

# THE REGISTRATION OF EARTHQUAKES

## AT THE NUMADU OBSERVATORY

AND

## AT THE ITO STATION

FOR

1931

Published by

The Numadu Meteorological Observatory,

NUMADU, JAPAN.

1932



ERRATA.

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cover		8	Meteorological	Meteorological
1		18	Rathen	Rather
2		3	Indivialual	Individual
〃		14	micr ns	microns
〃		20	nabir	nadir
3		35	Seiemometer	Seismometer
4		5	facts	fact is
〃		23	May. June. july.	Nay June July
5	1	6	jan	jan.
〃	2	9	22 39 32.0	22 36 32.0
〃	13	40	33 30 17.1	13 30 17.1
〃	15	44	Distat	Distant
6	22	6	earthpuake	earthquake
〃	23	10	earthpuaeke	earthquake
7	52	23	es	is
8	84	45	23 51 12.0	23 50 12.0
〃	90	59	E	F
9	100	24	e	s
10		6	Jan	Jan.
〃	127	35	15 26 26.5	15 29 26.5
11	137	6	6 Feb.	16 Feb.
〃	〃	9	16 07 53.8	19 07 53.8
〃	138	10	6 Feb.	16 Feb.
〃	141	24	AE2	AE
〃	〃	27	ME3	ME
〃	〃	28	Mz2	Mz
〃	146	41	earthpuake	earthquake
15	218	19	52 March	25 March
16		3	Intensity	Intensity
〃	244	40	4 46 2.9	4 46 6.9
〃	251	60	25 April	24 April
〃	〃	61	S	F
17		3	Intenrity	Intensity
〃	272	59	9 12 57.6	9 12 37.6
19	292	11	10 24 25.6	10 26 25.6
20	326	59		9 〃
21	338	50	28 July	20 July
22	344	15	20 22 0.0	20 22 30.0
23		3	Intenrity	Intensity
〃	359	11	AE1	AN1
〃	〃	12	AN1	AE1
〃	361	19	Disant	Distant
24	379	36	S9	6
〃	384	54	V	III
28		3	Intenrity	Intensity
〃	449	29	6 07 40.3	6 07 50.3
〃	455	56	Hatiio	Hatijo
29	465	27	-11	- 1
31	501	38	- 2	+ 2
33		7	Altitube	Altitude
〃		12	seiemometer	seismometer
34		2	juue	june
〃		5	in	is
〃		〃	2let	21st
〃		7	year.	year
〃		18	2 20 <sup>m</sup>	2h 20m
36	62	30	16 12 0.8	16 12 2.8
38	103	49	+185	+ 18
40	126	10	16 05 35.4	16 05 56.4



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## SYMBOLS AND NOTATIONS

### 1. Scales of the intensity of earthquake.

0. No feeling. I. Slight. II. Moderate. III. Rather strong. IIII. Strong.  
V. Very strong. VI. Disastrous.

### 2. Phases of the Seismogram.

- P. First preliminary tremor (longitudinal)  
S. Second preliminary tremor (transverse)  
PS. Waves changed from longitudinal to transverse oscillation, or vice versa,  
through reflection at the earth's surface.  
L. Long waves of the surface phase.  
M. Maximum amplitude in the surface waves.  
C. Tail or end portion.  
F. End of discernible movements.  
 $\overline{P}$ . Individual or upper first preliminary tremor.  
 $\overline{S}$ . Individual or upper second preliminary tremor.

### 3. Nature of the motion.

- i. Sudden beginning of motion.  
e. Gradual beginning of motion.  
T. Time of one complete oscillation.  
A. Amplitude of the earth motion in microns, + motion toward east,  
north, or zenith, - motion toward west south, or nadir.  
AE. E—W component of A.  
AN. N—S component of A.  
AZ. Vertical component of A.



# THE NUMADU OBSERVATORY



## CONSTANTS

Lattitude and longitude of the observatory:

$$\phi = 35^{\circ} 06' \text{ N Lat.}$$

$$\lambda = 138^{\circ} 51' \text{ E from Greenwich}$$

Time. Time are all referred to the Greenwich mean time.

Altitude. 6.0 meters above mean sea level.

Foundation. Alluvium, soft ground.

### Constants of the seismographs.

Date	Apparatus	Component	V	$T_0$	$\xi$	$\frac{\gamma}{T_0^2}$
29. Nov. 1930	Wiechert 200kg.	N	61	5.5	6.1	0.019
		E	78	3.2	2.5	0.017
	Wiechert 80kg.	Z	?	?	?	?
23. Feb. 1931	"	N	66	4.4	4.2	0.013
		E	83	3.4	?	?
		Z	53	3.8	2.7	0.05?
10. March. 1931	"	N	53	3.8	5.3	0.012
		E	53	3.8	8.2	0.009
12. Jnne. 1931	"	N	92	3.4	5.3	0.016
		E	92	3.4	8.2	0.025
		Z	52	4.3	?	?
19. Jnne. 1931	"	N	65	3.4	5.3	0.013
		E	65	3.4	8.5	0.019
		Z	52	3.4	12.3	0.028
17. Sept. 1931	"	N	48	4.1	5.3	0.012
		E	59	3.7	8.5	0.026
		Z	52	3.4	12.3	0.023
21. Sept. 1931	"	N	46	3.2	5.3	0.009
		E	46	3.2	8.5	0.009
		Z	52	3.4	12.3	0.02
	C.M.O. Seismograph of no Magnification	N	2	3.5	2	0.02
		E	2	3.5	2	0.02
		Z	3	4.3	2	0.02
	Omori's Portable Seiemometer.	N	40	3.5	—	0.05
		E	40	3.5	—	0.05
	Omori's Horizontal Seismograph.	N	20	20.0	4.2	0.005
		E	20	10.0	3.0	0.018



# GENERAL STATE OF EARTHQUAKES.



In this year, 519 earthquakes were recorded on Seismograph at Numadu observatory.

The total number of felt earthquakes was 48.

The most number of earthquakes occurred in January and September.

This fact is due to the after shock of the North Idu great earthquake on 26th. November, 1930 and of the destructive earthquake which attacked the Saitama Prefecture, on 21st. Sept. 1931.

The total number of felt earthquakes occurred in this year were as follows:—

Slight earthquake	34
Moderate //	8
Rather strong //	3
Strong //	3

The distinctive earthquakes were as follows:—

1. Eastern foot of the Mt. Fuji earthquake occurred at 6<sup>h</sup> 16<sup>m</sup> on 11st. June. 1931.
2. Upper valley of the River Katura earthquake occurred at 12<sup>h</sup> 43<sup>m</sup> on 16th. Sept. 1931.
3. Near Mt. Sengen earthquake occurred at 2<sup>h</sup> 20<sup>m</sup>, on 21st. Sept. 1931.

Damage was done in the epicentral region.

Each earthquake was felt strongly at our Observatory.

The monthly number of earthquakes as follows:—

The number of the earthquakes recorded at Numadu														
		Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Sum.
Number of unfelt Earthquake		112	25	58	26	19	38	28	24	74	30	25	12	471
Number of felt Earthquake		8	2	17	5	1	4	0	2	7	0	0	2	48
Sum		120	27	75	31	20	42	28	26	81	30	25	14	519
Intensity of felt Earthquake	Slight I	7	2	13	2	1	2	0	1	4	0	0	2	34
	Moderate II	1	0	2	3	0	0	0	1	1	0	0	0	8
	Rather strong III	0	0	2	0	0	1	0	0	0	0	0	0	3
	Strong IIII	0	0	0	0	0	1	0	0	2	0	0	0	3
	Very Strong V	0	0	0	0	0	0	0	0	0	0	0	0	0



[1931]

No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				G.	M.	T.		AE	AN	Az	
				h	m	s	s	$\mu$	$\mu$	$\mu$	
1	1 Jan	0	e F	12 13	57 59	56.1 42.0					After shock of the north Idu great earthquake.
2	3 "	I	e F	22 22	35 39	54.5 32.0					Ditto.
3	4 "	II	P S M <sub>N</sub> M <sub>E</sub> F	23 23 23 23 23	18 18 18 18 21	8.5 10.8 11.1 10.8 30.0	0.5 0.5	+ 4 -134	- 6 -172	- 40	"
4	5 "	I	P F	20 20	08 09	54.8 39.7					"
5	9 "	0	eP eS F	1 1 1	47 47 54	0.1 40.2 48.2					Near the lake of Tazawa in Akita prefecture.
6	14 "	0	e F	2 3	09 12	46.5 26.6					After shock of the north Idu great earthquake.
7	14 "	0	e F	13 13	42 46	45.6 02.0					Ditto.
8	14 "	0	e S F	21 21 21	04 10 36	33.5 53.5 02.0					Distant earthquake.
9	17 "	0	eP eS F	0 0 1	53 54 00	19.9 2.5 1.8					SE off Kinkwazan.
10	21 "	0	eP eS F	9 9 9	00 02 13	29.2 4.3 40.0					SSE off the Cape of Otiisi.
11	22 "	0	eP eS F	16 7 7	59 00 09	54.0 32.0 13.6					SSE off Kinkwazan.
12	24 "	0	eP eS F	14 14 14	40 40 46	16.9 50.9 16.9					NNE off the Cape of Sioya.
13	25 "	0	eP eS	13 33	27 30	17.1 17.1					Off coast of Boso peninsula.
14	26 "	0	eP eS F	14 14 14	01 02 03	57.2 3.2 40.6					Upper valley of River Sakao.
15	27 "	0	P S F	20 20 21	16 22 00	15.6 16.1 24.6					Distat earthquake.
16	27 "	I	P S F	21 21 21	00 00 01	44.0 45.6 44.0					After shock of the north Idu great earthquake.
17	28 "	0	P S F	0 0 0	50 51 54	59.0 2.6 25.0					Ditto.
18	28 "	0	e F	16 16	15 15	24.7 52.2					"
19	28 "	0	e F	21 21	16 17	34.8 27.3					"
20	28 "	0	e F	21 21	18 20	55.8 0.3					"
21	28 "	0	e F	21 21	27 28	21.1 10.8					"



[1931]

No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				g.	m.	s.		A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>	
				h	m	s	s	μ	μ	μ	
22	28 Jan.	0	e	21	29	27.4					Distant earthpquake.
			eS	21	33	57.4					
			F	22	30	27.4					
23	28 "	0	e	21	38	32.3					After shock of the north Idu great earthquake.
			F	21	39	8.3					
24	28 "	0	e	21	41	40.2					Ditto.
			F	21	41	58.2					
25	28 "	0	e	21	45	32.1					"
			F	21	45	45.8					
26	28 "	I	P	21	46	28.8		+ 39	- 47		"
			S	21	46	31.2					
			F	21	47	51.5					
27	28 "	0	e	21	52	38.7					"
			F	21	53	11.0					
28	28 "	0	e	21	55	4.9					"
			F	21	56	27.5					
29	28 "	0	e	21	58	31.7					"
			F	21	59						
30	28 "	0	e	22	04	17.3					"
			F	22	?						
31	28 "	0	e	22	04	46.7					"
			F	22	05	9.7					
32	28 "	0	P	22	09	6.8					"
			S	22	09	9.0					
			F	22	10	27.5					
33	28 "	0	P	22	12	27.5					"
			S	22	12	29.7					
			F	22	13	38.5					
34	28 "	0	e	22	13	52.3					"
			F	22	14	48.5					
35	28 "	0	e	22	14	39.3					"
			F	22	14	54.1					
36	28 "	I	P	22	17	22.2					"
			S	22	17	24.6					
			F	22	17	16.0					
37	28 "	0	e	22	21	23.0					"
			F	22	22	0.8					
38	28 "	0	e	22	24	19.5					"
			F	22	25	37.3					
39	28 "	0	eP?	22	26	27.6					"
			S	22	26	29.5					
			F	22	27	2.3					
40	28 "	0	e	22	30	6.1					"
			F	22	31	27.6					
41	28 "	0	e	22	30	23.6					"
			F	22	31	53.7					
42	28 "	0	e	22	33	49.2					"
			F	22	34	27.6					
43	28 "	0	e	22	36	3.4					"
			F	22	37	12.8					
44	28 "	0	e	23	15	23.7					"
			F	23	16	27.7					



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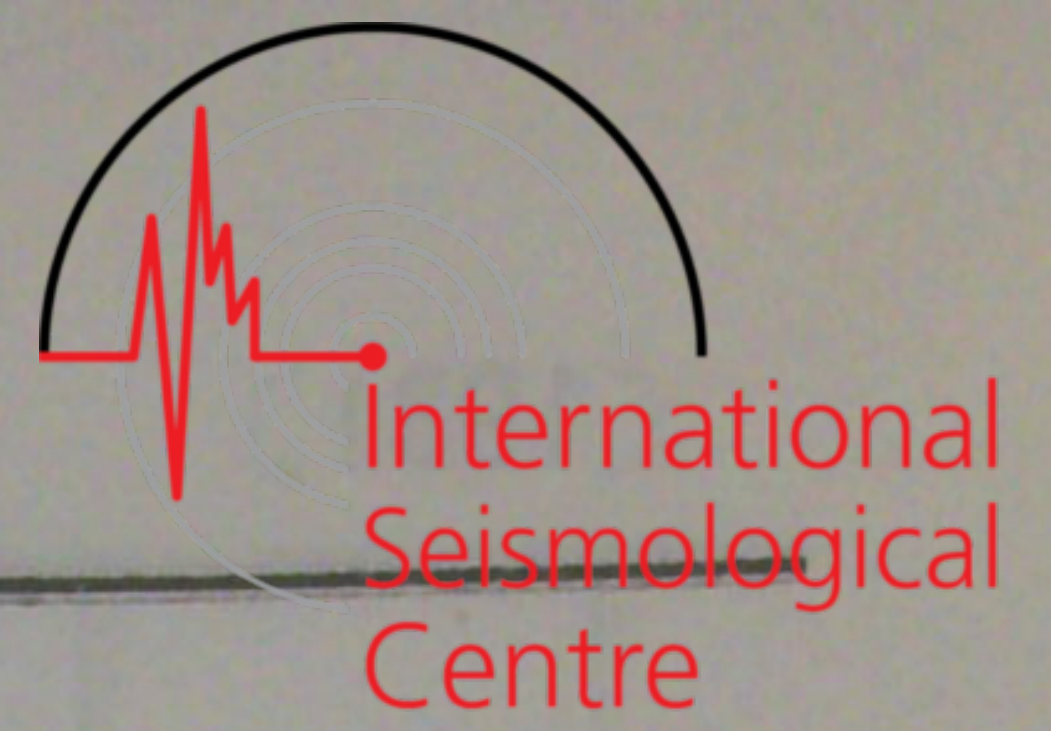
## Numadu Japan

[1931]



No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				G.	M.	T.		AE	AN	AZ	
				h	m	s	s	μ	μ	μ	
45	29 Jan.	0	e F	0	12	24.6					Ditto.
				0	13	6.3					
46	29 "	0	e F	0	46	44.3					"
				0	46	57.3					
47	29 "	0	eP eS F	1	32	9.2					"
				1	32	11.7					
				1	33	27.9					
48	29 "	0	e F	3	23	4.8					"
				3	23	42.0					
49	29 "	0	eP eS F	4	22	39.1					"
				4	22	41.3					
				4	23	37.3					
50	29 "	0	e F	6	15	19.8					"
				6	16	28.0					
51	29 "	0	e F	7	00	29.9					"
				7	01	4.1					
52	29 "	I	eP eS F	7	12	16.2		- 51	- 32		"
				7	12	18.1					
				7	13	43.0					
53	29 "	0	e F	8	04	36.5					"
				8	05	15.5					
54	29 "	0	eP eS F	8	27	48.1					"
				8	27	51.2					
				8	29	43.2					
55	29 "	0	eP eS F	8	32	1.1					"
				8	33	6.0					
				8	33	58.0					
56	29 "	0	e F	8	34	20.8					"
				8	35	9.0					
57	29 "	0	e F	8	36	17.0					"
				8	36	48.0					
58	29 "	0	e F	8	36	48.0					"
				8	37	44.8					
59	29 "	0	e F	8	38	1.3					"
				8	38	59.2					
60	29 "	I	eP iS F	10	58	53.3		- 22	- 23		"
				10	58	56.2					
				11	00	28.0					
61	29 "	0	e F	12	48	5.6					"
				12	49	5.0					
62	29 "	0	eP iS F	15	03	32.4					"
				15	03	35.5					
				15	05	9.5					
63	29 "	0	e F	15	06	51.8					"
				15	08	15.1					
64	29 "	0	e F	15	09	29.1					"
				15	09	51.3					
65	29 "	0	e F	15	15	28.3					"
				15	15	48.6					
66	29 "	0	e F	15	17	13.8					"
				15	17	55.3					
67	29 "	0	e S F	18	36	11.9					"
				18	36	14.5					
				18	37	28.5					





