From January 1th January30th 19 31

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

$\varphi = 34^\circ\ 39'$ N. $\lambda = 135^\circ\ 32'$ E. Gr. h = 3.4m Sub-Soil: Sandy Loam (Oldquaternary)

Instrument: Omori's Seismograph (Horizontal & Vertical)

	T_0	ε	$\frac{r}{T_0^2}$	V
A_E:	30	-	0.003	20
A_N:	30	-	0.003	20
A_Z:	15	-	0.004	20

Wiechert Seismograph (Horizontal & Vertical)

	T_0	ε	$\frac{r}{T_0^2}$	V
A_E:	4	3.2	0.003	80
A_N:	4	3.2	0.003	80
A_Z:	6	2.0	0.005	80

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
1	Jan. 1	P	23 51 44.4					3360	
		S	56 52.7						
		L	0 01 56.8						
		ME	04 30.8	3.7	+16				
		MN	05 13.0	3.7		-13			
		MZ	02 58.7	5.0			±7		
		FE	15 07.5						
		FN	15 22.6						
		FZ	15 02.0						
2	" 4	P	7 41 47.8					199	
		L	42 14.6						
		ME	42 39.5	1.9	-14				
		MN	43 09.4	2.4		±14			
		MZ	42 39.1	2.2			±4		
		FE	45 22.1						
		FN	45 37.2						
		FZ	44 59.6						
3	" 6	P	3 25 10.5					346	
		L	25 57.2						
		ME	27 58.0	4.1	±11				
		MN	27 47.6	2.9		±8			
		MZ	26 37.5	2.8			-6		
		FE	33 16.7						
		FN	33 28.5						
		FZ	32 43.2						
4	" 8	P	15 43 37.4					45	Near Kobe
		L	43 43.7						
		ME	43 43.7	0.3	-3				
		MN	43 43.7	0.3		+4			
		FE	44 56.9						
		FN	45 11.9						
5	" 9	P	1 47 15.4					136	
		L	47 33.6						
		ME	49 57.0	3.5	±23				
		MN	49 37.9	2.3		+25			
		MZ	49 46.0	2.6			±13		
		FE	58 41.9						
		FN	58 22.8						
		FZ	54 35.6						
6	" 15	P	2 08 47.3					11280	Mexico
		S	20 39.5						
		L	37 02.8						
		MZN	59 33.5	21.4		+525			
		MZ	59 05,2	18.8			+19		
		FN	4 04 43.0						
		FZ	3 43 13.0						
7	" 15	P	13 40 20.8					430	
		L	41 18.8						
		ME	41 59.4	3.2	-19				
		MN	41 58.9	2.6		-21			
		MZ	41 57.2	2.9			-9		
		FE	47 52.4						
		FN	47 54.5						
		FZ	46 35.0						

No. From ..... to ..... 19 .....

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
8	Jan. 15	P	21 03 53.8					1503	
		L	06 31.1						
		ME	09 08.6	4.1	+218				
		MN	08 31.2	4.0		+168			
		MZ	08 07.6	6.2			+141		
		FE	37 29.7						
		FN	37 32.8						
		FZ	30 51.6						
9	" 15	P	22 50 00.8					1224	
		L	52 11.2						
		ME	53 22.6	4.2	-13				
		MN	53 18.0	3.2		-10			
		FE	23 09 40.4						
		FN	09 25.3						
10	" 16	P	1 29 51.0					1343	
		L	32 12.3						
		ME	33 48.3	3.3	±6				
		MN	33 33.6	3.5		±7			
		FE	38 41.0						
		FN	38 27.8						
		FZ	43 37.6						
11	" 16	P	1 54 11.8					464	
		L	55 14.3						
		ME	56 10.6	2.8	±6				
		MN	56 04.9	2.6		±6			
		MZ	55 29.1	2.6			±3		
		FE	59 02.8						
		FN	59 54,7						
		FZ	59 41.3						
12	" 17	P	0 53 39.03					870	
		L	55 37.6						
		ME	56 41.1	2.6	-14				
		MN	56 22.6	3.3		-27			
		MZ	56 44.7	3.2			-11		
		FE	1 02 15.4						
		FN	02 16.3						
		FZ	01 19.9						
13	" 17	P	16 54 49.3					124	Felt slig htly.
		L	55 05.9						
		ME	55 21.8	2.1	±30				
		MN	55 58.9	2.3		-31			
		MZ	55 30.4	1.5			-154		
		FE	58 56.4						
		FN	58 59.5						
		FZ	58 56.2						
14	" 21	P	9 00 48.8					948	
		L	02 57.4						
		ME	03 49.9	2.2	+17				
		MN	03 55.8	2.4		-32			
		MZ	04 08.5	2.8			-8		
		FE	09 58.3						
		FN	09 52.2						
		FZ	09 24.4						
15	" 21	P	13 59 20.1					135	
		L	59 38.2						
		ME	59 46.0	1.2	-4				
		MN	59 42.9	1.0		+4			
		MZ	59 49.3	1.6			+1		
		FE	14 00 53.2						
		FN	00 54.3						
		FZ	01 07.9						
16	" 22	P	17 00 42.1					507	
		L	01 50.3						
		ME	03 06.4	3.2	-19				

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From ..... to ..... 19 .....

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
16	Jan. 22	ME	17 03 06.4	3.2	-19				
		MN	02 50.7	2.8		+29			
		MZ	02 47.0	2.7			+10		
		FE	11 31.7						
		FN	11 47.8						
		FZ	09 09.9						
17	" 22	P	21 15 30.8					171	
		L	15 53.8						
		ME	16 37.3	1.9	+8				
		MN	16 14.2	1.8		+11			
		MZ	16 24.7	1.5			+3		
		FE	19 12.0						
		FN	19 12.1						
		FZ	18 59.0						
18	" 23	P	10 47 27.3					165	
		L	47 49.5						
		ME	47 58.9	1.1	-8				
		MN	48 08.9	1.9		-10			
		FE	49 44.3						
		FN	49 51.4						
19	" 24	P	13 46 20.1					3337	
		S	51 26.9						
		L	55 35.1						
		MN	57 25.6	14.0		+500			
		FN	14 45 20.6						
20	" 24	P	14 40 31.0					763	
		L	42 13.8						
		ME	42 53.3	2.2	+11				
		MN	43 11.8	2.4		+12			
		FE	47 39.7						
		FN	47 47.8						
21	" 24	P	16 52 19.7					381	
		L	53 11.1						
		ME	53 42,8	2.2	±5				
		MN	53 36.5	3.2		+11			
		FE	57 53.2						
		FN	57 37.6						
22	" 27	P	20 16 02.8					3628	
		S	21 28.2						
		L	27 17.1						
		ME	32 06.6	16.0	-2750				
		MN	30 03.4	21.4		+1928			
		MZ	31 19.9	13.7			-166		
		FE	21 40 15.8						
		FN	39 26.1						
		FZ	23 40.2						
23	" 28	P	21 29 15.5					3218	
		L	34 13.7						
		ME	39 29.0	20.0	-1725				
		MN	37 35.3	28.1		-2705			
		FE	22 52 00.7						
		FN	49 56.0						
24	" 28	P	22 20 18.5					2976	
		S	24 59.9						
		ME	26 33.8	4.9	±13				
		MN	26 08.3	4.9		±11			
		FE	49 32.1						
		FN	46 10.0						

From ..... to ..... 19 .....

OSAKA JAPAN

SEISMOLOGICAL BULLETIN

of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
25	Jan. 29	P	2 55 07.7					354	
		L	55 55.3						
		ME	55 59.9	2.3	+6				
		MN	56 06.1	2.6		±6			
		FE	58 25.1						
		FN	58 40.5						
26	" 30	P	1 41 16.6					436	
		L	42 15.4						
		ME	42 42.0	2.4	+9				
		MN	42 41.7	2.8		+13			
		MZ	42 38.2	1.9			-5		
		FE	46 14.9						
		FN	45 34.6						
		FZ	44 48.3						
			THE END						

From Feb. 1th to Feb. 27th, 31. 19

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

$\varphi = 34^\circ\ 39'$ N. $\lambda = 135^\circ\ 32'$ E. Gr. h = 3.4m Sub-Soil: Sandy Loam (Oldquaternary)

Instrument: Omori's Seismograph (Horizontal & Vertical)

	T_o	ε	$\frac{r}{T_o^2}$	V
A_E:	30	-	0.003	20
A_N:	30	-	0.003	20
A_Z:	15	-	0.004	20

Wiechert Seismograph (Horizontal & Vertical)

	T_o	ε	$\frac{r}{T_o^2}$	V
A_E:	4	3.2	0.003	80
A_N:	4	3.2	0.003	80
A_Z:	6	2.0	0.005	80

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
27	Feb. 1	P	21 08 10.5					120	
		L	08 26.6						
		ME	08 29.6	0.7	∓6				
		MN	08 27.8	0.7		-3			
		MZ	08 28.7	0.6			-1		
		FE	L0 10.3						
		FN	10 26.9						
		FZ	10 08.2						
28	" 2	P	22 69 12.7					9044	New Zealand
		S	23 09 25.4						
		L	22 28.6						
		ME	32 07.2	20.6	-245				
		MN	32 23.1	21.3		+853			
		MZ	32 05.2	21.7			±58		
	" 3	FE	2 11 50.0						
		FN	12 15.9						
		FZ	0 05 24.1						
29	" 4	P	18 55 15.6					76	
		L	55 25.8						
		ME	55 55.5	1.1	-23				
		MN	55 59.2	1.4		+23			
		MZ	55 53.7	1.6			-8		
		FE	58 29.1						
		FN	58 33.3						
		FZ	57 22.6						
30	" 6	P	15 16 54.7					30	
		P	16 56.5						
		L	16 58.7						
		ME	16 58.7	0.9	+3				
		MN	16 58.7	0.7		+6			
		FE	18 22.4						
		FN	18 36.4						
31	" 9	P	14 45 28.8					303	
		P	45 32.3						
		L	46 09.6						
		ME	46 33.8	2.2	+13				
		MN	46 35.0	2.4		±19			
		MZ	46 32.8	1.7			±6		
		FE	49 57.1						
		FN	49 51.2						
		FZ	49 03.0						
32	" 10	P	3 14 53.2					137	
		L	15 11.6						
		ME	15 12.0	1.1	+9				
		MN	15 17.5	2.0		+13			
		MZ	15 ∤34.8	1.6			+6		
		FE	17 31.3						
		FN	17 26.5						
		FZ	17 07.4						
33	" 10	P	3 42 57.0					42	
		L	43 02.7						
		FE	46 53.3						
		FN	46 27.2						
		FZ	46 16.2						

