

SEISMOLOGICAL BULLETIN

$\phi = 33^{\circ}33'28''N$ $\lambda = 133^{\circ}31'52''E$ $h = 40.4m$

Underground : Serpentin.

Consants of the Seismographs



Date	Apparatus	Component	T_0	ϵ	$\frac{r}{T_0^2} \left(\frac{mm}{sec^2} \right)$	V
March 2 1933	Miechert 200kg	N	4.7	8	0.002	73
	" "	E	6.1	10	"	65
	Wiechert 80kg	Z	3.7	3	0.004	70
	Omori 16kg	N	20.0	8	0.004	20
	"	E	20.0	3	0.004	20

No.	Date	App.	Phase	G.M.C T			Period	Amplitude			Remarks
								A_E	A_N	A_Z	
15	Febr. 4	W	iPz eS F	h 06	m 19 21 24	s 46 12	s	μ	μ	μ	父島西北西沖合 (C.M.O.)
16	Febr. 6	W	eP ₁₁ ePz S L M C F	07	17 18 23	40 41 10 24 30 44	5.0		15		
17	Febr. 7	W	ePz eS _H L M C F	01	28 29 34	11 48 57 02 14	3.6		15		
18	Febr. 8	W	ϵ ϵL	21	57 57.5						
19	Febr. 9	W	iP _{EZ} iS _N F	03	58 59	09 04		-4		+6	
20	Febr. 13	W	ϵ M F	03	06 10.8						
21	Febr. 13	W	ePz S M F	06	52 54 58	35 02 35	3.5	5	5		
22	Febr. 13	W	S L	13	02	17 25					
23	Febr. 18	W	ePz iPz eP _N eS _N iS _{EN} M C F	08	18	10.5 15.4 " 27.4 31.5 35 41	2	35	25	30	高知測候所 本山測候所 微震
24	Febr. 19	W	ϵ ϵ	04	29.3 40.3						
25	Febr. 22	W	ePz eN eL F	08	29 53	11 01	24				
26	Febr. 27	W	e	17	16	28					
27	March 2	W W O W W O.P.S. W W	ePz eP _{2H} eP _{NE} iP _{az} eP _{SH} eS _H iS* iS M _H M _Z M _Z C _Z E	17	33 32 " 39 " 35 50 36 37 38 42.8	27 32 " 39 " 28 50 14 56 33 49	Ca. 24 Ca. 24 5~6 " 26 24 150				Very faint short period wave 144.6E, 39.2N (C.M.O.) Long waves superposing short waves between P & S 47s, 52s, 39s, 32s, 25s, 20s mNE 02 34 42 Tp=35s (mean of 39 & 32) E 6mm N 5mm 三陸沖の大地震津浪あり死あり
								mm 18	mm 18	mm 13 11	M. Miyamoto

