

THE  
SEISMOLOGICAL  
BULLETIN  
OF

The Hukuoka Meteorological Observatory

OF

JAPAN

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January 1929.



## Constants

### Position of Observatory :

Longitude :	130° 25' .4 E
Latitude :	33° 34' .8 N
Height from mean sea level :	4.3 m
Underground : Alluvium.	

### Seismographs :

Apparatus	Component	$T_0$	$\frac{r}{T_0^2}$	V
Omori's Horizontal Seismograph 15kg	E-W	28	0.002	20
Omori's Tromometer 47 kg	N-S	18	0.002	120

## Symbols and Notations

### 1. Phases of the seismogram.

P = First preliminary tremors.

$\bar{P}$  = Individual, or upper first preliminary tremors.

S = Second preliminary tremors.

$\bar{S}$  = Individual, or upper second preliminary tremors.

PS = Waves changed from longitudinal to transverse oscillation, or vice versa, through reflection at the earth's surface.

L = Long waves at the beginning of the surface phase.

M = Maximum Amplitude in principal phase.

C = Prominent waves among after tremors.

F = End of discernible movements.

### 2. Nature of the motion

i. = Sudden beginning of the motion.

e = Gradual beginning of the motion.

A = Amplitude of the earth's motion in microns.

$A_E$  = E-W component of A.

$A_N$  = N-S component of A.

Period = Time of one complete oscillation.

### 3. Distance of epicenter.

$\Delta$  = Distance of epicenter calculated by the Omori's formula.  $\Delta = 7.42t$  for the near earthquakes,  $\Delta = 6.54t + 720$  for the distant earthquakes, where t is the duration of the preliminary tremors in second.

### 4. Time used. Greenwich mean civil time is adopted for all determinations.



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No.	Date	Phase	Time			Period	Amplitude		△	Remarks
			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	μ	μ	km.	
1	Jan. 9	P	15	20	27				148	Srn part of Yatusiro sea.
		S	15	20	47					
		F	15	23	00					
2	Jan. 15	P	14	32	35				444	Nrn far off Kyoga-gaki, Kyoto prefecture.
		S	14	33	34					
		M <sub>E</sub>	14	33	38	2.8	-100			
		F	14	40	40					
3	Jan. 17	P	22	00	52				1028	Off Mt. Kinkwa, Miyagi prefecture.
		L	22	03	10					
		M <sub>E</sub>	22	04	57	8.6	+105			
		F	22	30	40					
4	Jan. 24	P	1	15	49				7212	
		S	1	24	41					
		L	1	32	22					
		F	2	35	00					
5	Feb. 3	P	3	55	44				1583	Lower course of the Yangtse-kiang.
		S	3	56	50					
		L	3	57	56					
		M <sub>E</sub>	3	58	36	6.8	+133			
		M <sub>N</sub>	3	57	58	1.9		-127		
		F	4	24	00					
6	Feb. 3	P	4	54	27				1676	Ditto.
		S	4	55	50					
		L	4	56	53					
		M <sub>E</sub>	4	57	55	4.5	+93			
		M <sub>N</sub>	4	56	51	1.7		+79		
		F	5	23	30					
7	Feb. 4	P	2	59	52				3908	Neighbouring sea of Micronesia.
		L	3	08	00					
		F	3	28	00					
8	Feb. 16	P	1	40	15				3675	SE. off the coast of Kamtchatka.
		S	1	44	25					
		L	1	47	47					
		M	1	49	34	8.6	+425			