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
34									
34	Feb. 10	P	6 43 15.5					5539	
		S	50 27.4						
		L	7 03 49.7						
		MN	06 23.5	20.5		+175			
		FN	8 30 26.6						
35	" 11	P	9 16 52.7					496	
		L	17 59.5						
		ME	18 10.0	2.7	+13				
		MN	18 27.3	2.6		+20			
		MZ	18 52.1	2.3			±6		
		FE	22 58.7						
		FN	22 48.6						
		FZ	21 38.5						
36	" 12	P	5 52 40.5					5972	
		S	6 00 15.1						
		MN	14 26.7	18.4		±25			
		FN	40 59.7						
37	" 12	P	11 32 44.3					339	
		L	33 29.9						
		ME	34 29.9	3.0	+7				
		MN	33 56.6	3.0		-8			
		FE	37 59.0						
		FN	37 58.3						
		FZ	37 28.7						
38	" 13	P	0 44 27.2					2006	
		L	47 50.8						
		ME	48 57.4	4.6	-19				
		MN	49 01.0	3.9		+17			
		MZ	48 05.2	3.8			±11		
		FE	1 03 33.7						
		FN	03 02.8						
		FZ	0 51 58.8						
39	" 13	P	1 39 44.6					9232	
		S	50 06.7						
		L	2 10 03.0						
		MN	12 56.0	21.4		±75			
		MZ	12 33.2	23.2			±11		
		FN	24 50.9						
		FZ	23 45.0						
40	" 16	P	18 50 52.9					888	
		L	52 52.6						
		ME	54 31.7	4.8	-194				
		MN	54 38.9	3.5		+192			
		MZ	54 08.3	6.3			-236		
		FE	19 11 51.7						
		FN	11 46.6						
		FZ	L0 23.4						
41	" 19	P	17 49 38.1					5460	
		L	56 45.6						
		ME	58 33.3	5.5	±6				
		MN	59 08.5	3.9		±6			
		MZ	58 02.4	3.7			+5		
		FE	18 06 16.1						
		FN	06 15.2						
		FZ	03 41.8						
42	" 19	P	18 33 17.3					5814	
		L	40 43.5						
		ME	41 32.4	3.6	±3				
		MN	41 59.2	3.6		-6			
		MZ	41 ~~40~~/00 17.7	3.4			+2		
		FE	48 46.0						
		FN	48 16.6						
		FZ	45 00.6						

No. From ..... to ..... 19 .....

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
43	Feb. 19	P	21 40 19.2					4581	
		L	46 38.06						
		ME	47 38.4	3.6	-5				
		MN	47 15.0	4.1		±5			
		MZ	47 26.7	2.3			±3		
		FE	56 57.9						
		FN	57 00.L						
		FZ	56 46.7						
44	" 20	P	5 35 44.4					827	N. of Japa Sea, W. 14 S. 26, U. 75.
		L	37 35.9						
		ME	39 31.4	4.1	-469				
		MN	38 29.0	4.1		-509			
		MZ	38 10.6	3.6			±453		
		FE	6 09 49.1						
		FN	08 39.2						
		FZ	06 39.4						
45	" 25	P	20 31 44.0					294	
		L	32 23.6						
		ME	32 47.7	1.8	+6				
		MN	32 40.4	1.8		±6			
		MZ	32 35.6	1.8			+5		
		FE	36 02.9						
		FN	35 17.7						
46	" 27	P	9 44 17.8					3739	
		L	49 49.7						
		ME	51 19.7	3.8	+8				
		MN	51 20.6	3.8		-8			
		FE	10 04 45.5						
		FN	04 44.8						
		FZ	04 02.8						

(THE END)

From March 1st, to March 31st 1931

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

$\varphi = 34^\circ\ 39'$ N. $\lambda = 135^\circ\ 32'$ E. Gr. h = 3.4m Sub-Soil: Sandy Loam (Oldquaternary)

Instrument: Omori's Seismograph (Horizontal & Vertical)

	T_0	ε	$\frac{r}{T_0^2}$	V
A_E:	30	-	0.003	20
A_N:	30	$\frac{1}{2}$	0.003	20
A_Z:	15	-	0.004	20

Wiechert Seismograph (Horizontal & Vertical)

	T_0	ε	$\frac{r}{T_0^2}$	V
A_E:	4	3.2	0.003	80
A_N:	4	3.2	0.003	80
A_Z:	6	2.0	0.005	80

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
47	March 1	P	14 25 59.7					1029	
		L	28 18.5						
		ME	29 18.7	2.4	-11				
		MN	29 24.2	2.8		∓23			
		MZ	28 35.8	3.6			∓6		
		FE	35 40.0						
		FN	35 50.0						
		FZ	34 40.0						
48	" 2	P	2 28 54.3					1875	
		S	32 06.3						
		L	37 47.2						
		ME	39 05.2	4.8	+19				
		MN	39 46.2	3.3		±13			
		MZ	39 16.7	4.3			-13		
		FE	47 00.0						
		FN	47 20.0						
		FZ	44 40.0						
49	" 3	P	20 40 57.6					507	
		L	42 05.8						
		ME	42 37.6	2.2	+9				
		MN	42 51.4	2.0		±10			
		MZ	42 41.1	2.7			-8		
		FE	47 20.0						
		FN	47 30.0						
		FZ	46 00.0						
50	" 6	P	12 27 11.1					334	
		L	27 56.1						
		ME	28 29.0	1.8	±5				
		MN	28 13.9	2.3		±8			
		MZ	28 29.3	2.7			±5		
		FE	31 00.0						
		FN	30 40.0						
		FZ	31 20.0						
51	" 6	P	16 14 05.2					299	
		L	14 45.4						
		ME	15 11.4	3.1	+114				
		MN	14 39.8	2.4		-147			
		MZ	15 17.2	2.6			-56		
FE		FE	29 20.0						
		FN	29 30.0						
		FZ	25 20.0						
52	" 6	P	16 54 14.6					300	
		L	54 55.0						
		ME	56 22.5	3.0	+95				
		MN	56 24.7	2.5		-166			
		MZ	55 43.1	3.2			+64		
		FE	17 07 20.0						
		FN	07 10.0						
		FZ	03 40.0						
53	" 8	P	2 24 33.9					8350	
		L	34 11.4						
		MN	43 02.4	15.5	±525				

No. From ..... to ..... 19 .....

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
53	March 8	FN	3 18 30.0						
54	" 8	P	11 48 11.7					271	
		L	48 48.2						
		ME	49 19.2	1.2	-9				
		MN	49 11.2	1.2		+11			
		MZ	49 34.4	1.7			+4		
		FE	51 10.0						
		FN	51 40.0						
		FZ	53 20.0						
55	" 8	P	12 46 46.1					55	Felt slightly.
		L	46 53.4						
		ME	46 56.5	1.6	-9				
		MN	46 53.4	1.6		+11			
		MZ	46 55.6	2.0			±4		
		FE	49 50.0						
		FN	50 00.0						
		FZ	48 50.0						
56	" 9	P	3 50 51.0					933	
		L	52 56.7						
		ME	54 18.8	5.0	-559				
		MN	54 20.5	3.7		±589			
		MZ	54 20.1	2.0			±128		
		FE	4 57 00.0						
		FN	56 10.0						
		FZ	56 00.0						
57	" 9	P	5 38 23.9					87	
		L	38 35.6						
		ME	38 35.6	0.9	-3				
		MN	38 35.6	0.9		-6			
		FE	40 10.0						
		FN	40 10.0						
58	" 9	P	7 20 22.5					289	
		L	21 01.5						
		ME	21 18.1	2.1	+2				
		MN	21 20.2	2.2		~~±1~~ ±3			
		FE	24 00.0						
		FN	23 50.0						
59	" 9	P	17 30 49.6					845	
		L	32 43.4						
		ME	33 20.5	3.4	±5				
		MN	33 28.2	2.1		+7			
		MZ	33 06.3	2.6			±4		
		FE	38 10.0						
		FN	38 20.0						
		FZ	37 00.0						
60	" 9	P	17 58 02.3					918	
		L	18 00 06.0						
		ME	00 35.8	2.1	-19				
		MN	00 50.8	2.3		±31			
		MZ	01 10.1	2.3			+11		
		FE	10 00.0						
		FN	09 50.0						
		FZ	08 20.0						
61	" 9	P	18 42 01.0					3074	
		L	42 51.4						
		ME	43 12.4	2.0	-5				
		MN	43 18.3	2.0		+6			
		MZ	43 29.8	2.2			+3		
		FE	45 40.0						
		FN	45 20.0						
		FZ	44 50.0						

No. 00 From ..... to ..... 19..

