

From January 5 to April 4, 1930.

OSAKA JAPAN

SEISMOLOGICAL BULLETIN

of the Osaka Meteorological Observatory



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

Instrument: Omori's Seismograph
(Horizontal & Vertical)

Wiechert 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

	T_0	ϵ	$\frac{r}{T_0^2}$	V
A_E :	4	3.7	0.023	80
A_N :	4	3.7	0.023	80
A_Z :	4	3.5	0.014	80

No.	Date	Phase	G.M.T.			Period s	Amplitude			Δ k.m.	Remarks
			h.	m.	s.		A_E μ	A_N μ	A_Z μ		
1	Jan. 5	P	I	23	57.8					2428	
		L		27	57.0						
		ME		28	05.1	6.4	-50				
		MN		28	26.5	4.0		+37			
		MZ		28	06.2	4.0			-25		
		FE		43	01.5						
		FN		42	46.5						
		FZ		38	11.3						
2	Jan. 10	P	18	15	40.1					514	
		L		16	49.3						
		ME		17	43.7	2.2	+24				
		MN		17	31.5	2.7		+16			
		FZ		23	26.5						
		FN		23	20.2						
3	Jan. 11	P	21	22	24.0					601	
		L		23	45.0						
		ME		23	55.0	3.0	-17				
		MN		24	35.2	5.9		-23			
		MZ		24	05.4	2.2			-7		
		FE		27	11.6						
		FN		31	32.6						
		FZ		30	03.3						
4	Jan. 13	P	20	43	53.8					57	
		L		44	01.5						
		ME		44	04.2	0.7	+6				
		MN		44	09.2	0.7		-5			
		MZ		44	09.3	0.3			-1		
		FE		45	26.2						
		FN		45	36.0						
		FZ		44	53.0						
5	Jan. 25	P	11	43	12.5					528	
		L		44	23.7						
		ME		45	14.9	2.6	+6				
		MN		44	56.4	3.1		+12			
		FE		47	17.1						
		FN		47	44.8						
6	Feb. 1	P	23	8	45.0					558	
		L		10	00.2						
		ME		10	29.1	2.1	-12				
		MN		10	33.3	2.1		-13			
		MZ		10	48.9	1.6			+4		
		FE		13	02.2						
		FN		13	21.4						
		FZ		13	23.5						
7	Feb. 2	P	15	03	01.7					2007	
		L		06	25.4						
		ME		09	00.4	6.0	+11				
		MN		09	33.5	4.4		+6			
		FE		49	52.2						
		FN		49	00.8						

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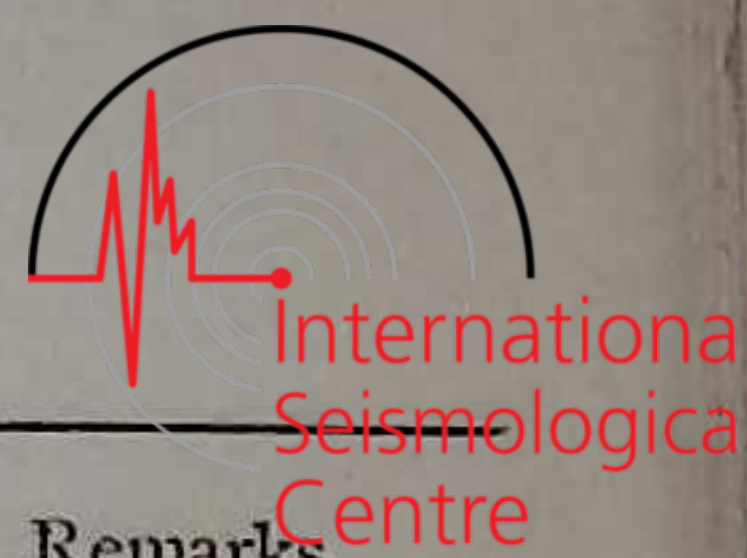


International
Seismological
Centre

Date	Phase	G.M.T.			Period s	Amplitude			Δ k.m.	Remarks
		h.	m.	s.		A _E μ	A _N μ	A _Z μ		
Feb. 2	P	21	02	55.9					545	
	L		04	04.0						
	ME		04	30.2	2.6	+9				
	MN		04	31.2	2.6		+6			
	FE		06	04.7						
	FN		06	01.1						
Feb. 5	P	13	30	01.4					459	
	L		31	03.3						
	ME		32	16.1	3.4	-20				
	MN		32	16.3	3.2		-14			
	FL		35	44.4						
	FN		35	53.5						
Feb. 7	P	2	40	53.4					47	
	L		40	59.7						
	ME		41	00.4	0.3	-8				
	MN		40	59.9	0.5		-26			
	MZ		40	59.9	0.3			+4		
	FE		44	11.4						
	FN		44	07.4						
	FZ		42	53.0						
Feb. 7	P	3	34	21.7					44	
	L		34	27.6						
	ME		34	27.5	0.4	-3				
	MN		34	27.5	0.4		+13			
	MZ		34	27.5	0.3			+4		
	FE		47	53.3						
	FN		47	33.1						
	FZ		42	53.0						
Feb. 7	P	3	43	49.9					564	
	L		45	05.9						
	ME		46	22.6	2.4	-13				
	MN		46	00.2	2.4		-13			
	MZ		46	01.7	2.0			-9		
	FE		52	52.6						
	FN		53	16.3						
	FZ		51	58.6						
Feb. 7	P	20	11	39.9					39	
	L		11	45.1						
	ME		11	45.4	0.4	+2				
	MN		11	45.4	0.4		-3			
	FE		13	37.7						
	FN		13	40.7						
Feb. 11	P	0	12	12.7					75	
	L		12	22.8						
	ME		12	48.0	1.3	+475				
	MN		12	40.1	1.1		-519			
	MZ		12	43.9	1.0			-135		
	FE		29	29.7						
	FN		29	38.0						
	FZ		25	01.7						
Feb. 14	P	12	50	43.8					232	
	L		51	15.1						
	ME		52	12.9	2.4	+6				
	MN		51	45.7	2.0		+6			
	MZ		51	49.1	2.0			-4		
	FE		54	46.6						
	FN		54	35.9						
	FZ		54	46.7						

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Date	Phase	G.M.T.			Period s	Amplitude			△ k.m.	Remarks
		h.	m.	s.		A _E μ	A _N μ	A _Z μ		
Feb. 19	P	03	36	45.0				69		
	L		36	54.3						
	ME		37	15.3	0.8	+4				
	MN		37	02.4	0.6		+4			
	FE		38	05.0						
	FN		38	24.7						
	FZ		38	00.0						
Feb. 20	P	23	37	40.9				375		
	L		38	31.4						
	ME		38	25.0	2.0	-26				
	MN		39	05.0	2.2		+30			
	MZ		38	57.6	2.3		+24			
	FE		47	25.9						
	FZ		46	51.7						
Feb. 22	P	05	49	12.1				305		
	L		49	53.2						
	ME		50	02.1	2.0	+6				
	MN		50	12.7	2.2		+3			
	FE		52	26.0						
	FN		52	30.1						
	FZ		52	16.2						
Feb. 22	P	11	22	45.7				330		
	L		23	30.1						
	ME		24	01.3	2.0	-14				
	MN		24	01.1	2.2		+31			
	MZ		24	29.2	2.0		-11			
	FE		30	41.5						
	FZ		23	35.0						
Feb. 22	P	18	20	13.1				94		
	L		20	30.8						
	ME		20	31.0	0.9	-5				
	MN		20	33.4	0.9		-5			
	FE		21	20.4						
	FN		21	25.3						
Feb. 24	P	20	57	49.7				200		
	L		58	16.6						
	MN		58	37.3	3.9		-14			
	MZ		58	30.0	2.0		+3			
	FN		21	04	65.0					
	FZ		20	59	25.0					
Feb. 28	P	09	31	50.6				324		
	L		32	34.3						
	ME		32	58.8	2.2	±28				
	MN		32	57.9	2.6		-33			
	MZ		32	55.7	2.2		±10			
	FE		37	28.6						
	FN		38	11.2						
	FZ		35	44.2						
March 1	P	17	43	43.3				369		
	L		44	43 /37.9						
	ME		44	53.4	2.5	+6				
	MN		44	52.7	2.7		+8			
	MZ		44	42.5	1.5		+3			
	FE		48	01.3						
	FN		47	49.6						
	FZ		47	09.3						

