ = +19m.18s., i?Z = +21m.3s. and +22m.3s. Fordham PP? = +9m.55s. Ekaterinburg e = +35m.39s. =SS +23s. Long waves are also recorded at Wellington, in Asia, Europe, and at Scoresby Sund.

Jan. 17d. Readings also at 0h. (Strasbourg), 1h. (Florissant, Tucson, and near Manila), 2h. (La Paz and Samarkand), 4h. (Entebbe and Scoresby Sund), 7h. (near Nagasaki), 9h. and 10h. (near Tyosi), 13h. (Entebbe and near Nagasaki), 17h. (Tacubaya), 20h. (Port au Prince and near La Paz), 21h. (Phu-Lien and near Wellington), 22h. (near Andijan and Samarkand), 23h. (Adelaide).

Jan. 18d. 7h. 4m. 7s. Epicentre 5°·7S. 151°·8E. (as on 1929 Dec. 16d.). R.2.

$A = -\cdot 877$, $B = +\cdot 470$, $C = -\cdot 099$; $D = +\cdot 473$, $E = +\cdot 881$; $G = +\cdot 088$, $H = -\cdot 047$, $K = -\cdot 995$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		23·6	274	6 33	+87	12 5	?L	(12·1)	—
Riverview		28·2	181	i 5 55	+ 6	i 10 44	+ 9	14·4	16·8
Suva	N.	28·7	118	5 35	−18	i 10 5	−38	—	12·9
Adelaide		31·7	200	i 6 31	+11	i 11 41	+10	i 14·4	18·6
Melbourne		32·7	189	e 6 33	+ 4	11 53	+ 7	15·2	17·4
Manila		36·7	305	i 7 11	+ 7	12 56	+ 9	—	—
Apia		36·8	103	e 7 20	+15	12 28	−20	15·5	—
Wellington	E.	41·1	153	e 7 35	− 6	—	—	19·9	—
	N.	41·1	153	i 7 39	− 2	i 13 44	− 9	21·9	—
Christchurch		42·1	157	e 7 49	0	14 7	− 1	19·6	24·4
Taihoku	E.	42·5	319	e 7 29	−24	(14 12)	− 1	14·2	—
Koti		42·9	339	—	—	e 17 40	(−19)	—	—
Nagasaki		43·7	334	7 56	− 6	14 6	−25	17·8	—
Batavia		44·7	268	i 8 19	+ 9	14 58	+12	23·5	—
Mizusawa	E.	45·9	350	8 10	−10	14 32	−31	—	—
	N.	45·9	350	8 9	−11	14 36	−27	—	—
Hong Kong		46·3	309	8 24	+ 1	15 6	− 3	e 18·1	26·5
Zi-ka-wei	Z.	46·9	324	i 8 24	− 4	15 4	−13	—	—
Phu-Lien		51·7	304	e 9 8	+ 4	e 16 31	+ 7	24·9	—
Vladivostok		52·0	341	(8 58)	− 8	(i 16 9)	−19	(24·5)	—
Medan		53·9	278	(9 47)	+26	(i 16 35)	−19	(32·9)	—
Irkutsk		70·6	332	i 11 7	− 7	i 20 11	−17	27·9	—
Colombo		72·9	279	11 32	+ 4	20 57	+ 1	37·0	40·2
Hyderabad		76·0	290	11 49	+ 3	21 26	− 6	38·3	46·9
Bombay		81·5	290	12 15	− 1	22 17	−15	41·6	50·4
Almata		83·0	315	e 12 23	0	—	—	—	—
Andijan		85·8	312	e 12 35	− 2	e 23 6	−10	—	—
Tashkent		88·2	314	i 13 44	+55	i 24 6	+27	36·9	52·8
Samarkand		89·6	311	12 53	− 3	23 39	−13	—	—
Victoria	E.	90·8	41	23 6	S	(23 6)	[−31]	40·8	41·1
Ekaterinburg		95·4	327	i 13 14	− 8	i 24 20	−26	38·9	46·9
Tananarive		101·5	250	—	—	e 24 20	[−13]	49·0	54·9
Baku		102·7	311	e 13 54	− 2	25 0	{−14}	45·9	56·2
Kucino		108·0	327	—	—	e 23 5	?	45·9	52·4
Pulkovo		110·3	333	18 55	PP	—	—	51·9	63·3
Ksara		114·6	305	e 18 19	[−11]	—	—	e 55·6	—
Florissant		115·1	49	i 19 39	PP	i 26 16	{−27}	e 43·2	55·9
St. Louis	E.	115·2	49	e 20 5	PP	e 25 47	[+13]	—	56·0
Chicago	E.	116·3	45	—	—	e 29 3	PS	e 53·4	—
Copenhagen		120·5	335	19 23	[+36]	—	—	49·9	—
Toronto		121·3	40	e 21 2	?	—	—	50·9	—
Ottawa		122·8	37	20 53?	PP	e 26 53?	[+54]	e 50·9	—
Cheb		124·1	330	e 9 53?	?	—	—	—	63·9
Georgetown	Z.	124·9	45	i 30 11	SKSP	—	—	e 57·6	—
De Bilt		126·1	335	e 18 53?	[− 6]	—	—	e 53·9	62·3
Fordham		126·2	41	e 25 36	?	37 31	?	51·7	62·9
Harvard		127·2	39	—	—	e 25 53?	[−18]	e 50·9	—
Strasbourg		127·4	330	(e 17 53?)	[−69]	—	—	e 17·9	—
Florence		128·6	324	e 15 23	?	18 53	PKP	—	73·9
Kew		128·7	337	—	—	e 26 53?	[+37]	e 59·9	61·4
Paris		129·6	333	e 18 53?	[−13]	—	—	57·9	64·9
La Plata		130·7	146	(22 23)	PKS	—	—	22·4	—
La Paz		134·7	121	18 36	[−38]	—	—	63·8	79·4
Granada		141·3	328	e 20 53?	?	—	—	e 67·9	—
Rio de Janeiro		147·9	154	19 37	[− 2]	(e 42 11)	SS	e 42·2	—

For Notes see next page.

NOTES TO JAN. 18d. 7h. 4m. 7s.

Additional readings and notes: Riverview SS = +12m.16s., SSS = +12m.42s.; T_0 = 7h.3m.45s. Suva PPN = +6m.53s., iSSN = +11m.5s. Adelaide i = +7m.3s. = PP − 16s., +11m.51s., +12m.14s., and +12m.42s. = SS − 28s., iSSS = +13m.52s. Melbourne i = +7m.14s. = PP − 18s., SS = +14m.18s. Manila iEN = +8m.31s. and +9m.11s., iN = +13m.45s. Wellington iPPE = +9m.23s., iPPN = +9m.38s., iSSN = +17m.1s., iSSSSE = +17m.8s. Batavia i = +9m.48s. = PP + 0s. Vladivostok readings have been *increased* by 2m. Medan i = (+9m.59s.) and (+12m.47s.), all readings being *increased* by 10m. Victoria SE = +29m.35s. = SS − 17s. Ekaterinburg iPP = +17m.9s., iSKS = +23m.42s. Tananarive e = +25m.11s. = Σ + 7s., +27m.13s. = PS + 12s., +27m.50s. and +32m.59s. Baku PP = +17m.54s. Kucino e = +26m.17s. = Σ + 24s., +32m.11s. and +36m.52s. Pulkovo PP = +18m.55s., PS = +28m.17s., SS = +34m.5s. Ksara eN = +19m.38s. = PP + 7s., +23m.23s = PPPP − 9s., +26m.11s., +32m.46s., and +39m.2s. = SSS − 26s. Florissant iPPZ = +19m.39s., iPKKP = +29m.32s. = PS + 15s., iSSN = +34m.56s., iE = +39m.16s., iZ = +40m.51s. St. Louis eE = +28m.42s., +34m.56s., and +40m.33s. Chicago eE = +34m.53s. Toronto e = +29m.43s. = SKSP − 22s., i = +36m.39s. = SS − 10s. Ottawa e = +29m.53s.? = SKSP − 23s. and +36m.53s.? = SS − 16s. Georgetown iZ = +32m.0s., +33m.11s., and +34m.37s., eZ = +35m.38s., iZ = +39m.40s. and +43m.35s., eZ = +45m.43s. Harvard e = +35m.53s.? La Paz PP = +22m.44s. Long waves were also recorded at Berkeley and some of the other European stations.

Jan. 18d. Readings also at 3h. (Apia (2) and Suva), 4h. (Baku and Ekaterinburg), 5h. (Wellington), 11h. (Ekaterinburg, Irkutsk, and Vladivostok), 12h. (Baku and near Tacubaya), 13h. (Andijan, Samarkand, and near La Paz), 14h. (Samarkand), 15h. (near Sumoto), 17h. (La Paz, Andijan, and near Samarkand), 18h. (Florence and near Santiago), 19h. (near Kobe, Sumoto, and Nagoya), 20h. (Ekaterinburg, Irkutsk, near Taihoku, and near Tyosi), 22h. (Florence), 23h. (Zurich and near Neuchatel).

Jan. 19d. Readings at 2h. (near Tacubaya), 4h. (Samarkand and near Andijan), 5h. (Lick, Andijan, and near Samarkand), 6h. (La Paz, Lick (2), near Nagoya and Tyosi), 7h. (Ottawa), 12h. (near Manila), 19h. (near Tananarive), 20h. (near Lick), 21h. (near Tacubaya (2)).

Jan. 20d. 7h. 11m. 46s. Epicentre 7°·0S. 155°·0E. (as on 1927 Feb. 1d.). R.2.

A = −·900, B = +·420, C = −·122; D = +·423, E = +·906;
G = +·111, H = −·052, K = −·993.

		Δ	Az.	P.	O − C.	S.	O − C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Suva	N.	25·4	118	e 4 50	−34	e 8 44	−64	—	—
Riverview		27·1	187	i 5 39	0	i 10 9	− 8	e 13·3	15·8
Sydney	E.	27·1	187	9 50	?	—	—	13·9	14·9
Adelaide		31·8	206	e 6 32	+11	i 11 48	+16	i 14·9	19·9
Melbourne		32·1	195	—	—	i 11 47	+10	17·4	19·5
Manila		40·1	303	i 7 41	+ 8	13 44?	+ 6	—	—
Batavia		47·9	267	e 7 50	−45	i 15 20	−11	—	—
Hong Kong		49·6	309	8 44	− 4	15 54	− 1	e 24·2	25·7
Zi-ka-wei	Z.	49·9	322	e 8 44	− 7	15 52	− 7	—	29·6
Vladivostok		54·3	340	9 16	− 7	—	—	24·2	—
Phu-Lien		55·1	301	e 9 28	− 2	—	—	—	—
Irkutsk		73·3	330	e 11 25	− 6	20 50	−10	e 33·2	—
Bombay		85·0	290	e 12 43	+10	22 56	−12	—	—
Andijan		89·0	312	e 12 52	− 1	—	—	—	—
Victoria	E.	89·8	41	23 53	S	(23 53)	− 1	41·4	47·0
Tashkent		91·4	313	i 12 58	− 6	—	—	e 40·2	53·7
Samarkand		93·0	310	e 13 6	− 5	—	—	—	—
Ekaterinburg		98·2	326	e 13 29	− 6	e 23 0	[−77]	40·7	51·3
Baku		106·0	310	—	—	e 33 25	SS	e 54·2	63·1
Florissant		113·5	51	e 18 37	[+ 9]	i 29 0	PS	e 52·7	58·2
St. Louis	E.	113·7	51	—	—	e 28 59	PS	e 56·0	65·5
Toronto		120·1	43	—	—	e 31 38	?	e 57·2	—
La Paz		131·3	119	19 10	[+ 1]	i 22 4	?	—	—

For Notes see next page.

NOTES TO JAN. 20d. 7h. 11m. 46s.

Additional readings: Riverview e = +5m.48s., PP = +6m.16s., SS = +11m.17s, SSS = +11m.54s., SSSS = +12m.0s., PcS = +12m.42s.; T_g = 7h.11m.30s. Adelaide iPP = +7m.22s., eSS = +13m.25s. Melbourne ePPP? = +7m.44s., i = +9m.14s., iSS? = +15m.46s. Batavia i = +15m.51s. Vladivostok i = +9m.20s., PP = +11m.44s. Victoria SE = +30m.3s. Tashkent e = +13m.32s. Baku e = +43m.44s. Long waves were also recorded in New Zealand, at Tananarive, Georgetown, Harvard, and several European stations.

Jan. 20d. Readings also at 3h. (near Batavia), 4h. (Yalta), 6h. (Taihoku, Theodosia, near Sebastopol, and Yalta), 7h. (near Almeria, Granada, and Malaga), 9h. (Wellington), 11h. (San Fernando), 13h. (near Manila), 22h. (near Granada).

Jan. 21d. 3h. 41m. 57s. (I) } Epicentre 19·6N. 106°·5W. R.3.
22h. 15m. 2s. (II) } (as on 1925 July 7d.). R.3.

A = −·268, B = −·903, C = +·336; D = −·959, E = +·284; G = −·095, H = −·322, K = −·942.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
I	Manzanillo	2·1	105	(0 34)	+ 4	—	—	0·6	2·2
II		2·1	105	(0 38)	+ 8	—	—	0·6	1·2
II	Guadalajara	3·0	69	0 38?	− 5	(1 10?)	− 7	1·2?	2·4
I	Tacubaya	6·9	91	1 30	− 8	3 25	+29	3·5	4·4
II		6·9	91	1 30	− 8	3 26	+30	3·5	4·5
I	Vera Cruz	9·8	91	(2 31?)	+13	(4 35)	+27	(4·7)	(6·3)
I	Tucson	N. 13·2	344	e 3 13	+ 8	e 6 16	+44	e 7·3	—
II		N. 13·2	344	e 3 9	+ 4	—	—	e 7·4	—
I	St. Louis	23·7	33	i 5 10	+ 3	i 9 30	+12	—	13·1
II		N. 23·7	33	e 5 11	+ 4	e 9 37	+19	—	—
I	Florissant	23·7	33	i 5 4	− 3	i 9 36	+18	i 12·4	13·1
II		23·7	33	e 5 7	0	e 9 37	+19	e 12·4	13·3

Additional readings and notes: Vera Cruz readings have been *increased* by 2m. Tucson I i = +3m.36s. Long waves were also recorded for shock I at Honolulu T.H., the American stations, Baku, Ekaterinburg, Tashkent, and Hong Kong, and for shock II at Fordham and Ottawa.

Jan. 21d. 18h. 23m. 55s. Epicentre 8°·0S. 160°·0E. (as on 1925 Oct. 30d.). X.

A = −·931, B = +·339, C = −·139; D = +·342, E = +·940; G = +·131, H = −·048, K = −·990.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Suva	N.	20·6	121	6 5?	?	—	—	—	—
Riverview		27·1	196	e 5 39	0	e 10 13	− 4	e 12·9	15·6
Sydney	E.	27·1	196	9 47	S	(9 47)	−30	12·7	13·6
Melbourne		32·8	202	—	—	e 11 35	−13	15·2	17·5
Adelaide		33·4	213	e 8 37	?	i 13 44	SS	e 16·4	21·1
Zi-ka-wei	Z.	53·8	319	e 9 15	− 5	16 47	− 6	—	—
Ekaterinburg		101·7	327	—	—	e 24 35	[+ 1]	42·6	—

Long waves were also recorded at Honolulu T.H., Wellington, Irkutsk, Tashkent, and Baku.

Jan. 21d. Readings also at 0h. (Neuchatel and Phu-Lien), 1h. (Tucson, Fordham, Ottawa, and near Medan), 2h. (Tyosi), 4h. (Mizusawa, near Medan, near Tysoi, and near Manila), 5h. (Sebastopol, Simferopol, Theodosia, Yalta, and near Ksara), 8h. (near Ksara), 9h. (near Ksara, near Taihoku (2), and near La Paz), 11h. (Andijan), 12h. (Taihoku), 13h. (Nagoya, near Granada, near Tyosi, and near Mizusawa), 14h. (Nagoya and Tyosi), 17h. (La Paz and Rio de Janeiro), 20h. (near Mizusawa), 21h. (Fordham, Florissant, Tucson, and Entebbe), 22h. (Tyosi), 23h. (Andijan, Almata, Samarkand (2), and Tashkent).

Jan. 22d. Readings at 2h. (Samarkand), 9h. (Santiago), 10h. (Andijan), 18h. (near Tyosi), 20h. (Feldberg, Gottingen, Hohenheim, Neuchatel, and Strasbourg—local shock), 21h. (Andijan and near Samarkand), 22h. (Nagoya and near Tyosi).

Jan. 23d. 10h. 53m. 50s. Epicentre 35°·0N. 27°·5E. (as on 15d.). R.2.

$A = +\cdot727$, $B = +\cdot378$, $C = +\cdot574$; $D = +\cdot462$, $E = -\cdot887$; $G = +\cdot509$, $H = +\cdot265$, $K = -\cdot819$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Ksara		7·0	95	1 47	+ 8	3 32	+33	3·8	—
Sebastopol		10·7	24	e 2 35	+ 4	—	—	—	—
Yalta		10·8	26	e 2 28	− 4	—	—	—	—
Simferopol		11·1	25	e 2 30	− 6	—	—	—	—
Belgrade		11·2	333	e 2 41	+ 4	—	—	—	—
Theodosia		11·7	28	e 2 31	−13	—	—	—	—
Naples	E.	11·9	303	e 3 53	+66	—	—	—	20·2
Rocca di Papa		13·4	304	e 3 5	− 2	—	—	e 13·8	—
Budapest		13·9	336	e 3 36	+22	—	—	8·2	—
Zagreb		13·9	324	e 3 53	+39	e 7 5	?	e 8·1	8·8
Florence		15·3	310	e 2 10	−82	—	—	—	7·2
Baku		18·5	66	e 4 10	− 3	i 7 25	−11	9·0	11·5
Neuchatel		19·9	313	e 4 53	+24	—	—	—	—
Strasbourg		19·9	319	e 5 8	+39	—	—	—	—
Kucino		22·0	19	e 4 46	− 5	—	—	11·9	—
Pulkovo		24·8	3	5 21	+ 3	9 41	+ 4	15·2	—
Ekaterinburg		31·2	35	e 6 19	+ 3	e 11 30	+ 7	15·2	—
Samarkand		31·5	70	e 6 20	+ 2	—	—	—	—
Tashkent		33·1	66	—	—	e 11 10	−42	i 15·9	21·0
Irkutsk		55·4	45	—	—	e 21 10?	SS	e 31·2	—

Additional readings: Ksara PPE = +2m.14s., PPPE = +2m.52s.; T_o = 10h. 53m.24s. Belgrade e = +1m.53s., +2m.47s., and +3m.29s. Tashkent i = +16m.4s. Long waves were also recorded at Naples, Cheb, Copenhagen, Lund, and De Bilt.

Jan. 23d. Readings also at 3h. (Baku, Ekaterinburg, Ksara, Sebastopol, Yalta, Cheb, Copenhagen, and Zagreb), 4h. (Bombay, Ekaterinburg, Irkutsk, Nagasaki, near Lick, and Berkeley), 5h. (near Apia), 9h. (Wellington), 10h. (near Lick and near Tyosi), 14h. (near Batavia and Malabar), 16h. (Almata, Andijan, Tashkent, Irkutsk, near Samarkand, and near Taihoku (2)), 17h. (near Manila and near Nagasaki), 19h. (Apia), 20h. (Andijan and Samarkand), 23h. (Wellington).

Jan. 24d. Readings at 0h. (near Taihoku), 1h. (Adelaide, Melbourne, and Riverview), 2h. (Apia, Suva, Riverview, and Strasbourg), 3h. (Florissant), 6h. (Medan, Phu-Lien, and Samarkand), 11h. (Entebbe and La Paz), 13h. (near Taihoku), 15h. (Port au Prince), 20h. (Tananarive), 21h. (Andijan, Ann Arbor, and Riverview), 22h. (Samarkand), 23h. (Riverview, near La Paz, and near Tyosi).

Jan. 25d. 1h. 38m. 15s. Epicentre 7°·5N. 126°·0E. (as on 1929 June 4d.). R.1.

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

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Manila		8·6	326	i 2 10	+ 8	i 3 31	− 8	—	5·6
Amboina		11·4	169	2 16	−24	4 43	− 5	6·2	—
Hong Kong		18·7	324	4 13	− 2	7 51	+11	9·1	10·0
Phu-Lien		23·0	307	5 5	+ 4	e 9 14	+ 9	11·2	—
Malabar		23·6	232	i 5 25	+19	—	—	—	—
Batavia		23·8	236	5 11	+ 3	—	—	—	—
Zi-ka-wei	N.	24·1	350	e 5 59	+48	9 29	+ 4	—	—
Medan		27·5	263	i 9 33	?	—	—	—	—
Sumoto		28·0	16	e 5 32	−15	—	—	—	6·5
Kobe	Z.	28·4	16	e 5 48	− 3	—	—	—	—
Mizusawa	E.	34·4	23	(6 42)	− 2	6 42	P	—	—
Vladivostok		35·9	7	6 55	− 2	i 12 31	− 4	18·4	—
Adelaide		44·1	166	—	—	14 40	+ 3	—	29·2
Colombo		45·8	274	8 5	−14	15 10	+ 8	—	25·8
Hyderabad		47·4	289	8 45	+13	15 45	+21	25·2	32·8
Riverview		47·7	150	e 8 33	− 1	15 32	+ 3	e 24·8	28·4
Kodaikanal		48·0	278	11 39	?	—	—	—	—
Irkutsk		48·2	345	8 35	− 3	e 15 32	− 4	e 23·8	31·2
Melbourne		48·6	160	—	—	i 16 30	+49	28·9	30·2
Agra	N.	49·4	300	e 8 39	− 8	—	—	—	—
Bombay		52·8	290	9 37	+25	16 14	−25	24·0	32·6
Andijan		57·9	315	e 9 46	− 4	—	—	—	—
Tashkent		60·3	315	10 6	− 1	18 17	− 3	e 27·8	38·6
Samarkand		61·5	313	e 10 16	+ 1	—	—	—	—
Ekaterinburg		70·4	329	i 11 9	− 4	i 20 17	− 9	28·8	41·6
Baku		74·6	311	i 11 38	0	e 20 58	−17	36·0	49·2
Kucino		82·7	325	—	—	e 22 21	−23	39·2	48·2
Theodosia		85·1	316	12 34	0	23 0	− 9	—	—
Yalta		86·0	316	12 37	− 1	23 8	−10	—	—
Ksara		86·0	305	e 12 39	+ 1	—	—	—	—
Pulkovo		86·4	330	12 37	− 3	23 9	[0]	41·8	53·0
Sebastopol		86·4	316	12 42	+ 2	23 14	[+ 5]	—	—
Victoria	E.	97·7	38	24 19	S	(24 19)	[+ 4]	45·4	45·8
Florence		102·1	317	e 12 45	−58	e 26 45	PS	48·8	51·8
Florissant		122·7	33	19 45	?	e 30 15	PS	e 58·2	72·8
Ottawa	N.	123·6	16	—	—	e 30 45?	PS	73·8	—
Fordham	N.	128·3	19	—	—	e 31 45?	PS	64·8	81·8
La Paz		163·5	124	e 20 1	[+ 4]	—	—	—	—

Additional readings: Amboina i = +3m.1s. Medan i = +11m.9s. =SS+21s. Sumoto e = +6m.31s. =PP+0s. Kobe eZ = +6m.36s. =PP+0s. Adelaide SS = +18m.10s. =SKS+3s. Riverview SS = +18m.47s. Melbourne i = +19m.5s. =SS+8s. Fordham eN = +37m.45s.? =SS−34s. Long waves were also recorded at Sydney, Georgetown, and a number of European stations.

Jan. 25d. 11h. 42m. 12s. Epicentre 36°·1N. 140°·0E. (as on 1929 Dec. 6d.). R.3.

A = −·619, B = +·519, C = +·589.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Tyosi	0·8	118	0 12	+ 1	(0 20)	− 1	0·3	0·4
Nagoya	2·7	249	e 1 11	S	(e 1 11)	+ 2	(2·1)	2·3
Mizusawa	3·0	16	0 42	− 1	1 22	+ 5	—	—
Osaka	3·9	250	1 1	+ 5	—	—	2·2	2·7
Sumoto	4·5	248	e 2 48	L	—	—	(e 2·8)	—

Additional readings and note: Nagoya gives S as P and L as S. Mizusawa PE = +48s.

Jan. 25d. Readings also at 0h. (Samarkand and near Sumoto), 2h. (Sumoto, Matuyama, Nagasaki, and Hukuoka), 3h. (Georgetown), 4h. (near Tyosi), 5h. (Ekaterinburg and Tashkent), 6h. (Andijan and Samarkand), 8h. (Granada), 9h. (near Taihoku), 10h. (Almata, Andijan, Samarkand, Ekaterinburg, Irkutsk, Agra, Bombay, and near Dehra Dun), 12h. (Theodosia, near Sebastopol, and Yalta), 14h. (Almata, Andijan, Samarkand, Kobe, and near Sumoto), 15h. (near Tacubaya), 19h. (Andijan and Samarkand), 22h. (Andijan, near Samarkand, and near Nagasaki), 23h. (Apia).

Jan. 26d. 12h. 20m. 12s. Epicentre 17°·0N. 145°·0E. N.3.

$A = -\cdot783$, $B = +\cdot549$, $C = +\cdot292$; $D = +\cdot574$, $E = +\cdot819$; $G = -\cdot239$, $H = +\cdot168$, $K = -\cdot956$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.
		°	°	m. s.	s.	m. s.	s.	m.
Tyosi		18·9	350	e 4 19	+ 2	(e 7 26)	−18	e 7·4
Nagoya		19·6	340	e 4 24	− 1	—	—	—
Kobe		19·7	335	e 4 33	+ 7	—	—	—
Manila		23·2	268	e 5 21	+18	e 6 32	?	—
Zi-ka-wei	E.	25·7	308	e 5 34	+ 8	—	—	—
Vladivostok		28·4	340	e 5 34	−17	—	—	—
Phu-Lien		36·4	283	e 7 9	+ 8	—	—	—
Irkutsk		47·6	328	e 8 25	− 8	e 14 57	−30	e 27·8
Samarkand		70·1	309	e 11 7	− 4	—	—	—
Ekaterinburg		72·8	325	i 11 19	− 9	i 20 20	−34	34·3
La Paz		148·3	94	19 42	[+ 3]	—	—	—

Vladivostok e = +6m.11s., +6m.58s., and +7m.57s.

Jan. 26d. Readings also at 0h. (Apia), 4h. (near Kobe), 6h. (Almata, Andijan, and Samarkand), 8h. (La Paz), 9h. (Baku, Tashkent, Andijan, Almata, and Samarkand), 10h. (Ekaterinburg), 12h. (La Paz), 13h. (La Plata, La Paz, near Santiago, and near Sumoto), 14h. (near Apia), 16h. (Tyosi, Riverview, and Wellington).

Jan. 27d. Readings at 1h. (Tashkent, Samarkand, Ekaterinburg, Irkutsk, and Vladivostok), 3h. (near La Paz), 4h. (Andijan and Samarkand), 6h. (Irkutsk, Tashkent, Ekaterinburg, Manila, Phu-Lien, Zi-ka-wei, and near Taihoku), 7h. (near Sumoto), 10h. (Nagoya and near Tyosi), 15h. (Georgetown and near Tyosi), 16h. (Suva), 20h. (Florissant, St. Louis, and near Tyosi), 21h. (Andijan and Samarkand), 22h. (Charlottesville).

Jan. 28d. 6h. 19m. 32s. Epicentre 12°·0S. 162°·5E. (given by the Russian stations). N.3.

$A = -\cdot933$, $B = +\cdot294$, $C = -\cdot208$; $D = +\cdot301$, $E = +\cdot954$; $G = +\cdot198$, $H = -\cdot061$, $K = -\cdot978$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Suva	N.	16·5	114	i 3 16	−32	i 6 28	−22	—	—
Riverview		24·2	202	e 5 16	+ 4	e 10 7	+40	e 12·1	14·7
Apia		25·1	97	4 53	−28	9 59	+16	11·1	—
Melbourne		30·2	208	—	—	e 10 3	−64	14·5	15·9
Adelaide		31·6	220	e 6 43	+25	i 12 28	+59	15·8	19·9
Manila		49·0	302	9 12	+28	16 33	+46	—	—
Batavia		55·1	272	i 9 57	+27	i 18 26	+75	—	—
Hong Kong		58·5	306	9 57	+ 3	18 37	+41	—	32·0
Vladivostok		61·8	335	e 11 21	+64	e 19 52	+73	—	—
Irkutsk		81·4	330	12 26	+11	22 36	+ 5	37·5	43·2
Colombo		84·4	279	11 53	−37	23 35	PS	—	52·9
Victoria	E.	88·0	40	23 3	S	(23 3)	[−17]	39·6	40·8
Ekaterinburg		106·5	326	e 18 16	[+10]	26 24	?	41·5	63·2
Florissant		110·8	52	—	—	i 28 18	PS	49·6	53·5
Baku		114·9	310	e 20 2	?	—	—	e 44·7	71·0
Kucino		118·9	329	—	—	e 27 41	{+32}	53·7	70·7
Pulkovo		120·7	335	—	—	e 30 28?	PS	58·5	69·4
Georgetown	Z.	121·1	50	—	—	e 45 1	SSSS	e 56·7	64·0
Florence		139·7	327	e 19 28	[+ 7]	—	—	72·5	74·5

For Notes see next page.

NOTES TO JAN. 28d. 6h. 19m. 32s.

Additional readings: Riverview e = +5m.58s. Adelaide i = +7m.38s. Victoria SE = +29m.51s. Ekaterinburg PP = +18m.59s., SKS = +25m.22s., iPS = +28m.13s., SS = +34m.4s. Florissant eZ = +29m.28s., eEN = +34m.36s. = SS +7s. Baku PS = +29m.54s., SS = +36m.28s., SSS = +40m.52s. Kucino e = +31m.35s. and +37m.19s. Georgetown eZ = +47m.58s. Long waves are also recorded at Wellington, Honolulu T.H., La Paz, Tashkent, and at other stations in America and Europe.

Jan. 28d. Readings also at 0h. (St. Louis), 2h. (Apia), 3h. (Andijan and Samarkand), 10h. (Almata, Andijan, Samarkand, Baku, Ekaterinburg, Irkutsk, Bombay, and Ksara), 11h. (Baku, Ekaterinburg, Irkutsk, Tashkent, Samarkand, and Ksara), 13h. (near Nagoya), 16h. (Taihoku), 17h. (Mizusawa), 18h. (Ksara).

Jan. 29d. Readings at 0h. (Adelaide, Riverview, and Samarkand), 7h. (San Fernando), 8h. (Andijan and near Samarkand), 11h. (Baku, Ekaterinburg, Tashkent, Manila, near Andijan, Samarkand, and near Wellington), 15h. (La Paz, Taihoku, Andijan, and Samarkand), 16h. (near Manila), 20h. (Baku, Ekaterinburg, Tashkent, Almata, Andijan, Samarkand, and Ksara), 21h. (Irkutsk, near Oaxaca, Vera Cruz, and Tacubaya), 22h. (Tucson).

Jan. 30d. Readings at 4h. (near Kobe, Sumoto, and near Manila), 5h. (near Honolulu T.H.), 10h. (Samarkand and near Manila), 15h. (Andijan and near Samarkand), 17h. (near Tyosi), 18h. (La Paz, Nagoya, Baku, Ekaterinburg, Irkutsk, Tashkent, Vladivostok, near Manila, Tyosi, and Mizusawa), 20h. (Florence), 22h. (Andijan and Samarkand).

Jan. 31d. Readings at 0h. (near Kobe and Sumoto), 2h. (Samarkand), 4h. and 6h. (La Paz), 8h. (Wellington), 9h. (Andijan and Samarkand), 12h. (near Manila), 13h. (near Strasbourg), 18h. (Andijan and near Samarkand), 19h. (Andijan, Samarkand, Hohenheim, Chur, near Neuchatel, Zurich, and near Irkutsk), 22h. (near Manila).

Feb. 1d. 19h. 4m. 0s. Epicentre 13°·0N. 80°·0W. N.3.

A = +·169, B = −·960, C = +·225; D = −·985, E = −·174; G = +·039, H = −·222, K = −·974.

Very uncertain.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Port au Prince		9·2	53	i 3 15	S	(i 3 15)	−39	—	—
Vera Cruz		16·7	294	3 55	+ 5	6 53	− 2	7·4	—
Charlottesville	N.	25·1	3	—	—	e 9 40	− 3	e 13·5	—
Georgetown		26·1	5	—	—	e 6 13	PP	e 13·7	—
St. Louis		27·2	343	e 6 24	PP	e 9 0	−78	e 12·2	—
Florissant		27·4	342	e 4 40	−62	(e 9 32)	−50	e 13·5	—
Fordham		28·4	10	—	—	e 10 48	+10	14·0	18·5
Chicago	N.	29·5	348	—	—	e 10 48	− 8	e 17·6	—
Harvard		30·4	13	—	—	e 11 55	+45	e 16·0	—
Toronto		30·7	1	e 6 11	0	i 11 13	− 3	17·4	—
La Paz		31·8	160	6 26	+ 5	12 34	+62	16·4	20·7
Ottawa	N.	32·6	7	e 6 19	− 9	e 12 8	+23	e 17·0	20·0
Rio de Janeiro	N.	50·9	135	e 16 43	S	(e 16 43)	+30	e 29·3	—
Pulkovo		88·6	28	—	—	e 24 47	PS	49·0	55·5
Kucino		94·2	30	e 13 52	+35	e 26 22	PS	49·1	56·9
Ekaterinburg		102·9	21	—	—	e 24 0	[−40]	44·0	60·8
Baku		109·3	37	—	—	e 28 56	PS	58·0	66·0
Tashkent		118·7	25	—	—	e 24 49	[−57]	e 57·0	69·3

Additional readings and note: Port au Prince eS? = +7m.45s. Charlottesville eE = +10m.0s. Georgetown PP? = +1m.10s., ? = +11m.11s., e = +12m.33s. i? = +11m.41s., i = +12m.17s. Florissant eEN = +6m.52s.; S is given as eLEN. Chicago eE = +12m.16s. and +17m.18s. Ottawa eN = +8m.0s. and +14m.34s.; T_o = 19h.2m.58s. Kucino e = +35m.46s. Ekaterinburg e = +27m.24s. = PS +8s. and +33m.48s. Baku e = +35m.16s. and +46m.23s. Tashkent e = +31m.12s. and +55m.0s. Long waves were also recorded at Wellington, Victoria, Tucson, Ivigtut, Irkutsk, and several European stations.

Feb. 1d. 23h. 7m. 28s. Epicentre 36°·1N. 141°·5E. (given by Nagoya). N.2.

A = −·632, B = +·503, C = +·589; D = +·623, E = +·783; G = −·461, H = +·367, K = −·808.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tyosi		0·6	235	0 1	− 8	0 8	− 7	0·2	—
Mizusawa	E.	3·0	354	0 41	− 2	1 22	+ 5	—	—
	N.	3·0	354	0 44	+ 1	1 25	+ 8	—	—
Nagoya		3·8	257	e 0 59	+ 5	1 54	−18	—	2·2
Osaka		5·0	255	1 17	+ 6	—	—	2·5	3·2
Kobe		5·3	256	1 11	− 4	e 2 35	+20	—	—
Toyooka	N.	5·4	266	e 1 33	+16	—	—	2·8	3·0
Sumoto		5·6	254	e 1 18	− 2	e 2 4	−19	—	3·1
Samarkand		57·2	298	e 9 37	− 8	—	—	—	—

Additional readings: Kobe P = +1m.20s. Long waves were recorded also at Irkutsk, Baku, and Tashkent.

Feb .1d. Readings also at 3h. (Zagreb), 4h. (near Mizusawa), 5h. (near Manila), 6h. (near Tyosi), 7h. (Wellington and near La Paz), 11h. (near Manila), 12h. (Strasbourg, Ksara, Tashkent, Baku, and near Algiers), 14h. (Bagnères and near Tortosa), 16h. (near Manila), 17h. (Adelaide and Riverview), 19h. (Almata, Andijan, and Samarkand), 20h. (near Sumoto), 23h. (Ekaterinburg and near Ksara).

Feb. 2d. 14h. 56m. 5s. Epicentre **51°·7N. 179°·3E.** N.1.

(probable error ±0°·3).