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

$\varphi = 34^\circ\ 39'$ N. $\lambda = 135^\circ\ 32'$ E. Gr. h = 3.4m Sub-Soil: Sandy Loam (Oldquaternary)

Instrument: Omori's Seismograph (Horizontal & Vertical)

62 March 11	P	5 02 23.7		
	L	04 33.0		
	ME	05 09.0	V	2.3
	MN	04 59.2		2.3
	MZ	04 47.2		2.0
	FE	12 30.0		
	FN	12 10.0		
	FZ	10 30.0		

Wiechert Seismograph (Horizontal & Vertical) 959

	T_o	ε	$\frac{r}{T_o^2}$	V
A_E:	-9	+14	+6	
A_N:				
A_Z:				

No.	Date	Phase	G.M.T. h. m. s	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	Δ km.	Remarks
63	" 11	P	6 06 42.0					843	
		L	08 35.5						
		ME	09 40.2	3.4	±5				
		MN	09 24.6	3.5		±5			
		FE	15 50.0						
		FN	15 20.0						
64	" 11	P	12 29 54.4					1554	
		L	32 36.8						
		ME	34 01.7	5.1	+24				
		MN	33 14.5	4.1		+20			
		FE	13 05 50.0						
		FN	05 50.0						
		FZ	05 50.0						
65	" 12	P	5 06 58.7					398	
		L	07 52.4						
		ME	08 38.3	2.0	+6				
		MN	08 37.8	2.2		-6			
		MZ	08 10.3	1.8			±2		
		FE	10 30.0						
		FN	11 10.0						
		FZ	10 30.0						
66	" 12	P	10 40 42.2					2375	
		L	44 37.2						
		MN	48 24.5	18.9		-118			
		MZ	48 17.2	18.2			±11		
		FN	11 02 20.0						
		FZ	02 10.0						
67	" 12	P	19 11 46.0					996	
		S	14 00.3						
		L	16 16.0						
		MN	18 28.1	14.5		±50			
		FN	32 40.0						
			02						
68	" 12	P	21 ØØ/01.1					2369	
		L	05 55.7						
		MN	08 05.2	11.0		±25			
		FN	20 00.0						
69	" 15	P	16 35 22.1					981	
		L	37 34.4						
		ME	38 47.8	3.9	+69				
		MN	38 35.8	3.7		-43			
		MZ	38 41.1	3.8			+24		
		FE	51 30.0						
		FN	51 50.0						
		FZ	49 30.0						
70	" 17	P	9 47 24.7					556	
		L	48 39.6						
		ME	49 47.1	2.0	-8				
		MN	49 16.2	1.8		+11			
		MZ	49 27.6	2.2			-6		
		FE	54 10.0						
		FN	54 40.0						
		FZ	54 10.0						

OSAKA JAPAN

SEISMOLOGICAL BULLETIN

of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
71	March 18	P	8 29 32.3					16000	
		S	44 53.7						
		L	9 16 04.8						
		MN_1	34 15.4	15.0		±45			
		MN_2	49 44.8	13.6		±50			
		FN	10 56 10.0						
72	" 18	P	20 19 51.0					2469	
		L	23 539						
		ME	25 40.4	4.6	-34				
		MN	25 47.0	4.0		-45			
		MZ	27 01.2	40			-14		
		FE	44 40.0						
		FN	44 20.0						
		FZ	44 20.0						
73	" 19	P	3 07 35.9					245	
		L	08 08.9						
		ME	08 29.6	2.2	+3				
		MN	08 31.3	2.3		-5			
		MZ	08 37.6	2.6			-4		
		FE	10 30.0						
		FN	10 40.0						
		FZ	10 00.0						
74	" 19	P	6 29 50.2					2396	
		L	33 46.8						
		ME	35 19.2	5.1	-94				
		MN	35 01.7	3.9		-99			
		MZ	34 30.9	4.7			-40		
		FE	59 20.0						
		FN	59 20.0						
		FZ	55 00.0						
75	" 26	P	18 44 56.5					255	
		L	45 30.9						
		ME	46 31.7	3.3	-11				
		MN	46 41.1	2.9		-19			
		MZ	46 11.8	3.0			-6		
		FE	48 20.0						
		FN	50.00.0						
		FZ	48 30.0						
76	" 26	P	20 26 58.8					425	
		L	27 56.0						
		ME	28 19.3	2.3	+8				
		MN	28 20.1	2.6		+13			
		MZ	28 20.6	2.3			+11		
		FE	31 30.0						
		FN	31 40.0						
		FZ	30 30.0						
77	" 28	P	12 46 23.4					4420	
		L	52 34.4						
		ME	54 05.2	5.1	+63				
		MN	54 06.9	3.8		+39			
		MZ	56 38.8	4.0			+44		
		FE	13 14 50.0						
		FN	15 00.0						
		FZ	15 00.0						
78	" 29	P	17 54 17.2					381	
		L	55 08.6						
		ME	57 18.1	3.6	±41				
		MN	57 14.5	2.8		+75			
		MZ	57 24.4	3.8			+28		
		FE	18 09 40.0						
		FN	09 50.0						
		FZ	05 30.0						

From.....to.....19.....

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
79	March 31	P	14 46 10.0					51	
		L	46 17.6.9						
		ME	47 00.9	0.4	+24				
		MN	47 01.3	0.4		-26			
		MZ	46 49.2	0.4			-5		
		FE	52 00.0						
		FN	52 00.0						
		FZ	51 40.0						
			(THE END)						

From March 31st to April 30th, 1931.

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

$\varphi = 34^\circ\ 39'$ N. $\lambda = 135^\circ\ 32'$ E. Gr. $h = 3.4$m Sub-Soil: Sandy Loam (Oldquaternary)

Instrument: Omori's Seismograph (Horizontal & Vertical)

	T_o	ε	$\frac{r}{T_o^2}$	V
A_E:	30	-	0.003	20
A_N:	30	-	0.003	20
A_Z:	15	-	0.004	20

Wiechert Seismograph (Horizontal & Vertical)

	T_o	ε	$\frac{r}{T_o^2}$	V
A_E:	4	3.2	0.003	80
A_N:	4	3.2	0.003	80
A_Z:	6	2.0	0.005	80

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
80	March 31	P	20 45 16.9					58	
		L	45 24.6						
		ME	45 57.4	1.6	-19				
		MN	46 02.3	1.4		-19			
		MZ	45 55.0	1.4			-6		
		F	50 10.0						
81	" 31	P	21 46 24.6					59	
		L	46 32.6						
		ME	46 50.8	0.6	-4				
		MN	46 46.6	0.7		+5			
		MZ	46 41.0	0.2			±1		
		F	48 20.0						
82	April 2	P	0 34 29.3					570	
		L	35 46.1						
		ME	36 02.7	1.5	±7				
		MN	36 02.7	1.5		±7			
		F	40 30.0						
83	" 9	P	5 32 13.0					85	
		L	32 24.4						
		ME	32 55.1	2.1	+10.0				
		MN	32 52.4	1.8		-141			
		MZ	33 06.4	2.1			-54		
		FE	42 50.0						
		FZ	39 50.0						
84	" 9	P	13 23 13.1					133	
		L	23 31.0						
		ME	23 32.9	0.6	+6				
		MN	23 37.0	0.4		+2			
		F	25 10.0						
85	" 9	P	14 01 53.2					309	
		L	02 34.8						
		ME	02 46.2	2.4	-31				
		MN	02 52.0	1.7		-25			
		MZ	03 07.7	2.1			-19		
		F	10 50.0						
86	" 9	P	23 04 04.3					1427	
		L	06 34.0						
		ME	07 08.1	3.5	-26				
		MN	07 36.1	3.3		+33			
		MZ	07 14.9	4.3			†14		
		F	23 --						
87	" 14	P	22 26 28.6					287	
		L	27 07.3						
		ME	27 53.1	2.2	+5				
		MN	27 39.1	2.2		+5			
		MZ	27 13.6	2.5			-3		
		F	30 20.0						

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
88	April 18	P	12 20 25.6					82	
		L	20 36.7						
		ME	20 37.8	0.4	-6				
		MN	20 4 7.1	0.6		+5			
		F	22 20.0						
89	" 19	P	2 33 35.9					838	
		L	35 28.8						
		ME	37 05.3	5.3	+25				
		MN	37 04.8	3.9		+24			
		MZ	3Ø6 59.1	4.1			+16		
		F	51 40.0						
90	" 20	P	10 03 14.3					628	
		L	04 38.9						
		ME	06 05.1	2.8	+6				
		MN	05 35.0	2.3		+6			
		MZ	06 16.8	2.2			±4		
		F	11 20.0						
91	" 20	P	10 30 58.5					36	
		L	31 03.3						
		F	33 30.0						
92	" 21	P	0 03 13.4					404	
		L	04 07.8						
		ME	04 11.1	3.7	+100				
		MN	04 12.1	2.8		+162			
		MZ	04 17.3	3.8			+86		
		F	18 00.0						
93	" 22	P	22 16 42.1					82	
		L	16 53.2						
		ME	16 53.4	-	-11				
		MN	16 53.6	)		-6			
		F	18 20.0						
94	" 23	P	5 13 24.1					616	
		L	14 47.1						
		ME	15 44.4	2.1	-4				
		MN	15 38.1	2.6		±5			
		F	18 00.0						
95	" 24	P	3 35 00.1					240	
		L	35 32.3						
		ME	36 52.6	2.0	+12				
		MN	37 03.5	2.2		-4			
		MZ	36 21.6	2.4			±6		
		F	41 30.0						
96	" 24	P	17 29 44.9					10085	
		L	40 46.9						
		MN	45 18.4	25.7		±130			
		F	18 28 10.0						
97	" 26	P	4 27 42.6					2843	
		L	32 13.9						
		F	43 50.0						
98	" 26	P	12 35 02.2					295	
		L	35 41.9						
		ME	35 51.9	1.4	-3				
		MN	36 04.5	1.4		±2			
		F	38 00.0						

From ..... to ..... 19 .....

