

Matuyama JAPAN

SEISMIC BULLETIN

of the Matuyama Meteorological Observatory of Japan.

$\varphi = 33^{\circ}50'N$ $\lambda = 132^{\circ}45'E$ $h = 31.4m$

Wiechert Seismograph
(Horizontal & Vertical)

	T_0	ϵ	$\frac{V}{T_0^2}$	V
A E:	92	7	0.02	66
A N:	62	7	0.01	60
A Z:	41	4	0.04	64

Omori seismograph
Horizontal Pendulum

	T_0	ϵ	$\frac{V}{T_0^2}$	V
A E:				
A N:				



Time : all determinations are reduced to green-wich civil time

January, February, March,

Matuyama Observatory

1932

No.	Date	Phase	Time G.M.C.T.			Period s	Amplitude			Δ k.m	Remarks
							ΔE	ΔN	ΔZ		
			h	m	s		micron	micron	micron		
1	Jan. 3rd	ep isv ME MN F	6	54	21						
			6	54	54.2	17					
			6	54	59.6	23	+11	+6		394.	
			6	55	00.4	19					
			6	59	20.			+9			
2	3rd	ep is N F	12	12	10.6						
			12	12	48.4	11	+2	+3		266.	
			12	12	48.1	0.8	-5	+6			
			12	14	48.						
3	5th	ep is MN ME F	17	21	33.5	10.5	-2	-3		99.	
			17	21	44.3	0.5	-2	-3			
			17	21	45.3	0.6		-9			
			17	21	45.0	0.6	+3				
			17	22	50.						
4	7th	ep F	1	13	45.5						
			1	15	58.						
5	7th	ep F	1	28	00.6						
			1	29	48.						
6	7th	ep F	5	57	00.0						
			5	53	10.						
7	9th	ep S MB MN ME F	19	29	24.8	2.1	+15	-16	-58		
			19	35	31.7	6.2	+15	-21		3111.	
			19	35	33.5	9.0			-16		
			19	35	35.5	9.8		+52			
			19	35	37.2	9.1	-38				
			19	59	30.						
8	11st	ep S MN ME MB F	17	47	55.2	0.8	-1	-2	-1?		
			17	48	21.3	1.2	+4	+2		174	
			17	48	24.7	1.1		+12			
			17	48	28.5	0.6	+15				
			17	48	25.9	1.7			-12		
			17	50	55.						
9	21st	ep is FN	23	43	45.3						
			23	44	20.7	0.5	-5	-4			
10	27th	ep is ME MN F	21	16	22					263.	
			21	17	3.9	1.5	+4	+14			
			21	17	11.6	0.9	-90				
			21	17	22.9	0.9		+67		253.	
			21	17	28.0	1.7	-12	-18			
11	28th	ep is F	3	42	30.						
			3	42	10.6						
			3	42	33.1	1.7	-2	-4			
			3	45	30.						
12	29th	ep L M F	22	49	27.1					167.	
			23	00	23.9	21.2	+16				
			23	01	96.	27.6	+30			7560.	
13	31st	ep S F	14	30	6.						
			14	30	7.6						
			14	30	38.6	1.7	+5	+4		215.	
14	Feb. 13rd	ep S MN ME FN	6	33	25.						
			6	33	28.4	0.9	+2	+1			
			6	33	38.8	1.0	+8	-18		77.	
			6	33	39.5	0.9		+36			
			6	33	41.2	0.7	+20				
15	15th	ep is F	6	35	30.						
			6	33	15.6						
			6	33	53.0	0.8	-6	-5			
16	15th	ep is F	10	07	44.					292.	
			10	07	21						
			10	07	39.0	0.8	-4	-3			
17	22nd	ep F	0	56	40.8					200.	
			1	00	40.						
18	25th	ep is ME MN F	15	10	19.8	0.5	-029	-047			
			15	10	26.8	0.5	+160	+47			
			15	10	28.2	0.7	-415			52.	slight.
			15	10	30.9	0.5					
19	28th	ep is MN ME F	8	59	28.						
			8	59	44.2						
			8	59	54.2	0.8	-13	-18			
			8	59	55.2	0.7		-64			
			8	59	54.7	0.8	-33			74.	
			8	01	16.						
20	MAY. 5th	ep is MB ME MN F	17	45	34.4	10	+2	+1	+1		
			17	47	45.7	0.7	-13	-11			
			17	49	46.3	1.0					
			17	49	46.2	0.8	+17			84.	
			17	49	46.4	0.5					
			17	51	35.			+26			

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$\phi = 33^{\circ}50'N$ $\lambda = 132^{\circ}45'E$ $h = 31.4m$

Wiechert Seismograph
(Horizontal & Vertical)

