神戸測候所

地動報告

大正十一年

SEISMOLOGICAL BULLETIN

OF THE

KÔBE OBSERVATORY

1922.

Table of errata.

Page	Error	Correction
2	2.28	0.28
3	476.1	4761.
6	P,S and L	P,S, and L
7	determinea	determined
9	Wove	Wave
9	defeet	defect
11	Riugasak	Riugasaki
11	profafle	probable

Symbols and Notations

1. Phases of the Seismogram —

   P (Undae Primae) = 1st. Preliminary tremors.

   S („ Secundae) = 2nd. „ „

   L („ Longae) = Principal phase, Long waves.

   M („ Maximae) = Max. Amplitude in principal phase.

   C (Coda) = prominent waves among after tremors.

   F (finis) = End of perseptible movement.

   PS = Waves which lst. phase confused with second phase.

2. Nature of Motion—

   i = abrupt commencement, clearly defined.

   e = gradual „ not clearly defined.

   T = complete period in second.

   A = Amplitude, measured from mediam position in microns.

   A_E = E—W component of A, and takes as positive easterward.

   A_N = N—S component of A, and takes as positive northward.

3. $\triangle$ Distance of epicenter.

   $\triangle$ is calculated by the Omori's Formula, that is

   $\triangle = 6.54s + 729$ in the case 2000 k.m. $< \triangle <$ 14000 km.

   $\triangle = 7.27s + 38$ in the case 100 k.m. $< \triangle <$ 900 km.

   $\triangle = 6.86s + 81$ in the case $\triangle <$ 20 km.

   Where s = Number of seconds of the preliminary tremor.

Constants

1. Position of the Seismographic room.

   Latitude = 34° 41′ 18″ N

   Longitude = 135° 10′ 51″ E

   Altitude 58.2 meter above mean sea level.

2. Time

   All determination are reduced to Greenwich mean civil time.

3. Constant of Seismographs

			Period.	mag.
Omori's Seiomograph	N—S	Component	25.0s	20.0
„ „	E—W	„	25.0s	20.0
„ „	E—W	„	25.0s	42.7

KOBE JAPAN.

SEISMIC BULLETIN

of the Kobe Meteorological Observatory of Japan.

$\phi = 34° 41\ 18''$ $\lambda = 135° 10'\ 51''$ h = 58.3m Underground : Diluvial Series.

Instrument : Omori Horizontal Pendulum.

	T_0	ε	$\frac{r}{T_0^2}$	V
AN:	25.0		1.15	20.0
AE:	25.0		1.20	20.0
AE:	25.0		2.70	42.7

1922

No.	Date	Phase	Time G. M. T.	Period	Amplitude AN	Amplitude AE	△	Remarks
			h. m. s.	s.	μ	μ	km.	
1	6 Jan.	e(PS)	4 55 41				132	Upper course of Arita river At Sumoto a weak shock was felt.
		LE	4 55 54	1.6		±70		
		LN	4 55 54	1.6	±50			
		FE	4 58 37					
		FN	4 58 24					
2	8 Jan.	e(PS)	23 50 27				468	Faint record.
		L	23 51 26	3.6	±10			
		ME	23 52 43	6.0		±40		
		FE	0 00 24					
		FN	0 01 54					
3	12 Jan.	e(PS)	18 03 20				148	Near Besshi, Ehime province. At Tadotsu a shock was felt weak.
		L	18 03 36					
		ME	18 03 45	0.6		±55		
		MN	18 03 39	0.6	+60			
		FE	18 08 53					
		FN	18 09 24					
4	17 Jan.	P	4 09 04		+5			Trace of a distant quake.
		MN	4 30 02	18.2	±160			
		FN	5 03 27					
5	22 Jan.	ME	3 58 31	17.6		±30		P & L phases were confused with pulsation. A trace of a distant quake.
		MN	4 03 12	17.6	±20			
		FE	4 17 47					
		FN	4 18 21					
6	22 Jan.	iP	22 06 49		+5	−15	672	Off the coast of Iwaki. In NErn part of Main land a weak shock was felt.
		L	22 08 16					
		M^1E	22 08 48	7.4		±205		
		M^1E	22 08 36	7.6	±200			
		M^2E	22 09 38	8.0		±200		
		M^2N	22 08 57	7.6	±170			
		FE	22 22 02					
		FN	22 22 25					

