

SEISMOLOGICAL BULLETIN
OF THE
AITIKEN METEOROLOGICAL OBSERVATORY
NAGOYA JAPAN

VOL. II. NO. 1,

FROM JANUARY TO APRIL,

- 1931

NAGOYA

MAY 1931

CONSTANTS

Latitude and longitude of the center of the Seismographic room

$\varphi =$ 35°10' N

$\lambda =$ 135°58' E from Greenwich

Altitude, 51.7^m above mean sea level.

Lithologic foundation, Schottered clay (Tertiary)

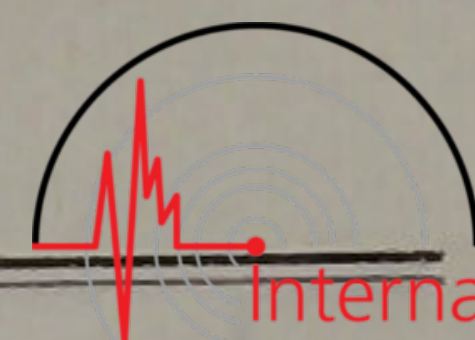
Time. All determinations are reduced to Greenwich mean civil time.

Constants of the Seismographs

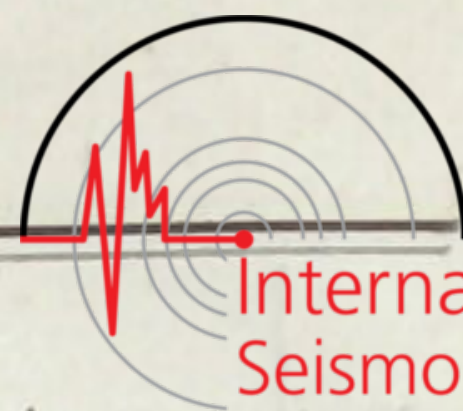
Apparatus		Component	T ^o	ξ	$\frac{r}{T^2}$	V
Wiechert 200kg	I {	N	4.1	10	0.01	70
		E	4.4	10	0.01	65
	II {	N	5.0	8	0.01	73
		E	4.9	11	0.01	73
" 80kg	I	Z _s	4.0	7	0.04	60
	II	Z	4.0	7	0.04	60
Omori	I {	N	14.0	3	0.01	20
		E	15.0	3	0.02	20
	II {	N	15.0	4	0.01	20
		E	15.0	3	0.02	20

Note. I, Jan. 1, to April 9.

II, April 10, to April 30.



No.	Date	Phase	Time G. M. C. T	Period s	Amplitude			Δ Epicentre- distance km.	Remarks
					AN μ	AE μ	AZ μ		
1	Jan. 4	eP	h m s 7 41 46.5					136	Near Daisyoji, Isikawa pref.
		S	7 42 04.7						
		F	7 44 57—						
2	" 6	e	3 24 53—						Valley of the river Nikapu in Hokkaido.
		F	3 31 34—						
3	" 6	e	3 53 21—						Sea off Tyosi.
		F	3 54 58—						
4	" 9	eP	1 47 02.5	2.7	+43				Near the lake of Tazawa in Akita pref. Center at about 130km under surface.
		S	1 48 18.2						
		ME	1 48 41—						
		MN	1 48 48—						
		F	1 54 40—						
5	" 10	e	23 26 31—						Local shock.
6	" 12	e	20 39 53—						Kamtchatka di trict.
		F	20 44 18—						
7	" 15	e	1 40 15—						Near Taihoku, Taiwan.
		F	4 17 27—						
8	" 17	e	0 53 13—						SE off Kinkwa-san.
		F	0 59 43—						
9	" 17	iP	16 54 36.1		—222			42	Slight shock felt at N part of Aiti pref. and Gihu pref. Valley of the river Kiso.
		S	16 54 41.7						
		ME	16 54 41.7						
		MN	16 54 41.7						
		F	17 02 43—						
10	" 18	e	5 14 48—						Sea off Erimo cape in Hokkaido.
		F	5 22 20—						
11	" 20	e	15 21 16—						SE off Sioya cape.
		F	15 23 40—						
12	" 21	eP	9 00 34.8					1070	SSE off Otiisi cape, Hokkaido.
		S	9 02 29.6						
		F	9 08 39—						



No.	Date	Phase	Time			Period	Amplitude			Δ Epicentre- distance	Remarks
			G.	M.	C. T		AN	AE	Az		
			h	m	s	s	μ	μ	μ	km.	
13	Jan. 22	eP	17	00	34.0					266	Near Wakayama.
		S	17	01	09.8						
		ME	17	01	36—		+43				
		MN	17	01	56—			—40			
		F	17	08	39—						
14	" 22	e	21	16	01—						Mouth of the river Seki, Ehime pref.
		F	21	18	39—						
15		eP	14	40	30.1					428	NNE off Sioya cape.
		S	14	41	27.7						
		F	14	46	19—						
16	" 27	eP	20	17	18—					3840	A distant shock in South Ocean.
		S	20	22	56—						
		L	20	30	03—						
		MN	20	31	05—	13.6		± 100			
		ME	20	34	42—	11.6	± 85				
			21	21	34—						
17	" 28	eP	21	29	33.5					2780	A distant shock Caroline Is.
		S	21	34	00.2						
		L	21	36	18.7						
		F	22	20	34—						
18	" 28	e	22	20	20—						Ditto.
		F	22	24	06—						
19	" 30	eP	1	41	02.7					240	Lower course of the river Kinu.
		S	1	41	35.0						
		F	1	46	04—						
20	Feb. 2	eP	22	59	12.0						A distant shock. Near Newzealand.
		L	23	15	43.0						
		F	23	58	14.0						
21	" 9	eP	14	45	20.8					193	Near Nagaturo in Idu,
		S	14	45	46.7						
		F	14	50	22—						
22	" 10	e	3	14	57—						Near Sima peninsula.
		F	3	17	20—						

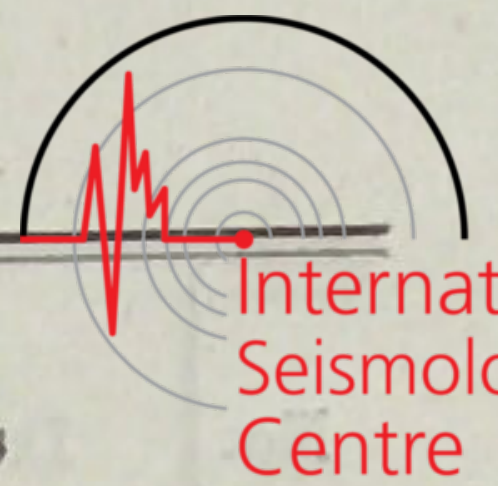
No.	Date	Phase	Time			Period	Amplitude			Δ Epicentre- distance	Remarks
			G.	M.	C. T		AN	AE	Az		
			h	m	s	s	μ	μ	μ	km.	
23	Feb. 10	e	3	42	45—						N part of Idu. (after shock)
		F	3	47	20—						
24	" 10	eP	6	43	38.2						A distant shock. The Philippine Is.
		L	7	05	55—						
		F	7	25	20—						
25	" 11	e	8	56	26.0						E off Sioya cape.
		F	8	59	47—						
26	" 11	eP	9	16	52.0					590	SSW off Hatijo Is.
		S	9	17	57.2						
		F	9	21	30—						
27	" 12	e	5	53	03—						A distant shock.
		F	5	56	02—						
28	" 12	eP	11	21	27.5					71	N part of Idu. (after shock)
		S	11	21	37.0						
		F	11	22	49—						
29	" 12	eP	11	33	24.4					232	E off Omae cape.
		S	11	33	55.7						
		F	11	39	40—						
30	" 13	e	0	44	43—						NE off Kwarenko, Taiwan.
		F	0	53	45—						
31	" 13	e	1	39	42—						A distant shock. Near Newzealand.
		F	1	50	46—						
32	" 14	e	1	25	33—						Mouth of the river Abukuma.
		F	1	26	43—						
33	" 16	e	12	37	20—						E off Kinkwasan.
		F	12	43	32—						
34	" 16	iP	18	50	41.6		— 5	— 6		960	Near Urakawa. Strong shock was felt at center, Slight all Hokkaido and N part of Tohoku district.
		S	18	52	26.0						
		MN	18	53	06—	2.9		—154			
		Mz	18	53	16—	2.2			—33		
		ME	18	53	29—	3.1	—192				
		F	19	07	—						



No.	Date	Phase	Time			Period	Amplitude			Δ Epicentre- distance	Remarks
			G.	M.	C. T		AN	AE	Az		
			h	m	s	s	μ	μ	μ	km.	
35	Feb. 20	iPz	5	35	37.7		+ 6	-36	+33	960	Sea of Japan. Slight shock were felt NE part of Japan.
		S	5	37	21.7						
		MN	5	37	25—	3.1		+500			
		Mz	5	37	29—	—			+97		
		ME	5	38	25.5	4.3	-287				
		L	5	42	35—						
		F	6	02	—						
36	" 23	e	2	18	29—						E off Itorup Is.
		F	2	24	—						
37	" 27	e	9	44	25—						A distant shock. The Philippine Is.
		L?	9	49	53—						
		F	9	53	24—						
38	March 1	e	13	25	57—						Middle course of the river Kogai.
		F	13	27	55—						
39	" 1	eP	14	25	46.7					1585	SW off Hokkaido. $\psi=141.0^{\circ}\text{E}$, $\lambda=45.0^{\circ}\text{N}$.
		S	14	28	31.7						
		F	14	31	15—						
40	" 2	e	2	29	09—						A distant shock.
		F	2	35	19—						
41	" 3	eP	20	40	35.3					371	Lower course of the river Natui, Fukushima pref.
		S	20	41	25.3						
		F	20	46	37—						
42	" 6	iP	16	13	44.3		-14		-18	144	After shock. N part of Idu. Sea off mouth of the river Kano. Strong felt near center.
		S	16	14	03.7						
		MN	16	14	04.9			+640			
		L	16	14	11.0						
		Mz	16	14	20.6				-125		
		F	16	23	36.4						
43	" 6	iP	16	53	56.7		-20	+ 2	+ 3	137	After shock. N part of Idu. Strong shock felt at center and Slight all over Kwanto.
		S	16	54	15.1						
		ME	16	54	21.0		-200				
		L	16	54	27.6						
		MN	16	54	37.6			+357			
		Mz	16	54	20.0				-118		
		F	17	03	49—						

