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

OSAKA JAPAN

January 1933

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_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

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
Jan. 1	P	8 58 21.6					3155	
	i	58 55.1						
	S	9 03 15.6						
	L	06 12.5						
	ME	07 08.7	5.3	-20				
	MN	08 15.0	4.7		+26			
	MZ	08 18.4	2.6			±3		
	F	16 0.0						
" 3	P	15 29 23.7					888	
	i	29 47.8						
	L	31 23.3						
	ME	32 44.3	3.8	-63				
	MN	32 34.0	4.7		+75			
	MZ	31 50.5	3.4			+17		
	F	48 20.0						
" 3	P	22 42 36.5					539	
	L	43 49.1						
	ME	45 16.7	3.8	-9				
	MN	45 44.6	3.8		-12			
	MZ	45 20.8	2.6			-4		
	F	52 40.0						
" $4	P	1 27 23.2					1018	
	i	28 13.7						
	L	29 40.3						
	ME	30 12.2	3.2	+31				
	MN	29 35.8	3.3		+37			
	MZ	29 54.2				+13		
	F	2 04 30.0						
" 4	P	4 08 56.6					5672	
	i	13 13.6						
	S	16 15.4						
	ME	17 20.8	3.9	±8				
	MN	17 04.4	3.9		±6			
	MZ	17 20.2	3.1			±2		
	F	27 10.0						
" 6	P	10 40 23.6					66	
	L	40 32.5						
	ME	40 34.0	0.3	-18				
	MN	40 34.0	0.3		-6			
	MZ	40 32.5	0.3			-4		
	F	43 30.0						
" 7	P	4 08 50.3					1014	
	i	09 15.1						
	i	09 35.9						
	L	11 07.0						
	ME	12 L0.5	3.8	-181				
	MN	12 38.4	4.1		+219			
	MZ	13 05.0	3.3			+59		
	F	51 40.0						

From ..... to 19

OSAKA JAPAN

January 1933

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

	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. 7	P	4 55 31.5					1593	
		L	58 17.0						
		ME	59 03.2	3.3	-11				
		MN	58 56.0	3.3		-14			
		MZ	58 50.7	3.3			-4		
		F	5 11 40.0						
9	" 7	P	10 42 00.8					214	
		L	42 29.6						
		ME	42 32.3	0.9	+9				
		MN	42 32.5	0.9		+25			
		MZ	42 44.6	0.6			-2		
		F	46 40.0						
10	" 8	P	6 31 18.1					752	
		i	31 57.3						
		L	32 59.5						
		ME	34 23.2	4.6	-75				
		MN	33 50.8	3.5		-88			
		MZ	34 43.5	5.4			+20		
		F	41 40.0						
11	" 9	P	2 10 37.4					7300	
		L	19 21.9						
		ME	21 23.8	3.7	-8				
		MN	20 42.0	3.5		-9			
		MZ	20 18.4	2.8			±5		
		F	31 50.0						
12	" 9	P	12 05 34.3					67	
		L	05 43.3						
		ME	05 44.2	0.2	+6				
		MN	05 47.4	0.2		+6			
		MZ	05 43.3	0.2			±1		
		F	10 20.0						
13	" 9	P	16 57 44.9					429	
		L	58 42.7						
		ME	59 06.9	3.4	+6				
		MN	59 06.9	2.8		+5			
		MZ	59 21.5	1.9			±?		
		F	17 02 20.0						
14	" 10	P	3 10 15.7					984	
		L	12 28.3						
		ME	14 04.9	4.1	+5				
		MN	13 42.9	4.1		+5			
		F	22 40.0						
15	" 15	P	18 09 42.5					4392	
		L	15 52.1						
		ME	16 15.1	4.2	-14				
		MN	16 39.3	4.3		-19			
		F	24 20.0						
16	" 15	P	23 46 28.7					164	
		L	46 50.7						
		ME	46 59.8	1.1	-17				
		MN	47 24.5	1.1		-26			
		MZ	46 50.8	0.6			±6		
		F	53 20.0						
17	" 20	P	17 44 13.5					68	
		L	44 22.6						
		ME	44 24.5	1.4	-5				
		MN	44 28.4	0.6		-6			
		F	47 50.0						

From 21. Jan. to 9. Feb 1933

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	-	0.005	30
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	A_N μ	A_Z μ	△ k.m.	Remarks
18	Jan. 21	P	19 35 0.3					9934	
		i	40 11.6						
		S	45 55.5						
		L	20 02 13.2						
		F	40 0.0						
19	Feb. 3	P	22 15 43.5					2146	
		i	16 1.8						
		L	19 18.8						
		ME	19 30.2	4.4	-30				
		MN	19 50.5	4.3		-38			
		MM	19 46.6	4.1			-6		
		F	32 0.0						
20	" 6	P	7 18 37.4					507	
	"	L	19 45.6						
		ME	20 2933	4.5	±6				
		MN	20 45.5	3.1		-5			
		MZ	20 16.7	2.4			±2		
		F	29 0.0						
21	" 7	P	0 14 14.3					254	
		L	14 48.6						
		ME	15 16.0	1.9	±5				
		MN	15 9.3	2.5		±6			
		MZ	15 17.7	1.7			+1		
		F	19 20.0						
22	" 7	P	1 28 45.7					2421	
		i	29 50.1						
		L	32 44.4						
		F	39 20.0						
23	" 7	P	7 20 40.8					36	
		L	20 45.6						
		ME	20 46.8	0.4	+1				
		MN	20 47.7	0.4		+1			
		F	21 50.0						
24	" 9	P	3 58 1.3					362	
		L	58 50.1						
		ME	58 20.1	4.6	-93				
		MN	59 18.1	4.0		+119			
		MZ	59 28.4				-19		
		F	4 20 40.0						
25	" 9	P	15 41 56.1					812	
		L	43 45.5	4.6		±6			
		MN	44 22.0						
		F	54 30.0						

Feb.	13	P	3 04 39.2					1847	
		L	07 48.9						
		F	34 0.0						
"	13	P	6 52 7.6					489	
		L	53 13.5						
		ME	53 46.8	2.8	-98				
		MN	53 35.2	3.0		-163			
		MZ	54 1.2	2.4			-49		
		F	7 03 50.2						
"	18	P	8 17 58.6					98	Felt Slightly at Oosaka.
		i	17 59.3						
		L	18 11.8						
		ME	19 1.2	2.0	+125				
		MN	18 13.4	1.0		+300			
		MN	19 0.8	2.2		+163			
		MZ	18 41.0	1.9			-54		
		F	28 0.0						
"	20	P	9 52 45.2					613	
		L	54 7.9						
		ME	55 10.5	4.0	+38				
		MN	54 57.9	4.3		±31			
		MZ	54 43.6	1.9			-12		
		F	10 04 50.0						
"	20	P	11 07 23.8					536	
		L	08 36.1						
		ME	08 35.9	2.3	-5				
		MN	08 45.4	2.5		±3			
		F	13 50.0						
"	20	P	11 59 47.8					289	
		L	12 00 26.8						
		ME	00 41.8	2.1	-3				
		MN	00 54.8	1.7		+2			
		F	03 10.0						
"	20	P	14 19 11.9					635	
		L	20 37.4						
		ME	21 21.6	2.3	+8				
		MN	21 21.6	2.3		+6			
		MZ	21 12.9	2.0			-3		
		F	27 30.0						
"	21	P	2 54 32.1					495	
		L	55 38.7						
		ME	56 15.7	2.4	-8				
		MN	56 11.7	2.6		-9			
		MZ	56 20.7	2.2			-5		
		F	3 04 0.0						
"	23	P	8 29 9.7						
		S	43 19.7						
		L	9 20 13.4						
		ME	29 15.3	21.4	-95				
		MN	42 5.3	22.1		±25			
		F	10 36 50.0					173	
"	27	P	16 15 12.5						
		L	15 35.8						
		ME	15 36.7	0.6	-25				
		MN	15 37.5	0.6		+13			
		MZ	15 36.4	0.6			+11		
		F	22 20.0						