[1931]

No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				G.	M.	T.		AE	AN	Az	
				h	m	s	s	μ	μ	μ	
68	29 Jan.	0	e F	20	10	21.1 31.1				Ditto.	
69	29 "	0	e F	20	10	36.2 1.1				"	
70	29 "	0	e F	20	13	18.6 49.3				"	
71	29 "	0	e F	20	14	31.6 43.6				"	
72	29 "	0	e F	20	19	34.8 3.8				"	
73	29 "	0	e F	20	20	24.8 37.8				"	
74	29 "	0	e F	20	25	34.9 28.6				"	
75	29 "	0	eP S F	22	46	35.1 38.6 3.8				"	
76	30 "	0	eP eS F	1	40	40.0 53.7 40.0				"	
77	30 "	0	eP eS MN Mz F	3	54	14.8 17.7 20.4 18.4 29.4		- 6 + 45	- 8 - 51	"	
78	30 "	0	eP eS F	3	04	42.1 44.4 47.6				"	
79	30 "	0	e F	4	46	50.0 22.0				"	
80	30 "	0	e S F	22	52	39.9 45.6 52.0				"	
81	30 "	0	e F	23	06	43.6 8.1				"	
82	30 "	0	e F	23	07	52.7 16.4				"	
83	30 "	0	e F	23	08	27.0 42.8				"	
84	30 "	0	e F	23	51	12.0 5.3				"	
85	30 "	0	e F	23	59	47.6 31.0				"	
86	31 "	0	e F	0	02	7.6 31.0				"	
87	31 "	0	e F	0	10	50.0 7.0				"	
88	31 "	0	e F	0	11	16.0 57.5				"	
89	31 "	0	e F	0	17	19.0 40.5				"	
90	31 "	0	P eS E	0	18	36.4 39.0 31.0				"	



# Seismological Bulletin

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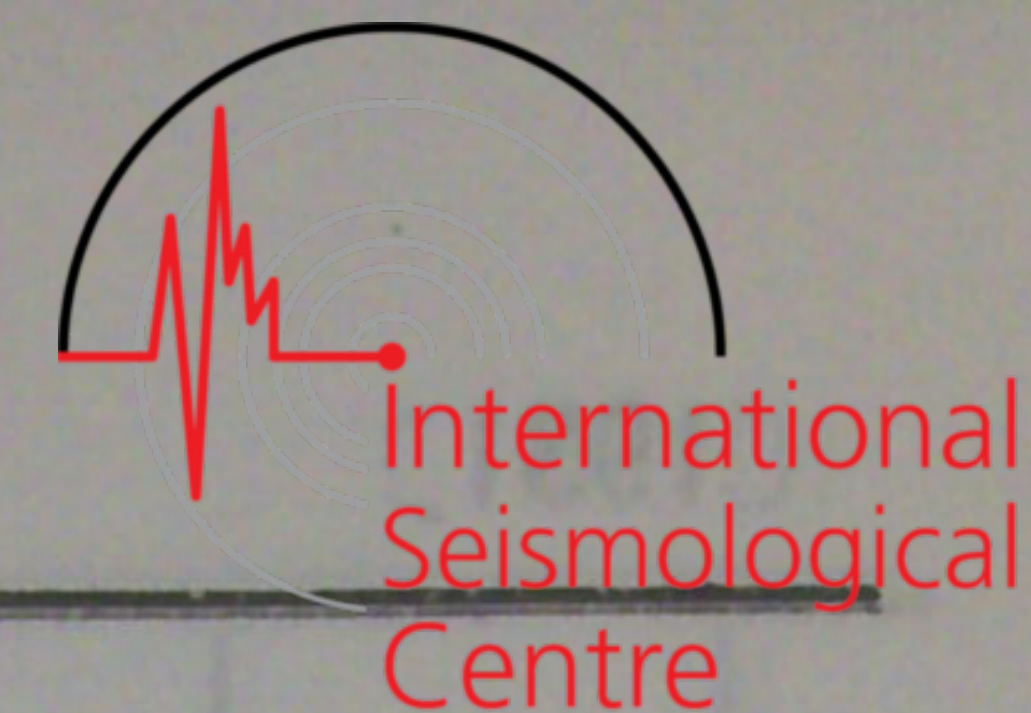
No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				g.	m.	s.		AE	AN	Az	
				h	m	s	s	μ	μ	μ	
91	31 Jan.	0	e F	0	27	56.2					Ditto.
				0	28	52.0					
92	31 "	0	e F	0	32	2.9					"
				0	32	31.0					
93	31 "	0	e F	1	03	49.6					"
				1	04	17.9					
94	31 "	0	e F	1	16	03.0					"
				1	16	36.7					
95	31 "	0	e F	1	33	4.5					"
				1	33	31.0					
96	31 "	0	e F	2	36	14.6					"
				2	38	0.1					
97	31 "	0	e F	2	35	11.7					"
				2	35	31.1					
98	31 "	0	e	2	43	13.4					"
99	31 "	0	e F	2	43	27.2					"
				2	43	14.2					
100	31 "	0	eP e F	3	55	0.1					"
				3	56	3.1					
				3	58	11.7					
101	31 "	0	e F	6	14	46.0					"
				6	16	13.0					
102	31 "	0	e F	6	17	41.0					"
				6	18	22.0					
103	31 "	0	e F	6	18	41.2					"
				6	19	42.0					
104	31 "	0	e F	6	25	46.8					"
				6	27	1.6					
105	31 "	0	e F	6	30	32.0					"
				6	30	51.0					
106	31 "	0	e F	6	33	3.8					"
				6	34	17.0					
107	31 "	0	e F	6	52	59.4					"
				6	54	0.3					
108	31 "	0	e F	7	31	48.2					"
				7	33	0.2					
109	31 "	0	e F	10	14	32.7					"
				10	15	32.7					
110	31 "	0	e F	10	33	48.5					"
				10	35	3.9					
111	31 "	0	e F	10	42	0.3					"
				10	42	51.2					
112	31 "	0	e F	11	16	34.7					"
				11	18	13.9					
113	31 "	0	e F	11	19	19.2					"
				11	20	9.9					
114	31 "	0	e F	11	21	56.0					"
				11	22	6.0					
115	31 "	0	e F	11	22	21.5					"
				11	23	32.9					



# Seismological Bulletin

## Numadu Japan

[1931]



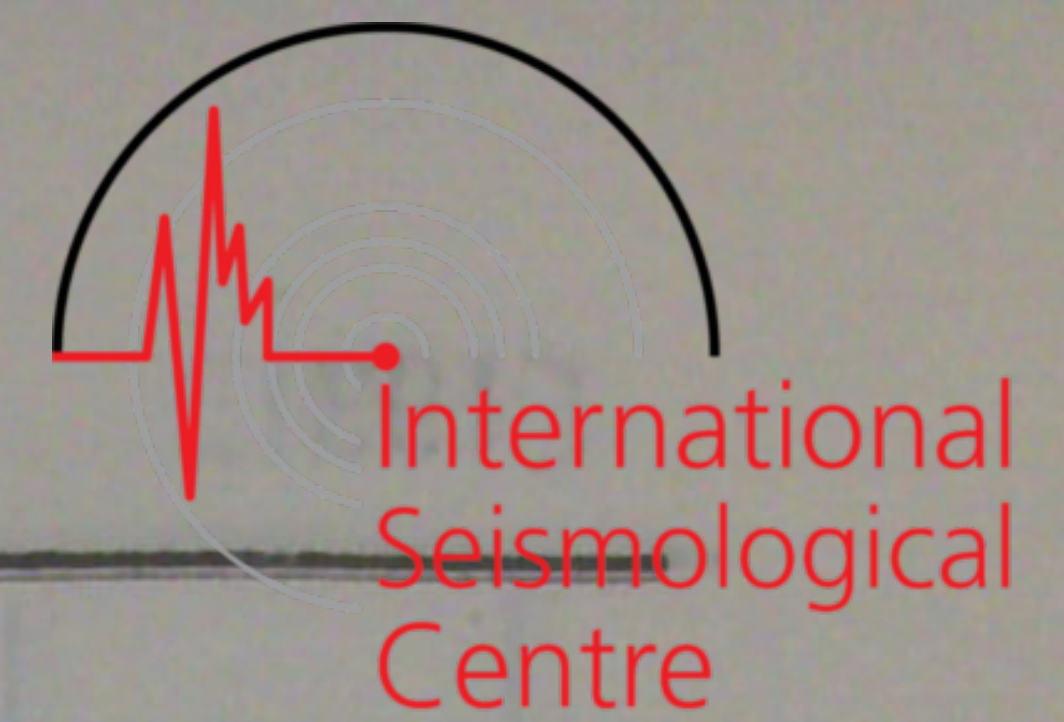
No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				G.	M.	T.		AE	AN	AZ	
116	31 Jan	0	e F	h 11	m 43	s 20.5	s	∏	μ	∏	Ditto.
						23.0					
117	31 "	0	eP eS F	12	46	25.8		+ 49	- 66		"
				12	46	28.0					
				12	49	15.5					
118	31 "	0	eP eS F	17	58	26.8					"
				17	58	29.2					
				18	00	34.3					
119	31 "	0	eP eS F	18	07	3.2					"
				18	07	5.3					
				18	08	34.3					
120	31 "	0	e F	23	19	33.3					"
				23	20	35.3					
121	1 Feb.	0	e F	8	08	10.0					Ditto.
				8	08	58.0					
122	1 "	0	eP eS F	8	19	25.9					"
				8	19	33.0					
				8	21	9.5					
123	2 "	0	e F	13	11	55.4					"
				13	12	49.7					
124	2 "	0	eP eS F	22	59	12.3					Distant earthquake.
	3 "			23	09	11.8					NewZealand.
				0	20	38.8					
125	3 "	I	eP eS F	22	01	48.4		- 55			After shock of the north Idu great earthquake.
				22	01	51.8					
				22	05	09.0					
126	3 "	I	S F	22	15	31.0					Ditto.
				26	16	50.4					
127	6 "	0	e F	15	27	44.1					"
				15	26	26.5					
128	9 "	0	eP eS F	14	45	11.1					Near cape of Naga'uro, Idu peninsula.
				14	45	28.9					
				14	49	17.9					
129	10 "	0	eP eS F	3	42	27.2					Near Hatijo Island.
				3	43	32.7					
				3	46	32.2					
130	10 "	0	e F	6	44	2.1					Distant earthquake.
				7	30	54.5					Phillipin.
131	11 "	0	e F	8	55	59.8					E off cape of Sioya.
				9	59	33.8					
132	11 "	0	e F	9	15	56.4					SSW off Hatijo Island.
				9	20	26.4					
133	12 "	0	e F	11	20	40.9					After shock of the north Idu great earthquake.
				11	21	30.9					
134	12 "	0	eP eS F	11	32	13.9					Off the mouth of River Ooi.
				11	32	25.9					
				11	37	28.9					
135	12 "	0	e F	16	44	51.1					After shock of the north Idu great earthquake.
				17	00	59.4					
136	16 "	0	e F	12	36	55.2					E off Kinkasan.
				12	42	28.5					
137	16 "	0	F P	18	50	29.4					Near coast of Uragawa Hokkaido.
				18	50	27.4					



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No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				G.	M.	T.		AE	AN	Az	
137	6 Feb.	0	S	18	52	29.4	4.3	+255	-315	Di to.	
			MN	18	52	52.4					
			ME	18	53	27.4					
			F	16	07	53.8					
138	6 "	0	e	22	15	41.5				"	
			F	22	16	17.9					
139	18 "	0	eP	4	12	7.2				After shock of the north Idu great earthquake.	
			eS	4	12	10.8					
			F	4	14	7.2					
140	18 "	0	eP	15	05	47.9				Ditto.	
			eS	15	05	50.6					
			F	15	07	23.9					
141	20 "	0	P <sub>H</sub>	5	35	41.3	0.4	- 2	+ 27	N part of Japan Sea.	
			P <sub>Z</sub>	5	35	41.4					- 28
			AE	5	35	47.9	1.4	+ 48			
			Az	5	35	45.2	0.4				-132
			P <sub>H</sub>	5	36	0.7					
			P <sub>Z</sub>	5	36	0.6					
			AE <sup>2</sup>	5	36	32.5	1.7	+315			
			S <sub>H</sub>	5	37	29.5					
			S <sub>Z</sub>	5	37	34.5					
			ME <sup>3</sup>	5	37	48.5		+385			
			Mz <sup>2</sup>	5	37	34.5	1.0				+189
F	6	01	10.5								
142	20 "	0	eP	9	39	36.3				Valley of River Ara.	
			eS	9	40	9.5					
			F	9	42	18.7					
143	20 "	0	eP	14	53	20.8				After shock of the north Idu great earthquake.	
			eS	14	53	22.7					
			F	14	54	11.7					
144	23 "	0	e	2	21	1.8				Tisima Islands.	
			F	2	23	58.0					
145	23 "	0	eP	11	08	23.2				N part of Kasimanada.	
			eS	11	09	8.3					
			F	11	13	15.0					
146	27 "	0	eP	9	44	30.5				Distant earthpquake. Phillipin.	
			F	9	48	44.3					
147	28 "	0	eP	21	13	24.5					
			S	21	13	27.6					
			F	21	14	23.9					
148	1 March	0	e	13	25	21.1				Middle valley of River Kogai.	
			F	13	26	21.1					
149	1 "	0	e	14	25	43.0					
			S	14	27	51.5					
			F	14	31	56.2					
150	2 "	0	e	2	30	6.0					
			F	2	35	27.0					
151	3 "	0	eP	20	40	10.6				Lower valley of River Natui in Fukushima Prefecture	
			eS	20	40	45.8					
			F	20	47	0.6					
152	6 "	II	iP	16	13	20.6	0.8	-5000	+1500	After shock of the north Idu great earthquake.	
			S	16	13	22.9					
			MN	16	13	25.7					
			ME	16	13	25.7					
			F	16	23	20.6					
153	6 "	I	e?	16	52	5.0				Ditto.	
			F	16	53	25.0					





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No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				G.	M.	T.		AE	AN	Az	
				h	m	s	s	$\mu$	$\mu$	$\mu$	
154	6 March	II	P?	16	53	34.0					Ditto.
			S	16	53	36.7					
			F	16	59	34.0					
155	6 "	I	iP	17	33	28.9					"
			S	17	33	31.2					
			F	17	35	33.1					
156	6 "	I	e	19	00	3.5					"
			F	19	02	6.4					
157	6 "	0	e	19	51	0.4					"
			F	19	52	6.5					
158	6 "	I	iP	20	04	29.8				- 6	"
			S	20	04	34.2					
			F	20	06	6.6					
159	6 "	I	iP	20	31	8.2				+ 12	"
			S	20	31	11.2					
			F	20	32	46.7					
160	6 "	0	e	20	45	25.3					"
			F	20	46	22.9					
161	6 "	0	e	21	03	28.3					"
			F	21	04	6.8					
162	6 "	0	eP	21	46	44.7					"
			F	21	47	38.4					
163	6 "	0	e	22	20	7.9					"
			F	22	20	42.7					
164	7 "	I	P	0	41	40.0				+ 20	"
			S	0	41	44.1					
			F	0	44	7.6					
165	7 "	0	e	2	52	57.1					"
			F	2	54	7.1					
166	7 "	0	e	5	26	13.9					"
			F	5	27	12.8					
167	7 "	I	e	9	03	40.0					"
			S	9	03	42.0					
			F	9	04	23.0					
168	7 "	0	P	15	02	45.5					"
			S	15	02	47.9					
			F	15	03	21.0					
169	7 "	0	P	17	42	7.9					"
			S	17	43	11.0					
			F	17	43	11.9					
170	7 "	0	iP	23	42	29.5		+ 16			"
			S	23	42	34.0					
			F?	23	45	13.7					
171	8 "	II	iP	11	47	19.1		- 5	+ 10	+	"
			S	11	47	18.7					
			MN	11	47	20.7					
			ME	11	47	20.7					
			iPz	11	47	19.5					
172	8 "	0	P?	12	01	8.8					"
			F	12	01	18.8					
173	8 "	0	P	13	21	13.6					"
			F	13	21	43.6					
174	8 "	0	P?	16	36	5.0					"
			F	16	37	36.9					