A = −·620, B = +·008, C = +·785; D = +·012, E = +1·000; G = −·785, H = +·010, K = −·620.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Ootomari		24·1	272	5 35	+24	e 8 56	P_eP	10·2	14·9
Mizusawa	N.	29·2	260	5 55	− 3	12 40	?	—	—
Vladivostok		32·5	275	i 6 29	+ 2	i 11 48	+ 5	e 15·8	22·9
Honolulu T.H.		35·3	141	—	—	e 12 12	−14	i 16·1	—
Osaka		35·4	260	6 41	−12	(10 19)	?	10·3	12·9
Kobe		35·7	260	6 54	− 1	12 32	0	e 18·1	19·0
Sumoto		36·1	260	6 57	− 2	—	—	e 15·4	19·1
Victoria		36·1	71	—	—	12 35	− 3	16·2	17·2
Nagasaki		40·2	263	7 34	0	13 45	+ 6	—	—
Berkeley		42·4	85	e 7 52	0	e 14 9	− 2	e 20·0	—
Lick	E.	43·2	85	e 7 54	− 4	e 14 17	− 7	e 20·6	24·0
Irkutsk		44·0	302	i 8 8	+ 3	14 34	− 2	20·9	26·9
Zi-ka-wei	Z.	46·5	269	i 8 25	0	15 31	+19	23·4	30·3
Tucson	N.	53·2	84	e 9 22	+ 7	e 16 41	− 4	e 22·9	—
Scoresby Sund		56·9	9	9 44	+ 2	17 38	+ 3	—	—
Hong Kong		57·4	266	9 46	0	17 41	− 1	e 21·9	30·8
Manila		59·2	255	i 9 56	− 3	i 18 9	+ 4	—	—
Chicago	E.	60·2	60	—	—	e 18 12	− 7	e 27·8	—
Ekaterinburg		60·4	326	i 10 10	+ 3	i 18 28	+ 7	26·9	38·6
Florissant		60·8	64	i 10 5	− 5	e 18 14	−12	e 28·0	—
Ivigtut		61·0	24	9 55?	−16	18 31	+ 2	—	—
St. Louis	E.	61·0	64	i 10 12	+ 1	i 18 17	−12	e 28·4	32·6
Ann Arbor		61·8	56	—	—	e 25 37	SSSS	e 31·1	37·8
Toronto		63·0	52	i 10 20	− 5	e 18 39	−16	e 29·6	35·3
Phu-Lien		63·2	271	e 10 25	− 2	e 18 55	− 2	28·9	—
Ottawa		63·5	49	e 10 13	−16	e 19 3	+ 2	e 28·9	39·4
Almata		63·8	308	10 35	+ 4	19 15	+10	—	—
Pulkovo		65·8	345	10 43	− 1	19 29	− 1	33·9	35·8
Helsingfors		66·3	347	e 10 48	+ 1	e 19 34	− 2	e 33·4	—
Upsala		67·5	350	e 10 49	− 6	e 19 49	− 2	e 30·9	42·2

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Charlottesville	E.	67·7	56	—	—	i 19 47	− 6	e 33·8	—
Georgetown		67·7	55	10 52	− 4	e 19 24	−29	e 33·8	42·0
Fordham		67·8	52	e 10 55	− 2	19 57	+ 3	e 31·2	36·9
Bergen		67·8	356	—	—	e 19 55?	+ 1	—	—
Kucino		67·9	338	11 5	+ 7	20 3	+ 7	33·1	44·4
Harvard		68·0	49	—	—	e 24 50	?	e 30·9	—
Andijan		67·9	309	11 0	+ 2	20 2	+ 6	—	—
Tashkent		69·0	311	i 11 5	0	i 20 14	+ 5	e 34·9	41·4
Dyce		71·1	1	11 15	− 2	20 18	−16	e 32·4	—
Samarkand		71·4	312	i 11 22	+ 3	19 40	−58	35·9	—
Lund		72·1	353	15 55	PPP	20 39	− 7	33·9	—
Copenhagen		72·2	353	11 21	− 3	20 41	− 6	33·9	—
Calcutta		73·0	285	24 57	?	—	—	34·0	—
Dehra Dun		73·0	298	11 15	−14	20 55	− 2	42·4	45·9
Hamburg		74·4	354	i 11 36	− 1	e 21 12	− 1	e 31·5	38·9
Bidston		74·9	0	i 11 30	−10	i 21 20	+ 1	e 35·9	—
Potsdam		75·3	351	—	—	e 21 13	−11	e 40·2	45·9
Agra	E.	75·5	296	12 35	+52	22 10	+44	—	—
	N.	75·5	296	i 12 30	+47	i 22 8	+42	41·0	48·2
De Bilt		76·1	356	11 47	0	21 35	+ 2	e 31·9	46·6
Gottingen		76·4	354	—	—	e 21 55?	+19	—	51·9
Oxford		76·6	0	11 50	+ 1	21 36	− 2	e 41·9	53·0
Kew		76·8	359	e 11 37	−13	e 21 37	− 4	27·9	—
Uccle		77·4	357	e 11 52	− 2	—	—	e 39·9	—
Cheb		77·6	351	e 21 47	S	(e 21 47)	− 2	e 47·9	50·4
Feldberg	N.	77·8	355	—	—	e 21 43	− 9	—	52·9
Baku		78·0	324	i 11 59	+ 2	i 21 56	+ 2	39·1	44·3
Theodosia		78·4	335	e 12 1	+ 2	e 22 11	+13	31·9	—
Simferopol		78·8	335	e 12 1	0	—	—	—	—
Vienna		79·0	349	e 11 50	−13	22 58	PS	e 38·9	47·9
Sebastopol		79·2	335	e 13 7	+63	—	—	—	—
Yalta		79·2	335	e 11 56	− 8	—	—	—	—
Budapest		79·4	347	12 8	+ 3	22 24	+15	31·9	53·4
Paris		79·4	358	e 12 4	− 1	e 22 5	− 4	40·9	58·9
Strasbourg		79·5	355	i 12 7	+ 2	e 22 10	0	e 28·9	—
Graz		80·2	349	e 11 21	−48	e 22 22	+ 4	38·9	48·1
Neuchatel		81·1	354	i 12 13	− 1	e 22 23	− 4	—	—
Medan		81·4	266	i 9 55	?	i 20 43	?	—	—
Zagreb		81·5	349	e 12 18	+ 2	e 22 29	− 3	e 39·9	—
Florence		84·0	351	i 12 30	+ 2	22 55	− 3	44·9	51·9
Batavia		84·2	253	i 12 50	+21	i 22 10	−50	—	—
Bombay		84·9	295	12 34	+ 1	22 58	− 9	43·6	52·9
Rocca di Papa		85·9	350	i 12 36	− 2	i 22 6	−71	e 50·1	54·4
Toledo		88·4	3	—	—	e 23 34	− 7	e 38·1	63·7
Ksara		88·6	330	e 12 13	−38	23 33	−10	—	—
Riverview		89·0	203	e 12 44	− 9	i 23 12	[−14]	e 42·1	52·0
Granada		91·1	3	—	—	e 33 55?	SSS	e 51·9	55·9
Almeria		91·5	3	e 16 46	PP	—	—	52·1	56·1
Malaga		91·5	3	—	—	e 25 5	PS	—	—
Wellington		93·0	184	e 14 35	+84	23 29	[−21]	43·9	46·9
Adelaide		93·6	210	—	—	i 24 14	{+10}	41·6	52·9
Melbourne		94·4	206	—	—	i 24 24	{+14}	38·8	42·4
La Paz		116·8	84	18 23	[−14]	25 26	[−14]	56·9	64·2
Rio de Janeiro	E.	136·6	66	e 21 41	PP	—	—	—	—

Additional readings: Mizusawa PE = +6m.1s. Honolulu T.H. iSN +12m.16s., eSSN = +14m.18s., iSSE = +14m.44s. Kobe iPZ = +6m.56s. Berkeley ePE = +7m.58s., eE = +10m.4s., eN = +10m.14s. and +18m.4s., eEN = +19m.1s. Lick eE = +7m.58s., +9m.59s. = P_cP +7s., ePSE = +14m.26s., eE = +17m.45s. = SSS −17s. Scoresby Sund +23m.7s. = SSS −12s. Hong Kong SS? = +19m.30s. = S_cS −4s. Manila PPE = +12m.28s., PSEN = +18m.29s. Chicago eN = +18m.20s. Florissant iN = +19m.53s. = S_cS −5s. St. Louis eE = +19m.1s., iE = +19m.53s. = S_cS −6s. Ann Arbor e?E = +30m.19s. Toronto PS = +19m.6s., SS =

Continued on next page.

+23m.46s. Ottawa eN = +23m.55s., e = +26m.5s. =SSSS −17s. Helsingfors ePPPEN = +14m.53s. Upsala SS = +25m.8s. Charlottesville iN = +19m.55s. =PS −12s. Georgetown ePP = +13m.13s., ePPP = +14m.13s., PS = +20m.1s., PPS = +20m.40s., e = +21m.11s. Dyce e = +25m.37s. Lund +25m.37s. =SS +23s. Copenhagen PP = +14m.7s., PPP = +15m.49s. also +25m.37s. =SS +21s. De Bilt eSS = +26m.34s., eN = +27m.0s. Cheb eS = +32m.13s. Feldberg eN = +27m.19s. Vienna iPZ = +12m.2s., PS = +23m.52s. Strasbourg ePS? = +22m.55s. ? Zagreb eNE = +16m.36s., e = +23m.38s. Riverview i = +13m.0s. and +23m.30s., SKKS = +23m.32s., PS = +23m.58s. ; T_0 =14h.56m.22s. Adelaide e = +30m.10s. =SS −21s. La Paz PPE = +19m.58s., iE = +20m.34s., PSE = +29m.30s. Long waves were also recorded at Tyosi, Taihoku, Tananarive, La Plata, and a few other European stations.

Feb. 2d. Readings also at 0h. (Florissant and near La Paz), 1h. (Ekaterinburg and Tashkent), 2h. (near La Paz (2)), 3h. (Wellington), 9h. (Andijan and Samarkand), 10h. (Christchurch and Wellington), 11h. (near Tyosi and near Mizusawa), 14h. (Almata and Andijan), 15h. (Tucson), 16h. (Andijan and Samarkand), 17h. (La Paz, Cheb, Ivigtut, and Scoresby Sund), 20h. (near Granada, Malaga, and near Sumoto), 21h. (Osaka, Nagoya, Mizusawa, and near Tyosi).

Feb. 3d. Readings at 2h. (Adelaide, Melbourne, Riverview, Hong Kong, Manila, Tashkent, Samarkand, Irkutsk, Vladivostok, and near Mizusawa), 3h. (Baku, Ekaterinburg, and Christchurch), 6h. (La Paz), 7h. (Ekaterinburg, Irkutsk, Pulkovo, Zi-ka-wei, and near Taihoku), 9h. (Samarkand and near Andijan), 10h. (Taihoku), 16h. (near La Paz), 17h. (near Manila), 18h. (Taihoku), 22h. (Georgetown, Ottawa, and La Paz), 23h. (Baku, Ekaterinburg, and Florissant).

Feb. 4d. Readings at 4h. (near Tacubaya), 5h. (Copiapo, Vera Cruz, La Paz (2), La Plata, and Santiago), 6h. (near Tyosi), 8h. (Lick), 10h. (Copiapo), 12h. (Sumoto), 13h. (Almata, Andijan, and Samarkand), 15h. (Andijan (2), Samarkand (2), Simferopol, Theodosia, Batavia, and near Amboina), 19h. (Wellington), 21h. (Andijan and near Samarkand).

Feb. 5d. 0h. 30m. 6s. Epicentre 48°·3N. 152°·0E. (as on 1920 April 11d.). R.2.

A = −·587, B = +·312, C = +·747 ; D = +·470, E = +·883 ;
G = −·659, H = +·351, K = −·665.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Mizusawa	E.	12·1	224	2 36	−14	4 16	−49	—	—
Vladivostok		14·9	257	e 3 21	− 6	—	—	7·4	—
Tyosi		15·0	217	e 5 30	?	—	—	—	—
Irkutsk		30·2	297	e 1 20	?	e 11 46	+39	16·9	20·7
Ekaterinburg		51·9	318	i 9 10	+ 4	i 16 40	+13	25·9	32·7
Andijan		54·6	295	e 9 27	+ 1	—	—	—	—
Samarkand		58·6	298	9 56	+ 1	17 59	+ 2	—	—
Kucino		62·3	325	—	—	e 19 54	(−14)	36·9	40·7
Baku		67·8	309	i 10 58	+ 1	e 20 8	PS	e 35·4	44·5
Theodosia		71·5	320	e 11 24	+ 4	—	—	—	—
Simferopol		72·1	320	e 11 24	+ 1	—	—	—	—
Yalta		72·4	320	e 11 26	+ 1	—	—	—	—
Sebastopol		72·6	320	e 11 34	+ 8	—	—	—	—
Vienna	Z.	76·1	331	i 11 47	0	—	—	—	—
Florissant		76·8	46	i 11 46	− 4	—	—	—	—
Neuchatel		79·9	337	e 12 8	+ 1	—	—	—	—

Additional readings : Vladivostok e = +3m.35s. Irkutsk i = +15m.24s. Long waves were also recorded at Entebbe, Strasbourg, Copenhagen, and Scoresby Sund.

Feb. 5d. 13h. 28m. 22s. Epicentre 33°·8N. 129°·5E. (as on 1928 Aug. 22d.). R.2.

A = −·529, B = +·641, C = +·556; D = +·772, E = +·636; G = −·354, H = +·429, K = −·831.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Hukuoka	0·8	106	0 3	− 8	0 6	−15	—	0·1
Nagasaki	1·1	163	i 0 17	+ 1	i 0 29	+ 1	—	0·5
Matuyama	2·7	89	i 0 35	− 4	—	—	—	1·2
Koti	3·3	93	e 0 45	− 2	—	—	1·6	—
Sumoto	4·5	82	1 2	− 2	2 2	+ 7	—	2·3
Kobe	4·7	78	e 1 20	+13	—	—	e 2·5	2·5
Toyooka	4·7	67	i 1 21	+14	(2 9)	+ 9	2·2	2·4
Osaka	5·0	78	1 15	+ 4	—	—	2·4	3·9
Nagoya	6·2	75	e 1 29	+ 1	3 3	+25	—	3·4
Ekaterinburg	51·0	319	—	—	e 21 14	SSS	27·6	—

Additional readings: Koti ePEN = +51s. Long waves were recorded also at Vladivostok and Irkutsk.

Feb. 5d. Readings also at 0h. (near Taihoku), 2h. (Baku, Ekaterinburg, and near Medan), 3h. (near Medan, near Mizusawa, and Tyosi), 4h. (Nagoya), 6h. (near Andijan), 8h. (Andijan and Samarkand), 10h. (Wellington), 13h. (near Hukuoka (2)), 14h. (La Paz), 15h. (Taihoku), 16h. (Taihoku and near Manila), 20h. (Manila, Samarkand, and Ekaterinburg), 21h. (Irkutsk and near La Paz), 22h. (near Nagasaki), 23h. (near Tyosi).

Feb. 6d. Readings at 0h. (Ekaterinburg, Medan, near Batavia, and Malabar), 9h. (Wellington), 10h. (Lick), 11h. (near Sebastopol and Yalta), 12h. (Lick), 17h. (Taihoku), 21h. (near Mizusawa), 22h. (Andijan and Samarkand).

Feb. 7d. 2h. 40m. 49s. (I)
3h. 34m. 22s. (II) Epicentre 34°·8N. 135°·7E. N.3. R.3.

A = −·588, B = +·574, C = +·571.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
I Osaka	0·2	218	0 4	+ 1	(0 11)	+ 6	0·2	0·2
II	0·2	218	0 0	− 3	(0 6)	+ 1	0·1	0·1
I Kobe	0·4	254	0 3	− 3	0 7	− 3	0·1	6·2
II	0·4	254	0 4	− 2	(0 8)	− 2	0·1	0·2
I Sumoto	0·8	236	0 11	0	0 21	0	—	0·4
II	0·8	236	0 12	+ 1	0 22	+ 1	—	0·4
I Toyooka	1·0	316	0 13	− 1	(0 22)	− 4	0·4	0·4
II	1·0	316	0 14	0	(0 23)	− 3	0·4	0·4
I Nagoya	1·1	71	e 0 19	+ 3	0 41	+13	—	—
II	1·1	71	e 0 24	+ 8	0 41	+13	—	—

Feb. 7d. 3h. 34m. 38s. Epicentre 33°·8N. 129°·5E. (as on 5d.). R.3.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Hukuoka	0·8	106	0 4	− 7	0 7	−14	—	0·1
Nagasaki	1·1	163	i 0 19	+ 3	i 0 30	+ 2	—	—
Matuyama	2·7	89	e 0 36	− 3	(e 1 6)	− 3	e 1·1	1·2
Koti	3·3	93	e 0 50	+ 3	i 1 28	+ 3	—	—
Sumoto	4·5	82	—	—	2 2	+ 7	—	2·3
Kobe	4·7	78	—	—	e 1 52	− 8	—	—
Toyooka	4·7	67	e 1 35	+28	—	—	2·3	2·4

Feb. 7d. 16h. 34m. 20s. Epicentre 3°·8S. 98°·8E. (as given by Batavia). N.2.

A = −·153, B = +·986, C = −·066; D = +·988, E = +·153; G = +·010, H = −·065, K = −·998.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Medan		7·4	0	7 10	?	8 34	?	—	—
Batavia		8·4	107	i 1 33	−26	i 3 23	−11	—	—
Colombo		21·7	299	5 1	+13	9 6	+26	11·8	19·5
Kodaikanal		25·5	304	10 22	S	(10 22)	+32	15·2	18·1
Phu-Lien		25·7	17	e 5 19	− 7	e 9 45	− 8	11·7	—
Manila		28·6	49	e 5 55	+ 2	11 24	+42	i 15·7	—
Hyderabad		29·2	317	5 41	−17	10 35	−16	14·4	17·3
Hong Kong		30·1	29	5 53	−13	10 49	−17	e 14·3	19·2
Bombay		34·2	315	6 42	0	12 2	− 7	16·8	17·6
Dehra Dun		39·5	332	6 0	−88	12 50	−39	18·5	25·7
Zi-ka-wei	z.	41·1	29	e 7 28	−13	17 10	?	23·1	27·4
Andijan		50·7	334	e 9 5	+ 8	—	—	—	—
Almata		51·0	340	9 7	+ 8	e 16 11	− 4	—	—
Tananarive	E.	52·3	250	—	—	e 17 5	+32	—	26·5
Samarkand		52·4	330	e 9 10	+ 1	—	—	—	—
Tashkent		52·5	333	e 9 10	0	i 16 28	− 7	26·7	35·4
Melbourne		54·1	136	—	—	i 17 15	+18	29·1	33·0
Vladivostok		55·6	30	9 28	− 5	17 17	0	31·6	35·1
Riverview		57·1	129	—	—	e 17 46	+ 8	e 31·2	33·8
Ekaterinburg		68·0	340	i 10 56	− 2	i 19 45	−12	26·7	42·2
Ksara		70·1	310	(11 8)	− 3	(20 40?)	+18	39·7	—
Kucino		77·4	330	—	—	e 21 30	−17	e 40·4	47·9
Pulkovo		82·7	333	12 18	− 4	e 22 32	−12	43·7	56·7
Lund		90·7	326	—	—	23 54	− 9	49·7	—
Florence		90·9	315	e 12 12	−50	24 10	+ 6	—	52·7
Copenhagen		91·1	326	—	—	24 0	− 6	43·7	—

Additional readings and note: Medan i = +7m.34s. and +8m.58s. Batavia i = +1m.45s. Manila PPPN = +7m.24s. Tashkent e = +20m.40s. and +24m.52s. Ksara P has been *increased* by 16m., S is given as LN. Kucino e = +26m.43s. =SS+9s. and +30m.56s. Long waves were also recorded at Apia, Wellington, Fordham, Rio de Janeiro, Scoresby Sund, and several European stations.

Feb. 7d. Readings also at 0h. (Lick), 3h. (near Sumoto (2), Kobe (2), near Hukuoka (3), and Nagasaki), 4h. (Kobe and near Hukuoka), 5h. (Samarkand), 6h. (Florence, Konigsberg, Paris, Strasbourg, Ksara, Kucino, Pulkovo, Ekaterinburg, Irkutsk, Vladivostok, Honolulu T.H., Kobe, Florissant, Ottawa, Tucson, La Paz, Adelaide, Melbourne, Riverview, Sydney, Christchurch, Wellington, near Apia (2), Tashkent (2), Almata, near Andijan, and Samarkand), 7h. (Chicago, Fordham, Georgetown, Harvard, Scoresby Sund, Granada, Kew, Edinburgh, De Bilt, Rocca di Papa, Cheb, Copenhagen, Lund, Baku, and Rio de Janeiro), 8h. (San Fernando, Apia, Kucino, Ekaterinburg, Irkutsk, Vladivostok, Kobe, Sumoto, near Osaka, Mizusawa, Tyosi, near Tashkent, Andijan, and Samarkand), 9h. (Cheb, Copenhagen, De Bilt, Florence, and Pulkovo), 10h. (near Ksara), 11h. (near Nagasaki and near Sumoto), 12h. (La Paz, Irkutsk, Ekaterinburg, Florissant, Adelaide, Melbourne, Riverview, Sydney, Apia, Suva, Christchurch, and Wellington), 13h. (De Bilt, Granada, Kucino, Paris, Tashkent, Apia, Copenhagen, and Bombay), 14h. (Apia and Sumoto), 15h. (Nagasaki), 18h. (Alicante and Florence), 20h. (Port au Prince, Samarkand, Andijan, near Almata, near Sumoto, Kobe, and Osaka), 22h. (near Tyosi), 23h. (Tucson, Lick, and Wellington).

Feb. 8d. 5h. 20m. 18s. Epicentre 38°·5N. 40°·0E. (as on 1915 May 19d.). X.

A = +·600, B = +·503, C = +·623 ; D = +·643, E = − 766 ;
G = +·477, H = +·400, K = −·783.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Ksara	E.	5·7	217	1 18	− 3	1 46	−39	—	—
Yalta		7·4	326	e 3 4	S	(e 3 4)	− 5	—	—
Theodosia		7·4	333	e 3 12	S	(e 3 12)	+ 3	—	—
Simferopol		7·8	327	e 3 28	S	(e 3 28)	+ 9	—	—
Baku		7·9	72	i 1 55	+ 3	e 3 37	+16	4·7	5·9
Kucino		17·3	356	—	—	e 7 0	− 9	e 8·9	11·2
Vienna		19·6	307	e 4 33	+ 8	—	—	—	—
Samarkand		20·9	78	e 4 42	+ 3	—	—	—	—
Rocca di Papa		21·0	287	e 4 33	− 7	i 5 0	?	e 10·8	13·2
Florence		22·1	293	e 4 42	−10	11 42	L	(11·7)	17·6
Pulkovo		22·2	247	4 49	− 4	8 59	+ 9	11·7	14·4
Innsbruck		22·5	302	4 42?	−14	—	—	—	—
Tashkent		22·6	73	e 4 56	− 1	e 9 12	+15	e 11·9	16·9
Cheb		22·7	310	—	—	e 9 12	+13	e 14·3	15·2
Ekaterinburg		22·9	30	e 5 48	+48	9 8	+ 5	11·2	16·5
Helsingfors		23·6	341	4 57	− 9	9 13	− 3	—	—
Andijan		24·9	74	e 5 30	+11	—	—	—	—
Copenhagen		25·2	322	—	—	9 50	+ 6	15·7	—
Strasbourg		25·2	304	—	—	(e 9 42?)	− 2	e 9·7	—
De Bilt		27·7	311	—	—	e 10 50	+23	e 15·7	—

Additional readings: Rocca di Papa eP = +3m 54s. Ekaterinburg e = +9m.36s. =SS −2s. Long waves were also recorded at Budapest, Hamburg, Paris, and Lund.

Feb. 8d. 6h. 28m. 54s. Epicentre 39°·5N. 76°·5E. N.3.

A = +·180, B = +·750, C = +·636 ; D = +·972, E = −·233 ;
G = +·148, H = +·618, K = −·772.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Andijan		3·4	294	i 0 47	− 2	—	—	i 1·3	—
Almata		3·8	4	1 11	+17	—	—	2·2	2·3
Tashkent		5·8	291	i 1 17	− 5	(2 12)	−16	2·2	10·0
Samarkand		7·3	274	i 1 39	− 5	(3 8)	+ 2	3·1	4·3
Agra	E.	12·4	173	1 12	−102	5 15	+ 2	7·5	7·8
	N.	12·4	173	1 0	−114	5 10	− 3	7·5	7·8
Calcutta	E.	19·7	145	4 4	−22	7 58	− 2	10·7	—
Ekaterinburg		20·2	334	i 4 32	0	i 8 14	+ 4	i 10·4	12·3
Baku		20·3	281	(e 8 49)	(+ 7)	e 8 49	P_cP	11·1	18·4
Hyderabad		22·1	175	5 2	+10	9 20	SS	11·7	14·4
Colombo		32·7	175	13 14	SS	—	—	—	20·0
Ksara		32·8	274	6 33	+ 3	11 46	− 2	15·4	—
Pulkovo		35·1	321	6 52	+ 2	e 12 22	− 1	16·1	21·5
Hong Kong		36·2	107	6 43	−17	—	—	—	—
Helsingfors		37·7	320	e 7 9	− 3	e 13 0	− 2	e 18·1	—
Copenhagen		44·3	315	—	—	14 41	+ 1	22·1	—
Cheb		45·2	306	—	—	e 18 6?	(− 7)	e 25·1	28·1
Hamburg		46·0	311	—	—	e 18 37	(+19)	—	25·1

Additional readings: Andijan i = +52s. Calcutta ePN = +4m.11s. Baku i = +10m.30s. Hong Kong ? = +4m.23s. Long waves were also recorded at Manila, Phu-Lien, and several European stations.

Feb. 8d. Readings also at 0h. (Belgrade, Cheb, Copenhagen, and De Bilt), 1h. (Almata, Andijan, Samarkand, and Sitka), 2h. (near La Paz), 3h. (Apia, Ekaterinburg (2), Irkutsk, Pulkovo, Andijan, Samarkand, Tashkent, Hyderabad, and near Calcutta), 4h. (Wellington, Copenhagen, Andijan, and Samarkand), 6h. (Taihoku), 8h. (Almata, Andijan, and Samarkand), 11h. (Samarkand), 15h. (Andijan and Samarkand), 17h. (near Amboina), 19h. (Florissant), 20h. (near La Paz), 21h. (Almata, Andijan, and Samarkand), 22h. (Taihoku, Samarkand, near Andijan, and near La Paz), 23h. (Lick, Tashkent, La Paz, Andijan, and near Samarkand).

Feb. 9d. Readings at 0h. (Sumoto), 1h. (Florissant, Fordham, Georgetown, Ottawa, Toronto, Victoria, Ekaterinburg, and Tashkent), 2h. (Apia and Lick (2)), 3h. (near Malaga), 7h. (La Paz), 9h. and 11h. (Apia), 12h. (Samarkand), 13h. (Andijan and near Mizusawa), 14h. (Wellington), 16h. (Andijan and Samarkand), 21h. (Lick).

Feb. 10d. Readings at 2h. (Ksara), 3h. (La Plata and La Paz), 4h. (La Paz), 6h. (Apia), 8h. (Apia, San Fernando, near Almeria, Granada, Malaga, Toledo, near La Paz, and near Sumoto), 10h. (Wellington, Barcelona (2), near Batavia and Malabar), 11h. (La Paz and Lick), 12h. (near Nagasaki), 16h. (near Hukuoka, Nagasaki, and Matuyama).

Feb. 11d. 0h. 12m. 3s. Epicentre 34°·0N. 134°·8E. (as on 1929 Nov. 20d.). R.3.

$A = -\cdot584$, $B = +\cdot588$, $C = +\cdot559$; $D = +\cdot710$, $E = +\cdot705$; $G = -\cdot394$, $H = +\cdot397$, $K = -\cdot829$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Sumoto	0·4	11	i 0 5	− 1	0 8	− 2	—	0·2
Kobe	0·7	25	0 6	− 4	0 13	− 5	—	0·5
Osaka	0·9	38	0 10	− 3	(0 20)	− 3	0·3	0·6
Koti	1·1	250	i 0 25	S	(i 0 25)	− 3	0·9	1·0
Toyooka	1·6	0	i 0 24	+ 1	(i 0 42)	+ 1	i 0·7	0·8
Matuyama	1·7	264	i 0 31	+ 7	—	—	—	1·1
Nagoya	2·1	57	e 0 32	+ 2	0 56	+ 2	—	1·1
Hukuoka	3·7	269	e 1 9	P*	2 2	+27	—	2·3
Nagasaki	4·3	254	1 34	P_g	2 35	S_g	—	2·9
Tyosi	5·3	69	e 1 33	P*	—	—	e 2·5	—
Irkutsk	28·4	319	—	—	e 10 57?	+19	15·0	—

Additional readings and note: Koti iS = +44s.; the two readings may be P_g and S_g respectively. Tyosi ePEN = +1m.35s. Long waves were also recorded at Vladivostok and Ekaterinburg.

Feb. 11d. After-shocks from the above epicentre were recorded by Sumoto as follows:—

h.	m.	s.	h.	m.	s.	h.	m.	s.
0	27	41	2	1	43	9	0	21
1	29	42	3	22	51	10	37	39
1	53	33	5	21	41	22	18	26

Feb. 11d. Readings also at 0h. (Andijan (2), Samarkand (2), and near Sumoto (2)), 1h. (Rio de Janeiro, Andijan, near Samarkand, and near Sumoto), 4h. (Bombay), 6h. (Mizusawa and near Tyosi), 9h. (Lick, Manila, and near Nagasaki (2)), 12h. (near La Paz), 14h. (Wellington), 16h. (Andijan and Samarkand), 17h. (Ekaterinburg, Tashkent, Hong Kong, and near Manila), 18h. (near Tacubaya and Vera Cruz), 19h. (Tyosi (2)), 20h. (Samarkand and near Andijan), 21h. (near Berkeley and Lick), 23h. (Florissant, St. Louis, near La Paz, near Oaxaca, Vera Cruz, and Tacubaya).

Feb. 12d. 6h. 21m. 30s. Epicentre 40°·9S. 177°·1E. (as on 1920 Aug. 10d.). R.2.

$A = -·755$, $B = +·038$, $C = -·655$; $D = +·051$, $E = +·999$; $G = +·654$, $H = -·033$, $K = -·756$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Wellington		1·8	245	0 28	+ 2	0 48	+ 2	—	—
Christchurch		4·2	230	1 2	+ 2	1 46	− 2	—	—
Riverview		21·7	281	i 4 49	+ 1	i 8 52	+12	e 10·7	12·7
Sydney	E.	21·7	281	4 48	0	9 24	+44	12·5	13·8
Melbourne		25·0	264	5 20	0	9 42	+ 1	12·7	13·9
Apia		28·8	23	e 5 49	− 5	—	—	13·7	16·8
Adelaide		30·8	268	e 6 7	− 5	i 11 11	− 6	i 13·7	18·6
Perth		49·1	260	8 39	− 5	15 50	+ 2	25·0	—
Batavia		71·1	278	i 10 48	−29	i 20 0	−34	e 39·5	—
Manila		76·0	304	—	—	e 20 2	−90	—	—
Hong Kong		86·0	305	—	—	(22 50)	[−16]	22·8	48·9
La Paz		96·8	119	e 14 26	+57	i 24 20	{− 0}	47·5	55·7
Victoria		103·6	36	26 3	S	(26 3)	+ 5	52·4	52·9
Rio de Janeiro	E.	106·0	141	e 25 58	Σ	(e 25 58)	{+20}	e 50·0	59·8
	N.	106·0	141	e 25 57	Σ	(e 25 57)	{+19}	e 49·9	60·0
Hyderabad		107·7	278	24 55	S	(24 55)	[− 8]	56·9	71·3
Irkutsk		112·4	320	e 19 3	PP	i 25 15	[− 9]	57·5	63·7
Bombay		112·9	275	21 42	PPP	29 5	PS	39·6	69·4
Dehra Dun		115·7	290	35 50	SS	45 30	?	59·8	67·5
Florissant		115·9	60	—	—	e 26 46	{− 2}	e 55·5	60·5
Ann Arbor	N.	122·0	60	—	—	(e 47 0)	?	e 62·1	—
Georgetown		124·8	66	e 20 49	PP	27 44	{− 4}	61·5	66·1
Toronto		125·4	60	—	—	e 26 9	[+ 3]	64·5	—
Tashkent		127·3	296	e 19 0	[− 2]	e 26 6	[− 6]	—	76·9
Ottawa		128·5	59	—	—	e 31 30?	PS	64·5	—
Harvard	E.	130·4	64	—	—	e 39 0	SS	e 63·5	—
Ekaterinburg		137·1	314	i 22 54	PKS	—	—	62·5	73·7
Baku		140·6	287	e 19 32	[+10]	—	—	e 63·5	89·2
Kucino		149·7	313	—	—	e 30 12	{− 9}	e 66·8	92·7
Pulkovo		152·2	324	e 19 56	[+12]	e 29 30	?	80·5	88·6
Cheb		165·9	316	—	—	e 26 30?	?	e 88·5	108·5
De Bilt		167·6	337	—	—	e 31 54	{+ 5}	e 88·5	96·6
Feldberg		167·8	323	—	—	e 31 42	{−18}	—	96·5
Rocca di Papa		168·3	279	—	—	e 27 48	?	99·3	104·3
Uccle		169·0	336	—	—	e 31 30?	{−37}	e 49·5	—
Oxford		169·1	355	—	—	e 45 36	SS	94·8	102·3
Florence		169·2	290	e 20 0	[− 3]	—	—	—	92·5
Kew		169·3	352	e 20 12	[+ 9]	—	—	82·5	—
Strasbourg		169·3	319	e 20 2	[− 1]	—	—	38·5	—
Paris		171·2	336	e 20 30?	[+26]	e 27 30?	?	94·5	103·5
San Fernando		174·8	149	20 30	[+24]	32 0	{−37}	—	103·5
Malaga		175·7	163	e 22 34	?	e 33 40	?	52·5	—
Almeria		176·0	186	e 20 9	[+ 2]	e 36 4	?	e 92·0	99·3
Granada		176·2	172	e 20 14	[+ 7]	—	—	89·1	95·6
Alicante		176·8	216	e 21 36	{−24}	e 32 36	{−11}	—	—
Toledo		178·6	140	e 22 1	{− 8}	i 32 47	{− 9}	e 48·4	55·2

Additional readings: Riverview iPP = +5m.7s., iPPP = +5m.19s., iPPPP = +5m.33s., iSE = +8m.55s., i = +9m.4s., +9m.7s., +9m.11s., +9m.23s., and +10m.22s.; T_e = 6h.21m.6s. Batavia i = +10m.50s. and +20m.52s. = PS − 1s. Hong Kong P? = 6h.19m.19s. Victoria S = +38m.18s. Irkutsk e = +21m.50s. = PPP + 19s., +28m.37s. = PS − 14s., +33m.1s. and +34m.45s. = SS − 6s. Florissant iNZ = +29m.31s. = PS + 7s., eZ = +35m.31s. = SS − 7s. Georgetown PP = +22m.33s., PPP = +25m.14s., SKKS? = +29m.8s., ? = +30m.13s. and +31m.9s., PS = +32m.33s., SKSP = +33m.1s., PPS = +33m.30s. ?, PPSS = +34m.54s., eSS = +40m.20s., eSSS = +45m.49s. Tashkent e = +20m.54s. = PP − 5s., +22m.6s., and +43m.30s. Ottawa e = +38m.30s. ? = SS + 9s. Baku e = +22m.30s. = PP + 5s., +23m.8s. = PKS − 2s., +29m.24s. = Σ − 3s., +38m.8s., and +46m.37s. Kucino e = +48m.6s. = SS + 8s. Pulkovo e = +44m.0s. Uccle e = +35m.30s. ? = SKSP − 6s. Strasbourg ePP = +25m.7s. Almeria PP = +26m.7s. Granada iPP = +25m.46s., i = +30m.12s., and +30m.39s. Long waves were also recorded at Zi-ka-wei, Colombo, La Plata, Entebbe, Ivigtut, Tananarive, and several other American and European stations.

Feb. 12d. Readings also at 0h. (Tucson and La Paz), 2h. (near Sumoto), 4h. (near Manila), 5h. (near Sumoto), 6h. (Samarkand), 7h. (near Apia), 8h. (Sumoto), 9h. (Andijan and Samarkand), 10h. (near Oaxaca, Vera Cruz, and Tacubaya), 11h. (near Sumoto and near Nagaski), 14h. (Andijan and Samarkand), 16h. and 18h. (near Sumoto), 22h. (near Sumoto and near Tacubaya).

Feb. 13d. Readings at 0h. (Florissant, Ottawa, and near Tacubaya), 2h. (Sumoto), 4h. (near Malabar), 10h. (Florissant and St. Louis), 11h. (near Kobe and Sumoto), 12h. (Kobe), 14h. (Apia), 15h. (Sumoto), 16h. (near Amboina), 17h. (Port au Prince and Tyosi), 20h. (Alicante, Taihoku, and near Nagoya), 21h. (Florence), 23h. (Sumoto).

Feb. 14d. 18h. 38m. 12s. Epicentre **36°·0N. 25°·0E.** N.1.

probable error of epicentre ±0°·2.