No.	Date	Phase	Time			Period	Amplitude			Δ Epicentre- distance	Remarks
			G.	M.	C. T		AN	AE	Az		
			h	m	s	s	μ	μ	μ	km.	
44	March 6	e	17	39	04.2						Ditto.
		F	17	40	13—						
45	" 6	e	20	05	18.2						Ditto
		F	20	06	—						
46	" 7	e	23	43	27.5						Ditto.
		F	23	45	07—						
47	" 8	e	2	49	25.4						Ditto.
		F	2	50	39—						
48	" 8	eP	11	47	46—						Ditto.
		S	11	48	05—						
		F	11	51	59—						
49	" 9	eP	3	50	39.5					700	E off mouth of the river Mabuti. $\psi=141.9^\circ\text{E}$, $\lambda=40.6^\circ\text{N}$. Strong shock felt N part of Tohoku and S part of Hokkai- do.
		S	3	51	56.4						
		L	3	52	33.6						
		Mz	3	52	40—	3.8			—292		
		F	4	39	45—						
	" 9	ePz	3	50	44.5					870	Omoris record No. 49.
		Sz	3	52	19.5						
		L	3	52	41—						
		Mz	3	52	57—	3.3			± 1000		
		MN	3	53	09—	5.0					
		ME	3	53	13—		—1600	—2500			
		F	4	01	48—						
50	" 9	eP	7	20	02.4					91	N part of Idu. (after shock)
		S	7	20	14.7						
		F	7	21	44—						
51	" 9	eP	17	57	53—					820	E off mouth of the river Mabuti. After shocks of No. 49.
		S	17	59	22—						
		F	18	05	27—						
52	" 9	e	18	41	31—						Near Kumagaya. Slight felt all Kwanto.
		F	18	44	44—						

No.	Date	Phase	Time G. M. C. T	Period s	Amplitude			Δ Epicentre- distance km.	Remarks
					AN μ	AE μ	Az μ		
53	March 11	eP S F	h m s 5 01 58.3 5 03 31.8 5 08 32—					860	E off Miyako.
54	" 11	eP L F	12 29 54— 12 32 49— 12 58 20—						A distant shock.
55	" 11	eP S F	19 21 43.6 19 22 48.6 19 24 —					590	The bay of Yoshihama in Iwate pref. $\psi=141.9^\circ\text{E}$, $\lambda=39.1^\circ\text{E}$.
56	" 12	eP S F	5 06 52.7 5 07 29.8 5 10 10—					276	NW foot of Mt. Tukuba.
57	" 12	eP L F	10 43 57.6 10 46 56.0 10 57 30—						A distant shock.
58	" 15	eP S L F	16 35 26— 16 36 54— 16 37 26— 16 45 20—					810	NE off Miyako. Slight shock was felt at S part of Hokkaido & N part of Tohoku district.
59	" 16	eP F	4 09 50— 4 09 50—						Local shock.
60	" 17	eP S F	9 48 26.3 9 49 01.2 9 51 40—					259	The bay of Ariake in Kagosima pref.
61	" 18	eP S F	20 19 58— 20 21 16.8 20 34 10—						A distant shock P phase uncertain.
62	" 19	iP L F	6 30 03.7 6 34 15.7 6 47 30—		+43	+17	— 7		S off Isigaki Is.
63	" 22	e F	3 35 17— 3 38 —						SE off mouth of the river Uketo. Fukusima pref.



No.	Date	Phase	Time			Period	Amplitude			Δ Epicentre- distance	Remarks
			G.	M.	C. T		AN	AE	Az		
			h	m	s	s	μ	μ	μ	km.	
64	March 23	eP	8	29	02.0					376	Near Isigaki Is.
		S	8	29	52.7						
		F	8	31	20—						
65	" 23	e	11	25	32—						Middle course of the river Sugata.
		F	11	28	10—						
66	" 26	eP	6	30	20.6					550	Middle course of the river Usui.
		S	6	31	21.3						
		F	6	33	—						
67	" 26	eP	18	44	19.0					960	Lower course of the river Tenryu. Deep center.
		S	18	45	41.0						
		F	18	47	30—						
68	" 26	eP	20	26	20.0					840	The Kujukuri-hama.
		S	20	27	56.0						
		F	20	30	40—						
69	" 28	eP	12	46	32.0						A distant shock.
		eS	12	47	43.0						
		L	12	52	44—						
		ME	12	53	02—	4.7	+72				
		MN	12	53	07—	3.6		+71			
		F	13	21	10—						
70	" 29	eP	17	54	05.0					1020	WSW off Kusi- ro in Hokkaido. Strong shock were felt S part of Hokkaido, Slight over all Hokkaido & N part of Tohoku.
		P	17	54	41.0						
		S	17	55	55.0						
		ME	17	56	58.0	3.2	+72				
		MN	17	57	12.0	3.2		+85			
		F	18	12	10—						
71	" 30	e	13	42	59—						Central Japan.
		F	13	46	20—						
72	" 31	eP	14	46	30.5					200	Middle course of the river Naka, Tokusima pref.
		S	14	46	57.4						
		F	14	50	20—						
73	" 31	eP	20	45	48.0						The bay of Wakanoura.
		S	20	46	06.6						
		F	20	48	50—						



No.	Date	Phase	Time G. M. C. T	Period	Amplitude			Δ Epicentre- distance	Remarks
					AN	AE	AZ		
			h m s	s	μ	μ	μ	km.	
74	April 1	eL?	8 54 23.0 8 57 —						Near Ogasawara Is.
75	" 2	eP S F	0 36 30— 0 36 50— 0 41 40—						N part of Idu. (after shock) Time approximate.
76	" 2	e F	23 54 56.0 23 57 —						S part of Kujukuri-hama,
77	" 3	eP eL F	23 29 22.2 23 37 33— 23 42 40—						A distant shock in South Ocean.
78	" 5	eP S F	22 22 21.0 22 22 32.0 22 25 10—					74	Near Mt. Takami at Kinki district.
79	" 6	e F	12 14 58.0 12 16 49—						W off Taiwan.
80	" 8	e F	4 51 50.4 4 52 55—						Near Mt. Tukuba.
81	" 8	e F	9 27 22— 9 28 55—						N part of Idu. (after shock)
82	" 9	eP S ME MN F	5 32 29.7 5 32 53.4 5 32 58— 5 33 10— 5 39 40—	2.7	+52 +43				Valley of the river Hidaka. Strong shock felt at Wakayama pref.
83	" 9	e F	13 23 32— 13 25 15—						N part of Tango province.
84	" 9	eP S F	14 01 56.3 14 02 37.5 14 08 45—						The Kumano nada.(deep focus)
85	" 9	eP S F	23 03 55— 23 06 02.0 23 18 50—					1190	$\phi=145.6^{\circ}\text{E}$, $\lambda=44.2^{\circ}\text{N}$, Nemuro channel.

No.	Date	Phase	Time G. M. C. T	Period s	Amplitude			Δ Epicentre- distance km.	Remarks
					AN μ	AE μ	AZ μ		
86	April 11	e F	h m s 3 13 50— 3 15 40—	s					N part of Idu.
87	" 14	eP S F	22 25 24.4 22 26 00.7 22 30 —						E off Katuura.
88	" 15	e F	13 34 09— 13 35 30—						N part of Idu.
89	" 19	e F	2 34 15— 2 46 20—						WSW of Yaku Is.
90	" 20	e F	10 03 ± 10 10 09 20—						Middle course of the river Kitakami.
91	" 21	iP S MN ME F	0 03 13.0 0 04 03.5 0 04 47— 0 05 01— 0 13 20—	3.1 2.7	+ 3 —37	+ 4 55	+10		Sea of Japan. $\psi = 134.2^\circ \text{E}$, $\lambda = 38.5^\circ \text{N}$.
92	" 21	e F	4 15 $\pm$ 4 19						Near Taihoku.
93	" 22	e F	15 42 25.6 15 44 10—						N part of Idu.
94	" 24	eP S F	3 34 40.3 3 35 43.8 3 40 20—						E off Sioya cape. Strong shock near center.
95	" 24	eP L F	17 30 43— 17 41 33— 17 57 50—						A distant shock in South Ocean.
96	" 27	eP eS? eL? F	17 01 55— 17 11 04— 17 28 21— 17 48 —						A distant shock in South Ocean.
97	" 30	e F	4 40 30.5 4 42 50—						Lower course of the river Arita.

SEISMOLOGICAL BULLETIN
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IMPERIAL METEOROLOGICAL OBSERVATORY
NAGOYA JAPAN

VOL. II. NO. 2,
FROM MAY TO AUGUST.

1931

NAGOYA

NOVEMBER 1931

CONSTANTS

Latitude and longitude of the center of the Seismographic room.

$$\varphi = 35^{\circ}10' \text{ N}$$

$$\lambda = 135^{\circ}58' \text{ E from Greenwich}$$

Altitude, 51.7^{m} above mean sea level.

Lithologic foundation, Schottered clay (Tertiary)

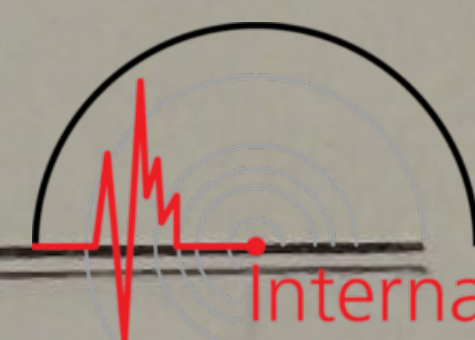
Time. All determinations are reduced to Greenwich mean civil time.