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No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks	
				G.	M.	T.		AE	AN	AZ		
				h	m	s	s	μ	μ	μ		
175	8 March	0	P	16	36	34.9		+ 60			Ditto,	
			S?	16	36	35.7						
			S	16	36	36.7						
			ME	16	36	37.0						
			F	16	37	48.4						
176	8 "	0	iP	23	30	39.8					"	
			S	23	30	42.5						
			F	23	33	36.2						
177	9 "	0	P	3	50	28.6	2.5	-2700	-2550		N part of Japan Sea.	
			P	3	50	42.1						
			S	3	51	36.6						
			S	3	52	1.6						
			MN?	3	52	18.4						
			ME?	3	52	31.8						
178	9 "	I	iPz	7	19	26.8	1.0	+ 70	+ 10	+ 265	After shock of the north Idu great earthquake.	
			iPH	7	19	28.2						
			Mz	7	19	35.3						
			iSH	7	19	28.7						
			FH	7	21	35.7						
179	9 "	0	e	9	09	22.5				Ditto.		
			F	9	09	49.6						
180	9 "	0	P	13	37	11.1				"		
			S	13	37	12.8						
			F	13	38	0.0						
181	9 "	0	P	17	30	16.8				N part of Japan Sea.		
			S	17	31	38.5						
			F	17	38	0.0						
182	9 "	0	P	17	57	39.0				Ditto.		
			S	17	58	58.3						
			F	18	05	0.0						
183	9 "	0	P	18	41	6.1		+ 2		Upper valley of River Ara.		
			S	18	41	19.0						
			MN	18	41	32.8						
			ME	18	41	25.3						
			F	18	46	0.0						
184	9 "	0	e	20	04	46.4				After shock of the north Idu great earthquake.		
			F	20	06	0.0						
185	9 "	J	P	21	30	49.0		+ 33	+ 28		Ditto.	
			S	21	30	50.7						
			F	21	32	37.5						
186	10 "	0	P	10	16	22.3		+ 2	+ 8		"	
			S	10	16	24.8						
			F	10	18	1.7						
187	10 "	0	P	10	54	31.8		+ 23	+ 11		"	
			S	10	54	33.5						
			F	10	56	1.8						
188	10 "	0	P	12	21	33.2		+ 5			"	
			S	12	21	35.2						
			F	12	22	2.1						
189	10 "	I	P	12	25	19.6		+ 1	+ 2	+ 45	"	
			S	12	25	21.8						
			F	12	28	2.1						
190	10 "	I	P	15	20	32.0		+ 1	- 1	+ 20	"	
			S	15	20	34.1						
			F	15	22	39.1						
191	10 "	0	P	17	20	13.3					"	
			S	17	20	16.4						
			F	17	22	2.8						



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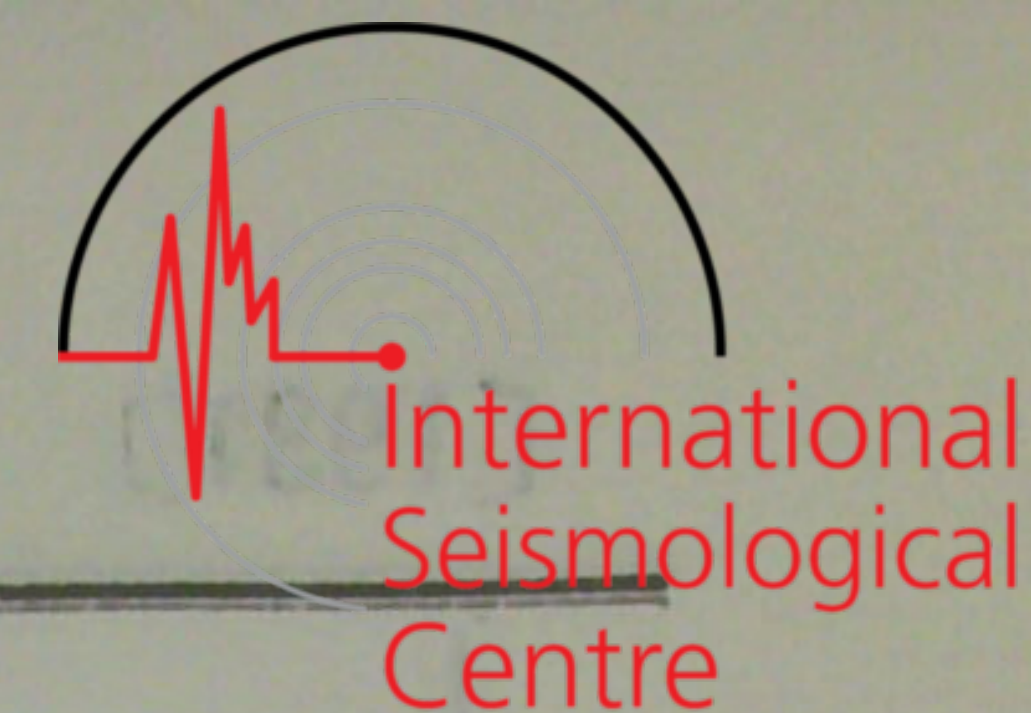
No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				G.	M.	T.		AE	AN	Az	
				h	m	s	s	$\mu$	$\mu$	$\mu$	
192	10 March	0	P S F	17	41	6.3 8.4 4.4		+ 19	+ 11		Ditto.
193	11 "	0	e S F	5	01	32.6 10.7 4.6					E off coast of Miyako.
194	11 "	I	P S F	8	51	11.9 14.5 55.2		- 2 + 40	+ 2 + 60		After shock of the north Idu great earthquake.
195	11 "	0	e S F	12	29	44.5 55.4 6.1					Ditto.
196	11 "	0	e F	19	21	36.2 7.2					"
197	12 "	0	e F	9	09	3.7 28.4					Near Numadu.
198	12 "	I	eP S F	11	54	3.5 5.4 35.6		- 38	+ 76		After shock of the north Idu great earthquake.
199	12 "	0	P S F	16	00	34.2 36.9 9.3					Ditto.
200	13 "	I	P S F	6	06	28.2 30.1 30.1		+ 4 + 45	+ 2 + 38		"
201	13 "	0	P S F	17	28	59.3 0.8 50.5					"
202	14 "	0	iP S F	2	08	8.4 10.3 47.8					"
203	14 "	0	e F	6	17	26.5 8.7					"
204	14 "	0	e F	15	26	57.2 32.0					"
205	15 "	0	e F	1	26	11.8 59.5					"
206	15 "	0	eP eS F	7	38	3.3 5.6 52.3					"
207	15 "	0	e S F	16	35	10.8 29.8 21.4					Off coast of Miyako.
208	17 "	0	P F	20	20	8.0 16.8					
209	17 "	0	P S F	22	31	18.8 19.2 55.9					After shock of the north Idu great earthquake.
210	17 "	0	iP S F	23	13	21.0 21.4 1.0					Ditto.
211	17 "	0	e F	23	20	14.9 37.8					"
212	19 "	0	P S F	3	07	17.5 32.0 37.2					Off coast of Boso peninsula.



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No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				G.	M.	T.		AE	AN	Az	
				h	m	s	s	$\mu$	$\mu$	$\mu$	
213	19 March	0	e F	6	30	11.9		+ 22	+ 20		S off Isigaki Island.
				6	52	37.9					
214	21 "	0	e F	16	13	12.3					After shock of the north Idu great earthquake.
				16	14	30.0					
215	22 "	0	P S F	1	02	47.5			+ 26		Ditto.
				1	02	49.1					
				1	04	32.3					
216	23 "	0	eP S F	8	28	57.7					Middle valley of River Kinu.
				8	29	10.3					
				8	31	32.2					
217	23 "	0	P S F	11	25	1.1					Ditto.
				11	25	14.9					
				11	27	27.6					
218	52 "	0	e F	9	44	35.6					"
				9	46	10.6					
219	26 "	0	e F	18	45	24.3					Mouth of River Tenryu.
				18	47	15.0					
220	26 "	0	e S F	20	25	57.9					Off coast of Boso Peninsula.
				26	26	23.7					
				26	29	42.3					
221	28 "	0	e F	12	45	58.3					Distant earthquake.
				13	10	23.3					
222	29 "	0	e F	17	53	56.8					SW off Kusiro.
				18	10	29.4					
223	1 April	0	iP S MN ME F	14	58	9.1		+ 8	+ 4		After shock of the north Idu great earthquake.
				14	58	11.1					
				14	58	11.1		+113	+ 76		
				14	58	11.1					
				15	00	42.6					
224	2 "	I	iP S MN F	0	34	15.1	0.2	+ 23	+ 9		Ditto.
				0	34	17.0	0.2				
				0	34	17.0			-463		
				0	38	2.9					
225	2 "	0	P S F	0	47	7.8					"
				0	47	9.7					
				0	48	14.8					
226	7 "	I	iPH iPz S MN ME F	19	53	46.0		W ?	N ?		"
				19	53	45.5				- 8	
				19	53	50.2	0.2				
				19	53	48.7	0.2				
				19	53	50.2		+357	-122		
				19	55	51.5					
227	7 "	0	e F	20	00	11.3					"
				20	00	23.3					
228	8 "	0	eP eS F	9	08	54.5					"
				9	08	55.1					
				9	09	54.5					
229	8 "	II	P S MN ME F	9	26	38.1		+ 2	- 2	- 10	"
				9	26	40.1			+132		
				9	26	40.1			-192		
				9	26	40.1		+631			
				9	28	36.2					
230	9 "	0	e F	5	32	44.8					Valley of River Hidaka in Wakayama prefecture.
				5	37	41.0					
231	9 "	0	e F	13	01	58.8					
				13	08	5.9					



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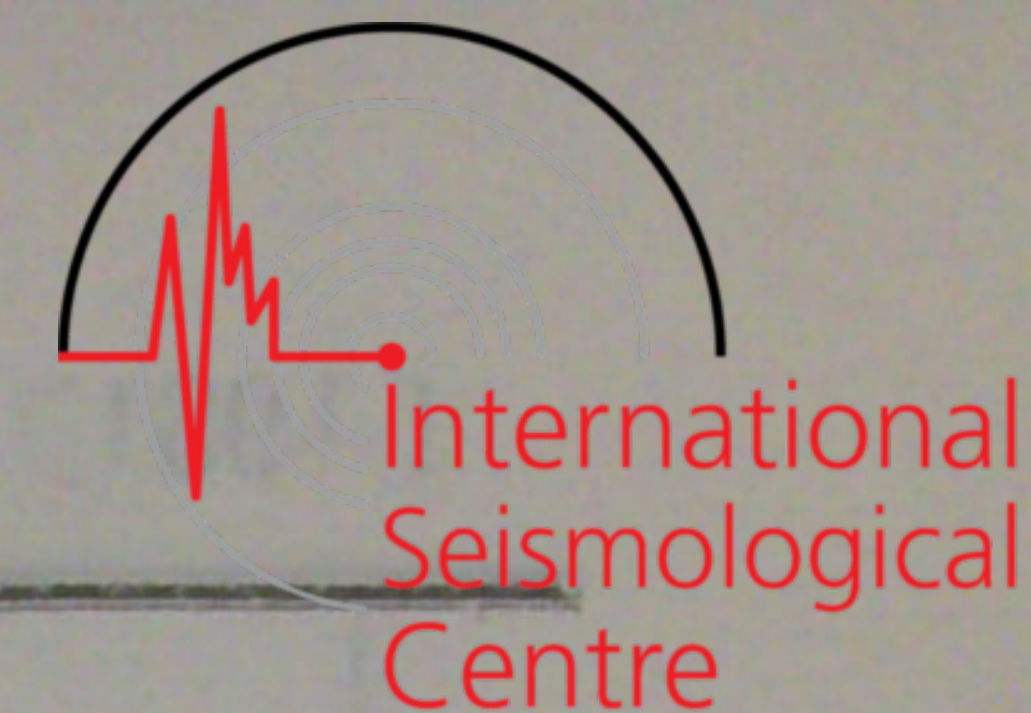
No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>	
				h	m	s	s	μ	μ	μ	
232	9 April	0	e F	17	53	22.7					Near cape Inubo.
				17	56	22.7					
233	10 "	0	P S? F	18	25	56.7					After shock of the north Idu great earthquake.
				18	25	58.8					
				18	29	59.3					
234	11 "	0	P S F	3	13	0.7					Ditto.
				3	13	4.7					
				3	16	2.2					
235	11 "	0	e F	4	09	53.6					"
				4	11	32.4					
236	11 "	0	P S F	16	53	47.1		+ 12	+ 4		"
				16	53	47.5					
				16	53	57.1					
237	14 "	0	eP eS F	5	59	42.8					"
				5	59	43.7					
				6	00	17.2					
238	14 "	0	e F	22	24	50.1					E off Katuura of Boso peninsula.
				22	30	58.2					
239	14 "	I	iP S C F	13	33	15.3		+ 60	- 6 + 90		After shock of the north Idu great earthquake.
				13	33	16.6					
				13	34	24.2					
				12	35	56.2					
240	15 "	0	e F	14	02	46.2					Ditto.
				14	03	55.2					
241	17 "	0	P S F	12	08	6.1					"
				12	08	8.8					
				12	11	15.0					
242	17 "	0	P S F	14	01	36.2					"
				14	01	38.6					
				14	04	15.8					
243	17 "	0	P F	19	16	38.5					"
				19	18	59.1					
244	19 "	0	iP iS F	4	43	43.2		+ 32	+ 50		"
				4	43	45.5					
				4	46	2.9					
245	19 "	0	P S F	7	21	50.8					"
				7	21	53.7					
				7	22	45.3					
246	19 "	0	e F	19	08	12.6					"
				21	09	20.0					
247	20 "	0	e S? F	10	02	26.7					Middle valley of River Kitagami.
				10	03	35.4					
				10	08	19.4					
248	21 "	0	P S M <sub>N</sub> F	0	03	23.8					Middle part of Japan Sea.
				0	04	28.0					
				0	04	32.0	3.1		-200		
				0	13	26.9					
249	22 "	I	iP iS C F	15	41	41.9	0.2		+ 8		After shock of the north Idu great earthquake.
				15	41	43.7	0.4		+250		
				15	42	21.1					
				15	44	14.6					
250	24 "	0	eP eS F	3	34	18.6					Off peak of Sioya.
				3	34	50.2					
				3	41	5.2					
251	25 "	0	e S	17	30	31.1					
				18	04	9.6					



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No.	Date	Intenrity	Phase	Time			Period	Amplitude			Remarks
				G.	M.	T.		AE	AN	AZ	
				h	m	s	s	μ	μ	μ	
252	27 April.	0	e F	17	01	42.8					Distant earthquake.
				17	08	28.1					
253	30 "	0	e S F	9	23	29.2					After shock of the north Idu great earthquake.
				9	23	31.0					
				9	24	48.0					
254	3 May.	0	e F	8	06	14.2					Near Mt. Mikumi between Siga and Hukui prefecture.
				8	11	49.6					
255	4 "	0	e F	14	48	34.6					Middle valley of River Kinu.
				14	53	4.6					
256	9 "	0	P S C F	7	17	23.3					After shock of the north Idu great earthquake.
				7	17	25.4					
				7	17	53.7					
				7	20	19.0					
257	9 "	0	P S F	7	21	34.7					Ditto.
				7	21	37.0					
				7	23	9.0					
258	11 "	0	eP eS F	18	27	25.9					NE off cape of Sioya.
				18	28	20.9					
				18	36	5.9					
259	12 "	0	eP eS F	1	41	55.5					Distant earthquake. Near Tisima Islands.
				1	45	50.9					
				1	50	11.9					
260	13 "	0	e F	23	06	44.1					NE off Okinawa Island.
				23	12	38.8					
261	14 "	0	e? F	23	24	28.2					E off Simokita peninsula.
				23	33	28.2					
262	16 "	0	eP eS F	21	49	10.4					E off Miyako.
				21	50	23.4					
				21	54	35.9					
263	17 "	0	P? S F	5	08	4.3					After shock of the north Idu great earthquake.
				5	08	5.2					
				5	09	4.4					
264	18 "	0	e S F	12	30	42.0					Ditto.
				12	30	42.6					
				12	31	16.1					
265	18 "	0	e F	23	25	57.2					"
				23	26	48.7					
266	21 "	0	e? F	11	30	15.9					SE off Miyako.
				11	34	15.9					
267	21 "	I	P S F	12	18	27.8					After shock of the north Idu great earthquake.
				12	18	29.7					
				12	19	35.8					
268	21 "	0	e F	22	05	36.9					Ditto.
				22	07	18.8					
269	24 "	0	P? S F	1	46	51.6					"
				1	46	53.7					
				1	47	21.1					
270	25 "	0	e? S? F	6	49	48.5					Near Kinkasan.
				6	50	29.9					
				6	57	42.4					
271	25 "	0	eP S F	10	27	45.5					Upper valley of River Sakawa in Kanagawa prefecture.
				10	27	50.9					
				10	31	3.8					
272	26 "	0	P S F	9	12	57.6					E off the mouth of River Uketo in Fukushima prefecture.
				9	13	13.6					
				9	16	35.5					