A = +·733, B = +·342, C = +·588; D = +·423, E = −·906; G = +·533, H = +·248, K = −·809.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Athens		2·2	332	i 0 39	+ 8	1 1	+ 4	—	—
Helwan		8·1	137	i 1 55	0	i 3 18	− 8	—	3·6
Ksara		9·2	100	i 2 13	+ 3	3 49	− 5	6·1	—
Belgrade		9·4	340	e 2 14	+ 1	i 4 2	+ 3	i 4·9	5·6
Naples	E.	9·7	303	i 2 29	+12	e 3 58	− 8	—	5·2
Sebastopol		10·8	34	i 2 42	+10	—	—	—	—
Yalta		11·0	37	i 2 40	+ 5	—	—	—	—
Rocca di Papa		11·0	305	i 2 36	+ 1	5 31	+53	—	7·6
Simferopol		11·3	35	i 2 45	+ 6	—	—	—	—
Zagreb		11·9	328	e 2 45	− 2	—	—	—	6·8
Theodosia		12·0	37	i 2 55	+ 7	—	—	—	—
Budapest		12·3	341	2 54	+ 2	5 6	− 4	6·8	7·8
Laibach		12·8	325	e 2 56	− 3	i 5 16	− 6	—	8·0
Graz		13·1	330	i 3 4	+ 1	i 5 34	+ 5	5·8	7·0
Florence		13·1	311	i 2 58	− 5	5 28	− 1	—	6·5
Venice		13·4	318	i 3 9	+ 2	i 5 44	+ 7	—	7·8
Lemberg	E.	13·8	357	e 3 12	− 1	e 5 54	+ 8	—	7·4
	N.	13·8	357	e 3 18	+ 5	e 6 6	?	—	6·2
Vienna		13·8	335	e 3 19	+ 6	(i 5 57)	+11	i 5·9	7·8
Innsbruck		15·1	322	3 28	− 2	5 54	−23	7·4	8·3
Chur		15·9	318	i 3 38	− 2	i 6 36	0	—	—
Ravensburg		16·4	321	i 3 45	− 1	i 6 48	0	i 8·2	—
Zurich		16·7	318	i 3 50	0	i 6 54	− 1	—	—
Cheb		16·7	331	e 3 49	− 1	e 6 52	− 3	e 8·4	9·0
Marseilles		16·7	302	i 3 54	+ 4	i 7 3	+ 8	—	—
Hohenheim		17·2	323	i 3 55	− 2	i 7 1	− 5	i 8·3	—
Neuchatel		17·3	315	e 3 58	0	e 6 55	−14	—	—
Algiers		17·6	279	i 4 2	0	i 7 15	0	8·1	—
Jena		17·7	331	i 4 1	− 2	e 7 16	− 1	e 8·8	11·3
Karlsruhe		17·8	322	4 5	+ 1	6 15	−65	7·1	7·7
Strasbourg		17·8	320	i 4 2	− 2	i 7 21	+ 1	9·8	12·3
Besançon		18·0	314	i 4 7	0	7 19	− 6	—	—
Potsdam		18·4	336	i 4 13	+ 2	i 7 33	0	—	—
Feldberg	N.	18·5	325	i 4 3	−10	e 7 24	−12	—	12·2
Barcelona		18·6	294	i 4 13	− 1	7 34	− 4	e 8·7	—
Gottingen		18·8	330	i 4 17	+ 1	e 7 38	− 4	e 8·8	12·8
Konigsberg		19·1	352	i 4 22	+ 2	7 45	− 3	e 10·3	—
Puy de Dôme		19·2	309	i 4 18	− 3	i 7 58	+ 8	9·3	—
Tortosa	E.	19·7	292	i 4 27	+ 1	i 8 0	0	—	—
	N.	19·7	292	i 4 25	− 1	i 8 3	+ 3	9·0	9·4
Baku		20·0	70	i 4 35	+ 5	i 8 15	+ 9	9·8	19·0
Bagnères		20·2	298	i 4 12	−20	i 8 7	− 3	9·8	—
Alicante		20·4	284	i 4 39	+ 5	i 8 22	+ 8	e 9·7	—
Hamburg		20·5	334	i 4 34	− 1	i 8 13	− 3	—	8·4
Paris		20·8	315	i 4 37	− 1·	i 8 16	− 6	10·8	11·8

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		Δ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Uccle		20·9	321	i 4 39	0	i 8 24	0	e 10·8	13·7
Lund		21·2	341	4 44	+ 2	8 29	− 1	—	—
De Bilt		21·4	325	i 4 44	0	i 8 35	+ 1	—	—
Copenhagen		21·5	340	4 38	− 7	8 38	+ 2	—	—
Almeria		22·0	280	i 4 51	0	i 8 46	0	10·9	16·8
Granada		22·9	279	i 4 59	− 1	i 9 0	− 3	e 14·4	17·8
Toledo		23·1	288	i 5 0	− 2	i 9 1	− 6	e 10·0	—
Malaga		23·6	281	i 5 5	− 1	i 9 9	− 7	12·8	—
Kew		23·7	318	5 8	+ 1	i 9 14	− 4	11·3	13·6
Pulkovo		24·0	7	i 5 11	+ 1	i 9 17	− 6	12·3	15·6
Helsingfors		24·1	0	i 5 12	+ 1	i 9 18	− 7	e 12·3	—
Upsala		24·3	351	i 5 11	− 2	e 9 20	− 8	—	14·0
Oxford		24·4	318	i 5 11	− 3	i 9 19	−11	—	—
San Fernando		25·1	280	i 5 26	+ 5	i 9 38	− 5	12·3	12·8
Bergen		27·4	339	5 36	− 6	10 47	+25	14·8	16·8
Edinburgh		27·5	325	e 5 51	+ 8	i 10 14	−10	12·8	—
Dyce		27·9	328	i 6 12	+26	i 10 17	−13	e 13·1	14·9
Ekaterinburg		31·6	38	i 6 20	+ 1	i 11 21	− 8	13·8	—
Samarkand		33·1	70	i 6 36	+ 3	e 11 45	− 7	—	—
Tashkent		34·6	68	i 6 48	+ 2	i 12 12	− 3	—	19·8
Andijan		37·0	69	7 3	− 3	12 41	−10	—	—
Almata		40·0	64	7 35	+ 3	—	—	—	—
Scoresby Sund		42·4	340	i 7 52	0	i 14 8	− 3	—	—
Dakar		43·4	255	i 7 59	− 1	i 11 35	?	14·3	20·0
Dehra Dun		44·2	82	8 8	+ 2	14 48	+ 9	18·3	18·8
Bombay		45·2	99	8 13	− 1	14 53	− 1	23·1	23·9
Agra		45·5	85	i 7 41	−36	i 14 16	−41	e 22·2	—
Hyderabad		50·5	96	8 53	− 2	16 2	− 6	25·4	34·7
Ivigtut		51·1	324	—	—	16 7	− 9	—	—
Kodaikanal		53·9	105	i 16 54	S	(i 16 54)	0	i 34·0	36·3
Irkutsk		56·1	47	i 9 7	−30	17 17	− 7	32·8	—
Colombo		57·8	107	9 38	−11	17 38	− 9	28·6	39·0
Tananarive		58·9	155	—	—	17 55	− 6	29·7	—
Phu-Lien		71·4	78	e 12 17	+58	e 21 26	+48	—	—
Ottawa		71·8	315	e 11 22	0	i 20 34	− 9	e 34·8	—
Medan		74·7	96	i 14 24	PP	—	—	—	—
Toronto		74·9	315	e 11 22	−18	i 21 3	−16	34·9	40·4
Georgetown		76·3	310	i 11 42	− 6	i 21 17	−18	e 37·2	45·2
Hong Kong		76·5	73	—	—	21 18	−19	—	—
Vladivostok		76·7	47	i 11 46	− 4	21 25	−14	40·9	—
Zi-ka-wei	Z.	76·9	60	i 11 48	− 3	—	—	—	—
Ann Arbor	E.	78·2	316	—	—	i 21 42	−14	—	—
Chicago		80·8	317	—	—	i 21 48	−36	—	—
Florissant		84·4	317	i 12 28	− 2	i 22 39	−23	—	41·8
St. Louis		84·4	317	i 12 28	− 2	i 22 40	−22	—	41·1
Mizusawa	E.	84·6	45	(12 30)	− 1	12 30	P	—	—
Sitka	E.	85·5	350	—	—	i 22 48	[− 5]	—	—
Manila		86·2	75	i 12 40	+ 1	i 23 5	[− 3]	—	—
Batavia		87·1	100	i 13 6	+22	i 23 27	− 1	—	—
Victoria		91·0	340	23 16	S	(23 16)	[−23]	42·6	44·6
Tucson	N.	100·2	324	—	—	e 24 10	[−17]	—	—
La Paz		102·1	260	e 13 54	+ 1	i 24 22	[−14]	48·8	60·4
Riverview		136·3	104	e 21 54	PP	—	—	—	98·8

Additional readings: Ksara iSN = +4m.49s., iSE = +4m.52s. Belgrade i = +2m.40s. and +3m.5s., iPS = +4m.10s. Zagreb eP = +2m.48s., i = +2m.52s., +3m.0s., +3m.4s., +3m.10s., and +3m.16s., iP* = +3m.19s., iNE = +3m.25s., iPP = +3m.34s., iPPPNE = +3m.37s., iPSNE = +4m.10s., iPPSNE = +4m.17s., iNE = +4m.22s., and +4m.31s., iPPPSSNW = +4m.40s. and +4m.49s., iPSSNE = +4m.51s., iPPSSNW = +5m.0s., iPSS = +5m.19s. and +5m.25s., iNW = +5m.28s. and +5m.31s., iPSSSNE = +5m.37s. Budapest i = +3m.17s. Laibach i = +3m.21s., e = +4m.16s. Vienna iE = +3m.37s. iN = +4m.50s., iE = +5m.26s. Innsbruck PP = +3m.38s., i = +4m.18s.

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Ravensburg iN = +4m.9s., i = +6m.29s., iSS = +7m.11s. Hohenheim e = +4m.12s. i = +4m.18s., +4m.57s., and +7m.28s. Jena iE = +4m.48s., iSE = +7m.18s., iSN = +7m.24s., iPSE = +7m.34s., iPSEN = +7m.37s. Potsdam iN = +4m.24s., iE = +4m.28s., iN = +4m.37s., iE = +4m.40s., +8m.6s., +9m.10s., +9m.56s., and +10m.44s. Feldberg i = +4m.30s., iE = eN = +7m.30s. Gottingen PPP = +4m.44s., eSZ = +7m.40s., iSSNZ = +7m.46s., eSSSEZ = +8m.15s. Konigsberg iN = +4m.46s., iPPPZ = +4m.48s., iN = +5m.20s., iSZ = +7m.50s., iZ = +7m.59s., iP_cPZ = +9m.21s., iN = +9m.27s. Puy de Dôme PP = +4m.41s., SS = +8m.41s. Lund +5m.18s. and +9m.6s., Copenhagen PZ = +4m.58s., iZ = +5m.11s. and +5m.41s., +8m.10s., S? = +8m.30s., i = +9m.10s. = SS − 6s. Almeria PP = +5m.20s., i = +5m.55s., SS = +9m.20s. Granada i = +5m.53s. and +8m.55s. = P_cP + 6s. Toledo PP = +5m.26s., PPP = +5m.34s., PPPP = +5m.36s. Kew iPP = +5m.30s., iSZ = +9m.17s. Helsingfors eZ = +5m.21s., PP = +5m.37s., PPPN = +5m.48s., iSN = +9m.20s., iSS = +10m.7s. Upsala iS = +9m.25s., SS = +10m.1s. Scoresby Sund i = +8m.9s., +9m.58s., +14m.25s., and +17m.24s. Tananarive ePPN = +14m.4s., PSN = +18m.3s., S_eSE = +19m.37s. Ottawa eE = +25m.18s. = SS + 9s., eSSSE? = +28m.30s. = SSS + 24s. Medan i = +23m.18s., +24m.0s., +24m.24s., +25m.6s., and +25m.42s. Georgetown i = +12m.5s., +21m.52s., and +22m.29s. Zi-ka-wei iZ = +12m.12s. Florissant iEZ = +23m.23s., iSS = +28m.20s. Batavia i = +13m.12s. Tucson eE = +24m.13s. La Paz PPE = +18m.18s., iE = +26m.55s. = PS − 13s. Long waves were also recorded at Entebbe.

Feb. 14d. 20h. 41m. 16s. Epicentre 21°·5S. 175°·5W. N.2.

A = −·928, B = −·073, C = −·367; D = −·078, E = +·997; G = +·365, H = +·029, K = −·930.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Apia		8·5	26	3 13	+73	3 37	+ 1	—	5·1
Wellington		21·4	200	—	—	8 46	+12	10·7	12·7
Christchurch		24·1	201	6 5	+54	9 29	+ 4	11·3	16·3
Riverview		31·8	240	i 6 21	0	e 11 34	+ 2	e 14·0	18·3
Sydney	E.	31·8	240	5 38	−43	12 2	+30	17·3	18·7
Melbourne		37·7	235	i 7 9	− 3	—	—	8·8	24·3
Adelaide		42·2	241	—	—	14 4?	− 5	19·4?	23·8
Honolulu T.H.	E.	46·2	23	—	—	e 18 14	SS	—	—
Manila		72·1	295	11 14	− 9	i 21 22	PS	—	—
Batavia		76·3	270	i 11 22	−26	i 21 31	− 4	44·7	—
Lick		77·7	40	e 11 52	− 4	e 21 39	−12	e 37·7	—
Zi-ka-wei	Z.	80·2	310	i 12 10	+ 1	i 22 36	+18	43·9	46·4
Vladivostok		80·7	324	i 12 10	− 2	e 22 11	−12	e 34·2	—
Hong Kong		81·4	299	i 12 14	− 1	22 29	− 2	e 38·7	44·0
Tucson	E.	81·9	50	e 12 16	− 2	i 22 26	−10	e 39·4	—
	N.	81·9	50	e 12 15	− 3	i 22 25	−11	e 39·7	—
Victoria		84·0	31	12 27	− 1	22 51	− 7	39·6	50·2
Sitka	E.	85·5	21	e 14 20	?	e 23 2	−11	e 37·2	—
Medan		87·5	275	e 13 8	+23	i 23 32	0	55·1	—
La Paz		99·3	111	13 42	+ 2	24 14	[− 8]	47·0	50·6
Florissant		99·7	52	e 17 27	PP	e 24 15	[− 9]	i 49·3	—
St. Louis	E.	99·7	52	—	—	e 24 12	[−12]	—	50·5
Irkutsk		101·1	322	—	—	24 28	[− 3]	55·7	58·3
Chicago	N.	102·6	50	—	—	e 25 33	−16	e 47·0	—
Colombo		106·1	272	18 34	PP	—	—	58·8	68·2
Toronto		108·9	49	—	—	i 26 29	{+30}	56·2	—
Georgetown		109·7	55	i 18 34	PP	28 25	PS	e 43·7	74·0
Ottawa		111·8	47	—	—	e 25 8	[−13]	59·7	—
Rio de Janeiro		115·8	130	e 25 19	SKS	(e 25 19)	[−17]	e 57·3	68·1
Bombay		116·0	282	e 18 55	[+20]	—	—	—	81·0
Tashkent		122·6	307	e 20 38	PP	e 30 26	PS	e 64·7	76·6
Samarkand		124·4	305	e 19 20	[+24]	—	—	—	—
Ekaterinburg		126·2	326	—	—	i 26 13	[+ 5]	55·7	64·1
Scoresby Sund		128·6	11	22 56	?	—	—	66·7	—
Baku		137·3	309	19 23	[+ 5]	—	—	—	89·4
Edinburgh		145·2	7	—	—	e 41 44?	SS	e 88·7	—
Copenhagen		145·3	351	19 31	[− 4]	—	—	84·7	—
Theodosia		145·5	320	i 19 36	[+ 1]	—	—	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Simferopol		146·3	320	e 19 37	[+ 1]	—	—	—	—
Yalta		146·4	320	19 38	[+ 2]	—	—	—	—
Sebastopol		146·8	320	e 19 45	[+ 8]	—	—	—	—
Hamburg	Z.	147·7	353	i 19 39	[+ 1]	—	—	—	—
De Bilt		149·4	359	i 19 44	[+ 3]	e 42 35	SS	e 79·7	94·7
Ksara		149·7	301	e 19 50	[+ 9]	e 30 20	{− 1}	89·3	—
Kew		149·8	6	e 19 38	[− 4]	—	—	73·7	—
Uccle		150·7	0	e 19 43	[0]	e 42 44?	SS	—	—
Cheb		150·8	350	—	—	e 42 44?	SS	e 85·7	105·7
Feldberg	N.	151·2	355	i 19 40	[− 3]	—	—	—	91·7
Strasbourg		152·8	355	e 19 43	[− 3]	—	—	e 48·7	—
Zagreb		153·9	342	e 19 58	[+11]	—	—	—	—
Florence		157·0	347	19 44	[− 6]	—	—	86·7	90·2
Rocca di Papa		158·6	343	e 19 47	[− 5]	e 30 8	?	e 91·1	127·3
Toledo		160·3	20	e 19 54	[0]	—	—	—	55·8
Alicante		162·6	13	e 20 27	{−29}	—	—	e 89·9	—
Granada		162·8	22	i 19 55	[− 2]	—	—	81·7	93·0
Malaga		162·9	25	e 19 59	[+ 2]	—	—	97·7	—
Almeria		163·5	20	i 19 57	[0]	—	—	86·2	89·3

Additional readings and note: Riverview i = +7m.34s. Honolulu T.H., eN = +18m.44s. Manila PSN = +21m.25s. Batavia i = +22m.31s. Lick eE = +12m.1s., +26m.19s., and +34m.32s. Zi-ka-wei iZ = +12m.42s. Tucson eN = +37m.26s., eE = +37m.34s. Medan i = +16m.44s. La Paz PE = +13m.45s., PSE = +25m.15s. Florissant ePPZ = +17m.27s., ePPPZ = +20m.22s., iSSEN = +31m.53s. St. Louis eSSE = +31m.54s., eE = +36m.49s. Irkutsk PP = +17m.45s., SS = +36m.38s. Georgetown i = +19m.8s., PP = +21m.48s., (eP) = +25m.23s., (iPP) = +28m.22s., iPS = +29m.22s., (ePPP) = +29m.57s., ? = +34m.6s., (S) = +35m.3s., ePS = +35m.53s., PKKP = +37m.26s., SSS = +38m.0s., (SS) = +39m.48s., e = +43m.12s. "Identification of phases is based on the conjecture of two shocks." Ottawa eN = +26m.56s., eE = +28m.44s. = PS − 1s., eN = +34m.44s. = SS + 1s. and +50m.44s. Ekaterinburg iPP = +21m.2s., PS = +27m.54s. = Σ − 3s., SS = +30m.56s. = PS − 2s. Baku PKS = +22m.10s., SS = +44m.38s. Zagreb eNE = +20m.14s. = P′$_2$ − 2s., e = +20m.24s. Granada i = +20m.45s. = P′$_2$ − 12s., +24m.32s. = PP + 2s., +25m.6s., and +32m.39s. Almeria PP = +24m.40s. Long waves were also recorded at La Plata, Taihoku, Tananarive, Ivigtut, and several European and American stations.

Feb. 14d. Readings also at 5h. (Apia (2) and near Nagasaki), 7h. (Apia), 8h. (Bombay), 9h. (Cape Town and Taihoku), 10h. (Samarkand), 12h. (near Mizusawa and Tyosi), 15h. (near Sumoto), 16h. (Port au Prince, near Tyosi, near Kobe, and Sumoto), 17h. (near Sumoto), 18h. (Matuyama, near Osaka, and near Sumoto), 19h. (Christchurch, near Apia, and near Tyosi), 21h. (near Tyosi), 22h. (Kobe, Matuyama, near Koti, and Sumoto), 23h. (Lick, La Paz, and La Plata).

Feb. 15d. 1h. 23m. 59s. Epicentre 43°·2N. 147°·2E. (as on 1928 Oct. 31d.). R.2.

A = −·613, B = +·395, C = +·685; D = +·542, E = +·841;
G = −·575, H = +·371, K = −·729.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Mizusawa	E.	6·2	230	1 26	− 2	2 33	− 5	—	—
	N.	6·2	230	1 25	− 3	2 31	− 7	—	—
Tyosi		8·9	215	e 2 14	+ 8	e 3 32	−14	e 3·8	—
Vladivostok		11·1	275	e 2 39	+ 3	—	—	e 6·7	—
Nagoya		11·3	228	e 3 12	+33	—	—	—	—
Zi-ka-wei	Z.	23·6	248	e 5 9	+ 3	—	—	—	—
Irkutsk		29·8	303	e 6 4	+ 1	—	—	16·0	20·5
Andijan		53·7	296	e 9 18	− 1	—	—	—	—
Samarkand		57·9	299	e 9 49	− 1	—	—	—	—
Theodosia		73·0	317	11 24	− 5	—	—	—	—
Simferopol		73·7	317	11 26	− 7	—	—	—	—
Sebastopol		74·2	317	11 36	0	—	—	—	—

Additional readings: Zi-ka-wei iZ = +5m.31s. and +17m.9s. Long waves were recorded also at several Asiatic and European stations.

Feb. 15d. 19h. 7m. 6s. Epicentre 28°·7N. 51°·9E. (as on 1929 Oct. 2d.). R.2.

$A = +\cdot541$, $B = +\cdot690$, $C = +\cdot480$; $D = +\cdot787$, $E = -\cdot617$; $G = +\cdot296$, $H = +\cdot378$, $K = -\cdot877$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Baku		11·8	353	e 2 46	0	i 5 2	+ 4	5·9	8·8
Ksara	E.	14·6	295	3 28	+ 5	7 38	+93	9·9	—
Samarkand		16·6	44	e 3 49	0	—	—	—	—
Helwan		18·0	279	e 3 4	−63	7 31	+ 6	—	12·5
Tashkent		18·9	44	i 4 18	+ 1	e 7 52	+ 8	10·8	11·8
Andijan		20·6	49	e 4 39	+ 3	8 24	+ 6	—	—
Yalta		21·1	323	e 4 36	− 5	8 37	+ 9	—	—
Simferopol		21·5	324	4 39	− 6	8 45	+ 9	—	—
Bombay		21·5	113	4 45	0	8 52	+16	11·7	16·9
Sebastopol		21·6	322	e 4 18	−28	—	—	—	—
Almata		24·8	47	e 5 27	+ 9	—	—	—	—
Hyderabad		26·8	109	(5 17)	−19	5 17	P	17·1	19·4
Ekaterinburg		28·8	8	e 6 46	PP	i 10 41	− 4	14·9	18·2
Rocca di Papa		34·2	303	e 6 53	+11	—	—	e 14·2	21·4
Pulkovo		34·3	341	e 6 42	− 1	—	—	17·9	—
Cheb		36·6	318	—	—	e 12 54?	+ 9	—	—
Strasbourg		39·1	315	e 7 54?	+30	—	—	e 16·9	—
Alicante		44·1	299	—	—	e 13 9	−88	—	—
Irkutsk		45·0	43	e 9 14	+61	e 14 40	−10	26·9	30·1
Almeria		45·7	296	(11 2?)	?	—	—	11·0	—
Toledo		46·8	300	e 11 35	?	—	—	—	—

Additional readings: Ksara iE = +4m.59s., +5m.28s., and +6m.20s. Irkutsk e = +18m.58s. Long waves were also recorded at Entebbe and the European stations.

Feb. 15d. Readings also at 0h. and 2h. (near Sumoto), 3h. (near Tyosi), 5h. (near Sumoto), 7h. (La Paz), 8h. (La Paz, Almata, Andijan, Samarkand, Medan, near Batavia, and near Sumoto), 9h. (Granada), 10h. (Zi-ka-wei and near Hukuoka), 12h. (near Sumoto), 14h. (Ksara), 18h. (Batavia, Cape Town, and Tananarive), 19h. (Wellington), 23h. (Kobe and near Sumoto).

Feb. 16d. Readings at 1h. and 4h. (near Malaga), 5h. (Ksara and near Matuyama), 10h. (Ksara), 11h. (Wellington), 12h. (Ekaterinburg, Tashkent, and near La Paz (2)), 14h. (Samarkand, Tashkent, and near Andijan), 16h. (Taihoku), 18h. (Taihoku, Simferopol, and near Nagasaki), 19h. (Dehra Dun), 20h. (near Malaga), 21h. (Florence, Venice, and Zagreb).

Feb. 17d. Readings at 1h. (Andijan, Samarkand, and near Tyosi (4)), 2h. (near Tacubaya and near Tyosi), 3h. (near Sumoto), 4h. (Almata, Andijan, Cape Town, near Irkutsk, and near Samarkand), 5h. (Irkutsk, La Paz, Vladivostok, Manila, Batavia, and near Amboina), 7h. (Ann Arbor), 11h. (Apia, Florissant, and Wellington), 12h. (Baku and Ekaterinburg), 13h. (La Paz), 14h. (Baku and Ekaterinburg), 16h. (Andijan and Samarkand), 17h. (Almata, near Samarkand, and near Tyosi), 19h. (Wellington), 22h. (Hong Kong, Lick (4), and near Manila).

Feb. 18d. 1h. 52m. 48s. Epicentre 61°·0S. 25°·0W. (as on 1926 May 26d.). X.

$A = +\cdot439$, $B = -\cdot205$, $C = -\cdot875$; $D = -\cdot423$, $E = -\cdot906$; $G = -\cdot793$, $H = +\cdot370$, $K = -\cdot485$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
La Plata	33·5	307	6 37	+ 1	11 49	− 9	15·9	—
Rio de Janeiro	40·1	333	e 7 32	− 1	e 13 36	− 2	e 17·9	22·8
La Paz	54·1	307	i 9 25	+ 3	i 17 0	+ 3	26·8	31·8
Entebbe	75·0	60	—	—	23 53	?	—	48·2
Dakar	75·9	8	e 11 43	− 2	(21 22)	− 8	21·4	—
Riverview	85·1	178	e 18 54	?	e 23 6	− 3	e 46·7	50·1
Malaga	99·2	17	e 13 11	−29	e 25 26	+ 7	38·2	—
Granada	99·8	17	e 13 48	+ 5	i 25 42	+17	e 47·2	51·0
Almeria	100·4	19	e 19 42	?	25 21	− 9	—	57·6
Alicante	101·4	20	e 21 22	?	—	—	—	—

Continued on next page.

		Δ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Toledo		102·3	16	—	—	e 25 42	− 5	e 44·2	57·8
Batavia		103·1	130	—	—	i 25 0	{−17}	—	—
Colombo		103·2	100	24 33	SKS	(24 33)	[− 8]	—	88·2
Ksara	N.	106·9	49	e 18 42	PP	e 25 1	[+ 2]	56·7	—
Florence		108·9	29	25 42	Σ	(25 42)	{−17}	37·4	44·6
Bombay		110·2	86	19 1	PP	28 43	PS	—	98·4
Hyderabad		111·7	90	19 25	PP	29 1	?	45·4	58·5
Paris		112·1	19	e 18 12?	[−12]	e 29 56?	?	58·2	—
Strasbourg		112·7	23	e 19 11?	PP	e 29 12?	PS	e 37·2	—
Florissant		113·0	310	—	—	e 39 34	?	—	—
Kew		114·3	16	—	—	e 29 12?	PS	e 52·2	—
De Bilt		115·6	21	i 19 54	PP	i 29 36	PS	e 49·2	—
Baku		118·1	56	18 54	[+13]	—	—	55·2	68·9
Copenhagen		120·4	24	21 42	?	31 42	?	55·2	—
Samarkand		124·8	70	e 19 6	[+10]	—	—	—	—
Kucino		126·8	39	—	—	26 11	[+ 1]	e 49·3	78·4
Tashkent		127·2	70	i 19 8	[+ 7]	—	—	e 61·2	78·0
Andijan		128·2	73	e 19 28	[+25]	—	—	—	—
Pulkovo		128·1	32	19 8	[+ 5]	28 6	{− 3}	65·2	74·0
Hong Kong		132·2	125	22 52	PKS	—	—	—	68·5
Almata		132·3	74	e 19 38	[+27]	—	—	—	—
Ekaterinburg		135·4	50	i 19 24	[+ 9]	—	—	58·7	86·6
Zi-ka-wei	Z.	143·0	128	e 19 42	[+14]	—	—	—	73·7
Irkutsk		151·6	85	20 0	{− 6}	—	—	76·2	86·4
Vladivostok		157·4	132	e 20 1	[+11]	—	—	—	—

Additional readings: La Paz PPE = +11m.38s., PPPE = +12m.52s., iZ = +14m.34s., iSSE = +21m.12s., iSSSE = +22m.16s. Riverview eS? = +28m.36s. = SS + 8s. Granada i = +17m.51s. = PP + 10s. Toledo e = +27m.9s. = PS − 1s. Florence S = +33m.42s. De Bilt eN = +29m.47s. Baku PP = +20m.10s., SSS = +40m.12s. ? Kucino PKS = +22m.23s., SS = +37m.33s. Tashkent PP = +20m.30s., i = +22m.30s. Pulkovo PP = +21m.14s., PS = +31m.26s. Ekaterinburg iPP = +22m.0s., iPKS = +22m.58s., SS = +39m.48s. Irkutsk PP = +23m.19s., PS = +34m.4s. = SKSP + 15s. Long waves were also recorded at Tananarive, Wellington, San Fernando, Scoresby Sund, and Feldberg.

Feb. 18d. 6h. 7m. 28s. Epicentre 15°·5S. 171°·0E. (as on 1928 June 29d.). X.

A = −·952, B = +·151, C = −·267; D = +·156, E = +·988; G = +·264, H = −·042, K = −·964.

		Δ °	Az. °	P. m. s.	O−C. s.	S. m. s.	O−C. s.	L. m.	M. m.
Apia		16·8	86	e 5 32?	?	—	—	—	—
Riverview		25·6	221	e 5 25	0	e 9 59	+ 8	e 12·4	14·0
Wellington		26·0	174	(7 32?)	?	—	—	7·5	—
Melbourne		32·0	221	—	—	i 11 40	+ 5	16·1	20·0
Adelaide		34·9	230	—	—	(13 26)	+66	13·4	16·9
Batavia		63·5	272	i 14 28	?	i 18 45	−16	—	—
Zi-ka-wei	Z.	66·6	316	e 10 52	+ 3	—	—	—	33·1
Vladivostok		68·6	331	—	—	i 20 1	− 3	—	—
Irkutsk		88·7	326	e 20 57	+ 6	e 29 15	SS	40·5	52·5
Tashkent		108·8	310	e 15 26	?	e 25 30	[+22]	e 48·5	61·9
Ekaterinburg		114·0	325	—	—	e 35 20	SS	46·5	69·6
Pulkovo		127·3	336	—	—	36 38	?	65·5	69·9
Kew		143·3	350	—	—	e 26 32?	?	—	—
Strasbourg		144·1	340	—	—	e 26 32?	?	e 74·5	—

Additional readings and note: Riverview +10m.41s.; T_o = 6h.6m.57s. Tashkent e = +37m.44s. = SSS − 17s. The only readings given with phase are those of Riverview. Long waves were also recorded at Honolulu T.H., Perth, Baku, and several other European stations.

Feb. 18d. 16h. 59m. 6s. Epicentre 3°·0S. 102°·7E. N.3.

A = −·220, B = +·974, C = −·052; D = +·976, E = +·220; G = +·012, H = −·051, K = −·999.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Batavia	5·2	127	i 1 14	0	i 2 10	− 3	—	—
Medan	7·8	329	2 42	+51	—	—	—	—
Phu-Lien	24·1	9	—	—	8 54?	−31	—	—
Andijan	51·8	330	e 9 8	+ 3	—	—	—	—
Almata	51·7	337	e 9 12	+ 8	—	—	—	—
Tashkent	53·7	328	i 9 14	− 5	i 16 45	− 7	e 27·9	29·8
Irkutsk	55·3	1	—	—	17 14	+ 1	e 29·9	—
Ekaterinburg	68·8	336	e 10 58	− 5	i 19 56	−11	33·9	—

Medan gives also i = +3m.0s., +3m.30s., and +4m.30s.

Feb. 18d. Readings also at 0h. (near Manila (2)), 2h. (La Plata), 7h. (near Kobe), 8h. (near Kobe, Osaka, Sumoto, and near Hukuoka), 9h. (near Sumoto), 10h. (Tananarive, La Paz, La Plata, and near Santiago), 13h. (near Nagasaki), 16h. (Tyosi), 17h. (near Andijan), 18h. (Andijan and near Almata), 19h. (near Tananarive), 20h. (Florence).

Feb. 19d. Readings at 0h. (near Medan), 5h. (Alicante), 6h. (near Medan), 7h. (Almeria, Toledo, near Granada, and Malaga), 9h. (near Tyosi), 11h. (Ottawa and near Tucson), 12h. (Apia, Andijan, and Samarkand), 13h. (Florissant, Fordham, Ottawa, Baku, Ekaterinburg, Kucino, Irkutsk, Tashkent, and near Manila), 17h. (near Sumoto and near Tacubaya), 18h. (Taihoku), 20h. (Florence), 22h. (Kobe and near Sumoto).

Feb. 20d. 23h. 36m. 52s. Epicentre 37°·4N. 138°·8E. (as on 1929 Mar. 27d.). R.3.

A = −·598, B = +·523, C = +·607; D = +·659, E = +·752; G = −·457, H = +·400, K = −·794.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tyosi		2·3	135	0 33	0	(0 54)	− 5	0·9	1·1
Mizusawa	F.	2·5	48	0 38	+ 2	2 2	+58	—	—
Nagoya		2·7	213	i 0 38	− 1	1 0	− 9	—	1·1
Toyooka		3·7	240	1 10	+17	—	—	2·0	2·1
Osaka		3·8	225	0 49	− 5	(1 39)	+ 2	1·7	2·2
Kobe		4·0	228	e 0 48	− 9	i 1 38	− 4	1·8	1·9
Sumoto		4·4	227	e 0 59	− 4	1 52	− 1	—	2·2

Feb. 20d. Readings also at 2h. (Nagoya, Sumoto, and Tyosi), 4h. (Tyosi and near Nagoya), 5h. (near Tyosi (2)), 6h. (Tucson and near Tyosi), 9h. (near Tyosi), 10h. (Baku, Ekaterinburg, and Tashkent), 11h. (near Tacubaya), 13h. (Andijan and Samarkand), 17h. (Tyosi), 19h. (Hong Kong, Manila, Melbourne, Perth, Zi-ka-wei, near Florissant, and St. Louis), 20h. (Baku, Ekaterinburg and Florissant).

Feb. 21d. Readings at 0h. (Andijan), 1h. (Tyosi), 6h. (Manila and near Medan), 7h. (Bagnères and near Kobe), 8h. (near Vera Cruz, Oaxaca, and Tacubaya), 11h. (near Tacubaya), 13h. (Nagoya (2), and Tyosi), 14h. (Nagoya), 15h. (Phu-Lien), 16h. (Tyosi), 18h. (Apia and Phu-Lien), 20h. (De Bilt, Theodosia, Simferopol and Zagreb), 21h. (near Nagoya and Tyosi), 22h. (Wellington), 23h. (Nagoya, Koti, and Taihoku).

Feb. 22d. 5h. 48m. 0s. (I) } Epicentre 37°·4N. 138°·8E. R.3.
11h. 21m. 46s. (II) } (as on 20d.). R.3.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
I Tyosi	2·3	135	e 0 34	+ 1	(e 0 54)	− 5	e 0·9	—
II	2·3	135	0 34	+ 1	(0 54)	− 5	0·9	—
I Nagoya	2·7	213	e 0 37	− 2	1 0	− 9	—	—
II	2·7	213	i 0 37	− 2	1 2	− 7	—	1·3
I Osaka	3·8	225	1 9	+15	—	—	1·9	2·2
II	3·8	225	1 0	+ 6	(1 44)	+ 7	1·7	2·3
I Kobe	4·0	228	—	—	e 1 39	− 3	1·8	2·0
II	4·0	228	1 1	+ 4	1 37	− 5	1·8	1·9
I Sumoto	4·4	227	e 1 49	S	(e 1 49)	− 4	—	2·2
II	4·4	227	e 1 42	+39	e 2 2	+ 9	—	2·2
II Koti	5·8	230	e 2 14	S	(e 2 14)	−14	—	—

Feb. 22d. 18h. 19m. 58s. Epicentre 35°·7N. 134°·8E. (as on 1929 June 8d.). R.2.

A = −·572, B = +·576, C = +·584.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Toyooka	0·2	175	0 2	− 1	(0 5)	0	0·1	0·1
Kobe	1·1	163	0 15	− 1	(0 27)	− 1	0·4	0·5
Osaka	1·2	154	0 18	+ 1	(0 33)	+ 2	0·5	0·6
Sumoto	1·4	177	—	—	0 37	+ 1	—	0·6
Nagoya	1·8	107	e 0 51	S	(e 0 51)	+ 5	—	—

No additional readings.

Feb. 22d. Readings also at 0h. (Samarkand, Tucson, Tyosi, and near Nagoya), 3h. (Nagoya), 5h. (Kobe), 6h. and 7h. (Apia), 9h. (near Nagoya (3)), 10h. (near Taihoku (3) and near Toyooka), 11h. (Nagoya), 12h. (Taihoku), 13h. (Andijan), 15h. (near Tyosi), 16h. (near Tananarive), 18h. (Sydney and near Manila) 19h. (Andijan (2), Samarkand (2), and Manila), 20h. (near Tacubaya), 21h. (Alicante, Samarkand, Taihoku, and near Tyosi), 23h. (Nagoya and near La Paz).

Feb. 23d. 10h. 13m. 48s. Epicentre 44°·0N. 146°·2E. (as on 1927 Dec. 30d.). R.3.

A = −·598, B = +·400, C = +·695; D = +·556, E = +·831;
G = −·577, H = +·386, K = −·719.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Mizusawa	E.	6·2	220	1 23	− 5	2 25	−13	—	—
	N.	6·2	220	1 24	− 4	2 29	− 9	—	—
Tyosi		9·2	208	e 2 17	+ 7	(e 3 30)	−24	e 3·5	—
Vladivostok		10·4	270	e 2 30	+ 4	e 4 30	+ 7	e 5·7	—
Nagoya		11·4	222	e 2 44	+ 4	—	—	—	—
Irkutsk		28·4	302	e 6 12	+21	e 11 27	+49	16·2	18·8
Ekaterinburg		52·3	318	e 8 12	−57	—	—	28·2	—
Andijan		52·8	295	e 10 21	(− 5)	—	—	—	—
Samarkand		56·9	298	e 9 34	− 8	—	—	—	—
Florissant	E.	82·7	42	—	—	e 22 35	− 9	—	—

Additional readings: Ekaterinburg eSS = +21m.0s. Florissant iE = +22m.57s.
Long waves were also recorded at Baku and Tashkent.

Feb. 23d. 18h. 19m. 12s. Epicentre **39°·0N. 23°·0E.** R.1.
(as on 1925 April 12d.).

$A = +\cdot715$, $B = +\cdot304$, $C = +\cdot629$; $D = +\cdot391$, $E = -\cdot920$;
$G = +\cdot579$, $H = +\cdot246$, $K = -\cdot777$.