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No.	Date	Phase	Time			Period	Amplitude		$\Delta$	Remarks
			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	$\mu$	$\mu$	km.	
9	Feb. 16	M <sub>2E</sub>	1	51	06	7.2	+400		3329	Ditto.
		M <sub>3E</sub>	1	54	14	7.9	$\pm 238$			
		M <sub>4E</sub>	1	55	59	8.3	-290			
		F		—						
		P	3	01	24					
		S	3	05	10					
		L	3	08	03					
		M <sub>1E</sub>	3	11	21	6.4	+210			
M <sub>2E</sub>	3	12	27	7.6	+130					
M <sub>3E</sub>	3	13	37	8.0	-123					
F	5	02	00							
10	Feb. 18	P	12	12	02				131	Upper course of the Oono river, Bungo province.
		S	12	12	20					
		M <sub>E</sub>	12	12	20	0.7	-18			
		M <sub>N</sub>	12	12	22	0.7		+13		
		F	12	17	20					
11	Feb. 21	P	22	09	24				107	
		S	22	09	38					
		F	22	13	20					
12	Feb. 22	P	19	57	28				2491	SSW. off Bonin islands.
		S	19	59	56					
		L	20	01	59					
		F	20	32	00					
13	Feb. 26	P	13	25	27				347	E. off Nase, Amami-ôshima, Kagosima prefecture.
		S	13	26	14					
		M <sub>E</sub>	13	26	15	0.5	+9			
		M <sub>N</sub>	13	26	14	0.6		-5		
		F	13	30	10					
14	Mar. 3	P	1	12	53				4514	Neighbouring sea of Polynesia.
		S	1	17	51					
		L	1	22	33					
		M <sub>E</sub>	1	24	23	12.7	$\pm 31$			
		F	2	06	00					



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No.	Date	Phase	Time			Period	Amplitude		△	Remarks
			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	μ	μ	km.	
15	Mar. 7	P	9	28	43				454	Nrn part of the Tango province. In the epicentral region the shocks were very violent. Felt at Hukuoka.
		L	9	29	44					
		M <sub>E</sub>	9	29	55	2.3	>5500			
		M <sub>N</sub>	9	29	47	2.2		>1900		
		F								
16	Mar. 7	eP	10	33	43				410	After shock of the great earthquake in Tango province.
		L	10	34	38					
		F	10	48	—					
17	Mar. 7	P	10	47	57				447	Ditto.
		L	10	48	57					
		M <sub>E</sub>	10	49	13	1.4	-50			
		M <sub>N</sub>	10	49	05	0.6		+48		
		F	11	01	30					
18	Mar. 7	L	11	24	17				—	Ditto. (P phase not distinct.)
		F	11	27	30					
19	Mar. 7	P	13	25	34				453	Ditto.
		L	13	26	35					
		M <sub>E</sub>	13	26	42	0.9	+13			
		M <sub>N</sub>	13	26	41	0.6		+24		
		F	13	34	10					
20	Mar. 7	eP	14	12	48				404	Ditto.
		L	14	13	43					
		F	14	16	20					
21	Mar. 7	P	15	37	30				437	Ditto.
		L	15	38	29					
		M <sub>E</sub>	15	38	40	1.0	-25			
		M <sub>N</sub>	15	38	36	0.6		+24		
		F	15	44	10					
22	Mar. 7	eP	15	49	58				428	Ditto.
		L	15	50	56					
		F	15	53	50					
23	Mar. 8	P	0	14	54				405	Ditto.



No.	Date	Phase	Time			Period	Amplitude		$\Delta$	Remarks
			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	$\mu$	$\mu$	km.	
24	Mar. 8	L	0	15	48				410	Ditto.
		F	0	19	10					
		P	14	44	52					
		L	14	45	48					
		M <sub>E</sub>	14	46	03	1.1	$\pm 20$			
		M <sub>N</sub>	14	45	56	1.0		-38		
25	Mar. 9	P	11	15	57				436	Ditto.
		L	11	16	56					
		F	11	20	10					
26	Mar. 9	P	20	27	59				399	Ditto.
		L	20	28	53					
		M <sub>N</sub>	20	29	00	0.6		+8		
		F	20	32	10					
27	Mar. 10	P	22	37	14				441	Ditto.
		L	22	38	14					
		M <sub>E</sub>	22	38	28	1.2	+23			
		M <sub>N</sub>	22	38	23	0.9		+28		
		F	22	44	20					
28	Mar. 10	eP	22	46	20				419	Ditto.
		L	22	47	17					
		F	22	51	50					
29	Mar. 11	P	20	31	19				389	Ditto.
		L	20	32	11					
		M <sub>N</sub>	20	32	21	0.8		-13		
		F	20	37	30					
30	Mar. 15	eP	21	55	03				4815	Distant earthquake.
		L	22	05	30					
		F	22	31	00					
31	Mar. 18	eP	12	49	15				419	After shock of the great earthquake in Tango province.
		L	12	50	11					
		F	12	51	20					