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No.	Date	Ap p.	Phase	G.M.C.T			Period	Amplitude			Remarks
								A _E	A _N	A _Z	
53	March 8	W	iP eS F	h 10	m 27	37				高知市内微震を感じたる所あり	
54	March 9	W	iPz F	04	20	47				伊豫灘 熊野灘	
55	March 9	W	ε	19	38					福井一九頭龍川河口 (C.M.O.)	
56	March 11	W	ε	02	39						
57	March 11	W	ε	14	25.4						
		W,O.	εL		29.2						
		W	Q		31.8		15				
		W	F	15	20						
58	March 11	W	iP eS iS m iSc SE eSc SN F	19	34	52.3					
					36	30	6.0	+8	-6	-10	
						35.6				140° 53' E; 26° 29' N, H=510km F=19-32-45 Δ=0.°5	
						43					
					46	37.8		110	80	40	
						37.8					
59	March 12	W	iPEZ ePN S M F	20.0							
				07	38	15		+		+	
						27				安藝灘 132.°6E, 34°0N (C.M.O.)	
					41		1.3	45	25	35	
60	March 13	W	εLE F	07	18					名野川村 微震	
61	March 17	W	εz eSN F	07.5							
				16	01	25					
					05	13					
62	March 17	W	ePz εSN	17							
		W		19	38	18					
		O	L		43.3						
		O	M _{N1}		46						
		O	M _{N2}	to	47		21			40	
		O		to	50.4						
		O			50.4		18			70	
		O	F		52						
63	March 18	W	iPEZ ePN iSN eSE mN meZ eScSN	20.5							
				15	52	49.5		+4	-1	-4	
						50				139.°5E, 32.°3N H=160km F=15-51-30.5 Δ=5.°15	
						52	5.0		35		
						55	3.0	50		40	
					16	06					
						10					
64	March 20	W	P S F	17	09	21				豊後水道 (C.M.O.) 本山 微震	
						31					
					10						
65	March 21	W	ePz εSGH	23	18	54				阿蘇山	
		W			19	30					
		O	eLN			30	8				
		W	Q			43	5.0				
		W	M			46		40	15	25	
		W	CE			54					
		W	F		25						
66	March 23	W	ePz S F	14	52	19					
						44					
					53						
67	March 23	W	εz iz εLN M _N	17	43	44					
					44	47					
					51.7						
				to	52.4		15				
					54						
				18	20						
68	March 25	W	ePz εSH	12	50	58				131°1E, 32.°9N 阿蘇山 (C.M.O.)	
		W			51	25					
		W	iSGN			34			70		
		O	eLN			45	9				
		W	iM _N			48	5.1				
		W,O	M				5	20	70	20	
		W	C _N		52.0						
			F	13	02						
69	April 1	W	εP eSGE εSGE	16	01	21				143°5E, 39.°5N (C.M.O.) 三陸強震餘震 Aftershock of No.27	
					03	49					
					30						
70	April 1	W	ePEZ εPN	22	43	32				144.°8E, 38.°6N (C.M.O.)	
71	April 3	W	iPg iSG F	17	44	14				高知市近傍	
					45	17.5					
72	April 3	W	εPE ePz εLN ME ME P	02	49	00				144.°0E, 39.°2N (O.M.O.) 三陸強震餘震 Aftershock of No.27	
					49	03					
					50.9						
					52	22	18	160			
					57	08	14	80			
				03	30						

KOTI OBSERVATORY



APRIL
(1933)

1	ϵP	16	01	21
	$\epsilon \bar{S}_N$		03	49
	F		30	
1	ϵP_{EZ}	22	43	32
9	ϵP_E	02	49	00
	ϵP_Z			03
	ϵLN		50.9	
	ME		52	22
	ME		57	08
	F	03	30	
16	ϵP	19	23	46
	ϵS_H		29	26
19	ϵP_Z	06	47	55
	ϵ		48	03
	ϵS_E		51	04
	F	07	30	
21	ϵP_Z	20	40	30
	S		41	45
	F		47	
23	ϵ	06	10	
	S		20.0	
	M		50	
23	ϵP_{EZ}	07	16	02
	ϵS_N		17	53
	M		25	19
	F	08.0		
27	ϵP_Z	02	45	35
	ϵS_H		53	14
	F	04.0		

MAY

16	ϵP_Z	01	20	26
	ϵLN		35	
	M		37	
	F	02.0		
23	ϵP_N	16	37	22
	ϵZ			36
	M		38	56
23	ϵP_N	16	52	41
	ϵH		53	07
	M			53
28	ϵP	20	40	04

JUNE

2	ϵP_H	04	43	51
	ϵS_H		44	52
	F		48	
2	ϵP_{NZ}	07	39	31
	ϵ			33
	ϵ			44
	ϵLN		40.3	
	M		40	44
	C		42.7	
	F	08.3		