	T ₀	E	$\frac{V}{T_0^2}$	V
A E:	8.7	5.8	0.03	53
A N:	5.7	8	0.07	66
A Z:	4.1	5	0.03	64

Omori seismograph
Horizontal Pendulum

	T ₀	E	$\frac{V}{T_0^2}$	V
A E:				
A N:				



Time : all determinations are reduced to green-wich civil time

March, April, May, June Matuyama Observatory 1932

No.	Date	Phase	Time G.M.C.T.			Period	Amplitude			Δ k.m	Remarks
							AE	AN	AZ		
21	Mar. 17th	±P	9	51	14.4	12	+1	+2	+1	180.	
		±S	9	51	38.6	1.0	-41	+44			
		ME	9	51	44.0	0.8	-112				
		MN	9	51	50.2	0.6		+114			
		MZ	9	51	49.5	0.8			-100		
22	19th	F	10	03	15.0						
		±P	20	04	38.7	2.7	-3	-3		4000.	
23	Apr. 5th	±S	20	08	38.1	17.5	+10				
		±F	20	12	19						
24	28th	±P	7	18	12.4	2.0	-6	+6			
		±S	4	19	27.5	3.2	-31	-100		557.	
		MN	4	19	32.8	6.4		+227			
		ME	4	19	33.9	7.7	-231				
		F	4	29	30.						
25	MAY 3rd	±P	12	44	10.2	2.0	-12				
		±SE	12	45	0.8	3.0		+41		375.	
		MN	12	45	2.8						
		ME	12	45	11.1	2.0	-6				
		F	12	48	30.						
26	5th	±P	8	29	58.0	16	-50	-150			
		±S	8	30	50.4	1.2		-170		389.	
		MN	8	30	58.3	1.7					
		ME	8	31	2.2	2.0	-200				
		F	8	31	3.3				-92		
27	12th	±P	13	11	58.8	0.8	-6	-	+8		
		±S	13	12	42.5	1.7	+13	-11			
		MN	13	12	45.6	3.5		+55		324.	
		ME	13	12	48.0	4.1	-50				
		F	13	22	30.						
28	4th	±P	23	49	74	0.5	-5	-3			
		±S	23	49	21.5	0.5	-11			105.	
		ME	23	49	24.2	0.6					
		MN	23	50	22.6						
		F	23	50	30.						
29	24th	±P	22	17	45.5	1.8	+1	+4	+4		
		±S	22	23	22.3	9.3	+81	+143		2780.	
		ME	22	23	43.4	8.2	+392				
		MN	22	23	36.7	7.2		-343			
		MZ	22	25	59.0	7.7			-100		
30	26th	±P	0	20	30.						
		±S	1	18	35.4	2.0	+6	+3			
		F	1	20	10.						
		±P	1	28	54.8	2.8	+8	+slight		5-200.	
		MN	1	29	14.1	4.0		-57			
31	28th	ME	1	29	56.5	8.1	+56				
		F	1	58	30.						
		±P	1	21	34.3	1.2	-7	-20	-16		
		±S	1	22	31.1	1.4	-32	+21		421.	
		MN	1	22	45.2	3.2		+63			
32	28th	ME	1	22	35.3	2.7	-42				
		MZ	1	22	47.3	3.0			+28		
		F	1	40	30.						
		±P	14	03	54.2						
		F	14	10	54.						
33	30th	±P	5	06	41.8						
		F	5	07	34.						
		±P	4	34	10	0.7	-slight	-1		196.	
		±S	4	34	27.4	1.4	+3	+8			
		F	4	36	48.						
34	June 2nd	±P	19	49	13.9						
		F	22	08	30.6						
		±P	23	11	43.6	0.8	-	-slight			
		±S	23	12	11.3	0.7	-7	-6		206.	
		MN	23	12	11.8	0.6		+11			
35	4th	ME	23	12	12.1						
		F	23	14	14.						
		±P	7	35	6.2						
		F	7	36	6.						
		±P	15	14	35.2						
36	7th	±S	15	15	65.	10	+31	+45		232.	
		MN	15	15	11.8	0.8		-144			
		ME	15	15	12.0	0.6					
		F	15	24	18.						
		±P	19	19	38.7	1.7	+36	-26			
37	8th	±S	19	55	12.2						
		MN	19	55	19.1	4.6					
		ME	19	55	17.7	2.8					
		F	20	03	30.						
		F	20	03	30.						

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$\phi = 33^{\circ}50'N$ $\lambda = 132^{\circ}45'E$ $h = 31.4m$

Wiechert Seismograph
(Horizontal & Vertical)

	T_0	ϵ	$\frac{V}{T_0^2}$	V
A E:	8.7	10	0.01	70
A N:	5.9	7	0.03	73
A Z:	4.1	5	0.03	64

Omori seismograph
Horizontal Pendulum

	T_0	ϵ	$\frac{V}{T_0^2}$	V
A E:				
A N:				



Time : all determinations are reduced to green-wich civil time

Matuyama Observatory 1932

June July Aug. Sep.