Probable error of the epicentre $\pm 0°\cdot4$.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Taranto		4·7	290	1 2	− 5	—	—	—	—
Belgrade		6·1	342	e 4 53	?	—	—	—	—
Naples	E.	7·0	288	e 1 58	+19	e 3 23	+24	—	4·8
Rocca di Papa		8·4	294	i 1 59	0	e 3 31	− 3	4·7	6·6
Zagreb		8·5	325	e 1 55	− 5	i 4 27	+51	e 4·6	5·2
Budapest		9·0	343	2 12	+ 5	—	—	4·8	6·3
Laibach		9·4	321	e 2 10	− 3	e 3 50	− 9	—	5·5
Sebastopol		9·6	51	e 2 27	+11	—	—	—	—
Graz		9·8	328	e 2 14	− 4	e 4 33	+25	5·0	6·1
Florence		10·0	302	e 2 1	−20	—	—	—	—
Yalta		10·0	53	2 48	+27	—	—	—	—
Simferopol		10·1	51	e 2 33	+11	—	—	—	—
Venice		10·2	312	e 2 40	+16	i 4 34	+16	—	8·3
Vienna		10·4	335	2 29	+ 3	4 27	+ 4	—	6·4
Lemberg	E.	10·9	3	e 2 30	− 3	—	—	e 5·2	6·7
	N.	10·9	3	e 2 36	+ 3	—	—	e 5·7	6·4
Theodosia		10·9	53	4 18	S	(4 18)	−18	—	—
Helwan		11·4	141	1 53	−47	4 3	−45	—	—
Ksara		11·6	112	3 3	+20	5 47	+54	6·8	—
Innsbruck		11·8	318	2 42	− 4	5 14	+16	6·4	6·8
Chur		12·6	312	e 2 54	− 2	—	—	—	—
Ravensburg		13·1	316	e 2 58	− 5	—	—	e 6·4	—
Cheb		13·4	329	e 3 3	− 4	e 6 32	+55	e 7·3	8·0
Zurich		13·4	313	e 3 7	0	e 6 7	+30	—	—
Hohenheim		13·9	319	e 3 8	− 6	—	—	e 6·7	8·0
Neuchatel		14·1	309	e 3 16	− 1	e 7 16	+23	—	—
Grenoble		14·3	301	e 3 17	− 2	—	—	7·8	—
Jena		14·3	330	e 3 12	− 7	e 6 48	+50	e 7·1	8·5
Karlsruhe		14·5	318	3 29	+ 7	6 38	+35	7·6	10·8
Strasbourg		14·6	316	e 3 20	− 3	e 6 26	+21	7·8	10·6
Besançon		14·8	309	i 3 7	−19	6 19	+ 9	—	—
Potsdam		15·0	336	e 3 36	+ 8	e 7 36	+81	8·1	9·6
Feldberg		15·2	322	e 3 20	−11	e 6 36	+16	e 7·3	9·8
Gottingen		15·5	328	e 3 32	− 3	e 6 37	+10	e 7·7	9·2
Konigsberg		15·9	355	e 3 31	− 9	e 6 49	+13	e 8·2	14·7
Algiers		15·9	268	3 47	+ 7	6 40	+ 4	11·3	13·5
Barcelona		16·1	285	e 4 47	+64	—	—	8·7	10·7
Puy de Dôme		16·2	306	e 3 52	+ 8	—	—	—	—
Hamburg	Z.	17·1	333	e 3 55	0	e 7 48	+44	—	11·0
Tortosa	N.	17·3	283	e 4 1	+ 3	7 23	+14	8·9	13·3
Uccle		17·6	318	e 4 1	− 1	7 25	+10	e 8·8	10·4
Paris		17·7	310	e 4 2	− 1	7 43	+26	8·8	9·8
Lund		17·9	342	4 3	− 2	7 25	+ 3	8·8	—
De Bilt		18·0	322	4 6	− 1	e 7 37	+12	e 8·8	11·0
Copenhagen		18·1	340	4 6	− 2	7 38	+11	8·8	—
Alicante		18·3	275	e 4 21	+11	i 7 47	+16	e 9·8	—
Kucino		19·5	26	i 6 32	?	—	—	—	14·7
Almeria		20·1	272	i 4 35	+ 4	i 8 32	+24	11·3	14·3
Kew		20·5	315	i 4 38	+ 3	i 8 44	+28	10·2	11·5
Baku		20·6	78	i 4 45	+ 9	i 8 39	+21	11·8	13·8
Toledo		20·8	281	e 4 41	+ 3	e 8 30	+ 8	e 9·8	13·4
Granada		21·0	273	i 4 43	+ 3	i 8 46	+20	e 11·4	16·0
Upsala		21·1	352	e 4 38	− 3	e 8 41	+13	—	12·8
Helsingfors		21·2	3	i 4 41	− 1	i 8 39	+ 9	i 11·2	11·4
Oxford		21·2	315	4 39	− 3	8 37	+ 7	11·2	12·4
Pulkovo		21·3	10	i 4 40	− 3	8 32	0	11·3	13·4

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		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Malaga		21·7	273	4 53	+ 5	8 41	+ 1	12·0	18·8
Bidston		22·9	318	—	—	i 9 18	+15	—	15·6
San Fernando		23·2	273	5 14	+11	9 14	+ 6	10·3	14·7
Bergen		24·1	338	5 12	+ 1	9 34	+ 9	12·4	13·8
Edinburgh		24·2	323	e 5 13	+ 1	9 51	+24	13·5	15·3
Dyce		24·5	326	5 7	− 8	i 9 42	+10	e 12·1	15·4
Ekaterinburg		30·3	42	i 6 10	+ 2	i 11 7	− 2	15·0	18·5
Samarkand		33·7	74	e 6 44	+ 6	—	—	—	—
Tashkent		35·0	70	i 6 55	+ 6	i 12 22	+ 1	17·8	23·7
Andijan		37·4	72	e 7 18	+ 8	—	—	—	—
Almata		40·1	66	e 7 39	+ 6	—	—	—	—
Dakar		43·0	250	e 8 11	+14	—	—	17·7	20·9
Agra	E.	46·8	87	8 41	+14	15 38	+22	—	—
	N.	46·8	87	e 8 33	+ 6	e 15 28	+12	e 25·3	—
Bombay		47·3	100	8 39	+ 8	15 39	+16	25·2	32·3
Hyderabad		52·4	98	9 21	+12	—	—	—	31·4
Irkutsk		55·2	47	e 9 35	+ 5	e 17 3	− 9	29·8	34·7
Fordham		70·0	309	—	—	e 21 18	+57	33·8	—
Vladivostok		75·7	46	—	—	e 21 25	− 3	e 39·1	—
Zi-ka-wei	Z.	76·8	60	11 50	0	—	—	—	54·7
Florissant		81·1	315	i 12 17	+ 3	—	—	38·3	49·5

Additional readings: Belgrade i = +4m.54s. and +6m.8s., e = +7m.25s., +7m.27s. and +8m.46s. Rocca di Papa iS = +3m.53s. Zagreb e = +1m.59s., +2m.6s., +2m.13s., and +2m.29s., eNW = +2m.39s., e = +2m.47s., and +2m.53s., eNE = +3m.0s., eNW = +3m.3s., eNE = +3m.9s., eNW = +3m.13s., e = +3m.16s., i = +3m.45s., eNW = +3m.53s. Laibach e = +2m.54s. and +4m.23s. Vienna P*? = +2m.41s., iN = +2m.51s., PP = +3m.17s., iE = +4m.11s., and +4m.50s., iN = +5m.0s., i = +5m.14s., SS = +5m.21s. Ravensburg eN = +6m.21s., iN = +7m.6s., iE = +7m.18s. Jena iE = +3m.26s. Gottingen ePN = +3m.34s., iPN = +3m.36s. Konigsberg eN = +4m.31s., eSS? = +7m.39s. Lund +7m.35s. Almeria PP = +5m.26s. Helsingfors PP = +4m.59s., iPPPN = +5m.14s., iSE = +8m.43s., iSSN = +9m.13s., SSS = +9m.33s., iP_cSN = +12m.19s., S_cSN = +15m.56s. Bidston i = +8m.8s. Bergen e = +6m.24s. Long waves were also recorded at Kodaikanal, Hong Kong, Georgetown, and Ottawa.

Feb. 23d. Readings also at 1h. (Nagoya and near Tyosi), 5h. (Samarkand, Kobe, near Sumoto, and near Santiago), 6h. (Ekaterinburg), 7h. (Baku, Florissant, Georgetown, Nagoya, near Sumoto, and Kobe), 10h. (Nagoya), 11h. (Kobe and near Sumoto), 12h. (near Hukuoka), 15h. (Batavia, Hong Kong, and Manila), 16h. (Batavia and Samarkand), 20h. (Samarkand, Nagoya (3), and near Tyosi), 23h. (Almata, Andijan (2), Samarkand, Bombay, Colombo, and Tananarive).

Feb. 24d. 20h. 50m. 30s. Epicentre 0°·0, 122°·4E. (as on 1929 Feb. 28d.). R.2.

A = −·536, B = +·844, C = ·000; D = +·844, E = +·536; G = ·000, H = ·000, K = −1·000.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		6·8	123	i 3 44	?	i 4 51	?	—	—
Manila		14·7	354	i 3 37	+12	i 5 55	−13	7·1	7·5
Batavia	E.	16·7	248	4 5	+15	—	—	—	—
Hong Kong		23·7	341	5 10	+ 3	i 9 11	− 7	8·8	10·3
Medan		24·0	279	e 5 6	− 4	10 24	+61	—	—
Taihoku	E.	25·0	358	5 27	+ 7	(9 59)	+18	10·0	—
Phu-Lien		25·9	324	i 5 39	+11	e 9 57	0	—	—
Zi-ka-wei	Z.	31·2	358	e 6 18	+ 2	12 20	+57	—	—
Perth		32·5	190	i 6 30	+ 3	11 30	−13	13·7	—
Colombo		43·0	280	8 44	+47	17 44	(−16)	26·3	33·6

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		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Melbourne		43·1	153	i 7 56	− 2	i 15 5	+43	17·1	28·6
Riverview		43·3	143	i 7 57	− 2	e 14 52	+27	—	—
Vladivostok		43·9	10	e 11 30?	?	—	—	20·5	—
Kodaikanal		45·9	284	e 15 12	S	(e 15 12)	+ 9	—	—
Hyderabad		46·6	295	9 7	+42	15 12	− 1	22·1	29·8
Agra	E.	50·5	308	9 24	+29	15 54	−14	—	—
	N.	50·5	308	9 34	+39	15 44	−24	—	—
Bombay		52·2	295	9 22	+14	16 24	− 7	25·4	26·9
Irkutsk		54·4	347	e 9 24	0	16 44	−17	27·0	—
Andijan		60·9	319	10 14	+ 3	—	—	—	—
Tashkent		63·2	319	i 10 27	0	i 19 54	+57	—	38·8
Ekaterinburg		75·0	331	i 11 38	− 2	i 20 59	−21	36·5	70·7
Tananarive		75·7	250	11 52	+ 8	22 10	?	—	41·5
Baku		76·8	312	e 12 29	+39	i 21 30	−11	39·5	—
Kucino		86·9	326	e 15 15	?	—	—	e 42·4	47·4
Ksara		87·1	305	e 13 26	+42	23 17	−11	36·4	—
Pulkovo		91·1	330	e 13 39	+36	23 37	[− 2]	45·5	48·0
Copenhagen		101·1	328	18 30?	?	24 6	[−25]	51·5	—
Zagreb		101·4	318	e 18 30	?	—	—	—	—
Naples	E.	103·6	312	e 19 5	?	—	—	—	—
Rocca di Papa		104·6	313	e 18 58	?	—	—	—	39·8
Florence		105·1	315	e 17 59	[− 3]	—	—	—	—
Chur		105·5	319	e 18 37	PP	—	—	—	—
Scoresby Sund		105·7	348	—	—	24 30?	[−23]	57·5	—
Zurich		105·9	318	e 18 30	PP	—	—	—	—
Strasbourg		106·0	322	i 18 55	?	—	—	e 39·5	—
De Bilt		106·6	326	e 19 14	?	e 24 37	[−20]	e 54·5	57·7
Neuchatel		107·1	319	e 18 25	PP	—	—	—	—
Uccle		107·5	325	e 19 30	?	e 28 0	PS	e 54·5	—
Paris		109·4	324	e 19 10	PP	e 28 11	PS	59·5	70·5
Kew		109·7	326	e 18 30?	?	—	—	56·5	—
Granada		118·0	311	i 20 32	?	—	—	e 62·5	68·5
Florissant		130·9	34	e 19 0	[− 9]	e 28 0	{−27}	—	—
St. Louis	N.	131·2	34	19 59	?	—	—	—	—
Ottawa		131·8	15	—	—	e 23 18	?	55·5	—
Fordham	N.	136·6	17	—	—	(e 23 30?)	?	e 23·5	—
Georgetown		137·2	22	e 20 2	?	—	—	e 70·7	—
La Plata		145·1	179	(20 12)	[+38]	—	—	20·2	—
La Paz	Z.	160·4	148	e 19 57	[+ 3]	—	—	—	—

Additional readings: Manila SSN = +6m.10s. Batavia i = +4m.11s. and +5m.0s. Medan i = +5m.48s. Taihoku PE = +5m.40s. Phu-Lien e = +6m.5s. = PP + 3s. Perth PP = +7m.10s., SS = +12m.30s. Riverview iE = +17m.22s. = SS + 4s., +18m.5s. = S_cS + 3s. and +18m.38s. Vladivostok e = +17m.16s.? and +18m.22s.? Kucino e = +19m.11s., i = +25m.2s. Pulkovo PP = +16m.45s., SKS = +23m.13s., SS = +29m.30s. Scoresby Sund +27m.42s. = PS − 3s. Florissant eEN = +22m.19s. and +23m.9s., e = +23m.20s. St. Louis eN = +23m.8s. and +23m.26s. Ottawa iN = +23m.30s. Georgetown i = +22m.40s. and +23m.49s. Long waves were also recorded at Feldberg, Edinburgh, and Lund.

Feb. 24d. Readings also at 0h. (Baku, Ekaterinburg, Irkutsk, Samarkand, Tashkent, Zagreb, Rocca di Papa, and Granada), 1h. (Florissant (2), St. Louis, Ottawa, Andijan, Samarkand, Baku, Ekaterinburg, Irkutsk, Tashkent, Vladivostok, De Bilt, Naples, and near Malaga), 4h. (Andijan and near Samarkand), 8h. (Zagreb), 10h. (Nagoya, near Mizusawa, Tyosi, and near La Paz), 11h. (La Paz), 16h. (near Tyosi), 19h. (Lick), 20h. (St. Louis, Samarkand, Wellington, near Mizusawa, Nagoya, Kobe, Osaka, Sumoto, and Koti, "near Kii peninsula," but no accurate determination is possible), 21h. (Taihoku), 23h. (La Paz).

Feb. 25d. 13h. 35m. 54s. Epicentre 45°·8N. 14°·3E. (given by Laibach). N.2.

A = +·675, B = +·172, C = +·717 ; D = +·247, E = −·969 ;
G = +·695, H = +·177, K = −·697.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Laibach		0·3	31	i 0 5	+ 1	i 0 12	+ 4	—	0·2
Zagreb		1·2	89	e 0 23	+ 6	i 0 44	+13	—	1·0
Venice		1·4	255	i 0 19	− 1	i 0 36	0	1·6	3·4
Graz		1·5	32	i 0 23	+ 2	i 0 42	+ 3	—	0·8
Innsbruck		2·5	306	0 35	− 1	(i 1 2)	− 2	i 1·0	—
Vienna		2·8	30	e 0 49	P*	—	—	i 1·4	1·6
Florence		3·0	227	(e 0 47)	+ 4	—	—	—	2·1
Chur		3·5	288	e 0 46	− 4	i 1 37	+ 7	—	—
Budapest		3·7	61	1 45	S	(1 45)	+10	—	—
Ravensburg		3·8	303	e 1 7	P*	—	—	i 1·9	—
Rocca di Papa		4·2	196	e 1 10	P*	—	—	—	2·5
Zurich		4·2	294	e 0 56	− 4	i 2 1	+13	—	—
Stuttgart		4·5	314	i 1 1	− 3	i 1 53	− 2	i 2·2	—
Strasbourg		5·2	305	i 1 31	P*	2 40	S*	—	—
Neuchatel	N.	5·2	285	e 1 9	− 5	e 2 4	− 9	—	—
Jena	E.	5·4	342	e 1 40	P*	—	—	e 2·5	2·9
Besançon		5·9	287	—	—	e 2 9	P_g	—	—
Gottingen	N.	6·3	335	e 1 53	P*	—	—	e 3·1	3·4

Additional readings and note: Zagreb i = +25s., iNE = +28s., iNW = +29s., iNE = +31s., iNW = +32s., iNE = +34s., i = +36s., iNW = +37s., i = +40s. Vienna P = +54s., PPS = +1m.12s. Florence P reading has been *increased* by 1m. Chur iP = +54s. Ravensburg iE = +1m.32s., i = +1m.50s. Zurich iP = +1m.9s. Stuttgart P = +1m.19s., iZ = +1m.32s. Strasbourg SS = +2m.54s. Neuchatel iP = +1m.27s. Jena eE = +1m.54s. Gottingen eN = +1m.56s. Long waves were also recorded at Cheb.

Feb. 25d. Readings also at 0h. (Ksara), 1h. (Ekaterinburg, Irkutsk, and Hong Kong), 3h. (Samarkand), 5h. (Batavia, Hong Kong, Manila, and near Santiago), 9h. (Florissant), 10h. (Riverview and near Toyooka), 11h. (Georgetown and near Tyosi (2)), 12h. (near Florissant and St. Louis), 16h. (Ekaterinburg, Irkutsk, and Hong Kong), 17h. (Andijan, Samarkand, Ekaterinburg, Irkutsk, and Riverview), 18h. (Hong Kong and Tashkent), 19h. (Lick), 22h. (Andijan).

Feb. 26d. 2h. 29m. 30s. Epicentre 31°·0N. 116°·0W. (as on 1926 April 19d.). R.3.

A = −·376, B = −·770, C = +·515 ; D = −·899, E = +·438 ;
G = −·226, H = −·463, K = −·857.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tucson		4·6	72	1 4	− 2	2 1	+ 3	—	—
Lick	E.	7·9	325	e 1 39	−13	e 3 10	−11	—	—
Berkeley		8·6	324	e 2 12	+10	i 3 48	+ 9	i 4·6	4·9
Denver	E.	12·5	43	e 2 43	−12	—	—	—	6·0
Victoria		18·3	344	8 27	S	(8 27)	+56	9·6	10·6
Florissant		22·3	62	e 4 49	− 5	e 8 40	−12	e 10·6	11·5
St. Louis	E.	22·4	63	i 4 55	0	i 9 2	+ 9	e 12·7	13·9
Chicago		25·1	57	—	—	e 9 42	− 1	e 12·6	—
Toronto		31·4	55	e 5 36	−41	e 11 8	−18	15·8	18·6
Ottawa		34·3	54	—	—	e 12 8	− 3	e 17·2	18·2
Fordham		35·1	63	e 12 26	S	(e 12 26)	+ 3	(i 17·8)	21·7
Harvard		37·3	59	—	—	e 11 58	−58	e 18·5	—

Additional readings: Tucson P = +1m.20s., S = +2m.20s. Lick eN = +1m.49s., +1m.54s., eE = +2m.0s., eEN = +2m.25s., eE = +2m.29s., eN = +2m.41s., i = +3m.23s., and +3m.33s. Berkeley e = +3m.35s., iEN = +3m.55s., eZ = +4m.1s., iNZ = +4m.27s. Florissant eSEZ = +9m.0s. St. Louis eE = +8m.54s. and +11m.0s. Fordham eE = +15m.32s.; S is given as P and L as S. Long waves were also recorded at Ann Arbor, Georgetown, Sitka. Ivigtut, and several European and Asiatic stations.

Feb. 26d. Readings also at 0h. (near Tucson (2)), 1h. (Lick (2), Florissant and near Tucson), 2h. (Tucson), 3h. (Fordham, Georgetown, Harvard, Ottawa, Chicago, Ann Arbor, Florissant, St. Louis, Denver, Lick, Berkeley, and Tucson (2)), 4h. (Lick, Fordham, Harvard, Ottawa, Chicago, Florissant, St. Louis, and Tucson (7)), 5h. (Zagreb, Georgetown, and Tucson (5)), 6h. (Tucson (2), Merida, and Port au Prince), 7h. (Lick, Florissant, Fordham, Georgetown, Ottawa, Chicago, and near Tucson), 8h. (Andijan and Samarkand), 9h. (2), 10h. (3), and 17h. (Tucson), 21h. (Florissant).

Feb. 27d. 2h. 15m. 16s. Epicentre 4°·0N. 94°·1E. (given by Batavia). N.2.

A = −·071, B = +·995, C = +·070; D = +·997, E = +·071; G = −·005, H = +·070, K = −·998.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Medan	4·6	94	i 0 44	−22	i 1 14	−44	—	—
Colombo	14·5	282	3 34	+12	—	—	8·1	9·9
Batavia	16·3	128	e 3 44	− 1	i 6 39	− 6	—	—
Phu-Lien	20·7	35	e 4 23	−14	e 8 5	−15	—	—
Bombay	25·1	308	5 43	+22	10 9	+26	13·1	—
Hong Kong	26·7	45	5 14	−21	9 41	−29	—	15·1
Andijan	41·6	334	e 7 48	+ 3	—	—	—	—
Samarkand	43·2	330	e 6 32	−86	—	—	—	—
Tashkent	43·4	333	i 8 2	+ 2	i 14 34	+ 7	—	—
Irkutsk	49·0	8	8 36	− 8	15 36	−11	26·7	—
Vladivostok	51·5	35	e 14 44?	?	—	—	e 44·7	—
Baku	53·8	319	—	—	e 17 30	+37	e 26·7	—
Ekaterinburg	59·0	340	e 9 55	− 2	i 18 2	− 1	—	—
Theodosia	65·4	319	e 11 5	(−10)	—	—	—	—
Simferopol	66·2	319	e 10 44?	− 3	—	—	—	—
Kucino	68·2	330	—	—	e 19 55	− 4	e 37·0	42·7
Pulkovo	73·6	332	11 41	+ 9	e 20 53	−11	—	—
Chur	83·4	318	e 12 24	− 1	(22 45)	− 6	22·8	—
Zurich	84·0	318	e 12 44	+16	—	—	—	—
Scoresby Sund	94·6	343	—	—	23 44	[−15]	—	—
Florissant E.	137·0	4	e 19 29	[+11]	i 23 2	PKS	—	—
La Paz	158·5	233	e 19 51	[− 1]	—	—	—	—

Additional readings: Medan i = +50s. Hong Kong i = +5m.36s. and +10m.19s. Long waves were also recorded at Ottawa and several European stations.

Feb. 27d. 12h. 11m. 5s. Epicentre 31°·0N. 132°·0E. (as on 1930 Jan. 10d.). X.

A = −·574, B = +·637, C = +·515; D = +·743, E = +·669; G = −·345, H = +·383, K = −·857.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Nagasaki	2·6	314	e 0 37	0	1 7	0	—	1·2
Hukuoka	2·9	333	0 43	+ 2	1 10	− 4	—	1·2
Matuyama	2·9	13	e 0 41	0	(1 1 11)	− 3	i 1·2	1·2
Sumoto	4·1	36	e 1 21	+23	e 1 59	+14	—	2·0

Feb. 27d. Readings also at 1h. (Rocca di Papa), 2h. (Hong Kong, Irkutsk, Samarkand, Ekaterinburg, Pulkovo, and near Zagreb), 3h. (Tashkent), 4h. (near Belgrade), 5h. (near Tyosi), 6h. (Wellington), 7h. (La Paz Georgetown, Fordham, Harvard, Ottawa, Scoresby Sund, Kew, De Bilt, Uccle, and Paris), 10h. (Wellington), 12h. (Andijan and Samarkand), 13h. (Samarkand), 14h. (La Paz, Ekaterinburg, and Tashkent), 15h. (Zagreb and near Laibach), 20h. (Taihoku and near Sumoto), 23h. (near Port au Prince).

Feb. 28d. 0h. 58m. 2s. Epicentre 15°·2N. 45°·8W. N.1.
(probable error ±0°·3).

$A = +\cdot673$, $B = -\cdot692$, $C = +\cdot262$; $D = -\cdot717$, $E = -\cdot697$;
$G = +\cdot183$, $H = -\cdot188$, $K = -\cdot965$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Dakar		27·4	87	e 5 8	−34	e 8 40	?	10·4	16·9
Harvard		34·8	326	—	—	e 12 28	+10	—	—
Fordham		35·4	321	—	—	e 12 28	+ 1	e 15·5	17·0
Georgetown		36·3	318	i 8 22	PP	—	—	e 16·2	—
Rio de Janeiro		38·2	178	e 9 3	?	e 13 9	0	e 15·0	—
La Paz		38·6	219	7 20	0	i 13 24	+ 9	18·5	22·3
Ottawa		39·3	327	—	—	e 13 28	+ 2	18·0	—
Malaga		42·5	51	7 54	+ 1	14 20	+ 7	—	—
Granada		43·3	51	i 8 0	+ 1	i 14 28	+ 3	e 18·5	21·0
Toledo		43·9	48	e 8 3	− 1	e 14 36	+ 2	e 20·0	24·6
Almeria		44·1	51	8 3	− 3	14 38	+ 1	20·7	25·7
St. Louis		45·4	310	e 8 17	+ 1	e 14 2	−54	e 21·1	—
Florissant	E.	45·6	310	e 8 15	− 3	i 14 58	− 1	—	23·5
Alicante		46·0	50	e 7 51	−30	e 14 27	−37	e 23·2	—
Algiers		48·3	53	e 8 49	+11	e 16 5	+28	—	—
Bidston		50·7	33	i 11 43	PPP	i 16 13	+ 2	21·3	—
Oxford		50·8	35	11 44	PPP	16 18	+ 6	e 21·9	25·0
Kew		51·2	35	e 8 58	− 2	e 16 20	+ 2	20·0	27·8
Paris		51·7	39	i 9 3	− 1	e 16 27	+ 3	23·0	28·0
Edinburgh		52·1	29	e 11 58?	PPP	i 16 31	+ 1	25·0	27·0
Uccle		53·6	38	e 9 18	0	e 16 51	+ 1	e 24·0	—
Neuchatel		53·8	42	e 9 19	− 1	—	—	—	—
De Bilt		54·5	37	9 24	− 1	17 7	+ 5	e 24·0	28·1
Strasbourg		54·8	40	e 9 28	+ 1	e 17 11	+ 5	e 24·0	—
Feldberg	N.	55·8	39	e 9 27	− 7	e 16 58	−22	e 26·6	—
Stuttgart		55·8	40	e 9 58?	+24	e 17 28	+ 8	30·0	34·0
Scoresby Sund		57·2	10	—	—	17 40	+ 1	24·2	—
Hamburg		57·8	36	e 9 47	− 2	—	—	e 29·0	31·0
Cheb		58·2	40	—	—	e 17 58?	+ 6	e 32·0	34·0
Zagreb		59·6	45	e 9 58?	− 4	—	—	e 29·0	—
Copenhagen		59·8	34	—	—	18 18	+ 5	26·0	—
Lund		60·3	34	—	—	18 20	0	26·0	—
Pulkovo		69·9	30	e 11 11	+ 1	e 20 39	+19	33·0	40·4
Kucino		74·0	36	e 12 28	+53	21 10	+ 2	35·1	41·7
Ksara		74·8	60	e 11 41	+ 2	e 21 22	+ 4	39·8	—
Baku		84·4	50	e 12 34	+ 4	23 2	0	40·4	51·9
Ekaterinburg		86·0	32	i 12 37	− 1	e 23 6	−12	36·0	45·3
Tashkent		97·7	45	e 17 10	PP	e 22 12	?	e 48·0	56·3
Andijan		100·0	45	13 48	+ 4	—	—	i 31·4	—

Additional readings: La Paz PPE = +8m.50s., SSE = +15m.58s. Granada PP = +10m.22s., i = +14m.44s. Kucino e = +21m.36s. = PS +5s. and +25m.58s. = SS +15s. Ekaterinburg PP = +16m.4s. Long waves were also recorded at La Plata, Charlottesville, Victoria, and other European stations.

Feb. 28d. 9h. 31m. 4s. Epicentre 35°·0N. 139°·5E. (as on 1924 Mar. 5d.). X.

$A = -\cdot623$, $B = +\cdot532$, $C = +\cdot574$; $D = +\cdot649$, $E = +\cdot760$;
$G = -\cdot436$, $H = +\cdot372$, $K = -\cdot819$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Tyosi	1·3	56	e 0 19	+ 1	—	—	0·7	—
Nagoya	2·1	274	i 0 24	− 6	0 47	− 7	—	1·5
Osaka	3·4	266	0 47	− 2	(1 31)	+ 4	1·5	1·9
Kobe	3·6	266	e 0 54	+ 3	1 22	−10	e 2·1	2·2
Toyooka	3·8	279	0 59	+ 5	(1 44)	+ 7	1·7	1·8
Sumoto	3·8	261	e 1 0	+ 6	1 39	+ 2	—	2·7

Additional readings: Tyosi P = +26s. Kobe iE = +1m.42s.

Feb. 28d. 22h. 49m. 10s. Epicentre 25°·5N. 98°·0E. (as on 1929 June 19d.). R.3.

$A = -·126$, $B = +·894$, $C = +·431$; $D = +·990$, $E = +·139$; $G = -·060$, $H = +·426$, $K = -·903$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Phu-Lien	9·2	119	1 50?	−20	—	—	—	—
Calcutta	9·3	254	e 3 11	+60	—	—	5·2	—
Hong Kong	15·1	99	6 14	S	(6 14)	− 3	7·7	8·0
Hyderabad	19·9	250	4 26	− 3	8 2	− 2	9·7	15·3
Medan	21·9	178	4 44	− 6	i 9 2	+18	i 12·2	—
Manila	24·1	112	e 5 17	+ 6	i 9 9	−16	—	—
Bombay	24·2	259	9 30	S	(9 30)	+ 3	15·2	16·2
Andijan	26·2	312	e 5 40	+ 9	—	—	—	—
Irkutsk	27·2	8	—	—	e 10 11	− 7	i 14·5	14·7
Tashkent	28·5	311	e 5 50?	− 2	e 10 50	+10	15·8	19·1
Samarkand	29·5	306	e 5 18	−43	—	—	—	—
Ekaterinburg	41·1	330	e 10 7	?	—	—	19·8	—

Additional readings: Hong Kong S = +7m.25s. Bombay S = +13m.5s. Long waves were also recorded at Batavia, Taihoku, Vladivostok, De Bilt, Uccle, and Strasbourg.

Feb. 28d. Readings also at 0h. (San Fernando and Wellington), 1h. (Ekaterinburg, Tashkent, Irkutsk, near Almata, and near Manila), 2h. (Adelaide, Riverview, Sydney, and Ksara), 3h. (Andijan and De Bilt), 6h. (Tananarive, Tashkent, Andijan, near Almata, and Samarkand), 7h. (Ekaterinburg, Irkutsk, near Kobe, and near Sumoto (2)), 9h. (Nagoya and near Tyosi), 10h. and 11h. (near La Paz), 12h. (Nagoya and Tyosi), 13h. (Samarkand, Tashkent, near Almata, and Andijan), 15h. (Tananarive and near Hukuoka), 17h. (Alicante and near Hukuoka), 18h. (Apia, Wellington, Adelaide, Melbourne, Riverview, Sydney, Perth, Hong Kong, Irkutsk, Ekaterinburg, Tashkent, La Paz, Chicago, Florissant, Fordham, and De Bilt), 19h. (Baku, Paris, Uccle, Strasbourg, Kew, Cheb, Toledo, San Fernando, Granada, Georgetown, and Ottawa), 23h. (Lick, Hong Kong, and Phu-Lien).

Mar. 1d. 5h. 35m. 9s. Epicentre 38°·0N. 76°·5E. (as on 1925 Dec. 7d.). X.

$A = +·184$, $B = +·766$, $C = +·616$; $D = +·972$, $E = -·233$; $G = +·144$, $H = +·599$, $K = -·788$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Andijan		4·2	313	0 58	− 2	(1 30)	−18	1·5	2·2
Almata		5·3	3	1 14	− 1	(i 2 6)	− 9	i 2·1	3·2
Samarkand		7·6	287	0 20	−88	—	—	2·0	2·5
Agra	E.	10·9	172	4 57	S	(4 57)	+21	7·3	—
	N.	10·9	172	i 4 49	S	(i 4 49)	+13	7·1	7·4
Calcutta		18·5	144	e 7 22	S	(e 7 22)	−14	14·6	—
Hyderabad		20·6	175	8 36	S	(8 36)	+18	12·8	13·2
Baku		20·7	285	—	—	e 8 21	+ 1	10·8	—
Ekaterinburg		21·5	336	4 37	− 8	i 8 23	−13	11·4	12·0
Irkutsk		24·0	44	e 5 20	+10	e 9 27	+ 4	12·4	13·8
Colombo		31·3	175	13 39	?	—	—	—	17·7

Additional readings: Andijan i = +1m.3s. Samarkand i = +1m.5s. Agra iSN = +6m.20s., iSE = +6m.37s. Hyderabad S = +11m.49s. Long waves were also recorded at Dehra Dun, Hong Kong, Vladivostok, and many European stations.

Mar. 1d. 17h. 42m. 48s. Epicentre 35°·5N. 140°·0E. (as on 1928 May 31d.). X.

A = −·624, B = +·523, C = +·581; D = +·643, E = +·766; G = −·445, H = +·373, K = −·814.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tyosi		0·7	72	0 3	− 7	—	—	0·2	—
Nagoya		2·5	262	e 0 31	− 5	1 3	− 1	—	—
Mizusawa	E.	3·7	14	0 42	−11	1 39	+ 4	—	—
Osaka		3·8	259	e 0 56	+ 2	—	—	1·8	2·1
Kobe		4·1	266	e 1 9	+11	(e 1 47)	+ 2	e 1·8	—
Sumoto		4·4	256	—	—	e 2 1	+ 8	—	—

Sumoto gives also eS = +2m.20s.

Mar. 1d. 23h. 44m. 6s. Epicentre 31°·0N. 116°·0W. (as on Feb. 26d.). X.

A = −·376, B = −·770, C = +·515.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tucson		4·6	72	1 5	− 1	(i 2 3)	+ 5	i 2·1	—
Lick	N.	7·9	325	e 1 56	+ 4	e 2 25	?	—	—
Berkeley		8·6	324	e 2 19	+17	e 3 29	−10	e 4·0	4·8
Denver	E.	12·5	43	e 1 42	−73	—	—	—	6·1
Victoria	E.	18·3	344	9 9	?	—	—	9·7	10·4
Florissant		22·3	62	e 4 41	−13	e 11 24	L	(e 11·4)	11·6
St. Louis	F.	22·4	63	—	—	e 10 57	?	e 11·5	—
Toronto		31·4	55	e 3 15	?	i 11 15	−11	15·6	—

Additional readings: Tucson PN = +1m.13s., iE = +1m.15s., iN = +1m.30s. and +1m.57s. Lick eEN = +3m.26s. =S +5s. Berkeley eE = +3m.53s. Toronto i = +4m.28s. Long waves were also recorded at other American stations.

Mar. 1d. Readings also at 0h. (Harvard and Lick), 1h. (Florissant, Fordham, Ottawa, La Paz, Ekaterinburg, Wellington, Adelaide, and Riverview), 2h. (Andijan, Samarkand, Irkutsk, Granada, Sumoto (2), and near Ksara), 4h. (near Tyosi), 6h. (Andijan), 8h. (Phu-Lien), 13h. (near Sumoto, near Nagoya and Tyosi), 14h. (Nagoya (2)), 17h. (Phu-Lien), 18h. (near Apia).

Mar. 2d. 15h. 26m. 45s. Epicentre 25°·5N. 123°·5E. N.3.

A = −·498, B = +·753, C = +·431; D = +·834, E = +·552; G = −·238, H = +·359, K = −·903.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Taihoku	Z.	1·8	255	0 36	+10	—	—	1·1	1·1
Zi-ka-wei	N.	6·0	343	e 1 41	+16	—	—	—	—
Hong Kong		9·1	252	2 19	+10	—	—	—	5·6
Manila		11·2	193	i 2 23	−14	i 4 21	−22	i 5·5	—
Phu-Lien		16·2	257	3 15?	−29	—	—	—	—
Vladivostok		18·9	19	e 4 14	− 3	e 7 58	+14	—	—
Mizusawa	E.	20·1	43	—	—	8 12	+ 4	—	—
Irkutsk		30·4	336	e 6 7	− 2	e 10 40	−30	14·2	15·4
Andijan		44·7	304	e 10 1	(+ 4)	—	—	—	—
Samarkand		48·8	304	e 10 17	(+ 5)	—	—	—	—
Ekaterinburg		54·1	323	i 9 16	− 6	—	—	27·2	30·2

Long waves were also recorded at Baku and De Bilt.

Mar. 2d, Readings also at 0h. (Andijan, Ottawa, La Paz, near Tucson, near Kobe, and Sumoto), 1h. (Andijan and Tucson (3)), 2h. (Andijan, Samarkand, Rocca di Papa, and Zagreb), 3h. (Nagoya and near Tyosi), 4h. (near Tananarive), 7h. (Tucson (2)), 9h. (Mizusawa), 10h. (near Samarkand), 12h. (near Rocca di Papa), 16h. (near Sumoto), 17h. (near Mizusawa), 18h. (near Amboina (2)).

Mar. 3d. 12h. 14m. 20s. (I) R.3.
13h. 4m. 12s. (II) R.3.
13h. 55m. 3s. (III) R.3.
18h. 50m. 32s. (IV) R.2.
20h. 10m. 57s. (V) R.2.

Epicentre 34°·0N. 140°·0E.
(as on 1924 Mar. 28d.).