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Date	Phase	G.M.T.			Period s	Amplitude			△ k.m.	Remarks
		h.	m.	s.		A _E μ	A _N μ	A _Z μ		
March 3	P	12	15	15.8	2.0 2.0	±11	-10	317		
	L		15	58.5						
	ME		16	18.2						
	MN		16	25.4						
	FE		18	07.5						
	FN		18	09.5						
" 3	P	13	56	01.3	3.0 2.6	+7	+6	299		
	L		56	41.5						
	ME		57	03.5						
	MN		57	11.1						
	FE		59	13.1						
	FN		59	22.30						
" 3	P	18	51	28.4	3.2 2.6 2.6	+24	+26	297		
	L		52	08.4						
	ME		52	33.9						
	MN		52	39.3						
	MZ		52	30.9						
	FE		55	07.9						
	FN		55	11.2						
	FZ		54	46.5						
" 3	P	20	11	49.6	2.1 2.6 2.5	+36	+54	352		
	L		12	37.0						
	ME		12	56.1						
	MN		13	05.8						
	MZ		12	58.3						
	FE		17	21.6						
	FN		18	01.3						
	FZ		16	47.6						
" 5	P	10	36	25.3	0.8 1.0	-10	+7	44		
	L		36	31.2						
	ME		36	31.6						
	MN		36	32.0						
	FE		37	51.6						
	FN		38	03.4						
" 5	P	13	31	20.7	0.8 0.6	+8	+8	37		
	L		31	25.7						
	ME		31	27.3						
	MN		31	26.9						
	FE		33	31.3						
	FN		33	23.3						
" 6	P	3	33	34.1	3.8 3.2 3.6 4.0 3.6 2.6	+63	-50	690		
	L		35	07.1						
	ME ₁		35	28.2						
	MN ₁		35	16.2						
	MZ ₁		35	21.4						
	ME ₂		35	37.8						
	MN ₂		35	45.8						
	MZ ₂		35	41.8						
	FE ₂		41	53.8						
	FN		41	32.1						
	FZ		40	00.5						
" 7	F	10	54	03.8	3.8 3.6 3.8	-13	+9	1616		
	L		56	51.6						
	ME		58	29.6						
	MN		58	01.0						
	MZ		57	03.7						
	FE	11	01	26.4						
	FN		01	48.3						
	FZ		00	20.0						

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No.	Date	Phase	G.M.T.			Period s	Amplitude			△ k.m.	Remarks
			h.	m.	s.		A _E μ	A _N μ	A _Z μ		
0	March 14	P	5	20	18.7				311		
		L		21	00.6						
		ME		21	24.4	2.3	±8				
		MN		21	27.6	2.5		±19			
		MZ		21	19.1	1.8			-6		
		FE		27	28.2						
		FN		27	51.7						
		FZ		25	47.1						
1	" 15	P	9	34	41.5				295		
		L		35	21.3						
		ME		35	52.6	2.1	-24				
		MN		35	42.5	2.1		+30			
		MZ		35	44.6	1.7			+11		
		FE		41	32.0						
		FN		41	18.7						
		FZ		40	23.0						
2	" 17	P	10	11	04.2				52		
		L		11	11.2						
		ME		11	36.4	0.6	+8				
		MN		11	25.2	0.6		+9			
		MZ		11	11.2	0.2			-3		
		FE		13	53.1						
		FN		13	54.7						
		FZ		13	01.2						
3	" 19	P	1	17	34.3				341		
		L		18	20.3						
		ME		18	37.6	2.1	-13				
		MN		18	45.4	2.5		-21			
		MZ		18	40.1	1.8			+12		
		FE		22	33.7						
		FN		22	29.4						
		FZ		22	05.3						
4	" 19	P	15	31	35.0				297		
		L		32	15.0						
		ME		33	06.5	2.1	-4				
		MN		32	20.4	1.9		+4			
		FE		36	34.1						
		FN		36	31.8						
5	" 20	P	23	39	53.4				341		
		L		40	39.4						
		ME		41	10.5	2.5	+7				
		MN		41	06.9	2.3		+8			
		FE		43	31.3						
		FN		43	05.2						
6	" 21	P	14	24	59.6				325		
		L		25	43.4						
		ME		26	58.1	2.8	-25				
		MN		26	42.4	2.8		+33			
		MZ		26	04.2	2.0			-20		
		FE		32	16.8						
		FN		32	33.8						
		FZ		30	39.9						
7	" 22	P	8	03	49.0				474		
		L		04	52.9						
		ME		05	19.0	2.1	+7				
		MN		05	21.5	2.1		+6			
		MZ		05	15.2	1.7			+5		
		FE		08	05.3						

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No.	Date	Phase	G.M.T.			Period s	Amplitude			△ k.m.	Remarks
			h.	m.	s.		A _E μ	A _N μ	A _Z μ		
	March 22	FN FZ	8	08	23.1 07 36.1						
	" 22	P L ME MN MZ FE FN FZ	8	51	22.1 52 10.0 52 25.1 52 36.9 53 12.0 9 08 32.0 08 17.0 07 49.1	3.0 2.8 2.1	-188	-408	-156	355	
	" 22	P L ME MN MZ FE FN FZ	12	05	50.4 06 02.3 06 06.5 06 03.5 06 48.1 07 56.73 07 28.5 07 39.5	1.2 1.2 1.0	-6	±5	-3	88	
	" 25	P L ME MN MZ FE FN FZ	11	29	06.4 31 09.3 31 03.8 31 33.5 31 20.4 36 48.3 36 39.5 35 28.6	2.7 2.7 2.1	±11	-19	-8	912	
	" 26	P L ME MN MZ FE FN FZ	5	23	27.0 24 07.7 24 43.9 24 46.9 24 48.7 44 22.7 44 37.7 37 28.7	2.4 2.6 2.0	+51	+75	-39	302	
	" 26	P S L ME MN FE FN	7	19	05.8 23 04.9 26 35.4 28 35.4 27 56.6 8 00 22.5 00 26.9	6.4 4.7	+19	±19		2426	
	" 26	P S L ME MN FE FN	11	40	00.8 43 11.6 46 58.4 47 02.7 46 58.0 54 02.9 53 10.2	4.7 4.7	±6	+6		1856	
	" 26	P L ME MN MZ FE FN FZ	16	42	18.9 43 07.9 43 26.9 43 08.3 43 27.8 58 38.3 58 35.1 49 29.5	2.4 2.7 2.1	+62	+88	-44	364	

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No.	Date	Phase	G.M.T.			Period s	Amplitude			△ k.m.	Remarks
			h.	m.	s.		A _E μ	A _N μ	A _Z μ		
5	March 26	P L MZ FE FN FZ	19	13	05.1 42.6 21.2 38.1 04.1 55.6	2.0			-3	278	
6	" 27	P L ME MN FE FN	2	44	11.7 59.4 54.8 14.6 46.1 37.4	4.7 3.9	+3	+3		799	
7	" 28	P L FE FN	15	59	58.0 05.1 50.4 54.3					53	
8	" 28	P L ME MN FE FN	18	22	31.1 06.4 25.9 36.0 17.8 29.3	2.0 2.0	+8	-6		262	
9	" 29	P L ME MN MZ FE FN FZ	0	56	05.1 02.0 23.3 24.4 31.3 45.1 24.6 15.1	4.4 2.4 2.4	-28	+39	-3	422	
10	" 29	P L ME MN MZ FE FN FZ	15	07	20.3 08.1 20.3 56.8 17.6 07.1 51.9 43.2	2.6 2.7 2.2	±14	+22	-13	352	
11	" 29	P L ME MN MZ FE FN FZ	20	41	01.6 43.6 01.9 58.1 37.7 32.8 33.0 09.9	2.3 2.2 2.0	+6	-6	-3	312	
12	" 30	P L ME MN FE FN	0	31	46.4 44.7 10.0 24.3 24.9 31.3	6.0 4.6	-16	+10		2412	
13	" 30	P L ME MN MZ	5	08	13.2 51.4 14.8 46.1 45.1	2.3 3.0 2.0	+9	-13	+6	284	

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No.	Date	Phase	G.M.T.			Period s	Amplitude			△ k.m.	Remarks
			h.	m.	s.		A _E μ	A _N μ	A _Z μ		
63	March 30	FE FN FZ	5	11	31.3 05.0 11.5						
64	" 30	P L MZ FZ	15	27	39.1 24.3 57.8 24.3	4.0			+5	781	
65	" 30	P L ME MN FE FN	20	10	08.3 48.8 36.5 46.6 09.6 36.8	2.3 2.3	-6	-8		301	
66	" 31	P L ME MN FE FN	1	00	49.5 27.8 45.7 50.7 06.3 06.3	3.0 2.6	+5	+6		284	
67	April 1	P L ME MN MZ FE FN FZ	14	05	19.3 03.0 06.5 32.6 24.2 56.8 58.8 34.8	2.7 3.1 2.2	-25	+38	-19	324	
68	" 4	P L ME MN MZ FE FN FZ	5	09	52.6 34.9 58.0 49.2 16.8 45.3 02.3 30.7	2.7 2.1 2.0	+6	-4	+3	314	

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

Instrument: Omori's Seismograph
(Horizontal & Vertical)

Wiechert 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

	T_0	ϵ	$\frac{r}{T_0^2}$	V
A_E :	4	3.7	0.023	80
A_N :	4	3.7	0.023	80
A_z :	4	3.5	0.014	80