Constants of the Seismographs

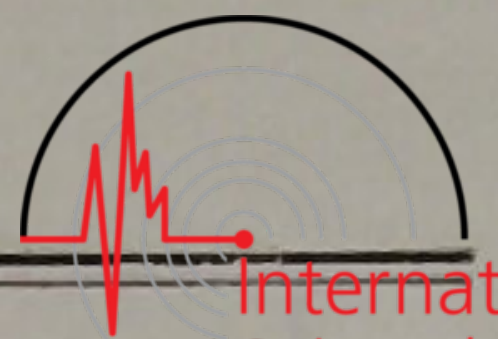
Apparatus		Component	T^0	ξ	$\frac{r}{T^{1/2}}$	V
Wiechert 200kg	I {	N	4.1	10	0.01	70
		E	4.4	10	0.01	70
	II {	N	5.3	8	0.01	70
		E	5.3	8	0.02	70
" 80kg	I	Z	4.0	7	0.03	60
	II	Z	3.6	15	0.03	67
Omori	I {	N	11.6	2	0.02	20
		E	11.8	2	0.00	20
	II {	N	11.6	2	0.02	20
		E	11.8	2	0.00	20

Note. I, May. 1, to June 1st.

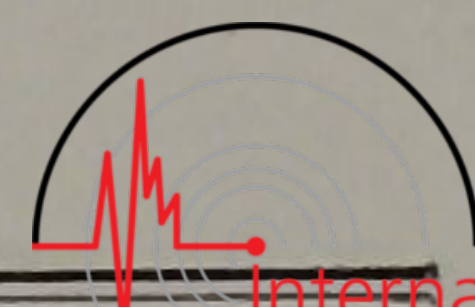
II, June 1st, to Aug 31.



No	Date	Phase	Time			Period	Amplitude			Δ Epicentre- distance	Remarks
			G.	M.	C. T		ΔN	ΔE	ΔZ		
			h	m	s	s	μ	μ	μ	km.	
98	May 3	eP	8	05	49.2					77	Mt. Mikuni.(S part of Hukui pref.) Slight felt in N and W part of Aiti pref.
		$\overline{P}$	8	05	49.6						
		iS	8	05	59.0						
		ME	8	06	00.6	0.9	+189				
		MN	8	06	00.9	0.8		+240			
		C	8	07	04.3						
		F	8	14	—						
99	" 4	e	13	38	48.4						Local shock.
		F	13	39	03—						
100	" 4	eP	14	47	44.9					336	Middle course of the river Kinu.
		S	14	48	30.2						
		F	14	53	—						
101	" 9	e	3	01	19.4						Upper course of the river Ibi in Gihu pref.
		F	3	03	—						
102	" 9	e	4	07	30—						Mt. Mikuni.
		F	4	09	—						
103	" 9	e	7	18	05.4						N part of Idu.
		F	7	20	—						
104	" 11	eP	18	27	44.2					308	$\phi=141.5^{\circ}E$, $\lambda=37.3^{\circ}N$. ENE off Sioya C.
		S	18	28	25.7						
		ME	18	28	45—	3.1	± 68				
		MN	18	29	04—	2.9		± 55			
		F	18	36	02—						
105	" 12	eL	1	42	03.0						A distant shock. Near Tisima Is.
		F	1	50	—						
106	" 13	e	23	06	26.2						NE off Okinawa Is.
		F	23	11	40—						
107	" 14	e	23	24	35.0						E off Simokita peninsula.
		F	23	32	10—						
108	" 16	e	21	49	26—						E off Miyako.
		F	21	53	50—						



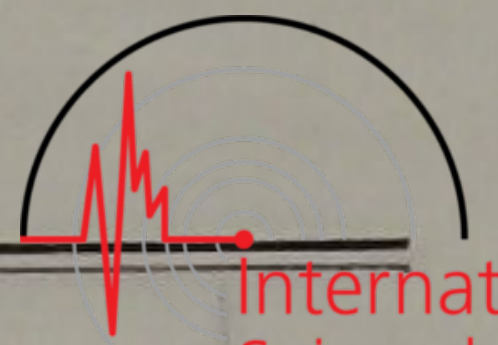
No.	Date	Phase	Time G. M. C. T	Period s	Amplitude			Δ Epicentre- distance km.	Remarks
					AN μ	AE μ	AZ μ		
109	May 20	eP	h m s 2 41 05.0						A distant shock.
		eL	3 12 08—						
		F	3 57 —						
110	" 25	eP	6 50 02.4	2.4 3.4	—55	—41		287	$\psi = 141.2^\circ \text{E}$, $\lambda = 38.3^\circ \text{N}$ Near Kinkwasan.
		S	6 50 41.0						
		ME	6 50 56.0						
		MN	6 51 11.5						
		F	6 58 10—						
111	" 25	eP	10 28 17.0					119	Upper course of the river Sakawa in Kanagawa pref.
		S	10 28 33.0						
		F	10 30 10—						
112	" 26	eP	9 13 02.3	2.2 2.2	—54	± 60		339	$\psi = 141.5^\circ \text{E}$, $\lambda = 37.4^\circ \text{N}$ E off the river Uketo in Hukusima pref.
		S	9 13 48.0						
		ME	9 14 29—						
		MN	9 14 37—						
		F	9 20 40—						
113	" 27	eP	20 11 20.7					50	S part of the Bay of Ise.
		S	20 11 27.4						
		F	20 16 —						
114	" 28	e	16 17 37—						SSE off Sionomisaki.
		F	16 22 40—						
115	" 28	e	18 39 34—						A distant shock.
		F	18 42 20—						
116	" 30	eP	16 55 45.0					111	Valley of the river Katura in Kyoto pref.
		S	16 56 00.0						
		F	17 08 15—						
117	June 2	iP	2 38 27.3	3.8 —	+25 —850	—85 —700	—87	193	$\psi = 137.3^\circ \text{E}$, $\lambda = 35.7^\circ \text{N}$ Middle course of the river Masuda.
		S	2 38 53.2						
		ME	2 38 56—						
		MN	2 38 56—						
		F	3 03 —						
118	" 4	eP	9 08 10—						Near Kyoto.
		F	9 10 20—						



No.	Date	Phase	Time G. M. C. T	Period s	Amplitude			Δ Epicentre- distance km.	Remarks
					AN μ	AE μ	Az μ		
119	June 4	e F	h m s 9 57 57— 10 10 —						A distant shock.
120	" 4	eP S F	17 45 13.7 17 45 41.7 17 49 50—					208	In the Ensyunada.
121	" 6	eP S F	5 21 11.8 5 21 27.2 5 25 35—					114	Near Tennozan in Kyoto pref.
122	" 6	eP S F	21 . 05 14.6 21 05 21.5 21 09 10—					51	Middle course of the river Toyo in Aiti pref. Slight shock was felt SE part of Aiti pref.
123	" 8	e F	14 23 16— Unknown						Local shock.
124	" 9	iP $\overline{P}$ S L ME MN Mz C F	5 08 43.5 5 08 50.1 5 09 29.7 5 09 43.0 5 09 43.7 5 09 47.0 5 10 03.7 5 12 43— 5 27 10—	 2.7 2.7 1.9	+317 	 +350 	 +125	343	Off mouth of the river Kuzi in Ibaraki pref.
125	" 9	e F	12 19 45— 12 23 —						Far E off Rikutyu prorince.
126	" 11	iP Sz Mz	6 16 35.9 6 16 59.1 6 17 17.4		-7	+4	+7	72	Foot of Mt. Fuji.
126	" 11	iP S MN ME C F	6 16 35.2 6 16 58.6 6 16 59.0 6 17 04.0 6 21 15— 6 33 15—	 3.2 1.4	 +740	 -750		173	Ditto. After shock.

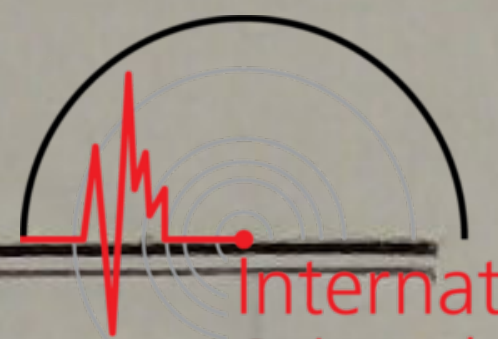


No.	Date	Phase	Time			Period	Amplitude			Δ Epicentre- distance	Remarks
			G.	M.	C. T		AN	AE	Az		
			h	m	s	s	μ	μ	μ	km.	
127	June 11	e	7	44	26.4						Ditto.
		F	7	45	40—						After shock.
128	" 12	ePz	1	46	44.1					690	SE off Hatijyo Is.
		Sz	1	48	00.5						
		F	1	51	40—						
129	" 13	e	10	24	54—						Near Mikuni toge between
		F	10	26	28—						Sagami and Kai province.
130	" 13	e	20	59	18—						S part of Kasimanada.
		F	21	01	—						
131	" 13	eP	22	46	28.4					322	NE off Inubo C.
		S	22	47	11.8						
		F	22	54	20—						
132	" 16	eP	15	33	54.6					295	Off Sioya C.
		S	15	34	34.3						
		F	15	38	20—						
133	" 17	e	3	27	28.0						N part of Idu.
		F	3	28	30—						
134	" 17	iP	12	10	14.2		—55	—1	+3	200	Middle course of the river
		S	12	10	41.5						Sagami. Strong was Kwanto.
		Mz	12	11	01.5	1.9			—450		Slight over Japan.
134	" 17	iP	12	10	15.4		—20	+20		198	Ditto.
		S	12	10	42.1						Omori's tromometer.
		ME1	12	10	57.4	1.4	+1290	.			
		MN	12	10	58.8	3.0		+1570			
		ME2	12	11	12.3	1.9	+1290				
		F	12	33	20—						
135	" 19	e	19	43	19—						In the Kitan strait.
		F	19	47	10—						
136	" 23	iP	6	16	00.9		—11	+5		401	E off the Kasimanada.
		S	6	16	54.9						
		Mz	6	17	26.2	1.9			—283		
		F	Unknown								