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
99	April 27	e.p	17 01 37.9					-	
		L	11 15.1						
		ME	12 19.3	3.9	-6				
		MN	12 13.5	3.5		+6			
		F	19 00.0						
100	" 30	P	4 39 45.5					43	
		L	39 51.3						
		ME	40 14.0	1.5	+6				
		MN	40 03.8	1.5		±6			
		F	42 00.0						
			(THE END)						

No. 56

From 3rd May to 30th May, 1931.

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

$\varphi = 34^\circ\ 39'$ N. $\lambda = 135^\circ\ 32'$ E. Gr. h = 3.4m Sub-Soil: Sandy Loam (Oldquaternary)

Instrument: Omori's Seismograph (Horizontal & Vertical)

	T_0	ε	$\frac{r}{T_0^2}$	V
A_E:	30	-	0.003	20
A_N:	30	-	0.003	20
A_Z:	15	-	0.004	20

Wiechert Seismograph (Horizontal & Vertical)

	T_0	ε	$\frac{r}{T_0^2}$	V
A_E:	4	3.2	0.003	80
A_N:	4	3.2	0.003	80
A_Z:	6	2.0	0.005	80

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
101	May 3	P	8 05 49.8					110	Felt slightly
		$\overline{P}$	05 52.5						
		L	06 04.6						
		ME	07 18.5	2.4	-114				
		MN	07 06.8	2.4		-126			
		MZ	06 36.6	1.7			-50		
		F	14 50.0						
102	" 11	P	18 27 59.9					685	
		L	29 19.4						
		ME	30 15.0	4.1	+31				
		MN	29 59.5	3.4		-38			
		MZ	29 49.7	3.0			+18		
		F	37 20.0						
103	" 12	P	1 42 14.4					2658	
		L	46 31.9						
		ME	46 47.8	3.9	-26				
		MN	47 23.9	3.5		+28			
		MZ	47 29.1	3.8			+14		
		F	55 10.0						
104	" 13	P	23 06 08.2					806	
		L	07 56.9						
		ME	10 59.7	3.8	-6				
		MN	10 23.6	3.8		-8			
		MZ	09 30.0	2.7			+5		
		F	17 00.0						
105	" 14	P	23 24 57.1					999	
		L	27 11.7						
		ME	28 15.5	4.0	-12				
		MN	28 13.5	3.8		+14			
		MZ	28 03.8	4.0			-8		
		F	36 00.0						
106	" 15	P	7 52 09.1					986	
		L	54 22.2						
		ME	55 48.7	4.0	-6				
		MN	55 30.3	4.0		+6			
		MZ	55 26,6	3.0			+4		
		F	8 00 00.0						
107	" 18	P	8 40 36.4					106	
		L	40 50.7						
		ME	40 51.7	1.0	±3				
		MN	40 58.6	0.6		±2			
		F	42 20.0						
108	" 20	P	2 40 53.5					-	
		S	56 00.0						
		L	3 13 45.5						
		MN	27 54.5	19.0		+150			
		MZ	32 01.5	16.0			±19		
		F	4 14 50.0						

From ..... to ..... 19 .....

OSAKA JAPAN

SEISMOLOGICAL BULLETIN

of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
109	May 24	P	0 18 38.5					944	
		L	20 45.7						
		ME	24 43.6	5.5	-8				
		MN	24 36.6	5.3		-13			
		F	36 00.0						
110	" 25	P	6 50 21.8					539	
		L	51 34.5						
		ME	52 28.5	3.4	-38				
		MN	52 34.9	3.6		-26			
		MZ	52 13.4	2.3			+14		
		F	58 30.0						
111	" 26	P	9 13 30.4					500	
		L	14 37.8						
		ME	15 40.3	4.2	-31				
		MN	16 28.6	4.0		+32			
		MZ	15 10.9	2.6			+13		
		F	22 00.0						
112	" 28	P	16 16 50.7					900	
		L	18 51.9						
		ME	19 14.8	3.2	-12				
		MN	19 14.0	3.8		-12			
		MZ	19 16.8	2.9			-8		
		F	24 50.0						
113	" 29	P	8 31 42.8					-	
		e.L	36 12.7						
		F	40 50.0						
114	" 30	P	16 55 28.8					45	Felt slightly
		L	55 34.8						
		ME	55 35.0	0.4	-18				
		MN	55 41.8	0.4		-18			
		MZ	55 40.5	0.2			-8		
		F	59 00.0						

(T H E E N D)

From June 2rd to June 29th, 1931.

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

$\varphi = 34^\circ\ 39'$ N. $\lambda = 135^\circ\ 32'$ E. Gr. h = 3.4m Sub-Soil: Sandy Loam (Oldquaternary)

Instrument: Omori's Seismograph (Horizontal & Vertical)

	T_o	ε	$\frac{r}{T_o^2}$	V
A_E:	30	-	0.003	20
A_N:	30	-	0.003	20
A_Z:	15	-	0.004	20

Wiechert Seismograph (Horizontal & Vertical)

	T_o	ε	$\frac{r}{T_o^2}$	V
A_E:	4	3.2	0.003	80
A_N:	4	3.2	0.003	80
A_Z:	6	2.0	0.005	80

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
115	June 2	P	2 38 33.5					272	
		L	39 10.1						
		ME	39 11.2	4.3	-578				
		MN	39 36.9	3.9		-547			
		MZ	39 18.9	6.0			-300		
		F	58 30.0						
116	2" 4	P	9 07 38.5					40	
		L	07 43.9						
		ME	07 44.1	0.4	-7				
		MN	07 44.3	0.4		±3			
		F	10 00.0						
117	" 4	P	9 57 40.2					4294	
		L	10 03 44.1						
		ME	04 41.9	4.9	±9				
		MN	05 10.3	4.8		±7			
		F	12 10.0						
118	" 6	P	5 20 59.7					40	Felt slightly
		L	21 05.1						
		ME	21 06.1	0.4	+43				
		MN	21 06.3	0.4		+38			
		MZ	21 05.1	0.3			+11		
		F	24 30.0						
119	" 6	P	21 05 55.3					77	
		L	06 05.7						
		ME	06 06.2	1.1	+4				
		MN	06 04.3	1.1		-4			
		F	07 00.0						
120	" 9	P	5 09 01.6					462	
		L	10 03.8						
		ME	11 03.9	3.4	+181				
		MN	10 42.9	3.5		+269			
		MZ	11 09.5	3.4			+103		
		F	23 00.0						
121	" 11	P	6 16 53.2					330	
		L	17 38.2						
		ME	18 05.5	3.4	+600				
		MN	18 05.9	3.4		+523			
		MZ	18 01.8	2.1			+144		
		F	33 50.0						
122	" 12	P	1 46 52.1					514	
		L	48 01.2						
		ME	48 57.2	3.3	+33				
		MN	48 27.1	3.3		+64			
		F	52 40.0						
123	" 13	P	22 46 52.9					476	
		L	47 57.0						
		ME	48 49.2	3.0	+19				

No. 59.

From ..... to ..... 19 .....

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
123	June 13	MN	48 15.0	3.3		+19			
		MZ	48 36.2	2.4			±19		
		F	52 40.0						
124	" 17	P	12 10 31.8					361	Felt slighily. first motion S 0.31 W 1.88 U 1.25
		L	11 20.4						
		ME	12 36.9	4.3	±1378				
		MN	11 53.5	4.0		-1250			
		MZ	12 12.3	2.2			-484		
		F	34 10.0						
125	" 17	P	17 09 56.8					4197	
		L	15 54.9						
		ME	16 52.9	4.2	+6				
		MN	16 52.5	4.4		+6			
		F	26 50.0						
126	" 19	P	19 42 36.2					62	
		L	42 44.5						
		ME	43 09.0	1.5	±6				
		MN	43 16.4	1.5		±6			
		MZ	42 45.8	0.4			±1		
		F	46 00.0						
127	" 23	P	6 16 14.2					570	
		L	17 30.8						
		ME	18 25.8	4.2	-870				
		MN	18 12.4	5.5		-883			
		MZ	18 31.5	2.7			-250		
		F	40 10.0						
128	" 27	P	18 08 39.1					1812	
		e.L	11 45.3						
		F	22 40.0						
129	" 29	P	6 21 31.2					4872	
		L	22 34.7						
		ME	23 20.5	2.6	±5				
		MN	23 11.6	2.6		±6			
		F	26 10.0						
130	" 29	P	8 23 50.2					342	
		L	24 36.3						
		ME	24 53.4	2.0	-6				
		MN	25 01.o	2.4		-11			
		F	28 20.0						
131	" 29	P	16 09 48.3					431	
		L	10 43.2						
		ME	11 01.3	2.4	+13				
		MN	11 21.3	3.2		-20			
		F	14 00.0						
132	" 29	P	16 44 07.1					281	
		L	44 44.9						
		ME	45 08.9	3.8	+218				
		MN	45 08.7	3.7		+453			
		F	17 00 300						

(T H E E N D)

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

$\varphi = 34^\circ\ 39'$ N. $\lambda = 135^\circ\ 32'$ E. Gr. h = 3.4m Sub-Soil: Sandy Loam (Oldquaternary)

Instrument: Omori's Seismograph (Horizontal & Vertical)

	T_0	ε	$\frac{r}{T_0^2}$	V
A_E:	30	-	0.003	20
A_N:	30	-	0.003	20
A_Z:	15	-	0.004	20

Wiechert Seismograph (Horizontal & Vertical)

	T_0	ε	$\frac{r}{T_0^2}$	V
A_E:	4	3.2	0.003	80
A_N:	4	3.2	0.003	80
A_Z:	6	2.0	0.005	80