No.	Date	Phase	G.M.T.			Period s	Amplitude			Δ k.m.	Remarks
			h.	m.	s.		A_E μ	A_N μ	A_z μ		
67	April 1	P	14	05	19.3				324		
		L		06	03.0						
		ME		07	06.5	2.7	-25				
		MN		06	32.6	3.1		+38			
		MZ		06	24.2	2.2					-19
		FE		11	56.8						
		FN		11	58.8						
		FZ		11	34.8						
68	" 4	P	5	09	52.6				314		
		L		10	34.9						
		ME		10	58.0	2.7	+6				
		MN		10	49.2	2.1		-4			
		MZ		11	16.8	2.0					+3
		FE		13	45.3						
		FN		13	02.3						
		FZ		12	30.7						
69	" 4	P	9	33	52.5				1626		
		S		36	41.1						
		L		41	05.7						
		ME		42	01.1	4.2	+4				
		MN		41	52.2	3.8		+3			
		FE		49	40.3						
		FN		49	33.6						
				6							
70	" 6	eP	10	32	45.4				-		
		L		-							
		FE	16	34	36.6						
		FN		34	43.8						
71	" 9	P	4	19	38.4				139		
		L		19	57.1						
		ME		20	17.5	3.3	+6				
		MN		20	09.4	2.3		+6			
		MZ		20	02.0	2.0					+3
		FE		21	30.2						
		FN		21	20.0						
		FZ		21	18.8						
72	" 9	P	23	47	52.3				487		
		L		46	58.0						
		ME		49	21.3	2.7	-14				
		MN		49	25.4	2.3		+13			
		MZ		49	18.5	2.0					+9
		FE		53	11.3						
		FN		52	49.2						
		FZ		52	43.2						
73	" 21	P	10	23	04.7				2493		
		L		27	09.2						
		ME		29	12.5	4.3	+9				
		MN		28	18.0	3.1		+6			
		MZ		28	23.4	3.0					+5

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No.	Date	Phase	G.M.T.			Period s	Amplitude			Δ k.m.	Remarks
			h.	m.	s.		A_E μ	A_N μ	A_Z μ		
73	April 21	FE FN FZ	10	35	07.7 11.4 02.0						
74	" 23	P L ME MN FE FN	21	52	40.1 27.2 37.6 52.9 18.8 09.4	3.8 5.6	+24	+28	1610		
75	" 24	P L MN FB	0	27	42.5 01.1 03.4 04.1	3.2		-6	584		
76	" 25	P L ME MN FE FN	12	32	49.1 36.5 00.9 55.9 13.8 14.4	1.7 1.4	-4	+6	352		
77	" 26	P L ME MN FE FN	16	25	15.8 57.1 09.6 02.0 03.7 20.3	14.3 18.2	+53	+53	3900		
78	" 28	F L ME MN FE FN	19	48	09.6 11.4 01.9 41.6 09.5 14.3	12.7 20.0	+83	+118	2460		

OSAKA JAPAN

SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



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

Instrument: Omori's Seismograph
(Horizontal & Vertical)

Wiechert 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

	T_0	ϵ	$\frac{r}{T_0^2}$	V
A_E :	4	3.2	0.03	80
A_N :	4	3.2	0.03	80
A_Z :	6	2.0	0.05	80

No.	Date	Phase	G.M.T.			Period s	Amplitude			Δ k.m.	Remarks
			h.	m.	s.		A_E μ	A_N μ	A_Z μ		
9	1930 May 1	P	0	59	03.9				513		
		L	1	00	13.0						
		ME	00	51.0	3.3	-459					
		MN	00	54.6	3.2		+475				
		MZ	00	42.0	2.3			-369			
		FE	27	25.6							
		FN	27	19.7							
FZ	23	20.0									
0	" 1	P	1	17	07.9				522		
		L	18	13.2							
		ME	18	42.0	2.4	+8					
		MN	18	28.2	2.4		+13				
		MZ	18	42.0				+7			
		FE	20	45.7							
		FN	20	53.4							
FZ	20	15.3									
1	" 1	P	4	21	35.3				502		
		L	22	42.9							
		ME	23	34.1	3.9	+106					
		MN	23	10.2	3.5		+139				
		MZ	23	30.7	3.0			-75			
		FE	34	25.2							
		FN	34	04.6							
FZ	31	23.8									
2	" 2	P	20	52	55.5				68		
		L	53	04.6							
		ME	53	37.2	1.6	+6					
		MN	53	32.4	1.6		-3				
		FE	54	47.2							
		FN	54	51.2							
3	" 5	P	13	52	48.6				4830		
		S	59	21.6							
		L	14	06	03.2						
		ME	10	03.0	10.3	+106					
		MN	07	02.3	10.5		-63				
		MZ	10	06.2	7.7			+52			
		FE	54	13.1							
		FN	53	42.9							
FZ	50	55.3									
4	" 6	P	22	46	53.2				7232		
		S	55	34.4							
		L	23	10	14.3						
		ME	21	25.1	16.1	+13					
		MN	20	01.0	15.8		-3				
		FE	32	27.1							
		FN	32	21.3							
5	" 7	P	20	29	00.3				343		
		L	29	46.5							

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of the Osaka Meteorological Observatory**International
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No.	Date	Phase	G.M.T.			Period s	Amplitude			△ k.m.	Remarks
			h.	m.	s.		A _E μ	A _N μ	A _Z μ		
85	May 7	ME MN FE FN	20	30	09.7 12.7 36.1 01.7	2.1 2.1	+4	+4			
86	" 7	P L ME MN FE FN	20	41	58.6 49.3 02.3 15.4 04.6 14.0	2.0 2.9	±5	+8	369		
87	" 7	P L ME MN FE FN	22	43	39.6 20.8 36.8 42.8 55.5 25.5	1.5 1.9	-5	+5	306		
88	" 8	P L ME MN FE FN	4	25	57.1 39.0 15.3 05.6 53.1 55.1	2.1 3.0	±5	+9	311		
89	" 8	P S ME MN FE FN	12 13	55	46.4 42.2 56.3 58.2 21.7 59.2	5.7 4.2	±6	±4	5241		
90	" 8	P L ME MN FE FN	15	51	04.7 49.7 14.0 11.0 04.5 55.3	2.3 1.9	+6	+5	334		
91	" 8	P L ME MN FE FN	16	05	06.5 49.8 12.5 17.8 15.9 24.2	1.9 2.3	±6	±7	321		
92	" 8	P L FE FN	16	14	07.7 14.4 43.1 44.4				50		
93	" 8	P L ME MN FE FN	19	49	31.0 20.2 32.5 48.8 22.9 21.8	1.0 2.1	+2	-2	366		
94	" 8	P L ME MN FE FN	19	53	09.4 51.0 49.7 07.5 53.8 00.4	2.1 1.9	±3	±3	309		

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No.	Date	Phase	G.M.T.			Period s	Amplitude			Δ k.m.	Remarks
			h.	m.	s.		A_E μ	A_N μ	A_z μ		
95	May 3	P	21	10	39.3				336		
		L		11	24.6						
		ME		11	33.0	2.8	+16				
		MN		11	37.7	2.8		+5			
		FE		13	41.3						
		FN		13	34.0						
96	" 9	P	2	53	20.5				366		
		L		54	09.7						
		ME		54	35.3	2.9	+19				
		MN		54	39.1	3.4		+37			
		FE		3	02	05.3					
		FN		01	59.4						
97	" 9	P	3	37	06.2				394		
		L		37	59.3						
		ME		38	53.4	3.6	+6				
		MN		38	18.1	3.4		-13			
		FE		43	01.1						
		FN		42	35.5						
98	" 9	P	18	33	48.2				334		
		L		34	33.2						
		ME		34	53.1	3.4	+9				
		MN		34	51.8	3.4		-11			
		FE		38	07.0						
		FN		38	28.0						
99	" 9	P	19	51	46.2				351		
		L		52	33.4						
		ME		52	44.7	1.9	+7				
		MN		52	41.7	2.3		+8			
		FE		56	34.9						
		FN		56	42.1						
100	" 10	P	11	30	32.5				392		
		L		31	12.0						
		ME		31	21.4	1.9	+4				
		MN		31	27.2	1.9		+5			
		FE		34	43.9						
		FN		34	40.1						
101	" 10	P	12	04	19.4				1913		
		L		07	34.8						
		ME		08	25.2	3.8	-16				
		MN		07	38.1	3.4		+13			
		FE		13	41.9						
		fn		14	10.0						
102	" 10	P	15	02	09.3				306		
		L		02	50.5						
		ME		03	15.3	1.9	+5				
		MN		03	22.7	1.9		-6			
		FE		05	09.6						
		FN		04	47.4						
103	" 10	P	17	21	34.5				161		
		L		21	56.1						
		ME		21	56.5	1.9	+5				
		MN		22	06.2	2.3		-6			
		FE		23	53.3						
		FN		24	06.7						
104	" 12	P	122	27	30.8				393		
		L		28	23.7						
		ME		28	47.9	2.4	-125				
		MN		29	00.2	2.4		+107			

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SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