A = −·635, B = +·533, C = +·559; D = +·643, E = +·766;
G = −·428, H = +·359, K = −·829.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
I	Tyosi	1·9	22	e 0 29	+ 1	(e 0 49)	0	e 0·8	—
II		1·9	22	e 0 30	+ 2	(e 0 50)	+ 1	e 0·8	—
III		1·9	22	e 0 31	+ 3	(e 0 51)	+ 2	e 0·8	—
IV		1·9	22	e 0 29	+ 1	(e 0 48)	− 1	e 0·8	—
V		1·9	22	e 0 28	0	(0 49)	0	0·8	0·9
I	Nagoya	2·8	292	e 0 35	− 5	0 58	−14	—	1·1
II		2·8	292	e 0 36	− 4	1 3	− 9	—	—
III		2·8	292	e 0 34	− 6	0 57	−15	—	—
IV		2·8	292	e 0 34	− 6	0 56	−16	—	1·3
V		2·8	292	i 0 38	− 2	0 59	−13	—	1·3
I	Osaka	3·8	281	0 53	− 1	(1 39)	+ 2	1·6	2·0
III		3·8	281	0 55	+ 1	(1 39)	+ 2	1·6	2·0
IV		3·8	281	e 0 56	+ 2	(1 36)	− 1	1·6	2·1
V		3·8	281	0 53	− 1	(1 40)	+ 3	1·7	2·1
IV	Kobe	4·1	281	e 0 57	− 1	1 34	−11	1·8	1·9
V		4·1	281	0 57	− 1	1 33	−12	1·8	1·9
IV	Sumoto	4·2	276	—	—	e 1 34	−14	—	2·1
V		4·2	276	e 1 13	+13	1 49	+ 1	—	2·1
IV	Toyooka	4·5	291	1 9	+ 5	(1 54)	− 1	1·9	2·1
V		4·5	291	1 9	+ 5	(1 55)	0	1·9	2·0
V	Mizusawa E.	5·2	10	1 11	− 3	2 14	+ 1	—	—
V	N.	5·2	10	1 15	+ 1	2 15	+ 2	—	—

Long waves for Shock V were also recorded at Koti, Vladivostok, Irkutsk, and Ekaterinburg.

Mar. 3d. Readings also at 0h. (near Tananarive), 1h. (Taihoku), 3h. (Chicago, Tucson, Hong Kong, and Sumoto), 5h. (Copiapo, Samarkand, Tashkent, and near Andijan), 9h. (near Tananarive), 10h. (near Manila), 11h. (Andijan, Samarkand, Ottawa, La Paz, and near Balboa Heights), 13h. (Andijan), 19h. (Almata and Andijan), 21h. (Andijan and Samarkand), 23h. (Bagnères).

Mar. 4d. 13h. 6m. 45s. Epicentre 37°·5N. 11°·5W. N.3.

A = +·777, B = −·158, C = +·609; D = −·199, E = −·980;
G = +·597, H = −·121, K = −·793.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Coimbra	3·6	41	0 52	+ 1	—	—	—	—
Malaga	5·7	96	1 17	− 4	2 29	+ 4	—	—
Toledo	6·2	65	i 1 30	+ 2	e 2 42	+ 4	—	—
Granada	6·3	91	1 40	+10	i 2 48	+ 7	—	2·9
Almeria	7·3	92	—	—	e 3 2	− 4	e 3·4	4·0

Granada gives also PP = +2m.20s., i = +2m.40s.

Mar. 4d. Readings also at 2h. (near Sumoto and near Tacubaya), 4h. (Tashkent and near Tyosi), 5h. (La Paz, La Plata, Andijan, and near Samarkand), 6h. (Wellington), 8h. (Lick, Ksara, Theodosia, Sebastopol, Yalta, near Simferopol, and near Irkutsk), 11h. (Rocca di Papa and Zagreb), 12h. (Vladivostok, Ekaterinburg, Irkutsk, and Manila), 13h. (Baku, Tashkent, Paris, Strasbourg, and Granada), 14h. (Andijan, Wellington, Nagoya, and near Tyosi), 15h. (near Taihoku, near Nagoya, and Tyosi), 20h. (La Paz), 22h. (La Paz and near Balboa Heights).

Mar. 5d. 5h. 13m. 3s. Epicentre 42°·5N. 19°·0E. (as on 1929 July 13d.). X.

A = +·697, B = +·240, C = +·676; D = +·326, E = −·946; G = +·639, H = +·220, K = −·737.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Zagreb		3·9	328	e 0 57	+ 1	e 1 45	+ 5	—	—
Chur		8·0	305	e 1 57	+ 4	—	—	—	—
Ravensburg	E.	8·5	312	e 2 27	+27	—	—	—	—
Stuttgart		9·3	316	e 2 42	+31	i 2 55	−61	—	—
Neuchatel		9·6	302	e 2 19	+ 3	e 3 55	− 8	—	—
Karlsruhe		9·8	315	3 13	+55	—	—	—	—
Jena		9·8	332	e 2 15	− 3	—	—	e 2·3	2·4
Strasbourg		9·9	311	e 2 57?	+38	—	—	—	—
Besançon		10·3	302	—	—	4 15	− 6	—	—
Gottingen	N.	10·9	329	e 2 49	+16	i 2 58	?	—	3·1
De Bilt		13·4	321	e 4 57?	+117	—	—	—	—

Additional readings: Ravensburg eN = +2m.42s. Jena e = +1m.57s.

Mar. 5d. 23h. 55m. 54s. Epicentre 48°·0N. 18°·0E. (as on 1921 May 4d.). R.2.

A = +·636, B = +·207, C = +·743; D = +·309, E = −·951; G = +·707, H = +·230, K = −·669.

		△	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Budapest		0·9	126	i 0 21	+ 8	—	—	0·6	—
Vienna		1·1	283	0 13	− 3	0 23	− 5	—	0·6
Graz		1·9	242	i 0 28	0	i 0 51	+ 2	—	1·1
Zagreb		2·6	212	e 0 42	+ 5	i 1 43	+36	i 1·8	1·9
Cheb		4·2	301	e 1 3	+ 3	e 1 51	+ 3	—	2·2
Innsbruck		4·5	264	1 10	+ 6	(i 2 13)	+18	i 2·2	—
Venice		4·7	238	e 1 26	+19	i 2 27	+27	—	—
Jena		5·1	307	e 1 11	− 2	i 2 6	− 4	i 2·2	2·9
Potsdam		5·4	326	e 1 24	+ 7	i 2 13	− 5	e 5·6	—
Ravensburg		5·6	271	e 1 21	+ 1	e 2 13	−10	—	—
Chur	N.	5·8	261	e 1 16	− 6	i 2 56	+28	—	—
Stuttgart		5·9	281	e 1 35	+11	e 2 17	−14	—	—
Gottingen		6·2	308	e 1 28	0	e 2 56	+18	—	3·4
Florence		6·3	231	e 2 35	S	(e 2 35)	− 6	(4·6)	—
Karlsruhe		6·4	283	1 36	+ 5	3 4	+21	—	—
Zurich		6·4	268	i 1 22	− 9	e 2 34	− 9	—	—
Feldberg	N.	6·6	293	e 1 24	−10	i 2 52	+ 4	i 3·0	3·6
Strasbourg		6·8	279	e 1 31	− 6	—	—	i 3·4	—
Neuchatel		7·5	266	e 1 38	− 8	e 3 9	− 2	e 3·9	—
Hamburg		7·5	321	—	—	e 3 6?	− 5	e 3·7	4·3
Besançon		8·2	271	e 2 26	+30	—	—	e 4·0	—
Lund		8·2	341	—	—	3 24	− 5	—	—
Uccle		9·3	293	—	—	e 3 51	− 5	e 4·5	—
Pulkovo		13·7	28	e 3 6	− 5	—	—	e 7·1	7·6
Ekaterinburg		26·9	55	e 6 12	+35	—	—	14·1	—
Tashkent		36·4	81	(4 6?)	?	—	—	4·1	23·6

Additional readings and note: Vienna iP = +10s., S* = +20s. Zagreb e = +45s., i = +51s., +54s., and +1m.0s., iNW = +1m.7s., iNE = +1m.14s., i = +1m.22s., iNE = +1m.29s. Cheb i = +1m.19s. and +1m.34s. Innsbruck i = +1m.43s. Jena eE = +1m.16s., iE = +1m.21s., +1m.25s., and +1m.33s., eEN = +1m.36s., iE = +1m.45s., eE = +1m.54s., eN = +1m.56s., iSE = +2m.12s. Potsdam iE = +2m.7s., iEN = +2m.10s., i = +5m.21s. Ravensburg iN = +2m.27s., eE = +2m.42s., iE = +2m.47s., iN = +2m.50s., i = +3m.0s. Stuttgart iEN = +2m.38s., i = +2m.51s., iE = +3m.3s. and +3m.12s., iZ = +3m.18s., iE = +3m.30s., iZ = +4m.11s., and +4m.57s. Gottingen ePN = +1m.43s., e = +2m.42s. Florence gives S as P and L as S. Feldberg iN = +2m.27s. and +2m.36s. Neuchatel e = +2m.16s. Long waves were also recorded at Kucino and several European stations.

Mar. 5d. Readings also at 1h. (Bombay), 2h. (La Paz, Rio de Janeiro, and Rocca di Papa), 7h. (Andijan and Samarkand), 9h. (Baku, Ekaterinburg, Irkutsk, Uccle, and near Tacubaya), 10h. (Kucino, Tashkent, Nagoya, near Osaka, Kobe, and Sumoto), 13h. (Nagoya (2), near Osaka, Kobe, and Sumoto), 16h. (near Nagoya (3) and Tyosi (2)), 19h. (Lick, Almata, and Andijan (2)), 21h. (Andijan), 22h. (near La Paz), 23h. (Andijan and Samarkand).

Mar. 6d. 3h. 31m. 36s. Epicentre 26°·5N. 139°·0E. N.2.

A = −·675, B = +·587, C = +·446; D = +·656, E = +·755; G = −·337, H = +·293, K = −·895.

A *depth* of focus 0·060 has been assumed.

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Koti		−0·3	8·5	328	e 1 59	+ 3	e 3 31	+ 2	—	3·6
Sumoto		−0·4	8·6	337	1 55	− 1	3 31	+ 2	—	3·5
Osaka		−0·4	8·7	341	1 58	0	(3 33)	+ 2	3·5	3·9
Kobe		−0·4	8·8	339	2 1	+ 2	i 3 34	0	—	3·6
Nagoya		−0·4	8·8	349	i 1 58	− 1	3 30	− 4	—	3·6
Tyosi		−0·6	9·4	10	e 1 59	− 6	(3 31)	−13	3·5	3·6
Toyooka		−0·6	9·7	340	2 15	+ 6	(3 48)	− 3	3·8	3·9
Nagasaki		−0·7	10·1	310	2 7	− 6	4 0	+ 1	—	—
Hukuoka		−0·7	10·2	316	e 2 19	+ 5	4 11	+10	—	4·3
Mizusawa		−1·2	12·7	8	2 34	− 8	4 40	−10	—	—
Taihoku	E.	−1·7	15·8	268	e 4 24?	+67	—	—	—	—
Zi-ka-wei		−1·7	16·1	291	e 3 21	0	6 9	+ 8	—	—
Vladivostok		−2·0	17·6	343	(4 28)	+52	4 28	P	—	—
Manila		−2·5	20·6	238	e 4 14	+ 6	i 7 25	− 2	—	—
Hong Kong		−2·8	22·9	265	4 27	− 4	6 46	?	—	10·8
Irkutsk		−4·4	36·6	324	6 18	− 6	11 20	−18	—	14·8
Almata		−5·7	52·3	307	e 8 22	− 3	—	—	—	—
Andijan		−5·9	55·9	303	e 8 52	+ 1	e 16 2	+ 1	—	—
Tashkent		−6·1	58·2	305	i 9 5	− 2	i 16 27	− 3	—	35·6
Samarkand		−6·2	60·1	304	9 19	− 2	16 50	− 4	—	—
Ekaterinburg		−6·3	61·8	323	i 9 25	− 7	i 17 7	− 9	29·4	—
Baku		−6·9	72·6	309	10 36	− 7	i 19 19	−10	e 36·4	—
Kucino		−7·0	74·2	325	—	—	i 19 28	−19	e 37·2	38·6
Pulkovo		−7·0	76·0	330	—	—	i 19 47	−22	48·4	—
Helsingfors		−7·1	78·1	333	—	—	i 20 8	−25	—	—
Scoresby Sund		−7·3	82·1	355	—	—	i 20 50	−28	—	—
Ksara	E.	−7·4	85·4	307	—	—	e 21 20	−34	—	—
Copenhagen		−7·4	86·0	333	—	—	21 27	−33	—	—
De Bilt		−7·5	91·7	333	—	—	e 22 24	−36	e 48·4	—
La Paz		—	152·9	74	e 18 52	[−53]	i 28 44	?	—	—

Additional readings: Vladivostok i = +5m.17s. and +13m.4s. Kucino i = +19m.58s., e = +22m.46s. and +27m.53s. Long waves were also recorded at Strasbourg and Uccle.

Mar. 6d. 8h. 21m. 39s. Epicentre 34°·5N. 26°·4E. N.1.

A = +·738, B = +·366, C = +·566; D = +·445, E = −·896; G = +·507, H = +·252, K = −·824.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Helwan		6·2	136	e 1 33	+ 5	i 2 42	+ 4	—	—
Ksara		7·9	92	1 56	+ 4	3 21	0	3·8	—
Naples	E.	11·5	307	e 4 21	S	(e 4 21)	−29	—	—
Sebastopol		11·5	26	e 2 45	+ 3	—	—	—	—
Yalta		11·7	28	2 42	− 2	—	—	—	—
Theodosia		12·6	30	3 9	+13	—	—	—	—
Rocca di Papa		13·0	308	e 3 3	+ 1	7 49	L	(7·8)	11·6
Zagreb		13·8	328	e 3 24	+11	e 6 13	+27	e 7·4	—
Florence		14·9	313	1 40	?	6 21	+ 8	—	8·4
Venice		15·3	320	e 4 48	+76	—	—	—	—
Vienna		15·6	335	e 3 56	+20	—	—	—	10·4
Innsbruck		17·0	328	3 21?	−33	—	—	—	—
Chur		17·7	319	e 4 1	− 2	e 7 35	+18	—	—
Ravensburg		18·3	322	e 4 21?	+11	e 7 36	+ 5	—	—
Zurich		18·5	319	e 4 9	− 4	e 7 43	+ 7	—	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Cheb		18·6	331	e 6 21?	?	—	—	—	—
Stuttgart		19·1	323	e 4 21?	+ 1	e 7 51	+ 3	11·8	—
Neuchatel		19·2	316	e 4 15	− 6	e 7 41	− 9	—	—
Baku		19·6	66	i 4 27	+ 2	i 8 7	+ 9	e 10·8	14·0
Jena		19·6	331	e 4 21	− 4	—	—	—	12·8
Strasbourg		19·7	321	e 4 24	− 2	e 8 11	+11	11·4	—
Barcelona		20·2	297	e 4 53	+21	e 8 26	+16	10·1	—
Feldberg	N.	20·4	325	e 4 28	− 6	e 8 16	+ 2	—	12·6
Gottingen		20·7	330	—	—	e 8 21?	+ 1	—	—
Tortosa	N.	21·3	295	e 4 48	+ 5	—	—	—	—
Kucino		22·7	18	—	—	e 8 58	− 1	—	14·0
Paris		22·7	316	e 4 55	− 3	e 8 58	− 1	12·4	15·4
Uccle		22·8	322	e 4 54	− 5	9 4	+ 3	11·4	—
De Bilt		23·2	326	e 5 6	+ 3	e 9 16	+ 8	e 12·4	13·2
Almeria		23·4	284	e 5 1	− 4	—	—	—	17·5
Granada		24·3	285	i 5 18	+ 5	—	—	e 12·4	—
Pulkovo		25·4	5	5 22	− 2	9 39	− 9	13·8	14·2
Kew		25·6	320	—	—	(9 57)	+ 6	10·0	—
Helsingfors		25·7	358	e 5 37	+11	—	—	—	—
Oxford		26·3	319	—	—	10 11	+ 8	—	—
Ekaterinburg		32·1	31	e 6 20	− 4	e 11 28	− 9	15·4	—
Tashkent		34·2	62	—	—	e 10 56	−73	e 16·4	24·6
Andijan		36·3	67	e 7 3	+ 3	—	—	—	—

Additional readings: Rocca di Papa i = +3m.28s., PP = +5m.51s. Zagreb e = +4m.0s. and +4m.23s. eNE = +5m.13s., eNW = +6m.6s. Granada i = +5m.44s. = PP +3s. Oxford i = +11m.20s. Long waves were also recorded at Scoresby Sund and European stations.

Mar. 6d. 9h. 18m. 30s. Epicentre 35°·5N. 25°·0E. N.1.

A = +·738, B = +·344, C = +·581; D = +·423, E = −·906; G = +·526, H = +·245, K = −·814.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Helwan		7·8	135	i 1 44	− 7	3 3	−16	—	3·2
Messina		8·0	292	i 1 41	−12	—	—	—	—
Ksara	E.	9·1	97	2 10	+ 1	3 43	− 8	4·1	—
Naples	E.	10·0	306	e 2 0	−21	e 5 10	+57	—	—
Sebastopol		11·2	32	2 44	+ 7	—	—	—	—
Rocca di Papa		11·4	307	(2 49)	+ 9	—	—	5·7	7·6
Yalta		11·4	35	2 46	+ 6	—	—	—	—
Theodosia		12·2	37	3 2	+11	—	—	—	—
Zagreb		12·3	329	e 2 55	+ 3	i 5 1	− 9	—	8·1
Budapest		12·7	341	e 3 17	+19	5 40	+20	7·5	9·5
Florence		13·4	312	2 29	−38	5 34	− 3	i 6·4	7·5
Graz		13·6	331	i 3 27	+17	6 26	+45	7·5	9·3
Venice		13·8	320	e 3 17	+ 4	e 7 30	+104	9·0	10·5
Vienna		14·2	336	e 3 34	+16	8 29	L	(8·5)	9·3
Innsbruck		15·5	323	e 3 36	+ 1	i 6 37	+10	7·8	—
Chur		16·2	320	e 3 44	0	i 6 55	+12	—	—
Ravensburg		16·8	322	e 3 54	+ 2	e 7 3	+ 6	i 9·2	—
Zurich		17·0	319	e 3 55	+ 1	e 7 12	+10	—	—
Cheb		17·2	332	e 4 17	+20	e 7 18	+12	e 9·1	10·2
Stuttgart		17·6	323	i 4 1	− 1	i 7 14	− 1	i 9·3	—
Neuchatel		17·7	316	e 4 2	− 1	e 7 6	−11	—	—
Algiers		17·7	281	4 1	− 2	7 19	+ 2	—	—
Jena		18·1	332	e 4 12	+ 4	e 7 30	+ 3	e 9·5	10·5
Karlsruhe		18·2	323	4 19	+10	—	—	—	—
Strasbourg		18·2	321	i 4 12	+ 3	i 7 36	+ 7	11·5	—

Continued on next page.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Besançon	18·4	315	e 4 12	+ 1	7 51	+18	11·5	—
Barcelona	18·8	295	4 14	− 2	7 42	0	e 9·3	—
Potsdam	18·9	337	e 4 18	+ 1	i 7 41	− 3	—	—
Feldberg	19·0	326	i 4 10	− 9	e 7 42	− 4	—	12·8
Gottingen	19·3	331	e 4 24	+ 2	i 8 1	+ 9	—	—
Tortosa	19·9	293	4 28	− 1	8 9	+ 5	—	—
Baku	20·2	69	i 4 35	+ 3	i 8 17	+ 7	11·0	—
Alicante	20·5	286	e 4 33	− 2	e 8 23	+ 7	—	—
Hamburg	20·9	335	e 4 39	0	e 8 30	+ 6	—	—
Paris	21·2	316	i 4 42	0	e 9 2	+32	12·5	14·5
Uccle	21·3	322	4 44	+ 1	8 41	+ 9	e 11·5	—
Lund	21·7	342	4 48	0	8 46	+ 6	12·5	—
De Bilt	21·8	326	i 4 51	+ 2	e 8 48	+ 6	e 10·5	15·0
Almeria	22·0	282	i 4 48	− 3	i 8 48	+ 2	13·0	13·9
Copenhagen	22·0	341	—	—	8 51	+ 5	12·5	—
Kucino	22·1	20	4 54	+ 2	8 51	+ 3	11·4	12·2
Granada	23·0	282	i 5 2	+ 1	i 9 8	+ 3	13·5	—
Toledo	23·3	289	—	—	e 9 9	− 1	—	—
Malaga	23·7	282	5 3	− 4	9 11	− 7	—	—
Kew	24·1	319	e 5 34	+23	e 9 32	+ 7	11·5	—
Pulkovo	24·5	6	5 16	+ 1	9 31	− 1	14·0	15·4
Helsingfors	24·6	0	i 5 16	0	9 31	− 3	e 13·5	—
Upsala	24·8	351	e 5 27	+ 9	e 9 41	+ 4	—	—
Oxford	24·8	319	5 18	0	—	—	—	—
Bergen	27·9	339	e 6 48	+62	e 11 8	+38	—	—
Edinburgh	28·0	326	—	—	e 10 30?	− 2	—	—
Dyce	28·3	328	—	—	10 31	− 6	e 17·4	—
Ekaterinburg	32·6	37	i 6 23	0	11 36	+ 1	15·5	—
Samarkand	33·2	68	e 6 36	+ 2	—	—	—	—
Andijan	37·2	67	e 7 12	+ 4	—	—	—	—
Almata	40·2	61	e 7 24	−10	—	—	—	—
Scoresby Sund	42·9	339	—	—	14 20	+ 1	23·5	—

Additional readings and note: Rocca di Papa e = +2m.4s., true P is given as PP. Zagreb eNW = +3m.19s., eNE = +3m.31s., e = +3m.51s., eNE = +5m.6s. Florence i = +3m.34s. Vienna P_cP? = +6m.11s. = S +15s. Innsbruck PP = +3m.52s., eSS = +7m.0s. Ravensburg iSS = +7m.24s. Zurich ePP = +4m.13s. Stuttgart iPP = +4m.20s., iSS = +7m.45s. Jena eEN = +4m.30s., eE = +7m.51s. Strasbourg iPP? = +4m.33s., iSS? = +8m.21s. Potsdam iEN = +7m.48s., iE = +7m.55s. Gottingen ePP = +4m.45s. Lund +9m.21s. = SS +12s. De Bilt iZ = +5m.11s. = PP +4s. Copenhagen +5m.15s. = PP +5s. and +9m.21s. = SS +5s. Granada i = +5m.38s. = PP +15s. and +9m.37s. = SS −4s. Helsingfors iPPZ = +5m.34s., iPPPN = +5m.53s., SS = +10m.24s. Oxford iPP = +5m.37s. Scoresby Sund +17m.48s. = S_cS −11s.

March 6d. 15h. 35m. 12s. Epicentre 33°·2S. 178°·0W. N.2.

A = −·836, B = −·029, C = −·548; D = −·035, E = +·999; G = +·547, H = +·019, K = −·837.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Wellington		9·9	214	e 2 48?	+29	e 4 8	− 3	5·7	6·8
Christchurch		12·6	213	—	—	e 5 7	−10	7·8	16·4
Apia		20·2	18	4 32	0	8 10	0	9·1	13·1
Riverview		25·6	260	5 24	− 1	9 56	+ 5	e 12·4	13·9
Sydney	E.	25·6	260	5 0	−25	9 48	− 3	14·3	15·8
Melbourne		30·3	251	6 10	+ 2	11 10	+ 1	15·0	17·1
Adelaide		35·7	257	e 6 54	− 1	i 12 28	− 4	15·7?	21·8
Perth		54·9	253	e 16 48	S	(e 16 48)	−20	e 31·0	—
Honolulu T.H.	E.	57·8	23	—	—	e 17 38	− 9	i 26·9	—
	N.	57·8	23	—	—	i 17 44	− 3	i 27·6	—

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Batavia		74·2	274	e 12 17	+41	i 15 37	?	38·8	45·8
Manila		75·3	300	e 11 39	− 3	21 13	−11	36·8	—
Nagoya		80·4	325	e 12 9	− 1	—	—	—	—
Hong Kong		85·2	301	12 38	+ 4	22 48	−22	—	53·3
Zi-ka-wei	Z.	86·1	313	e 12 42	+ 3	i 23 6	−12	—	45·4
Vladivostok		88·9	325	e 12 48?	− 4	e 23 21	[− 5]	46·8	—
Tucson		91·0	50	—	—	e 23 21	[−18]	e 45·3	—
Victoria		95·1	31	—	—	23 55	[− 6]	50·9	53·0
La Paz		96·7	114	i 13 13	−15	i 24 10	[+ 1]	45·3	51·0
Colombo		103·9	270	18 23	PP	24 40	[− 5]	49·1	60·9
Kodaikanal		107·7	272	e 26 6	Σ	(e 26 6)	{+16}	—	—
Florissant		108·5	54	—	—	i 25 59	{+ 3}	e 52·6	56·3
Irkutsk		108·9	320	e 15 12	?	e 25 0	[− 8]	48·8	63·4
Hyderabad		110·6	278	14 59	?	28 9	PS	55·8	71·8
Chicago		111·7	51	i 28 38	PS	—	—	e 60·4	—
Tananarive		112·1	226	—	—	e 30 8	?	54·9	59·9
Agra	E.	115·4	287	e 14 29	?	—	—	—	—
Bombay		115·9	276	13 50	?	26 46	{− 2}	58·9	67·8
Dehra Dun		116·8	290	13 8	?	—	—	—	73·8
Georgetown		117·9	60	i 19 27	[+46]	e 29 27	PS	e 58·0	66·4
Toronto	N.	118·0	52	—	—	i 36 4	SS	53·2	—
Fordham		120·9	58	e 20 13	PP	e 27 14	{− 8}	e 59·5	67·8
Ottawa		121·0	51	e 19 48?	PP	e 25 48?	[− 5]	63·8	—
Tashkent		127·2	300	—	—	e 40 48?	?	e 64·8	84·1
Ekaterinburg		134·2	319	i 13 30	?	—	—	55·8	84·2
Scoresby Sund		140·5	11	19 38	[+16]	—	—	72·8	—
Baku		141·4	295	e 13 7	?	e 16 28	?	68·8	88·6
Kucino		146·0	322	e 19 35	[− 1]	—	—	75·1	80·9
Pulkovo		147·6	333	—	—	e 29 12	?	77·8	86·2
Helsingfors	Z.	149·2	337	i 19 44	[+ 4]	—	—	—	—
Theodosia		151·8	305	19 56	[+12]	—	—	—	—
Ksara		151·9	281	19 51	[+ 7]	e 29 24	{−70}	80·8	—
Yalta		152·7	305	19 54	[+ 9]	—	—	—	—
Sebastopol		153·2	305	20 0	[+14]	—	—	—	—
Dyce		155·8	6	e 19 50?	[+ 1]	—	—	e 85·8	97·6
Copenhagen		156·4	345	19 54	[+ 5]	35 18	?	72·8	—
Edinburgh		157·1	8	e 18 48?	[−62]	i 43 54	SS	85·8	—
De Bilt		161·0	354	e 19 55	[0]	—	—	e 80·8	93·5
Oxford		161·3	6	e 19 54	[− 1]	i 25 11	?	e 79·8	90·7
Cheb		161·5	338	e 20 48?	{− 3}	—	—	e 85·8	96·8
Kew		161·7	5	e 19 54	[− 1]	—	—	e 84·8	—
Uccle		162·3	355	e 20 48?	{− 7}	e 31 18	{−13}	e 65·8	—
Feldberg	N.	162·4	346	i 20 36	{−19}	e 24 24	PP	—	—
Stuttgart		163·6	343	i 19 57	[0]	—	—	e 83·8	106·8
Strasbourg		164·1	346	e 16 48	?	—	—	e 39·8	—
Paris		164·4	359	e 20 0	[+ 2]	e 28 48?	PPP	78·8	95·8
Zurich		165·0	343	e 21 47	?	—	—	—	—
Chur		165·3	339	e 19 49	[−10]	—	—	—	—
Neuchatel		165·7	346	e 19 58	[− 2]	—	—	—	96·8
Florence		167·2	328	e 19 46	[−15]	i 31 42	{−15}	87·8	97·3
Rocca di Papa		168·0	318	e 21 54	{+34}	35 32	SKSP	e 89·9	108·4
Toledo		171·8	35	e 20 59	[+54]	e 21 11	P'	—	109·9
San Fernando		172·6	62	19 58	[− 7]	36 6	SKSP	—	100·3
Malaga		173·7	54	e 19 58	[− 8]	—	—	—	—
Granada		174·0	46	i 20 11	[+ 5]	—	—	81·8	103·8
Alicante		174·5	21	e 20 25	[+19]	—	—	—	—
Almeria		174·9	44	e 20 3	[− 3]	i 31 7	?	86·9	92·6
Algiers		176·3	346	e 18 58	?	29 48	PPP	93·8	96·0

Additional readings: Wellington e = +5m.4s. Christchurch i = +6m.29s. Apia +8m.47s. Riverview i = +5m.31s. and +5m.38s. PP? = +5m.57s., PPP? = +6m.5s., iS = +10m.14s. Adelaide iSSS = +15m.7s. Perth eS = +24m.8s. Honolulu T.H., iN = +24m.38s., iE = +25m.32s. Manila PPPN = +16m.39s. Zi-ka-wei iZ = +16m.16s. =PP +22s. Tucson eE =

Continued on next page.

+23m.28s., e = +36m.48s., eN = +38m.16s., eE = +42m.10s. La Paz PPZ = +17m.46s., iPSE = +26m.22s., SSE = +28m.48s. Florissant iPPEZ = +18m.44s., eEZ = +24m.33s. = [S] −33s., iPSN = +26m.39s., eE = +28m.6s. = PS −7s. Irkutsk e = +19m.29s., +22m.48s., +28m.10s. = PS −7s., and +33m.28s. Chicago eN = +49m.11s., eE = +49m.58s. Georgetown e = +19m.51s. = PP −3s. Toronto iE = +39m.57s. Fordham eE = +22m.24s., +23m.17s., and +25m.44s. = [S] −9s., eEN = +29m.47s. = SKSP −14s. and +35m.49s., eN = +55m.40s. Ottawa eE = +30m.6s. = PS −5s., eN = +36m.48s.? = SS +3s. Ekaterinburg i = +17m.9s., +19m.6s. = [P] −8s., +20m.36s., +22m.42s. = PKS −9s., and +26m.36s. = [S] +5s. Scoresby Sund +22m.30s. = PP +6s., +23m.0s. = PKS −10s., +40m.48s. = SS +0s. and +42m.36s. Pulkovo e = +15m.48s., i = +18m.48s., and +33m.12s. = SKSP −10s., e = +35m.43s. and +41m.58s. = SS −14s. De Bilt eZ = +24m.23s. = PP +2s., eE = +44m.23s. = SS −19s. Stuttgart iZ = +20m.49s. = P'_2 −11s., iNZ = +24m.33s. = PP −1s., iPPNZ = +25m.8s., iPPPNZ = +28m.45s., $iPPP_2EN$ = +31m.15s. = Σ −23s., iZ = +31m.58s., $iSKSP_2$ = +38m.3s., iSSE = +45m.3s., iSSSEN = +53m.3s., iSSSS?EN = +57m.48s. Strasbourg e = +18m.48s.?, +19m.57s. = [P] −1s., and +24m.45s. = PP +8s. Neuchatel eP = +17m.39s. Florence i = +23m.48s. = PKS +8s. Rocca di Papa e = +24m.52s. = PP −5s. San Fernando PE = +20m.16s. = [P] +11s. Granada eZ = +18m.46s., i = +21m.57s. = P'_2 +9s., +25m.46s. = PP +20s., +29m.40s. = PPP +9s., +31m.16s., and +33m.47s. Long waves were also recorded at Rio de Janeiro and other North American and European stations.

March 6d. Readings also at 0h. (Andijan and near Samarkand), 3h. (La Paz), 6h. (near Manila (2)), 7h. (Andijan, Copiapo, La Paz, and La Plata), 8h. (near La Paz and near Lick), 10h. (La Paz), 11h. (Baku and Ekaterinburg), 13h. (near Sumoto), 15h. (Nagoya, near Sumoto, Tashkent, near Almata, Andijan, and Samarkand), 16h. (Nagoya), 17h. (near Taihoku and near Manila), 18h. (La Paz, Almata, near Andijan, and Samarkand), 22h. (Granada and near Almeria), 23h. (Andijan, Samarkand, Toledo, near Almeria, and Granada).

March 7d. 6h. 41m. 2s. Epicentre 31°·4N. 11°·4W. N.2.

A = +·837, B = −·169, C = +·521; D = −·198, E = −·980; G = +·511, H = −·103, K = −·854.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
San Fernando	6·6	39	i 1 30	− 4	2 42	− 6	—	6·5
Malaga	7·9	45	i 1 48	− 4	3 9	−12	—	—
Granada	8·7	46	i 2 0	− 3	i 3 28	−13	—	3·8
Almeria	9·3	51	i 2 11	0	i 3 47	− 9	4·7	7·7
Toledo	10·4	34	2 17	− 9	4 2	−21	i 4·4	—
Alicante	11·3	49	e 2 50	+11	e 4 46	+ 1	e 5·8	—
Algiers	13·1	61	3 6	+ 3	7 52	?	9·6	12·3
Azores	13·4	302	5 34	S	(5 34)	− 3	—	7·2
Tortosa	13·5	41	3 5	− 4	5 27	−12	6·6	9·4
Paris	20·4	27	—	—	e 8 14	0	9·0	10·0
Neuchatel	21·0	37	i 4 38	− 2	e 8 31	+ 5	—	—
Kew	21·7	19	—	—	(8 22)	−18	8·4	—
Florence	21·7	49	i 4 55	+ 7	8 58	+18	13·7	15·0
Rocca di Papa	21·9	55	i 4 53	+ 3	i 8 58	+14	e 11·5	19·0
Zurich	22·1	38	i 4 51	− 1	e 9 0	+12	—	—
Chur	22·3	40	e 4 51	− 3	e 8 58	+ 6	—	—
Strasbourg	22·5	34	e 4 53	− 3	e 8 53	− 2	12·0	—
Uccle	22·7	26	e 5 3	+ 5	9 1	+ 2	e 10·5	11·6
Ravensburg	22·9	38	e 4 57	− 3	e 8 58	− 5	13·0	15·5
Stuttgart	23·3	36	i 5 2	− 2	i 9 10	0	i 11·6	13·6
Feldberg	23·9	32	i 5 0	− 9	e 9 10	−11	—	13·0
De Bilt	24·0	25	—	—	e 9 16	− 7	e 10·0	11·9
Zagreb	25·6	48	e 5 28	+ 3	—	—	—	—
Ekaterinburg	54·6	40	i 9 25	− 1	e 17 6	+ 2	24·0	30·3

Additional readings: Granada i = +2m.10s., +2m.20s., +2m.26s., and +2m.30s. Almeria PP = +2m.21s., i = +2m.42s., and +3m.4s., SS = +4m.10s. Strasbourg e = +4m.58s.? Stuttgart iPPE = +5m.32s., iSE = +9m.28s. Long waves were also recorded at Ottawa and other European and Asiatic stations.

Mar. 7d. 10h. 52m. 8s. Epicentre 28°·5N. 131°·0E. N.3.

A = −·577, B = +·663, C = +·477; D = +·755, E = +·656;
G = −·313, H = +·360, K = −·879.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Nagasaki		4·4	348	0 9	−54	—	—	—	—
Koti		5·5	23	e 1 28	+10	i 2 24	+ 4	e 3·1	—
Matuyama	E.	5·6	15	e 1 39	+19	—	—	e 2·8	—
Sumoto		6·7	29	e 1 41	+ 6	—	—	e 3·6	4·7
Kobe	Z.	7·1	29	1 46	+ 5	—	—	—	—
Osaka		7·3	31	1 41	− 3	(3 12)	+ 6	3·2	6·4
Toyooka		7·8	24	1 56	− 5	3 19	0	4·7	4·9
Nagoya		8·4	36	e 2 14	+15	—	—	—	—
Zi-ka-wei	Z.	8·8	290	2 4	− 1	3 46	+ 2	—	5·9
Vladivostok		14·6	3	e 1 52?	?	e 5 52	−13	8·4	—
Hong Kong		16·4	252	3 51	+ 5	6 55	+ 7	e 7·9	11·0
Manila		16·7	216	e 3 52	+ 2	i 7 1	+ 6	i 8·6	—
Irkutsk		31·0	329	e 6 26	+12	e 11 16	− 4	16·9	19·9
Andijan		48·9	301	e 8 50	+ 7	—	—	—	—
Tashkent		51·2	304	—	—	e 21 16	SS	e 25·8	30·3
Samarkand		53·1	303	e 9 18	+ 3	—	—	—	—
Ekaterinburg		55·9	323	e 9 31	− 4	e 17 16	− 5	25·9	35·9
Ksara		78·5	302	12 52?	+52	—	—	—	—
Florence		89·1	321	12 41	−12	23 52	+ 5	51·9	55·9
La Paz	E.	158·7	60	e 20 42	{+ 3},	—	—	—	—

Additional readings: Toyooka ePE = +2m.7s. Manila eP? = +4m.13s. ?, SS = +7m.18s. Phu-Lien (Δ = 23°·5) gives 10h.51m.0s. Irkutsk e = +7m.9s. = PP − 1s. Florence iP = +12m.52s. Long waves were also recorded at Scoresby Sund, Taihoku, Bombay, Georgetown, Ottawa, and the European stations.

Mar. 7d. Readings also at 2h. (near Manila), 4h. (Bergen), 6h. (Mizusawa, Nagoya, and near Tyosi), 7h. (Andijan and Samarkand), 8h. (Gottingen), 9h. (Sumoto and Zagreb), 15h. (Samarkand, Ekaterinburg, Irkutsk, Tashkent, Vladivostok, Taihoku, and near Mizusawa), 16h. (Baku, Kucino, De Bilt, Andijan, and Samarkand), 18h. (near Granada), 19h. (La Paz and Phu-Lien), 20h. (Ksara, Tyosi, and near Nagoya), 21h. (near Mizusawa), 22h. (Wellington and Taihoku), 23h. (Mizusawa, Nagoya, Vladivostok, Irkutsk, Ekaterinburg, Tashkent, Samarkand, Ksara, and La Paz).

Mar. 8d. 3h. 45m. 35s. Epicentre 9°·8N. 78°·0W. N.1.