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
133	July 1st	P	5 53 27.6					361	
		L	54 16.2						
		ME	54 45.1	2.4	-6				
		MN	54 53.0	3.4		±6			
		F	57 20.0						
134	" 1	e.P	6 42 44.2					119	
		i	43 47.2						
		L	43 00.2						
		ME	43 21.8	1.6	+11				
		MN	43 12.5	1.6		-11			
		F	45 50.0						
135	" 2	P	3 41 38.5						
		L	45 08.7					2082	
		E	52 20.0						
136	" 4	P	16 02 33.8					74	
		i	02 36.3						
		i	02 38.5						
		L	02 43.8						
		ME	03 19.9	4.2	±88				
		MN	03 19.7	4.0		-57			
		F	13 30.0						
137	" 7	P	5 41 41.4					64	
		L	41 50.0						
		ME	42 07.4	1.0	-5				
		MN	42 13.8	0.6		±4			
		F	44 00.0						
138	" 7	P	20 47 22.2					272	
		L	47 58.8						
		ME	48 20.8	1.8	-8				
		MN	48 37.0	2.0		±8			
		F	51 20.0						
139	" 8	P	9 44 56.2					178	
		i	45 02.2						
		L	45 20.2						
		ME	45 32.8	2.0	+13				
		MN	45 30.8	2.2		-13			
		F	50.00.0						
140	" 8	P	10 25 48.3					208	
		i	25 54.3						
		L	26 16.3						
		ME	26 24.3	1.6	+8				
		MN	26 32.2	2.0		+6			
		F	30 00.0						
141	" 10	P	134 43.0					223	
		L	35 13.0						
		ME	35 28.0	2.0	-8				
		MN	35 28.0	2.0		+5			
		F	37 20.0						
142	" 10	P	6 00 14.4					383	

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
142	July 10	P	6 00 14.4					383	
		L	01 06.0						
		ME	02 02.4	2.4	+14				
		MN	01 44.4	3.0		+19			
		F	07 40.0						
143	" Lo	P	13 11 31.1					448	
		i	11 41.3						
		L	12 31.4						
		ME	13 19.0	2.4	+78				
		MN	13 23.7	3.6		±93			
		F	25 30.0						
144	" 10	P	19 17 46.5					44	
		i	17 48.2						
		L	17 52.4						
		ME	19 02.1	2.2	-44				
		MN	18 56.4	2.4		-31			
		F	26 40.0						
145	" 12	P	16 50 51.1					2979	
		L	55 32.7						
		ME	57 10.4	5.6	-31				
		MN	56 10.4	5.0		+38			
		F	17 09 10.0						
146	" 13	P	14 59 17.2					51	
		L	59 24.1						
		ME	59 24.1	0.2	±1				
		MN	59 24.1	0.2		-3			
		F	15 01 50.0						
147	" 15	P	10 27 20.8					39	
		i	27 22.8						
		L	27 26.1						
		ME	27 26.1	0.3	-6				
		MN	27 26.3	0.3		+5			
		F	30 40.0						
148	" 15	P	16 32 38.8					2762	
		L	37 04.0						
		ME	38 21.0	5.1	±4				
		MN	38 52.0	4.3		±4			
		F	51 00.0						
149	" 18	P	11 29 18.0					2834	
		L	33 48.6						
		ME	34 13.8	4.4	±16				
		MN	34 42.2	4.3		-19			
		F	46 40.0						
150	" 19	P	9 45 17.2					521	
		L	46 27.5						
		ME	48 13.4	3.6	+16				
		MN	48 09.5	3.9		-13			
		F	53 10.0						
151	" 19	P	12 24 37.5					530	
		L	25 48.9						
		ME	26 45.4	4.4	+14				
		MN	26 27.1	3.8		-30			
		F	34 50.0						
152	" 21	P	3 46 34.4					7222	
		L	55 15.0						
		ME	56 479	4.8	±11				
		MN	56 37.3	5.4		-18			
		F	4 03 50.0						

From ..... to ..... 19 .....

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
153	July 22	P	6 07 22.8					267	
		L	07 57.4						
		ME	08 33.4	3.6	+11				
		MN	08 25.4	3.6		+19			
		F	12 30.0						
154	" 23	P	14 28 39.4					4532	
		L	34 56.0						
		ME	58 57.9	4.0	±25				
		MN	38 44.0	4.2		±25			
		F	44 50.0						
155	" 26	P	1 41 58.7					492	
		L	43 05.0						
		ME	43 40.0	2.1	-31				
		MN	43 41.7	3.2		+31			
		F	47 00.0						
156	" 28	P	2 06 32.9					209	
		i	06 45.2						
		L	07 01.1						
		ME	07 57.1	2.4	-26				
		MN	08 20.5	2.8		+26			
		F	13 50.0						
157	" 30	P	15 16 26.8					137	
		L	16 45.2						
		ME	17 12.7	1.7	-13				
		MN	17 16.9	1.5		-11			
		MZ	17 12.2	1.3			+35		
		F	20 00.0						
158	" 30	P 1	19 47 23.0					499	
		L	48 30.2						
		ME	48 52.1	2.4	±8				
		MN	48 53.7	2.0		+6			
		MZ	48 39.2	2.5			+6		
		F	55 10.0						

(T H E E N D)

No.

From Aug.2nd to Aug.31th 19

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

$\varphi = 34^\circ\ 39'$ N. $\lambda = 135^\circ\ 32'$ E. Gr. h = 3.4m Sub-Soil: Sandy Loam (Oldquaternary)

Instrument: Omori's Seismograph
(Horizontal & Vertical)

	T_o	ε	$\frac{r}{T_o^2}$	V
A_E:	30	—	0.003	20
A_N:	30	—	0.003	20
A_Z:	15	—	0.004	20

Wiechert Seismograph
(Horizontal & Vertical)

	T_o	ε	$\frac{r}{T_o^2}$	V
A_E:	4	3.2	0.003	80
A_N:	4	3.2	0.003	80
A_Z:	4	2.0	0.005	80

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
159	Aug. 2	P	20 14 26.2					2007	
		L	17 49.9						
		ME	18 40.8	4.3	+6				
		MN	18 40.9	4.9		±6			
		MZ	18 10.1	3.3			±2		
		F	30 40.0						
160	" 2	P	22 07 38.4					384	
		L	08 30.2						
		ME	09 11.5	2.7	+6				
		MN	09 15.3	2.7		+6			
		MZ	09 027	2.6			−4		
		F	14 40.0						
161	" 2	P	23 33 54.2					2001	
		L	37 17.3						
		ME	39 16.4	4.7	−7				
		MN	39 41.7	4.3		+8			
		F	50 10.0						
162	" 5	P	1 29 26.8					2957	
		i	30 24.2						
		L	34 06.6						
		ME	35 53.6	5.9	±14				
		MN	36 01 6	5.5		±13			
		F	49 20.0						
163	" 6	P	18 21 17.2					4175	
		S	27 14.2						
		L	30 12.3						
		ME	34 25.1	3.9	±9				
		MN	33 24.8	4.2		-13			
		F	47 30.0						
164	∅" 7	P	2 18 26.4					4807	
		S	24 58.0						
		L	30 20.7						
		F	3 11 40.0						
165	" 7	P	23 35 02.4					193	
		L	35 28.4						
		ME	35 43.1	4.0	±16				
		MN	35 38.7	4.0		-18			
		MZ	36 01.4	2.6			±6		
		F	37 50.0						
166	" 8	P	17 01 39.0					386	
		L	02 31.0						
		ME	02 33.4	3.0	+50				
		MN	02 44.2	3.0		+36			
		MZ	02 42.5	3.2			±16		
		F	10 40.0						
167	∅" 10	P	14 34 37.8					252	Felt slightly at Osaka.
		i	34 43.8						
		L	35 11.8						

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
167	Aug. 10	ME	14 35 33.8	2.0	+500				
		MN	35 31.9	2.0		+500			
		MZ	35 37.8	2.0			-237		
		F	44 22 0						
168	" 10	P	21 25 43 1					2812	
		S	30 12.2						
		L	35 34.3						
		ME	42 25.4	10.1	-483				
		MN	42 18.3	12.3		+451			
		MZ	41 50.2	10.9			+269		
		F	23 17 10.0						
169	" 13	P	22 21 12.8					3834	
		S	26 50.4						
		L	30 55.2						
		ME	32 14.4	4.6	±5				
		MN	31 53.3	4.6		±3			
		F	49 20.0						
170	" 14	P	2 11 14.1					50	
		L	11 20.9						
		ME	11 20.9	0.3	-3				
		MN	11 20.9	0.3		-1			
		F	13 40.0						
171	" 14	P	16 20 07.4					964	
		L	22 173						
		ME	27 21.2	3.9	±2				
		MN	26 49.3	4.4		±3			
		F	32 40.0						
172	" 15	P	12 45 55.4					781	
		L	47 40.7						
		ME	48 01.8	3.9	-19				
		MN	47 57.9	4.2		-20			
		MZ	48 16.4	3.8			-11		
		F	58 10.0						
173	" 16	P	16 54 37.2					65	Felt slightly at Osaka.
		L	54 45.9						
		ME	54 46.1	0.3	±13				
		MN	54 47.5	0.3		-6			
		MZ	54 45.9	0.2			+2		
		F	57 50.0						
174	" 17	P	17 51 06.2					1336	
		L	53 27.8						
		Me	54 40.2	3.9	-22				
		MN	55 09.6	4.1		-30			
		MZ	53 57.2	3.9			±6		
		F	59 30.0						
175	" 18	P	5 41 33.1					504	
		L	42 40.9						
		ME	43 41.9	3.6	-125				
		MN	43 25.0	3.9		-126			
		MZ	43 05.1	2.3			+50		
		F	51 50.0						
176	" 18	P	14 27 58.7					4233	
		S	33 59.1						
		L	39 18.8						
		ME	44 11.7						
		MN	44 02.2	6.8	-36				
		F	15 15 20.0	5.8		-75			

From ..... to ..... 19 .....