From 28. Feb. to 2. March, 1933

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
36	Feb. 28	P	8 46 50.8						
		L	49 38.9					1621	
		ME	52 0.1	6.0	-5				
		MN	51 54.0	4.1					
		F	9 00 40.0			+3			
37	Mar. 2	P	8 14 57.7						
		i	16 3.6					2394	
		S	18 54.1						
		ME	20 23.7	5.1	±9				
		MN	20 52.0	4.5					
		F	30 10.0			±9			
38	" 2	P	17 33 2.6						
		i	33 8.0					898	Felt slightly at Oosaka. N53E
		i	33 13.5						
		i	33 20.5						
		i	33 36.4						
		L	35 3.6						
		ME	36 19.1	5.4	-16600				
		MN	36 38.6	5.4		-15800			
		MZ	36 29.2	3.0			-1125		
39	" 2	P	18 28 3.1						
		L	30 20.5					1020	
		ME	31 50.5	4.1	-94				
		MN	31 18.4	4.0		+119			
		MZ	31 5.0				-53		
40	" 2	P	18 50 43.7						
		L	52 50.6					942	
		ME	53 28.4	3.7	+31				
		MN	53 10.2	4.1		-38			
41	" 2	P	19 43 42.6						
		L	45 57.8					1004	
		ME	46 18.0	5.0	±69				
		MN	46 34.2	5.6		+119			
		MZ	46 38.8	3.4			-25		
		F	20 10 30.0						
42	" 2	P	20 17 13.3						
		L	19 17.1					919	
		ME	20 51.6	3.9	-6				
		MN	21 1.6	3.6		±4			
		MZ	19 49.0	2.3			±3		
		F	23 0.0						
43	" 2	P	20 44 21.2						
		L	46 28.0					941	
		ME	48 20.4	4.0	+144				
		MN	48 27.6	3.8		-243			
		MZ	48 29.6	3.5			+70		
		F	21 14 0.0						
44	" 2	P	21 50 15.5						
		L	52 16.5					898	
		ME	53 38.3	3.1	±8				
		MN	53 40.2	4.1		±8			
		MZ	52 47.9	2.1			-3		
		F	22 02 10.0						

From 2. March, to 3. March 19 33

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
45	Mar. 2	P	22 03 45.5						
		L	05 43.9					881	
		ME	06 35.6	3.6	±6				
		MN	06 27.0	3.6		±4			
		MZ	06 5.4	2.2			+2		
		F	13 10.0						
46	" 2	P	22 36 48.7						
		L	38 59.6					972	
		ME	40 24.9	3.0	-19				
		MN	40 29.3	3.1		-19			
		MZ	39 26.7	2.5			±3		
		F	48 10.0						
47	" 3	P	0 20 21.7						
		L	22 33.4					977	
		ME	24 10.4	4.0	±8				
		MN	24 13.1	4.2		+8			
		MZ	22 52.6	2.3			±4		
48	" 3	P	0 28 20.6						
		L	30 24.4					919	
		ME	32 46.2	3.0	-8				
		MN	32 37.9	2.7		±8			
		MZ	30 51.0	2.0			±1		
		F	38 10.0						
49	" 3	P	2 14 41.1						
		L	14 46.4					37	
		ME	14 46.6	0.2	-31				
		MZ	14 46.6	0.2		+56			
		F	15 40.0						
50	" 3	P	2 24 32.0						
		L	29 43.6					3414	
		F	42 10.0						
51	" 3	P	2 28 36.1						
		L	28 41.8					42	
		ME	28 30.9	0.2	-33				
		MN	28 30.9	0.2		+37			
		F	30 10.0						
52	" 3	P	2 43 2.9						
		L	43 10.4					56	
		ME	43 10.6	0.2	-31				
		MN	43 10.6	0.2		+69			
		F	45 10.0						
53	" 3	P	2 57 25.2						
		L	57 31.1					44	
		ME	57 31.5	0.2	-27				
		MN	57 31.5	0.2		+71			
		F	59 10.0						
54	" 3	P	4 39 44.3						
		L	41 35.0					821	
		ME	43 35.5	4.2	+25				
		MN	42 58.3	4.5		+30			
		MZ	42 49.7	3.1			-6		
		F	55 50.0						

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
55	Mar. 3	P	9 14 40.0						
		L	16 17.2						
		ME	17 55.8					722	
		MN	17 15.0	3.8	-138				
		MZ	18 26.1	3.8		±231			
		F	34 20.0	2.8			+45		
56	" 3	P	9 40 39.7						
		L	42 45.0						
		ME	43 33.1					930	
		MN	43 45.9	3.7	+64				
		MZ	43 36.3	3.6		+56			
		F	10 01 10.0	3.4			-22		
57	" 3	P	10 06 4.1						
		L	08 47.9					1568	
		ME	09 53.6	3.6	+28				
		MN	10 5.6	3.4		+36			
		MZ	09 23.1	2.6			±6		
		F	22 0.0						
58	" 3	P	10 34 3.5						
		L	36 31.6					1411	
		ME	37 54.3	3.5	±25				
		MN	37 53.1	3.5		+24			
		MZ	36 32.2	2.3			±5		
		F	45 0.0						
59	" 3	P	11 47 41.4						
		L	48 47.5					491	
		ME	49 34.4	3.2	+31				
		MN	49 30.1	3.2		+38			
		MZ	49 29.7	2.6			-14		
60	" 3	P	11 58 26.8						
		L	12 00 37.0					967	
		ME	01 26.2	3.4	+20				
		MN	01 25.8	3.8		+20			
		MZ	01 21.2	2.5			±6		
		F	11 10.0						
61	" 3	P	12 16 5.4					886	
		L	18 4.8						
		ME	19 8.4	3.8	+13				
		MN	19 29.9	3.8		-14			
		MZ	18 51.0	2.3			±6		
62	" 3	P	12 22 55.8					895	
		L	24 51.5						
		ME	27 6.8	3.2	-8				
		MN	26 49.9	3.2		-8			
		MZ	25 29.0	2.5			±4		
		F	33 10.0						
63	" 3	P	14 08 49.1					48	
		L	08 55.6						
		ME	08 55.6	0.2	+1				
		MN	08 55.6	0.2		-1			
		F	10 10.0						