No.	Date	Phase	G.M.T.			Period s	Amplitude			△ k.m.	Remarks
			h.	m.	s.		A _E μ	A _N μ	A _Z μ		
04	May 12	MZ FE FN FZ	12	28	42.5 46.4 06.9 29.1	2.0					
05	" 13	P L ME MN FE FN	0	03	34.1 23.8 11.6 48.2 08.9 46.7	3.6 3.1	+3	-4		369	
06	" 13	P L ME MN FE FN	19	52	14.3 52.2 44.1 49.5 35.0 28.9	2.3 2.8	+4	+4		282	
07	" 13	P L ME MN FE FN	23	47	03.9 51.7 31.7 06.7 33.9 43.3	2.1 1.9	-4	+5		3455	
08	" 13	P L ME MN FE FN	23	57	18.6 03.9 27.3 33.9 02.1 28.3	2.4 2.3	+19	-31		336	
09	" 14	P L ME MN FE FN	8	35	47.0 27.0 51.6 44.6 43.0 32.7	2.1 2.3	+37	-25		297	
10	" 14	P L ME MN FE FN	16	34	31.6 23.8 27.9 50.4 41.0 29.8	3.0 2.3	+14	-19		833	
11	" 15	P L ME MN FE FN	6	42	54.3 57.7 10.8 12.7 46.8 39.3	0.4 0.4	+16	+11		25	
12	" 15	P L ME MN FE FN	6	53	51.4 40.7 54.2 09.2 12.0 10.2	3.0 2.4	-11	+14		366	
13	" 15	P L ML ME FE FN	7	44	14.0 02.1 13.3 29.7 09.1 21.1	0.0 2.2	+5	+7		357	

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No.	Date	Phase	G.M.T.			Period s	Amplitude			Δ k.m.	Remarks
			h.	m.	s.		A_E μ	A_N μ	A_Z μ		
114	May 15	P	10	13	55.4				361		
		L		14	44.0						
		ME		16	58.3	4.3	+5				
		MN		17	47.4	4.4		+4			
		FE		22	23.8						
		FN		23	01.7						
115	" 15	P	10	26	41.4				347		
		L		27	28.2						
		MN		27	47.2	3.8		-8			
		FN		30	17.0						
116	" 15	P	12	50	06.7				379		
		L		50	57.8						
		ME		51	57.2	2.5	+6				
		MN		51	21.9	2.3		+8			
		FE		54	23.4						
		FN		53	51.5						
117	" 15	P	19	40	34.2				504		
		L		41	42.1						
		ME		42	36.4	4.0	+7				
		MN		42	35.6	2.8		+13			
		FE		46	37.4						
		FN		46	43.8						
118	" 16	P	13	35	34.6				266		
		L		36	10.4						
		ME		36	32.9	2.1	-9				
		MN		36	34.8	2.3		+8			
		FE		39	49.3						
		FN		40	03.1						
119	" 16	P	20	14	55.7				375		
		L		15	46.2						
		ME		16	08.4	3.4	+181				
		MN		16	21.9	4.0		-275			
		MZ		16	07.1	3.0			-150		
		FE		39	19.1						
		FN		39	49.0						
		FZ		28	10.5						
120	" 18	P	0	10	27.3				895		
		S		12	27.9						
		L		16	09.4						
		ME		17	36.9	4.3	-7				
		MN		17	01.9	3.8		+5			
		FE		27	39.5						
		FN		27	30.0						
121	" 18	P	6	27	03.6				323		
		L		27	47.1						
		ME		29	01.6	3.0	-8				
		MN		28	22.5	2.6		+8			
		MZ		28	40.9	2.0			+3		
		FE		34	32.4						
		FN		34	30.7						
		FZ		32	19.9						
122	" 19	P	3	58	03.9				875		
		L	4	00	01.8						
		ME		01	20.1	4.0	+6				
		MN		01	07.7	3.9		+7			
		MZ		01	43.4	3.5			+3		
		FE		05	28.2						
		FN		05	56.4						
		FZ		04	23.2						

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SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



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No.	Date	Phase	G.M.T.			Period s	Amplitude			△ k.m.	Remarks
			h.	m.	s.		A _E μ	A _N μ	A _Z μ		
23	May 19	eP L ME MN MZ FE FN FZ	10	34	31.9 08.8 32.0 25.7 27.6 36.2 25.0 23.4					274	
24	" 19	P L ME MN MZ FE FN FZ	15	07	58.8 33.3 06.7 58.3 10.7 05.0 18.5 51.6					2124	
25	" 20	P L ME MN MZ FE FN FZ	7	50	23.8 23.8 21.7 00.5 00.1 04 47.9 04 51.9 03 18.1					1335	
26	" 20	P S L ME MN FE FN	11	21	48.7 46.6 32.7 11.2 45.1 57.4 26.2					1717	
27	" 20	P L ME MN MZ FE FN FZ	22	12	35.3 24.7 21.8 58.8 20.9 44.3 46.2 34.4					367	
28	" 21	P L ME MN MZ FE FN FZ	17	38	05.5 47.5 23.4 16.2 08.8 19.1 18.2 01.7					312	
29	" 23	P L ME MN FE FN	16	39	04.4 45.1 55.0 53.1 07 25.0 07 10.0					302	
30	" 23	P L FMN	21	35	30.5 46.5 02.9					564	

OSAKA JAPAN**SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory**

No.	Date	Phase	G.M.T.			Period s	Amplitude			Δ k.m.	Remarks
			h.	m.	s.		A_E μ	A_N μ	A_Z μ		
1	May 26	P	9	08	58.9				927		
		L		11	03.3						
		ME		11	25.2	3.8	+9				
		MN		11	56.8	4.2		+8			
		FE		13	09.2						
		FN		18	36.0						
2	" 28	P	19	33	13.5				459		
		L		34	15.3						
		ME		34	41.3	2.4	+5				
		MN		34	50.9	2.2		+8			
		FE		38	16.9						
		FN		38	26.5						

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SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



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

Instrument: Omori's Seismograph
(Horizontal & Vertical)

Wiechert 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

	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.			Period s	Amplitude			Δ k.m.	Remarks
			h.	m.	s.		A_E μ	A_N μ	A_Z μ		
133	1930 May 31	P	17	59	32.1				498		
		L	18	00	39.2						
		ME		01	21.5	1.9	+563				
		MN		01	19.3	1.7		+788			
		FE		19	50.6						
		FN		20	05.5						
134	June 3	P	18	14	21.5				417		
		L		15	17.6						
		ME		15	58.0	2.9	-4				
		MN		16	14.1	3.7		-4			
		MZ		16	14.1	2.5		± 3			
		FE		20	44.1						
		FM		24	33.2						
		FZ		19	44.0						
135	" 3	P	19	57	32.1				674		
		L		59	02.9						
		ME		59	30.5	4.4	+11				
		MN		59	52.7	3.9		+11			
		MZ		59	28.7	2.5		± 6			
		FE		20	07 13.9						
		FN		06	43.3						
		FZ		03	23.9						
136	" 4	P	9	57	39.4				3197		
		L	10	02	35.7						
		ME		07	35.1	4.7	+9				
		MN		07	31.3	4.4		-14			
		FE		16	11.4						
		FN		16	05.0						
137	" 8	P	15	48	11.5				344		
		L		48	57.9						
		ME		49	50.5	2.6	+5				
		MN		49	45.9	3.6		± 7			
		MZ		49	30.1	2.4		± 3			
		FE		53	41.5						
		FN		54	04.2						
		FZ		51	27.5						
138	" 11	P	0	57	31.7				5002		
		L	1	04	14.6						
		ME		08	14.2	5.3	+13				
		MN		07	50.9	5.7		-12			
		MZ		07	54.3	4.8		+6			
		FE		34	28.6						
		FN		34	16.6						
		FZ		33	24.6						
139	" 13	P	1	01	49.7				4632		
		L		08	12.0						
		ME		09	17.4	5.0	+3				
		MN		08	58.0	3.6		-6			

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No.	Date 1930	Phase	G.M.T.			Period s	Amplitude			Δ k.m.	Remarks
			h.	m.	s.		A_E μ	A_N μ	A_Z μ		
39	June 13	MZ	1	08	29.6	5.0			-3		
		FL		15	51.0						
		FN		16	17.9						
		FZ		14	44.0						
40	" 17	P	3	01	14.6	2.8 2.3			217		
		L		01	43.8						
		ME		02	40.1		+13				
		MN		02	29.7			-14			
		FE		07	58.8						
		FN		07	55.1						
		FZ									
41	" 18	P	12	13	26.0	2.5 2.5 2.0			528		
		L		14	38.0						
		ME		15	24.4		+18				
		MN		15	19.2			+30			
		MZ		15	19.5					+8	
		FE		22	21.5						
		FN		22	04.3						
		FZ		21	47.9						
42	" 18	P	20	46	49.2	2.6 2.6			1894		
		L		50	02.6						
		ME		50	23.9		+4				
		MN		50	23.9			-6			
		FE		54	29.3						
		FN		54	23.5						
		FZ		51	31.8						
43	" 21	P	9	48	43.3	10			1565		
		L		51	26.8						
		FE		00	08.3						
		FN		00	12.3						
		FZ		9	57		10.0				
44	" 29	P	6	15	07.1	2.4 2.3 2.1			460		
		L		16	09.1						
		ME		16	26.2		+7				
		MN		16	43.1			-8			
		MZ		16	41.4					+5	
		FE		19	37.6						
		FN		19	54.3						
		FZ		18	37.1						
45	" 29	P	0	26	12.5	2.1 2.5 2.0			458		
		L		27	14.2						
		ME		27	32.5		+6				
		MN		27	36.1			+14			
		MZ		28	15.4					+3	
		FE		30	19.9						
		FN		30	29.8						
		FZ		30	11.9						