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No.	Date	Intensity	Phase	Time G. M. T.			Period s	Amplitude			Remarks
								AE $\mu$	AN $\mu$	Az $\mu$	
273	28 May.	0	e F	10 10	12 13	45.9 12.9				Near Numadu.	
274	2 June.	0	iPH	2	38	32.1				Middle valley of River Masuda.	
275	4 "	0	e F	1 1	11 12	53.8 13.6				Near Numadu.	
276	4 "	0	e F	23 23	44 45	6.6 50.7				Middle valley of River Sagami.	
277	6 "	0	e? F	5 5	22 24	12.0 0.0				Near Tennozsan in Kyoto prefecture.	
278	6 "	0	e F	12 12	04 08	44.0 14.0				After shock of the north Idu great earthquake.	
279	6 "	0	e F	14 14	52 53	14.7 14.7				Ditto.	
280	6 "	0	e? F	16 16	45 47	15.3 45.3				Kasimanada.	
281	6 "	0	e S F	16 16 17	59 59 00	29.6 31.4 15.4				After shock of the north Idu great earthquake.	
282	6 "	0	e? F	21 21	05 07	22.3 46.6				Middle valley of River Toyo in Aiti prefecture.	
283	9 "	0	iPz Pz Sz Mz ePN PN SE MN ME Cz CE F	5 5 5 5 5 5 5 5 5 5 5 5	08 08 08 09 08 08 08 09 09 11 12 24	20.9 26.6 49.2 10.8 21.7 27.0 50.0 22.7 31.6 4.2 1.1 2.6	3.0   1.7 2.7   1.2 1.2	W ?    - 100   - 990	+ 10    + 360    - 890	E off mouth of River Kuji in Ibaraki prefecture. Felt in Tokyo. Distinctive earthquake.	
284	10 "	0	e F	8 8	16 17	37.9 18.3				Near Numadu.	
285	11 "	III	iPz SN Mz1 MN1 MN2 MN3 ME1 ME2 CN F	6 6 6 6 6 6 6 6 6 6	16 16 16 16 16 16 17 19 23	22.7 28.3 39.8 30.1 36.2 46.2 34.4 1.6 28.2 28.2	1.3 0.8 0.8 0.8 0.9 0.9	W ?     - 5000 - 4500	+ 333     + 5250 + 5250 + 5500	E foot of Mt. Fuji. Distinct.	
286	11 "	0	e F	7 7	09 10	59.7 49.2					
287	11 "	0	e? F	7 7	28 29	32.7 32.8				Foot of Mt. Fuji.	
288	11 "	0	eP S F	7 7 7	43 43 45	48.2 54.6 43.6				Ditto.	
289	11 "	0	e F	8 8	05 05	0.2 28.8				Near Numadu.	
290	11 "	0	e F	8 8	08 08	24.6 38.6				Ditto.	
291	11 "	0	e F	8 8	56 56	7.2 28.9				Foot of Mt. Fuji.	



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No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				G.	M.	T.		AE	AN	Az	
292	13 June.	I	iP	10	24	16.3	0.2	+ 34	+ 30		Near Mikumi pass between Sagami and Kai province.
			iS	10	24	22.0					
			MN	10	24	22.8					
			ME	10	24	22.9					
			?	10	24	33.1					
			F	10	24	25.6	0.2	- 64			
293	13 "	0	e	20	48	34.8					
			F	21	01	50.4					
294	13 "	0	e	22	44	57.2					NE off cape of Inubo.
			F	22	50	6.4					
295	14 "	0	P	23	32	39.1					Near lake of Yamanaka.
			S	23	32	45.0					
			F	23	34	9.6					
296	15 "	0	P	1	12	15.1					Near Mt. Tanzawa.
			S	1	12	21.0					
			F	1	13	22.0					
297	18 "	0	P	16	33	41.8					
			S	16	34	14.3					
			F	16	39	14.3					
298	17 "	I	P	3	26	36.2					After shock of the north Idu great earthquake.
			S	3	26	38.2	- 28	- 36			
			F	3	29	1.8					
299	17 "	0	e	4	12	43.5					NE off cape of Sioya.
			F	4	14	32.0					
300	17 "	III	iP	12	09	55.0	+ 104	+ 212	- 346		Middle valley of River Sagami. Distinctive.
			S	12	10	2.9					
			MN	12	10	16.7		+4230			
			MN	12	10	23.5	1.8	+4230			
			ME	12	10	29.5	1.8				
			Mz	12	10	20.5	2.5	+4730		+3950	
			C	12	13	22.0	4.1				
			F	12	19	45.0					
301	17 "	0	e	12	26	38.8					After shock of No.300.
			F	12	27	35.0					
302	17 "	0	e	12	51	15.4					Ditto.
			F	12	52	5.0					
303	17 "	0	e	13	53	16.3					"
			S	13	53	23.1					
			F	13	55	7.0					
304	17 "	0	e	14	59	40.0					"
			F	15	01	8.0					
305	23 "	0	?	6	15	16.7	2.8	± 1			E off Kasimanada.
			P	6	15	39.2	1.9	- ?	- 10	+ 10	
			P	6	15	50.7					
			S	6	15	54.8					
			Sz	6	15	17.7					
			ME	6	15	44.2	1.9	+ 110			
			MN1	6	16	4.2	1.9		+ 320		
			ME2	6	16	29.0	1.1	+ 160			
			MN2	6	16	21.4	1.1		+ 116		
			C	6	20	45.2					
			F	6	46	8.2					
			Mz	6	17	16.2	2.0			+ 580	
306	23 "	0	P	20	54	29.8					After shock of the north Idu great earthquake.
			S	20	54	32.4					
			F	20	56	58.2					
307	24 "	0	e	17	06	1.0					Near Numadu.
			F	17	09	0.5					
308	24 "	0	e	19	14	0.3					Middle valley of River Sagami.
			S?	19	14	5.3					
			F	19	16	14.4					



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No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks	
				G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
				h	m	s	s	μ	μ	μ		
309	25	0	e F	19	58	30.1					Near Numadu.	
				20	03	34.0						
310	28	0	P S? F	9	10	13.8					After shock of the north Idu great earthquake.	
				9	10	19.3						
				9	12	10.0						
311	29	0	e F	6	21	20.0					S off Kinkwazan.	
				6	26	30.0						
312	29	0	eP S? M <sub>N</sub> M <sub>E</sub> F	16	09	56.8					Upper valley of River Naka, Tiba prefecture.	
				16	10	11.4						
				16	10	39.3						
				16	10	30.0						
				16	21	0.0						
313	29	0	P P iS M <sub>N</sub> M <sub>E</sub> F	16	45	0.4	0.4	- 42	- 6	- 6	Kumano Nada. Distinct.	
				16	45	31.5	1.9					
				16	45	57.1						
				16	46	35.6	2.4		+ 460			
				16	45	59.1	2.4	+ 430				
				17	00	0.0						
314	30	0	P S F	14	19	23.0					Near Hatijo Island.	
				14	19	44.0						
				14	23	17.0						
315	30	0	P S F	22	54	12.7					W part of Sagami Bay.	
				22	54	17.7						
				22	56	58.0						
316	1 July.	0	P S? F	0	11	24.3					Cape of Siofuki. Idu peninsula.	
				0	11	44.9						
				0	14	59.3						
317	1	0	e S F	22	47	11.9					S off Idu Osima Island.	
				22	47	26.9						
				22	50	0.0						
318	1	0	e F	23	58	40.5						
				0	00	20.0						
319	2	0	e S F	3	41	25.1					Near Ogasawara Islands.	
				3	43	37.6						
				4	01	0.0						
320	3	0	e S F	11	54	1.1					Near Mikuni pass between Sagami and Kai province.	
				11	54	7.2						
				11	56	30.0						
321	4	0	e S F	16	03	19.0					Near Miyadu.	
				16	04	5.7						
				16	08	50.0						
322	6	0	e F	11	47	55.5					S off cape of Inubo.	
				11	53	31.0						
323	7	0	eP iS M <sub>N</sub> M <sub>E</sub> C F	20	46	31.3					Valley of River Iruma in Saitama prefecture.	
				20	46	42.4						
				20	47	18.4	1.0		± 74			
				20	47	7.9	1.0	± 90				
				20	38	34.5						
				20	51	9.5						
324	8	0	e F	11	12	26.4					Middle valley of River Tone.	
				11	14	13.8						
325	9	0	e F	11	17	52.8						
				11	20	51.8						
326		0	eP? S F	17	43	55.2						
				17	43	56.7						
				17	44	24.1						



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No.	Date	Intensity	Phase	Time G. M. T.			Period	Amplitude			Remarks
								AE	AN	Az	
327	9 July.	0	e F	h 18	m 00	s 56.0				After shock of the north Idu great earthquake.	
				18	01	54.2					
328	10 "	0	eP eS MN2 MN3 MN4 MN5 ME2 ME3 ME4 ME5 ME6 AN1 AE1 C F	13	10	52.7	1.8	+ 3	+ 6	- 8	Off coast of Kujukuri.
				13	11	17.2	1.8				
				13	11	17.2	1.8		- 223		
				13	11	43.3	1.8		+ 269		
				13	12	4.2	2.0		- 347		
				13	12	13.7	2.0		± 230		
				13	11	17.1	2.0	+ 108			
				13	11	23.0	2.2	+ 215			
				13	11	38.3	2.0	+ 261			
				13	11	45.7	2.0	- 300			
				13	12	29.2	2.0	- 247			
				13	11	5.3			+ 115		
				13	11	5.3		- 102			
				13	12	53.1					
				13	22	30.0					
329	15 "	0	e F	12	01	34.1					SE off cape of Sioya.
				12	05	10.0					
330	15 "	0	e F	16	32	15.3					Distant earthquake.
				16	52	20.0					
331	15 "	0	e F	18	20	3.2					After shock of the north Idu great earthquake.
				18	20	50.0					
332	15 "	0	e S ME F	20	50	53.6					Ditto.
				20	50	55.1					
				20	50	55.6		- 17			
				20	52	20.0					
333	18 "	0	eP eS ME F	10	51	27.1					"
				10	51	29.8					
				10	51	30.4		- 15			
				10	53	40.0					
334	18 "	0	e F	11	09	54.1					Kasima Nada.
				11	12	40.0					
385	18 "	0	e F	11	29	8.4					Distant earthquake.
				11	42	40.0					
336	19 "	0	e? S? ME F	7	44	59.2					Ditto
				7	46	8.5					
				7	46	49.9	1.9	± 615			
				9	53	50.0					
337	19 "	0	e? S? MN ME F	12	24	3.7					Middle valley of River Natui in Fukusima prefecture. Distinctive.
				12	24	40.6					
				12	25	0.9	1.9		± 38		
				12	24	58.9	1.9	± 44			
				12	31	19.1					
338	28 "	0	e? S F	0	29	37.2					SE off Boso peninsula.
				0	30	5.7					
				0	35	45.9					
339	22 "	0	eP eS FE F	6	06	44.7					Kasima Nada.
				6	07	13.7					
				6	07	32.3	2.0	± 31			
				6	13	10.0					
340	23 "	0	e S? F	15	28	36.2					
				15	34	42.1					
				15	44	40.0					
341	26 "	0	eP AE1 iS ME2 MN2 C F	1	41	29.2	0.2	+ 8	+ 9		Lower valley of River Kogai.
				1	41	36.5	0.2	± 12			
				1	41	44.1		+ 73	- 12		
				1	42	7.0	1.6	- 147			
				1	41	54.3	1.6		- 102		
				1	43	10.0					
				1	47	40.0					



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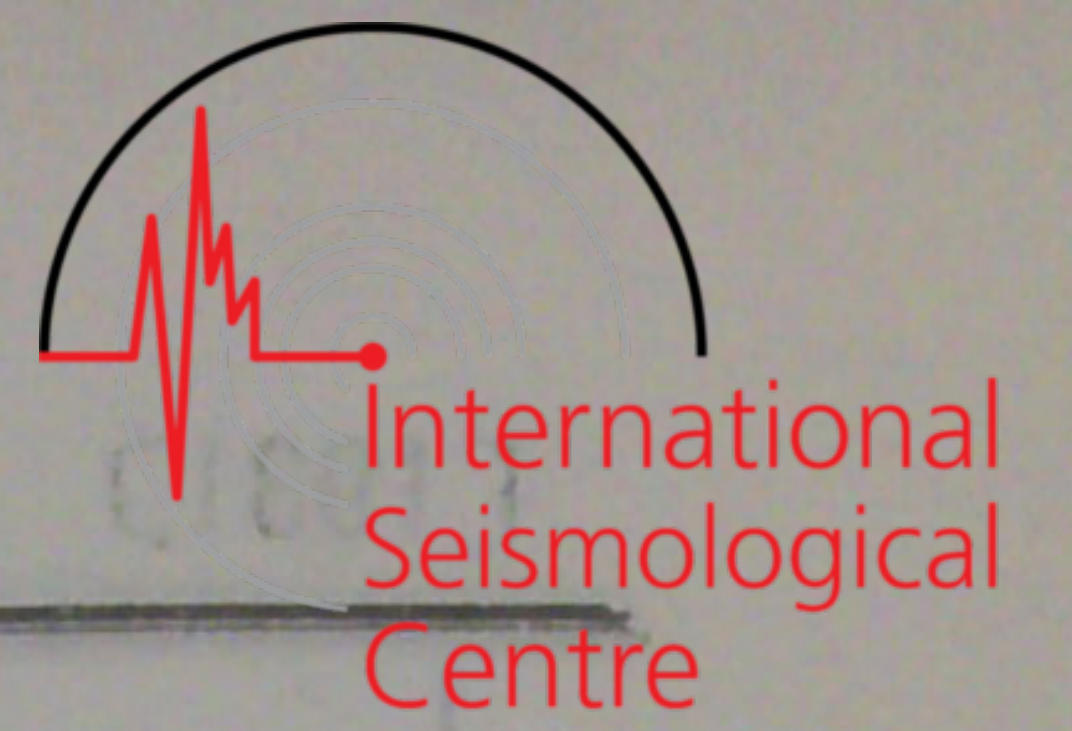
[1931]

No.	Date	Intensity	Phase	Time G. M. T.			Period s	Amplitude			Remarks
								AE $\mu$	AN $\mu$	Az $\mu$	
342	28 "	0	eP eS MN ME F	1 45 1 46 1 47 1 47 1 53	53.0 8.4 41.0 41.2 20.0	1.9 1.9	$\pm$ 77	$\pm$ 89			
343	28 "	0	e s F	21 48 21 48 21 50	24.5 30.2 1.0					After shock of the north Idu great earthquake.	
344	2 August	0	e F	20 14 20 22	37.6 0.0					Far SE off Ogasawara Island.	
345	2 "	0	e s F	22 06 22 07 22 12	45.9 18.5 0.0					Off Kasima Nada.	
346	5 "	0	e F	7 27 7 43	55.4 10.0					Tisima Islands.	
347	7 "	0	e L? F	2 20 2 32 2 57	59.3 28.0 50.0					Distant earthquake.	
348	8 "		e S F	17 01 17 02 17 09	50.9 51.5 0.0					SW off Noto peninsula.	
349	10 "	I	eP P eS ME1 ME2 MN F	14 34 14 34 14 34 14 34 14 35 14 35 14 46	12.4 35.7 20.1 34.1 10.4 1.9 3.0	1.5 1.5 1.5	+ 875 + 830	+1380		Middle valley of River Ooi.	
350	10 "	0	eP S L MN ME1 ME2 C F	21 26 21 32 21 36 21 52 21 41 21 43 21 59 23 06	4.6 15.4 20.8 36.8 4.8 47.3 20.8 10.0	3.5 5.2 5.2 5.2	+ 450 - 466	- 532		Distant earthquake.	
351	13 "	0	e F	14 43 14 47	9.5 0.0						
352	14 "	0	e S F	23 23 23 23 23 28	13.0 26.0 40.0					Central Part of Boso peninsula.	
353	15 "	0	eP eS F	12 46 12 47 12 53	6.0 11.9 10.0					Near Ogasawara Islands.	
354	16 "	0	e F	10 26 10 36	41.1 50.0						
355	16 "	1	iP S MN1 ME1 MN2 ME2 C F	13 23 13 23 13 23 13 23 13 23 13 23 13 23 13 26	18.9 20.5 19.9 19.1 20.5 20.5 49.8 30.0	0.2 0.2 0.8 0.8	+ 9 - 12 - 42	+ 4 - 12 + 51	+ 15	Off cape of Oosezaki, Idu peninsula.	
356	17 "	0	e F	15 18 15 23	10.9 20.0					S off Kinkwazan.	
357	17 "	0	e F	17 51 17 58	33.0 20.0					NE off Okinawa Island.	