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
177	" 19	P	1 28 22.6					197	
		L	28 49.1						
		ME	30 00.7	3.1	+47				
		MN	29 43.6	3.6		+44			
		MZ	29 28.3	2.7			±19		
		F	37 10.0						
178	" 20	P	0 07 11.3					1549	
		L	09 53.2						
		ME	11 18.7	2.6	±8				
		MN	11 17.3	4.0		±8			
		MZ	11 23.0	3.1			-4		
		F	17 40.0						
179	" 20	P	6 32 00.9					237	
		L	32 32.8						
		ME	32 34.8	0.8	±3				
		MN	32 34.8	0.6		+5			
		F	35 00.0						
180	" 20	P	8 50 33.5					68	Felt slightly at Osaka.
		i	50 34.6						
		L	50 42.6						
		ME	50 44.6	0.3	±19				
		MN	50 46.3	0.3		-13			
		MZ	50 43.0	0.2			+5		
		F	54 40.0						
181	" 21	P	19 22 16.2					1426	
		L	24 45.8						
		ME	25 38.6	3.9	+6				
		MN	26 07.3	4.5		+9			
		F	30 50.0						
182	" 24	P	19 57 54.4					223	
		L	58 24.4						
		ME	58 39.1	1.9	-6				
		MN	58 35.7	1.9		+7			
		F	20 00 ∅0.0						
183	" 24	P	21 44 35.6					7018	
		S	53 05.8						
		L	22 07 24.5						
		F	30 20.0						
184	" 27	P	15 37 09.3					6348	
		S	45 04.2						
		L	58 44.4						
		ME	16 03 08.2	17.8	+19				
		MN	02 16.6	16.8		±31			
		MZ	08 54.0	13.3			±13		
		F	58 40.0						
185	" 30	P	15 28 07.9					28	
		L	28 11.7						
		ME	28 11.7	0.4	+8				
		MN	28 16.1	0.4		+4			
		MZ	28 15.1	0.4			±2		
		F	34 15.0						
186	" 31	P	3 51 57.4					387	
		L	52 49.5						
		ME	53 12.3	3.0	±5				
		MN	53 28.7	2.3		+6			

No. 66 From ..... to ..... 19 .....

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
		MZ	3 53 07.5	2.0			+5		
		F	4 00 10.0						
187	Aug. 31.	P	6 39 54.3					2513	
		L	44 00.5						
		ME	45 29.7	4.1	-7				
		MN	44 57.5	5.2		+11			
		MZ	44 31.8	3.6			±6		
		F	55 00.0						
			(THE	End	)				

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

$\varphi = 34^\circ\ 39'$ N. $\lambda = 135^\circ\ 32'$ E. Gr. h = 3.4m Sub-Soil: Sandy Loam (Oldquaternary)

Instrument: Omori's Seismograph (Horizontal & Vertical)

	T_0	ε	$\frac{r}{T_0^2}$	V
A_E:	30	∞	0.003	20
A_N:	30	—	0.003	20
A_Z:	15	—	0.004	30

Wiechert Seismograph (Horizontal & Vertical)

	T_0	ε	$\frac{r}{T_0^2}$	V
A_E:	4	3.2	0.003	80
A_N:	4	3.2	0.003	80
A_Z:	6	2.0	0.005	80

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
188	Sept. 1	P	5 31 53.1					449	
		L	32 53.6						
		ME	33 33.2	3.7	-8				
		MN	33 29.9	3.5		-8			
		MZ	33 31.5	2.1			-5		
		F	40 00.0						
								873	
189	" 1	P	13 38 58.7						
		L	40 56.3						
		ME	41 30.7	3.0	-6				
		MN	41 37.3	2.6		-6			
		MZ	41 50.9	2.6			-5		
		F	48 00.0						
190	"6	P	5 21 19.8					135	
		L	21 38.0						
		ME	21 55.7	1.6	±3				
		MN	21 50.6	1.0		+3			
		F	26 40.0						
191	" 6	P	20 35 51.0					467	
		i	36 1?3						
		L	36 53.9						
		ME	37 15.2	2.1	±14				
		MN	37 23.9	2.5		-14			
		MZ	37 51.9	1.8			±4		
		F	43 30.0						
192	" 7	P	17 14 13.5					134	
		L	14 31.5						
		ME	14 51.2	2.0	+14				
		MN	14 59.1	1.6		+13			
		MZ	14 57.1	1.5			±6		
		F	19 10.0						
193	" 8								
		P	19 10 21.4					551	
		i	11 18.9						
		L	11 35.7						
		ME	12 37.8	3.9	-293				
		MN	12 33.3	4.0		-322			
		MZ	12 26.0	2.5			+95		
		F	26 10.0						
194	" 9	P	20 42 24.6					1754	
		L	45 25.2						
		ME	46 24.5	5.4	-100				
		MN	46 33.4	4.8		+128			
		MZ	45 43.3	4.9			+25		
		F	21 03 10.0						
195	" 13	P	16 00 33.0					114	
		L	00 48.4						
		ME	00 49.0	0.6	+5				
		MN	00 48.6	0.6		+5			
		MZ	00 52.0	0.3			-1		
		F							

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
196	Sept. 15	P	9 22 53.6					57	
		L	22 41.8						
		ME	22 41.3	0.3	+4				
		MN	22 41.4	0.3		+5			
		F	24 00.0						
197	" 16	P	12 43 54.3					332	Felt slightly at Osaka.
		L	44 38.9						
		ME	45 37.5	4.4	+960				
		MN	45 07.4	5.8		-880			
		MZ	45 04.3	2.8			+438		
		F	13 05 00.0						
198	" 16	P	14 28 04.0					321	
		L	28 47.3						
		ME	29 12.5	2.8	+8				
		MN	29 11.3	2.4		-8			
		F	31 10.0						
199	" 16	P	19 13 27.2					86	Felt slightly at Osaka.
		L	13 36.1						
		ME	13 50.4	1.0	+131				
		MN	13 36.4	1.1		+159			
		MZ	13 59.4	1.0			-50		
		F	23 30.0						
200	" 18	P	6 14 18.2					339	
		L	15 08.8						
		ME	15 29.9	3.0	+105				
		MN	15 31.6	3.0		-131			
		MZ	15 28.6	2.9			+25		
		F	28 30.0						
201	" 18	P	13 26 12.5					53	
		L	26 19.0						
		ME	26 24.1	0.4	+4				
		MN	26 21.5	0.4		-4			
		MZ	26 20.1	0.3			±1		
		F	30 30.0						
202	" 19	P	7 46 18.3					3124	
		L	51 10.1						
		F	8 01 30.0						
203	" 20	P	15 15 20.9					425	
		L	15 18.2						
		ME	17 04.7	2.4	-6				
		MN	17 15.9	2.3		-6			
		MZ	16 59.8	2.5			±2		
		F	24 20.0						
204	" 20	P	22 43 41.2					236	
		L	44 13.7						
		ME	44 45.6	2.0	-3				
		MN	44 59.0	1.8		-3			
		MZ	45 01.1	2.5			±2		
		F	50 00.0						
205	" 21	P	2 20 54.6					373	Felt slightly at Osaka.
		L	21 44.8						
		ME	22 24.5	5.5	-4608				
		MN	22 13.3	5.2		+4234			
		MZ	22 09.5	2.9			+1588		N...1.2 E...2.2 D...0.5
		F	3 11 30.0						
206	" 21	e.P	2 43 22.0					360	
		L	44 10.5						

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OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
		F	2 46 00.0						
207	Sept. 21	P	2 46 42.2					366	
		L	47 51.5						
		ME	47 59.4	1.8	+9				
		MN	47 42.3	1.8		±5			
		MZ	48 00.6	1.7			-5		
		F	50 20.0						
208	" 21	P	3 11 34.7					384	
		L	12 26.6						
		ME	13 05.4	1.7	±8				
		MN	13 05.5	1.7		±8			
		MZ	12 55.4	1.4			-7		
		F	19 10.0						
209	" 21	P	3 26 03.2					355	
		L	26 51.0						
		ME	27 21.5	1.7	+6				
		MN	27 10.2	1.5		+5			
		F	31 40.0						
210	" 21	P	3 55 49.4					373	
		L	56 39.6						
		ME	56 56.6	1.6	-4				
		MN	56 46.3	2.0		-3			
		F	4 00 10.0						
211	" 21	P	6 22 25.3					344	
		i	22 55.4						
		L	23 11.7						
		ME	23 38.6	2.0	+13				
		MN	23 39.7	2.3		+13			
		F	30 10.0						
212	" 21	P	6 49 57.3					366	
		i	50 20.4						
		L	50 46.6						
		ME	51 17.9	1.9	+19				
		MN	51 00.7	1.9		+20			
		MZ	51 19.2	1.8			+6		
		F	59 20.0						
213	" 21	P	7 08 23.9					343	
		L	09 10.2						
		ME	09 19.0	2.4	+6				
		MN	09 33.9	2.3		-7			
		F	12 40.0						
214	" 21	P	7 46 00.5					212	
		L	46 29.0						
		ME	46 29.0	1.6	-5				
		MN	46 29.8	1.9		-5			
		F	50 20.0						
215	" 21	P	9 29 46.7					418	
		L	30 42.09						
		ME	31 12.6	1.7	+6				
		MN	31 13.6	1.9		+5			
		F	35 20.0						
216	" 21	eP	9 48 37.0					362	
		eL	49 25.8						
		F	51 00.0						
217	" 21	P	9 51 21.5					318	

No. 70 From ..... to ..... 19 .....