No.	Date	Phase	Time			Period	Amplitude			Δ Epicentre distance	Remarks
			G.	M.	C. T		AN	AE	Az		
			h	m	s	s	μ	μ	μ	km.	
136	June 23	iP	6	16	00.6					393	Ditto.
		S	6	16	53.6						
		ME	6	17	25.6	2.8	-1100				
		MN	6	17	25.6			+3700			
		F	6	44	25—						
137	" 26	e	1	48	55.4						Near Wakayama.
		F	1	54	20—						
138	" 26	e	2	23	42—						NW off Titijima.
		F	2	25	25—						
139	" 27	e	0	25	35.5						Near Kameyama in Mie pref.
		F	0	26	50—						
140	" 27	e	0	31	04—						Epicenter unknown.
		F	0	31	40—						
141	" 28	e	16	32	44—						A distant shock.
		F	16	34	50—						Epicenter unknown.
142	" 29	e	6	20	45.5						S off Kinkwazan.
		F	6	24	20—						
143	" 29	e	8	24	38—						Near lake of Biwa.
		F	8	28	30—						
144	" 29	e	13	39	50—						In the Kasimanada.
		F	13	41	15—						
145	" 29	eP	16	09	24.2					105	Upper course of the river
		S	16	09	51.8						Naka in Tiba pref.
		F	16	18	20—						
146	" 29	iPN	16	44	06.9		—	+3	+3	289	In the Kasimanada.
		SN	16	44	45.9						(deep focus)
		ME	16	44	47.5	3.2	+350				
		Mz	16	44	55.1	1.7			+61		
		MN	16	44	56.7	2.2		+167			
147	" 30	e	14	19	43—						Near Hatijyo Js.
		F	14	23	10—						

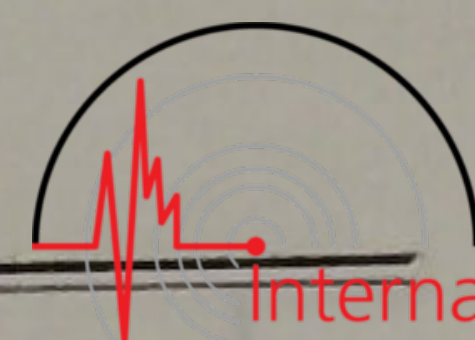
No.	Date	Phase	Time			Period	Amplitude			Δ Epicentre- distance	Remarks
			G.	M.	C. T		AN	AE	Az		
			h	m.	s	s	μ	μ	μ	km.	
148	June 30	e	22	55	03—						W part of the bay of Sagami.
		F	22	56	15—						
149	July 1	e	0	12	23—						Siobukisaki in Idu.
		F	0	14	35—						
150	" 1	e	5	53	00—						Valley of the river Kinu.
		F	5	57	27—						
151	" 1	e	6	43	22.5						Mouth of the river Hidaka at Kii province.
		F	6	47	15—						
152	" 1	eP	22	47	30.0					145	S off Idu Is.
		S	22	47	52.0						
		F	22	50	15—						
153	" 2	e	3	41	37—						N off Ogasawara Is.
		F	3	48	46—						
154	" 4	eP	16	01	58.6					165	Near Miyadu.
		S	16	02	20.8						
		F	16	08	05—						
155	" 6	e	11	48	25—						S off Inubo C.
		F	11	51	10—						
156	" 7	eP	5	41	17.5					39	Near city of Gihu. Local shock was felt at NW part of Owari province.
		S	5	41	22.7						
		F	5	45	40—						
157	" 7	eP	20	46	53.5					190	Valley of the river Iruma in Saitama pref.
		S	20	47	19.1						
		F	20	52	25—						
158	" 8	e	9	19	55—						Lower course of the river Syonai in Aiti pref.
		F	9	21	05—						
159	" 8	e	9	45	22—						Mouth of the river Kii.
		F	9	47	—						
160	" 8	eP	10	26	31—						Ditto.
		F	10	28	20—						



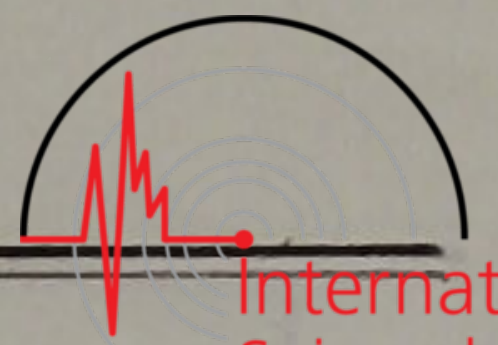
No.	Date	Phase	Time G. M. C. T	Period s	Amplitude			Δ Epicentre- distance km.	Remarks
					AN μ	AE μ	Az μ		
161	July 10	e F	h m s 1 35 21— 1 37 10—						Bay of Wakanoura.
162	" 10	eP S F	5 59 53.5 6 00 37.0 6 05 50—					323	N of the Kujukuri hama.
163	" 10	eP S ME Mz MN C F	13 11 14.9 13 12 07.6 13 12 19— 13 12 21— 13 12 45— 13 13 09— 13 22 10—	 1.9 2.1 1.9	+100	—130	+54	391	Ditto. $\psi=140.7^{\circ}\text{E}$ $\lambda=35.7^{\circ}\text{N}$ Strong shock was felt at centre. Slight over Kwanto.
164	" 10	e F	19 18 10— 19 22 30—						Foot of Mt. Rokko.
165	" 11	e F	16 25 25— 16 27 10—						Near city of Gihu.
166	" 11	e F	20 39 29— 20 40 30—						Valley of the river Tone.
167	" 12	eP L F	16 50 57— 16 56 40— 17 13 30—						A distant shock.
168	" 15	e F	12 01 40— 12 05 03—						SE off SioyaC.
169	" 15	e F	16 32 26— 16 49 30—						A distant shock.
170	" 18	eP F	4 01 45— 4 02 20—						Local shock.
171	" 18	e F	11 10 04— 11 12 —						In the Kasimanada.
172	" 18	e F	11 29 16.4 11 42 30—						A distant shock.



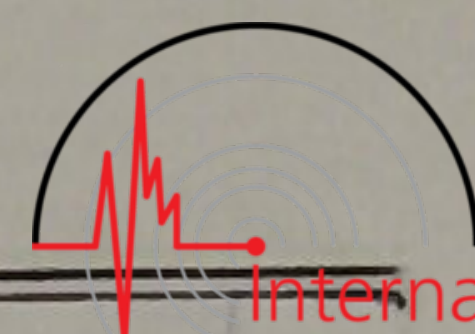
No.	Date	Phase	Time G. M. C. T	Period s	Amplitude			Δ Hypocentre- distance km.	Remarks
					AN μ	AE μ	Az μ		
173	July 19	e F	h m s 1 31 51.7 1 34 36—	s					Mouth of the river Natui in Hukusima.
174	" 19	eP S F	9 44 55.5 9 46 28.4 9 55 10—					860	$\phi=142.1^{\circ}\text{E}$. $\lambda=41.6^{\circ}\text{N}$. SW off Erimo C. Slight was felt over Hokkaido & N. of Tohoku.
175	" 19	eP S F	12 24 24.4 12 25 11.0 12 32 20—					346	$\phi=140.8\text{E}$, $\lambda=37.2\text{N}$ Valley of the river Natui.
176	" 19	e F	23 30 04— 23 32 30—						Middle course of the river Tama.
177	" 20	e F	0 30 04.5 0 35 20—						SE off Boso peninsula.
178	" 21	e F	3 46 45— 3 50 —						A distant shock.
179	" 22	eP S F	6 06 33.0 6 07 09.9 6 10 55—					274	In the Kasima nada.
180	" 23	eP L F	14 29 42.4 14 35 55— 14 43 25—						A distant shock in the South Ocean.
181	" 23	e F	17 03 55— 17 06 55—						In the Kasimanada.
182	" 26	eP S ME MN F	1 41 52— 1 42 40.6 1 42 53— 1 42 55— 1 49 20—	2.2 2.2	+37	—39		361	Lower course of the river Kogai. Strong shock was felt at the center and slight was all Kwanto.
183	" 28	eP S F	2 06 10.7 2 07 03.8 2 14 10—					394	Near Mt. Tukuba.
184	" 28	e F	2 28 04— 2 30 40—						Ditto.