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				h	m	s		A _E	A _N	A _Z	
73	April 9	W	εS F	10	35.4 46		s	μ	μ	μ	Aftershock of No.27 144.°2E, 39.°2N C.M.O.
74	April 13	W	εPN F	03	53 56	44					阿蘇山近傍の地震
75	April 15	W	iPg Sg F	00	45 47	43 49.5					高知縣本山近傍の地震 本山 微震 昭和8年4月15日午前9時45分
76	April 16	W	eP eS F	19	23 29 40	46 26					
77	April 17	W	ε	03	00.9						aftershock of No.27
78	April 19	W	ePz e eSE F	06 07	47 48 51 30	55 03.0 04					121.°7E, 24.°3N 臺灣一大濁水溪河口 C.M.O.
79	April 21	W	εPz eS F	20	40 41 47	30 45-47					142.°0E, 24.°0N C.M.O time break
80	April 22	W	eP iP iS F	17	45 47	47.5 48.2 55.9					高知縣本山近傍 本山 微震 昭和8年4月23日午前2時
81	April 23	W	ε εS M F	06 07.0	10 20.0 50						27°E, 37°N U.S.C.G.S. 0=5 : 57.6
82	April 23	W	εPNZ εSN M F	07 08.0	16 17 25	02 53 19	18	50	100		aftershock of No.27 143.°6E, 39.°7N C.M.O.
83	April 23	W	ε F	08	31 50						aftershock of No.27 143.3E, 39.4N C.M.O.
84	April 27	W	εPz S F	02 04.0	45 53	35 14					Anchorage, Alaska
85	April 30	W	εz	18	33	57					
86	April 30	W	ePz εS εL F	19 20	54 58.3 59 20	56					
87	May 5	W	eSH EMEZ F	11	39 41	24 43	5	10		5	阿蘇山近傍の地震
88	May 5	W	EME F	11	55 57	58					全 上
89	May 5	W	ε F	12	04 06						全 上
90	May 15	W	εPH eLH F	01	12 14	17 36	4				全 上
91	May 15	W	εPH eLH F	01	17 18 20	52 12					全 上
92	May 16	W	εPH εLz EM F	01 02.0	20 35 37	26					
93	May 16	W	ePN S F	03	42 43	17 36					廣島縣三次近傍の地震
94	May 21	W	ε EM F	11 12.2	58 59						
95	May 23	W	εPN ez M F	16	37 38 48	22 36 56	2.1	15	10	15	日向灘地震 131.°7E, 31.°4N C.M.O
96	May 23	W	εPN eH M F	16 17	52 53 07 53	41	2	15	10	10	日向灘地震 131.°4E, 31.°2N C.M.O.
97	May 28	W	iP F	23	41 45	14		-3	+1	+6	Deep focus 138.°0E, 32.°4N. C.M.O.

JUNE 3

	eP _{NZ}	17	10	47	13	eP _Z	20	36	18
	eS _H		12	10		eS _N		38	30
	eN			54		eM _E		39	26
	eE		13	13		e		40.7	
	M _N			08		F		56	
	M _E			18					
	F		50		19	eP	21	39	40
6	iP _Z	02	33	33		eS _Z		41	29
	eS _N		37	42		eL _H		42	00
	F		54			M _N			58
7	eL _N	12	02.3			M _{EZ}		43	36
	M _Z		04	51		C _N		44.0	
	M _E			54		C _E		44.3	
	F		20		25	F	23.-		
8	eP _Z	18	13	23		eP _Z	22	03	22
	eL _N		16.5			eP _{cP_Z}			36
	F		50			eP _{R₁₂}		05	29
						eS _N		10.3	
12	eP _Z	21	10	41		F		00.-	
	eS _N		12	16					
	eM _E		13	02					
	F		19						

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No.	Date	App.	Phase	G.M.C.T			Period	Amplitude			Remarks
				h	m	s		A _E	A _N	A _Z	
98	June 2	W	ePH eSH F	04	43 44 48	51 52				鹿兒島一佐多岬沖 C.M.O.	
99	June 2	W W O O O O	ePNZ e εLN M C F	07	39	31~33 44	17		160	time break 宮崎縣都ノ城附近の地震 131.°1E, 31.°7N C.M.O.	
100	June 3	W	ε S F	13	32.5 33 34	08					
101	June 3	W	ePNZ eSH eN MN eE ME F	17	10 12 13 13 50	47 10 54 08 13 18	13 10	40	100	奄美大島附近 C.M.O. 129°30'E, 29°N Manila W.B.	
102	June 6	W	iPz εSN F	02	33 37 54	33 42				Felt in Luzon. Epicenter provably in East Cordillera about 14°20' N, 121°35' E Manila W.B. 和歌浦灣 C.M.O.	
103	June 6	W	S F	04	28 30	57					
104	June 6	W	ePz F	06	42 45	23					
105	June 7	W W W,O	εLN EMZ EME F	12	02.3 04	51 54	13 13	30		25°12' N; 101°54' E Chiufeng	
106	June 8	W	ePz εLN F	18	13 16.5 50	23				144.°0E, 40.°2N C.M.O.	
107	June 12	W	εPz εSN EM F	21	10 12 13 19	41 16 02	5			141.°7E, 38.°8N C.M.O.	
108	June 13	W	εPz εSN EME eN F	20	36 38 39 40.7 56	13 30 26	5.5 11			143.°7E, 40.°7N C.M.O.	
109	June 16	W	ε	10	43.7						
110	June 18	W	L E	13	15.9 30						
111	June 18	W W O O O O O O	eP eSz eLH EMN EMEZ CN CE F	21	39 41 42 43 44.0 44.3	40 29 00 58 36	26 20,19 11	800 500 300	1000 600	142.°8E, 38.°5N C.M.O.	
112	June 24/25	W	ePz epPz ePRIZ εSN F	22	03	22 36 29				5.°0S; 104.°2E Batavia	
113	July 9	W	ePNZ eSN εLN EME EMN F	00	33 37 38.6 40.8 41.5 10	57 21				149.°5E, 43.°0N C.M.O.	
114	July 9	W	ε	08	32.0						
115	July 9	W	ε	08	52.2						
116	July 9	W	eP eSH F	12	34 37 40	33 55				149.°0E 42.°5N C.M.O.	
117	July 9	W	ε εL F	16	11.0 17 30						
118	July 9	W	eP eS F	16	56 58	36 55				別府附近 C.M.O.	
119	July 9	W	ε	17	58					(M.M.)	