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No.	Date	Phase	Time			Period	Amplitude		△	Remarks
			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	μ	μ	km.	
32	Mar. 20	eP	4	46	25				464	Ditto.
		L	4	47	28					
		F	4	49	20					
33	Mar. 30	P	13	31	55				453	Ditto.
		L	13	32	56					
		F	13	35	00					
34	Mar. 31	P	21	09	47				473	Ditto.
		L	21	10	51					
		M <sub>E</sub>	21	11	22	2.2	+238			
		M <sub>N</sub>	21	11	04	3.1		+322		
		F	21	30	20					
35	Apr. 1	P	9	24	59				413	Ditto.
		L	9	25	55					
		M <sub>N</sub>	9	26	01	0.6		-5		
		F	9	28	20					
36	Apr. 1	L	23	28	39				—	Upper course of the Masuda river, Gihu prefecture.
		F	23	31	00					
37	Apr. 8	P	13	06	54				422	After shock of the great Tango province earthquake.
		L	13	07	51					
		M <sub>N</sub>	13	08	00	0.6		-15		
		F	13	14	00					
38	Apr. 13	P	13	48	40				2120	SE. far off Koshun, Formosa.
		L	13	52	15					
		F	14	05	30					
39	Apr. 19	iP	17	34	35				2169	Neighbouring sea of Micronesia.
		eS	17	36	11					
		L	17	38	16					
		M <sub>E</sub>	17	38	24	8.4	-100			
		F	18	09	00					
40	Apr. 27	iP	19	18	49				1876	N. off Bonin islands.
		L	19	21	46					
		M <sub>E</sub>	19	22	29	8.3	+33			



No.	Date	Phase	Time			Period	Amplitude		$\Delta$	Remarks
			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	$\mu$	$\mu$	km.	
41	May 8	F	19	56	00					
		P	7	57	47				246	Upper course of the River Gono-Gawa, Hirosima prefecture.
		S	7	58	20					
		M <sub>E</sub>	7	58	31	1.0	+46			
		M <sub>N</sub>	7	58	31	1.2		-53		
F	8	07	30							
42	May 10	P	8	39	54				117	Near Oita.
		S	8	40	10					
		M <sub>N</sub>	8	40	11	1.0		+18		
		F	8	43	10					
43	May 12	S	18	19	23				—	Upper course of the River Sira-kawa, Kumamoto prefecture. (P. phase not distinct.)
		F	18	20	20					
44	May 13	P	15	17	51				2249	Distant earthquake.
		L	15	21	45					
		F	15	36	00					
45	May 13	P	23	16	35				4390	Neighbouring sea of Polynesia.
		S	23	22	33					
		L	23	25	56					
		F	23	54	00					
46	May 16	P	12	03	41				2075	NW. off Bonin islands.
		L	12	07	08					
		M <sub>E</sub>	12	10	55	12.4	-33			
		F	12	49	00					
47	May 17	eP	21	46	37				853	Off Vladivostok.
		L	21	48	32					
		F	21	58	20					
48	May 18	eP	17	19	17				174	Wrn part of the Aki sea. (Felt at Kure, Hirosima prefecture.)
		S	17	19	40					
		M <sub>N</sub>	17	19	45	0.6		+3		
		F	17	21	50					
49	May 18	eL	22	54	36.9				—	N. off Nase, Amami-Osima,