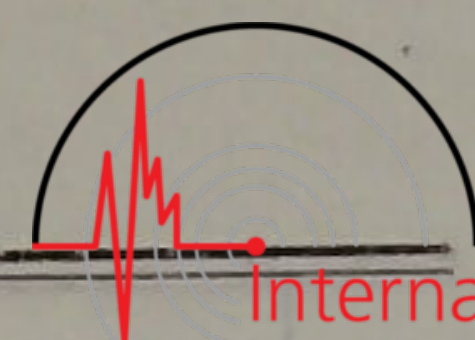
No.	Date	Phase	Time G. M. C. T	Period s	Amplitude			Δ Epicentre- distance km.	Remarks
					ΔN μ	ΔE μ	ΔZ μ		
185	July 28	eP	5 38 46.8					165	N off Idu province
		S	5 39 09.0						
		F	5 40 50—						
186	" 30	e	15 19 ± 5						Near Mt. Unzen.
		F	15 21 —						
187	" 30	eP	19 58 ± 1					334	In the Kasimanada.
		S	19 58 4.5						
		F	20 05 —						
188	Aug. 2	e	20 14 50—						SE off Ogasawara Is.
		F	20 21 10—						
189	" 2	eP	22 07 03.5					413	Off the Kasimanada.
		S	22 07 59.1						
		F	22 12 30—						
190	" 4	eP	0 43 11.2					32	Local shock near Nagoya.
		S	0 43 15.5						
		F	0 44 30—						
191	" 5	e	7 28 —						Tisima Is. (Time approximate)
		F	7 42 —						
192	" 6	e	16 29 57—						Mt. Asama.
		F	16 31 40—						
193	" 6	e	18 42 22—						A distant shock.
		F	18 43 10—						
194	" 7	eP	2 19 00.0						Ditto.
		eL	2 28 08.0						
		F	3 07 10—						
195	" 8	eP	17 01 40.0					356	SW off Noto peninsula. (deep focus)
		S	17 02 28.0						
		F	17 11 —						
196	" 9	e	7 43 45—						Bay of Toyama.
		F	7 44 40—						
197	" 10	iP	14 34 22.2		—11	+6	+67	91	Middle course of the river Ooi. $\psi=138.1E$, $\lambda=35.1N$
		S	14 34 34.5						



No.	Date	Phase	Time G. M. C. T	Period	Amplitude			Δ Epicentre- distance	Remarks
					AN	AE	Az		
			h m s	s	μ	μ	μ	km.	
197	Aug. 10	eP	14 34 22—					104	Ditto. V=2; Horizontal pendulum. Slight shock was felt at central Japan.
		S	14 34 36—						
		MN	14 34 37.5	2.5		+1900			
		Mz	14 34 38—	—			+800		
		ME	14 35 06—	1.7	+1900				
		F	14 40 20—						
198	" 10	e	18 41 25.5						Upper course of the river Sinano.
		F	18 43 10—						
199	" 10	eP	21 25 54.0					4365	A distant shock. Dzungaria district in Mongolia.
		S	21 32 02.0						
		Mz	21 43 51—	12.6			—182		
		F	23 52 40—						
199	" 10	MN	21 41 47—	13.7		—84			Ditto. Omori's record.
		ME	21 43 04—	10.6	+48				
200	" 13	e	14 44 02—						Off the Kumanonada.
		F	14 47 10—						
201	" 13	e	22 21 10.7						Near Ogasawara Is.
		F	22 25 20—						
202	" 14	e	2 11 45—						Near Wakayama.
		F	2 13 30—						
203	" 14	e	22 23 49—						Awa province.
		F	23 26 50—						
204	" 15	e	12 45 55—						Near Ogasawara Is.
		F	12 54 20—						
205	" 16	eP	16 54 41.7					82	Mouth of the river Yasu in Siga pref.
		S	16 54 53.0						
		F	16 58 30—						
206	" 17	eP	15 18 39.6					295	S off Kinkwasan.
		S	15 18 19.4						
		F	15 22 40—						
207	" 17	e	17 51 29—						NE off Okinawa Is.
		F	17 59 59—						



No.	Date	Phase	Time G. M. C. T	Period s	Amplitude			Δ Epicentre- distance km.	Remarks
					AN μ	AE μ	Az μ		
208	Aug. 18	eP	5 41 18.2					570	Far off the Kasimanada. $\psi=141.3E, \lambda=36.5N$
		S	5 42 21.4						
		ME	5 42 35—	1.8	+148				
		Mz	5 42 40—	2.0			+49		
		MN	5 42 43—	2.4		-228			
		F	5 52 25—						
209	" 18	eP	14 28 15—						A distant shock.
		L	14 40 40—						
		MN	14 43 27—	23.5		± 39			
		ME	14 45 26—	12.6	± 39				
		F	15 22 15—						
210	" 19	eP	1 28 41.3					383	Upper course of the river Yosino.
		S	1 29 33.0						
		F	1 32 40—						
211	" 19	eP	4 29 51.5					105	Near Misima.
		S	4 30 05.6						
		F	4 31 21—						
212	" 19	e	18 22 11—						Mt. Asama.
		F	18 24 50—						
213	" 20	e	0 07 10—						S off Titigima.
		F	0 14 50—						
214	" 20	e	0 44 13—						Mt. Asama.(Volcano)
		F	0 46 10—						
215	" 20	e	6 32 35—						Mouth of the river Arita.
		F	6 34 50—						
216	" 20	eP	8 50 37.6					89	E foot of Mt. Hira in Siga pref.
		S	8 50 49.6						
		F	8 54 40—						
217	" 21	eP	8 10 52.0					680	NW of Japan Sea.
		S	8 11 56.6						
		F	8 15 30—						
218	" 21	e	8 33 28—						Mouth of the river Tokati.
		F	8 37 30—						



No.	Date	Phase	Time G. M. C. T	Period	Amplitude			Δ Epicentre- distance km.	Remarks
					ΔN	ΔE	ΔZ		
			h m s	s	μ	μ	μ		
219	Aug. 21	e	19 22 32—						SW off Tanegasima.
		F	19 28 30—						
220	" 24	e	19 58 36—						Mouth of the river Arita.
		F	20 00 25—						
221	" 24	eP	21 45 16—					6440 ?	A distant shock.
		S?	21 53 16—						
		L	22 07 39—						
		F	22 27 25—						
222	" 25	e	3 50 19—						SE off Katuura.
		F	3 53 50—						
223	" 25	e	20 41 05—						Ditto.
		F	20 44 15—						
224	" 26	e	8 10 14—						Ditto.
		F	8 15 10—						
225	" 26	e	23 50 12—						Near Teganuma.
		F	23 53 05—						
226	" 27	eP	15 38 17.7					6380	A distant shock.
		S	15 46 14.3						
		L	16 00 04—						
		Mz	16 06 32—	17.4				± 20	
		ME	16 06 36—	17.0	± 67				
		MN	16 06 36—	15.6		± 30			
		F	16 43 45—						
227	" 30	eP	15 30 55.7					79	Near Kyoto.
		S	15 31 06.3						
		F	15 33 15—						
228	" 30	eP	20 52 31.6						SW of lake of Biwa.
		F	20 53 55—						
229	" 31	eP	3 51 18.0					234	Near Miyake Is. in Idu Is.
		S	3 51 49.6						
		F	3 57 —						
230	" 31	e	6 39 21—						A distant shock in South Ocean.
		F	6 47 05—						

SEISMOLOGICAL BULLETIN
OF THE
AITIKEN METEOROLOGICAL OBSERVATORY
NAGOYA JAPAN

VOL. II. NO. 3,

FROM SEPTEMBER TO DECEMBER,

1931

NAGOYA

MARCH 1932

CONSTANTS

Latitude and longitude of the center of the Seismographic room

$$\varphi = 35^{\circ}10' \text{ N}$$

$$\lambda = 136^{\circ}58' \text{ E from Greenwich}$$

Altitude, 51.7^{m} above mean sea level.

Lithologic foundation, Schottered clay (Tertiary)

Time. All determinations are reduced to Greenwich mean civil time.

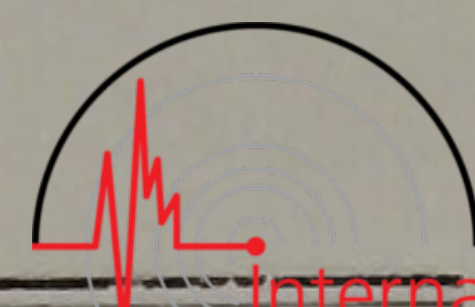
Constants of the Seismographs

Apparatus		Component	T^0	ξ	$\frac{r}{T^0.2}$	V
Wiechert 200kg	I {	N	5.3	8	0.01	70
		E	5.3	8	0.02	70
	II {	N	5.1	20	0.02	74
		E	5.1	20	0.01	74
" 80kg	I	Z	3.6	15	0.03	67
	II	Z	3.4	13	0.04	65
Omori	I {	N	20.0	3	0.02	30
		E	20.0	2	0.04	30
	II {	N	18.6	4	0.02	30
		E	18.8	4	0.02	30

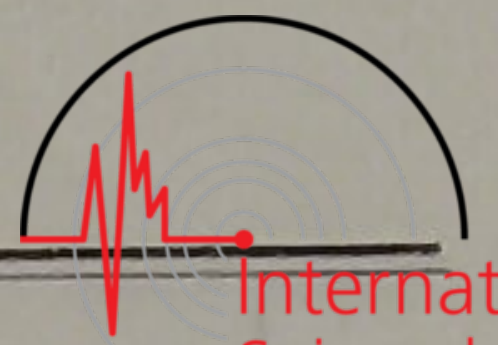
Note. I, Sept. 1, to Oct. 31

II, Oct. 3 to Dec. 31.