A = +·205, B = −·964, C = +·170; D = −·978, E = −·208;
G = +·035, H = −·166, K = −·985.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Balboa Heights	E.	1·8	241	0 25	− 1	0 37	− 9	—	—
	N.	1·8	241	0 18	− 8	0 30	−16	—	—
Port au Prince		10·3	32	i 3 53	+88	i 4 38	+17	e 8·2	—
Tacubaya		22·6	297	4 50	− 7	8 49	− 8	—	—
La Paz		28·0	160	i 5 48	+ 1	i 10 43	+11	12·6	16·2
Charlottesville		28·2	359	—	—	e 10 25	−10	e 14·4	—
Georgetown		29·1	1	e 5 58	+ 1	e 10 50	0	e 13·2	—
St. Louis		30·8	341	e 6 8	− 4	e 10 35	−42	—	—
Florissant		31·1	341	i 6 12	− 3	i 11 8	−13	—	—
Fordham		31·3	6	e 6 33	+16	i 11 22	− 2	e 13·6	15·4
Ann Arbor		32·9	353	e 6 31	0	i 11 43	− 6	e 19·0	—
Chicago		33·1	350	—	—	e 11 37	−15	e 16·6	—
Harvard		33·1	10	e 6 37	+ 4	i 11 50	− 2	15·9	—
Toronto	N.	33·9	358	i 6 46	+ 7	i 11 55	− 9	16·2	21·0
Ottawa		35·7	3	e 6 57	+ 2	12 25	− 7	e 17·4	21·4

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		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tucson	E.	37·8	314	e 7 7	− 6	e 12 43	−20	e 24·2	—
	N.	37·8	314	e 7 12	− 1	—	—	e 25·4	—
Rio de Janeiro		47·2	135	e 15 6	S	(e 15 6)	−15	e 22·4	—
Victoria	E.	54·1	325	16 47	S	(16 47)	−10	28·3	30·8
Ivigtut		55·9	18	—	—	17 18	− 3	26·4	—
Scoresby Sund		69·9	18	11 13	+ 3	20 19	− 1	32·4	—
Malaga		71·0	54	11 18	+ 1	e 20 38	+ 5	—	—
Toledo		71·5	51	e 11 20	0	e 22 41	+122	e 34·2	—
Granada		71·7	54	i 11 24	+ 3	i 20 50	+ 9	31·4	34·3
Almeria		72·7	54	11 31	+ 4	21 0	+ 7	37·0	38·3
Edinburgh		73·4	35	—	—	e 21 1	0	36·4	—
Oxford		74·1	39	11 34	− 1	i 21 5	− 5	e 36·4	—
Alicante		74·2	52	e 11 39	+ 3	—	—	—	—
Kew		74·7	39	i 11 36	− 3	i 21 11	− 6	35·4	40·6
Tortosa	N.	75·0	50	e 11 41	+ 1	21 16	− 4	e 30·4	33·2
Paris		76·4	42	i 11 38	−10	i 21 36	0	36·4	38·4
Algiers		77·1	54	e 12 32	+39	e 21 38	− 6	—	—
Uccle		77·6	40	11 52	− 3	i 21 55	+ 6	e 32·4	40·2
De Bilt		78·1	39	i 11 57	− 1	21 52	− 3	e 35·4	42·8
Neuchatel		79·5	44	e 12 4	− 1	—	—	—	—
Strasbourg		79·9	42	i 12 7	0	i 22 14	− 1	27·4	—
Feldberg	N.	80·2	40	—	—	e 22 10	− 8	—	—
Zurich		80·5	45	e 12 11	+ 1	—	—	—	—
Stuttgart		80·8	41	i 12 10	− 2	i 22 19	− 5	e 38·4	42·2
Chur		81·2	45	e 12 13	− 1	e 22 33	+ 5	—	—
Copenhagen		82·1	35	12 37	+18	22 35	− 3	38·4	—
Florence		82·7	47	12 22	0	22 32	−12	—	42·4
Cheb		82·8	40	e 12 32	+10	e 22 58	+13	e 39·4	42·4
Rocca di Papa		84·0	49	i 12 44	+16	—	—	—	—
Pulkovo		90·5	29	—	—	e 23 40	[+ 4]	44·4	—
Ekaterinburg		105·2	21	—	—	25 0	[+ 9]	43·4	56·8
Irkutsk		117·9	359	—	—	25 34	[− 9]	e 56·4	70·4
Tashkent		120·7	28	—	—	26 25	[+33]	52·4	69·0
Samarkand		120·9	30	e 19 15	[+27]	—	—	—	—
Manila	E.	149·2	322	e 20 25?	[+44]	—	—	—	—

Additional readings: Georgetown i = +6m.13s., PP? = +6m.30s., i = +11m.6s. St. Louis iN = +6m.22s. and +6m.46s., iS = +11m.6s. Florissant iNZ +6m.24s., iZ = +11m.2s., eSSSE = +14m.12s. Ann Arbor e?E = +5m.55s., ePPP? = +7m.25s., eE = +13m.1s. = SS − 37s., +14m.49s., and +15m.49s., eN = +16m.13s. Harvard iN = +7m.26s. = PP − 11s. Toronto iPPN = +7m.47s., iSE = +11m.53s. Ottawa ePPPN? = +7m.58s. Tucson iE = +8m.29s. = PP − 6s., eN = +8m.38s., eE = +15m.41s. = SS+11s., eN = +15m.57s. Granada PP = +14m.8s. Edinburgh i = +21m.37s. = PS + 14s. Uccle SS = +25m.49s. De Bilt ePP = +14m.52s., eSSE = +27m.9s. Stuttgart iPPEZ = +15m.9s., iPPPE = +17m.25s., iPSN = +23m.15s. Ekaterinburg PS = +27m.47s., iSS = +33m.25s. Irkutsk PP = +19m.48s., PS = +29m.11s., SS = +35m.49s. Tashkent PP = +20m.19s., iPPS = +32m.17s. Long waves were also recorded at La Plata, Wellington, San Fernando, Kucino, Baku, and Gottingen.

Mar. 8d. 19h. 39m. 36s. Epicentre 34°·0N. 139°·5E. (as on 1926 May 22d.). R.3.

A = −·630, B = +·538, C = +·559; D = +·649, E = +·760; G = −·425, H = +·363, K = −·829.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Tyosi	2·1	33	0 27	− 3	(0 47)	− 7	0·7	—
Nagoya	2·4	299	0 33	− 1	0 56	− 6	—	1·0
Osaka	3·4	278	0 48	− 1	—	—	1·6	2·1
Kobe	3·7	282	e 0 52	− 1	1 32	− 3	1·7	1·9
Sumoto	3·8	276	e 1 15	+21	1 48	+11	—	2·0
Toyooka	4·1	291	1 4	+ 6	(1 52)	+ 7	1·9	2·0

Kobe gives also iN = +57s., iE = +1m.3s. Long waves were also recorded at Kotl.

Mar. 8d. Readings also at 3h. (St. Louis), 4h. (near Taihoku), 9h. (Naples), 10h. (Baku, Ekaterinburg, Andijan, Samarkand, Tashkent, Batavia, near Amboina, and near Manila), 11h. (near Nagoya), 12h. (De Bilt, Stuttgart, Granada (2), Zagreb, Florence, and near Neuchatel), 13h. (2) and 16h. (near Nagoya), 17h. (Taihoku and near Amboina).

Mar. 9d. 8h. 52m. 26s. Epicentre 3°·5S. 72°·0E. N.3.

A = +·308, B = +·949, C = −·061; D = +·951, E = −·309;
G = −·019, H = −·058, K = −·998.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Colombo		13·0	37	3 26	+24	—	—	7·2	8·1
Hyderabad		21·9	17	4 51	+ 1	9 12	+28	11·4	17·6
Bombay		22·4	2	5 3	+ 8	9 27	+34	12·7	15·1
Tananarive		28·5	235	e 5 50	− 2	e 10 34	− 6	—	12·3
Agra	E.	31·2	10	e 4 46	−90	e 10 51	−32	—	—
	N.	31·2	10	e 6 6	−10	e 10 24	−59	—	—
Samarkand		43·4	355	e 7 50	−10	—	—	—	—
Andijan		44·3	0	e 8 18	+11	—	—	—	—
Tashkent		44·8	357	e 8 12	+ 1	i 14 52	+ 5	e 21·0	26·3
Almata		47·0	5	e 8 43	+14	—	—	—	—
Baku		48·3	339	e 8 37	− 1	e 15 32	− 5	24·1	31·6
Ekaterinburg		61·0	354	i 10 12	+ 1	e 18 28	− 1	27·6	—
Koti		68·7	51	—	—	e 13 10	PP	—	—
Vladivostok		71·1	42	—	—	(e 20 34)	0	e 20·6	—
Pulkovo		71·2	340	e 11 20	+ 2	—	—	40·6	—

Additional readings: Tananarive eN = +10m.8s., eEN = +11m.29s. Long waves were also recorded at Kodaikanal, Hong Kong, De Bilt, Granada, and La Paz.

Mar. 9d. 9h. 41m. 0s. Epicentre 40°·0N. 142°·5E. (as on 1929 Aug. 1d.). R.3.

A = −·608, B = +·466, C = +·643; D = +·609, E = +·793;
G = −·510, H = +·391, K = −·766.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Mizusawa	E.	1·4	231	0 21	+ 1	0 43	+ 7	—	—
	N.	1·4	231	0 24	+ 4	0 40	+ 4	—	—
Tyosi		4·5	197	e 0 51	−13	e 1 33	−22	e 1·9	—
Nagoya		6·6	224	1 32	− 2	3 1	+13	—	—
Osaka		7·8	229	1 43	− 8	(3 29)	+10	3·5	5·1
Kobe		7·9	230	—	—	e 3 24	+ 3	e 4·3	—
Sumoto		8·3	229	e 3 35	S	(e 3 35)	+ 4	(e 4·1)	4·8
Vladivostok		8·5	296	e 2 0	0	—	—	e 4·8	—
Ekaterinburg		53·3	319	e 9 19	+ 3	e 16 44	− 2	27·0	35·2

Sumoto gives S as P and L as S. Long waves were also recorded at Hong Kong, Kucino, Tashkent, Baku, and several European stations.

Mar. 9d. 10h. 54m. 34s. Epicentre 35°·0N. 139°·5E. (as on 1930 Feb. 28d.). X.

A = −·623, B = +·532, C = +·574; D = +·649, E = +·760;
G = −·436, H = +·372, K = −·819.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tyosi		1·3	56	0 6	−12	(0 28)	− 5	0·5	0·6
Nagoya		2·1	274	e 0 30	0	0 52	− 2	—	0·9
Osaka		3·4	266	0 46	− 3	(1 30)	+ 3	1·5	2·1
Kobe		3·6	266	0 51	0	1 29	− 3	1·7	1·8
Sumoto		3·8	261	e 0 57	+ 3	e 1 44	+ 7	—	2·0
Toyooka		3·8	279	1 1	+ 7	—	—	1·8	1·9
Mizusawa	E.	4·3	17	1 3	+ 2	2 12	+22	—	—
	N.	4·3	17	1 2	+ 1	2 16	+26	—	—
Koti		5·2	255	—	—	e 2 17	+ 4	3·0	—

Tyosi gives also P = +13s. Long waves were also recorded at the Russian stations.

Mar. 9d. Readings also at 0h. (Nagoya), 2h. (Taihoku), 5h. (near La Paz), 8h. (Nagoya, Theodosia, Simferopol, and near Yalta), 9h. (Nagoya (2) and near Tyosi), 10h. (Nagoya and near Tyosi), 11h. (Ekaterinburg, Tashkent, Nagoya, near Tyosi, and near Mizusawa), 12h. (Tashkent, Almata, Andijan, near Samarkand, near Mizusawa, and near Rocca di Papa), 14h. (Tananarive and La Paz (2)), 18h. (Andijan and near Samarkand), 19h. (Mizusawa and near Tyosi), 20h. (Nagoya, Kobe, Osaka, and Sumoto), 21h. and 22h. (Nagoya), 23h. (near Mizusawa).

March 10d. 16h. 27m. 30s. Epicentre 50°·0N. 149°·0E. R1.

(as on 1928 May 8d.).

A = −·551, B = +·331, C = +·766; D = +·515, E = +·857; G = −·657, H = +·395, K = −·643.

A depth of focus 0·090 has been assumed.

		Corr. for Focus	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Sikka		+ 1·7	3·9	261	1 16	− 4	2 21	− 2	—	2·5
Ootomari		+ 1·0	5·3	233	1 42	+12	—	—	3·0	3·3
Mizusawa		− 1·7	12·2	210	2 39	+11	4 50	+24	—	—
Vladivostok		− 2·1	13·6	246	2 47	+ 5	5 1	+11	5·9	7·0
Tyosi		− 2·6	15·4	206	3 30	+31	(5 56)	+34	5·9	—
Nagoya		− 3·0	17·2	215	e 1 28	−110	5 12	−44	—	5·3
Toyooka		− 3·1	17·7	221	3 34	+11	(6 19)	+14	6·3	6·4
Osaka		− 3·3	18·2	218	3 35	+ 8	(6 31)	+18	6·5	8·0
Kobe		− 3·3	18·4	219	i 3 36	+ 6	i 6 30	+13	—	6·6
Sumoto		− 3·4	18·8	219	3 40	+ 6	6 31	+ 7	—	6·6
Koti		− 3·6	20·0	221	e 3 51	+ 5	6 55	+ 7	8·2	—
Matuyama		− 3·6	20·1	223	e 3 47	− 1	i 3 50	PP	i 4·0	4·0
Hukuoka		− 3·8	21·4	227	4 5	+ 3	7 19	+ 4	—	—
Nagasaki		− 4·0	22·3	226	4 13	+ 3	7 30	− 1	—	—
Irkutsk		− 5·0	27·7	292	i 4 57	− 1	i 8 54	− 5	11·5	—
Zi-ka-wei	Z.	− 5·1	27·9	238	i 5 0	+ 1	9 0	− 1	15·3	17·0
Taihoku	E.	− 5·8	32·8	232	—	—	e 9 41	−34	13·5	—
Hong Kong		− 6·4	38·8	237	6 30	+ 4	11 39	− 2	14·9	15·3
Manila		− 6·9	42·1	223	i 7 1	+10	i 12 31?	+ 7	i 17·1	—
Sitka	E.	− 7·1	43·1	50	—	—	e 16 24	?	—	—
Phu-Lien		− 7·3	44·3	244	7 0	− 6	13 0	+ 9	—	—
Almata		− 7·9	48·0	291	7 44	+11	e 13 56	+18	—	—
Ekaterinburg		− 8·1	49·4	315	i 7 54	+11	i 14 12	+16	23·5	30·5
Andijan		− 8·3	52·2	290	e 8 15	+11	14 52	+18	—	—
Tashkent		− 8·5	53·7	295	i 8 24	+10	i 15 9	+15	31·3	—
Victoria		− 8·5	53·8	56	8 42	+27	—	—	—	—
Calcutta		− 8·5	54·2	265	e 8 12	− 6	15 7	+ 7	—	—
Samarkand		− 8·7	56·0	295	i 8 41	+10	—	—	—	—
Agra	E.	− 8·8	57·6	276	e 7 32	−71	—	—	—	—
Scoresby Sund		− 8·9	59·4	356	9 8	+13	16 31	+23	—	—
Pulkovo		− 8·9	59·6	330	i 9 6	+ 9	i 16 26	+15	20·5	—
Kucino		− 8·9	59·8	323	9 7	+ 9	i 16 29	+16	e 22·5	23·6
Helsingfors		− 9·0	61·0	332	i 9 7	+ 1	i 16 41	+13	e 20·8	—
Lick		− 9·0	62·0	65	(e 9 8)	− 6	(e 17 13)	+31	(e 26·2)	—
Medan		− 9·1	62·8	240	(e 9 42)	+23	(i 17 18)	+26	—	—
Upsala		− 9·2	64·3	336	e 9 27	− 2	i 17 12	+ 1	—	—
Hyderabad		− 9·2	64·3	270	9 37	+ 8	17 21	+10	25·0	34·3
Baku		− 9·2	65·3	304	i 9 44	+ 7	i 17 39	+15	e 31·5	54·8
Bergen		− 9·2	65·8	341	—	—	i 17 43	+12	—	—
Bombay		− 9·3	66·8	274	· 9 46	− 1	17 41	− 2	29·6	31·8
Batavia		− 9·3	67·0	227	i 8 46	−62	i 17 47	+ 1	—	—
Ivigtut		− 9·3	67·9	9	—	—	18 13	+16	—	—
Lund		− 9·3	68·1	336	—	—	i 18 9	+ 9	—	—
Copenhagen		− 9·3	68·3	336	10 1	+ 4	18 11	+ 8	—	—
Theodosia		− 9·4	68·9	317	i 10 5	+ 4	18 18	+ 9	—	—

Continued on next page.

		Corr. for Focus	Δ	Az.	P.	O–C.	S.	O–C.	L.	M.
		°	°	°	m. s.	s.	m. s.	s.	m.	m.
Yalta		− 9·4	69·8	317	10 10	+ 3	18 28	+ 7	—	—
Kodaikanal		− 9·4	70·4	265	e 7 54	?	—	—	—	—
Hamburg		− 9·4	70·8	337	e 10 18	+ 4	i 18 43	+ 9	—	—
Colombo		− 9·5	71·4	260	10 50	+32	19 20	+39	33·3	35·5
Edinburgh		− 9·5	71·6	345	—	—	i 18 50	+ 7	—	—
Gottingen		− 9·6	72·7	333	—	—	i 19 2	+ 6	—	—
Cheb		− 9·6	73·3	332	e 19 6	S	(e 19 6)	+ 2	e 41·5	42·5
De Bilt		− 9·6	73·4	338	e 12 43	PP	19 10	+ 5	e 39·5	42·2
Budapest		− 9·6	73·4	328	10 32	+ 1	19 3	− 2	e 30·0	—
Vienna		− 9·6	73·6	330	(10 33)	+ 1	i 19 12	+ 5	—	—
Uccle		− 9·7	74·8	339	e 10 35	− 4	19 23	+ 2	e 38·5	—
Kew		− 9·7	75·2	341	e 13 0	PP	i 19 30	+ 4	35·5	—
Oxford		− 9·7	75·2	342	13 18	PP	i 19 28	+ 2	—	—
Stuttgart		− 9·7	75·4	335	e 10 41	− 2	i 19 31	+ 2	e 30·8	—
Zagreb		− 9·7	75·8	329	e 10 45	− 1	e 19 34	0	—	—
Innsbruck		− 9·7	76·0	332	e 10 42	− 5	19 36	0	—	—
Strasbourg		− 9·7	76·0	335	e 10 45	− 2	i 19 37	+ 1	25·5	—
Zurich		− 9·8	76·8	334	e 10 50	− 2	e 19 47	+ 2	—	—
Ottawa		− 9·8	77·0	30	—	—	i 19 53	+ 6	39·5	—
Neuchatel		− 9·8	77·1	335	e 10 54	0	e 19 53	+ 5	—	—
Paris		− 9·8	77·1	339	e 11 54	+60	i 19 49	+ 1	40·5	41·5
St. Louis	N.	− 9·8	77·2	44	e 10 55	+ 1	e 19 56	+ 6	—	—
Toronto	E.	− 9·8	77·3	35	—	—	e 19 55	+ 4	e 31·7	—
Ksara		− 9·9	77·5	310	10 54	− 2	19 52	0	28·8	—
Florence		−10·0	79·2	330	10 59	− 7	i 18 20	?	29·0	40·0
Rocca di Papa		−10·0	80·6	329	i 11 10	− 4	i 20 22	− 6	—	—
Georgetown		−10·2	82·2	35	i 11 21	− 2	i 20 47	+ 2	e 38·0	47·0
Riverview		−10·3	83·9	178	—	—	e 20 53	−11	e 25·1	—
Barcelona		−10·3	84·1	336	—	—	21 4	− 2	e 27·4	—
Tortosa	E.	−10·4	85·1	337	—	—	i 21 10	− 7	—	—
Toledo		−10·5	87·1	340	e 11 39	−10	i 21 30	− 8	e 35·3	—
Alicante		−10·6	87·6	337	e 12 9	+17	e 21 37	− 6	e 35·2	—
Melbourne		−10·6	87·8	183	—	—	i 21 41	− 4	34·2	—
Algiers		−10·6	88·2	334	e 11 42	−13	21 38	−11	34·5	35·2
Almeria		−10·7	89·5	338	e 11 47	−14	21 47	−16	33·5	34·8
Granada		−10·7	89·5	339	—	—	21 57	− 6	—	37·3
Malaga		−10·7	90·2	339	e 12 19	+14	e 21 39	−31	28·5	—
San Fernando		−10·7	90·9	340	—	—	22 0	−18	32·5	35·5
Tananarive		−	111·7	266	—	—	e 24 11	[−70]	—	41·5
La Paz		−	135·1	54	18 17	[−58]	i 26 18	[−15]	36·3	40·3

Additional readings and notes: Kobe i = +3m.38s. Hong Kong i = +8m.19s. Manila PP = +8m.10s., iN = +13m.47s., SSSS = +15m.44s.; T_0 = 16h.27m.20s. Helsingfors i = +17m.57s. Lick eEN = (+18m.18s.) readings having been *increased by* 10m. Medan i = (+10m.6s.), (+18m.30s.), and (+19m.24s.) = PS + 24s., readings having been *increased* by 5m. Upsala iPS = +18m.16s. Lund +12m.9s. and +18m.56s. Copenhagen +12m.9s. and +18m.58s. Hamburg iPPZ = +12m.28s. Cheb eS = +26m.11s. Budapest i = +12m.43s. = PP − 1s., and +19m.10s. Vienna PP = +12m.46s., PPP = +14m.18s., P is given as P_0P? Stuttgart eN = +12m.48s. = PP − 2s., iZ = +12m.53s., eZ = +13m.40s., and +23m.15s. = SS + 22s., iN = +24m.0s., and +24m.42s., eN = +27m.50s. Zagreb ePP = +12m.57s., ePS = +19m.59s. Innsbruck PP? = +12m.48s. Strasbourg i = +12m.57s. = PP − 9s. Zurich ePP = +13m.3s. Ottawa e = +23m.33s. = SS − 27s., and +31m.36s. St. Louis iN = +14m.3s., eN = +20m.10s. Toronto iE = +23m.38s. = SS − 26s. Florence i = +23m.44s. and +25m.49s. Georgetown PP? = +14m.40s. Riverview e = +21m.12s. and +24m.6s. Melbourne i = +25m.40s. Tananarive +26m.40s., +27m.59s., and +29m.41s.

March 10d. 20h. 17m. 40s. Epicentre 18°·5S. 168°·5E. (as on 1927 April 12d.). X.

$A = -\cdot 929$, $B = +\cdot 189$, $C = -\cdot 317$; $D = +\cdot 199$, $E = +\cdot 980$; $G = +\cdot 311$, $H = -\cdot 063$, $K = -\cdot 948$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Riverview	21·8	222	i 4 49	0	i 8 41	− 1	—	—
Wellington	23·4	168	e 6 20?	+75	—	—	—	8·3
Melbourne	28·2	221	e 5 48	− 1	(11 55)	SS	11·9	—
Adelaide	31·2	233	e 7 38	PP	—	—	13·8	14·8
Perth	49·0	243	15 45	S	(15 45)	− 2	24·3	—
Irkutsk	89·8	326	—	—	(e 21 20?)	?	e 21·3	—
Tashkent	108·9	308	—	—	e 26 44	?	—	35·0
Ekaterinburg	115·1	325	—	—	e 28 56	PS	54·3	—
Baku	123·5	307	—	—	(e 32 50)	?	e 32·8	—
Zurich	146·8	334	e 19 49	[+12]	—	—	—	—
Neuchatel	147·8	336	e 19 50	[+11]	—	—	—	—

Additional readings: Riverview SS? = +9m.31s. Perth S = +20m.20s. Ekaterinburg e = +37m.11s.

March 10d. Readings also at 3h. (Riverview and near Tyosi), 4h. (Riverview), 5h. (La Paz, Riverview, near Almeria, and near Nagoya), 8h. (Wellington and near Tacubaya), 9h. (near La Paz), 10h. (Florissant, Andijan, Ekaterinburg, and Irkutsk), 12h. (near Tyosi), 13h. (Nagoya, Florence, and Rocca di Papa), 14h. (Baku, Ekaterinburg, Tashkent, Irkutsk, Kucino, Pulkovo, Lund, Copenhagen, Kew, Stuttgart, Uccle, De Bilt, Strasbourg, Gottingen, Cheb, Paris, Toledo, Granada, Almeria, Alicante, San Fernando, Algiers, Malaga, Ottawa, Florissant, Georgetown, La Paz, Medan, near Batavia, Malabar, and near Apia), 15h. (Ottawa, St. Louis, Florissant, Tucson, Tyosi, near Nagoya, and near Chihuahua), 16h. (Neuchatel and Rio de Janeiro), 17h. (Nagoya), 22h. (near Manila), 23h. (near Taihoku).

March 11d. 16h. 40m. 12s. Epicentre 39°·2N. 141°·3E. N.3.
(given in Geophys. Mag. of Tokyo, Vol. IV, No. 4.).

$A = -\cdot 605$, $B = +\cdot 485$, $C = +\cdot 632$; $D = +\cdot 625$, $E = +\cdot 780$: $G = -\cdot 493$, $H = +\cdot 395$, $K = -\cdot 775$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.
		°	°	m. s.	s.	m. s.	s.	m.
Mizusawa	E.	0·2	245	0 6	+ 3	0 16	+11	—
	N.	0·2	245	0 8	+ 5	0 19	+14	—
Tyosi		3·5	186	0 43	− 7	(1 20)	−10	1·3
Nagoya		5·3	223	e 1 19	+ 4	—	—	—
Osaka		6·4	227	e 2 3	+32	(e 3 52)	+69	e 3·9
Vladivostok		8·0	302	1 47	− 6	i 3 17	− 7	—

Tyosi gives also PN = +59s., PE = +1m.0s.

March 11d. Readings also at 1h. (De Bilt, Uccle, and La Paz), 4h. (Sumoto and near Manila), 6h. (near Lick), 7h. (Andijan), 10h. (near Sumoto), 11h. (Wellington), 13h. (La Paz, Nagoya, and near Mizusawa), 14h. (Nagoya and near Tacubaya), 17h. (Alicante), 19h. (Ekaterinburg, Tashkent, Andijan, Samarkand, Wellington, and Manila), 22h. (Almeria and Wellington), 23h. (Nagoya, near Tyosi, near Kobe, and Sumoto).

March 12d. 3h. 46m. 26s. Epicentre 35°·0N. 139°·5E. (as on March 9d.). X.

$A = -\cdot 623$, $B = +\cdot 532$, $C = +\cdot 574$.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Tyosi	1·3	56	0 24	+ 6	0 41	+ 8	—	—
Nagoya	2·1	274	e 0 29	− 1	0 54	0	—	—
Osaka	3·4	266	0 49	0	(1 31)	+ 4	1·5	2·0
Kobe	3·6	266	e 0 46	− 5	—	—	e 1·7	—

Additional readings: Tyosi P = +31s., S = +59s. Kobe e = +56s.

March 12d. 5h. 29m. 57s. Epicentre 18°·5S. 168°·5E. (as on 10d.). X.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Riverview	21·8	222	e 4 45	− 4	e 8 39	− 3	e 11·6	17·2
Christchurch	25·3	173	e 5 28	+ 5	i 9 22	−24	—	12·8
Melbourne	28·2	221	—	—	e 9 53	−42	11·0	12·4
Adelaide	31·2	233	e 6 17?	+ 1	e 11 5	−18	12·8	15·7
Perth	49·0	243	17 53	?	—	—	—	—

Additional readings: Riverview eN = +6m.27s. and +7m.21s. Long waves were also recorded at Wellington.

March 12d. 19h. 29m. 30s. Epicentre 35°·0N. 139°·5E. (as at 3h.). X.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Tyosi	1·3	56	−0 7	−25	0 29	− 4	—	1·1
Nagoya	2·1	274	i 0 31	+ 1	0 53	− 1	—	1·5
Osaka	3·4	266	0 48	− 1	(1 34)	+ 7	1·6	2·0
Kobe	3·6	266	e 0 43	− 8	—	—	—	—
Sumoto	3·8	261	e 1 46	+52	—	—	—	—
Toyooka	3·8	279	1 4	+10	1 50	+13	e 2·3	—
Mizusawa	4·3	17	1 6	+ 5	2 24	+34	—	—

Additional readings: Tyosi P = −2s., SZ = +24s., and +40s., SEN = +44s. Long waves were also recorded at Ekaterinburg and Vladivostok.

March 12d. Readings also at 1h. (near Malabar), 2h. (near Tacubaya), 3h. (Apia, Ekaterinburg, Irkutsk, Tashkent, and near Manila), 4h. (near Merida), 5h. (Apia, Tucson, near Tananarive, and near Santiago), 7h. (La Paz and near Almeria), 8h. (near Mizusawa), 11h. (Baku, Ekaterinburg, Almata, Andijan, Samarkand, Kucino, Hyderabad, and Calcutta), 12h. (Nagoya (4) and near Tyosi (2)), 13h. (Nagoya and Manila), 14h. (Nagoya and Tyosi), 15h. (Agra, Bombay, Dehra Dun, Hyderabad, Kucino, Almata, Samarkand, Tashkent, Andijan, Baku, Irkutsk, Ekaterinburg, Calcutta, and near Mizusawa), 16h. (La Paz), 18h. (Nagoya, Samarkand, and near Tyosi and Mizusawa), 19h. (Riverview and Wellington), 20h. (near Tyosi), 21h. (Nagoya), 23h. (Baku, Kucino, Ekaterinburg, Irkutsk, Andijan, Samarkand, Tashkent, Hyderabad, Bombay, and near Calcutta).

March 13d. 8h. 38m. 12s. Epicentre 46°·5N. 102°·0E. N.3.

A = −·143, B = +·673, C = +·725; D = +·978, E = +·208; G = −·151, H = +·710, K = −·688.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Irkutsk	6·0	14	1 24	− 1′	—	—	i 1·8	2·7
Almata	17·9	269	e 7 29	S	(e 7 29)	+ 7	—	—
Andijan	22·0	266	e 4 56	+ 5	—	—	—	—
Tashkent	24·0	269	5 15	+ 5	1 9 29	+ 6	e 11·7	13·1
Samarkand	26·2	268	e 5 35	+ 4	—	—	—	—
Ekaterinburg	27·1	307	5 32	+ 7	e 10 6	−11	12·8	15·0

Long waves were also recorded at Hong Kong, Baku, Vladivostok, and De Bilt.

March 13d. Readings also at 0h. (Tashkent, near Mizusawa, and Tyosi), 1h. (Baku, Ekaterinburg, Bombay, and near Batavia), 4h. (near Tacubaya), 7h. (near La Paz), 8h. (Ottawa, La Paz, La Plata, and near Victoria), 9h. (Rio de Janeiro), 10h. (Phu-Lien, Medan, near Batavia, Malabar, and near Tacubaya), 11h. (Hong Kong), 14h. (Baku, Ekaterinburg, Irkutsk, Tashkent, Bombay, Phu-Lien, Hong Kong, Medan, and Calcutta), 16h. (near Tyosi), 18h. (La Paz), 20h. (Baku, Tashkent, and Ksara), 21h. (Apia), 23h. (Lick and near Dehra Dun).

March 14d. 5h. 19m. 24s. Epicentre 34°·0N. 140°·0E. (as on Mar. 3d.). R.3.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Tyosi	1·9	22	0 27	− 1	(e 0 49)	0	e 0·8	—
Nagoya	2·8	292	0 32	− 8	0 56	−16	—	1·0
Osaka	3·8	281	0 55	+ 1	(1 37)	0	1·6	2·1
Kobe	4·1	281	e 1 10	+12	e 1 45	0	—	1·8
Sumoto	4·2	276	e 1 40	S	(e 1 40)	− 8	(e 3·1)	—
Toyooka	4·5	291	1 7	+ 3	(1 54)	− 1	1·9	2·0

Additional readings and note: Tyosi P = +33s. Sumoto gives S as P and L as S. Toyooka PN = +1m.10s.

Mar. 14d. Readings also at 1h. (Kobe), 2h. (near Batavia), 3h. (Fordham and Wellington), 4h. (near Manila), 5h. (near Tyosi), 6h. (Ekaterinburg, Tashkent, Irkutsk (2), Nagoya, Tyosi (2), and near Mizusawa (2)), 7h. (Christchurch, Wellington, La Paz, Tashkent, and Ekaterinburg (2)), 8h. (Nagoya, and near Tyosi), 10h. (Fordham, near Almata, Andijan, and near Ekaterinburg), 12h. (near Nagoya and Tyosi), 13h. (Nagoya and Tyosi), 15h. (Wellington), 16h. (near Tananarive), 18h. (Almata, Bombay, and near Amboina).

Mar. 15d. 3h. 56m. 38s. Epicentre 2°·0N. 126°·0E. (as on 1926 Jan. 6d.). R.3.

A = −·587, B = +·809, C = +·035; D = +·809, E = +·588; G = −·021, H = +·028, K = −·999.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina	6·1	159	2 49	S	(2 49)	+13	(i 3·0)	—
Manila	13·5	339	i 3 12	+ 3	i 5 48	+ 9	7·1	8·5
Hong Kong	23·3	331	5 2	− 2	9 17	+ 7	—	10·3
Irkutsk	53·4	344	9 16	− 1	e 16 40	− 7	e 26·4	30·8
Tashkent	64·2	317	—	—	i 19 9	− 1	—	27·2
Samarkand	65·2	315	e 10 40	0	—	—	—	—
Ekaterinburg	75·1	329	i 11 38	− 3	21 10	−11	32·4	46·6
Baku	78·1	311	—	—	e 21 58	+ 3	39·4	51·4
Pulkovo	91·1	330	—	—	i 23 59	− 7	47·4	—

Additional reading and note: Amboina i = +3m.14s.; S is given as P and L as S. Long waves were also recorded at Copenhagen, De Bilt, and Uccle.

Mar. 15d. 6h. 55m. 0s. Epicentre 8°·0S. 105°·0E. (as on 1928 Sept. 3d.). R.3.

A = −·256, B = +·956, C = −·139; D = +·966, E = +·259; G = +·036, H = −·134, K = −·990.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Batavia		2·6	45	i 0 41	+ 4	i 1 16	+ 9	i 1·8	—
Malabar		2·7	73	i 0 34	− 5	i 1 2	− 7	—	—
Medan		13·2	331	—	—	e 5 24	− 8	—	—
Manila		27·6	35	e 5 37	− 7	i 11 25	+60	16·4	19·6
Phu-Lien		28·8	3	7 0?	+66	—	—	—	—
Colombo		29·2	299	—	—	—	—	13·8	18·6
Hong Kong		31·6	16	6 6	−13	—	—	e 14·2	23·4
Adelaide		40·9	137	—	—	i 14 50	+60	19·5	22·1
Bombay		41·6	311	7 2	−43	14 9	+ 9	23·7	27·1
Agra	N.	43·8	325	e 6 38	?	—	—	—	—
Melbourne		46·7	138	—	—	i 15 8	− 6	25·1	26·5
Riverview		49·7	128	—	—	e 13 22	?	e 25·6	28·6
Andijan		57·2	331	e 10 1	+16	—	—	—	—
Samarkand		59·2	327	e 10 2	+ 3	—	—	—	—
Tashkent		59·2	330	i 9 11	−48	e 18 0?	− 5	e 30·0	41·9
Irkutsk.		60·3	359	e 10 7	0	18 28	+ 8	35·0	40·1
Baku		70·0	320	—	—	e 20 21	0	—	—
Ekaterinburg		74·2	337	i 11 36	0	i 21 14	+ 3	37·0	45·6
Kucino		84·1	330	—	—	e 23 1	+ 2	—	—
Pulkovo		89·3	332	e 13 1	+ 7	e 23 46	− 3	50·0	—

Additional readings: Medan i = +13m.6s. Colombo P = 6h.50m.35s. Riverview e = +20m.7s. Tashkent e = +17m.6s. Long waves were also recorded at Kodaikanal, Hyderabad, Copenhagen, De Bilt, and Uccle.

Mar. 15d. 9h. 13m. 30s. Epicentre 78°·5N. 2°·5W. N.3.

A = +·199, B = −·009, C = +·980 ; D = −·044, E = −·999 ;
G = +·979, H = −·043, K = −·199.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Scoresby Sund	9·5	223	2 49	+35	—	—	4·5	—
Pulkovo	21·4	132	4 42	− 2	8 37	+ 3	12·5	—
Copenhagen	23·4	159	—	—	9 12	0	13·5	—
Kucino	26·5	125	e 5 38	+ 4	—	—	—	—
Ekaterinburg	29·6	99	e 5 57	− 4	e 10 56	− 2	13·5	—
Irkutsk	42·3	60	e 7 50	− 1	e 13 57	−14	22·0	—
Tashkent	46·1	98	e 7 48	−33	—	—	e 22·5	34·4
Samarkand	47·3	101	e 8 31	0	—	—	—	—

Long waves were also recorded at Baku.

Mar. 15d. 9h. 33m. 45s. Epicentre 34°·0N. 140°·0E. (as on 14d.). R.3.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tyosi		1·9	22	0 27	− 2	(0 43)	− 6	0·7	0·9
Nagoya		2·8	292	0 33	− 7	0 56	−16	—	1·4
Osaka		3·8	281	0 51	− 3	(1 36)	− 1	1·6	2·1
Kobe		4·1	281	e 1 2	+ 4	e 1 33	−12	1·7	1·8
Sumoto		4·2	276	e 1 7	+ 7	e 1 49	+ 1	—	2·0
Toyooka		4·5	291	1 6	+ 2	(1 54)	− 1	1·9	2·0
Mizusawa	E.	5·2	10	1 15	+ 1	2 15	+ 2	—	—

No additional readings.

Mar. 15d. Readings also at 0h. (La Paz), 1h. (Ekaterinburg, Tashkent, Hong Kong, and near Manila), 4h. (near Mizusawa), 6h. (Ottawa, Rocca di Papa, and near Sitka), 9h. (Mizusawa), 14h. (Gottingen), 15h. (Taihoku), 16h. (Nagoya and Tyosi), 21h. (near Santiago), 22h. (Bombay), 23h. (near Reykjavik).