Kôti Observatory



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July 9 ePNZ 00 33 57
eSN 37 21
ELN 386
eNE 408
eMN 415

July 19 ePz 14 16 42
20 ePz 23 16 28
eS 184

9 eP 12 34 325
eSH 37 55

22 ePz 21 03 29
eSz 10 03

9 eP 15 56 36
eS 55

24 e 07 41 44

10 ePz 00 24 06

28 eP 16 43 486

10 ePNZ 10 40 45
eSN 46 45

iP* 504

eS 44 064

iS* 08

M 11

F 57

11 S 01 31 47

Felt moderately

14 iPz 16 05 51
iSz 07 39

30 ePz 17 23 54

ePR₁₂ 24 50

eSE 34 07

18 iPz 11 26 31.5
iSH 27 38

18 ePN 19 10 27
eSN 14 38

19 ePz 13 40 13

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Month	Date	Station	Time	Time	Time
August	5	ePz	00	52	53
	15	iP	03	00	18
		εL		028	
	18	εPE	08	21	30
	20	ePH	12	50	08
		eSH		54	05
	22	ePz	13	17	54
		eSH		20	48
	25	ePz	07	55	54.6
		iSE	08	00	22.1
		εLN		025	
		MN		05	50
		Mz		07	10
		ME			14
		MN2			20
	28/29	ePNz	22	39	34
		F		010	

Month	Date	Station	Time	Time	Time	Parameters
September	2	eP	16	42	48.4	$\lambda = 139.6^\circ E$
		i			50.7	$\varphi = 30.7^\circ N$
		e(SP*) _H		43	58.4	$\Delta = 6.0$
		iSE		44	02.3	$H = 400 \text{ km from Surface}$
		eSN				Estimated from P~S
		iScSH		55	24.7	and P~ScS
		F		17.2		

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Oct 2 1933 eZ 15^h 48^m 45^s
 eH 52 21

3 ePz 18 40 31
 eSE 41 34
 eLz 58

5 ePz 13 40 03
 eLN 14 03 0
 M 04.7
 t₀ 06.2

9 eP? 12 08 13
 eE 41
 eEZ 44
 eS_H^{*} 09 07

21 ePE 02 46 06
 eLN 47 56 (22^s) ^{T_p}

22 e 11 58.7
 e 12 03 00

25 eZ 23 47 51
 eNZ 52 15

Nov. 1 eE 08 23 27

2 ePz 12 34 36
 M 48

7 ePz 06 44 12
 eSH 47 41

Nov. 20 iPNz 23 33 00
 ePcPz 14
 ePR₁₂ 35 47
 eSN 42 24
 eLE 56.7

22 ePz 12 50 17
 eZ 55 59
 eLN 56 52
 M 13 03.9

28 eSN 11 28 31
 eLN 44
 MN 46.5

Dec. 4 eP 19 37 16 dilatation
 iz 20
 iS 39 55
 iScSE { 48 39
 eScSN }

144°0E, 46°6N, H=340KM

12 eP 14 19 03-05
 ePP 20 47
 eSP 21 45
 iz 24 47
 eE 29 33

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