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

Instrument: Omori's Seismograph
(Horizontal & Vertical)

Wiechert Seismograph
(Horizontal & Vertical)

	T ₀	ϵ	$\frac{r}{T_0^2}$	V
A _E :	30	-	0.003	20
A _N :	30	-	0.003	20
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	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.			Period s	Amplitude			Δ k.m.	Remarks
			h.	m.	s.		A _E μ	A _N μ	A _Z μ		
46	1930 July 2	P L ME MN MZ FE FN FZ	8	18	52.9 19 09.7 19 11.3 19 11.9 19 24.3 21 51.5 21 45.7 21 14.1				125		
47	" 2	P S L ME MN MZ FE FN FZ	21	11	15.4 16 55.8 25 29.5 30 42.6 26 02.5 30 45.1 22 00 26.0 00 21.7 21 55 32.0	0.3 0.3 0.3 11.9 7.1 5.7	± 23 -37	-13 -20	± 5 -15	3078	
48	" 4	P L ME MN MZ FE FN FZ	13	38	40.7 38 46.8 38 46.9 38 52.0 38 46.8 41 13.1 41 02.6 39 58.5	0.4 0.4 0.4	+8	+3	+1	45	
49	" 4	P L ME MN MZ FE FN FZ	16	35	32.2 36 10.5 36 38.4 36 25.2 36 20.2 39 44.4 39 43.2 37 30.7	2.4 2.8 2.0	+8	+13	+5	284	
50	" 5	P L ME MN MZ FE FN FZ	8	58	53.1 59 39.7 9 00 12.8 00 14.5 00 10.8 03 57.3 04 33.6 02 02.1	2.4 2.4 2.2	+70	+10	-4	302	
51	" 5	P L ME MN MZ FE FN FZ	18	04	24.3 11 28.8 12 01.9 11 58.3 11 47.1 21 09.4 21 07.3 16 28.3	4.4 4.0 4.4	± 6	+10	+4	5404	

OSAKA JAPAN

SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



No.	Date	Phase	G.M.T.			Period s	Amplitude			△ k.m.	Remarks
			h.	m.	s.		A _E μ	A _N μ	A _Z μ		
152	1930 July 10	P	11	38	21.1				297		
		L		39	01.1						
		ME		39	34.9	2.2					
		MN		39	24.0	2.6	-0				
		MZ		39	25.1	2.0		+22			
		FE		44	57.5						-6
		FN		44	55.1						
FZ		43	06.8								
153	" 10	P	12	34	53.7				2394		
		L		38	50.2						
		ME		39	50.6	3.8					
		MN		39	46.0	3.8	-14				
		MZ		39	45.3	3.2		+20			
		FE		46	24.9						+6
		FN		45	56.5						
FZ		44	30.7								
154	" 13	P	19	33	34.4				3247		
		S		38	35.3						
		L		44	15.5						
		MN		45	12.8	10.6		+8			
		FE		20	14 09.5						
155	" 14	P	10	26	10.2				330		
		L		26	54.6						
		ME		27	34.6	3.2					
		MN		27	10.6	3.6	+8				
		MZ		27	34.8	2.6		-11			
		FE		31	01.2						-5
		FN		30	53.6						
FZ		30	27.9								
156	" 16	P	16	28	04.3				55		
		L		28	11.6						
		ME		28	11.6	0.4					
		MN		28	13.1	0.4	+19				
		MZ		28	11.6	0.3		-14			
		FE		30	34.3						-5
		FN		30	35.3						
FZ		30	24.8								
157	" 22	P	19	28	56.5				1704		
		L		31	53.0						
		ME		32	22.2	2.4					
		MN		32	26.8	2.2	+45				
		MZ		32	32.2	2.0		+74			
		FE		53	59.0						-33
		FN		53	01.3						
FZ		42	37.6								
58	" 23	P	0	31	32.6				9112		
		S		41	48.9						
		L		55	40.4						
		MN		1 00	44.0	17.1		+9			
		FN		34	35.5						
59	" 23	P	-	2					-		
		G.S	18	58	34.6						
		L	19	05	49.5						
		MN		09	07.3	9.6		+2			
60	" 30	FN		23	32.0				338		
		P	6	42	08.4						
		L		42	53.9						
		ME		43	15.9	2.1	+10				
		MN		43	06.1	2.1		+13			
		FE		46	05.6						
FN		46	01.4								

From Aug. 4th to Aug. 30th, 19

OSAKA JAPAN

SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



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

Instrument: Omori's Seismograph
(Horizontal & Vertical)

Wiechert 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

	T_0	ϵ	$\frac{r}{T_0^2}$	V
A_E :	4	3.2	0.003	80
A_N :	4	3.2	0.003	20
A_Z :	6	2.0	0.005	80

No.	Date	Phase	G.M.T.			Period s	Amplitude			Δ k.m.	Remarks
			h.	m.	s.		A_E μ	A_N μ	A_Z μ		
161	1930 Aug. 4	e.P S FE FN FZ	5	22	58.25 32.5 31.8 48.2 56.8					5960	
162	" 6	P L ME MN MZ FE FN FZ	21	34	20.6 31.9 32.1 31.9 31.9 53.6 43.6 08.6	0.4 0.3 0.2	+10	-16	+5	374	
163	" 10	P L ME MN MZ FE FN FZ	13	11	38.9 15.1 0.04 07.7 48.3 26.4 24.5 23.4	3.0 3/0 2.4	-11	+13	-6	269	
164	" 14	P L ME MN FE FN FZ	19	17	30.7 38.0 38.0 38.0 52.2 50.2 37.7	0.4 0.4	+6	-8		55	
165	" 15	P L ME MN MZ FE FN FZ	2	44	06.7 52.2 11.7 11.2 41.1 08.1 08.5 26.5	2.2 2.3 2.0	+10	+16	+6	333	
166	" 15	P L FE Fn	5	59	38.0 57.9 02 30.7 02 06.7					143	
167	" 17	P L ME1 MN1 ME1 ME2 MN2 ME2	9	29	39.1 21.6 13.2 58.2 55.2 38.6 39.7 24.3	2.3 2.2 2.6 3.2 2.3 2.3	+186	-188	+225 +218 +100 +88	390	

OSAKA JAPAN

SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



Date	Phase	G.M.T.			Period s	Amplitude			△ k.m.	Remarks
		h.	m.	s.		A _E μ	A _N μ	A _Z μ		
Aug. 17	FE FN FZ	9	48	37.8 02.1 52.6						
" 18	P S L ME MN FE FN	10	12	44.4 40.4 41.3 54.5 30.1 05.7 54.7	5.6 3.9	+8	+6		3195	
" 18	P L ME MN FE FN	19	43	35.4 44.9 38.0 28.2 28.1 44.0	2.6 3.6	-19	+30		517	
" 19	P L ME MN MZ FE FN FZ	12	41	19.8 59.8 08.4 23.5 28.0 28.8 25.1 04.8	2.1 2.0 1.9	+14	+20	-8	297	
" 19	P L ME MN MZ FE FN FZ	17	42	56.1 02.8 36.3 37.7 27.6 13.3 36.0 19.1	1.9 2.2 2.3	-39	+58	-26	495	
" 20	P S L ME MN FE FN FZ	20	57	23.3 01.2 31.9 40.2 59.2 47.0 24.6 57.0	5.3 5.8	+18	-19		2500	
" 21	P L ME MN MZ FE FN FZ	10	46	24.4 16.1 48.2 27.7 56.6 34.9 30.7 03.0	3.2 2.1 2.5	+11	+11	+4	1660	
" 24	e.P L ME MN MZ FE FN FZ	2	44	16.5 08.5 34.1 32.1 00.7 56.9 25.0 30.7	2.2 2.6 2.9	+2	+7	+2		
" 26	P L	12	41	50.5 00.1					962	

OSAKA JAPAN

SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



Date	Phase	G.M.T.			Period s	Amplitude			△ k.m.	Remarks
		h.	m.	s.		A _E μ	A _N μ	A _Z μ		
75 Aug. 26	ME	12	44	58.4	2.2	±3				
	MN		44	53.7	3.0		±3			
	MZ		44	57.8	2.6			±2		
	FE		54	18.3						
	FN		54	07.0						
	FZ		53	07.0						
76 " 29	P	20	05	31.2					1840	
	L		08	40.5						
	ME		09	04.3	2.9	±5				
	MN		09	23.8	2.1		±5			
	MZ		09	24.7	2.7			±4		
	FE		18	55.3						
	FN		19	29.0						
	FZ		17	35.2						
77 " 30	P	14	45	15.3					19	
	L		45	17.9						
	ME		45	18.0	0.2	+5				
	MN		45	18.5	0.2		+4			
	FE		45	58.2						
	FN		45	51.3						