From 3. March, to 4. March, 1933

64	Mar.	3	P	15	04	11.8					1324
			L		06	32.2					
			ME		07	44.7	3.8	+176			
			MN		07	38.2	3.2		-188		
			MZ		07	59.5	2.6			±8	
			F								
65	"	3	P	15	09	24.5					977
			L		11	36.1					
			ME		12	17.5	3.8	-38			
			MN		12	18.5	3.8		+34		
			MZ		12	40.5	2.3			-8	
			F		19	0.0					
66	"	3	P	15	52	57.7					903
			L		54	59.3					
			ME		55	31.2	3.7	-13			
			MN		56	18.3	3.6		+14		
			MZ		56	2.9	2.5			±6	
			F	16	04	10.0					
67	"	3	P	16	13	29.5					981
			L		15	41.8					
			ME		16	32.6	4.0	-13			
			MN		16	29.4	3.2		-8		
			MZ		16	49.9	2.4			-5	
			F		27	0.0					
68	"	3	P	18	49	18.4					997
			L		51	32.8					
			ME		52	16.4	3.8	-11			
			MN		53	16.5	4.7		+8		
			MZ		52	20.4	2.6			±6	
			F	19	01	10.0					
69	"	3	P	19	09	33.4					829
			L		11	25.1					
			ME		12	56.4	4.6	+23			
			MN		12	29.0	4.2		+28		
			MZ		11	50.4	2.4			±7	
			F		21	0.0					
70	"	3	P	19	52	29.3					948
			L		54	37.9					
			ME		55	32.2	3.2	+9			
			MN		54	44.7	2.6		±8		
			MZ		53	4.0	1.8			±4	
			F	20	02	10.0					
71	"	3	P	20	22	36.3					712
			L		24	12.2					
			ME		25	5.3	2.5	+10			
			MN		25	5.1	2.9		+10		
			MZ		25	25.4	2.2			±4	
			F		31	0.0					
72	"	4	P	6	46	37.4					898
			L		48	38.4					
			ME		49	50.0	4.2	+10			
			MN		49	45.2	4.2		-11		
			F		56	30.0					
73	"	4	P	12	42	12.5					585
			L		43	32.0					
			ME		44	8.0	1.7	-4			
			MN		44	20.4	2.1		-4		
			F		50	20.0					

From 6. March, to 11. March 1933

74	Mar.	6	P	22	45	6.9					
			i		45	8.6					75
			L		45	17.0					
			ME		45	53.9	3.9	-223			
			MN		45	49.1	3.1		+152		
			MZ		45	45.6	2.3			+35	
			F		55	0.0					
75	"	7	P	22	23	12.4					
			L		26	0.3					1619
			ME		26	50.0	2.8	±5			
			MN		26	42.2	3.0		±8		
			F		32	10.0					
76	"	8	P	1	37	36.4					
			L		39	40.0					918
			ME		40	29.0	3.9	+48			
			MN		40	7.1	3.9		+41		
			MZ		40	26.6	3.0			+15	
			F		53	20.0					
77	"	8	P	10	27	57.9					
			L		28	52.5					406
			ME		29	16.0	1.5	-11			
			MN		29	12.7	1.6		-11		
			MZ		30	21.4	1.0			±5	
			F		34	50.0					
78	"	9	P	4	23	32.8					
			i		23	36.6					212
			L		24	1.3					
			ME		24	7.7	0.6	+38			
			MN		24	21.0	0.9		+45		
			F		31	50.0					
	"	9	P	19	37	18.4					193
			i		37	22.6					
			L		37	41.4					
			ME		37	44.6	0.9	-21			
			MN		37	47.7	1.1		-10		
			MZ		37	44.4	0.7			±4	
			F		43	40.0					
80	"	10	P	7	37	28.3					852
			L		39	23.1					
			ME		40	0.1	3.0	±5			
			MN		39	45.0	3.8		±9		
			F		50	20.0					
81	"	11	P	14	24	47.3					3339
			L		29	54.2					
			ME		32	35.3	13.5	±8			
			MN		32	11.7	12.0		±8		
			MZ		32	6.2	13.1			±6	
			F		44	50.0					
82	"	11	P	19	34	52.0					706
			L		36	27.1					
			ME		36	47.0	3.4	+401			
			MN		36	48.3	3.3		-448		
			MZ		36	47.0	3.1			-233	
			F	20	01	40.0					

From 12. March, to 18. March, 1733

83	Mar.	12	P	5	07	39.2					
			L		09	31.8					836
			ME		11	51.4	4.0	-17			
			MN		11	26.1	3.8		±20		
			MZ		10	49.9	2.7			±8	
			F		21	10.0					
84	"	12	P	7	39	50.5					
			L		39	27.0					271
			ME		40	13.1	2.7	-11			
			MN		40	16.7	1.9		-9		
			MZ		40	19.0	2.0			±6	
			F		44	20.0					
85	"	12	P	22	25	12.3					
			L		25	18.7					329
			ME		25	50.5					
			MN		26	20.0	1.9	±7			
			MZ		26	16.3	2.0		+11		
			F		26	21.2	1.7			±5	
					29	30.0					
86	"	13	P	7	16	39.2					
			L		17	37.0					
			es		24	6.7					
			F		33	10.0					
87	"	14	P	8	47	8.5					85
			L		47	20.0					
			F		50	40.0					
88	"	14	P	13	01	2.0					884
			L		03	1.1					
			ME		04	20.0	2.9	±8			
			MN		04	1.7	3.0		±9		
			MZ		03	38.0	1.8			±4	
			F		11	30.0					
89	"	14	P	16	09	40.7					73
			L		09	50.5					
			F		11	30.0					
90	"	15	P	5	09	46.8					555
			L		11	1.6					
			F		16	40.0					
91	"	17	P	16	01	7.5					3176
			S		06	2.9					
			L		10	1.8					
			F		23	40.0					
92	"	17	P	19	38	30.8					2947
			S		43	9.9					
			L		47	43.1			±11		
			MN		51	15.4	18.4				
			F	20	06	20.0					
93	"										272
	18		P	3	25	22.7					
			L		25	39.4					
			F		30	50.0					

From 18. March, to 26. March, 1933

Mar.	18	P	15	52	35.9						358
		L		53	24.1						
		ME		53	46.7	3.4	+221				
		MN		53	46.6	3.3		+386			
		MZ		53	39.7	3.1			-123		
		F	16	10	20.0						
"	18	P	21	27	43.3						796
		L		29	30.6						
		ME		29	57.9	2.8	-5				
		MN		30	9.9	3.1		±6			
		F		36	30.0						
"	21	P	15	55	42.1						717
		L		57	18.8						
		ME		57	41.5	2.4	-9				
		MN		57	39.8	2.6		-8			
		F	16	05	0.0						
"	21	P	17	12	45.1						460
		L		13	47.0						
		ME		14	23.5	2.6	±7				
		MN		14	13.6	2.6		±6			
		F		18	10.0						
"	21	P	23	19	43.5						407
		L		20	38.3						
		ME		21	52.8	4.2	+29				
		MN		21	37.6	4.5		-40			
		MZ		21	36.3	2.7			-8		
		F		30	0.0						
"	22	P	16	58	0.0						895
		L	17	00	0.7						
		ME		00	52.3	2.8	±12				
		MN		01	1.8	3.0		-11			
		MZ		00	9.7	2.2			±6		
		F		05	40.0						
"	23	P	12	51	9.6						91
		L		51	21.8						
		ME		51	45.6	1.2	+15				
		MN		51	41.0	1.5		+20			
		MZ		51	44.9	2.0			+15		
		F		54	0.0						
"	23	P	17	50	36.0						3992
		S		56	22.6						
		F	18	09	0.0						
"	25	P	12	51	22.0						495
		L		52	28.7						
		ME		54	1.7	3.6	+24				
		MN		53	37.7	3.6		+34			
		MZ		53	36.5	3.3			-11		
		F	13	02	40.0						
"	26	P	5	50	16.8						58
		L		50	24.6						
		ME		50	24.7	0.4	-10				
		MN		50	24.8	0.4		.6			
		F		52	10.0						