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No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				g.	m.	s.		AE	AN	AZ	
				h	m	s	s	μ	μ	μ	
358	18 August	0	e F	4	34	27.1					
				4	36	40.0					
359	18 "	0	P P S AE1 AN1 MN2 ME2 C F	5	40	52.8					Far off Kasima Nada.
				5	41	5.6	1.0	- 2	- 3	+ 4	
				5	42	26.1					
				5	41	10.6	1.0		- 66		
				5	41	9.6	1.2	± 54			
				5	41	56.1	2.4		- 393		
				5	42	8.1	2.0	- 396			
				5	44	34.6					
				5	58	20.0					
360	18 "	0	e F	9	34	38.8					S off Hatijo Island.
				9	40	30.0					
361	18 "	0	e eS? ME F	14	28	27.4					Distant earthquake.
				14	41	58.4					
				14	43	00.0	11.4	± 125			
				14	58	30.0					
362	19 "	0	eP iS ME F	3	38	33.2					Foot of Mt. Fuji.
				3	38	39.2					
				3	38	40.1	0.4	± 6			
				3	40	0.0					
363	19 "	0	e? F	18	21	54.1					Explosion of Asama volcano.
				18	25	10.0					
364	20 "	0	e F	0	07	55.3					S far off Titisima.
				0	13	40.0					
265	20 "	0	e eS F	8	51	1.6					E foot of Mt. Hira in Siga prefecture.
				8	52	39.3					
				8	55	40.0					
366	21 "	0	e? MN F	8	11	57.9					NE part of Japan sea.
				8	12	3.8			± 4		
				8	15	40.0					
367	25 "	0	e S F	21	40	37.8					Near Numadu.
				21	40	53.3			- 1		
				21	46	10.0					
368	27 "	0	eP eS eL F	15	37	11.4					Distant earthquake.
				15	45	37.6					
				15	58	39.2					
				16	36	20.0					
369	31 "	0	eP AN iS M C F	3	51	41.6					Near Idu Miyake Island.
				3	51	51.9	1.0		± 4		
				3	52	1.0	0.8				
				3	52	1.0	0.8	+ 66	- 22		
				3	53	12.6					
				3	57	40.0					
370	1 Sep.	0	e F	5	23	22.9					Kasima Nada.
				5	26	20.0					
371	1 "	0	e eS MN C F	5	31	3.8					N part of Kujukuri Hama.
				5	31	26.5					
				5	31	30.0	2.1		- 32		
				5	32	59.4					
				5	36	50.0					
372	1 "	0	e F	6	00	41.2					Middle valley of the River Kinu.
				6	03	0.0					
373	1 "	0	e S F	13	38	28.2					NE off mouth of the River Kuji in Iwate prefecture.
				13	39	52.6					
				13	44	20.0					
374	1 "	0	e F	15	05	52.2					Distant earthquake.
				15	12	50.0					



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No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks	
				c.	m.	T.		AE	AN	Az		
				h	m	s	s	μ	μ	μ		
375	5 Sep.	0	e?	4	14	36.4						ENE off cape of Inubo.
			F	4	21	20.0						
376	6 "	0	e	17	14	0.0	2.0		±	9		Near Numadu.
			S?	17	14	18.4						
			S	17	14	42.9						
			M <sub>N</sub>	17	14	43.9						
			C	17	15	34.6						
			F	17	17	50.0						
377	6 "	0	eP	20	35	5.6	0.4		-	12		Lower valley of River Edo.
			eS	20	35	21.0						
			AN1	20	35	16.7						
			AE1	20	35	7.0						
			ME2	20	35	22.1						
			MN2	20	35	43.1						
			C	20	36	29.6						
			F	20	41	20.0						
378	8 "	0	ePN	19	09	37.0	1.4		-	47		Kasima Nada.
			ePz	19	09	36.9						
			P <sub>N</sub>	19	09	47.6						
			AN1	19	09	51.6						
			AE1	19	09	49.6						
			eS	19	10	14.0						
			MN2	19	10	32.0						
			ME2	19	10	25.7						
			MN3	19	11	6.6						
			ME3	19	11	13.4						
			C	19	13	24.0						
			F	19	24	3.0						
379	9 "	0	e	20	42	13.4	2.5		+	7		Near Mt. Tukuba.
			S	20	43	3.6						
			MN1	20	43	14.6						
			ME1	20	43	34.9						
			S?	20	45	15.4						
			MN2	20	45	28.9						
			ME2	20	45	7.9						
			C	20	46	54.9						
F	20	58	40.0									
380	9 "	0	iP	21	58	52.0	0.4		-	13		After shock of the north Idu great earthquake.
			iS	21	58	56.6						
			ME	21	58	57.0						
			MN	21	58	57.0						
			F	22	01	0.0						
381	10 "	0	e	22	04	56.2						Off cape of Inubo.
			F	22	07	50.0						
382	11 "	0	e	1	23	8.7						SE off cape of Sioya.
			F	1	29	0.0						
383	11 "	0	e	3	21	4.2						Kasima Nada.
			F	3	24	8.1						
384	16 "	VI	iP	12	43	15.4	2.8		-	270		Upper valley of River Katura.
			S	12	43	20.9						
			MN1	12	43	22.9						
			MN2	12	43	39.1						
			ME1	12	43	33.9						
			ME2	12	43	51.7						
			Mz1	12	43	32.4						
			C	12	47	45.4						
F	12	51	0.0									
385	16 "	0	e?	13	34	28.8						After shock of No. 384.
			F	13	36	0.0						
386	16 "	0	e?	14	15	49.0						Ditto.
			F	14	17	0.0						
387	16 "	I	iPz	14	31	23.3						"
			S	14	31	27.4						
			F	14	34	0.0						



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No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks		
				G.	M.	T.		AE	AN	Az			
				h	m	s	s	$\mu$	$\mu$	$\mu$			
388	16 Sep.	0	iPz	15	21	35.3				+ 1	Ditto.		
			S	15	21	43.3							
			F	15	23	0.0							
389	16 "	0	e?	19	14	0.3							
			F	19	17	0.0							
390	16 "	0	eP	20	57	47.0					"		
			S	20	57	53.5							
			F	20	59	0.0							
391	16 "	0	eP	22	38	30.1					"		
			eS	22	38	36.3							
			F	22	40	0.0							
392	18 "	0	eP	5	37	4.9					Upper valley of River Katura.		
			eS	5	37	16.9							
			F	5	39	0.0							
393	18 "	I	iPz	6	13	39.4		- 31	- 15	+ 212	Valley of River Sendai.		
			iPN	6	13	40.4							
			iSz	6	13	45.3							
			iS	6	13	46.3							
			MN1	6	13	42.4						0.4	+ 199
			ME1	6	13	43.0						0.4	+ 171
			MN2	6	14	7.4						2.0	+ 770
			Mz	6	14	2.9						0.6	+1000
			F	6	15	35.3							
F	6	25	10.0										
394	18 "	0	eP	10	12	38.0					Ditto.		
			eS	10	12	44.8							
			F	10	13	52.0							
395	19 "	I	eP	12	34	1.7					Upper valley of River Sagami.		
			eS	12	34	7.6							
			MN	12	35	8.6							
			ME	12	35	8.6							
			F	12	35	20.0						- 30	- 30
396	19 "	0	P	15	19	32.9					After shock of the north Idu great earthquake.		
			S	15	19	36.8							
			F	15	20	30.0							
397	20 "	0	e	15	14	52.2					NE off mouth of River Uketo in Fukushima prefecture.		
			S?	15	15	21.2							
			F	15	17	0.0							
398	21 "	III	ePE	2	20	11.8		+ 6	?	?	Near Kumagaya, attacked the NW part of Kanto district, and damaged many houses in Fukaya, Kawagoe, and Kumagaya.		
			eSE	2	20	24.6							
			AE	2	20	15.8						2.0	
			ME	2	20	43.8						2.5	+12000
			MN	2	20	37.8						2.5	-6290
			Mz	2	21	22.1						2.8	+2800
			C	2	22	27.3							
			F	2	30	10.0							
399	21 "	0	e?	3	03	23.4					After shock of No.398.		
			F	3	06	20.0							
400	21 "	0	eP	3	11	40.0					Ditto.		
			eS	3	?								
			MN	3	11	34.4							
			F	3	14	20.0						- 10	
401	21 "	0	e	3	25	26.9					"		
			S	?									
			ME	3	25	57.5						$\pm$ 18	
F	3	29	0.0										
402	21 "	0	e?	3	37	25.6					"		
			F	3	40	50.0							
403	21 "	0	eP	3	55	17.3					"		
			eS	3	55	27.8							
			F	3	58	20.0							



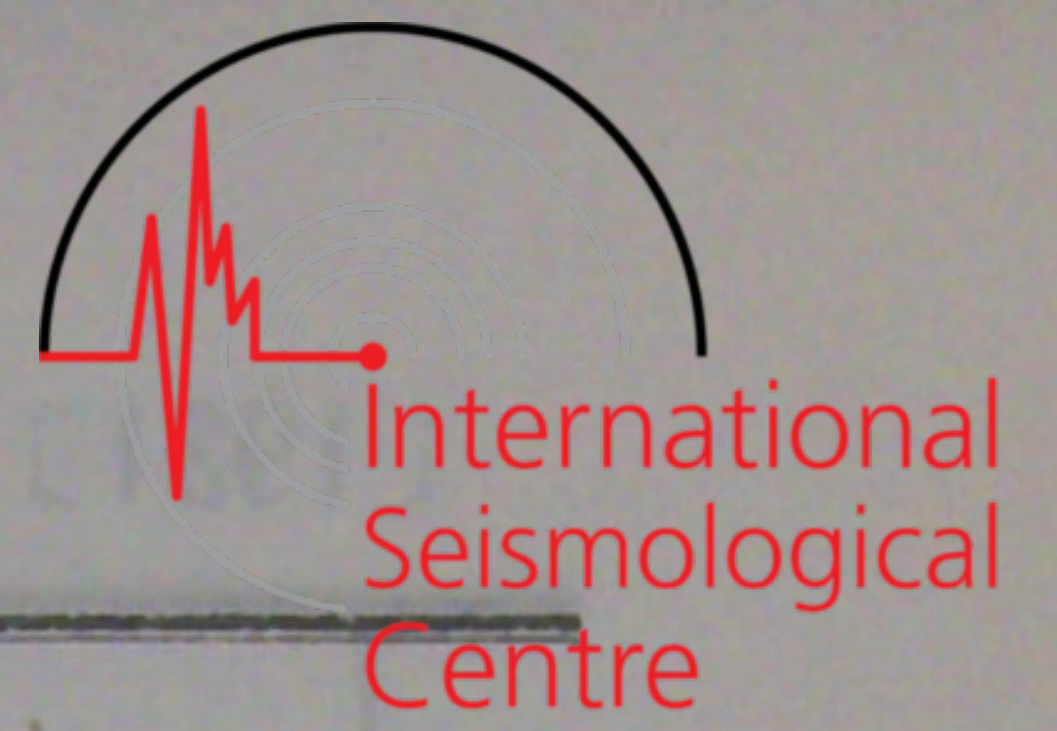
[1931]

No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>	
				h.	m.	s.	s	μ	μ	μ	
404	21	〃	0	e	5	24	59.0				Ditto.
				F	5	27	20.0				
405	21	〃	0	eP	6	21	47.0				〃
				eS	6	21	59.9				
				F	6	26	20.0				
406	21	〃	0	P̄	6	59	22.4				〃
				iP̄	6	59	28.6				
				S	6	59	35.6				
				M <sub>E</sub>	6	59	53.6	0.8	- 250		
				F	6	05	20.0				
407	21	〃	0	e	7	00	58.6				〃
				F	7	02	0.0				
408	21	〃	0	eP	7	07	42.6				〃
				eS?	7	08	2.3		± 63		
				F	7	12	20.0				
409	21	〃	0	e	9	03	6.9				〃
				F	9	04	50.0				
410	21	〃	0	eN	9	29	24.2				〃
				iS	9	29	38.2				
				F	9	32	20.0				
411	21	〃	0	eP	9	33	13.3				〃
				eS	9	33	27.0				
				F	9	34	50.0				
412	21	〃	0	e	9	47	38.8				〃
				S <sub>E</sub>	9	47	52.8	+ 23			
				F	9	50	20.0				
413	21	〃	0	e	9	50	44.4				〃
				S	9	50	58.4				
				M <sub>N</sub>	9	51	9.1		± 56		
				F	9	54	20.0				
414	21	〃	0	e	10	24	16.2				〃
				F	10	27	20.0				
415	21	〃	0	e	10	33	24.5				〃
				S	10	43	24.5				
				F	11	10	20.0				
416	21	〃	0	eN	12	23	42.1				〃
				F	12	24	40.0		± 13		
417	21	〃	0	eN	13	28	31.5				〃
				F	13	30	30.0		± 8		
418	21	〃	0	eN	13	31	54.1				〃
				F	13	33	0.0		± 9		
419	21	〃	0	eN	13	46	37.5				〃
				F	13	50	30.0		± 16		
420	21	〃	0	eN	15	29	46.0				〃
				S	15	29	59.0		± 9		
				F	15	30	30.0				
421	21	〃	0	e	15	31	44.2				〃
				F	15	33	0.0		± 4		
422	21	〃	0	e	17	51	43.2				〃
				S	17	51	57.7				
				F	17	52	40.0		± 22		
423	21	〃	0	e	18	07	32.6				〃
				F	18	09	56.8				
424	21	〃	0	e	18	23	36.5				〃
				F	18	26	0.0		± 9		



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No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks		
				G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>			
				h	m	s	s	μ	μ	μ			
425	23 Sep.	0	e S MN F	3	47	51.3	1.0		± 20		SE off Mera of Boso peninsula.		
				3	47	56.7							
				3	48	17.6							
				3	51	36.6							
426	23 "	0	eP eS F	4	18	55.8					Upper valley of River Katura.		
				4	19	3.9							
				4	20	40.0							
427	23 "	0	e F	5	20	27.1					After shock of No.398.		
				5	32	40.0							
428	23 "	0	e F	11	31	53.7					Ditto.		
				11	33	40.0							
429	23 "	0	eP F	12	46	35.7					"		
				12	49	40.0							
430	23 "	0	e F	15	23	3.8					"		
				15	26	11.0							
431	23 "	I	eP iS MN ME C F	16	22	51.4	1.4	+ 49	- 38	- 123	- 114	"	
				16	23	4.6							
				16	23	5.9							
				16	23	7.4							
				16	23	47.0							
				16	27	50.0							
432	24 "	0	e F	4	11	29.8					"		
				4	14	40.0							
433	24 "	0	P S MN F	4	26	34.9	1.0		± 52		Lower valley of River Kogai.		
				4	26	49.9							
				4	27	16.4							
				4	31	10.0							
434	24 "	0	e F	8	23	26.4					Upper valley of River Katura.		
				8	25	16.0							
435	24 "	0	P S MN ME C F	12	11	34.1	1.0	+ 62	- 56		"		
				12	11	48.1							
				12	12	2.5							
				12	12	6.1							
				12	12	33.1							
				12	15	50.0							
436	24 "	0	P S RiS MN ME C F	12	46	35.6	1.0	+ 63			"		
				12	46	48.7							
				12	46	56.2							
				12	46	59.3							
				12	47	6.4							
				12	47	31.5							
				12	51	47.2							
437	24 "	0	e F	20	11	1.1					After shock of the north Idu great earthquake.		
				20	12	50.0							
438	24 "	I	eP eS F	23	47	7.5					Ditto.		
				23	47	8.2							
				23	48	20.3							
439	25 "	0	eP eL F	6	09	2.9					Distant earthquake.		
				6	16	27.7							
				6	01	50.0							
440	25 "	0	eP F	11	08	4.8					"		
				11	14	30.0							
441	25 "	0	e F	13	02	33.7					Far off Kasima Nada.		
				13	05	20.0							
442	25 "	0	e F	15	10	46.7					Near Mt. Sengen.		
				15	13	30.0							
443	25 "	0	eP	18	56	13.5					Ditto.		