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No.	Date	Phase	Time			Period	Amplitude		$\Delta$	Remarks
			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	$\mu$	$\mu$	km.	
50	May 19	F	23	05	30					Kagosima prefecture.
		eP	19	20	10				839	Near Titibu, Saitama prefecture.
		L	19	22	03					
		M <sub>N</sub>	19	22	03	1.7		-3		
51	May 22	F	19	25	40					
		eP	12	01	24				3036	Neighbouring sea of Micronesia.
		eS	12	05	08					
		eL	12	07	19					
52	May 22	F	12	31	40					
		iP	22	37	53				3413	Ditto.
		S	22	42	02					
		L	22	44	45					
		M <sub>E</sub>	22	45	23	26.0	>5150			
		C <sub>1E</sub>	23	03	52	16.2	-725			
53	May 23	C <sub>2E</sub>	23	06	43	13.5	-525			
		F	1	33	00					
		eP	2	54	19				3100	Ditto.
		eS	2	58	07					
54	May 23	eL	3	00	23					
		F	3	18	00					
		P	13	56	30				3738	Ditto.
		L	14	04	12					
55	May 23	M <sub>E</sub>	14	06	23	11.7	-28			
		F	14	19	20					
		eP	23	54	26				-	
		F	0	29	00					
56	June 3								4259	Near New Guinea.
		P	7	19	40					
		S	7	25	28					
		L	7	28	41					
		M <sub>1E</sub>	7	30	41	28.2	-1775			
		M <sub>2E</sub>	7	32	44	24.2	-800			
		M <sub>3E</sub>	7	35	10	24.1	+495			
M <sub>N</sub>	7	29	43	10.4		+130				



No.	Date	Phase	Time			Period	Amplitude		$\Delta$	Remarks
			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	$\mu$	$\mu$	km.	
		C <sub>1E</sub>	7	37	32	16.3	-155			
		C <sub>2E</sub>	7	42	15	19.2	$\pm 125$			
		C <sub>3E</sub>	7	48	45	17.6	-78			
		F	8	41	00					
57	June 17	P	14	41	07				184	Upper course of the Revir Gono-gawa, Simane prefecture.
		S	14	41	32					
		F	14	43	10					
58	June 18	P	2	28	07				580	SW. off Hatidyo island.
		L	2	29	25					
		M <sub>N</sub>	2	29	27	3.5		+9		
		F	2	41	30					
59	July 3	P	8	21	22				2240	In the South Seas.
		L	8	25	15					
		M <sub>E</sub>	8	25	22	6.8	$\pm 13$			
		F	8	42	50					
60	July 4	eP	17	11	58				402	Lower course of the River Iti-kawa, Hyogo prefecture.
		S	17	12	52					
		F	17	14	20					
61	July 12	P	21	11	38				1911	S. off the cape of Otiisi, Hokkaido.
		L	21	14	40					
		M <sub>E</sub>	21	14	43	4.3	+15			
		M <sub>N</sub>	21	14	42	4.9		+15		
		F	21	26	20					
62	July 30	P	14	20	44				1097	In the Kasima-nada. Felt at Mito, Ibaraki prefecture.
		L	14	23	12					
		M <sub>E</sub>	14	23	31	3.7	+13			
		M <sub>N</sub>	14	23	35	2.9		-14		
		F	14	33	50					
63	Aug. 5	eP	12	41	58				421	In the Kumihama bay, Tango province.
		L	12	42	55					
		M <sub>N</sub>	12	43	02	2.0		$\pm 5$		
		F	12	48	20					