No.	Date	Phase	Time G.M.C.T.				Period	Amplitude			Δ	Remarks
								AE	AN	AZ		
			h	m	s	s	micron	micron	micron	k.m		
40	June 18th	EP	10	31	47.9	0.6	-1	-4	-4			
		IS	10	31	50.2	1.2						
		ME	10	32	12.3	0.8	-100	-60	-170	166		
		MN	10	32	15.4	1.5						
		FE	10	32	18.9	0.5	+45.7				moderate	
		F	10	32	19.0	0.8						
41	18th	EP	10	43	21.							
		IS	19	30	32.0							
		ME	20	18	40.0	18.6	+11					
		MN	20	21	49.3	20.7	+27					
42	22nd	EP	28	11	18.							
		IS	9	37	46.8	2.3	+7					
		ME	9	40	15	4.0	+14		-6			
		MN	9	40	38.3	10.5	+43					
		FE	9	40	24.5	4.1			-40			
43	29th	EP	9	50	30.							
		IS	5	34	43.1							
		ME	5	34	51.5	0.8	+3	+1				
		MN	5	35	29.							
44	30th	EP	3	18	7.8					62.		
		IS	3	31	30.							
45	July 4th	EP	3	54	46.1							
		IS	3	54	57.5	0.6	-7		-4			
		ME	3	54	58.3	0.6	+13			85.		
		MN	3	55	00.4	0.8			-6			
46	10th	EP	3	55	4.8							
		IS	4	48	6.9							
47	11st	EP	5	06	30.							
		IS	4	22	48.5							
		ME	4	23	0.9	0.9	+3	+4		92.		
		MN	4	23	5.8							
48	12nd	EP	13	19	3.6							
		IS	13	20	3.9							
49	13th	EP	22	46	29.3							
		IS	22	47	50.							
50	19th	EP	4	48	30.8	1.5			+1			
		IS	4	48	31.2							
		ME	4	48	33.1	0.2	+3			14.		
		MN	4	48	33.5	0.4			-19			
		FE	4	48	34.6	0.3			-10			
51	19th	EP	4	49	11.3							
		IS	10	14	26.2							
		ME	10	14	33.6							
52	25th	EP	10	14	34.0	0.5	+7	+6		55		
		IS	10	15	16.4							
		ME	17	25	35.7	1.2	+119	+47	-231			
		MN	17	26	22.4	1.7	-123	+79		35.5		
		FE	17	26	27.0	1.8		+85				
53	27th	EP	17	42	30.	1.5			+67			
		IS	9	32	22.7	1.2	-7	+3	+10			
		ME	9	33	32.9	2.9	-1	-9		521.		
		MN	9	33	35.2	3.8		+13				
		FE	9	33	36.1	5.0	+13	+13				
54	Aug. 22nd	EP	20	14	59.4	1.7	-1	-slight	+1			
		IS	20	15	00.0	1.20						
		ME	20	17	39.0	3.4	-43	+17		1184.		
		MN	20	18	4.8	6.5	+43					
		FE	20	18	3.6	3.3			+25			
55	24th	EP	0	05	6.8							
		IS	0	05	28.1	0.9	-2	-2		158.		
		ME	0	07								
56	24th	EP	22	18	35.7							
		IS	22	17	56.							
57	26th	EP	22	53	41.6							
		IS	22	56								
58	Sep. 3rd	EP	21	01	33.6	3.5	-4	-1				
		IS	21	05	2.9	12.3	+28	-23			distant	
		ME	21	05	55.9	12.1	+35					
59	6th	EP	7	23	30.							
		IS	7	21	19.4	0.2	+5	+4	+8			
		ME	7	21	25.7	0.4	+10	+12		47		
		MN	7	21	26.3	0.2?	-20					
		FE	7	21	27.7	0.3?		+12				
60	9th	EP	9	32	30.2	0.4	+0.7	+2	+1			
		IS	9	32	41.3	0.5	+14	-15		82		
		MN	9	32	41.8	0.6		+10				
		ME	9	32	42.7	0.6	-20					
		FE	9	32	41.7	0.6						
61	11st	EP	22	20	37.9				-7			
		IS	22	25	40.							
62	19th	EP	15	36	5.4							
		IS	15	36	11.6	0.4	-6	+4		46.		
		ME	15	36								
		MN	15	36	50							

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$\phi = 33^{\circ}50'N$ $\lambda = 132^{\circ}45'E$ $h = 31.4m$

Wiechert Seismograph
(Horizontal & Vertical)

	T ₀	E	V T ₀ ²	V
A E:	82	9	001	64
A N:	57	7	003	61
A Z:	41	5	023	64

Omori seismograph
Horizontal Pendulum

	T ₀	E	V T ₀ ²	V
A E:				
A N:				



Time : all determinations are reduced to green-wich civil time

5 sep, Oct, Nov, Dec.