Mar. 16d. 4h. 59m. 40s. Epicentre 19°·5N. 120°·0E. (as on 1929 Mar. 20d.). R.3.

A = −·471, B = +·816, C = +·334 ; D = +·866, E = +·500 ;
G = −·167, H = +·289, K = −·943.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Manila	N.	5·0	169	e 1 6	− 5	i 2 6	− 2	—	—
Taihoku	Z.	5·7	14	1 19	− 2	(2 23)	− 2	2·4	—
Hong Kong		6·1	299	1 29	+ 2	—	—	i 3·2	4·4
Zi-ka-wei	Z.	11·8	6	e 3 11	+25	—	—	—	6·8
Phu-Lien		12·6	278	1 20?	−96	—	—	—	8·9
Sumoto		19·8	39	(4 21)	− 6	4 21	P	—	—
Kobe		20·2	38	4 25	− 7	e 5 43	?	—	—
Nagoya		21·7	40	e 4 43	− 5	—	—	—	—
Calcutta	E.	29·6	282	5 33	−28	—	—	19·0	—
	N.	29·6	282	5 20	−41	—	—	18·8	—
Irkutsk		35·0	345	e 6 49	0	e 12 12	− 9	18·3	22·6
Andijan		45·6	309	e 8 18	0	—	—	—	—
Tashkent		48·0	310	i 8 40	+ 4	i 15 47	+14	—	31·6
Samarkand		49·5	308	e 8 52	+ 5	—	—	—	—
Ekaterinburg		57·1	326	—	—	e 26 12	?	28·3	31·8
Pulkovo		73·1	330	11 27	− 2	—	—	39·3	46·6

Long waves were also recorded at Scoresby Sund, Bombay, Hyderabad, and many European stations.

Mar. 16d. Readings also at 1h. (Ksara), 2h. (Nagoya, Hong Kong, and Zi-ka-wei), 3h. (near Manila), 6h. (Irkutsk), 8h. (near Tyosi), 10h. (Andijan, Samarkand, and Melbourne), 11h. (near Tyosi), 12h. (Wellington), 15h. (Tyosi), 16h. (Tyosi, Bombay, Phu-Lien, and Nagoya), 17h. (near Nagoya and Tyosi), 20h. (near Manila), 21h. (Sumoto), 22h. (Samarkand).

Mar. 17d. Readings at 0h. (Samarkand), 4h. (Ekaterinburg, Irkutsk, near Puebla, Vera Cruz, and near Victoria), 5h. (near Sumoto), 6h. (Andijan and Samarkand), 7h. (near Almata and near Tacubaya), 9h. (Wellington), 10h. (Almata, Samarkand, Andijan, near Sumoto, Tyosi (2), Kobe (2), and Osaka), 11h. (Apia), 12h. (Apia, Irkutsk, Tashkent, and near Manila), 14h. (near Algiers), 17h. (near Nagoya (2) and Tyosi (2)), 23h. (Irkutsk and Tashkent).

Mar. 18d. Readings at 0h. (Wellington), 1h. (Adelaide and Riverview), 3h. (Copiapo), 4h. (Tashkent and near Samarkand), 5h. (Apia, Bombay, and Ekaterinburg), 6h. (Bombay, Ekaterinburg, Irkutsk, and Tashkent), 7h. (near Malabar), 8h. (near Amboina), 16h. (Wellington), 23h. (Tyosi).

Mar. 19d. 1h. 16m. 38s. Epicentre 34°·0N. 140°·0E. (as on 15d.). R.3.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tyosi		1·9	22	e 0 29	+ 1	(e 0 49)	0	e 0·8	—
Nagoya		2·8	292	i 0 35	− 5	0 59	−13	—	1·5
Osaka		3·8	281	0 56	+ 2	1 42	+ 5	1·7	2·1
Kobe		4·1	281	e 0 58	0	1 33	−12	1·7	1·9
Sumoto		4·2	276	e 1 16	+16	1 48	0	—	2·0
Mizusawa	E.	5·2	10	0 58	−16	2 10	− 3	—	—

No additional readings.

Mar. 19d. Readings also at 2h. (La Paz, La Plata, and Copiapo), 3h. (near Manila), 4h. (near Sumoto and Kobe), 6h. (Perth), 7h. (Simferopol and near Sebastopol), 15h. (Osaka, Sumoto, Matuyama, near Hukuoka, and Nagasaki), 17h. (near Manila), 18h. (near Samarkand and Andijan, and Tashkent), 20h. (Samarkand and Taihoku).

Mar. 20d. Readings at 0h. (La Paz), 4h. (near Kobe and Sumoto), 5h. (near Sumoto), 12h. (Theodosia, Irkutsk, Zi-ka-wei, Adelaide, Melbourne, Riverview, Sydney, Wellington, and near Apia), 13h. (La Paz, Rio de Janeiro, Victoria, Ottawa, Florissant, Fordham, Tananarive, Baku, Ekaterinburg, Tashkent, Kew, and Granada), 14h. (De Bilt, Paris, Copenhagen, and San Fernando), 17h. (Andijan and near La Paz), 18h. (La Paz), 22h. (Florissant and St. Louis), 23h. (Sumoto, near Osaka, Nagoya, and Tyosi).

Mar. 21d. 14h. 24m. 5s. Epicentre 34°·0N. 140°·0E. (as on 19d.). R.2.

A = −·635, B = +·533, C = +·559; D = +·643, E = +·766;
G = −·428, H = +·359, K = −·829.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tyosi		1·9	22	0 29	+ 1	(0 49)	0	0·8	1·0
Nagoya		2·8	292	i 0 33	− 7	1 0	−12	—	1·3
Osaka		3·8	281	0 55	+ 1	(1 40)	+ 3	1·7	2·6
Kobe		4·1	281	e 0 58	0	1 33	−12	1·8	2·0
Sumoto		4·2	276	1 10	+10	1 49	+ 1	—	2·0
Toyooka		4·5	291	e 1 2	− 2	(e 1 52)	− 3	e 1·9	1·9
Mizusawa	E.	5·2	10	1 7	− 7	2 15	+ 2	—	—
	N.	5·2	10	1 13	− 1	2 13	0	—	—
Vladivostok		11·0	328	—	—	(e 5 13)	+35	e 5·2	—

Additional readings: Kobe eN = +1m.0s. and +1m.4s., eE = +1m.8s. Toyooka iPE = +1m.5s.

Mar. 21d. Readings also at 0h. (Strasbourg), 10h. (near Manila), 11h. (near La Paz), 13h. (Nagoya), 14h. (Ekaterinburg and Tananarive), 15h. (Port au Prince), 16h. (Zi-ka-wei, near Malabar, Batavia, and near Manila), 17h. (Apia), 18h. (Ksara, Sebastopol, Theodosia, Yalta, and Zi-ka-wei), 19h. (Ksara, Baku, Tashkent, and Samarkand), 22h. (near Rocca di Papa).

Mar. 22d. 8h. 50m. 30s. Epicentre 34°·0N. 140°·0E. (as on 21d.). R.2.

A = −·635, B = +·533, C = +·559 ; D = +·643, E = +·766 ;
G = −·428, H = +·359, K = −·829.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tyosi		1·9	22	0 32	+ 4	(0 53)	+ 4	0·9	1·7
Nagoya		2·8	292	i 0 36	− 4	1 0	−12	—	1·1
Osaka		3·8	281	0 52	− 2	(1 40)	+ 3	1·7	2·1
Kobe		4·1	281	i 0 56	− 2	i 1 34	−11	i 1·8	2·2
Sumoto		4·2	276	1 2	+ 2	1 40	− 8	1·8	2·2
Toyooka		4·5	291	e 1 1	− 3	1 45	−10	1·9	2·1
Mizusawa		5·2	10	1 16	+ 2	2 20	+ 7	—	—
Koti		5·3	267	e 1 15	0	i 2 27	+12	2·9	3·2
Matuyama		6·0	271	e 1 25	0	—	—	i 2·9	2·9
Hukuoka		7·9	270	e 1 59	+ 7	3 54	+33	—	5·4
Zi-ka-wei	E.	15·9	265	—	—	e 6 53	+17	—	—
Taihoku	E.	18·3	246	—	—	e 8 5	+34	—	—
Manila		25·9	226	e 5 23	− 5	e 9 36	−21	—	—
Irkutsk		31·3	317	e 7 7	PP	e 11 15	− 9	14·5	19·7
Phu-Lien		32·3	256	—	—	10 30?	−70	15·5	—
Tashkent		54·9	300	e 9 30	+ 2	i 17 11	+ 3	e 27·5	32·5
Ekaterinburg		56·5	320	9 39	0	i 17 25	− 5	27·5	32·3
Bombay		60·9	275	—	—	e 18 30?	+ 2	—	—
Kucino		68·6	324	—	—	e 20 12	+ 8	e 35·7	37·6
Baku		68·8	305	e 11 6	+ 3	e 29 ?	+ 2	34·9	43·4
La Paz	E.	149·2	62	e 19 56	[+15]	—	—	—	—

Additional readings: Tyosi P = +39s. Mizusawa SE = +2m.26s. Koti ePZ = +1m.20s., eSE = +2m.13s., eN = iE = +2m.41s. Long waves were also recorded at Hong Kong and several European stations.

Mar. 22d. 12h. 5m. 31s. Epicentre 35°·7N. 134°·8E. (as on 1930 Feb. 22d.). R.3.

A = −·572, B = +·576, C = +·584.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Toyooka	0·2	175	0 3	0	—	—	0·1	0·1
Kobe	1·1	163	0 14	− 2	(0 25)	− 3	0·4	0·5
Osaka	1·2	154	e 0 19	+ 2	—	—	0·6	0·6
Sumoto	1·4	177	i 0 22	+ 2	0 37	+ 1	—	0·7
Nagoya	1·8	107	0 26	0	0 48	+ 2	—	—

No additional readings.

March 22d. Readings also at 2h. (La Paz, Andijan, and Samarkand), 3h. (near Kobe), 6h. (near Samarkand), 7h. (Andijan), 8h. (near Kobe (2), Nagoya, Osaka, Toyooka, and Tyosi), 9h. (Andijan), 10h. (Samarkand), 12h. (near Taihoku), 13h. (Samarkand and Rocca di Papa), 15h. (Almeria, Malaga (2), San Fernando, Toledo, near Granada (2), near Nagoya, and Tyosi and Taihoku (3)), 16h. (Taihoku (2)), 17h. (Andijan (2), Samarkand, Ekaterinburg, Tashkent, Calcutta, Bombay, and near Hyderabad), 20h. (La Paz, Rio de Janeiro, and near La Plata), 21h. (Irkutsk and Ekaterinburg), 22h. (near Hukuoka and Nagasaki).

March 23d. 19h. 24m. 25s. Epicentre 26°·5N. 99°·0E. (as on 1928 Dec. 31d.). X.

A = −·140, B = +·884, C = +·446; D = +·988, E = +·156; G = −·070, H = +·441, K = −·895.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Phu-Lien		9·0	127	e 3 46	S	(e 3 46)	− 3	4·6	—
Zi-ka-wei	z.	20·2	71	—	—	e 8 30	+20	(12·4)	—
Hyderabad		21·1	249	4 46	+ 5	8 37	+ 9	10·7	13·8
Almata		24·5	319	e 5 17	+ 2	—	—	—	—
Bombay		25·2	258	9 36	S	(9 36)	− 8	14·7	15·4
Irkutsk		26·1	8	—	—	e 10 17	+17	13·6	15·3
Tashkent		28·6	309	—	—	e 10 29	−13	e 16·1	18·9
Ekaterinburg		40·8	329	e 7 33	− 6	e 13 49	+ 1	19·6	—

Additional readings and note: Zi-ka-wei gives L as S. Bombay S = +13m.1s. Tashkent e = +10m.59s. and +12m.59s. Long waves were also recorded at Hong Kong, Vladivostok, Russian stations, De Bilt, and Copenhagen.

March 23d. Readings also at 0h. (Irkutsk, Vladivostok, and near Mizusawa), 1h. (Ekaterinburg, Tashkent, and near Taihoku), 3h. (near Tananarive and near Apia), 4h. (Florissant, Ekaterinburg, Irkutsk, Rocca di Papa, and Tyosi), 5h. (Andijan), 7h. (Batavia (2)), 14h. (near Lick), 16h. (Almata, near Andijan, and Samarkand), 18h. (Tucson), 23h. (Apia and Ekaterinburg).

March 24d. Readings at 0h. (Batavia and Lick (2)), 2h. (Lick), 4h. (Nagoya), 5h. (Nagoya, Toledo, and near Toyooka), 6h. (Nagoya (3), Lick (2), near Mostar, and near Tyosi (2)), 12h. (Georgetown and Lick), 14h. (near Manila), 15h. (Edinburgh and La Paz), 17h. (La Paz), 19h. (Apia and Medan).

March 25d. Readings at 1h. (near Kobe), 3h. (near Granada), 5h. (La Paz (2)), 6h. (near La Paz and near Tyosi), 9h. (near Sumoto), 10h. (Melbourne), 11h. (Wellington (2), Ekaterinburg, Vladivostok, Apia, Adelaide (2), Riverview (2), Sydney, near Osaka, Tyosi, Sumoto, Kobe, and near Mizusawa), 12h. (Baku and Florissant), 13h. (Nagoya (3) and near Tyosi), 14h. (Andijan), 15h. and 16h. (near Lick), 17h. (Nagoya and near Mizusawa), 18h. (Nagoya (2) and Ksara), 19h. (near Tyosi), 20h. (near Manila).

March 26d. 5h. 22m. 36s. Epicentre 34°·0N. 140°·0E. (as on 22d.). R.3.

A = −·635, B = +·533, C = +·559; D = +·643, E = +·766; G = −·428, H = +·359, K = −·829.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tyosi		1·9	22	0 32	+ 4	—	—	0·9	1·1
Nagoya		2·8	292	i 0 39	− 1	1 2	−10	—	1·6
Osaka		3·8	281	0 51	− 3	(1 33)	− 4	1·6	2·2
Kobe		4·1	281	0 57	− 1	i 1 37	− 8	1·8	2·0
Sumoto		4·2	276	1 6	+ 6	1 45	− 3	—	2·1
Toyooka		4·5	291	1 4	0	(2 0)	− 5	2·0	2·1
Mizusawa	E.	5·2	10	1 10	− 4	2 29	+16	—	—
	N.	5·2	10	1 14	0	2 24	+11	—	—
Koti		5·3	267	—	—	2 48	+33	3·1	3·9

Long waves were also recorded at the Russian stations.

March 26d. 7h. 12m. 8s. Epicentre **7°·8S. 125°·5E.** N.1.

$A = -\cdot575$, $B = +\cdot807$, $C = -\cdot136$; $D = +\cdot814$, $E = +\cdot581$; $G = +\cdot079$, $H = -\cdot110$, $K = -\cdot991$.

Probable error of the Epicentre $\pm 0°\cdot4$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		5·0	33	i 1 0	−11	i 2 1	− 7	—	—
Malabar		17·7	271	i 3 55	− 8	i 8 0	+43	—	—
Batavia		18·6	274	i 4 22	+ 8	9 28	?	i 11·7	—
Manila		22·8	349	i 5 4	+ 5	i 9 7	+ 6	12·1	13·5
Perth		25·7	199	i 5 34	+ 8	i 10 22	+29	13·2	—
Medan		29·1	292	(i 5 28)	−29	(10 16)	−34	—	—
Adelaide		29·7	158	i 6 6	+ 4	i 11 8	+ 9	i 13·6	18·0
Hong Kong		32·1	340	6 26	+ 2	11 32	− 5	15·5	16·0
Taihoku	N.	33·1	354	e 6 44	+11	(11 52)	0	11·9	—
Melbourne		34·8	151	e 6 45	− 2	12 19	+ 1	17·1	19·4
Riverview		35·2	141	e 6 49	− 2	i 12 26	+ 2	e 17·4	18·7
Sydney	E.	35·2	141	6 34	−17	12 16	− 8	18·3	21·4
Zi-ka-wei		39·2	356	i 7 26	+ 1	13 12	−12	21·5	27·3
Nagasaki		40·8	5	e 7 38	− 1	e 13 41	− 7	—	—
Hukuoka		41·7	6	7 34	−12	13 38	−24	17·2	19·5
Koti		42·1	10	e 7 47	− 2	e 14 4	− 4	e 19·9	21·4
Sumoto		43·1	11	7 54	− 4	14 21	− 1	17·7	22·2
Kobe		43·5	11	8 0	− 1	14 24	− 4	e 20·2	25·2
Osaka		43·6	11	8 4	+ 2	(14 27)	− 3	14·5	16·5
Nagoya		44·3	13	8 6	− 1	(14 40)	0	14·7	—
Toyooka	E.	44·3	11	e 8 8	+ 1	14 35	− 5	—	—
	N.	44·3	11	i 8 10	+ 3	14 37	− 3	20·9	22·4
Tyosi		45·9	15	e 8 20	0	(e 14 56)	− 7	e 14·9	—
Calcutta	E.	47·4	311	8 30	− 2	13 33	?	18·6	—
	N.	47·4	311	8 36	+ 4	14 14	?	18·9	—
Colombo		47·8	286	8 32	− 3	10 42	?	19·3	30·5
Mizusawa	E.	49·1	16	8 46	+ 2	15 47	− 1	23·4	—
Kodaikanal		51·1	290	10 46	PP	—	—	30·8	38·2
Hyderabad		52·9	300	10 20	+67	17 48	+67	28·4	36·8
Christchurch		54·4	139	i 9 37	+13	e 17 13	+12	26·2	—
Wellington		54·9	136	9 24	− 4	17 30	+22	26·9	29·9
Ootomari		56·6	15	9 30	−10	(17 30)	− 1	17·5	30·8
Agra	E.	57·7	310	9 20	−28	17 20	−26	29·2	36·8
	N.	57·7	310	8 50	−58	16 50	−56	e 30·2	39·5
Bombay		58·3	299	9 54	+ 2	18 1	+ 8	30·4	34·8
Dehra Dun		59·4	313	9 52	− 8	17 52	−16	26·9	36·9
Apia		61·8	100	10 20	+ 3	18 46	+ 7	30·4	—
Irkutsk		62·8	346	i 10 24	0	i 18 54	+ 2	28·6	41·8
Almata		67·4	324	10 58	+ 4	e 19 40	−10	23·2	—
Andijan		68·8	320	11 4	+ 1	—	—	—	—
Samarkand		71·8	318	i 11 22	0	e 20 42	− 1	28·9	—
Honolulu T.H.		80·7	66	e 13 4	+52	i 22 21	− 2	39·4	—
Ekaterinburg		83·3	330	i 12 23	− 2	i 22 43	− 7	37·8	52·1
Baku		84·3	313	e 12 31	+ 1	i 23 5	+ 4	40·9	53·9
Entebbe		93·0	271	13 52	+41	—	—	—	54·4
Ksara	E.	94·0	304	13 21	+ 5	25 0	+27	—	—
Kucino		95·0	325	i 13 12	− 8	23 52	[− 9]	45·4	60·2
Theodosia		95·6	315	e 13 25	+ 2	e 24 22	[+18]	47·9	—
Simferopol		96·5	315	e 13 28	+ 1	—	—	46·9	—
Sebastopol		96·9	315	e 13 36	+ 7	—	—	—	—
Helwan		97·4	300	13 37	+ 5	24 17	[+ 4]	56·7	56·9
Pulkovo		99·3	330	13 44	+ 4	e 25 0	{+12}	49·9	58·5
Sitka	E.	101·5	32	—	—	e 25 23	−17	e 39·2	—
Helsingfors		102·0	330	i 17 56	PP	i 24 36	[+ 1]	e 50·4	—
Konigsberg		105·0	325	i 20 54	?	i 27 46	PS	e 49·9	62·9

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Upsala		105·7	331	e 18 46	PP	e 24 46	[− 7]	e 48·9	60·7
Budapest		106·8	318	14 32	+17	26 39	?	43·9	69·5
Vienna		108·5	319	17 41	[−32]	28 20	PS	e 39·9	61·9
Lund		108·9	327	—	—	25 16	[+ 8]	47·9	—
Zagreb		109·1	316	e 17 52?	[−23],	e 25 10	[+ 1]	e 52·9	—
Copenhagen		109·3	327	14 29	+ 1	25 16	[+ 6]	47·9	—
Graz		109·3	318	i 19 4	PP	i 29 40	?	50·9	64·4
Potsdam		109·8	323	i 19 9	PP	e 26 4	{− 1}	e 54·3	64·9
Victoria		109·8	40	18 56	PP	28 36	PS	45·1	53·0
Laibach		110·1	317	e 19 10	PP	e 26 32	{+24}	e 40·3	—
Cheb		110·7	321	e 18 25	[+ 5]	e 28 56	PS	e 53·9	64·9
Jena		111·0	322	e 18 4	[−17]	e 26 52	{+38}	e 45·9	57·4
Naples	E.	111·1	311	e 19 12	PP	e 29 12	PS	—	72·9
Hamburg		111·1	325	e 18 20	[− 1]	—	—	e 52·4	58·9
Bergen		111·3	333	19 8	PP	28 50	PS	61·9	67·9
Gottingen		111·8	323	—	—	e 27 0	{+40}	e 55·9	66·9
Innsbruck		112·0	319	e 19 10	PP	29 40	?	—	—
Rocca di Papa		112·1	312	e 18 10	[−14]	29 0	PS	e 67·0	74·0
Berkeley	E.	112·3	51	—	—	e 28 11	?	—	—
Florence		112·8	314	i 14 48	+ 4	26 22	{− 4}	—	—
Lick	E.	112·9	51	—	—	e 29 25	PS	—	—
Stuttgart		113·0	320	e 14 37	− 8	e 24 32	[−54]	e 55·9	73·9
Feldberg	N.	113·1	322	e 14 10	−36	e 26 8	{−21}	—	59·4
Chur		113·3	318	e 18 35	[+ 7]	—	—	—	—
Karlsruhe		113·5	320	19 27	PP	(e 29 52?)	PS	e 29·8	—
Zurich		113·8	318	e 18 38	[+ 9]	e 27 28	?	—	—
Scoresby Sund		114·0	349	14 52	+ 2	—	—	53·9	—
Strasbourg		114·0	320	15 0	+10	e 25 30	[0]	55·8	—
De Bilt		114·5	325	14 56	+ 3	e 27 36	?	e 56·9	61·6
Neuchatel		115·0	319	e 18 44	[+11]	e 29 29	PS	—	—
Uccle		115·4	324	e 14 58	+ 1	i 27 41	—	54·9	59·1
Besançon		115·5	319	e 19 43	PP	e 28 52?	PS	60·9	—
Dyce		116·2	332	e 15 5?	+ 4	—	—	e 52·9	71·9
Paris		117·2	322	e 15 11	+ 5	e 29 11	PS	e 38·9	66·9
Edinburgh		117·4	330	20 5	PP	i 29 38	PS	54·9	72·1
Kew		117·8	325	e 15 10	+ 2	e 27 55	?	49·7	62·8
Stonyhurst		117·9	328	20 0	PP	29 54	PS	—	66·9
Oxford		118·3	325	—	—	i 29 49	PS	59·4	74·9
Bidston		118·5	326	i 19 12	[+30]	—	—	e 47·9	65·9
Algiers		120·4	309	e 7 36	?	20 15	PP	53·9	78·9
Tucson		122·5	55	e 20 22	PP	e 28 34	?	e 50·2	
Alicante		122·8	311	e 20 47	PP	e 34 17	?	e 48·5	—
Almeria		124·6	310	e 20 6	PP	—	—	62·8	73·7
Toledo		124·8	314	—	—	32 33	?	e 52·4	76·4
Granada		125·4	310	19 15	[+17]	—	—	e 62·9	84·1
Malaga		126·2	310	20 24	PP	34 4	?	48·4	74·4
Ivigtut		126·4	355	21 52?	?	—	—	—	—
San Fernando		127·6	310	20 49	PP	32 49	?	—	84·9
Chicago		135·2	36	e 22 10	PP	—	—	56·3	—
Florissant		135·3	40	e 18 38	[−37]	—	—	e 54·9	—
St. Louis		135·5	40	i 18 47	[−29]	—	—	e 54·9	—
Ann Arbor		137·0	30	e 22 16	?	—	—	e 56·8	—
Toronto		138·1	27	e 19 14	[− 5]	—	—	57·6	—
Ottawa		138·2	22	e 19 16	[− 3]	—	—	e 57·4	—
Azores		140·3	323	23 52	?	—	—	—	—
Harvard		142·5	20	e 19 29	[+ 4]	—	—	e 57·9	—
Fordham		142·7	25	e 19 29	[+ 3]	—	—	47·9	81·9
Charlottesville		142·8	31	e 22 40	PP	—	—	57·0	—
Georgetown		142·9	29	19 27	[0]	26 44	?	e 55·7	70·8
Rio de Janeiro		147·3	193	e 19 12	[−26]	e 30 10	{+ 3}	e 48·2	81·3
La Paz		152·2	151	i 19 52	[+ 7]	27 12	PPP	72·0	88·6

For Notes see next page.

NOTES TO MARCH 26d. 7h. 12m. 8s.

Additional readings and note: Amboina i = +1m.42s. Malabar i = +4m.28s. Batavia iP = +4m.24s., i = +4m.43s. and +9m.24s. Manila iN = +5m.13s., PPE = +5m.36s., PPPPN = +5m.46s. Perth iS = +10m.58s. Medan readings have been *increased* by 2m., i = (+6m.4s. ?) and (+12m.16s. ?) = SS + 8s. Adelaide i = +6m.14s., +6m.26s., +10m.52s., +11m.16s., +11m.23s., +11m.28s., and +11m.30s., iSS = +12m.32s. Hong Kong S = +11m.48s. Taihoku PPN = +7m.49s., PPPN = +8m.21s., PPPPN = +8m.50s., SN = +9m.20s., SSN = +10m.41s. Melbourne iP = +6m.49s. Riverview PP = +8m.2s., PPP = +8m.26s., PPPP = +8m.35s., P_cP? = +9m.5s., i = +12m.32s., iS = +12m.38s., iE = +13m.51s., SS = +14m.58s., SSS = +15m.36s., SSSS = +15m.58s. Zi-ka-wei iZ = +9m.4s. and +13m.48s. Nagasaki PP = +9m.23s. Koti iPZ = ePN = +7m.50s. Kobe eN = +9m.32s. = PP − 4s., and +11m.12s., SN = +14m.10s. Toyooka eSSE = +18m.2s. = S_cS − 6s., eSSN = +18m.27s. Christchurch iPS? = +17m.52s., SS = +21m.19s., SSS = +22m.55s. Wellington PP = +12m.8s. Ksara PPE = +17m.21s., SSE = +45m.13s. Kucino PP = +16m.44s., SS = +30m.28s. Pulkovo iSKS = +24m.26s., iPS = +26m.37s. Sitka eE = +27m.4s. = PS + 3s., iE = +32m.24s. = SS + 1s., eE = +36m.8s. = SSS − 2s. Helsingfors i = +18m.6s. = PP + 8s., +27m.12s. = PS + 5s., and +32m.43s. = SS + 14s. Konigsberg iE = +23m.50s., eN = +28m.56s., and +32m.39s., eE = +33m.59s. Upsala e = +27m.46s. Budapest i = +18m.58s. = PP + 24s., and +21m.6s. Vienna iE = +19m.2s., PPP = +22m.57s., PS = +29m.28s., SS = +34m.8s. Lund PP = +19m.6s., e = +19m.58s., PPP = +21m.22s., S = +26m.45s., PS = +28m.10s., SS = +33m.52s. ?, SSS = +38m.34s. Zagreb e = +19m.9s. = PP + 18s., +26m.40s., and +28m.32s. Copenhagen PKP = +18m.10s., PP = +19m.9s., e = +20m.0s., PPP = +21m.16s. e = +23m.22s., SKKS = +26m.4s., S = +26m.48s., PS = +28m.22s., SS = +34m.22s., SSS = +38m.16s. Potsdam eE = +17m.46s., eN = +26m.46s., eE = +28m.16s. = PS − 10s., and +41m.58s., eN = +42m.46s. Victoria iN = +26m.54s. Laibach e = +29m.7s. Jena eE = +27m.52s., e = +29m.52s. Hamburg eEZ = +19m.10s. = PP + 4s., and +21m.35s. = PPP + 14s., eE = +26m.22s. = Σ + 7s., eZ = +28m.37s. = PS − 3s. Bergen PP = +20m.52s. ?, PPP = +23m.52s. ?, SS = +33m.52s. ? Gottingen iPPE = +19m.18s., ePSE = +28m.48s., iPPS = +30m.17s., eSSE = +35m.22s., eSSSE = +40m.22s. Innsbruck PS? = +31m.16s. Rocca di Papa eP = +18m.38s. Berkeley eZ = +28m.19s. and +34m.1s., eE = +34m.25s. and +40m.3s., eZ = +44m.57s., eE = +45m.31s. Stuttgart ePKPZ = +17m.52s. ePP = +19m.22s., iE = +19m.42s., ePPP = +22m.12s., eE = +26m.2s., e = +26m.30s. = Σ + 2s., eE = +28m.11s., i = +29m.0s., SKSP = +29m.12s. iPS = +29m.24s., ePPS = +30m.54s., ePP_2 = +34m.42s. = SS − 17s., iSSE = +36m.6s. i = +39m.12s. = SSS + 8s., eSSSE = +40m.52s. ?, eE = +43m.12s. Feldberg eN = +16m.58s., and +18m.28s. = PKP + 1s. Chur e = +19m.5s. = PP − 16s. Scoresby Sund +19m.34s. = PP + 8s., PS = +29m.13s., PKP = +17m.52s., eN = +30m.4s., eE = +30m.28s., SS = +35m.28s., SSS = +39m.28s. Strasbourg PKP = +19m.22s. = PP − 4s., PP = +20m.4s., PPP = +22m.28s., iPS = +29m.12s., iPPS = +30m.29s. De Bilt ePP = +19m.48s., iZ = +29m.23s. = PS + 12s. Uccle e = +19m.25s. = PP − 11s., i = +19m.48s., i = +29m.29s. Dyce e = +19m.55s. = PP + 13s., i = +29m.29s. = PS + 2s., and +30m.42s. Paris iPP = +19m.59s. Edinburgh i = +30m.52s., and +31m.11s. Kew iPP = +20m.4s., iPS = +29m.47s., iPPS = +31m.0s., eSS = +36m.27s. Oxford PP = +20m.5s., iPSN = +29m.55s., iSSN = +36m.11s., iE = +36m.28s., +36m.57s., and +40m.55s. Bidston e = +21m.7s., i = +36m.42s. Algiers SS = +34m.5s. Tucson ePPN = +20m.52s., ePSE = +30m.26s., eSS = +37m.13s., eE = +37m.20s. Almeria i = +24m.56s. and +31m.18s. Toledo PP = +20m.40s. Granada i = +19m.18s., +21m.12s., +21m.27s., +29m.43s., +30m.11s., +30m.57s. = PS + 6s., +33m.44s., +36m.9s., +38m.47s. and +46m.35s. Chicago ePPE = +22m.23s., ePS = +31m.40s., eSSE = +39m.10s., eSSN = +39m.30s. Florissant iZ = +19m.28s., iEZ = +22m.1s. = PP + 9s., iNZ = +22m.44s. = PKS − 11s. St. Louis eN = +27m.0s. and +39m.0s., eE = +41m.20s., eEN = +44m.19s. Ann Arbor eN = +27m.16s., eE = +34m.46s., eN = +35m.46s., and +40m.16s., eE = +41m.22s., and +45m.10s. Toronto iE = +22m.8s. = PP − 2s., iN = +22m.55s. = PKS − 9s., eN = + 35m.7s., iN = +35m.22s., +40m.18s. = SS + 0s., and +45m.22s. = SSS + 9s. Ottawa e = +22m.12s. = PP + 2s., i = +23m.8s. = PKS + 4s., e = +35m.4s., +41m.4s., and +45m.28s. = SSS + 12s. Harvard e = +22m.42s. = PP + 5s., +35m.5s., and +40m.57s. = SS − 15s., iN = +46m.52s.; T_1 = 7h.12m.7s. Fordham ePN = +19m.37s., PP = +22m.41s. Charlottesville ePPE = +22m.43s., ePS = +32m.20s. = SKSP − 28s., eSSN = +41m.14s., eSSE = +41m.18s., eSSSN = +46m.2s., eSSSE = +46m.12s. Georgetown P = +16m.48s., i = +19m.45s., PP = +22m.44s., SKP = +23m.31s. = PKS + 16s., PPP = +26m.0s., PPPP = +29m.0s., PPPPP = +29m.56s. = Σ + 15s., i = +31m.30s., PSKS = +32m.44s., PS = +33m.32s., PPS = +35m.2s., ePPPS = +36m.14s., i = +36m.52s., SS = +40m.56s., PSSS = +46m.12s., SSS = +46m.58s., i = +48m.20s., and +49m.30s., eSSSS = +51m.22s., i = +53m.56s., PPSS′ = +56m.24s. La Paz iPPZ = +23m.34s., PKKS = +31m.28s., PPS = +37m.20s., SSE = +43m.8s., SSSE = +48m.51s., SSSSE = +53m.20s. Long waves were also recorded at Apia, Yalta, Tortosa, and La Plata.

Mar. 26d. 11h. 14m. 40s. Epicentre 36°·5N. 96°·0E. N.3.

A = −·084, B = +·799, C = +·595 ; D = +·995, E = +·105 ;
G = −·062, H = +·592, K = −·804.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Almata		16·0	301	e 4 6	+25	—	—	—	—
Irkutsk		16·8	21	3 54	+ 2	7 8	+11	8·6	9·8
Andijan		18·9	290	e 4 26	+ 9	—	—	—	—
Tashkent		21·2	291	i 4 41	− 1	i 8 38	+ 8	e 12·3	15·3
Hong Kong		21·2	127	—	—	e 8 48	+18	—	13·8
Zi-ka-wei	Z.	21·7	97	—	—	e 8 54	+14	11·4	14·3
Samarkand		22·9	287	e 4 58	− 2	—	—	—	—
Hyderabad		24·6	224	10 17	S	(10 17)	+43	—	17·3
Bombay		26·9	235	e 5 39	+ 2	10 32	+18	14·3	17·8
Ekaterinburg		31·0	323	4 46	?	—	—	e 16·1	—
Kucino		43·5	316	—	—	e 21 40	?	e 25·2	—
Pulkovo		47·1	323	e 8 29	0	—	—	e 22·9	—
Zagreb		58·4	306	e 10 2	+ 9	—	—	—	—

Additional readings: Ekaterinburg i = +6m.12s. =P −2s., e =+12m.32s. =SS−21s.
Long waves were also recorded at Baku, Copenhagen, De Bilt, and Granada.

Mar. 26d. 11h. 32m. 11s. Epicentre 7°·8S. 125°·5E. (as at 7h.). R.1.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		5·0	33	i 1 56	+45	2 37	+29	—	—
Batavia		18·6	274	i 4 24	+10	—	—	—	—
Manila		22·8	349	i 5 0	+ 1	i 9 4	+ 3	—	—
Perth		25·7	199	i 5 34	+ 8	10 11	+18	—	—
Adelaide		29·7	158	i 6 0	− 2	i 11 1	+ 2	i 13·3	17·9
Hong Kong		32·1	340	6 22	− 2	11 34	− 3	—	19·8
Melbourne		34·8	151	6 46	− 1	12 15	− 3	16·2	22·6
Riverview		35·2	141	e 6 48	− 3	i 12 23	− 1	e 16·4	19·3
Sydney	E.	35·2	141	6 31	−20	12 19	− 5	18·2	21·8
Zi-ka-wei	Z.	39·2	356	e 7 19	− 6	i 13 21	− 3	—	44·1
Koti		42·1	10	e 8 55	+66	e 13 55	−13	—	—
Sumoto		43·1	11	e 7 54	− 4	e 13 32	−50	—	—
Kobe	N.	43·5	11	7 57	− 4	13 51	−37	e 18·0	—
Osaka		43·6	11	8 8	+ 6	(14 7)	−23	14·1	14·9
Nagoya		44·3	13	e 8 4	− 3	—	—	—	—
Toyooka	N.	44·3	11	8 0	− 7	—	—	—	—
Colombo		47·8	286	8 38	+ 3	—	—	—	20·0
Mizusawa	E.	49·1	16	8 37	− 7	9 12	?	—	—
Kodaikanal		51·1	290	20 19	?	—	—	—	—
Hyderabad		52·9	300	10 22	+69	17 52	+71	29·4	36·6
Wellington		54·9	136	—	—	17 9	+ 1	29·8	—
Agra	E.	57·7	310	e 8 45	−63	17 50	+ 4	—	—
	N.	57·7	310	e 9 15	−33	17 15	−31	e 29·7	—
Bombay		58·3	299	9 58	+ 6	18 1	+ 8	30·7	44·2
Dehra Dun		59·4	313	10 19	+19	17 59	− 9	22·3	22·8
Irkutsk		62·8	346	10 22	− 2	18 50	− 2	30·8	—
Almata		67·4	324	e 10 57	+ 3	—	—	—	—
Andijan		68·8	320	e 11 2	− 1	—	—	—	—
Tashkent		71·1	320	i 11 14	− 3	i 20 34	0	e 37·8	47·1
Samarkand		71·8	318	e 11 22	0	—	—	—	—
Tananarive		76·1	253	—	—	21 9	−24	—	44·8
Ekaterinburg		83·3	330	i 12 22	− 3	i 22 41	− 9	41·7	49·7
Baku		84·3	313	i 12 32	+ 2	i 23 0	− 1	40·8	54·8
Ksara	E.	94·0	304	13 49?	+33	—	—	—	—
Kucino		95·0	325	—	—	i 24 27	−15	46·5	58·7

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Pulkovo		99·3	330	13 49	+ 9	—	—	57·8	—
Stuttgart		113·0	320	e 19 15	PP	e 20 4	?	—	68·8
Scoresby Sund		114·0	349	21 49?	PPP	—	—	—	—
Strasbourg		114·0	320	e 19 19	PP	—	—	e 61·8	—
De Bilt		114·5	325	—	—	i 29 12	PS	e 57·8	—
Paris		117·2	322	e 19 41	PP	e 28 54	?	69·8	—
La Paz	E.	152·2	151	e 19 46	[+ 2]	i 22 46	?	—	—

Additional readings: Manila PPE = +5m.35s., PPPN = +5m.40s., PPPPN = +5m.43s. Zi-ka-wei iZ = +8m.57s. =PP +6s. Pulkovo PS = +24m.30s. = SKS +8s. Long waves were also recorded at Copenhagen, Kew, Uccle, and Granada.