OSAKA JAPAN

SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



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

Instrument: Omori's Seismograph
(Horizontal & Vertical)

Wiechert 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

	T_0	ϵ	$\frac{r}{T_0^2}$	V
A_E :	4	3.2	0.003	30
A_N :	4	3.2	0.003	30
A_Z :	6	2.0	0.005	3.0

No.	Date	Phase	G.M.T.			Period s	Amplitude			Δ k.m.	Remarks
			h.	m.	s.		A_E μ	A_N μ	A_Z μ		
178	1930 Sept. 4	P L ME MN MZ FE FN FZ	4	19	44.0 52.7 01.2 01.2 30.6 56.5 53.7 18.4	2.4 2.4 2.4	-9 -13 -4		510		
179	" 5	e.P e.L ME MN FE FN	20	02	03.3 06.9 06.9 06.9 35.4 39.2	0.3 0.3	+6 +1		27		
180	" 10	P L ME MN MZ FE FN FZ	22	25	15.9 12.7 36.2 36.2 20.2 54.2 14.1 06.2	3.5 3.7 2.4	+6 +8 +5		422		
181	" 11	P L ML MN FE FN	4	22	27.1 51.9 58.7 01.4 18.3 29.4	1.3 1.3	-4 +3		1784		
182	" 11	P L ME MN MZ FE FN FZ	11	34	44.4 57.1 12.5 07.4 36.8 61.9 10.0 28.6	1.1 1.1 1.1	-5 -5 +5		94		
183	" 11	P L ME MN FL FN FZ	16	48	30.3 11.5 12.7 12.7 52.8 28.2 15.7	1.4 1.3	+5 -		302		
184	" 17	P L ML ME MZ	10	56	20.5 30.5 09.6 08.5 50.5	2.3 2.3 2.4	+0 -5		515		

OSAKA JAPAN

SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



Date	Phase	G.M.T.			Period s	Amplitude			Δ k.m.	Remarks
		h.	m.	s.		A _E μ	A _N μ	A _Z μ		
Sept. 17	FE	10	02	30.0						
	FN		02	23.5						
	FZ		00	53.5						
" 19	P	3	00	32.1				69		
	L		00	41.4						
	ME		01	04.7	1.9	+11				
	MN		00	52.7	1.5		+13			
	MC		01	09.2	2.0			-8		
	FE		03	40.3						
	FZ		03	11.8						
" 21	P	25	10	33.7				4575		
	S		10	52.5						
	L		21	51.9						
	ME		25	27.3	11.0	+16				
	MN		23	19.8	12.7		+11			
	MZ		25	29.5	10.6			+12		
	FE		46	30.5						
	FZ		44	48.9						
" 22	P	14	26	33.5				1890		
	S		29	46.8						
	L		34	45.1	4.1	+6				
	ME		32	32.6						
	MN		33	44.7	3.9		+6			
	FL		51	49.5						
	FR		50	43.2						
" 24	P	12	12	25.0				6440		
	S		23	24.7						
	FE		41	50.1						
	FN		42	04.9						
" 26	P	19	56	31.0				562		
	L		57	40.6						
	ME		53	34.0	3.0	+42				
	MN		58	08.3	3.0		-57			
	MZ		56	17.4	2.3			-13		
	FE	20	06	24.4						
	FZ		02	43.2						
" 28	P	9	52	44.6				271		
	L		53	21.1						
	ME		53	40.2	1.5	+8				
	MN		53	59.0	2.7		+6			
	MZ		53	46.4	1.8			-6		
	FE		57	35.5						
	FZ		57	42.1						
" 29	P	4	53	44.9				645		
	L		55	11.8						
	ME		56	06.5	2.4	+13				
	MN		55	35.6	2.4		+14			
	MZ		55	48.6	2.4			+6		
	FE		58	53.4						
	FZ		59	24.3						
" 29	P	14	38	27.2				15	Slight.	
	L		38	29.4						
	ME		38	29.2	0.5	-6				
	MN		38	29.4	0.3		+12			
	MZ		38	29.4	0.3			-3		

OSAKA JAPAN

SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



No.	Date	Phase	G.M.T.			Period s	Amplitude			△ k.m.	Remarks
			h.	m.	s.		A _E μ	A _N μ	A _Z μ		
	Sept. 29	FE	14	39	58.2						
		FN		39	54.6						
		FZ		39	57.5						
	" 30	P	4	56	33.3					E10	
		L		57	41.9						
		ME		58	08.8	3.0	+8				
		MN		57	50.8	2.7		+11			
		MZ		57	52.4	2.4				+3	
		FE		59	33.0						
		FN		59	27.7						
		FZ		59	25.6						

From Sept. 30th to Oct. 29th, 1930.

29.

OSAKA JAPAN

SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



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

Instrument: Omori's Seismograph
(Horizontal & Vertical)

Wiechert Seismograph
(Horizontal & Vertical)

	T_0	ϵ	$\frac{r}{T_0^2}$	V		T_0	ϵ	$\frac{r}{T_0^2}$	V
A_E :	30	-	0.003	20	A_E :	4	3.2	0.003	80
A_N :	30	-	0.003	20	A_N :	4	3.2	0.003	80
A_z :	15	-	0.004	20	A_z :	6	2.0	0.005	80

No.	Date	Phase	G.M.T.			Period s	Amplitude			Δ k.m.	Remarks
			h.	m.	s.		A_E μ	A_N μ	A_z μ		
194	1930 Sept. 30	P	21	23	39.1				3371		
		L		34	18.9						
		ME		37	26.0	5.6	+11				
		MN		37	27.8	5.1		+11			
		FE		43	26.0						
		FN		49	26.5						
195	Oct. 1	P	2	57	59.2				2577		
		L	3	02	10.3						
		ME		02	51.7	4.6	+6				
		MN		03	2.3	3.3		+6			
		MZ		02	26.0	3.9		+5			
		FE		03	58.4						
		FN		03	25.4						
		FZ		06	25.1						
196	" 2	P	10	05	32.5				1393		
		L		06	15.3						
		ME		06	43.2	3.7	-13				
		MN		07	45.7	3.3		+13			
		MZ		05	46.7	2.6		+6			
		FE		14	43.1						
		FN		14	44.0						
		FZ		11	22.7						
197	" 6	P	20	52	39.4				212		
		L		53	07.9						
		ME		55	21.5	0.9	-3				
		MN		53	26.1	0.9		+1			
		FE		55	02.3						
		FN		54	26.5						
198	" 7	P	1	29	29.0				27		
		L		29	33.2						
		ME		29	33.2	0.73	+4				
		MN		29	33.2	0.7		+5			
		FE		31	30.9						
		FN		31	55.7						
		FZ		31	24.3						
199	" 8	P	10	29	04.9				6844		
		L		37	20.1						
		ME		39	23.7	5.6	+6				
		MN		39	12.5	5.2		+5			
		FE		11	01	23.1					
		FN		00	29.1						
200	" 10	P	0	51	19.1				2396		
		L		53	16.2						
		ME		51	23.6	4.6	+5				
		FE		1	03	30.6					
		FN		03	29.2						

OSAKA JAPAN

SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



No.	Date	Phase	G.M.T.			Period s	Amplitude			△ k.m.	Remarks
			h.	m.	s.		A _E μ	A _N μ	A _Z μ		
01	Oct. 13	P	8	59	20.2				419		
		L	9	00	16.0						
		ME		00	54.0	2.2	-9				
		MN		07	35.5	2.3		+16			
		MZ		00	44.4	2.0			-5		
		FE		04	01.8						
		FN		03	59.9						
		FZ		03	31.8						
02	" 15	P	21	20	36.9				150		
		L		20	57.1						
		ME		21	02.0	1.6	+3				
		MN		21	09.8	2.4		+5			
		MZ		20	59.1	1.9			+1		
		FE		23	21.2						
		FN		23	28.5						
		FZ		23	16.2						
03	" 16	P	21	32	53.2				138	Felt slightly at Osaka.	
		L		33	18.5						
		ME		34	21.0	2.3	-137				
		MN		34	04.9	2.6		-144			
		MZ		33	59.2	2.1			+50 5		
04	" 16	P	21	36	30.4				130	Felt slightly at Osaka.	
		L		36	55.7						
		ME		36	55.9	2.3	+530				
		MN		36	57.9	2.3		+530			
		MZ		57	07.8	2.2			-400		
		FE		59	11.0						
		FN		59	25.8						
		FZ		54	15.3						
05	" 18	P	4	23	34.4				171		
		L		23	57.4						
		ME		24	27.7	1.9	+19				
		MN		24	25.1	1.9		-19			
		MZ		24	38.4	1.8			+6		
		FE		29	59.1						
		FN		29	36.5						
		FZ		27	13.6						
06	" 20	P	2	08	51.6				2009		
		L		08	59.7						
		FE		12	26.7						
		FN		12	09.7						
		FZ		12	26.7						
07	" 21	P	5	26	09.2				332		
		L		26	53.9						
		ML		27	31.1	2.3	+19				
		MN		27	23.3	2.9		-25			
		MZ		27	54.3	2.1			+6		
		FE		30	26.4						
		FN		30	51.6						
		FZ		29	33.2						
08	" 24	P	20	19	11.1				2324		
		L		23	01.5						
		ME		23	21.4	5.0	+275				
		MN		23	23.4	4.9		+275			
		MZ		23	23.0	4.0			-239		
		FE	21	58	03.4						
		FN		52	14.5						
		FZ		49	35.4						