OSAKA JAPAN

SEISMIC BULLETIN
of the Osaka Meteorological Observatory of Japan

$\varphi = 34^\circ\ 39'$ 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:				
A_N:	30	-	0.003	20
A_Z:	30	-	0.003	20

Wiechert Seismograph
(Horizontal & Vertical)

	A_0	ε	$\frac{r}{T_0^2}$	V
A_E:				
A_N:	4	3.2	0.003	80
A_Z:	4	3.2	0.003	80

15 - G.M.T. 0.004 Period 2.0 6 0.005 80

No.	Date	Phase	h.	m.	s.	Amplitude A_E μ	Amplitude A_N μ	Amplitude A_Z μ	k.m.	Remarks
104	Apr. 1	P	16	01	46.9				442	
		L		02	46.4					
		ME		04	6.4	4.6	-44			
		MN		04	41.4	5.0		-46		
		MZ		04	9.7	2.6			+12	
		F		18	50.0					
105	" 1	P	22	42	54.9				885	
		L		44	54.1					
		ME		46	18.6	2.4	-19			
		MN		46	30.7	2.6		-21		
		MZ		45	42.2	2.3			±8	
		F	23	02	0.0					
106	" 2	P	9	53	8.0				548	
		i		54	6.0					
		L		54	21.8					
		ME		55	19.0	2.2	-32			
		MN		55	27.7	2.9		+71		
		MZ		55	26.6	2.6			+18	
		F	10	00	40.0					
107	" 2	P	10	12	50.4				725	
		L		14	28.0					
		ME		15	6.8	2.7	-11			
		MN		15	4.5	2.7		+12		
		MZ		15	13.2	2.1			+5	
		F		25	30.0					
108	" 2	P	16	54	28.6				735	
		L		56	7.6					
		ME		57	11.7	2.3	+3			
		MN		57	22.4	3.1		±6		
		F	17	00	40.0					
109	" 3	P	1	55	53.9				213	
		L		56	22.6					
		ME		57	3.8	2.1	±4			
		MN		56	31.2	2.7		-4		
		F	2	01	10.0					
110	" 3	P	8	11	37.6				598	
		L		12	58.1					
		ME		14	26.1	2.7	±6			
		MN		14	14.4	2.5		±6		
		F		20	20.0					
111	" 6	P	15	13	46.5				1014	
		L		16	3.1					
		ME		16	48.6	2.5	+8			
		MN		16	55.3	2.0		-8		
		MZ		16	7.4	2.3			+5	
		F		26	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
12	Apr. 7	P	0 56 0.7						
		L	56 31.3						
		ME	56 53.9					228	
		MN	57 5.1	1.2	±4				
		F	58 50.0	1.3		±4			
13	" 9	P	2 48 32.0						
		L	50 15.0					764	
		ME	51 32.1	2.9	-133				
		MN	51 29.9	3.0		+154			
		MZ	51 41.1	2.4			±59		
14	" 9	P	2 59 23.2						
		L	3 01 35.6					982	
		ME	02 18.3	4.5	+21				
		MN	02 20.7	4.3		-25			
		MZ	02 59.7	2.2			-9		
		F	13 30.0						
15	" 9	P	10 32 16.7						
		L	34 17.8					899	
		ME	35 27.3	2.9	-36				
		MN	35 28.4	2.9		+46			
		MZ	34 55.3	2.5			-11		
		F	47 40.0						
16	" 13	P	3 54 44.1					1987	
		L	58 5.8						
		F	4 08 0.0						
17	" 16	P	19 23 49.2					4040	
		L	29 38.5						
		ME	30 35.1	4.2	±6				
		MN	30 55.1	6.2		±6			
		F	40 0.0						
18	" 19	P	2 57 41.8					521	
		L	58 52.0						
		ME	3 00 47.7	2.4	-19				
		MN	01 15.9	2.4		±8			
		MZ	00 31.8	3.0			±8		
		F	10 0.0						
19	" 19	P	6 48 31.8					2269	
		S	52 17.7						
		L	54 18.4						
		ME	56 3.6	4.3	±25				
		MN	55 27.4	4.4		±31			
		MZ	55 15.2	4.0			+9		
		F	7 21 10.0						
20	" 21	P	2 36 46.1					185	
		L	37 11.0						
		ME	37 22.7	1.7	-3				
		MN	3727.4	1.7		-2			
		F	40 20.0						
21	" 21	P	20 41 5.2					419	
		I.	41 15.1						
		L	42 1.6		-31				
		ME	42 47.6	2.4		+25			
		MN	42 48.3	2.8			-11		
		MZ	42 27.0	1.8					
		F	51 10.0						

From 23. April, to 27. April, 1933

122	"	23	P	6	09	50.4					9430
			L		20	22.4					
			F		32	50.0					
123	"	23	P	7	15	32.8					1023
			L		17	50.6					
			ME		19	7.7	4.7	-95			
			MN		18	44.6	4.9		+150		
			MZ		18	30.6	3.0			+41	
			F		47	50.0					
124	"	23	P	8	28	4.9					862
			L		30	1.0					
			ME		31	42.8	3.6	+16			
			MN		31	48.9	3.6		-20		
			MZ		30	46.6	2.6			+8	
			F		46	50.0					
125	"	23	P	12	22	14.6					776
			L		23	59.1					
			ME		25	25.9	3.0	±6			
			MN		25	43.0	3.9		±5		
			F		33	10.0					
126	"	25	P	1	59	24.6					990
			L	2	01	38.0					
			ME		02	40.3	2.0	+5			
			MN		02	49.0	2.2		-6		
			MZ		01	49.8	1.9			±2	
			F		13	20.0					
127	"	27	P	2	45	20.5					5828
			S		58	47.4					
			L	3	02	4.6					
			ME		12	30.3	14.0	±8			
			MN		13	27.6	14.2		±13		
			F		39	40.0					

From 1. May, to 16. May 1933

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
128	May 1	P	18 33 28.1						
		i	34 0.0				15 50	2338	
		L	37 19.9						
		F	49 20.0						
129	1	P	18 57 23.4						
		i	58 0.1				16 00	4823	
		L	19 03 55.9						
		F	13 20.0						
130	1	P	19 54 28.5						
		i	54 53.8				16 20	2116	
		i	56 13,5						
		L	58 2.1						
		ME	59 39.1	3.4	+8				
		MN	59 53.1	3.2		+13			
		MZ	58 32.2	2.4			+6		
		F	20 10 50.0						
131	" 5	P	11 40 37.5						
		L	41 26.5				3 50	364	
		ME	41 49.9	4.0	±6				
		MN	41 37.1	4.0		± 8			
		F	44 30.0						
132	" 11	P	6 49 36.6						
		i	49 45.9				5 00	76	
		L	49 46.9						
		ME	49 47.4	0.3	+69				
		MN	49 47.0	0.3		-31			
		MZ	49 46.9	0.2			+11		
		F	54 40.0						
133	" 15	P	23 49 22.8						
		L	50 18.9				5 40	417	
		ME	50 59.3	2.0	-1				
		MN	50 37.9	2.0		- 2			
		F	55 0.0						
134	" 16	P	1 20 46.3						
		i	21 2.5					5516	
		i	23 46.7						
		S	27 56.7						
		L	37 19.1						
		ME	38 26.5	5.5	-5				
		MN	38 40.4	4.9		- 7			
		F	57 10.0						
135	" 16	P	3 42 24.2						
		L	43 1.2					275	
		i	43 36.8						
		F	47 30.0						

No.