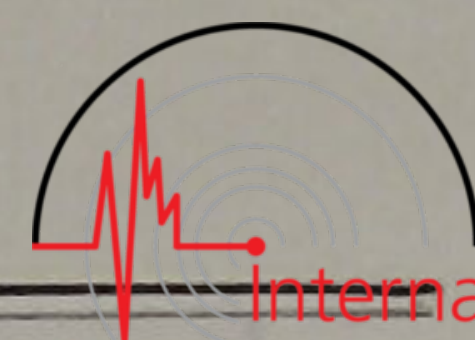
No.	Date	Phase	Time			Period	Amplitude			Δ Epicentre distance	Remarks
			G.	M.	C. T		AN	AE	Az		
			h	m	s	s	μ	μ	μ	km.	
231	Sept. 1	eP	5	31	34.8					336	Kujukuri-hama.
		S	5	32	20.1						
		F	5	39	45—						
232	" 1	e	6	01	08—						Middle course of the river Kinu.
		F	6	02	50—						
233	" 1	eP	13	38	44.0					800	Off mouth of the river Kuji. Iwate pref.
		S	13	40	10.8						
		F	13	46	45—						
234	" 2	eP	9	07	58.4					42	Middle course of the river Kiso. Slight shock was felt at Inuyama in Aiti pref.
		S	9	08	04.1						
		F	9	09	20—						
235	" 5	e	4	15	03—						ENE off Inubo c.
		F	4	18	40—						
236	" 6	eP	20	34	32.5					258	Lower course of the river Edo.
		S?	20	35	07.4						
		F	20	41	30—						
237	" 7	iP	17	13	55.7		+1.4	—1.4	—13.4	39	Upper course of the river Syonai. Slight shock was felt N part of Aiti pref.
		S	17	14	00.9						
		Mz	17	14	01.5				—122		
		ME	17	14	02—		—300				
		MN	17	14	02—			—238			
		F	17	20	20—						
238	" 8	eP	19	10	09.5					375	Omori's record. In the Kashima-nada. Slight shock was felt at SE Tohoku and almost of Kwanto district.
		S	19	11	00—						
		ME	19	11	56—	1.9	± 400				
		MN	19	11	58.5	2.4		+376			
		F	19	22	—						
239	" 9	eP	20	42	24—					1820	Omori's tromometer. A distant shock. Near Marianne Is.
		S	20	45	31—						
		ME	20	45	44—	12.9	+170				
		MN	20	45	51—	5.4		—135			
		F	21	31	30—						
240	" 11	e	1	24	40—						A distant shock.
		F	1	28	—						



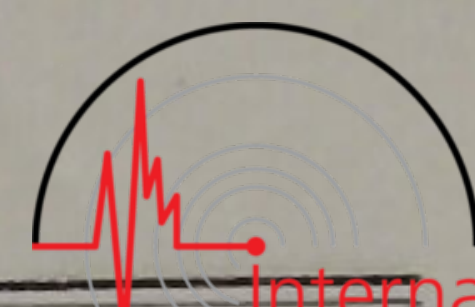
No.	Date	Phase	Time G. M. C. T	Period	Amplitude			Δ Epicentre- distance	Remarks
					AN	AE	AZ		
			h m s	s	μ	μ	μ	km.	
241	Sept. 11	e	14 05 14—						Middle course of the river
		F	14 07 —						Tone.
242	" 12	e	16 58 20—						Near Wajima at Noto province.
		F	16 59 50—						
243	" 16	iP	12 43 38.2	2.9	+86	+19	—33	168	Upper course of the river Katura in Yamanasi pref.
		S	12 44 00.9	2.9					
		F	12 57 —	1.9					
"	" 16	eP	12 43 38—					163	Ditto. By horizontal pendulum V=2. Slight shock was felt at Sparta of Tohoku, Kwanto Tyubu, and W part of Kinki districts.
		S	12 44 00—						
		Mz	12 44 19—	1.5			—2100		
		ME	12 44 27—	1.9	—3650				
		MN	12 44 31—	2.4		—4350			
		F	12 53 —						
244	" 16	e	13 35 05—						Ditto.
		F	13 36 40—						
245	" 16	e	13 54 01—						Ditto.
		F	13 55 —						
246	" 16	eP	14 30 42.3						Ditto.
		S	14 31 02.3						
		F	14 33 40—						
247	" 18	iP	6 14 01.7		+9	+4		161	Course of the river Kawati in Sagami province.
		S	6 14 23.3						
		ME	6 14 29—	1.5	+89				
		MN	6 14 37—	4.1		—143			
		F	6 23 40—						
248	" 18	e	13 26 37—						Yura str.
		F	13 29 30—						
249	" 19	e	7 46 39—						A distant shock.
		F	7 50 40—						
250	" 19	e	12 34 43—						Upper course of the river Sagami.
		F	12 36 20—						



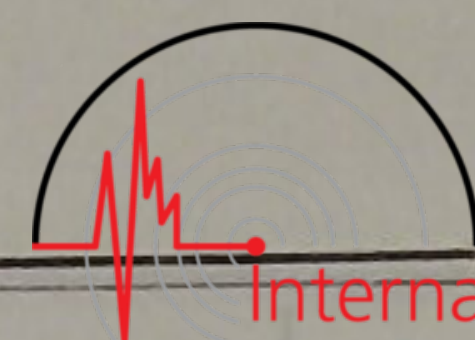
No.	Date	Phase	Time			Period	Amplitude			Δ Epicentre- distance	Remarks
			G. M. C. T				AN	AE	AZ		
			h	m	s						
						s	μ	μ	μ	km.	
251	Sept. 20	e	5	12	52.6						Upper course of the river Miya.
		F	5	14	20—						
252	" 20	eP	15	15	04.8					399	Off mouth of the river Uketo in Hukusima pref.
		S	15	15	58.6						
		F	15	22	—						
253	" 20	eP	22	44	20.2					363	Near Kunisaki peninsula.
		S	22	45	09.1						
		F	22	48	40—						
254	" 21	iP	2	20	37.4	6.1 5.4 3.3	+286	+253	—75		W part of Saitama pref.
254	" 21	P	2	20	37.4					209	Ditto By Ōmori's V=2.
		S	2	21	05.5						Strong shock was felt N part of Kwanto district.
		Mz	2	21	11—					±4350	
		ME	3	21	13—	3.1	-32500				
		MN	2	21	16—	3.1		+27300			
		F	2	35	—						
255	" 21	eP	2	36	23.0					200	Ditto.
		S	2	36	50.0						
		F	2	39	50—						
256	" 21	eP	2	42	52.6					225	Ditto.
		S?	2	43	22.8						
		F	2	45	50—						
257	" 21	eP	2	46	24.7					199	Ditto.
		S	2	46	51.5						
		F	2	49	10—						
258	" 21	e	2	50	01—						Ditto.
		F	2	51	20—						
259	" 21	eP	3	02	58.6					198	Ditto.
		S	3	02	25.3						
		F	3	03	20—						
260	" 21	eP	3	11	20.7					200	Ditto
		S	3	11	47.7						
		F	3	16	50—						



No.	Date	Phase	Time G. M. C. T	Period	Amplitude			Δ Epicentre- distance	Remarks
					AN	AE	Az		
			h m s	s	μ	μ	μ	km.	
261	Sept. 21	eP	3 25 43.9					202	Ditto.
		S	3 26 11.1						
		F	3 29 50—						
262	" 21	eP	3 55 32.6					210	Ditto.
		S	3 56 00.8						
		F	3 58 30—						
263	" 21	eP	4 16 24.0					205	Ditto.
		S	4 17 51.6						
		F	4 18 40—						
264	" 21	e	5 15 41—						Ditto.
		F	5 16 50—						
265	" 21	e	5 25 16—						Ditto.
		F	5 26 50—						
266	" 21	iP	6 22 04.0		—7	—4	+4	193	Ditto.
		S	6 22 30.0						
		MN	6 22 45.5	2.0		+43			
		ME	6 22 48—	1.8	+46				
		F	6 28 50—						
267	" 21	e	6 38 26—						Ditto.
		F	6 39 50—						
268	" 21	eP	6 49 38.7					200	Ditto.
		S	6 50 05.7						
		ME	6 50 12—		+53				
		Mz	6 50 13—				—21		
		MN	6 50 17—	2.2		—59			
		F	6 57 30—						
269	" 21	eP	7 08 00.6					193	Ditto.
		S	7 08 26.6						
		F	7 13 —						
270	" 21	e	9 03 15—						Ditto.
		F	9 04 50—						



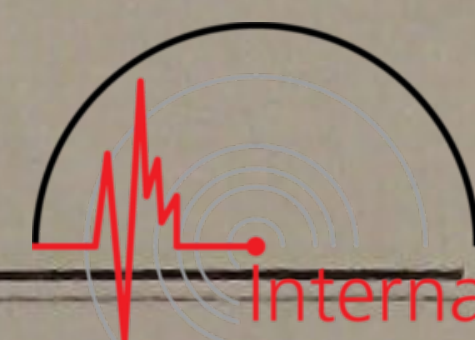
No.	Date	Phase	Time G. M. C. T	Period s	Amplitude			Δ Epicentre- distance km.	Remarks
					AN μ	AE μ	Az μ		
271	Sept. 21	eP	9 29 39.9					195	Ditto.
		S	9 30 06.2						
		F	9 33 10—						
272	" 21	eP	9 33 22.9					204	Ditto.
		S	9 33 50.4						
		F	9 35 50—						
273	" 21	eP	9 48 14.0					199	Ditto.
		S	9 48 40.8						
		F	9 49 50—						
274	" 21	eP	9 51 01.0					197	Ditto.
		S	9 51 27.5						
		F	9 54 50—						
275	" 21	eP	10 24 29.0					204	Ditto.
		S	10 24 56.5						
		F	10 26 50—						
276	" 21	eP	10 32 53—						A distant shock. N part of S China sea.
		L?	10 45 06—						
		F	11 13 —						
277	" 21	e	12 22 55—						W part of Saitama pref. (after shock)
		F	12 24 20—						
278	" 21	eP	13 28 44.0					200	Ditto.
		S	13 29 11.0						
		F	13 30 50—						
279	" 21	eP	13 31 08.2					204	Ditto.
		S	13 31 35.7						
		F	13 33 10—						
280	" 21	e	13 46 40—						A distant shock.
		F	13 53 30—						
281	" 21	e	13 57 36—						W part of Saitama pref. (after shock)
		F	13 59 10—						