Mar. 26d. 16h. 41m. 30s. Epicentre 34°·0N. 140°·0E. (as at 5h.). R.3.

A = −·635, B = +·533, C = +·559; D = +·643, E = +·766; G = −·428, H = +·359, K = −·829.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Tyosi		1·9	22	0 27	− 2	(0 48)	− 1	0·8	1·3
Nagoya		2·8	292	i 0 32	− 8	0 56	−16	—	1·0
Osaka		3·8	281	0 49	− 5	—	—	1·6	1·9
Kobe		4·1	281	0 52	− 6	i 1 30	−15	1·7	1·9
Sumoto		4·2	276	1 1	+ 1	1 48	0	—	1·8
Toyooka	E.	4·5	291	1 5	+ 1	(1 51)	− 4	1·8	1·9
	N.	4·5	291	1 7	+ 3	(1 55)	0	1·9	2·0
Mizusawa		5·2	10	1 10	− 4	2 15	+ 2	—	—
Koti		5·3	267	1 33	+18	e 2 4	−11	3·0	—

Additional readings: Kobe i = +1m.2s. Long waves were also recorded at Ekaterinburg, Irkutsk, and Tashkent.

Mar. 26d. 19h. 11m. 48s. Epicentre 33°·8N. 132°·5E. (as on 1929 Jan. 4d.). X.

A = −·561, B = +·613, C = +·556.

	Δ	P.	O−C.	S.	O−C.	L.	M.
	°	m. s.	s.	m. s.	s.	m.	m.
Matuyama	0·2	i 0 3	0	0 11	+ 6	—	0·2
Koti	0·9	0 14	+ 1	0 26	+ 3	—	—
Hukuoka	1·7	0 19	− 5	0 39	− 5	—	—
Sumoto	2·1	e 0 54	+24	(0 54)	0	(1·2)	1·3
Osaka	2·7	1 17	+38	(1 17)	+ 8	2·0	2·1

Matuyama gives iPZ = +6s. Sumoto gives S as P and L as S.

March 26d. 20h. 15m. 47s. Epicentre 7°·8S. 125°·5E. (as at 11h.). R.1.

A = −·575, B = +·807, C = −·136; D = +·814, E = +·581; G = +·079, H = −·110, K = −·991.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		5·0	33	2 3	+52	3 22	+74	—	—
Batavia		18·6	274	i 4 23	+ 9	—	—	—	—
Manila		22·8	349	i 4 59	0	i 9 3	+ 2	—	—
Medan		29·1	292	e 7 1	+64	—	—	—	—
Adelaide		29·7	158	e 6 3?	+ 1	i 11 4	+ 5	14·7?	18·1
Hong Kong		32·1	340	6 23	− 1	11 30	− 7	—	16·6
Melbourne		34·8	151	—	—	e 12 25	+ 7	16·0	23·5
Riverview		35·2	141	6 48	− 3	12 25	+ 1	e 16·6	19·3
Zi-ka-wei	Z.	39·2	356	e 7 25	0	—	—	—	23·0
Bombay		58·3	299	9 56	+ 4	—	—	—	—
Irkutsk		62·8	346	e 10 18	− 6	e 18 51	− 1	e 31·2	—
Almata		67·4	324	e 10 53	− 1	—	—	—	—
Andijan		68·8	320	e 11 11	+ 8	—	—	—	—
Tashkent		71·1	320	e 11 15	− 2	i 20 33	− 1	—	—
Samarkand		71·8	318	e 11 21	− 1	—	—	—	—
Ekaterinburg		83·3	330	i 12 21	− 4	e 22 46	− 4	41·1	—
Baku		84·3	313	i 12 27	− 3	i 23 6	+ 5	44·7	—
La Paz	E.	152·2	151	e 19 52	[+ 8]	—	—	—	—

Additional readings: Manila iPE = +5m.1s. Medan i = +8m.43s. and +12m.19s. =SS +11s. Melbourne ? = +18m.23s.

March 26d. Readings also at 0h. (near Lick and near Manila), 7h. (Kobe and near Mizusawa), 10h. (Zagreb, near Naples, and Rocca di Papa), 11h. (De Bilt and near Amboina), 12h. (near Amboina), 13h. (near Matuyama), 18h. (Nagoya), 19h. (Amboina).

March 27d. 2h. 40m. 18s. Epicentre 45°·3N. 153°·5E. (as on 1928 Oct. 12d.). R.3.

$A = -\cdot630$, $B = +\cdot314$, $C = +\cdot711$; $D = +\cdot446$, $E = +\cdot895$; $G = -\cdot636$, $H = +\cdot317$, $K = -\cdot703$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Mizusawa	E.	11·0	240	2 40	+ 5	4 45	+ 7	—	—
Tyosi		13·5	249	e 5 56	S	(e 5 56)	+17	e 6·0	—
Nagoya		16·1	237	e 3 48	+ 5	—	—	—	—
Osaka		17·4	239	3 54	− 5	(7 24)	+13	7·4	7·6
Irkutsk		32·5	300	e 6 32	+ 5	e 11 42	− 1	18·7	—
Ekaterinburg		54·9	319	i 9 30	+ 2	—	—	25·6	—

Additional reading: Ekaterinburg i = +11m.26s. = PP + 1s. Long waves were also recorded at Baku and Tashkent.

March 27d. Readings also at 1h. (Almata, Tashkent, near Andijan, and Samarkand), 2h. (near Taihoku), 3h. (near Tyosi), 7h. (near Tacubaya), 10h. (La Paz, La Plata, and near Santiago), 12h. (Amboina and Manila), 14h. (Andijan and Samarkand), 17h. (Zagreb), 18h. (near Taihoku), 22h. (Andijan and Samarkand), 23h. (Andijan and Samarkand (2)).

March 28d. Readings at 0h. (near Andijan and Samarkand), 1h. (near Ksara), 4h. (Tucson, La Plata, Copiapo, near Santiago, near Tacubaya (2), and near Tyosi), 5h. (Taihoku), 6h. (Andijan and Samarkand), 8h. (Florence and near Tananarive), 11h. (Kobe, Matuyama, Andijan, Samarkand, near Sumoto, and Koti), 12h. (near Tyosi), 13h. (near Tacubaya), 15h. (Koti, Matuyama, near Osaka, Kobe, Sumoto, Toyooka, and near Amboina), 17h. (Nagoya (2) and Tyosi (2)), 18h. (near Florissant, Toyooka, near Osaka, Nagoya, and Tyosi), 19h. (Toyooka, near Nagoya, and near Tyosi), 20h. (Nagoya), 22h. (Bergen), 23h. (near Taihoku).

March 29d. 0h. 55m. 7s. Epicentre 39°·0N. 135°·5E. (as on 1926 June 29d.). R.3.

$A = -\cdot554$, $B = +\cdot545$, $C = +\cdot629$; $D = +\cdot701$, $E = +\cdot713$; $G = -\cdot449$, $H = +\cdot441$, $K = -\cdot777$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Toyooka		3·5	189	1 15	+25	(1 15)	−15	2·2	—
Nagoya		4·0	163	1 3	+ 6	1 53	+11	—	—
Osaka		4·3	180	0 58	− 3	(1 55)	+ 5	1·9	2·3
Kobe		4·3	184	—	—	i 1 57	+ 7	—	—
Mizusawa	E.	4·4	83	1 44	S	(1 44)	− 9	—	—
Sumoto		4·7	186	1 6	− 1	1 56	− 4	—	1·9
Tyosi		5·4	125	e 1 14	− 3	(2 7)	−11	2·1	—

No additional readings.

March 29d. Readings also at 0h. (Florissant), 6h. (Fordham, Ottawa, and La Paz), 7h. (Andijan, Baku, Ekaterinburg, Irkutsk, Samarkand, and Tashkent), 13h. (Simferopol, near Sebastopol, Theodosia, and Yalta, epicentre given as 44°10′N. 34°30′E.), 14h. (near Taihoku), 15h. (Kobe, Toyooka, near Tyosi, Nagoya, and Osaka), 18h. (Zagreb), 20h. (Tyosi, near Nagoya (2), and Osaka).

March 30d. 0h. 26m. 45s. Epicentre 11°·0N. 140°·0E. N.3.

A = −·752, B = +·631, C = +·191; D = +·643, E = +·766; G = −·146, H = +·123, K = −·982.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		18·8	219	i 3 17	−59	6 51	−51	—	—
Manila		18·9	283	4 15	− 2	i 7 51	+ 7	9·6	—
Taihoku	E.	22·4	311	e 5 21	+26	—	—	—	—
Koti		23·3	346	e 5 8	+ 4	e 9 3	− 7	—	—
Sumoto		23·8	350	e 5 10	+ 2	e 10 47	+88	—	—
Osaka		24·0	351	5 1	− 9	(9 46)	+23	9·8	10·4
Kobe		24·1	352	e 5 22	+11	e 9 52	+27	—	—
Zi-ka-wei	Z.	26·5	322	e 5 35	+ 1	—	—	—	28·9
Hong Kong		27·1	298	5 35	− 4	10 25	+ 8	—	12·3
Batavia		37·2	245	i 7 11	+ 3	i 12 30	−24	—	—
Adelaide		46·0	182	—	—	e 15 12	+ 8	22·3?	27·8
Riverview		46·1	168	—	—	e 18 28	(+ 9)	e 21·0	26·5
Melbourne		49·0	176	—	—	e 15 45	− 2	24·2	26·2
Irkutsk		50·3	333	e 9 0	+ 6	i 16 3	− 2	23·2	—
Andijan		65·9	310	e 10 47	+ 2	—	—	—	—
Tashkent		68·3	311	i 11 3	+ 3	i 19 56	− 5	e 33·2	45·2
Samarkand		70·0	310	e 11 21	+10	—	—	—	—
Ekaterinburg		75·0	328	e 11 33	− 7	i 21 7	−13	32·2	44·6
Baku		83·0	311	e 12 28	+ 5	22 49	+ 2	40·2	47·0
Kucino		87·6	327	—	—	e 22 25	−68	e 38·8	44·4
Pulkovo		90·1	333	—	—	e 23 23	[−10]	e 43·2	56·0
Florence		108·1	321	—	—	e 34 15?	SS	49·2	55·2

Additional readings: Manila PP = +4m.33s. Batavia i = +8m.43s. Adelaide eSS = +18m.31s. Kucino e = +27m.35s. and +32m.27s. Long waves were also recorded at Vladivostok, Fordham, Ottawa, Florissant, and several European stations.

March 30d. 5h. 7m. 23s. Epicentre 38°·0N. 135°·0E. (as on 1929 July 5d.). R.3.

A = −·557, B = +·557, C = +·616; D = +·707, E = +·707; G = −·435, H = +·435, K = −·788.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Nagoya	3·3	151	0 49	+ 2	1 27	+ 2	—	—
Kobe	3·3	178	i 0 46	− 1	1 28	+ 3	—	—
Osaka	3·4	173	0 50	+ 1	(1 28)	+ 1	1·5	1·8
Sumoto	3·7	181	0 49	− 4	(1 30)	− 5	—	1·5
Tyosi	5·2	114	e 1 14	0	(1 58)	−15	2·0	—

No additional readings.

March 30d. 8h. 26m. 15s. Epicentre 55°·0S. 27°·5W. (as on 1929 Aug. 7d.). X.

A = +·509, B = −·265, C = −·819; D = −·462, E = −·887; G = −·727, H = +·378, K = −·574.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
La Plata	29·0	301	5 50	− 6	e 10 33	−15	13·7	—
Rio de Janeiro	34·2	335	i 6 32	−10	i 11 54	−15	i 15·4	18·6
Johannesburg	49·3	78	13 45?	?	—	—	—	—
La Paz	49·5	305	i 8 43	− 4	i 15 46	− 8	i 23·8	31·2
Tananarive	66·1	89	e 10 48	+ 2	e 19 45	+11	e 32·2	36·2
Entebbe	73·4	65	11 45?	+14	—	—	—	—
Melbourne	87·0	173	—	—	e 36 25	?	48·8	50·8
Adelaide	89·3	169	i 12 55	+ 1	i 23 44	− 5	41·9?	49·1
Riverview	91·3	179	e 12 50	−13	e 23 39	[− 1]	e 51·4	53·5
San Fernando	93·3	15	13 45	+32	23 45	[− 7]	44·2	46·8

Continued on next page.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Malaga		93·8	18	13 11	− 4	24 19	−12	—	—
Granada		94·4	19	i 13 14	− 4	—	—	e 44·8	53·8
Almeria		94·4	20	13 12	− 6	—	—	47·1	50·4
Alicante		96·2	21	—	—	e 31 13	SS	—	—
Helwan		98·6	49	e 17 35?	PP	25 18	+ 4	—	58·0
Georgetown		103·0	322	18 4	PP	e 26 54	PS	e 47·9	54·6
Fordham		103·7	325	e 17 28	?	e 27 7	PS	e 42·8	52·8
Florence		104·1	27	24 43	S	(24 43)	[− 2]	42·8	47·8
Harvard		104·2	329	e 18 6	PP	e 27 14	PS	e 53·3	—
Colombo		105·6	100	26 59	?	—	—	53·6	56·3
Paris		106·8	20	—	—	e 26 45?	?	50·8	64·8
Zagreb		107·3	30	e 18 35	PP	—	—	—	58·8
Strasbourg		107·7	23	e 9 31	?	—	—	e 56·8	—
Florissant		108·0	313	i 17 58	[−13]	i 24 50	[−14]	e 49·8	55·8
Toronto		108·0	323	e 18 24	[+13]	i 24 50	[−14]	50·2	—
Stuttgart		108·2	23	—	—	e 26 45?	?	e 56·8	—
Ottawa	N.	108·3	327	e 18 45	PP	e 27 56	PS	e 50·8	—
Kew		108·8	17	—	—	e 28 21	PS	e 48·8	—
Feldberg		109·4	23	e 18 57	PP	—	—	—	48·8
De Bilt		110·5	21	e 18 57	PP	e 28 45	PS	e 48·8	57·9
Bombay		111·2	87	e 19 9	PP	—	—	—	71·2
Hyderabad		113·3	90	19 27	PP	29 12	PS	48·4	61·2
Copenhagen		115·4	23	—	—	27 45?	?	45·8	—
Baku		115·8	55	19 41	PP	—	—	51·2	72·6
Kucino		122·9	37	—	—	37 53	SS	62·4	78·2
Pulkovo		123·6	30	18 52	[− 2]	—	—	63·8	74·8
Samarkand		123·8	66	e 18 55	[+ 1]	—	—	—	—
Scoresby Sund		125·5	2	—	—	31 45?	?	57·8	—
Tashkent		126·2	66	i 17 58	[−61]	—	—	61·8	77·0
Andijan		127·6	70	e 19 3	[+ 1]	—	—	—	—
Phu-Lien		131·6	115	20 45?	PP	—	—	—	—
Almata		131·8	70	e 19 27	[+17]	—	—	—	—
Ekaterinburg		132·5	46	i 18 57	[−14]	i 28 1	{−36}	62·6	109·0
Manila		132·8	137	i 19 15	[+ 3]	i 23 29	?	26·0	—
Hong Kong		136·7	123	21 55	PP	—	—	—	70·4
Irkutsk		151·9	75	i 19 43	[− 1]	—	—	e 80·8	91·6

Additional readings: La Paz iPE = +8m.46s., PPZ = +10m.26s., PPE = +10m.42s., PPPE = +11m.22s., PSZ = +16m.2s., SSZ = +18m.56s., SSE = +19m.18s., SSSE = +20m.38s. Adelaide i = +23m.23s. = [S] − 5s., eSS = +29m.51s. Fordham eEN = +18m.13s. = PP + 3s., eE = +31m.55s., eN = +32m.55s. = SS + 2s. Harvard eN = +21m.6s. and +32m.40s. = SS − 20s. Florissant iPP = +18m.38s., i = +28m.56s., iEN = +29m.16s., iSS = +33m.34s. Toronto i = +27m.57s. and +33m.50s. = SS − 1s. Ottawa eN = +34m.0s. = SS + 5s. De Bilt eN = +34m.45s. = SS + 20s. Baku PS = +29m.29s., PPS = +30m.47s. Kucino PPS = +32m.53s., SSS = +42m.25s. Pulkovo PP = +20m.33s., PS = +30m.31s. Tashkent i = +19m.56s. and +22m.18s. Ekaterinburg iPP = +21m.25s., iPS = +31m.44s., iSS = +37m.51s. Manila SSSE = +24m.49s. = PPP + 28s. Hong Kong PP? = +22m.55s. = PKS − 4s. Irkutsk iPP = +23m.40s., e = +26m.27s. Long waves were also recorded at Sydney, Wellington, Kodaikanal, Ksara, Budapest, Hamburg, Stonyhurst, Lund, Uccle, Tortosa, St. Louis, and Victoria.

Mar. 30d. 9h. 4m. 36s. Epicentre 8°·0S. 105°·0E. (as on 15d.). X.

A = −·256, B = +·956, C = −·139; D = +·966, E = +·259; G = +·036, H = −·134, K = −·990.

	Δ	Az.	P.	O−C.	S.	O−C.
	°	°	m. s.	s.	m. s.	s.
Batavia	2·6	45	i 0 41	+ 4	i 1 13	+ 6
Malabar	2·7	73	i 0 35	− 4	i 0 59	−10
Medan	13·2	331	2 54	−11	—	—
Ekaterinburg	74·2	337	i 11 37	+ 1	21 13	+ 2

Additional readings: Batavia iP = +43s., i = +1m.56s. and +3m.4s. Medan i = +6m.18s. and +8m.0s. Long waves were also recorded at De Bilt and Georgetown.

Mar. 30d. 15h. 19m. 31s. Epicentre 7°·8S. 125·5E. (as on 26d.). R.1.

A = −·575, B = +·807, C = −·136; D = +·814, E = +·581; G = +·079, H = −·110, K = −·991.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Amboina		5·0	33	i 1 2	− 9	i 2 6	− 2	—	—
Batavia		18·6	274	i 4 26	+12	—	—	—	—
Manila		22·8	349	i 5 1	+ 2	i 9 5	+ 4	—	—
Perth		25·7	199	i 5 29	+ 3	10 14	+21	—	18·7
Medan		29·1	292	8 5	?	—	—	i 14·6	—
Adelaide		29·7	158	i 5 58	− 4	i 10 57	− 2	i 13·7	18·0
Hong Kong		32·1	340	6 25	+ 1	11 33	− 4	—	18·5
Taihoku	E.	33·1	354	—	—	e 11 10	−42	—	—
Phu-Lien		34·1	329	e 6 40	− 1	—	—	14·0	—
Melbourne		34·8	151	e 6 46	− 1	e 11 59	−19	17·3	22·3
Riverview		35·2	141	i 6 45	− 6	12 0	−24	e 17·6	19·1
Sydney	E.	35·2	141	6 59	+ 8	12 41	+17	19·0	19·8
Zi-ka-wei		39·2	356	i 7 23	− 2	13 15	− 9	21·5	26·2
Nagasaki		40·8	5	e 7 36	− 3	e 13 36	−12	—	—
Koti		42·1	10	e 7 45	− 4	13 58	−10	—	—
Sumoto		43·1	11	e 7 30	−28	14 10	−12	—	17·5
Kobe	N.	43·5	11	8 0	− 1	e 14 6	−22	e 17·5	—
Osaka		43·6	11	e 8 8	+ 6	—	—	9·9	10·4
Toyooka		44·3	11	e 8 2	− 5	—	—	e 14·6	18·0
Calcutta	E.	47·4	311	8 21	−11	15 31	+ 7	—	—
	N.	47·4	311	8 27	− 5	15 37	+13	32·6	—
Colombo		47·8	286	8 38	+ 3	19 41	SSS	25·4	31·1
Kodaikanal		51·1	290	e 16 53	S	(e 16 53)	+37	e 29·9	37·5
Vladivostok		51·2	8	—	—	e 16 54	+37	e 22·5	—
Hyderabad		52·9	300	9 15	+ 2	16 47	+ 6	26·7	35·1
Wellington		54·9	136	e 10 29?	(− 5)	17 19	+11	29·5	33·5
Agra	E.	57·7	310	11 5	(+20)	19 45	(+ 9)	e 31·8	38·8
	N.	57·7	310	e 11 50	PP	19 35	(− 1)	e 31·7	39·7
Bombay		58·3	299	9 53	+ 1	17 57	+ 4	30·8	37·4
Dehra Dun		59·4	313	10 9	+ 9	18 19	+11	25·3	29·5
Irkutsk		62·8	346	10 21	− 3	18 47	− 5	29·5	46·8
Almata		67·4	324	e 11 2	+ 8	—	—	—	—
Andijan		68·8	320	e 11 4	+ 1	—	—	—	—
Tashkent		71·1	320	e 11 16	− 1	i 20 19	−15	33·5	46·8
Samarkand		71·8	318	e 11 23	+ 1	—	—	—	—
Ekaterinburg		83·3	330	i 12 21	− 4	i 22 40	−10	38·4	50·5
Baku		84·3	313	i 12 31	+ 1	i 23 0	− 1	41·5	57·9
Kucino		95·0	325	e 13 29	+ 9	23 51	[−10]	44·7	54·9
Pulkovo		99·3	330	e 13 42	+ 2	24 18	[− 4]	54·5	66·6
Helsingfors		102·0	330	—	—	i 27 7	PS	e 55·5	—
Upsala		105·7	331	—	—	e 33 23	SS	e 51·9	—
Budapest		106·8	318	e 18 29?	PP	—	—	—	—
Lund		108·9	327	—	—	28 17	PS	58·5	—
Copenhagen		109·3	327	18 59	PP	28 17	PS	58·5	—
Victoria		109·8	40	—	—	28 25	PS	—	—
Cheb		110·7	321	—	—	e 28 49	PS	—	—
Jena		111·0	322	e 21 29	PPP	e 29 59	?	—	—
Hamburg		111·2	325	e 19 11	PP	e 28 41	PS	e 57·5	64·5
Florence	Z.	112·8	314	16 29	?	26 29	{+ 2}	35·2	42·5
Stuttgart		113·0	320	19 25	PP	e 30 0	?	e 56·5	—
Feldberg	N.	113·1	322	—	—	e 24 41	?	—	58·5
Strasbourg		114·0	320	(e 19 29?)	PP	—	—	e 19·5	—
Scoresby Sund		114·0	349	19 41	PP	30 6	?	58·5	—
De Bilt		114·5	325	—	—	e 27 31	?	e 55·5	67·1
Uccle		115·4	324	—	—	e 27 29?	?	e 55·5	—
Paris		117·2	322	e 19 29?	PP	e 29 43	SKSP	61·5	74·5

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		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Edinburgh		117·4	330	—	—	e 31 29?	—	—	—
Kew		117·8	325	e 20 5	PP	—	—	e 57·5	—
Granada		125·4	310	—	—	e 29 59	SKSP	e 70·5	88·5
Florissant	Z.	135·3	40	e 19 9	[− 6]	—	—	e 65·7	—
St. Louis	E.	135·5	40	e 21 49	PP	—	—	—	—
Toronto	E.	138·1	27	i 22 59	PKS	e 33 59	?	65·5	—
Ottawa		138·2	22	e 18 29?	[−50]	e 26 53	?	e 57·5	—
Fordham	N.	142·7	25	e 21 48	?	—	—	58·0	76·0
Georgetown		142·9	29	19 24	[− 3]	29 48	{+ 7}	67·9	77·0
La Paz		152·2	151	i 19 52	[+ 8]	26 58	PPP	79·5	97·9

Additional readings: Batavia i = +4m.41s. Manila PPE = +5m.29s., PPZ = +5m.31s., PPPE = +5m.34s., PPPZ = +5m.35s. Perth PP = +5m.44s. Medan i = +10m.5s., +12m.53s., and +18m.35s. Adelaide i = +12m.0s., iSSS = +12m.46s. Zi-ka-wei iZ = +8m.55s. = PP +4s. Koti SS = +17m.18s. Toyooka ePN = +8m.11s. Kucino PS = +25m.49s. Pulkovo PS = +26m.33s. Helsingfors iN = +27m.17s. = PS +10s., eE = +32m.42s. = SS +13s. Stuttgart iZ = +19m.34s. = PP +15s., and +20m.19s., ePPZ? = +23m.39s., ePPPN = +27m.11s., eEZ = +29m.7s. = PS +10s., ePS?N = +34m.59s. = SS +0s. De Bilt ePPZ = +19m.48s., eEZ = +29m.17s. = PS +6s. Uccle e = +30m.29s. Kew ePS = +29m.46s. Florissant eE = +21m.32s. = PP −20s., iPPZ = +21m.46s., eEN = +22m.45s. = PKS −10s., iPPPZ = +24m.31s., eEN = +32m.14s. = PS −4s. St. Louis eE = +22m.44s. = PKS −11s. Ottawa e = +22m.56s. = PKS −8s., +35m.29s. and +45m.29s. = SSS +13s. Fordham eN = +22m.27s. = PP −11s., +34m.55s., and +39m.58s. Georgetown i = +20m.22s., PKP = +22m.34s. = PP −5s., i = +23m.49s., PP = +24m.40s., ? = +31m.3s. and +34m.35s., eL? = +33m.56s., PS = +35m.55s., PPS = +36m.59s., e = +41m.6s. = SS +11s. La Paz PPE = +24m.35s. Long waves were also recorded at Ksara, Almeria, Toledo, San Fernando, and Rio de Janeiro.

Mar. 30d. 20h. 9m. 26s. Epicentre 32°·7N. 131°·9E. (as on 1929 Mar. 15d.). X.

A = −·562, B = +·626, C = +·540; D = +·744, E = +·668; G = −·361, H = +·402, K = −·842.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Matuyama	1·3	32	i 0 11	− 7	0 23	−10	—	0·4
Hukuoka	1·5	305	0 21	0	0 39	0	—	0·7
Koti	1·6	58	i 0 19	− 4	i 0 35	− 6	—	0·6
Nagasaki	1·7	271	0 29	+ 5	0 47	+ 3	—	—
Sumoto	3·0	56	−0 2	−45	0 26	−51	—	0·5
Kobe	3·3	54	e 0 44	− 3	1 18	− 7	—	1·7
Osaka	3·5	56	0 53	+ 3	(1 40)	+10	1·7	2·3
Toyooka	3·7	39	0 59	+ 6	1 23	−12	1·6	1·7
Nagoya	4·8	58	1 5	− 3	1 54	− 9	—	—

Koti gives also i = +23s., eE = +31s.

Mar. 30d. Readings also at 5h. (near Nagasaki), 7h. (Chicago), 8h. (Nagoya), 9h. (Amboina, Perth, Adelaide, Melbourne, Riverview, and La Paz), 14h. (Ekaterinburg, Irkutsk, Tashkent, and Florissant), 15h. (Ottawa and near Amboina), 17h. (Adelaide and Riverview), 21h. (Samarkand), 23h. (Andijan, Samarkand, Ekaterinburg, and Adelaide).

March 31d. 12h. 33m. 55s. Epicentre **40°·0N. 24°·0E.** R.1.
(as on 1923 Dec. 5d.).

$A = +\cdot700$, $B = +\cdot312$, $C = +\cdot643$; $D = +\cdot407$, $E = -\cdot914$; $G = +\cdot587$, $H = +\cdot261$, $K = -\cdot766$.

Probable error of epicentre $\pm 0°\cdot3$.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Belgrade		5·5	334	e 1 16	− 2	i 2 31	+11	—	3·7
Messina		6·8	257	1 23	−14	—	—	—	—
Naples	E.	7·5	280	e 1 45	− 1	e 3 25	+14	—	6·1
Budapest		8·3	336	2 0	+ 2	4 0	+29	5·1	6·6
Zagreb		8·3	318	i 1 56	− 2	e 3 33	+ 2	4·6	5·9
Sebastopol		8·4	54	e 2 32	+33	—	—	—	—
Rocca di Papa		8·7	284	i 1 59	− 4	e 3 21	−20	e 4·6	5·3
Yalta		8·8	56	e 2 13	+ 8	—	—	—	—
Simferopol		8·9	53	e 2 22	+16	—	—	—	—
Laibach		9·2	314	e 2 41	+31	e 4 14	+20	e 5·0	6·1
Graz		9·4	322	2 8	− 5	4 9	+10	4·3	7·4
Theodosia		9·8	55	e 2 19	+ 1	—	—	—	—
Lemberg	E.	9·8	0	e 2 35	+17	—	—	e 5·1	6·8
	N.	9·8	0	e 2 29	+11	—	—	e 5·6	7·3
Vienna		9·9	329	i 2 21	+ 2	4 32	+21	i 5·7	6·1
Florence	Z.	10·2	296	2 25	+ 1	4 17	− 1	—	5·7
Ksara		11·3	119	2 45	+ 6	5 1	+16	6·2	—
Innsbruck		11·7	313	e 2 38	− 6	i 4 46	− 9	5·6	6·8
Helwan		11·8	147	i 2 41	− 5	4 48	−10	—	12·0
Chur		12·6	308	e 2 52	− 4	e 6 6	L	(e 6·1)	—
Ravensburg		13·0	312	e 3 5	+ 3	5 34	+ 7	6·5	7·5
Cheb		13·0	325	e 3 0	− 2	e 5 29	+ 2	e 7·3	8·1
Zurich		13·4	309	e 3 3	− 4	e 5 42	+ 5	—	—
Stuttgart		13·7	315	3 9	− 2	e 5 45	+ 1	i 6·7	8·2
Jena		13·9	326	e 3 11	− 3	e 6 5	+ 6	—	8·7
Neuchatel		14·1	305	e 3 12	− 5	e 5 55	+ 2	—	—
Karlsruhe		14·3	314	4 5	+46	6 50	+52	7·5	11·1
Strasbourg		14·4	312	e 3 19	− 2	e 6 15	+14	e 7·1	9·4
Potsdam		14·5	333	e 3 24	+ 2	e 6 15	+12	e 8·5	9·3
Feldberg	N.	14·9	318	e 3 15	−12	—	—	e 7·2	8·5
Besançon		14·9	305	3 23	− 4	e 6 14	+ 1	8·1	—
Konigsberg		15·0	352	e 3 32	+ 4	e 6 28	+13	—	—
Gottingen		15·1	325	e 3 29	− 1	i 6 33	+16	i 8·3	9·5
Hamburg		16·6	330	e 3 48	− 1	e 7 5	+13	e 10·5	12·3
Barcelona		16·6	282	e 3 44	− 5	e 6 46	− 6	e 8·2	10·4
Algiers		16·7	266	i 3 42	− 8	7 38	+43	10·5	11·2
Lund		17·2	339	i 4 1	+ 4	7 17	+11	9·1	—
Uccle		17·4	315	e 3 58	− 1	e 7 19	+ 8	e 8·5	10·0
Copenhagen		17·5	338	4 1	+ 1	7 23	+10	10·1	—
Paris		17·6	307	e 3 59	− 3	i 7 23	+ 8	9·1	10·1
De Bilt		17·7	319	4 3	0	7 30	+13	9·8	11·3
Tortosa	N.	17·8	280	4 3	− 1	7 12	− 8	9·2	14·4
Kucino		18·2	25	4 21	+12	7 53	+24	9·1	11·8
Alicante		19·0	273	i 4 43	+24	i 8 11	+25	e 11·2	—
Baku		19·7	80	e 4 36	+10	i 8 32	+32	12·1	15·6
Helsingfors		20·2	1	e 4 34	+ 2	i 8 29	+19	e 11·4	—
Pulkovo		20·2	9	i 4 36	+ 4	8 21	+11	11·6	13·3
Upsala		20·3	351	e 4 34	+ 1	e 8 21	+ 9	e 11·7	12·4
Kew		20·3	312	e 4 35	+ 2	e 8 18	+ 6	9·4	11·5
Almeria		20·8	270	4 29	− 9	8 18	− 4	e 11·4	17·5
Oxford		21·4	313	i 4 39	− 1	i 8 29	+ 3	i 11·0	11·5
Toledo		21·4	279	e 4 40	− 4	i 8 27	− 7	e 9·9	15·1
Granada		21·7	269	i 4 42	− 6	i 8 37	− 3	—	16·1
Malaga		22·5	271	5 5	+ 9	8 23	−32	11·7	—
Stonyhurst		22·6	317	5 4	+ 7	i 8 58	+ 1	—	15·1

Continued on next page.

	Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
	°	°	m. s.	s.	m. s.	s.	m.	m.
Bidston	22·7	315	e 5 25	+27	e 9 5	+ 6	e 11·9	14·3
Bergen	23·5	337	5 5?	0	9 28	+14	e 13·1	14·1
Edinburgh	23·9	321	5 15	+ 6	9 23	+ 2	—	14·4
San Fernando	23·9	271	5 15	+ 6	9 5	−16	12·1	15·6
Dyce	24·1	324	e 5 1	−10	9 26	+ 1	—	—
Ekaterinburg	29·0	43	i 6 1	+ 5	i 10 58	+10	13·0	18·7
Samarkand	32·7	76	e 6 50	+21	—	—	—	—
Andijan	36·4	75	e 7 13	+12	—	—	—	—
Scoresby Sund	38·4	338	7 23	+ 5	13 22	+10	—	—
Almata	39·0	68	e 7 43	+19	—	—	—	—
Bombay	46·7	102	8 24	− 2	15 28	+14	25·1	42·4
Ivigtut	47·5	322	8 36	+ 4	15 29	+ 3	22·1	—
Irkutsk	54·0	49	e 9 27	+ 6	e 16 57	+ 1	29·1	35·9
Colombo	59·7	109	15 22	?	—	—	—	37·4
Harvard	67·5	309	—	—	e 19 35	−16	30·1	—
Ottawa	68·6	312	—	—	e 20 5	+ 1	e 31·1	—
Hong Kong	76·0	74	21 35	S	(21 35)	+ 3	e 45·4	56·4
St. Louis	81·0	315	e 12 17	+ 4	e 22 21	− 5	e 37·3	—
Florissant	81·0	315	e 12 11	− 2	i 22 19	− 7	e 37·1	45·6
Manila	85·9	75	14 26	?	—	—	—	—
Victoria	87·1	339	23 13	S	(23 13)	−15	40·6	53·5

Additional readings: Belgrade i = +1m.52s. and +2m.42s., iPS = +2m.53s. Zagreb iNW = +2m.12s., eNE = +2m.17s., e = +2m.21s., eNW = +2m.29s., eNE = +2m.43s., eNW = +2m.53s., e = +3m.0s., i = +3m.12s. and +3m.17s., e = +3m.25s. and +3m.45s., i = +4m.14s., eSSE = +4m.32s. Vienna iE = +2m.34s., iZ = +3m.30s., PS_2 = +4m.34s. Ravensburg eE = +3m.55s., eSS = +5m.58s. Stuttgart eSSZ = +6m.1s., iSSE = +6m.5s., iN = +6m.21s. Jena iPN = +3m.21s., iPE = +3m.23s., and +3m.27s. Potsdam iE = +8m.15s. Feldberg i = +3m.25s. Konigsberg eN = +7m.43s., eE = +8m.35s., iN = +8m.52s., eE = +9m.37s., iN = +11m.37s., iE = +11m.44s., iN = +12m.32s. Gottingen iP = +3m.36s. Algiers SS = +8m.45s. De Bilt iZ = +4m.8s. Tortosa PE = +3m.56s. Helsingfors iPN = +4m.39s., iN = +4m.50s., iPPN = +5m.0s., iPPEN = +5m.6s., iSSSN = +9m.13s., eN = +10m.37s. Kew iP = +4m.38s. Almeria PP = +5m.28s. Granada PP = +5m.30s. Scoresby Sund +8m.52s. = PP + 10s. and +15m.53s. = SS + 11s. Long waves were also recorded at Georgetown and Vladivostok.

March 31d. 23h. 45m. 12s. Epicentre 11°·0N. 140°·0E. (as on 30d.). X.

A = −·752, B = +·631, C = +·191; D = +·643, E = +·766; G = −·146, H = +·123, K = −·982.

		Δ	Az.	P.	O−C.	S.	O−C.	L.	M.
		°	°	m. s.	s.	m. s.	s.	m.	m.
Manila		18·9	283	i 5 4	+47	i 7 52	+ 8	—	—
Taihoku	E.	22·4	311	e 3 48?	−67	—	—	—	—
Zi-ka-wei	Z.	26·5	322	e 5 52	+18	—	—	—	19·9
Hong Kong		27·1	298	6 6	+27	—	—	—	19·3
Irkutsk		50·3	333	8 54	0	e 16 13	+ 8	25·8	31·1
Tashkent		68·3	311	e 11 11	+11	e 20 30	+29	e 33·8	47·0
Ekaterinburg		75·0	328	11 40	0	e 21 23	+ 3	33·7	—
Kucino		87·6	327	e 18 12	?	e 23 24	− 9	e 38·2	52·2
Pulkovo		90·1	333	—	—	e 23 28	[− 5]	e 54·8	—

Additional readings: Hong Kong e = +6m.59s. and +11m.24s. = SS + 4s. Long waves were also recorded at Vladivostok, Florissant, Ottawa, Zagreb, De Bilt, and Uccle.

March 31d. Readings also at 1h. (Samarkand, near Nagoya, Osaka, and Tyosi), 2h. (near Taihoku), 3h. (Andijan), 4h. (near Tyosi (2)), 7h. (Manila), 9h. (near Santiago and near Sumoto), 11h. (Lick), 12h. (Wellington), 13h. (Manila), 14h. (Wellington), 21h. (near Amboina and near Sumoto), 22h. (Zagreb and near Manila).