From 16. May, to 23. May, 19 33

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
136	May 16	P	6 34 49.8						
		L	35 24.3					256	
		F	40 0.0						
	18	P	0 00 43.9						
137		L	05 41.8					3214	
		ME	07 30.6	4.0	± 3				
		MN	07 38.7	4.4		± 6			
		F	16 10.0						
138	" 20	P	4 59 11.5						
		L	5 00 1155					445	
		ME	00 29.0	4.5	- 4				
		MN	00 35.0	3.6		+ 4			
		F	05 50.0						
139	" 20	P	7 49 42.7						
		L	49 56.7					104	
		ME	49 56.7	0.3	+ 8				
		MN	49 57.5	0.3		+10			
		F	51 30.0						
140	" 20	P	13 54 51.0						
		L	55 0.8					73	
		ME	55 1.0	0.3	+ 5				
		MN	55 0.8	0.3		+ 4			
		F	57 10.0						
141	" 20	P	18 30 16.6						
		L	30 34.8					136	
		ME	30 50.0	1.5	+14				
		MN	30 47.7	1.5		+14			
		MZ	30 34.8	0.4			± 2		
		F	33 50.0						
142	" 21	P	11 56 55.9					785	
		L	58 41.7						
		F	12 14 20.0						
143	" 21	P	21 58 22.0					1020	
		L	22 06 39.4						
		ME	02 9.4	4.0	± 6				
		MN	02 11.0	3.4		- 4			
		F	13 0.0						
144	" 22	P	15 31 0.9					690	
		L	32 33.8						
		ME	33 34.7	3.6	† 6				
		MN	33 39.1	3.6		- 6			
		F	41 20.0						
145	" 22	P	20 45 42.7					353	
		L	46 30.2						
		ME	46 59.6	1.6	† 5				
		MN	46 47.0	1.6		+ 5			
		MZ	46 57.8	2.2			± 2		
		F	50 50.0						
146	" 23	P	16 37 43.7					514	
		L	38 52.8						
		ME	40 19.8	3.5	-44				
		MN	40 37.1	3.4		-47			
		MZ	39 31.3	2.8			±25		
		F	52 50.0						

From 2. June, to 6. June, 19 33

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	A_N μ	A_Z μ	△ k.m.	Remarks
154	June 2	P	4 43 35.1						
		L	45 3.4					655	
		ME	45 30.9	1.7	- 4				
		MN	45 10.9	1.7					
		MZ	45 11.2	1.9		+ 5			
		F	54 50.0				± 1		
155	" 2	P	7 40 0.6						
		i	41 25.0					821	
		L	41 51.2						
		ME	42 26.4	3.9	+154				
		MN	42 21.6	4.0		+188			
		MZ	41 53.0	3.4			-86		
		F	8 11 50.0						
156	" 3	P	13 33 11.1						
		L	33 56.2					335	
		F	38 50.0						
157	" 3	P	16 55 21.6						
		L	56 26.3					480	
		ME	56 48.7	2.0	± 4				
		MN	56 46.1	2.0		± 7			
		F	17 00 10.0						
158	" 3	P	17 11 14.5						
		L	13 23.7					959	
		ME	14 59.8	4.5	+60				
		MN	14 57.1	4.7		+61			
		MZ	14 39.3	3.7			-11		
		F	46 0.0						
159	" 4	P	13 47 55.2						
		S	50 43.2					1620	
		L	54 3.3						
		ME	54 56.9	4.2	± 5				
		MN	55 15.0	4.1		± 5			
		F	14 03 20.0						
160	" 5	P	1 52 39.4						
		L	53 45.2					488	
		ME	54 27.7	3.2	+17				
		MN	54 17.7	2.8		+25			
		MZ	54 44.2	2.2			- 8		
		F	2 02 40.0						

No. 128

From 6. June, to 18. June, 1933

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
161	June 6	P	2 33 45.8						
		S	37 48.4					2466	
		ME	39 30.7	4.3	- 8				
		MN	40 17.4	4.2		- 8			
		F	49 50.0						
162	" 6	P	4 28 22.2						
		L	28 31.7					71	
		ME	28 34.2	0.3	- 2				
		MN	28 31.7	0.3		- 1			
		F	30 0.0						
163	" 6	P	6 46 48.9						
		L	48 8.5					586	
		ME	50 16.4	3.3	- 9				
		MN	50 8.0	3.9		+12			
		F	01 30.0						
164	" 7	P	1 53 48.6						
		S	59 48.1					4218	
		L	2 02 51.9						
		ME	05 22.7	5.3	± 9				
		MN	05 21.0	5.6		+ 8			
		F	22 20.0						
165	" 7	P	13 24 51.4					55	
		L	24 58.8						
		F	26 20.0						
166	" 8	P	18 12 53.3					961	
		L	15 2.8						
		ME	16 9.5	5.3	+25				
		MN	16 16.1	4.7		+28			
		MZ	16 22.3	2.8			- 6		
		F	33 20.0						
167	" 12	P	21 10 0.5					717	
		L	11 37.2						
		ME	12 38.0	4.3	±58				
		MN	12 19.8	3.9		-69			
		Mz	12 22.7	3.1			+14		
		F	26 40.0						
168	" 13	P	20 35 47.7					816	
		L	37 37.6						
		ME	39 20.3	4.0	-70				
		MN	38 57.6	3.8		±83			
		MZ	38 11.4	2.6			-25		
		F	56 30.0						
169	" 15	P	7 00 52.0					620	
		L	02 15.5						
		F	14 20.0						
170	" 18	P	13 13 10.2					1452	
		L	15 42.5	3.8	- 6				
		ME	17 5.6	3.5		± 9			
		MN	17 7.2						
		F	32 20.0						

From _____ to _____ 19

OSAKA JAPAN

SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory

	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	June 18	P	21 39 15.8						
		L	40 42.1						
		ME	41 12.0					640	
		MN	41 31.4	4.0	-1000				
		MZ	41 55.3	4.0		±610			
		F	22 19 20.0	2.3			-256		
72	" 24	P	22 03 32.7						
		S	11 12.3						
		L	19 38.1						
		ME	34 19.9	12.4	-19				
		MN	33 46.2	10.6		†19			
		MZ	32 1[illegible]	11.0			-12		
		F	23 14 50.0						
73	" 28	P	6 23 13.5						
		L	24 12.7						
		ME	25 10.5	2.4	† 6				
		MN	24 40.4	2.4		± 6			
		F	31 40.0						
74	" 29	P	13 19 7.0						
		L	19 27.0						
		F	23 3[illegible].0						
75	" 30	P	17 26 39.1					134	
		L	26 57.1						
		ME	26 58.6	0.4	† 5				
		MN	26 59.3	0.4		- 5			
		F	29 40.0						

From 6. July, to 9. July, 19 33

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
176	July 6	P	2 00 35.1						
		L	01 30.4						
		ME	01 53.7	2.3	+37				
		MN	01 55.6	2.9		+45			
		MZ	02 50.1	2.2			- 5		
		F	08 30.0						
177	" 8	P	7 58 11.6						
		L	59 9.0						
		ME	59 43.6	2.0	- 8				
		MN	59 57.8	2.2		+ 8			
		MZ	59 35.8	2.3			± 6		
		F	8 10 0.0						
178	" 9	P	1 33 29.6						
		S	37 15.9						
		L	40 13.5						
		F	2 06 30.0						
179	" 9	P	9 31 40.1						
		i	34 34.4						
		L	37 23.5						
		F	51 10.0						
180	" 9	P	9 51 45.3						
		i	55 17.5						
		L	57 35.2						
		F	10 15 30.0						
181	" 9	P	11 14 2.2						
		i	14 10.3						
		L	14 11.5						
		ME	14 12.1	0.4	+11				
		MN	14 12.1	0.4		- 8			
		MZ	14 13.7	0.3			± 1		
		F	16 20.0						
182	" 9	P	11 25 27.8						
		S	29 12.9						
		L	31 9.8						
		F	36 30.0						
183	" 9	P	12 34 8.7						
		S	37 21.7						
		i	40 5.6						
		ME	40 35.8	18.0	-22				
		MN	41 9.7	17.1		-25			
		MZ	41 59.3	13.0			± 8		
		F	13 49 30.0						