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No.	Date	Phase	Time			Period	Amplitude		△	Remarks
			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	μ	μ	km.	
64	Aug. 5	S	17	11	15				—	Upper course of the Ota river, Hiroshima prefecture. P phase not distinct.
		F	17	13	20					
65	Aug. 5	P	21	15	26				920	Off the mouth of Abukuma river, Miyagi prefecture. Strong shock felt at Hukusima.
		L	21	17	30					
		M <sub>N</sub>	21	19	41	11.1		>+708		
		F	21	57	40					
66	Aug. 10	P	11	43	08				2763	Distant earthquake.
		L	11	48	21					
		M <sub>E</sub>	11	52	10	19.8	+143			
		M <sub>N</sub>	11	56	32	18.5		-20		
		F	13	06	00					
67	Aug. 12	eP	0	36	09				833	NW. off the coast of Bonin islands.
		L	0	38	01					
		M <sub>N</sub>	0	38	03	4.5		+14		
		F	0	48	50					
68	Aug. 18	P	19	30	10				1475	SE. far off the coast of Boso peninsula.
		L	19	33	29					
		M <sub>1E</sub>	19	34	16	17.4	+700			
		M <sub>2E</sub>	19	35	31	14.7	+803			
		M <sub>N</sub>	19	34	48	11.8		>+785		
		F	21	02	00					
69	Aug. 20	eP	21	40	39				1381	Ditto.
		L	21	43	45					
		M <sub>E</sub>	21	44	37	13.9	+48			
		M <sub>N</sub>	21	44	09	13.2		±16		
		F	22	01	40					
70	Aug. 20	L	22	15	34				—	P phase not distinct.
		M <sub>E</sub>	22	15	37	4.3	-13			
		M <sub>N</sub>	22	15	35	2.4		+8		
		F	22	24	00					
71	Aug. 21	S	3	35	41				—	N. off the coast of Kosiki-jima. P phase not distinct.
		M <sub>N</sub>	3	36	04	0.9		-7		
		F	3	39	30					



No.	Date	Phase	Time			Period	Amplitude		$\Delta$	Remarks
			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	$\mu$	$\mu$	km.	
72	Aug. 23	P	7	02	10				1510	Distant earthquake.
		L	7	05	33					
		M <sub>E</sub>	7	06	48	10.4	+160			
		M <sub>N</sub>	7	06	44	11.3		$\pm 105$		
		F	7	48	00					
73	Aug. 24	P	8	58	35				1400	E. off the coast of cape Sioya, Hukusima prefecture.
		L	9	01	43					
		F	9	26	50					
74	Aug. 24	P	18	12	20				1549	Central Formosa. Strong shock was felt at the epicentral regions.
		L	18	15	48					
		M <sub>E</sub>	18	17	02	19.0	$\pm 68$			
		F	18	37	30					
75	Sept. 11	P	6	54	54				187	Upper course of the River Oyodo- gawa, Miyazaki prefecture. Felt at Ginsui and Yotuyama, Hukuoka prefecture.
		S	6	55	19					
		M <sub>N</sub>	6	55	19	0.2		+6		
		F	6	58	30					
76	Sept. 11	eP	21	35	42				5927	Distant earthquake.
		L	21	48	58					
		M <sub>E</sub>	22	03	48	16.5	-50			
		F	22	47	00					
77	Sept. 14	S	4	19	21				—	Nrn part of the Bungo channel.
		M <sub>N</sub>	4	19	21	0.5		$\pm 4$		
		F	4	21	00					
78	Sept. 17	P	12	20	54				280	S. off the cape of Makura-zaki, Kagosima prefecture.
		S	12	21	31					
		M <sub>N</sub>	12	21	36	1.4		+4		
		F	12	25	30					
79	Sept. 17	P	15	10	46				275	W. off the coast of Yaku-jima, Kagosima prefecture.
		S	15	11	23					
		M <sub>E</sub>	15	11	40	4.1	+35			
		M <sub>N</sub>	15	12	00	2.5		-15		
		F	15	22	50					