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No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks	
				G.	M.	T.		AE	AN	AZ		
				h	m	s	s	μ	μ	μ		
443	25 Sep.	0	S	18	56	26.1	1.2		± 20		Ditto.	
			MN	18	56	43.8						
			F	18	59	0.0						
444	25 "	0	e	21	03	12.2					"	
			F	21	06	0.0						
445	26 "	0	e	3	37	51.2	1.2		± 20		"	
			S	3	38	3.4						
			MN	3	38	25.2						
			F	3	41	0.0						
446	26 "	0	e	8	02	8.9					Near Yokohama.	
			F	8	05	0.0						
447	27 "	0	eP	19	51	0.7	1.9	- 186	- 206		Lower valley of River Kinu.	
			eS	19	51	14.1						
			MN	19	51	36.2						
			ME	19	51	20.8						
			C	19	52	7.6						
			F	19	57	6.0						
448	28 "	0	eP	4	54	34.8	1.0	- 880			Near Mt. Sengen.	
			eS	4	54	45.0						
			PS	4	54	48.8						
			ME	4	54	18.6						
			C	4	56	30.8						
			F	5	05	0.0						
449	28 "	0	e	6	07	4.03					Knjukuri Hama.	
			F	6	09	0.0						
450	29 "	0	e?	5	21	42.3					Distant earthquake.	
			F	5	25	20.0						
451	2 Oct.	III	P	17	37	3.0	2.0	+ 60	- 64		After shock of the west Saidama earthquake.	
			AN	17	37	12.6						
			AE	17	37	11.4						
			S	17	37	15.2						
			MN	17	37	16.9						
			ME	17	37	34.6						
			C	17	38	46.1						
F	17	47	50.0									
452	3 "	0	eP	19	22	19.0	15.4	+11500			Distant earthquake.	
			iP	19	22	51.0						
			S	19	29	50.1						
			L	19	35	46.0						
			ME1	19	39	47.3						
			ME2	19	41	44.8						
			ME3	19	43	37.1						
			ME4	19	44	23.0						
F?	22	12	0.0									
453	3 "	0	eP	22	04	35.4					Ditto.	
			eL	22	22	25.9						
			F	23	12	0.8						
454	3 "	0	eP?	22	55	56.2					"	
			eL	23	09	21.2						
			F	1	02							
455	5 "	0	e	7	16	10.1					SW off Hattio Island.	
			F	7	22							
456	5 "	0	e?	22	40	9.3					Distant earthquake.	
			F	22	52	10.0						
457	9 "	0	e	12	35	26.6					Far SE off Mera.	
			F	12	37	30.						
458	10 "	0	eP	0	28	50.2	2.1				Distant earthquake.	
			eS	0	35	51.5						
			eL	0	41	30.7						



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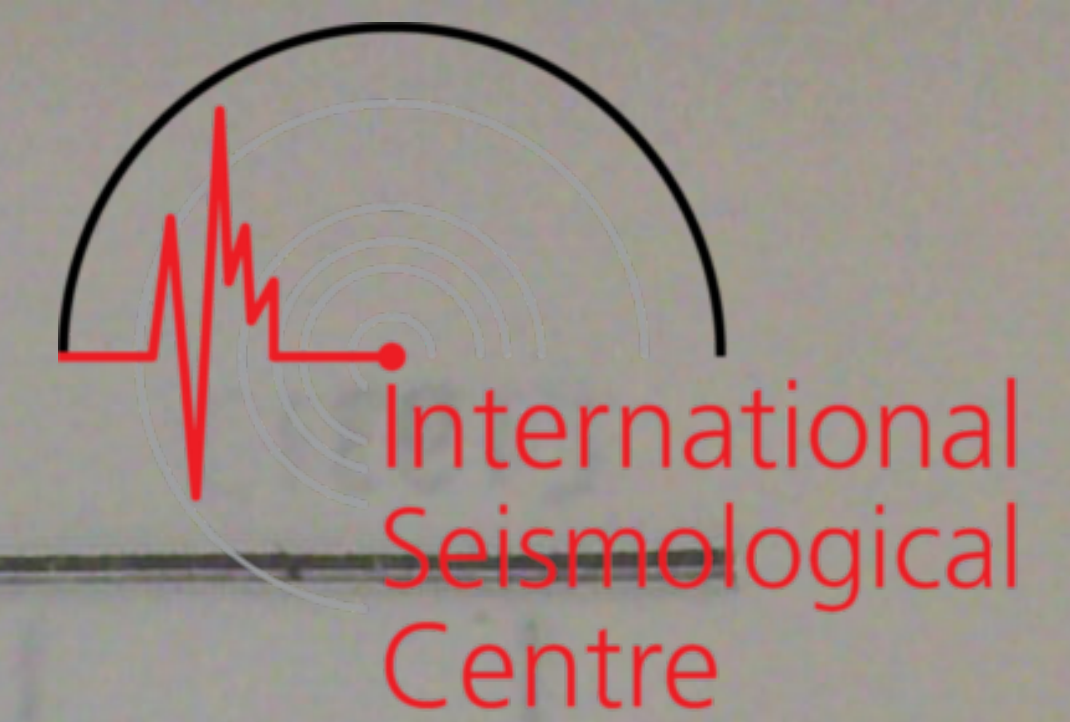
No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				g.	m.	s.		AE	AN	AZ	
458	10 Oct.	0	AN	0	30	28.7	2.1				
			AE	0	31	26.7	2.1	+ 65	± 50		
			MN	0	47	14.0	16.6		± 429		
			ME	0	43	9.3	21.0	± 179			
			C	1	12	35.7					
			F	1	42	40.0					
459	10 "	0	eP	1	17	13.1				Ditto.	
			eL?	1	37	5.9					
			F?	2	12	—					
460	10 "	0	e	1	39	52.7				"	
			F?	2	12	40.0					
461	13 "	0	eP	12	14	5.0				Central part of Tokyo Bay.	
			eS	12	14	12.9					
			F	12	16	50.					
462	16 "	0	e?	6	42	31.3				Far SSE off Mera.	
			eS	6	42	54.1					
			F	6	49	20.0					
463	16 "	0	e	14	42	53.2				Near Numadu.	
			F	14	51	20.0					
464	17 "	0	e	15	36	6.2				SSE off Ogasawara Islands.	
			F	15	43	30.0					
465	21 "	0	P	7	42	54.6	0.1	- 11	+ 2	- 8	Middle valley of River Abe in Siduoka prefecture.
			iPz	7	42	53.8					
			S	7	43	2.1		- 18	+ 18		
			MN	7	43	23.6	2.1		- 30		
			ME	7	43	41.3	1.7	+ 30			
			F	7	47	50.					
466	21 "	0	e	9	10	18.1				E part Part of Sagami Bay.	
			S	9	10	28.5					
			MN	9	10	4.1					
			F	9	12	50.					
467	23 "	0	e	0	14	1.4				Near Misima.	
			F	0	16	0.0					
468	23 "	0	eP	3	16	37.6				After shock of the west Saidama earthquake.	
			eS	3	16	53.2					
			F	3	20	—					
469	23 "	0	e	20	15	36.0					
			F	20	22	10.					
470	23 "	0	eP	23	29	10.4				SW off Hatijo Island.	
			eS	23	29	54.7					
			F	23	35	10.					
471	25 "	0	e	13	46	25.7				Upper valley of River Kokuni in Iwate prefecture.	
			MN	13	48	6.0			± 21		
			F	13	51	20.0					
472	26 "	0	e	17	52	20.0				SW off Hatijo Island.	
			S	17	52	55.5					
			F	17	57	30.					
473	29 "	0	eP	8	43	14.4	3.1	- 1	+ 2		Distant earthquake.
			eS	8	46	21.0					
			MN	8	46	32.3	2.5		- 70		
			ME	8	46	33.3	2.5	- 91			
			C	8	48	47.0					
			F	8	53	50.					
474	29 "	0	eP	18	53	49.5				Kasima Nada.	
			P	18	54	6.3					
			S?	18	54	20.3					
			MN	18	54	49.5	1.6		+ 100		
			ME1	18	54	53.2	1.6	- 113			



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No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks	
				G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
				h	m	s	s	$\mu$	$\mu$	$\mu$		
474	29 Oct.	0	ME2 C F	18	55	18.5	1.6	+ 113				
				18	57	19.5						
				19	02	49.5						
475	30 "	0	e F	8	44	10.3						Distant earthquake.
				8	51	50.						
476	31 "	0	e? F	1	05	1.6						Middle valley of River Kimi.
				1	07	0.0						
477	31 "	0	e? F	5	09	3.6						SW off Hatijo Island.
				5	15	0.0						
478	31 "	0	e? F	10	11	20.6						Distant earthquake.
				10	23	0.6						
479	31 "	0	eP eS MN F	14	17	4.5	2.0	- 18	+ ?	? 16		N off Idu Miyake Island.
				14	17	12.8						
				14	17	24.1						
				14	22	1.6						
480	31 "	0	e F	17	29	29.5						Near Inba Numa.
				17	32	4.0						
481	1 Nov.	0	e F	1	05	46.2						NE off Hatijo Island.
				1	09	-						
482	1 "	0	e eS F	18	54	53.3						Hiuga Nada.
				18	56	41.9						
				19	35	10.						
483	1 "	0	e F	23	18	42.9						After shock of the west Saidama earthquake.
				23	19	40.						
484	2 "	0	e? F	8	41	13.6						NNW off Ogasawara Islands.
				8	47	10.						
485	2 "	0	e eP P PS? S MN ME C F	10	04	34.5	0.4					Hiuga Nada.
				10	04	40.9	1.6					
				10	04	56.3						
				10	05	38.7						
				10	06	5.1						
				10	07	39.0	2.1			- 343		
				10	08	10.8	2.1	+ 410				
				10	12	24.3						
				10	45	10.						
486	2 "	0	e? S MN ME C F	11	02	14.6						Ditto.
				11	04	9.6						
				11	05	0.6						
				11	05	24.6						
				11	07	34.6						
				11	25	10.						
487	2 "	0	e F	11	27	35.0						"
				11	32	0.0						
488	2 "	0	e? F	11	35	52.7						"
				11	41	10.						
489	2 "	0	e? S F	11	48	54.2						"
				11	51	2.4						
				12	00	10.						
490	2 "	0	e F	17	10	53.6						Distant earthquake.
				17	22	10.						
491	2 "	0	eP eS MN ME C F	19	55	59.1		+ 2	- 4			NNE off Hatijo Island.
				19	56	23.6						
				19	56	23.6	2.0			+ 165		
				19	56	26.8	1.0	- 300		- 174		
				19	58	24.6						
				20	05	20.						





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No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks	
				g.	m.	s.		AE	AN	Az		
				h	m	s	s	μ	μ	μ		
492	3 Nov.	0	e F	2	40	22.1					Distant earthquake.	
				2	48	20.						
493	3 "	0	eP eS ME1 ME2 MN1 MN2 C F	16	21	14.8					Valley of River Kokuni in Iwate prefecture.	
				16	22	9.4						
				16	22	36.5	2.6	+ 168				
				16	23	38.4	2.6	- 168				
				16	22	35.6	2.6		- 130			
				16	22	46.2	2.6		+ 136			
				16	25	21.4						
				16	55	20.						
494	4 "	0	e F	17	57	38.6					Ditto.	
				18	06	30.						
495	5 "	0	e S F	6	25	44.4						
				6	26	26.6						
				6	30	30.						
496	5 "	0	e S F	17	17	38.8					Near Idu Miyake Island.	
				17	18	1.3						
				17	21	0.0						
497	12 "	0	eP eS MN ME1 ME2 C F	6	09	7.2					E off Katuura Boso peninsula.	
				6	09	24.7						
				6	09	41.2	1.7		+ 110			
				6	10	15.0	1.7	+ 110				
				6	10	55.8	1.7	- 122				
				6	11	54.3						
				6	18	0.0						
498	13 "	0	e F	12	28	55.1						
				12	34	0.0						
499	13 "	0	e F	16	35	39.5					Upper valley of River Zintu in Toyama prefecture.	
				16	38	30.						
500	13 "	0	e S F	17	55	58.1					Near Lake of Biwa.	
				17	56	32.7						
				18	02	17.6						
501	16 "	0	ePN iPz iSz SE MN ME C F	13	11	41.1					Sagami Bay.	
				13	11	41.0	1.7	- 4		- 2		
				13	10	56.2	1.7			+ 4		
				13	11	55.7				+ 43		
				13	12	12.9	1.7			- 55		
				13	12	19.9	1.7	- 55				
				13	13	17.5						
				13	18	50.						
502	19 "	0	eP eS F	23	57	58.6					After shock of the north Idu great earthquake.	
				23	57	59.9						
				0	0	18.5						
503	20 "	0	e F	4	19	58.8						
				4	26	0.0						
504	20 "	0	eP eS eL F	14	25	31.1					Distant earthquake.	
				14	32	34.5						
				14	39	41.8						
				14	57	—						
505	26 "	0	e S F	13	59	30.8					S part of Kujukuri Hama.	
				13	59	44.4						
				14	04	50.0						
506	2 Dec.	I	e iPz S ME C F	4	00	20.3					Mt. Fuji.	
				4	00	18.9						
				4	00	25.6						
				4	06	32.6	1.1	± 38				
				4	00	38.4						
				4	02	4.8						
507	5 "	0	e F	8	09	14.2					Near Mito.	
				8	02	50.						



[1931]

No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				G.	M.	T.		AE	AN	Az	
				h	m	s	s	$\mu$	$\mu$	$\mu$	
508	8 Dec.	0	e	12	17	20.6					NE off mouth of River Mabuti.
			S	12	18	20.0					
			F	12	24	0.0					
509	10 "	0	eP	15	57	19.7					Near Katura, Boso peninsla.
			S?	15	57	31.1					
			S	15	57	33.6					
			F	15	59	55.5					
510	14 "	0	e?	19	23	33.5					Distant earthquake.
			F	19	26	30.0					
511	15 "	0	e?	12	09	49.0					Near Nmuadu.
			eS	12	10	0.6					
			F	12	11	53.0					
512	15 "	I	e?	17	15	34.3					Near Yuki in Ibaragi prefecture.
			S	17	15	47.8					
			S?	17	15	50.7					
			C	17	16	38.3					
			F	17	19	44.3					
513	18 "	0	eP	17	14	17.9	2.1		± 73		Near Narita.
			eS	17	14	31.8					
			MN	17	15	1.3					
			C	17	16	21.0					
			F	17	19	40.					
514	22 "	0	e	3	53	47.8					Kasima Nada.
			F	3	59	6.					
515	22 "	0	e	13	09	44.5	2.0		± 24		Near Ooyano Island.
			eS	13	11	48.7					
			MN	13	12	7.3					
			ME	13	12	33.3					
			C	13	14	39.7					
516	23 "	0	e	12	28	29.8	2.1	± 32			Upper valley of River Yasaku.
			eSE	12	28	48.7					
			F	12	32	20.					
517	26 "	0	e	1	44	43.0	2.9		± 49		Near Ooyano Island.
			eS	1	46	43.0					
			MN	1	47	7.5					
			C	1	49	33.5					
			F	1	53	0.0					
518	26 "	0	e	5	16	10.3	1.8		± 11		Upper valley of River Kinu.
			eS	5	16	23.4					
			ME	5	16	42.6					
			F	6	20	30.					
519	29 "	0	e	15	27	10.5					Near Numadu.
			eS	15	27	12.0					
			F	15	28	50.					

(THE END.)



# THE ITO STATION



## Constants.

Latitude and longitude of the station:

$$\psi = 34^{\circ} 58' \text{ N Lat,}$$

$$\lambda = 139^{\circ} 06' \text{ E from Greenwich.}$$

Time. Time are all referred to the Green wich mean time.

Altitude. 2.2 meters above mean sea level.

Foundation. Alluvium, sand.

## Constants of the seismograph

Apparatus	Component	V	$T_0$	$\xi$	$\frac{\gamma}{T_0^2}$
C. M. O. Type.	N	40	5.9	—	0.013
Portable seismometer.	E	40	4.6	—	0.029

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Number of earthquakes	27	20	20	20	20	20	20	20	20	20	20	20	20
Number of felt earthquakes	0	1	2	3	4	5	6	7	8	9	10	11	12
Slight	1	1	1	1	1	1	1	1	1	1	1	1	1
Moderate	0	0	0	0	0	0	0	0	0	0	0	0	0
Strong	0	0	0	0	0	0	0	0	0	0	0	0	0
Very strong	0	0	0	0	0	0	0	0	0	0	0	0	0



## General state of earthquake.



International  
Seismological  
Centre

At the Ito station, 196 earthquakes were recorded from June to December in this year.

The total number of felt earthquakes was 20.

The most number of earthquakes observed in September.

Which is due to the after shocks of the Mt. Sengen earthquake occurred on 21st. September.

The total number of felt earthquakes occurred from June to December in this year, were as follows:—

Slight earthquake	15
Moderate //	1
Rather strong //	3
Strong //	1

The distinctive earthquakes were as follows:—

1. Eastern foot of the Mt. Fuji earthquake occurred at 6h 16m, on 11st, June. 1931. rather strongly felt.
2. Upper valley of the River Katura earthquake, occurred at 12<sup>h</sup> 43<sup>m</sup>, on 12nd, July rather strongly felt.
3. Near Mt. Sengen earthquake occurred at 2 20<sup>m</sup>, on 21st. September. strongly felt.