No. 131

From 9. July, to 12. July, 1933

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
184	July 9	P	16 10 38.9						
		S	14 13.0						
		L	16 37.1						
		F	29 30.0						
185	" 9	P	16 57 14.6						
		S	17 00 36.9						
		F	09 30.6						
186	" 9	P	17 55 2.2						
		S	58 14.2						
		F	18 06 30.0						
187	" 10	P	0 23 39.1						
		S	25 46.4						
		i	29 4.7						
		i	32 17.5						
		F	47 10.0						
188	" 10	P	10 40 54.5						
		S	47 3.2						
		L	48 56.8						
		MN	50 46.1	5.5			±12		
		F	55 30.0						
189	" 11	P	1 31 3.6						
		L	31 11.6						
		ME	31 11.6	0.4	± 1				
		MN	31 14.1	0.4			+ 4		
		F	32 20.0						
190	" 11	P	6 01 13.8						
		S	05 28.2						
		L	07 25.9						
		F	18 50.0						
191	" 11	P	6 51 28.8						
		L	57 36.5						
		F	7 15 20.0						
192	" 11	P	7 18 52.7						
		L	20 11.6						
		F	22 30.0						
193	" 11	P	8 30 28.6						
		L	33 54.2						
		F	38 30.0						
194	" 11	P	9 21 55.9						
		L	22 45.0						
		F	27 0.0						
195	" 11	P	21 03 57.0						
		L	04 50.1	4.0	- 5				
		ME	05 44.6	4.4			- 5		
		MN	05 47.0						
		F	11 50.0						
196	" 12	P	14 48 6.1						
		L	50 0.2	2.9	± 4				
		ME	50 47.0	2.9			± 6		
		MN	50 36.6						
		F	58 10.0						
	"								

No. 132

From 12. July, to 19. July, 1933

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
197	July 12	P	18 54 40.5						
		L	55 45.2						
		ME	56 42.5	2.9	- 8				
		MN	56 32.0	2.9		+ 8			
		1	57 56.3						
		F	19 07 20.0						
198	" 13	P	7 59 41.4						
		L	8 01 26.5						
		ME	01 53.8	3.9	- 8				
		MN	01 36.4	3.4		+ 8			
		MZ	01 32.0	2.3			± 4		
		F	09 50.0						
199	" 14	P	16 05 30.8						
		L	07 26.2						
		ME	08 28.0	3.2	-13				
		MZ	08 19.8	2.4		- 8			
		MN	08 47.4	4.0		+20			
		F	18 0.0						
200	" 15	P	3 56 23.9						
		L	57 32.9						
		ME	57 55.8	2.2	- 8				
		MN	57 52.5	2.4		+13			
		F	4 05 0.0						
201	" 18	P	11 26 48.0						
		L	28 59.6						
		ME	29 32.4	2.0	-11				
		MN	29 21.8	2.0		+ 9			
		F	18 0.0						
202	" 19	P	17 00 5.7						
		L	00 28.8						
		MN	00 29.0	0.3		+ 3			
		F	02 30.0						
203	" 19	P	19 10 33.6						
		L	15 53.4						
		F	23 0.0						
204	" 19	P	2 28 37.5						
		L	28 46.3						
		ME	28 46.5	0.4	+11				
		MN	28 49.5	0.4		- 7			
		F	31 30.0						
205	" 19	P	13 39 31.9						
		i	41 47.3						
		S	43 45.4						
		L	46 0.4						
		F	53 0.0						
206	" 19	P	15 05 35.6						
		L	12 17.0	4.4	- 7				
		ME	12 44.2	5.4		- 7			
		MN	12 51.5						
		F	20 0.0						

No. 135

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
07	July 20	P	23 16 4.2						
		L	17 54.5						
		ME	18 30.3	3.6	+56				
		MN	18 25.0	4.1		+81			
		F	27 40.0						
08.	" 22	P	21 03 16.1						
		i	05 46.2						
		i	06 46.2						
		S	09 13.9						
		L	13 4.1						
		F	40 20.0						
09	" 24	P	8 39 55.2						
		L	41 34.7						
		ME	42 5.1	3.0	-14				
		MN	42 22.4	3.6		-11			
		MZ	42 9.0	2.4			± 6		
		F	47 50.0						
10	" 25	P	16 43 39.2						
		i	43 39.8						N-4.4
		L	43 50.4						E-3.8
		ME	44 7.6	1.3	±600				U-37.5
		MN	44 7.6	1.3		±600			P-L=11.2^s
		MZ	44 17.7	1.8			+313		
		F	58 40.0						
11	" 31	P	2 58 10.0						
		L	59 42.3						
		ME	3 00 24.1	3.8	- 6				
		MN	2 59 55.8	3.8		+ 6			
		F	3 04 30.0						
12	" 31	P	9 03 56.3						
		L	04 46.6						
		F	11 20.0						

From 7. August, to 24. August, 1933

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
13	Aug 7	P	0 44 2.1						
		L	46 7.6						
		ME	48 17.0	2.8	- 6				
		F	53 30.0						
14	" 7	P	4 46 11.1						
		L	46 24.0						
		ME	46 43.3	0.6	- 3				
		MN	46 35.1	0.6		- 3			
		F	48 0.0						
15	" 11	P	9 01 3.0						
		S	07 59.8						
		L	11 42.1						
		ME	12 54.2	5.8	- 8				
		MN	12 35.5	5.9		-13			
		F	27 20.0						
16	" 15	P	3 00 5.0						
		i	00 21.2						W-E 2.5
		L	01 55.5						N-S 2.5
		ME	02 18.2	3.6	-14				U-D 5.0
		MN	02 14.0	3.6		-26			
		MZ	02 15.3	2.3			-11		
		F	19 0.0						
17	" 18	P	8 21 26.4						
		L	23 25.4						
		ME	24 24.4	3.6	-13				
		MN	24 26.0	4.0		-13			
		F	31 0.0						
18	" 20	P	11 48 40.3						
		S	51 15.0						
		L	53 43.2						
19	" 20	P	11 08 44.9						
		S	14 0.0						
		F	26 10.0						
20	" 22	P	13 17 17.0						
		S	21 19.8						
		F	27 50.0						
21	" 24	P	0 30 31.2						
		L	30 42.2		- 4				
		ME	30 42.4	1.0		- 5			
		MN	30 42.2	1.0					
		F	32 0.0						