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No.	Date	Phase	Time			Period	Amplitude		△	Remarks
			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	μ	μ	km.	
80	Sept. 17	eP	18	08	07				275	Ditto.
		S	18	08	44					
		F	18	11	10					
81	Sept. 23	eP	14	10	52				3061	Distant earthquake.
		eS	14	14	34					
		eL	14	16	50					
		M <sub>E</sub>	14	17	42	12.6	±23			
		F	14	39	00					
82	Sept. 25	P	4	43	47				199	Upper course of the Oyodo river, Miyazaki prefecture.
		S	4	44	14					
		F	4	46	50					
83	Sept. 26	P	6	50	20				91	Lower course of the Kikuti river, Kumamoto prefecture.
		S	6	50	33					
		M <sub>N</sub>	6	50	34	0.4	±5			
		F	6	52	30					
84	Sept. 30	eP	7	41	20				2203	Off the cape of Sioya, Hukusima prefecture.
		L	7	45	07					
		F	8	05	20					
85	Oct. 11	eL	4	29	57				—	Faint record.
		F	5	01	10					
86	Oct. 11	P	9	10	19				167	In the Amakusa-nada.
		S	9	10	41					
		F	9	11	30					
87	Oct. 12	L	6	32	29				—	NW. off Isigaki island, Faint record.
		M <sub>E</sub>	6	35	01	13.0	±23			
		F	6	59	00					
88	Oct. 12	P	7	56	12				—	Ditto.
		F	8	16	30					
89	Oct. 15	eP	6	28	11				—	Ditto.
		F	6	51	20					



No.	Date	Phase	Time			Period	Amplitude		$\Delta$	Remarks
			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	$\mu$	$\mu$	km.	
90	Oct. 16	P	21	07	24	0.7		-7	110	In the Tijiwa-nada.
		S	21	07	39					
		M <sub>N</sub>	21	07	42					
		F	21	11	40					
91	Oct. 17	P	1	12	39				143	
		S	1	12	58					
		F	1	13	40					
92	Oct. 17	P	6	04	41	1.3		-6	215	In the Hiuga-nada.
		S	6	05	10					
		M <sub>N</sub>	6	05	30					
		F	6	09	20					
93	Oct. 17	P	6	14	02	1.3		+6	225	Ditto.
		S	6	14	32					
		M <sub>N</sub>	6	14	49					
		F	6	16	30					
94	Oct. 18	P	12	45	06	1.5	-54		152	In the Amakusa-nada.
		$\bar{P}$	12	45	07					
		S	12	45	27					
		M <sub>E</sub>	12	45	34					
		M <sub>N</sub>	12	45	30					
		F	13	02	10					
95	Oct. 18	P	15	47	44				146	Ditto.
		S	15	48	04					
		F	15	48	50					
96	Oct. 18	P	15	49	01				156	Ditto.
		S	15	49	22					
		F	15	50	00					
97	Oct. 24	eP	16	10	40	18.2	$\pm 33$		9067	Distant earthquake.
		eS	16	18	58					
		L	16	31	56					
		M <sub>E</sub>	16	39	40					
		F	18	07	—					



No.	Date	Phase	Time			Period	Amplitude		$\Delta$	Remarks
			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	$\mu$	$\mu$	km.	
98	Oct. 24	eP	19	08	04	13.7	$\pm 68$		2186	SE. off Katu-ura, Tiba prefecture.
		L	19	11	49					
		M <sub>E</sub>	19	12	40					
		F	19	54	00					
99	Oct. 27	P	4	40	43	0.4		-8	91	Near the mouth of River Sira- kawa, Kumamoto prefecture. Felt at Kumamoto.
		S	4	40	56					
		M <sub>N</sub>	4	40	57					
		F	4	41	30					
100	Oct. 27	eP	6	09	37				80	Ditto.
		S	6	09	47					
		F	6	11	20					
101	Oct. 28	eP	15	24	16	12.5	+23		2731	SE. far off Katu-ura, Tiba prefecture.
		L	15	29	24					
		M <sub>E</sub>	15	29	39					
		F	15	45	41					
102	Oct. 30	P	11	03	25				193	Middle course of the Numata river, Hiroshima prefecture.
		S	11	03	51					
		F	11	04	30					
103	Nov. 2	P	22	57	50	8.3	$\pm 13$		521	E. off Nase, Amami Osima, Kagosima prefecture.
		L	22	59	01					
		M <sub>E</sub>	23	00	48					
		F	23	22	00					
104	Nov. 4	P	14	03	42	12.9	+10		4791	Distant earthquake.
		L	14	14	04					
		M <sub>E</sub>	14	15	36					
		F	15	58	-					
105	Nov. 5	P	6	40	20	9.7	$\pm 19$		817	W. off Isigaki Island.
		L	6	42	10					
		M <sub>E</sub>	6	42	46					
		F	7	14	00					
106	Nov. 10	P	19	50	16				417	Upper valley of the Tenryu river, Sinano provmce.
		eL	19	51	12					