OSAKA JAPAN**SEISMOLOGICAL BULLETIN
of the Osaka Meteorological Observatory**

No.	Date	Phase	G.M.T.			Period s	Amplitude			Δ k.m.	Remarks
			h.	m.	s.		A_E μ	A_N μ	A_Z μ		
209	Oct. 24	P	22	23	48.2				443		
		L		23	48.6						
		ME		24	10.4	2.4	+13				
		MN		24	15.6	2.3		+25			
		MZ		24	13.2	2.1			+5		
		FE		27	50.4						
		FN		27	34.9						
		FZ		26	39.2						
210	" 26	P	13	45	16.7				61		
		L		45	24.9						
		ME		45	51.5	1.9	+25				
		MN		45	52.7	2.0		+44			
		MZ		46	08.7	1.3			+13		
		FE		48	27.6						
		FN		47	59.2						
		FZ		47	37.3						
211	" 28	P	21	14	39.7				2000		
		L		18	02.3						
		ME		19	56.4	4.1	+33				
		MN		20	03.5	5.8		-25			
		MZ		19	56.4	4.5			-16		
		FE		44	00.3						
		FN		42	37.6						
		FZ		39	35.6						
212	" 29	P	14	27	28.0				56		
		L		27	35.6						
		ME		28	05.0	1.9	-13				
		MN		28	09.8	1.4		-13			
		MZ		28	07.2	1.1			+6		
		FE		30	29.9						
		FN		30	37.4						
		FZ		30	23.5						

de 582 (The End)
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From Nov, 8th to Nov. 26th, 1930.

OSAKA JAPAN

SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



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

Instrument: Omori's Seismograph
(Horizontal & Vertical)

Wiechert 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

	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.			Period s	Amplitude			Δ k.m.	Remarks
			h.	m.	s.		A_E μ	A_N μ	A_z μ		
213	Nov. 8	P	3	28	13.8				3163		
		S		33	08.3						
		L		37	42.0						
		ME		37	44.0	4.3	-13				
		MN		38	03.6	3.6		+14			
		MZ		37	48.1	4.3			-6		
		FE		48	02.7						
		FN		47	59.8						
		FZ		47	00.8						
214	" 8	P	4	02	09.4				72		
		L		02	19.1						
		ME		02	44.4	1.2	+15				
		MN		02	47.3	1.2		-18			
		FN		06	07.3						
		FE		05	45.9						
215	" 9	P	19	15	39.2				2868		
		S		20	12.7						
		L		23	34.2						
		ME		23	36.6	5.7	+14				
		FE	20	00	59.1						
		FN		01	03.8						
216	" 10	P	13	37	14.4				350		
		L		38	01.3						
		ME		38	31.8	2.3	+9				
		MN		38	24.3	2.3		+13			
		MZ		38	48.5	2.1			-5		
		FE		40	39.7						
		FN		40	37.7						
		FZ		40	30.3						
217	" 10	P	13	48	44.7				7021		
		S		57	15.1						
		L	14	01	57.7						
		MN		09	42.8	19.4		+73			
		FN		33	29.1						
218	" 11	P	8	33	36.8				1800 Formosa		
		L		36	41.8						
		ME		37	52.0	5.3	-17				
		MN		37	22.0	4.2		+18			
		FE		50	40.8						
		FN		50	02.9						
219	" 17	P	15	16	25.2				228		
		L		16	55.8						
		ME		17	34.2	2.6	+25				
		MN		16	55.8	2.1		-44			
		MZ		17	15.8	2.4			-8		
		FE		19	40.4						
		FN		19	37.6						
		FZ		19	21.1						
220	" 19	P	1	11	37.1				317		
		L		12	19.7						
		ME		12	31.4	2.8	+11				
		MN		12	36.9	3.3		+20			
		MZ		12	59.3	2.8			-6		

OSAKA JAPAN

SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



International
Seismological
Centre

No.	Date	Phase	G.M.T.			Period s	Amplitude			Δ k.m.	Remarks
			h.	m.	s.		A _E μ	A _N μ	A _Z μ		
220	Nov. 19	FE FN FZ	1	15	22.2 38.4 51.2						
221	" 20	P L ME MN MZ FE FN FZ	11	54	33.6 03.5 10.7 17.0 48.1 58.8 28.1 58.8					222	
	" 21	P L ME MN MZ FE FN FZ	9	50	29.8 12.0 46.8 39.7 58.1 56.7 55.1 51.3					314	
	" 21	P L ME MN MZ FE FN FZ	10	17	38.8 17.6 42.3 44.1 16.9 31.9 30.2 25.9					288	
224	" 21	P L ME MN MZ FE FN FZ	12	18	18.6 54.5 12.1 16.0 22.9 08.5 00.1 09.5					266	
225	" 21	P L ME MN FE FN	12	56	28.3 03.9 27.9 31.4 59.6 50.8					265	
226	" 24	P L ME MN MZ FE FN FZ	6	45	53.6 02.1 25.3 28.8 08.1 10.8 13.0 25.5					265	63 Lower Valley of Arida. (Wakayama)
227	" 25	P L ME MN FE FN	6	27	13.2 55.5 12.8 24.5 19.0 23.2					314	
228	" 25	P L ME MN FE FN	7	06	37.7 20.7 49.0 52.1 24.6 40.0					319	
229	" 25	P L	7	51	02.2 43.8					309	

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SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



No.	Date	Phase	G.M.T.			Period s	Amplitude			△ k.m.	Remarks
			h.	m.	s.		A _E μ	A _N μ	A _Z μ		
229	Nov. 25	ME MN FE FN	7	51	51.8 56.1 19.1 24.9	1.4 1.9	+14	+27			
230	" 25	eP L ME MN FE FN	9	35	10.6 48.5 00.5 04.3 37.9 39.7	1.8 1.8	+6	±8			
231	" 25	P L ME MN FE FN	12	14	16.2 58.9 07.7 41.6 23.5 20.3	1.1 2.3	-5	+6	317		
232	" 25	P L ME MN FE FN	14	23	58.8 42.6 50.3 11.2 12.0 09.1	2.1 1.9	+11	+21	325		
233	" 25	P PP PPP L ME MN MZ FE FN FZ	19	03	33.7 43.6 04.2 20.3 02.0 48.6 37.5 14 05.5 14 02.3 10 32.2	6.1 7.6 2.7	+13550	+30380 +9250	346 The disastrous earth- quake at northern part of Lzu. Felt slightly at Osaka, first motion N to S 1.3 E to W 4.5 D to U 5.0 .		
234	" 25	eP L ME MN	19	29	51.8 29.0 02.4 03.5	2.3 2.4	-19	-27	-	After shock	
235	" 25	P L ME MN FE FN	19	47	04.8 46.0 52.3 25.8 59.4 46.9	2.3 2.7	±8	-13	306	ditto	
236	" 26	P L ME MN MZ FE Fn FZ	1	07	20.1 02.3 29.3 48.6 22.4 20.2 25.3 06.1	2.5 2.9 2.1	+14	-20	+4	314	ditto
237	" 26	P L ME MN MZ FE FN FZ	4	52	59.9 42.2 17.8 59.2 01.3 28.2 26.4 37.6	2.8 3.1 2.0	+13	-19	-4	314	ditto
238	" 26	P L ME MN MZ	8	43	19.0 02.8 47.1 26.1 25.1	3.4 3.0 1.7	-11	-35	+2	325	ditto

35.