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
		L	9 52 04.3						
		ME	52 57.2	1.9	-9				
		MN	53 38.3	1.7		+7			
		F	55 40.0						
218	Sept. 21	eP	10 25 03.7					266	
		L	25 38.5						
		ME	26 05.3	2.2	5				
		MN	26 45.4	1.6		-3			
		F	28 10.0						
219	" 21	P	10 33 42.3					2813	
		S	37 10.5						
		L	41 49.5						
		ME	43 34.5	4..	-59				
		MN	44 15.9			+39			
		F	11 03 10.0						
220	" 21	eP	13 31 53.9					334	
		L	32 18.3						
		ME	32 39.2	1.5	-2				
		MN	32 43.7	1.4		-3			
		F	34 30.0						
221	" 21	P	13 46 41.9					3482	
		S	51 57.7						
		L	57 00.2						
		ME	58 15.8	3.3	±3				
		MN	58 15.4	3.3		±3			
		F	14 05 50.0						
222	" 21	eP	17 52 21.7					339	
		L	53 07.3						
		ME	53 44.4	2.0	-5				
		MN	53 36.8	2.0		-6			
		F	56 20.0						
223	" 21	P	18 08 15,1					320	
		L	08 58.3						
		ME	09 22.7	3.0	-2				
		MN	09 21.7	2.4		±5			
		F	11 30.0						
224	" 21	P	18 24 09.3					380	
		L	25 00.2						
		ME	25 26.9	2.0	±1				
		MN	25 26.9	1.8		±2			
		F	27 40.0						
225	" 22	P	8 37 39.7					357	
		L	38 27.8						
		ME	39 03.7	2.0	+8				
		MN	39 09.7	2.0		+5			
		F	50 10.0						
226	" 23	P	12 47 07.9					351	
		L	47 55.1						
		ME	48 10.3	1.6	+6				
		MN	48 12.2	1.4		±7			
		MZ	48 10.3	1.2			-4		
		F	52 00.0						
227	" 23	P	16 23 33.9					374	
		i	23 52.5						
		L	24 24.3						
		ME	24 41.6	1.5	-11				

No. 72 From Oct. 2nd to Oct. 31th 1931

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

$\varphi = 34^\circ\ 39'$ N. $\lambda = 135^\circ\ 32'$ E. Gr. h = 3.4m Sub-Soil: Sandy Loam (Oldquaternary)

Instrument: Omori's Seismograph (Horizontal & Vertical)

	T_0	ε	$\frac{r}{T_0^2}$	V
A_E:	30	—	0.003	20
A_N:	30	—	0.003	20
A_Z:	15	—	0.004	20

Wiechert Seismograph (Horizontal & Vertical)

	T_0	ε	$\frac{r}{T_0^2}$	V
A_E:	4	3.2	0.003	80
A_N:	4	3.2	0.003	80
A_Z:	6	2.0	0.005	80

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
234	Oct. 2	P	17 37 39.5					373	
		i	37 49.4						
		L	38 29.7						
		ME	39 04.6	3.0	-134				
		MN	38 57.0	3.2		-156			
		MZ	38 58.8	1.9			-36		
		F	54 30.0						
235	" 3	P	19 22 21.3					6111	
		S	30 03.7						
		L	37 37.3						
		ME	41 39.5	15.5	-106				
		MN	41 22.9	15.2		+100			
		MZ	41 36.7	19.3			-20		
		F	21 23 0.0						
236	" 3	P	21 27 34.8					5370	
		S	34 37.3						
		L	41 39.3						
		ME	46 36.8	18.1	±2				
		MN	47 43.2	16.2		-2			
		F	55 30.0						
237	" 3	P	22 05 01.2					5149	
		S	11 51.4						
		L	17 53.3						
		ME	24 26.1	21.2	+10				
		MN	23 54.0	20.0		+12			
238	" 3	P	22 56 48.6					5754	
		S	23 04 11.8						
		L	10 35.9						
		ME	15 55.3	20.3	±33				
		MN	16 32.8	20.5		±39			
		MZ	16 48.3	19.0			±38		
	" 4	F	0 01 30.0						
239	" 4	e.P	0 57 00.4					)-	
		S	1 01 55.2						
		F	15 0.0						
240	" 5	e.P	7 16 29.4					-	
		S	21 17.7						
		F	30 0.0						
241	" 5	P	12 55 37.1					586	
		L	56 56.8						
		ME	57 52.1	2.5	±7				
		MN	57 55.0	2.1		+8			
		MZ	58 12.7	2.2			±5		
		F	13 05 30.0						
242	" 5	P	22 40 21.6					6902	
		L	48 45.7						

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
		F	23 00 40.0						
243	Oct. 10	P	0 28 59.3					5490	
		S	36 08.3						
		L	42 06.8						
		ME	47 46.0	17.9	-49				
		MN	48 02.1	16.2		-74			
		MZ	48 02.1	19.3			±44		
244	" 10	P	1 17 01.2					5646	
		S	24 18.5						
		L	29 44.1						
		ME	32 57.4	21.7	±12				
		MN	34 53.3	19.4		+10			
245	" 10	P	1 33 33.1					5486	
		S	40 41.9						
		L	48 46.7						
		ME	55 42.4	22.9	+33				
		MN	57 24.7	19.2		-30			
246	" 10	e.P	2 26 01.6					-	
		e.S	31 36.4						
		ME	41 11.8	19.0	±3				
247	" 10	e.P	3 12 24.1					-	
		e.S	19 09.5						
		ME	22 19.6	16.7	±5				
		F	48 30.0						
248	" 10	P	16 42 47.6					4295	
		L	48 51.6						
		ME	52 04.6	17.1	+45				
		F	17 17 20.0						
249	" 16	P	6 43 45.6					595	
		L	45 05.7						
		F	56 0.0						
250	" 17	P	15 36 20.6					1718	
		L	39 18.4						
		ME	39 25.5	2.8	+9				
		MN	39 42.7	3.0		-13			
		F	48 10.0						
251	" 18	P	4 41 21.2					3076	
		S	46 09.8						
		L	50 18.2						
		ME	50 39.1	4.9	±13				
		MN	51 06.2			±13			
		F	59 0.0						
252	" 21	P	7 43 25.3					280	
		L	44 02.9						
		ME	44 22.7	2.2	-13				
		MN	44 23.8	2.3		-18			
		F	48 20.0						
253	" 23	P	3 17 18.4					396	
		L	18 11.8						
		ME	18 34.2	2.6	-5				
		MN	18 34.2	2.6		-8			
		F	22 0.0						
254	" 23	P	20 14 41.2					1496	
		L	17 17.8						

From ..... to ..... 19 .....

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
		ME	20 18 51.0	3.8	±5				
		MN	19 29.0	3.6		±5			
		F	25 30.0						
255	Oct. 23	P	23 28 53.9					136	
		L	29 12.1						
		ME	29 57.4	1.2	-13				
		MN	29 58.2	1.4		-9			
		MZ	29 12.1	0.8			-8		
		F	41 30.0						
256	" 25	P	13 46 53.1					778	
		L	48 37.9						
		ME	49 14.3	2.4	+6				
		MN	49 22.1	2.4		+6			
		F	54 30.0						
257	" 28	P	5 39 55.2				2356		
		L	5 43 48.8						
		ME	44 34.6	4.0	±18				
		MN	44 31.8	4.0		+14			
		F	55 40.0						
258	" 29	P	8 42 50.8					2164	
		L	46 28.2						
		ME	46 47.6	3.6	-13				
		MN	46 58.1	3.9		-4			
		F	9 00 10.0						
259	" 29	P	18 54 26.3					552	
		L	55 40.7						
		ME	56 29.0	3.6	-34				
		MN	56 07.0	3.6		-44			
		MZ	56 30.6	2.5			±12		
		F	19 06 20.0						
260	" 30	P	8 43 45.1					225	
		L	44 15.4						
		ME	44 21.5	1.4	+13				
		MN	44 20.9	1.4		+11			
		F	59 0.0						
261	" 31	P	10 09 51.5					2690	
		S	14 11.5						
		L	19 04.1						
		F	38 50.0						
262	" 31	P	14 18 03.0					502	
		L	19 10.7						
		ME	19 16.5	2.6	-3				
		MN	19 16.1	3.0		+5			
		F	25 30.0						

(THE END)

From ..... to ..... 19 .....

OSAKA JAPAN November 1931

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

$\varphi = 34^\circ\ 39'$ N. $\lambda = 135^\circ\ 32'$ E. Gr. h = 3.4m Sub-Soil: Sandy Loam (Oldquaternary)

Instrument: Omori's Seismograph (Horizontal & Vertical)

	T_0	ε	$\frac{r}{T_0^2}$	V
A_E:	30	—	0.003	20
A_N:	30	—	0.003	20
A_Z:	15	—	0.004	20

Wiechert Seismograph (Horizontal & Vertical)

	T_0	ε	$\frac{r}{T_0^2}$	V
A_E:	4	3.2	0.003	80
A_N:	4	3.2	0.003	80
A_Z:	6	2.0	0.005	80

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
263	Nov. 1	P	18 54 15.8					399	
		i	54 44.1						
		L	55 09.6						
		i	55 30.1						
		Me	56 23.5	3.7	+303				
		MN	56 24.8	3.6		-238			
		MZ	56 03.1	3.3			+97		
		F	19 23 50.0						
264	" 2	P	10 03 59.0					450	Felt at Osaka slightly.
		i	04 01.7						
		i	04 06.9						
		i	04 08.6						
		i	04 22.5						
		i	04 33.3						
		L	04 59.6						
		i	05 15.1						
		ME	07 29.8	4.0	+5175				
		MN	07 17.6	4.8		+3800			
		MZ	06 31.9	2.9			+2400		
		F	11 01 10.0						
265	" 2	P	10 32 58.6					418	
		L	33 54.9						
		ME	34 05.2	3.4	-9				
		MN	34 10.0	3.2		±11			
		F	39 40.0						
266	" 2	P	11 01 38.4					413	
		i	01 53.1						
		i	02 29.2						
		L	02 34.0						
		i	02 37.3						
		ME	03 56.1	3.2	+476				
		MN	03 43.2	3.5		+408			
		MZ	04 53.1	2.6			+163		
		F	- - -						
267	" 2	P	11 25 25.2					421	
		L	26 21.8						
		ME	26 52.8	1.7	+11				
		MN	26 59.0	1.9		+16			
		MZ	27 26.0	1.7			±4		
		F	34 10.0						
268	" 2	P	11 34 23.1					404	
		i	34 41.1						
		L	35 17.5						
		i	35 26.3						
		ME	36 01.5	3.2	-26				
		MN	36 17.5	3.4		-19			
		MZ	35 58.7	1.8			-5		
		F	48 20.0						

From ..... to ..... 19 .....