No. 135

From 24. August to 29. August 33

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
222	Aug 24	P	0 40 189.9						
		L	40 28.2						Felt
		ME	40 28.2	0.3	-30				
		ME	40 28.2	0.3					
		MZ	40 29.7	0.3		-25			
		F	43 50.0				- 4		
223	" 25	P	56 14.6						
		S	00 56.5						
		L	04 59.7						
		ME	05 17.1	5.6	-197				
		MN	06 8.5	5.4		-139			
		MZ	06 23.4	9.9			-18		
		F	59 0.0						
224	" 26	P	1 32 24.9						
		L	34 42.0						
		ME	35 50.6	3.6	- 8				
		MN	35 11.3	4.4		- 9			
		F	43 40.0						
225	" 28	P	22 39 28.4						
		S	51 3.6						
		L	23 21 30.1						
		MN	50 11.2	13.4		- 5			
		MZ	45 58.2	24.0			- 3		
		F	0 26 0.0						
226	" 29	P	12 32 54.6						
		L	34 14.9						
		ME	35 1.3	3.4	-43				
		MN	34 44.0	3.4		-38			
		MZ	35 13.7	2.4			-26		
		F	47 0.0						
227	" 29	P	15 11 9.3						
		L	13 14.0						
		ME	14 8.6	3.4	- 3				
		MN	13 14.0	3.4		- 6			
		F	28 50.0						

No. 15

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
228	Aug 29	P	16 27 38.8						
		L	27 40.3						Felt
		ME	27 45.9	0.6	-23				
		MN	27 40.3	0.4					
		F	33 50.0			-38			
229	" 30	P	16 40 48.0						
		L	41 25.5						
		ME	41 25.9	3.4	-13				
		MN	41 51.5	3.4					
		F	45 20.0			-11			

.....17.9(The End) 1933.....

No. 137

From 1. Sept., to 14. Sept., 19 35

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:				
A_N:	30	7	0.003	20
A_Z:	30	-	0.003	20
	15	-	0.004	20

Wiechert Seismograph
(Horizontal & Vertical)

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

No.	Date	Phase	G.M.T. h. m. s.	Period s	Amplitude A_E μ	A_N μ	A_Z μ	△ k.m.	Remarks
230	Sept. 2	P	16 42 44.8						
		L	43 52.3					501	N to S 110
		ME	44 25.3	3.9	+520				W to e 3
		MN	44 12.8	4.3		+606			U to D 10.0
		MZ	44 40.1	3.4			+406		
		F	17 02 50.0						
231	" 6	P	14 06 3.8						
		L	06 39.3					30	
		ME	06 39.3	2.3	- 8				
		MN	06 39.3	2.3		- 6			
		MZ	07 8.7	2.1			± 3		
		F	09 40.0						
232	" 6	P	22 18 50.0					6670	
		S	27 2.0						
		ME	28 8.2	5.5	±27				
		MN	29 8.4	5.0		+38			
		MZ	28 21.1	4.2			+13		
		F	41 40.0						
233	" 9	P	5 04 47.2					1195	
		L	06 52.8						
		ME	07 49.3	3.4	+19				
		MN	07 47.1	3.1		+16			
		MZ	07 49.6	2.5			-13		
		i	16 21.7						
		F	24 0.0						
234	" 9	F	17 13 41.9					10	
		L	13 43.3						
		ME	13 43.3	0.3	+ 1				
		MN	13 43.3	0.2		+ 1			
		F	14 10.0						
235	" 9	P	20 29 0.0					6086	
		i	31 56.0						
		L	36 38.3						
		F	45 20.0						
236	" 12	P	5 07 14.8					1136	
		L	09 16.4						
		ME	10 15.8	2.2	± 6				
		MN	10 9.2	2.6		- 8			
		MZ	09 46.6	2.0			+ 5		
		F	18 0.0						
237	" 14	P	6 28 0.7					414	
		L	28 56.5						
		ME	29 9.8	2.3	- 6				
		MN	29 25.8	1.9		+ 6			
		F	34 0.0						

No. 18. Sept., 24. Sept., 33

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
238	Sept.15	P	13 55 1.5						
		L	56 2.7					455	
		ME	56 19.7	2.2	- 6				
		MN	56 29.0	1.9					
		MZ	56 20.3	2.3		- 6			
		F	59 40.0				- 5		
239	" 15	P	16 21 39.9						
		S	24 36.3					1784	
		L	26 10.5						
		F	31 20.0						
240	" 17	P	4 01 30.9						
		S	03 32.8					1139	
		L	05 34.4						
		F	12 0.0						
241	" 20	P	3 65 19.1						
		L	58 8.1					364	
		ME	58 28.8	3.0	-31				
		MN	58 59.7	4.0		-28			
		MZ	58 39.6	2.3			+14		
		F	4 06 40.0						
242	" 21	P	3 15 10.5					324	N to S 8.8
		i	15 17.9						E to W 6.3
		i	15 46.7	..					D to U 4.4
		L	15 54.2	..					
		ME	16 43.3	2.3	±500				
		MN	16 47.8	2.0		±525			
		MZ	16 0.9	2.0			-225		
		F	31 30.0						
243	" 21	P	9 49 49.5					779	
		L	51 34.4						
		ME	53 6.2	4.9	+63				
		MN	52 34.3	4.2		+75			
		MZ	53 3.1	4.2			-20		
		F	10 06 20.0						
244	" 21	P	13 44 20.4					752	
		L	46 1.8						
		ME	47 11.2	3.8	+29				
		MN	47 20.5	3.8		-26			
		MZ	46 59.7	2.6			-11		
		F	55 0.0						
245	" 21	P	19 45 39.9					713	
		L	47 16.0						
		ME	48 7.8	2.3	-26				
		MN	48 12.6	2.1		-20			
		MZ	48 36.5	2.5			-14		
		F	54 40.0						
246	" 24	P	15 26 58.4					3745	
		S	32 30.7						
		L	36 4.4						
		F	45 40.0						
247	" 24	P	16 09 28.1					460	
		L	10 30.0						
		ME	10 34.3	3.9	- 8				
		MN	10 43.1	3.2		- 6			
		F	11 50.0						

No. 139

From ..... to 19

OSAKA JAPAN

Sept. 25. 9. October, 33

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
248	Sept. 25	P	18 59 5.1						
		S	19 04 41.1					3810	
		L	12 41.1						
		ME	16 46.3	9.0	± 8				
		MN	16 56.3	7.5		± 8			
		F	33 10.0						
249	" 30	P	14 28 15.4						
		i	31 52.0					3843	
		S	33 53.6						
		L	37 2.9						
		F	53 0.0						
250	Oct. 1	P	2 21 54.1						
		L	22 8.3					106	
		ME	22 24.8	2.3	+72				
		MN	22 30.1	3.0		+119			
		MZ	22 19.8	1.2			+36		
		F	31 0.0						
251	" 1	P	14 36 33.1						
		i	37 20.2					568	
		L	37 49.6						
		ME	37 56.6	4.0	-31				
		MN	38 34.6	3.8		-38			
		F	49 0.0						
252	" 1	P	19 25 4.7						
		L	25 49.8					335	
		ME	25 50.1	1.0	± 8				
		MN	25 52.1	1.0		- 8			
		F	30 50.0						
253	" 2	P	3 35 3.9						
		L	35 47.8					326	
		ME	36 9.8	2.2	± 5				
		MN	36 6.1	2.0		- 8			
		F	39 50.0						
254	" 2	P	15 50 40.5						
		S	16 04 30.5					14570	
		MN	58 1.4	17.1		±75			
		F	18 08 0.0						
255	" 3	P	18 39 55.0						
		i	40 9.2					482	
		L	40 5999						
		ME	41 57.9	4.2	+281				
		MN	41 04.2	4.2		+263			
		MZ	41 13.2	2.9			-101		
		F	19 00 30.0						
256	" 9	P	12 07 20.1						
		i	07 31.3					363	
		L	08 9.0						
		ME	08 19.0	2.5	-81				
		MN	08 33.9	2.6		-88			
		MZ	08 42.2	1.9			-39		
		F	18 20.0						