No.	Date	Phase	Time G. M. C. T	Period	Amplitude			Δ Epicentre- distance	Remarks
					AN	AE	AZ		
			h m s	s	μ	μ	μ	km.	
282	Sept. 21	e	15 30 03—						Ditto.
		F	15 31 50—						
283	" 21	eP	17 51 57.7					197	Ditto.
		S	17 52 24.2						
		F	17 55 10—						
284	" 21	eP	18 07 47.0					204	Ditto.
		S	18 08 14.5						
		F	18 10 40—						
285	" 21	eP	18 23 51.1					198	Ditto.
		S	18 24 17.7						
		F	18 26 —						
286	" 21	e	21 18 08—						Ditto.
		F	21 20 —						
287	" 22	e	1 31 38—						A distant shock.
		F	1 40 10—						
288	" 22	e	8 37 34—						In the Hyuga-nada.
		F	8 44 20—						
289	" 22	e	8 50 59—						W part of Saitama pref. (after shock)
		F	8 52 —						
290	" 22	eP	10 46 54.4					193	Ditto.
		S	10 47 20.3						
		F	10 48 50—						
291	" 22	e	13 25 55—						Ditto.
		F	13 27 50—						
292	" 22	eP	13 42 00.0					195	Ditto.
		S	13 42 26.3						
		F	13 44 10—						
293	" 23	e	3 48 15—						SE of Mera in Boso peninsula.
		F	3 51 50—						

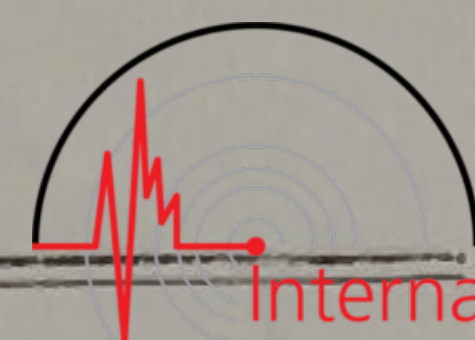
No.	Date	Phase	Time G. M. C. T	Period	Amplitude			Δ Epicentre- distance	Remarks
					AN	AE	AZ		
			h m s	s	μ	μ	μ	km.	
294	Sept. 23	eP	12 46 47.0					202	W part of Saitama pref.
		S	12 47 14.3						
		F	12 52 20—						
295	" 23	eP	16 23 08.5					212	Ditto
		S	16 23 37.0						
		ME	16 23 39—	1.1	—37				
		MX	16 23 45—	0.7		—48			
		F	16 29 30—						
296	" 24	e	4 11 47—						Ditto.
		F	4 14 30—						
297	" 24	eP	4 26 57.8					321	Lower course of the river Kogai
		S	4 27 41.0						
		F	4 32 —						
298	" 24	e	10 57 21—						E off Sioya C.
		F	10 59 —						
299	" 24	eP	12 11 54.2					198	W part of Saitama pref. (after shock)
		S	12 12 20.8						
		F	12 16 —						
300	" 25	eP	6 08 58—						A distant shock. In the Indian ocean.
		L?	6 20 54—						
		F	7 04 30—						
301	" 25	e	13 04 13—						Far off the Kasima-nada.
		F	13 06 10—						
302	" 25	e	15 10 59—						W part of Saitama pref.
		F	15 13 10—						
303	" 25	eP	18 56 30.3					195	W part of Saitama pref. (after shock)
		S	18 56 56.5						
		F	18 59 30—						
304	" 25	e	21 03 23—						Ditto.
		F	21 05 20—						

No.	Date	Phase	Time			Period	Amplitude			△ Epicentre- distance	Remarks
			G.	M.	C. T		AN	AE	Az		
			h	m	s	s	μ	μ	μ	km.	
305	Sept. 25	e	21	31	14.0						Ditto.
		F	21	33	—						
306	" 26	eP	3	38	06.8					202	Ditto.
		S	3	38	34.0						
		F	3	40	50—						
307	" 26	eP	12	28	16.3					28	Lower course of the river Yahagi.
		S	12	28	20.1						
		F	12	30	—						
308	" 27	e	17	08	59—						W part of Saitama pref.
		F	17	10	50—						
309	" 27	eP	19	51	10.2					232	Lower course of the river Kinu.
		S	19	51	41.4						
		ME	19	51	51—	1.1	+54				
		MN	19	51	59.5	1.1		+67			
		F	19	58	10—						
310	" 28	iP	4	54	51.7		+7	+3	—3	213	W part of Saitama pref.
		S	4	55	20.3						
		ME	4	55	22—	1.6	-243				
		MN	4	55	29—	1.5		+363			
		Mz	4	55	36—	1.5			—90		
		F	5	05	40—						
311	" 28	e	6	08	03—						Kujukuri-hama.
		F	6	10	20—						
312	" 28	eP	9	25	31.4						W part of Saitama pref.
		S	9	25	51.4						
		F	9	28	—						
313	" 28	e	23	16	03—						E off Iwate pref.
		F	23	21	30—						
314	" 29	eS?	5	21	27—						A distant shock.
		F	5	27	50—						
315	" 30	e	8	40	58—						Upper course of the river Katura
		F	8	43	50—						

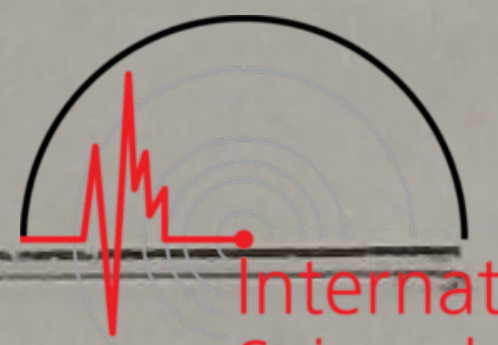


No.	Date		Phase	Time			Period	Amplitude			Δ Epicentre- distance	Remarks
								AN	AE	AZ		
				G.	M.	C. T					km.	
				h	m	s	s	μ	μ	μ		
316	Oct.	1	e	6	31	09—						In the Kasima-nada.
			F	6	33	47—						
317	"	2	e	13	09	46—						W part of Saitama pref.
			F	13	12	30—						
318	"	2	iP	17	37	22.5		+9	+4	—15	217	Ditto.
			S	17	37	51.8						
			ME	17	37	53—	1.8	—292				
			MN	17	37	55—	1.4		+395			
			Mz	17	37	59—	1.2			+104		
			F	17	49	20—						
319	"	2	e	18	13	28—						In Gunma pref.
			F	18	15	40—						
320	"	3	eP	19	22	20.8					5690	A distant shock.
			S	19	29	40.5						
			L	19	36	06.6						
			ME	19	38	44—	14.8	+150				
			Mz	19	40	56—	22.7			+45		
			MN	19	41	02—	18.0		—186			
321	"	3	e	21	27	34—						Ditto.
			F	21	41	50—						
322	"	3	e	22	04	33—						Ditto.
			F	22	56	50—						
323	"	3	eP	22	56	49.4					5690	A distant shock. Near Gilbert Is.
			S	23	04	09.7						
			L	23	10	55—						
			F	23	55	50—						
324	"	4	e	21	29	28—						W part of Saitama pref.
			F	21	31	20—						
325	"	5	e	7	16	45—						SW off Hatijyo Is.
			F	7	20	15—						
326	"	5	e	12	55	49—						Near Amami Osima.
			F	13	02	35—						

No.	Date	Phase	Time G. M. C. T	Period s	Amplitude			Δ Epicentre- distance km.	Remarks
					AN μ	AE μ	Az μ		
327	Oct. 9	e F	2 55 32— 2 59 —						Near Oiwake.
328	" 10	eP S L ME MN F	0 28 56.0 0 36 01.0 0 42 01— 0 44 05— 0 46 42— 2 49 40—	23.4 19.2	+60	± 80		5420	A distant shock. Epicenter near Solomon Is.s
329	" 10	e F	16 42 50— 16 58 40—						In Okhtsek sea
330	" 12	eP S F	10 51 30.5 10 51 58.6 10 54 40—					209	W part of Saitama pref.
331	" 12	eP S F	15 50 45.0 15 50 53.0 15 52 40—					59	Valley of the river Toyo in Aiti pref.
332	" 13	e F	12 14 51— 12 17 40—						Bay of Tokyo.
333	" 16	e F	6 43 06— 6 19 —						Far SSE off Mera.
334	" 17	e F	15 36 18— 15 45 40—						S off Bonin Is.
335	" 18	e F	4 41 19— 4 53 40—						A distant shock.
336	" 21	eP S F	7 43 08.5 7 43 20.7 7 47 40—						Middle course of the river Abe. in Sizuoka pref.
337	" 21	e F	9 11 21— 9 13 40—						E part of Sagami-nada.
338	" 23	eP S F	3 16 55.5 3 17 21.3 3 20 20—					192	W part of Saitama pref.

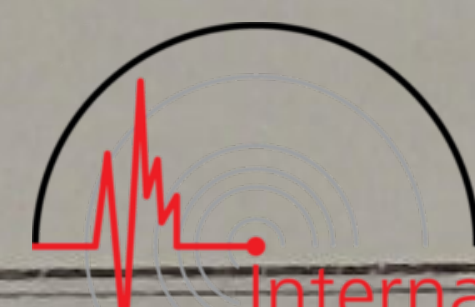


No.	Date	Phase	Time			Period	Amplitude			Δ Epicentre- distance	Remarks
			G.	M.	C. T		AN	AE	Az		
			h	m	s	s	μ	μ	μ	km.	
339	Oct. 23	eP	23	29	11.8					361	SW off Hatijyo Is.
		S	23	30	00.5						
		F	23	36	10—						
340	" 25	e	13	46	35—						Upper course of the river Kokuni.
		F	13	51	30—						
341	" 26	e	17	52	32—						A distant shock.
		F	17	56	30—						
342	" 28	e	5	40	06—						S off Taiwan.
		F	5	48	—						
343	" 28	e	14	56	04—						E part of Aiti pref.
		F	14	57	50—						
344	" 29	eP	8	43	20.5					1860	A distant shock.
		S	8	46	31.9						
		F	8	55	30—						
345	" 29	eP	18	54	08.9					306	In the Kasima-nada.
		S	18	54	50.2						
		ME	18	55	11—	1.8	+54				
		MS	18	55	27—	1.8		—58			
		F	19	03	30—						
346	" 30	e	8	44	15—						A distant shock.
		F	8	51	30—						
347	" 30	eP	17	17	30.8					39	Bay of Atumi in Aiti pref.
		S	17	17	36.0						
		F	17	19	10—						
348	" 31	e	14	17	29—						N off Miyake-sima in Idu Is.s.
		F	14	21	10—						
349	" 31	e	14	56	19.4						NE part of Aiti pref. Slight felt at Toyone.
		F	14	57	30—						
350	Nov. 1	eP	18	54	35.7					870	$\phi=131.9E, \lambda=32.4N$ In the Hyuga-nada. Slight shock was felt in all Kyusyu, W Sikoku and W of Tyugoku district.
		S	18	56	11.0						
		MS	18	56	21—	4.2		+95			
		ME	18	56	35—	3.2	—70				
		F	19	11	20—						