Matuyama Observatory 1932

No.	Date	Phase	Time G.M.C.T.			Period	Amplitude			Δ km	Remarks
							AE	AN	AZ		
			h	m	s	s	micron	micron	micron		
63	sep	21st	22	33	16.7	0.2	+1				
			22	33	26.1	0.2	+3				
			22	33	25.5	0.4	-4	-8		62	
64		23rd	23	25	37.5						
			23	27	48.5	4.8	+44	+16		957	
			23	27	52.5	6.0		-103			
			23	27	56.0	5.0					
			23	09	30.0		-130				
65		27th	4	42	6.0						
			5	51	3.0						
66		29th	12	43	16.1						
			12	43	44.2	1.0		-3		186	
67		29th	15	49	41.2	0.5	+1	+47	-7		
			15	47	50.6	0.5	+20	-19		70	
			15	49	51.4	0.3		-30			
			15	49	57.6	0.4	-50		+8		
			15	49	52.5	0.4					
68		30th	2	51	40						
			2	50	59.2	6.1	-7	-2			
69	Oct.	2nd	4	08	30.0						
			19	51	36.0						
			19	52	4.5						
70		5th	12	21	16.0	0.5	-3	-2			
			12	21	27.2	1.0	+15			83	
			12	21	27.7	1.0		-21			
			12	21	27.8	1.0	-18				
71		6th	14	02	20.8	1.0	-7	+5	+5		
			14	03	30.5	1.2	+7	+18		517	
			14	03	32.5	3.0	-16				
			14	03	32.9	3.0		-24			
72		14th	21	37	21.0	0.6	-1	+slight	+1	484	No 8 dec. 25th
			21	38	26.2	4.0	+11				
			21	38	29.0	3.0		+8			
			21	38	29.3	4.0	-14				
73		16th	21	17	24	3.0			-6		ep 11 10 30.5 A=AN AZ P
			21	17	24	3.8	-2	-1		3890	ep 21 10 30.3 +2 18
			21	24	15.5	6.2	-3				AS 11 15 22.6 +3 4.0
			21	24	20.0		+7				L 11 19 43.7 -135 -80 - 15.1
74		24th	6	31	42						
75		26th	2	05	32.5	2.0	-2	-3		1315	MN 11 22 11 -1000 75
			2	08	21.1	3.9	+6	+14			
			2	08	26.3	4.0	+17				
			2	08	24.2	2.9		-16			
76		27th	17	37	07	0.6	+4	+3	+4	118	ME 11 21 55.5 +250 6.9
			17	37	16.6	0.8	+3	-7			
			17	37	18.0	0.4		-13			
			17	37	17.4	0.4	+17				
77	Nov.	2	0	39	10						$\Delta = 3220 km$
			0	19	56.4						
			0	20	4.2	0.5	+10	+7		58	
			0	20	6.2	0.5	-16	-8			
78		9th	4	32	54.1						
			4	33	17	0.5	-3	-2			
			4	33	21	0.4	+44	+34		56	
			4	33	3.0	0.5	-57	-67			
79		13rd	13	49	23.0	2.2	+50	+22		847	
			13	51	17.2	3.8	-212	-56			
			13	51	22.5	5.3	+276				
			13	51	24.6	5.4		+308			
80		18th	5	12	26.3	1.7	+0.8?	+1?		270	
			5	13	02.7	1.3	-7	-23			
			5	13	3.2	0.8		+50			
			5	13	3.3	0.5	-27				
81		26th	13	27	41.9						
			13	30	00.4	7.1?	+13?	+12?			
82		30th	5	15	29.0						
			5	15	55.4	0.7	-9	-10		196	
			5	15	57.6	0.7	+20	+18			
83	Dec	4th	17	17	45.8						
			17	27	53.4	12.1	+21	-10		3623	
			17	30	21.6	22.6	+38	+25			
			17	14	35	20.6					
84		5th	9	20	26.7	0.8	-12	+3	+11	422	
			9	21	23.6	1.2	+22	-10			
85		7th	13	19	15.3						
			13	20	35.1	0.8	+9	+12		295	
			13	20	38.0		+14				
			13	20	39.1	0.8		+15			
86		9th	13	23	46.1						
			13	56	20.2	0.6	+2	-3		74	
			13	56	30.2	0.8	-19	-8			
			13	56	31.0	0.4		-24			
87		25th	13	58	32.0	0.4	+33				
			13	47	14	0.3	+6	-5		33	
			13	47	19.5	0.3	-20	+40			
			13	47	20.3	0.3	+38	-15			
			13	48	50						