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			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	$\mu$	$\mu$	km.	
107	Nov. 14	F	19	52	50				2511	Distant earthquake.
		eP	0	28	00					
		L	0	32	34					
		M <sub>1E</sub>	0	34	12	12.2	$\pm 18$			
		M <sub>2E</sub>	0	35	06	10.7	+20			
		F	1	04	00					
108	Nov. 14	eP	5	11	42				2580	Ditto.
		L	5	16	26					
		M <sub>E</sub>	5	19	07	12.5	$\pm 75$			
		F	6	14	—					
109	Nov. 14	eP	19	47	15				2747	SE. off the coast of Bonin islands.
		eL	19	52	25					
		M <sub>E</sub>	19	55	19	8.0	-13			
		F	20	20	20					
110	Nov. 15	P	8	36	52				3066	Distant earthquake.
		L	8	42	51					
		F	9	08	20					
111	Nov. 16	P	21	15	45				3409	In the Micronesia region.
		L	21	22	37					
		M <sub>1E</sub>	21	22	53	20.8	-36			
		M <sub>2E</sub>	21	26	40	10.9	-39			
		F	22	33	00					
112	Nov. 18	P	3	30	01				2433	Ditto.
		L	3	34	23					
		M <sub>E</sub>	3	34	58	7.2	-23			
		F	4	05	50					
113	Nov. 23	eP?	0	11	13				2335	—
		L	0	15	20					
		M <sub>E</sub>	0	16	14	8.2	-13			
		F	0	35	10					
114	Dec. 2	P	6	56	23				421	Middle course of the Arita river, Wakayama prefecture.
		L	6	57	20					



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No.	Date	Phase	Time			Period	Amplitude		$\Delta$	Remarks
			G.	M.	T.		AE	AN		
			h	m	s	s	$\mu$	$\mu$	km.	
115	Dec. 4	M <sub>N</sub>	6	57	22	2.4		+13	119	Off the coast of Tijiwa-nada, Nagasaki prefecture. (Slight shock was felt at Hukuoka.)
		F	7	12	10					
		$\bar{P}$	3	53	28	0.7	+24	+14		
		$\bar{S}$	3	53	44		+125			
		M <sub>N</sub>	3	53	45		0.5			
F	4	06	00							
116	Dec. 4	$\bar{P}$	4	48	16	0.7			118	Ditto.
		$\bar{S}$	4	48	32					
		M <sub>N</sub>	4	48	33		-4			
		F	4	49	50					
117	Dec. 4	$\bar{P}$	12	18	39	1.4			116	Ditto.
		$\bar{S}$	12	18	55					
		M <sub>E</sub>	12	18	59		-115			
		M <sub>N</sub>	12	18	56		1.3	-93		
		F	12	27	00					
118	Dec. 11	P	13	13	20	1.4			134	In the Hiuga-nada.
		S	13	13	38					
		M <sub>N</sub>	13	13	49		-5			
		F	13	15	20					
119	Dec. 18	P	19	51	21			131	-	
		S	19	51	39					
		F	19	56	20					
120	Dec. 28	P	18	28	17				3565	Time is doubtful.
		S	18	32	35					
		L	18	35	32					
		M <sub>1E</sub>	18	36	55	17.0	+103			
		M <sub>2E</sub>	18	38	55	20.0	$\pm 106$			
		M <sub>3E</sub>	18	40	44	14.5	$\pm 133$			
		F	19	44	-					