No	Date	Phase	Time G. M. T.	Period	Amplitude		△	Remarks
					A_N	A_E		
			h. m. s.	s.	μ	μ	km.	
7	23 Jan.	eP	23 33 03				438	Near Narita, Shimoosa province.
		L	23 33 59					
		M_E	23 34 19	3.2		±20		
		M_N	23 34 51	3.1	±15			
		F_E	23 38 13					
		F_N	23 38 50					
8	31 Jan.	eP	13 29 05				4060	Wave form very flat. Distant quake.
		eL	13 37 33					
		M^1_E	13 58 08	11.0		±160		
		M^1_N	13 48 49	14.3	±70			
		M^2_E	14 07 34	8.2		±70		
		M^2_N	13 58 57	8.2	±60			
		C_E	14 21 49					
		F_E	15 03 37					
		F_N	15 08 37					
9	5 Feb.	eP	1 29 10				14.4	Local shock. Near Mt. Arima.
		L	1 29 11					
		M_E	1 29 12	0.2		±15		
		M_N	1 29 13	0.2	±10			
		F_E	1 29 32					
		F_N	1 29 30					
10	5 Feb.	eP	22 19 49				168	Upper course of Yoshino River in Shikoku. At Tokushima & Tadotsu a weak shock was felt.
		iL	22 20 07					
		M^1_E	22 20 14	2.1		±150		
		M^1_N	22 20 15	2.2	±200			
		M^2_E	22 21 22	3.6		±75		
		M^2_E	22 21 23	3.8	±45			
		F_E	22 28 33					
		F_N	22 27 56					
11	9 Feb.	i(PS)	14 54 21		−5	−5	177	Off Kii peninsula. In central part of Main land a weak shock was felt.
		L	14 54 40	0.6	+200	−150		
		M^1_E	14 54 52	1.2		±360		
		M^1_N	14 54 48	1.1	±260			
		M^2_E	14 56 42	3.6		±130		
		M^2_N	14 55 47	3.6	±140			
		C_E	14 59 29					
		C_N	14 59 00					
		F_E	15 09 08					
		F_N	15 05 46					
12	14 Feb.	eP	1 08 49				372	To the NE of Hachijo Isl.
		L	1 09 35					
		M_E	1 09 57	6.1		±40		
		M_N	1 09 48	6.2	±40			
		F_E	1 23 00					
		F_N	1 22 50					
13	15 Feb.	eP	1 17 59				554	NErn coast of Iwaki, NErn part of Main land a feeble shock was felt.
		iL	1 19 06					
		M_E	1 20 13	2.5		±20		
		M_N	1 20 39		±15			
		F_E	1 26 14					
		F_N	1 27 10					
14	17 Feb.	eP	7 26 09				16	At Sumoto a weak shock was felt. Probably in Osaka Bay.
		iL	7 26 10					
		M_E	7 26 11			±50		
		M_N	7 26 11		±45			
		F_N	7 26 32					
		F_E	7 26 49					

No	Date	Phase	Time G. M. T.	Period	Amplitude		△	Remarks
					AN	AE		
			h. m. s.	s.	μ	μ	k.m.	
15	27 Feb.	P	2 05 17				42	Upper course of Kako River. At Nakarura & Kaibara (Hiyogo province) aweak shock was felt.
		L	2 05 22	0.8	−55	+50		
		FE	2 06 28					
		FN	2 06 24					
16	27 Feb.	P	2 07 47					The same origin as No. 15.
		FE	2 08 14					
		FN	2 08 23					
17	4 Mar.	iP	13 14 38		+40	+60	2280	Regular wave form. Far off Kamtchatka peninsula.
		iL	13 16 37					
		ME	13 18 00	12.2		±310		
		MN	13 16 51	10.4	±300			
		CE	13 23 19	7.2		±140		
		CN	13 22 30	7.2	±60			
		FE	13 42 12					
		FN	13 39 26					
18	6 Mar.	iP	21 25 40		−15	+10		Flat irregular wave form. Trace of a distant earthquake.
		ME	21 31 26	8.2		±15		
		MN	21 30 28	12.2	±20			
		FE	21 36 10					
		FN	21 37 23					
19	7 Mar.	P	13 58 29				144	Central part of Kii channel.
		L	13 58 44					
		ME	13 58 51	1.6		±55		
		MN	13 58 51	1.6	±20			
		FE	14 06 44					
		FN	14 03 58					
20	10 Mar.	P	9 28 46				114	Near Kotohira Kagawa province.
		L	9 28 56		−80	÷75		
		ME	9 29 00	0.5		±300		
		MN	9 29 08	0.5	±260			
		FE	9 34 44					
		FN	9 36 04					
21	11 Mar.	iP	0 01 43		-12.5	+10	119	Origin is the same as No. 20. At Sumoto a feeble shock was felt.
		L	0 02 05					
		ME	0 02 06	0.3		±130		
		MN	0 02 06	0.3	±120			
		FE	0 07 06					
		FN	0 06 05					
22	13 Mar.	ME	5 44 23	0.3		±70		Local shock.
		MN	5 44 23	0.3	±110			
		FE	5 44 42					
		FN	5 44 51					
23	16 Mar.	eP	18 33 18				498	In Kashima Sea. In NE part of Main land a weak shock was felt.
		S	18 33 46					
		L	18 34 21					
		ME	18 35 23	2.5		±80		
		MN	18 34 36	2.4	±70			
		FE	18 44 49					
		FN	18 43 55					
24	17 Mar.	e(PS)	0 20 56				32.1	Local shock.
		L	0 20 59		±10	±5		
		FE	0 21 10					
		FN	0 21 11					