Damage was done in the epicentral region.

The monthly number of earthquakes as follows:—

The number of the earthquakes recorded at Ito									
		June	July	Aug	Sept.	Oct.	Nov.	Dec.	Sum.
Number of unfelt Earthquake		27	29	29	40	17	17	17	176
Number of felt Earthquake		6	1	3	7	0	1	2	20
Sum		33	30	32	47	17	18	19	196
Intensity of felt Earthquake	Slight I	4	1	3	4	0	1	2	15
	Moderate II	0	0	0	1	0	0	0	1
	Rather strong III	2	0	0	1	0	0	0	3
	Strong IV	0	0	0	1	0	0	0	1
	Very Strong V	0	0	0	0	0	0	0	0



# Seismological Bulletin

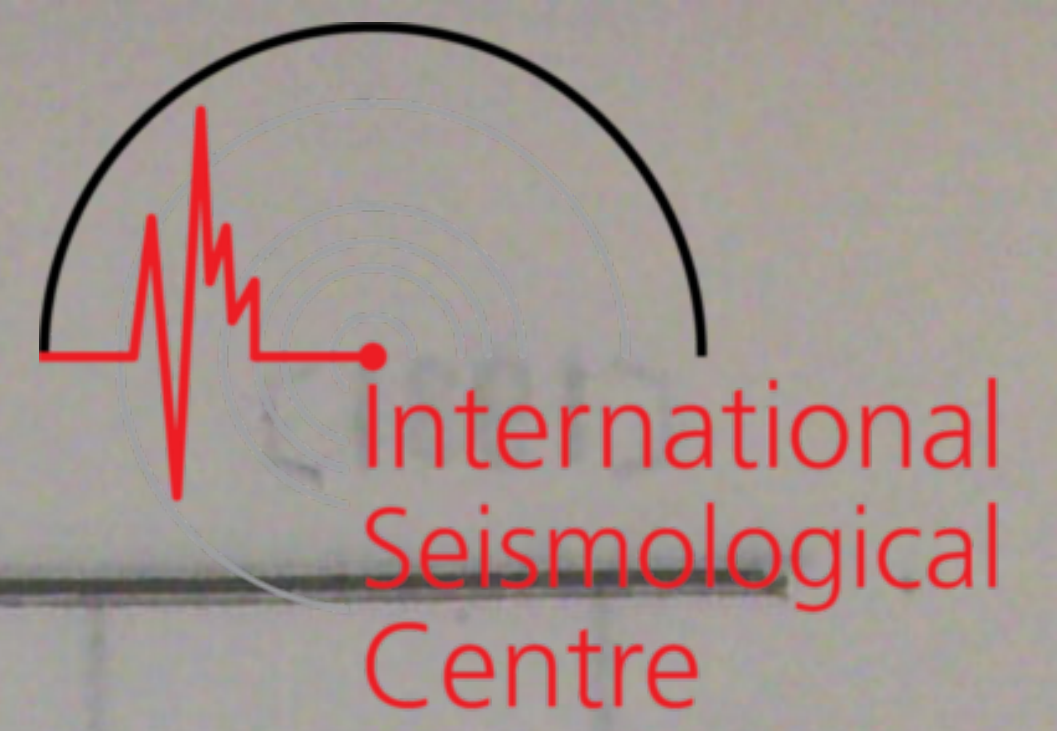
## Ito Japan



[1931]

No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				G.	M.	T.		AE	AN	Az	
				h	m	s	s	μ	μ	μ	
34	1 June	0	P M F	12	01	9.0 47.					
35	1 "	0	P M F	18	53	12.0 37.3		+ 75	+ 75		
36	2 "	0	P S M C F	2	39	14.4 44.4 50.0 42.7 44.4		+ 110 - 446	- 70 - 540		Middle course of River Masuda.
37	2 "	0	P M	15	56	43.2					
38	5 "	0	P M	0	46	?					
39	9 "	0	P M	5	02	14.6					
40	9 "	I	P S M F	5	08 09 09 23	30.7 2.1 25.4 20.	1.6	+ 6 - 320	+ 14 - 380		E off mouth of River Kuji in Ibaragi pref.
42	11 "	II	P S M F	6	16	19.5 27.8 31.1 -		+	+		E foot of Mt. Fuji.
43	11 "	0	M F	7	40	11.3 21.					Ditto.
44	11 "	0	M F	13	51 52	44.3 30.					
45	11 "	0	M F	20	31	21.0 29.3					
46	12 "	0	M F	1	46 47	22.6 20.					
47	13 "	0	M F	10	32	4.1 50.		- 20	- 50		
48	13 "	0	P M F	22	52 53 58	18.8 7.1 30.		+ 50	+ 100		
49	16 "	0	M F	15	34 35	1.2 10.		± 25	± 25		
50	17 "	I	P S M F	3	26	41.0 43.3 44.3 10.		+ 235	- 180		N part of Idu.
51	17 "	II	P S M? F	12	09 10 10 38	58.5 1.8 15.6 20.	3.4	±4550	±4150		Middle course of River Sagami.
52	17 "	0	P M F	12	35	? 27.2 50.					After shock of No.51.
53	17 "	0	P M F	13	53	? 20.0 40.		+ 65	+ 75		Ditto.?
54	17 "	0	M F	14 15	29 0	38.0 0		- 95	± 85		Ditto.?





[1931]

No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks	
				g.	m.	s.		AE	AN	AZ		
				h	m	s	s <sub>J</sub>	μ	μ	μ		
55	23 June	0	P	?								
			M	6	02	6.1						
			F	6	02	4.0						
56	23 "	0	P	?								
			M	6	05	14.2						
			F	9	09	19.1						
57	23 "	0	P	?								
			M	6	13	48.2						
			F	6	15	32.						
58	23 "	0	P	6	15	33.0		- 18	- 18		E off Kasima Nada.	
			S	6	16	9.7						
			M2e	6	16	24.9		+1113				
			M2N	6	16	42.7			-1200			
			C	6	20	42.7						
			F	6	29	0.0						
59	23 "	0	M	13	55	32.0		+ 23	- 30			
			F	13	56	4.3						
60	24 "	0	M	19	14	2.5		+	- 10		Middle course of River Sagami.?	
			F	19	14							
61	26 "	I	M	1	50	41.8		+ 33	- 48			
			F	1	51	-						
62	29 "	I	P	16	09	2.8					Upper course of River Naka in	
			S	16	09	13.6					Tiba pref.	
			M	16	09	21.3	1.5	+ 83	+ 225			
			F	16	12	0.8						
63	29 "	0	P	16	44	13.7	1.6	- 18	- 8		Kumano Nada.	
			S	16	44	57.2						
			ME	16	45	1.1	5.3	- 318	-			
			MN	16	44	57.9	5.3		- 305			
			F	16	51	40.						
64	29 "	0	P	21	48	56.0	5.3					
			M	21	48	59.3		+ 40	+ 55			
			F	21	49	39.						
65	30 "	0	P	14	18	54.1					Near Hatijo Island.	
			S	14	19	6.7						
			M	14	19	9.9		+ 23	+ 35			
			F	14	20	40.0						
66	30 "	0	P	?							W part of Sagami Bay.?	
			M	22	54	9.5		+ 18	- 30			
			F	22	55	11.4						
67	1 July	0	P	?								
			M	0	11	37.5		+ 5	- 20			
			F	0	12	-						
68	1 "	0	P	5	52	28.6		- 63	?		Cape Nichiren.	
			S	5	52	31.8						
			M	5	52	34.9		- 58	- 58			
			F	5	54	10.						
69	1 "	0	P	7	39	34.9						
			S	7	39	39.8						
			M	7	39	42.3		+ 23	+ 13			
			F	7	40	-						
70	1 "	0	P	22	47	20.2					S off Osima Island.	
			S	22	47	24.7						
			M	22	47	31.2		- 33	- 45			
			F	22	48	10.						
71	6 "	0	P	11	48	10.6					S off cape of Inubo.	
			S	11	48	35.3						
			M	11	49	0.3	2.0	- 18	+ 20			
			F	11	50	30.						



[1931]

No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>	
				h	m	s	s	μ	μ	μ	
72	7 July	0	P	20	46	13.0					Course of River Iruma in Saitama pref.
			S	20	46	19.7					
			M	20	46	29.7					
			F	20	48	—					
73	8 "	0	P		?						Middle course of River Tone.?
			M	11	13	1.1					
			F	11	13	30.					
74	10 "	0	P	5	59	26.4					
			S	5	59	42.6					
			M1	5	59	46.5					
			M2	5	59	57.9					
			M3	6	00	12.5					
F	6	03	—								
75	10 "	0	P	13	10	40.3	1.6				Off coast of Kujukuri.
			S	13	11	1.5					
			M	13	11	27.2					
			F	13	17	40.					
76	18 "	0	P		?						
			M	10	59						
F	10	59	46.								
77	18 "	0	P		?						Distant earthquake.
			M	11	29						
F	11	31	50.								
78	19 "	0	P		?						
			L	8	40						
F	8	41	55.								
79	19 "	0	L	8	49	30.9					
			F	8	50	17.0					
80	19 "	0	S?	9	46	30.7					
			F	9	50	39.0					
81	19 "	0	P	12	24	52.5					Middle course of River Natui in Fukushima pref.
			S	12	25	5.8					
			M	12	25	9.2					
			F	12	28	20.					
82	19 "	0	P		?						
			eM	19	49						
F	19	50	50.								
83	19 "	0	P		?						
			eM	23	30						
F	23	31	30.								
84	20 "	0	e	0	31	0.0					SE off Boso peninsula.
			F	0	32	54.					
85	20 "	0	e	1	58	14.0					
			F	1	59	6.					
86	23 "	0	P	12	24	7.2					
			S	12	24	8.8					
			M	12	24	18.8					
			F	12	24	33.0					
87	23 "	0	e	14	28	27.6					
			F	14	30	20.					
88	23 "	0	e	14	34	33.0					
			F	14	38	—					
89	25 "	0	P		?						
			M	22	15						
F	22	15	27.0								
90	26 "	0	P	1	41	40.2					Lower course of River Kogai.
			S	1	41	52.8					

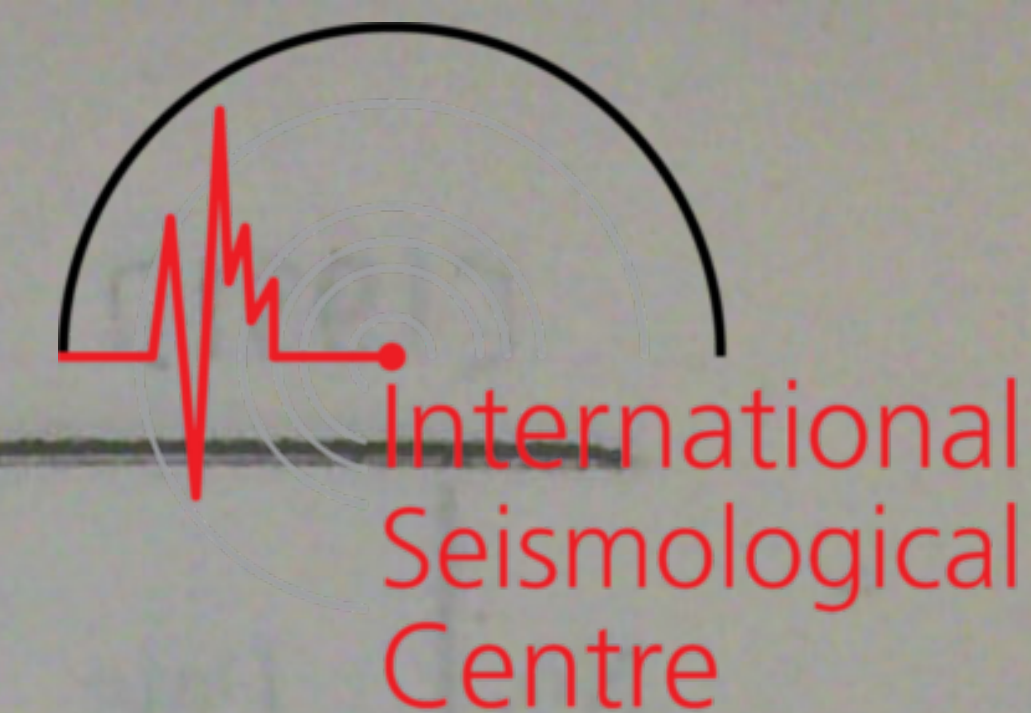




[1931]

No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				G.	M.	T.		AE	AN	Az	
				h	m	s	s	$\mu$	$\mu$	$\mu$	
90	26 July	0	M	1	41	57.6		+ 258	+ 335		
			C	1	43	48.0					
			F	1	46	50.					
91	28 "	I	P	2	05	56.4					
			S	2	06	10.1					
			eM	2	06	12.6					
			F	2	10						
92	28 "	0	e	2	27	59.0					
			F	2	29	10.					
93	28 "	0	P	5	38	29.2		- 38	- 58		
			S	5	38	32.7					
			M	5	38	32.7					
			F	5	39	10.0					
94	29 "	0	e	?							
			M	22	55						47.0
95	30 "	0	F	22	56			- 61	+ 70		
			P	?							
96	30 "	0	eM	3	44	34.7		+ 43	- 30		
			F	3	45	8.0					
			P	?							
97	3 Aug.	0	eP	19	46	10.9		- 10	- 10		
			S	19	46	29.2					
			M	19	46	47.5					
			F	19	50	20.					
98	3 "	0	P	0	06	27.0	1.7	?	+ 15		
			S	0	06	43.7					
			M	0	06	48.7					
			F	0	10	0.0					
99	7 "	0	e	7	41	50.					
			F	7	42	20.					
100	8 "	0	P	11	02	26.0		- 83	+ 25		
			M	11	03	27.7					
101	9 "	0	F	11	05	41.		- 10	- 18		
			P	?							
102	10 "	I	M	1	13	8.0		- 13	- 20		
			P	14	33	48.7					
103	10 "	0	S	14	33	59.4		- 688	+ 663		Middle course of River Ooi.
			M	14	34	0.4					
			F	14	43	25.					
			Pe	21	26	6.5					
104	14 "	0	P <sub>N</sub>	21	26	6.5	3.2	+ 25	- 50		Distant earthquake.
			eS <sub>e</sub>	21	32	17.7					
			eS <sub>N</sub>	21	32	20.9					
			eL	21	37	9.1					
			eM <sub>N</sub>	21	40	56.3					
			F	22	33	50.					
105	15 "	0	P	?			+ 25	- 20			
			eL	21	37						9.1
106	16 "	0	eM <sub>N</sub>	21	40	56.3	11.4	+ 388			
			F	22	33	50.					
107	14 "	0	P	23	23	44.5		- 10	+ 8		Central of Boso peninsula. ?
			eL	23	23	44.5					
			F	23	25	25.					
108	15 "	0	eP	12	46	42.7					Near Ogasawara Islands.
			eS	12	47	48.0					
			eL	12	48	19.1					
			F	12	50						
109	16 "	0	P	?			- 8	- 15			
			eM	11	23						42.0
110	16 "	0	F	11	24						
			P	?							