No.	Date	Phase	Time G. M. C. T	Period s	Amplitude			Δ Epicentre- distance km.	Remarks
					AN μ	AE μ	Az μ		
351	Nov. 2	iP	10 04 19.7		-9	-8	-5	560	In the Hyuga-nada. $\phi=132.1E, \lambda=32.4N$ Strong shock was felt in Miyazaki pref. Slight was felt in almost of W part of Japan.
		S	10 05 21.7						
		L	10 05 54.2						
		Mz	10 06 41—	2.9			+243		
		F	10 59 30—						
351	" 2	eP	10 04 20—					540	Ditto. Omori's record
		S	10 05 20—						
		L	10 06 02—						
		ME	10 06 36—	2.5	-1100				
		Mz	10 06 36—	2.8			-850		
		MN	10 07 07—	2.5		-1500			
		F	10 17 —						
352	" 2	eP	11 01 56.9					383	Ditto.
		S	11 02 48.5						
		L	11 03 25.7						
		F	11 20 —						
353	" 2	e	11 25 34—						In the Hyuga-nada.
		F	11 31 30—						
354	" 2	e	11 34 3.4						Ditto.
		F	11 41 —						
355	" 2	eP	11 48 40.4					401	Ditto.
		S	11 49 34.4						
		L	11 50 12.7						
		F	11 59 30—						
356	" 2	e	12 12 43—						Ditto.
		F	12 17 30—						
357	" 2	e	17 11 07—						A distant shock.
		F	17 16 —						
358	" 2	eP	19 56 10.1						NNE off Hatijyo Is. Slight shock was felt at Kwanto district.
		F	20 05 30—						
359	" 3	e	4 36 55—						In the Kumano-nada.
		F	4 39 —						

No.	Date	Phase	Time			Period	Amplitude			Δ Epicentre- distance	Remarks
			G.	M.	C. T		AN	AE	Az		
			h	m	s	s	μ	μ	μ	km.	
360	Nov. 3	eP	16	21	26.7					630	$\psi=141.7^{\circ}\text{E}$ $\lambda=39.5^{\circ}\text{N}$ E part of Iwate pref, Slight felt in S part of Hokka- ido, all Tohoku and N part of Kwanto district.
		S	16	22	35.3						
		L	16	23	04—						
		M _N	16	23	15—	4.7		+95			
		M _Z	16	23	25—	2.8			—22		
		M _E	16	23	26—	2.5	+95				
		F	16	33	40—						
361	" 3	e	17	28	39—						Ditto.
		F	17	29	40—						
362	" 4	e	17	57	56—						Ditto.
		F	18	03	30—						
363	" 5	eP	6	25	37—					252?	Near Gihu.?
		S	6	26	11—						
		F	6	29	—						
364	" 5	e	17	17	56—						Near Miyake Is in Idu Iss.
		F	17	20	40—						
365	" 10	eP	19	41	23.9					45	In Gihu pref.
		S	19	41	30.0						
		F	19	43	20—						
366	" 12	eP	6	09	37.2					252	E off Katuura. $\psi=140.7^{\circ}\text{E}$ $\lambda=35.1^{\circ}\text{N}$.
		S	6	10	11.2						
		M _E	6	10	47—	1.0	—40				
		M _N	6	10	49—	2.3		+57			
		F	6	18	50—						
367	" 12	eP	13	11	31.2					199	SW off Boso peninsura. Slight shock was felt at Kwanto district.
		S	13	11	58.0						
		L	13	12	24.2						
		F	13	16	50—						
368	" 13	iP	17	55	30.5		—12	+3	—35	45	Near lake of Biwa. Slight shock was felt NE part of Kinki and W part of Tyubu district.
		S	17	55	36.6						
		M _E	17	55	36.6		—80				
		M _N	17	55	36.6			—63			
		M _Z	17	55	38.5				+37		
		F	18	01	—						



No.	Date	Phase	Time	Period	Amplitude			Δ Epicentre- distance	Remarks
					AN	AE	Az		
			G. M. C. T		μ	μ	μ	km.	
			h m s	s					
369	Nov. 15	e	1 43 32—						Near Miyosi in Hiroshima pref.
		F	1 47 —						
370	" 15	eP	14 36 16.3					180	In the bay of Wakanoura.
		S	14 36 40.5						
		F	14 38 50—						
371	" 18	e	6 04 57—						W part of Saitama pref. after shock.
		F	6 06 50—						
372	" 20	eP	14 25 33—						A distant shock.
		S?	14 32 52—						
		L?	14 40 18—						
		F	15 06 50—						
373	" 26	e	14 00 10—						S part off Kujukuriga hama.
		F	14 03 05—						
374	Dec. 1	e	8 18 59—						Near sea Amami Osima.
		F	8 20 40—						
375	" 1	e	17 16 34—						In the Kasima-nada.
		F	17 20 50—						
376	" 2	eP	4 00 49—					111	Near Mt. Fuji.
		S	4 01 04—						
		F	4 03 50—						
377	" 4	eP	19 37 45—					193	Upper course of the river Hujita in Wakayama pref.
		S	19 38 11—						
		F	19 41 20—						
378	" 5	e	8 09 09—						Near Mito.
		F	8 13 20—						
379	" 5	e	18 36 21—						In the bay of Kumihama at N part of Tango.
		F	18 38 20—						
380	" 6	eP	2 55 53—						Near Gihu.
		S	2 55 55—						
		F	2 57 10—						



No.	Date	Phase	Time	Period	Amplitude			Δ Epicentre- distance km.	Remarks
					AN	AE	Az		
			G. M. C. T		μ	μ	μ		
			h m s	s					
381	Dec. 7	e	16 25 19--						Local shock.
		F	16 26 10--						
382	" 7	e	21 29 09--						Local shock.
		F	21 30 --						
383	" 8	eP	12 17 03.0					860	NE off mouth of the river Mabuti.
		eS	12 18 37.0						
		F	12 23 40--						
384	" 10	eP	15 57 24.5					385	Near Katuura.
		S	15 58 16.4						
		F	16 00 20--						
385	" 12	e	5 10 21--						In Wakayama pref.
		F	5 12 10--						
386	" 14	eP	15 48 39.2					131	Local shock.
		eS	15 48 56.8						
		F	15 50 20--						
387	" 14	e	19 23 35--						A distant shock.
		F	19 26 20--						
388	" 15	eP	17 15 25.1					230	Near Yuki in Ibaraki pref.
		S	17 15 56.1						
		F	17 19 20--						
389	" 17	e	2 25 50--						Near Mineyama at N part of Tango.
		F	2 28 30--						
390	" 18	eP	17 14 44.6					178	Near Narita.
		eS	17 15 08.5						
		F	17 21 --						
391	" 18	eP	17 47 05.4					570	ESE off Miyazaki.
		eS	17 48 08.8						
		F	17 53 --						
392	" 22	e	3 54 31--						In the Kasimanada.
		F	3 57 40--						

No.	Date	Phase	Time G. M. C. T	Period s	Amplitude			Δ Epicentre- distance km.	Remarks
					AN	AE	AZ		
393	Dec. 22	eP	13 09 24.2		μ	μ	μ	740	$\psi = 130.5E, \lambda = 32.6N$ Oyanosima in Kumamoto pref. Strong shock felt at center.
		eS	13 11 02.9						
		MN	13 11 25--	2.4		-40			
		ME	13 12 12--	4.0	+41				
		F	13 19 45--						
394	" 23	e	10 53 09--						Lower course of the river Kii.
		F	10 56 50--						
395	" 23	eP	12 28 19.4					57	Upper course of the river Yahagi. Slight shock felt in all Aiti pref.
		S	12 28 27.0						
		Mz	12 28 27.0				-92		
		F	12 34 50--						
395	" 23	eP	12 28 19.4					45	Ditto. Omori's record.
		S	12 28 25.5						
		ME	12 28 25.5		+213				
		MN	12 28 25.5			-196			
		F	12 36 50--						
396	" 24	e	14 18 33--						Upper course of the river Katura.
		F	14 20 40--						
397	" 26	eP	1 44 23.8					700	$\psi = 130.5E, \lambda = 32.5N$. Oyanosima. Slight shock was felt almost of Kyusyu, and W part of Japan.
		S	1 45 56.0						
		MN	1 46 25--	3.4	+104				
		ME	1 47 26.5	3.3		± 74			
		F	1 56 50--						
398	" 26	e	5 16 36--						Upper course of the river Kinu.
		F	5 18 55--						
399	" 29	e	17 47 17--						Upper course of the river Kinu.
		F	17 49 10--						
400	" 30	eP	3 43 19.8					339	S off the Kii channel.
		S	3 44 05.4						
		F	3 54 10--						
401	" 30	e	15 49 10--						Bay of Wakanoura.
		F	15 50 20--						

Symbols and Notations

I. Phases of the Seismogram.

P = First preliminary tremors (Longitudinal)

$\bar{P}$ = Individual or upperfirst preliminary tremors.

S = Second preliminary tremors (Transverse)

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

M = Greatest motion in the surface phase.

F = End of discernible movements.

II. Nature of the motion.

i = Sudden beginning of the motion.

e = Gradual beginning of the motion.

III. Remarkes.

Covered = Covered by following shock.

Is. = Island. C. = Cape. Pref. = Prefecture. Str. = Strait.