OSAKA JAPAN November 1931

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
269	Nov. 2	P	11 48 16.9					430	
		i	48 41.7						
		L	49 14.8						
		ME	50 11.5	2.6	+119				
		MN	50 52.5	2.7		+110			
		MZ	50 07.9	2.2			-47		
		F	12 12 0.0						
270	" 2	P	12 12 09.5					425	
		L	13 06.7						
		ME	13 35.1	3.1	+13				
		MN	13 35.2	2.9		+13			
		MZ	13 46.9	1.8			±4		
		F	19 10.0						
271	" 2	P	13 47 21.7					-	
		F	55 30.0						
272	" 2	P	15 17 16.8					507	
		L	18 25.1						
		ME	18 50.5	2.5	+6				
		MN	19 19.5	2.6		±8			
		F	26 0.0						
273	" 2	P	15 50 15.9					417	
		L	51 12.0						
		ME	51 48.5	3.2	±6				
		MN	51 56.5	2.4		±6			
		F	57 40.0						
274	" 2	P	17 10 55.1					4633	
		S	17 17.3						
		L	20 47.3						
		F	36 30.0						
275	" 2	P	19 35 59.5					425	
		i	36 21.1						
		L	36 56.8						
		F	42 0.0						
276	" 2	P	19 56 31.8					253	
		L	57 05.9						
		ME	57 49.3	2.5	+19				
		MN	57 43.4	2.5		+26			
		MZ	57 47.9	2.2			+14		
		F	20 06 40.0						
277	" 3	P	2 40 39.6					2284	
		L	44 27.0						
		ME	47 23.5	4.8	±11				
		MN	46 39.9	4.0		±8			
		F	3 00 50.0						
278	" 3	P	4 36 36.0					208	
		L	37 04.0						
		ME	37 05.6	0.4	+5				
		MN	37 05.9	0.6		-5			
		F	39 10.0						
279	" 3	e.P	15 26 14.8					-	
		e.L	27 14.8						
		F	31 30.0						
280	" 3	P	16 21 43.6					774	
		L	23 27.9						
		MEl	24 06.4	4.5	-88				

From ..... to ..... 19 .....

OSAKA JAPAN

November 1931

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
		MN	16 24 07.2	4.0		-126			
		MZ	24 16.1	3.0			+25		
		ME2	24 51.2	4.6	+120				
		F	40 20.0						
281	Nov. 4	P	17 58 16.9					1449	
		L	18 00 48.8						
		i	02 15.9						
		ME	02 25.1	3.4	±8				
		MN	02 36.8	3.0		±11			
		F	14 20.0						
282	" 5	P	12 26 41.1				5281		
		S	33 38.4						
		L	37 45.6						
		ME	39 48.1	10.7	+50				
		MN	42 47.4	11.5		±53			
		F	55 50.0						
283	" 8	e.P	2 57 54.4					--	
		i.P	58 17.4						
		L	59 48.7						
		F	3 00 10.0						
284	" 12	P	6 09 48.4					495	
		L	10 55.1						
		ME	11 13.8	2.6	+24				
		MN	11 43.1	2.6		+33			
		MZ	11 56.8	2.9			±8		
		F	20 50.0						
285	" 12	P	13 11 41.9					329	
		i	11 46.6						
		L	12 26.2						
		ME	13 30.1	3.0	+10				
		MN	13 43.7	3.2		-13			
		F	22 20.0						
286	" 13	P	12 31 15.2					180	
		L	37 39.6						
		F	37 10.0						
287	" 13	P	16 35 46.4					227	
		L	36 16.9						
		ME	36 23.6	1.5	-4				
		MN	36 44.7	1.5		-4			
		F	41 20.0						
288	" 13	P	17 55 40.1					105	Felt slight ly at Osaka.
		i	55 41.8						
		L	55 54.2						
		ME	55 56.4	0.4	-29				
		MN	55 57.1	0.4		+39			
		MZ	55 54.9	0.4			+17		
		F	18 03 50.0						
289	" 15	P	1 42 15.9					267	
		L	42 51.9						
		ME	43 02.0	0.6	-5				
		MN	43 02.0	0.6		-5			
		F	48 20.0						
290	" 15	P	14 35 54.8					60	
		L	36 02.9						
		ME	36 07.5	0.7	+8				
		MN	36 07.4	0.7		-12			
		F	40 40.0						

No. 78 From ..... to ..... 19 .....

OSAKA JAPAN december 1931

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

$\varphi = 34^\circ\ 39'$ N. $\lambda = 135^\circ\ 32'$ E. Gr. h = 3.4m Sub-Soil: Sandy Loam (Oldquaternary)

Instrument: Omori's Seismograph (Horizontal & Vertical)

	T_0	ε	$\frac{r}{T_0^2}$	V
A_E:	30	—	0.003	20
A_N:	30	—	0.003	20
A_z:	15	—	0.004	20

Wiechert Seismograph (Horizontal & Vertical)

	T_0	ε	$\frac{r}{T_0^2}$	V
A_E:	4	3.2	0.003	80
A_N:	4	3.2	0.003	80
A_z:	6	2.0	0.005	80

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_z μ	△ k.m.	Remarks
291	Nov. 20	P	14 25 37.6					5569	
		S	" 32 50.9						
		L	39 58.3						
		F	59 40.0						
292	Dec. 4	P	19 37 47.3					80	
		L	37 58.1						
		ME1	37 58.3	0.5	-19				
		MN1	37 58.5	0.7		-18			
		ME2	38 22.1	0.5	-20				
		MN2	38 28.2	1.1		-19			
		F	41 40.0						
293	" 6	P	9 07 42.4					Ł 108	
		L	07 56.9						
		ME	08 06.1	1.1	-4				
		MN	07 56.5	1.1		+8			
		F	10 30.0						
294	" 8	e.P	12 17 46.7					794	
		e.L	19 33.6						
		ME	19 57.7	3.2	-5				
		MN	20 19.1	3.3		±6			
		F	25 0.0						
295	" 12	P	5 09 56.1					100	
		L	10 09.5						
		ME	10 09.5	0.4	+3				
		MN	10 09.5	0.4		-5			
		F	13 0.0						
296	" 14	P	19 23 45.0					1386	
		L	26 10.7						
		F	33 20.0						
297	" 18	P	17 14 15.3					456	
		L	15 16.7						
		ME	17 16.2	3.5	+11				
		F	21 50.0						
298	" 18	P	17 46 58.7					517	
		L	48 08.2						
		ME	49 09.8	2.3	-14				
		F	57 20.0						
299	" 21	P	5 48 24.3					472	
		L	49 27.8						
		i	49 45.1						
		ME	51 15.4	3.9	+99				
		MN	50 55.5	4.9		-169			
		F	6 02 30.0						

From ..... to ..... 19.....

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of the Osaka Meteorological Observatory

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	△ k.m.	Remarks
300	Dec. 22	P	13 09 06.9					516	
		L	10 16.3						
		i	10 25.1						
		ME	11 52.0	3.9	+162				
		MN	11 34.5	4.2		±233			
		F	27 10.0						
301	" 23	P	10 52 32.7					56	
		L	52 40.2						
		ME	53 31.1	1.7	-44				
		MN	53 15.0	1.7		+49			
		MZ	53 18.0	1.7			-18		
		F	———						
302	" 23	P	10 53 39.8					65	
		L	53 48.5						
		ME	54 28.5	3.5	-14				
		MN	54 44.8	3.2		-18			
		MZ	54 59.1	2.3			-6		
		F	57 10.0						
303	" 23	P	12 28 38.5					173	
		i	28 44.5						
		L	29 01.7						
		ME	29 27.5	1.8	+24				
		MN	29 22.0	1.8		+22			
		MZ	29 04.1	2.3			+13		
		F	33 40.0						
304	" 26	P	1 44 03.2					471	
		L	45 06.6						
		ME	46 56.5	4.1	+263				
		MN	46 31.2	4.9		+37.5			
		MZ	46 42.5	3.2			-122		
		F	3 00 30.0						
305	" 30	P	3 42 49.2					205	
		L	43 16.8						
		ME	43 54.8	3.4	+67				
		MN	45 16.2	4.8		-81			
		MZ	44 26.0	2.3			-26		
		F	52 0.0						
306	" 30	P	15 48 25.5					58	
		L	48 33.2						
		ME	48 33.2	0.4	-3				
		MN	48 33.2	0.4		+4			
		F	50 40.0						
307	" 30	P	16 03 13.6					57	
		L	03 21.2						
		ME	03 21.2	0.4	-1				
		MN	03 21.4	0.4		+2			
		F	04 50.0						

(END)