No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				G.	M.	T.		AE	AN	AZ	
				h	m	s	s	$\mu$	$\mu$	$\mu$	
107	17	0	P eL F	15	18	37.6		+ 8	- 5		S off Kinkwazan. ?
				15	19	47.0					
108	17	0	P S? M F	17	51	39.0		+ 10	- 8		NE off Okinawa Islands.
				17	51	55.2					
				17	52	11.2					
				17	53	30.					
109	17	0	P? S M F	17	54	29.8		+ 10	- 15		
				17	54	46.0					
				17	54	52.5					
				17	55	40.					
110	18	0	P iSE iSN eME iMN C F	5	40	48.8		- 5	+ 8		Far off Kasima Nada.
				5	41	5.3		+ 45	- 25		
				5	41	12.8					
				5	41	36.8	3.0	- 200	- 310		
				5	41	45.2	3.0				
				5	45	43.3	3.0	+ 25			
				5	53						
111	18	0	P L F	?	?	?		?	+ 18		
				23	44	55.9					
				23	46						
112	19	0	e S eM F	3	37	9.6		- 10	+ 18		Foot of Mt. Fuji.
				3	37	42.0					
				3	37	45.3					
				3	38	40.					
113	21	0	e S eM F	8	12	1.0		?	+ 10		NE part of Japan Sea.
				8	12	7.9					
				8	12	13.0					
				8	13						
114	22	0	M	12	17	28.0		- 5	- 13		
115	22	0	e eM F	14	44	38.		- 5	- 6		
				14	44	58.4					
				14	46	30.					
116	23	0	e S F	21	34	40.					
				21	34	56.2					
				21	35	50.					
117	23	0	P M F	?	?	?		?	- 10		
				6	02	22.5					
				6	02	40.					
118	23	0	e	6	09	9.5		- 15	- 15		
119	23	0	e	15	05	29.5		- 10	+ 8		
120	23	0	e F	21	20	2.0					
				21	21	20.					
121	24	0	e	1	01	37.7		- 10	+ 8		
122	24	0	e	8	25	1.3		- 7	+ 20		
123	25	0	e S M F	3	49	9.0		+ 8	- 5		
				3	49	22.3					
				3	49	24.0		+ 35	+ 30		
				3	51	20.					
124	26	0	e eM F	8	09	31.8		- 10	+ 8		
				8	10	14.4					
				8	11	40.					
125	26	I	e S eM F	23	50	59.0		+ 45	- 44		
				23	50	59.8					
				23	51	36.3					
				23	52	20.0					



[1931]

No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				G.	M.	T.		AE	AN	Az	
126	27 Aug.	0	i	15	36	18.3	1.6	$\mu$ ?	$\mu$ 5	$\mu$	Distant earthquake.
			eS	15	44	28.0					
			eL	15	58	28.0					
			eMN1	16	05	42.2		16.7	+ 13		
			eME1 F	16	05 23	35.4 28.		16.7	+ 18		
127	27 "	I	eM	23	27	37.0		+ 28	$\pm$ 38		
			F	23	27	44.0					
128	31 "	0	i	3	41	39.4		- 6	- 6		
			S	3	41	57.2					
			eM	3	42	0.5		- 20	+ 30		
			F	3	43	55.					
129	1 Sept.	0	e	5	30	28.0					N part off Kujukuri Hama
			S	5	30	57.2					
			L	5	31	6.9		+ 25	+ 18		
			F	5	33	30.					
130	1 "	0	e	13	39	34.0					NE off mouth of the River Kuzi in Iwate Pref.
			eL	13	40	9.7					
			F	13	41	20.					
131	5 "	0	e	4	14	35.0					ENE off Cape Inubo.
			eL	4	15	31.0					
			F	4	17	1.0					
132	6 "	I	P	20	35	35.0		+ 38	- 38		Lower course of River Edo.
			S	20	35	47.1					
			eM	20	35	48.0		+ 220	+ 168		
133	7 "	0	P		?						
			eM	17	15	10.5		+ 10	- 13		
			F	17	15	50.0					
134	8 "	0	ePN	19	09	41.0					Kasima Nada
			ePE	19	09	40.7					
			S	19	10	15.3					
			ME1	19	10	45.8		4.0	+ 488		
			MN1	19	10	55.0		4.0		+ 340	
			MN2	19	11	20.		4.0	+ 300		
			ME2	19	11	10.8		4.0		+ 600	
			C F	19	16 25	1.7					
135	9 "	0	iP	20	41	43.0	3.7	+ 13	- 15		Near Mt. Tukuba.
			S	20	42	39.0					
			ME1	20	44	46.5		4.7	- 395		
			ME2	20	45	38.9		4.7	- 100		
			F	20	58	10.					
136	15 "	0	e	4	43	57.8		+ 30	- 15		
137	15 "	0	e	17	54	57.5		+ 63	+ 33		
			F	17	55	20.					
138	16 "	0	e	5	59	19.6		+ 10	+ 18		
139	16 "	0	e	6	00	42.4		+ 18	+ 30		
140	16 "	0	e	12	20	45.0		+ 40	- 10		
141	16 "	0	e	12	22	0.8		+ 10			
142	16 "	0	e	12	25	4.0		+ 18			
143	16 "	III	iP	12	43	20.0		+ 275	- 370		Upper Course of River Katura.
			S	12	43	27.5					
			M F		?			13	09		
144	16 "	0	e	13	34	38.0					After shock of No. 143
			F	13	34	58.0					



[1931]

No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				G.	M.	T.		AE	AN	Az	
				h	m	s	s	$\mu$	$\mu$	$\mu$	
145	16 Sept	I	e F	13	53	31.0		+ 13	- 30		
				13	53	50.					
146	16 "	I	e F	14	30	35.0		+ 88	- 95		After shock of No. 143.
				14	32	10.					
147	16 "	0	e F	20	57	48.3		- 8	- 10		Ditto.
				20	58	25.0					
148	16 "	0	e F	23	38	53.1		+ 44	- 40		
				23	39	40.0					
149	17 "	0	e	3	31	33.0		+ 18	- 18		
150	18 "	II	iP S M F	6	13	42.0		+ 20	- 30		Course of River Sendai.
				6	13	49.5					
				6	13	50.1		+ 900	- 825		
				6	22	20.					
151	19 "	0	i M F	12	37	39.0		- 10	+ 6		Upper course of River Sagami. ?
				12	37	42.2		- 18	+ 23		
				12	38	30.					
152	20 "	0	iP S eM F	15	15	15.8					NE off mouth of River Uketo in Fukushima pref.
				15	15	35.2		+ 10	- 15		
				15	15	40.5					
				15	17	0.0					
153	21 "	III	iP S M F	2	20	22.0	3.2				Near Mt. Sengen.
				2	20	34.3		-2000			
				2	?						
				2	41	50.					
154	21 "	0	e M F	2	36	43.0		- 18	+ 18		
				2	36	49.7		+ 25	+ 50		
				2	37	46.					
155	21 "	0	e M F	2	45	48.0		- 6	- 18		
				2	46	5.2		- 30	- 35		
				2	46	28.0					
156	21 "	0	P iM F	3	10	56.4		+ 25	- 10		After shock of No. 153.
				3	11	7.3					
				3	12	-					
157	21 "	0	i F	3	25	44.0		+ 25	+ 13		Ditto.
				3	26	30.					
158	21 "	0	e F	3	55	46.		- 10			"
				3	56	31.					
159	21 "	0	i S M F	6	21	30.2		+ 5	- 10		"
				6	21	38.3					
				6	21	41.6		- 58	- 28		
				6	22	30.					
160	21 "	0	iP M F	6	48	27.0		- 85	+ 88		
				6	48	45.3					
				6	50	40.					
161	21 "	0	iP S iM F	7	07	38.5		- 5	- 5		"
				7	07	53.9					
				7	08	4.0		+ 38	+ 35		
				7	08	58.					
162	21 "	0	i iM F	9	28	49.7		- 15	+ 10		"
				9	28	53.0		+ 10	- 17		
				9	29	14.					
163	21 "	0	i iM F	9	50	16.4		- 23	- 4		"
				9	50	19.5			+ 15		
				9	51	15.					
164	21 "	0	e F	17	50	2.0		- 23	+ 18		"
				17	50	50.					



[1931]

No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				G.	M.	T.		AE	AN	AZ	
165	23 Sept.	0	e F	h 3	m 48	s 6.0	s	- 5	+ 20		SE off Mera of Boso peninsula.
166	23 "	0	eP iL iM F	12	46	12.0		- 40	- 13 + 60		After shock of No. 153.
167	23 "	0	e F	15	23	25.7					Ditto.
168	23 "	0	i S M F	16	23	4.7 18.0 24.7 30.		- 10 - 65			"
169	24 "	0	e F	4	14	43.5		- 13	- 20		"
170	24 "	0	e S? M F	4	28	31.0 46.0 47.7 40.		+ 73	+ 80		Lower course of River Kogai.
171	24 "	0	eP M F	12	11	48.5		- 58	+ 45		
172	26 "	0	e S M F	8	02	12.0 19.3 20. 40.		- 28	+ 40		Near Yokohama.
173	27 "	0	iP s iM F	19	50	50.0	1.9	+ 238	- 100		Lower course of River Kinn.
174	28 "	I	iP iS M F	4	55	0.0 12.6 15.8 30.	1.3	- 25 + 613	+ 38 - 363		After shock of No. 153.
175	30 "	0	L iM F	8	40	7.7 10.0 20.		- 8	- 15		
176	2 Oct.	0	iP iS ME MN F	17	37	10.0 25.3 27.4 46.3 40.		+ 438	+ 338		Ditto.
177	3 "	0	eP eS eL F	19	22	41.0	3.3 6.2	+ 25 - 38	+ 38 + 80		Distant earthquake.
178	3 "	0	eP eS eMN1 eMN2 F	22	56	50.7	4.9 14.6 14.6	- 100 + 25	+ 5 - 20		Ditto.
179	9 "	0	P eM F	-	?			- 13	- 25		
180	10 "	0	eP iSN iSE eLN eLE eMN1	0	23	46.2	2.6 4.2 4.2	+ 20 - 33	+ 28 + 25 + 13		
				0	37	1.3		- 10			
				0	38	20.8	22.7		88		



[1931]

No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				G.	M.	T.		AE	AN	Az	
				h	m	s	s	$\mu$	$\mu$	$\mu$	
180	10 Oct.	0	eME2 F	0	40	41.2	21.1	+ 50			
				1	39	—					
181	13 "	0	e eS eM F	12	15	0.0					Central of Tokyo Bay.
					?						
				12	15	13.3		+ 88	— 55		
				12	17	20.0					
182	16 "	0	eL eM F	6	42	41.5					Far SSE of Mera. ?
				6	42	46.5		+ 15	+ 25		
				6	45	21.					
183	17 "	0	eL eM F	15	38	7.0					
				15	38	39.4		— 5	+ 18		
				15	40	—					
184	17 "	0	eL eM F	15	39	59.0					
				15	40	21.7		— 5	— 13		
				15	42	20.					
185	21 "	0	e S eM F	7	44	32.0					Middle course of River Abe in Siduoka pref.
				7	44	40.0					
				7	44	40.3		— 60	+ 43		
				7	47	50.					
186	21 "	0	eP eM F	9	12	25.0					
				9	12	45.0		— 38	+ 43		
				9	13	20.					
187	23 "	0	e F	3	16	32.4					After shock of No. 153.
				3	17	0.0					
188	23 "	0	e F	23	33	50.5					
				23	34	54.0					
189	29 "	0	P eM F		?						
				8	43	1.0		— 15	— 18		
				8	43	50.					
190	29 "	0	e eM F	8	46	7.0	2.8				
				8	46	20.8		— 30	— 73		
				8	48	30.					
191	29 "	0	eP eS M F	18	53	33.3					Kasima Nada.
				18	54	3.3		— 50	— 33		
				18	54	36.6	2.0	+ 70	— 70		
				18	59	30.					
192	31 "	0	P F	14	18	12.7					N off Idu Miyake Island.
				14	21	10.		— 21	— 50		
193	1 Nov.	0	eP eM F	18	54	36.0					Hiuga Nada.
				18	56	44.2	2.6	+ 10	+ 17		
				19	12	50.					
194	2 "	0	eP eS eLE eLN iMN1 iME1 iME2 iMN2 iME3 iMN3 C F	10	05	45.5	2.6	— 43	+ 40		Ditto.
				10	07	51.2	3.2				
				10	07	54.1	3.2	+ 173			
				10	07	52.9			+ 128		
				10	08	16.3	3.2		— 255		
				10	08	17.5	3.2	+ 313			
				10	08	51.0	5.2	+ 260			
				10	08	50.5	5.2		+ 445		
				10	09	24.3	5.2	— 225			
				10	09	22.2	5.2		+ 290		
				10	16	15.0					
				10	41	30.					
195	2 "	0	iP S iME1 F	11	03	24.0	3.3				"
				11	05	10.5			— 5		
				11	05	3.8	4.7	— 5	— 25		
				11	17	5.0					
196	2 "	0	iP	19	59	14.4		— 18	— 25		



[1931]

No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				G.	M.	T.		AE	AN	Az	
				h	m	s	s	$\mu$	$\mu$	$\mu$	
196	2 Nov.	0	iS iM F	19	59	32.2 32.2 50		— 313	— 283		
197	3 "	0	iP iS iM1 iM2 F	16	22	40.7 25.4 53.0 36.8 10.	5.9 6.5	— 10 — 80 + 133	+ 13 + 65 + 78		Course of River Kokuni in Iwate pref.
198	5 "	0	P eM F	?	6	26 27.0 26 40.		— 10	+ 20		
199	5 "	0	P eS eM F	?	17	18 1.0 18 3.8 18 20.		— 11	+ 23		Near Idu Miyake Island. ?
200	9 "	0	P eS eM F	?	12	35 19.0 35 20.4 35 30.			— 10 + 28		
201	12 "	I	eP S eM F	6	09	27.0 42.5 43.0 40.		— 40	+ 58		E of Katuura Boso Peninsla.
202	12 "	0	iP iS iM F	13	11	12.8 26.8 27.4 20		+ 23	+ 45 — 183 — 155		
203	13 "	0	P eM F	?	17	56 58.0 57 40		+ 15	— 11		Near Lake of Biwa. ?
204	13 "	0	P eM F	?	21	50 36.0 51 20.	1.6	+ 5	+ 25		
205	16 "	0	P eM F	?	2	07 40.7 07 50.		+ 5	— 12		
206	16 "	0	P eM F	?	2	08 56.7 09 —		+ 41	+ 21		
207	26 "	0	P eMN eME F	?	13	58 25.2 58 31.0 59 20.0	? 1.6	+ 65	+ 38		S part of Kujukuri Hama. ?
208	26 "	0	e F	14	49	22.0 40.0	1.0		— 15		
209	28 "	0	eN F	18	37	26.7 30.	1.3		— 18		
210	29 "	0	e F	4	48	34.0 50.	1.0	— 50	— 23		
211	2 Dec.	0	P S eME F	4	00	20.0 ? 28.0 30.	0.7	+ 33			Mt. Fuji.
212	2 "	0	P? eM F	?	6	20 40. ?	0.7	— 23	+ 18		
213	2 "	0	P	?							



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No.	Date	Intensity	Phase	Time			Period	Amplitude			Remarks
				G.	M.	T.		AE	AN	Az	
				h	m	s	s	$\mu$	$\mu$	$\mu$	
213	2 Dec.	0	eMN F	7	35	40.6	0.9		— 18		
				7	35	50.					
214	2 "	0	P eME F	?			3.2	— 14	— 41		
				7	39	43.0					
				7	39	50.					
215	7 "	0	P eME F	?			1.0	+ 8	+ 13		
				6	41	34.8					
				6	41	40.					
216	10 "	I	iP iS iM F	15	58	14.0	0.5	+ 10	+ 25		Near Katunra Baso Peninsla.
				15	58	27.0					
				15	58	28.6	0.7	+ 108	+ 84		
				15	58	—					
217	15 "	0	P eM F	?				+ 14	+ 41		
				6	05	41.7					
				6	05	50.					
218	15 "	I	P S M F	17	16	10.0		— 10	+ 8		Near Yuki in Ibaragi Pref.
				17	16	26.9					
				17	16	28.1		+ 130	+ 110		
				17	17	—					
219	18 "	0	ME F	1	53	47.0	1.3	— 75	+ 65		
				1	53	50.					
220	18 "	0	P M1 M2 F	17	14	21.3	0.7	+ 5	— 8		Near Narita. ?
				17	14	26.9	1.3	— 35	+ 35		
				17	14	46.4	1.3	+ 28	— 43		
				17	17	20.					
221	19 "	0	e F	7	04	31.3		— 93	+ 15		
				7	04	30.					
222	20 "	0	P PS ME F	2	50	52.4		— 3	+ 3		
				2	50	53.5					
				2	50	53.8	0.6	— 20	— 17		
				2	51	00.					
223	21 "	0	eME F	1	03	22.2	0.6	— 33			
				1	03	20.					
224	22 "	0	M F	13	11	48.8	1.8	+ 5	— 15		Near Ooyano Island. ?
				13	12	20.					
225	23 "	0	P S M F	12	29	27.0	0.7	+ 3	— 8		Upper course of River Yasaku.
				12	29	44.7					
				12	29	47.0	1.0	— 15	— 23		
				12	30	40.					
226	26 "	0	P M F	14	19	45.7	0.7	+ 16	+ 15		
				14	20	0.3					
				14	20	40.					
227	26 "	0	P S M F	1	47	47.0	1.4	± 3	?		
				1	48	17.6					
				1	48	38.7	2.1	— 10	— 30		
				1	53	40.					
228	26 "	0	P eS M F	5	17	50.2		— 5	?		
				5	17	51.5					
				5	17	54.0	0.8	+ 13	+ 40		
				5	19	20.					
229	29 "	0	P S M F	19	47	16.5	0.6	+ 3	— ?		
				19	47	22.8					
				19	47	24.4	0.6	+ 13	+ 30		
				19	48	10.					

THE END



昭和七年三月二十五日印刷

昭和七年三月二十七日發行

發行所 靜岡縣沼津測候所

沼津市鷗町一八四番地

印刷所 藤井印刷所

沼津市鷗町一八四番地

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