No. From 11. October, 1. November, 19 35

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
257	Oct. 11	P	13 59 13.4						
		i	14 00 28.6						
		L	00 39.4					638	
		ME	01 36.7	2.8	-13				
		MN	01 22.0	2.5					
		F	09 50.0		...	+18			
258	" 13	P	17 48 35.1						
		L	48 44.6					71	
		ME	48 44.6	0.3	+ 5				
		MN	48 44.6	0.3					
		F	51 50.0			+ 3			
259	" 14	P	22 27 26.0						
		S	32 57.0					3725	
		L	36 4.7						
		F	44 50.0						
260	" 19	P	17 32 8.9						
		L	32 57.1					358	
		ME	33 9.3	1.9	+10				
		MN	33 22.4	2.3		+11			
		F	36 0.0						
261	" 21	P	2 45 44.6						
		L	47 12.2					650	
		ME	49 3.7	4.5	-45				
		MN	49 6.6	5.3		-50			
		MZ	48 28.2	3.8			+19		
		F	59 50.0						
262	" 27	P	15 54 38.8						
		i	54 40.3					20	
		L	54 41.6						
		ME	54 41.6	0.3	+ 8				
		MN	54 41.6	0.3		-11			
		F	55 40.0						
263	Nov. 1	P	8 23 1.6					498	
		S	24 8.7						
		ME	24 21.8	2.4	-20				
		MN	24 42.9	3.8		-40			
		MZ	25 5.5	1.6			± 8		
		F	33 30.0						

From November, 20, November, 3[illegible]
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
264	Nov. 5	P	3 06 35.0						
		S	07 15.0						
		ME	07 59.0					297	
		MN	08 4.1	2.3	± 3				
		F	15 0.0	2.3		± 3			
265	" 5	P	17 18 9.9						
		S	18 53.9						
		ME	19 4.6					327	
		MN	19 22.6	2.3	- 8				
		MZ	19 16.0	3.2		-13			
		F	22 50.0	1.5			± 3		
266	" 7	P	6 43 31.4						
		S	45 45.1					992	
		i	46 27.8						
		ME	47 5.7	4.3	± 8				
		MN	47 5.3	4.7		±11			
		F	52 20.0						
267	" 7	P	17 0 19.4						
		S	01 34.0					554	
		ME	02 4.7	2.4	-14				
		MN	02 15.5	2.5		+15			
		F	07 50.0						
268	" 8	P	17 39 13.8						
		S	39 33.2					144	
		ME	39 33.2	0.3	+ 5				
		MN	39 33.5	0.3		- 5			
		F	41 50.0						
269	" 10	P	5 14 9.7						
		S	45 11.6					460	
		F	50 0.0						
270	" 16	P	13 54 50.4						
		S	55 7.3					126	
		ME	55 14.9	0.9	- 9				
		MN	55 18.6	0.9		- 7			
		MZ	55 8.5	0.4			- 1		
		F	56 30.0						
271	" 16	P	13 57 54.1						
		S	58 10.3					121	
		ME	58 20.5	1.5	-50				
		MN	58 19.1	1.5		-44			
		MZ	58 35.1	1.0			-26		
		F	14 01 40.0						
272	" 16	P	20 33 16.9						
		S	33 49.1					240	
		ME	34 22.9	2.4	-14				
		MN	34 [illegible].5	2.4		-19			
		MZ	34 25.1	1.8			- 5		
		F	36 30.0						
273	" 20	P	23 32 49.0					8014	
		S	42 9.7						
		L	54 37.6						
		ME	00 08 24.9	15.8	- 8				
		MN	07 16.9	15.7		-12			
		MZ	07 30.4	16.6			- 6		

From 22. November to 3. December, 19 38

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
274	Nov. 22	P	12 50 26.3						
		i	52 46.9						
		S	57 0.2					4844	
		L	59 54.0						
		i	13 00 21.3						
		F	08 20.0						
275	" 22	P	19 01 28.5						
		S	03 45.6					1018	
		ME	05 13.1	4.4	-11				
		MN	04 34.2	4.3		+11			
		F	10 40.0						
276	" 22	P	22 33 48.2						
		S	35 43.4					855	
		ME	37 11.9	4.9	±20				
		MN	37 8.1	4.9		±28			
		F	49 10.0						
277	" 27	P	7 51 47.6						
		S	52 39.7					387	
		ME	53 12.3	2.8	+11				
		MN	53 1.4	2.8		+11			
		F	56 30.0						
278	" 27	P	19 16 25.7					1002	
		i	18 14.6						
		S	18 40.7						
		MN	19 16.2	4.0		±25			
		F	27 50.0						
279	Dec. 1	P	17 46 7.4					502	
		S	47 15.1						
		i	47 25.9						
		ME	48 23.2	3.2	-13				
		MN	48 28.0	3.0		-13			
		F	54 10.0						
280	" 2	P	8 47 20.0					2360	
		S	51 14.0						
		ME	51 31.3	5.3	+18				
		MN	51 43.4	5.5		+16			
		F	9 02 50.0						
281	" 3	P	2 08 23.4					69	
		i	08 25.7						
		S	08 32.7						
		ME	08 33.5	0.3	+12				
		MN	08 33.5	0.3		-14			
		MZ	08 32.7	0.3			+ 4		
		ME	08 56.1	3.4	-34				
		MN	08 55.9	3.8		-44			
		F	14 50.0						
282	" 3	P	22 35 12.3					61	
		S	35 20.5				-25		
		MN	35 20.5	0.3			+ 6		
		MZ	35 20.5	0.3		-81			
		MN	36 12.3	3.6					
		F	43 40.0						

No. From ..... to 19

OSAKA JAPAN

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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
63	Dec. 4	P	19 36 57.7						
		i	37 24.9					1402	
		S	39 25.5						
		ME	39 39.3	5.3	-371				
		MN	39 36.9	4.9		+409			
		F	58 50.0						
84	" 7								
		P	18 36 8.7						
		S	36 47.9					291	
		ME	37 7.6	2.0	- 72				
		MN	37 27.8	2.5		- 64			
		MZ	37 52.5	2.2			- 44		
		F	47 30.0						
1	Jan. 3	P	9 46 53.2					3202	
		i	47 45.3						
		i	48 34.6						
		S	50 49.9						
		ME	51 41.9	4.5	- 51				
		MN	51 52.3	4.2		- 80			
		MZ	52 52.4	4.6			± 14		
		F	10 04 40.0						
2	" 8	P	23 07 29.9					132	Felt
		i	07 35.2						
		i	07 39.1						
		S	07 47.7						
		ME	08 29.2	3.0	+333				
		MN	08 43.7	2.6		+331			
		MZ	08 38.4	2.6			±173		
		F	28 20.0						
3	" 12	P	13 43 13.5					3217	
		S	48 11.6						
		ME	49 18.4	4.9	- 18				
		MN	49 18.9	5.6		± 14			
		MZ	48 55.9	3.6			+ 6		
		F	14 00 50.0						
4	" 15	P	8 51 14.9					4735	
		i	51 30.3						
		i	53 11.0						
		S	57 43.1						
		L	9 00 58.1	9.9	+ 95				
		ME	10 44.4	7.7		+131			
		MN	11 2.0	17.1			+ 44		
		MZ	11 38.8						
		F	10 11 20.0						