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SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



No.	Date	Phase	G.M.T.			Period s	Amplitude			△ k.m.	Remarks
			h.	m.	s.		A _E μ	A _N μ	A _Z μ		
238	" 26	FE	48	57.9							
		FN	48	38.3							
		FZ	47	29.7							
239	" 26	eP	12	42 35.7						-	ditto
		L	43	10.3							
		ME	43	34.7	1.8	±3					
		MN	43	43.0	2.5		±6				
		FE	45	53.1							
		FN	45	22.0							
		FZ	45	05.9							

OSAKA JAPAN

SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



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

Instrument: Omori's Seismograph
(Horizontal & Vertical)

Wiechert 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

	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.			Period s	Amplitude			Δ k.m.	Remarks
			h.	m.	s.		A_E μ	A_N μ	A_z μ		
240	Dec. 2	e.p L MN MZ FN FZ	7	14	21.6 18 36.5 20 35.8 21 58.0 42 25.5 27 16.2	17.5 6.9		+75 -8	-		
241	" 3	P S L ME MN MZ FE FN FZ	18 19	59 05	19.0 15.1 09 54.0 14 45.0 13 35.9 16 37.8 45 59.2 46 11.5 40 41.5	12.4 10.6 9.6	+88	+81 +28	4157	Burma	
242	" 4	P L ME MN MZ FE FN FZ	4	16	55.1 17 00.4 17 00.4 17 00.5 17 00.4 19 09.2 19 19.5 18 06.9	0.3 0.3 0.3	-25	-26 -6		39 Near Kame- oka, Kyoto prefecture. Felt slightly.	
243	" 5	P L ME MN MZ FE FN FZ	20	31	57.6 32 07.1 32 46.7 32 21.6 33 11.1 41 23.1 41 34.3 41 19.5	2.1 2.3 2.2	+175	-301 +188	71	Eastern part of Harimanada, felt slightly. E to W 3.9, N to S 2.6, U to D 17.5	
244	" 7	e.p L ME MN MZ FE FN FZ	4	02	49.3 03 22.2 03 44.5 03 50.2 03 49.9 06 03.9 06 08.9 05 23.0	2.3 2.3 1.3	-6	+12 +3	-		
245	" 7	e.p L ME MN MZ FE FN FZ	5	51	10.1 51 47.4 52 13.9 52 16.7 52 32.8 59 12.2 58 29.2 56 53.4	3.0 2.4 2.0	-13	+26 -7			
246	" 7	P L ME MN MZ	6	07	32.9 08 19.9 08 58.1 08 45.4 09 21.1	2.4 2.0 2.0	+8	+11 -6	349		

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SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



No.	Date	Phase	G.M.T.			Period s	Amplitude			△ k.m.	Remarks
			h.	m.	s.		A _E μ	A _N μ	A _Z μ		
246	Dec. 7	FE FN FZ	6	11	39.7 34.7 27.0						
247	" 7	P L ME MN FE FN	7	13	29.4 14 11.5 14 24.4 14 25.9 16 29.0 16 39.6	2.7 2.7	±4	±8		313	
248	" 7	P L ME MN FE FN	13	36	08.7 53.8 34.9 00.1 36.6 38.4	2.1 1.8	±4	-6		335	
249	" 7	P L ME MN MZ FE FN FZ	15	35	10.4 56.2 04.0 13.2 33.3 13.4 10.0 22.7	2.4 2.4 2.5	-8	+11	±5	340	
250	" 8	P L ME MN MZ FE FN FZ	6	24	28.4 27 40.0 02.0 26.0 - 28.7 43.5 12.0	3.7 3.5	+5	+5		1869	Southern part of Formosa.
251	" 8	P L ME MN MZ FE FN FZ	8	05	37.5 45.6 15.3 03.1 22.9 42.5 43.3 09.8	5.6 4.6 11.3	+13	-14	±11	1831	ditto
252	" 8	P L ME MN MZ FE FN FZ	23	40	18.4 03.7 27.0 41.2 34.4 48.6 45.1 18.5	2.2 2.4 2.4	+5	+6	+6	336	
253	" 10	P L ME MN MZ FE FN FZ	13	25	36.4 54.5 03.4 07.7 54.5 50.5 35.2 18.0	0.7 0.7 0.6	+5	+4	-4	135	
254	" 13	P L ME MN MZ FE FN FZ	14	25	03.6 52.0 47.7 24.7 12.2 46.7 53.9 17.1	3.4 3.2 4.1	+38	-50	+29	804	

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SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



No.	Date	Phase	G.M.T.			Period s	Amplitude			△ k.m.	Remarks
			h.	m.	s.		A _E μ	A _N μ	A _Z μ		
55	Dec. 16	P	19	50	41.4				308		
		L		51	22.9						
		ME		51	48.9	3.3	-31				
		MN		51	47.9	3.2		-44			
		MZ		52	29.0	2.3		+13			
		FE		56	16.6						
		FN		56	23.5						
		FZ	55	25.5							
56	" 18	P	10	44	31.6				247		
		L		45	04.9						
		ME		46	08.9	2.1	-6				
		MN		46	01.7	2.2		+6			
		MZ		45	51.1	2.2		+5			
		FE		51	38.9						
		FN		51	38.9						
		FZ	49	27.2							
57	" 18	P	14	22	27.2				301		
		L		23	07.7						
		ME		23	19.2	1.3	+4				
		MN		23	12.1	1.9		+5			
		MZ		23	34.8	1.3		+3			
		FE		25	55.4						
		FN		25	06.8						
		FZ	25	06.8							
58	" 20	P	2	45	51.9				79		
		L		46	02.5						
		ME		46	02.7	0.5	+6				
		MN		46	02.9	0.4		+9			
		MZ		46	02.5	0.4		-2			
		FE		47	48.4						
		FN		47	50.2						
		FZ	47	45.3							
59	" 20	P	14	0 ³	03.1				240	Northern part of Hiroshima pre- fecture, felt slightly S to N 5.6, E to W 3.1.	
		L		03	35.4						
		ME		04	26.9	1.8	-475				
		MN		04	05.7	1.8		+525			
		MZ		-	--	-		+200			
		FE		21	05.7						
		FN		20	48.1						
		FZ	19	31.7							
60	" 20	P	14	43	41.5				229		
		L		44	12.3						
		ME		44	14.6	1.8	-43				
		MN		44	15.0	1.8		-43			
		MZ		45	21.1	2.1		+14			
		FE		50	53.6						
		FN		50	35.6						
		FZ	49	00.0							
61	" 20	P	23	27	21.0				221	ditto	
		L		27	50.8						
		ME		27	54.0	2.1	+43				
		MN		27	53.9	2.3		+68			
		MZ		28	20.0	2.1		+19			
		FE		38	21.3						
		FN		38	34.4						
		FZ	35	49.4							
62	" 21	P	12	1 ⁵	02.9				232	ditto felt slightly E to W 2, S N - U to D 4.	
		L		15	34.2						
		ME		16	06.5	1.9	+331				
		MN		15	40.7	1.8		-517			
		MZ		15	56.1	2.0		-181			
		FE		29	43.0						
		FN		29	26.5						

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SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



No.	Date	Phase	G.M.T.			Period s	Amplitude			△ k.m.	Remarks
			h.	m.	s.		A _E μ	A _N μ	A _Z μ		
263	Dec. 21	e.p L FE FN	13	09	59.4 28.4 44.7 33.8					-	ditto
264	" 21	P L ME MN FE FN	13	17	33.5 03.9 08.9 27.8 29.6 27.5		0.5 0.9	-3 +3		226	ditto
265	" 21	P L ME ₁ MN ₁ MZ ₁ ME ₂ MN ₂ MZ ₂ FE FN FZ	14	55	34.9 57.9 01.3 30.3 25.1 33.2 31.1 31.2 22.7 52.4 31.6		2.9 2.5 4.6 4.6 4.3 5.2	-169 +183 -103 +88		171 Muroto Eto W 11.9, N to S 10.6, U to D 38.7	Off cape to D 38.7
266	" 21	P L ME MN FE FN	16	31	04.2 34.7 38.3 40.9 15.9 20.8		0.7 1.8	-11 +13		227	Northern part of Hiroshima pre- fecture.
267	" 21	e.p L ME MN FE FN	17	38	53.3 20.4 45.7 42.9 52.4 18.9		1.7 1.7	+6 +6		-	ditto
268	" 21	e.p L ME MN FE FN	20	48	37.8 06.0 34.4 09.1 00.7 53.3		1.1 1.1	-6 -11		-	ditto
269	" 21	e.p L ME MN F	23	54	12.5 - 21.3 10.4 -		6.9 8.4	+20 +10		-	Southern part of Formosa.
270	" 22	e.p L ME MN FE FN	0	12	08.4 - 09.7 52.6 19.7 10.7		10.0 12.4	-25 +28		-	ditto
271	" 22	P L ME MN MZ FE FN FZ	3	24	04.6 33.8 37.0 37.0 - 58.4 44.7 44.8		1.7 2.1	+10 -13		217	
272	" 23	P L ME MN FE	10	47	19.3 48.9 52.4 52.6 43.3		1.2 1.2	+8 -8		220	

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SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



No.	Date	Phase	G.M.T.			Period s	Amplitude			△ k.m.	Remarks
			h.	m.	s.		A _E μ	A _N μ	A _Z μ		
273	Dec. 23	P	23	57	57.5				831		
		L		59	49.4						
		ME	0	01	21.2	2.1	-20				
		MN		01	06.5	3.2		+25			
		MZ		01	00.7	2.5		+12			
		FE		08	22.4						
		FN		07	30.4						
		FZ		04	13.0						
274	" 31	P		-	-				3		
		L	11	18	12.5						
		FE		23	04.7						
		FN		22	50.6						
THE END.											