No	Date	Phase	Time G. M. T.	Period	Amplitude AN	Amplitude AE	△	Remarks
			h. m. s.	s.	μ	μ	k.m.	
25	17 Mar.	e′PS)	0 21 14				23.8	The same origin as No. 24
		L	0 21 17		±10	±10		
		FE	0 21 53					
		FN	0 21 54					
26	17 Mar.	e(PS)	23 48 04				23.2	Origin was the same as No. 24 & No. 25
		L	23 48 05	0.2	+50	+30		
		FE	23 48 31					
		FN	23 48 35					
27	25 Mar.	e(PS)	12 47 41				106	Nrn part of Kii channel. At Sumoto a weak shock was felt.
		L	12 47 50	0.3	±15	+40		
		FE	12 52 12					
		FN	12 51 12					
28	5 April	eP	10 06 54				4060	Distant quake probable origin near New Guinea.
		iS	10 11 56					
		L	10 15 33					
		ME	10 20 14	16.8		±40		
		MN	10 19 24	16.8	±140			
		FE	10 53 25					
		FN	10 53 22					
29	10 April	P	13 58 51				550	Ern to the Chiyoshi.
		S	13 59 32					
		L	14 00 01					
		ME	14 01 08	3.6		±30		
		MN	14 01 44	3.2	±20			
		FE	14 05 20					
		FN	14 06 26					
30	23 April	P	11 32 36				152	Upper course of Yoshino River, at Tadotsu & Tokushima a feeble shock was felt.
		L	11 32 52					
		ME	11 32 55	0.2		±90		
		MN	11 32 55	0.2	±80			
		FE	11 37 33					
		FN	11 38 57					
31	26 April	P	1 12 26				478	Near Kisaratsu, at Kokio & neighbouring district, strong shocks were felt. Registered all over Japan.
		S	1 12 47					
		L	1 13 23					
		ME	1 13 45	4.8		−950		
		MN	1 13 38	7.2	±1210			
		CE	1 17 28					
		CN	1 19 04					
		FE	2 00 21					
		FN	1 55 50					
32	26 April	eP	4 03 28				5335	Near Kamtchatka, flat wave form.
		eS	4 10 20					
		L	4 15 13					
		M^1E	4 16 40	16.8		±90		
		M^1N	4 17 52	17.0	±85			
		M^2E	4 23 04	14.3		±60		
		M^2N	4 22 50	14.2	±60			
		CE	4 32 49					
		CN	4 31 46					
		FE	5 03 08					
		FN	4 55 11					

No	Date	Phase	Time G. M. T.	Period	Amplitude AN	Amplitude AE	△	Remarks
			h. m. s.	s.	μ	μ	k.m.	
33	27 April	P	9 16 59				640	Ern off the coast of Iwaki province.
		S	9 17 50					
		L	9 18 22					
		ME	9 19 26	3.9		±80		
		MN	9 18 36	3.6	±55			
		CE	9 21 37					
		FE	9 31 12					
		FN	9 29 12					
34	28 April	P	17 7 05					Ern part of Iwaki. In NErn part of Main land a weak shock was felt.
		ME	17 8 41	2.8		±20		
		FE	17 12 29					
		FN	17 11 38					
35	1 May	e(PS)	10 54 10				752	The beginning of P phase was not perceptible.
		L	10 55 48					
		ME	10 56 53	5.6		±50		The epicenteral distance here given was of a provisional value.
		MN	10 55 51	5.6	±45			
		CE	11 01 46					
		CN	11 00 30					
		FE	11 07 38					
		FN	11 08 37					
36	2 May	e(PS)	11 19 48				4944	Trace of distant earthquake. Probable origin near the Carolone Ils.
		L	11 30 34					
		ME	11 33 02	10.8		±50		
		MN	11 30 26	14.4	±110			
		CE	11 38 11					
		FE	11 48 22					
		FN	11 56 28					
37	4 May	iP	9 17 04			+5	3318	N-S component clock mechanism was out of order. At Port Arthur a slight shock was felt.
		S	9 20 33					
		L	9 22 41					
		M1E	9 24 07	16.8		±60		
		M2E	9 31 34	15.6		±65		
		CE	9 57 26					
		FE	10 47 38					
38	6 May	i(PS)	21 26 35			− 10	473	The record of N-S component was wanting. Epicenter near Tokyo.
		L	21 27 35					
		M1E	21 28 04	2.4		±30		
		M2E	21 29 22	3.2		±35		
		FE	21 32 39					
39	5 May	P	0 22 25				3940	Trace of a distant earthquake.
		S	0 26 45					
		L	0 30 37					
		ME	0 33 29	14.2		±20		
		MN	0 30 47	14.2	±25			
		FE	1 06 45					
		FN	1 05 27					
40	5 May	ME	1 18 02	8.9		±10		Ditto, the beginnings of P & S phases were not decided.
		MN	1 18 53					
		FE	1 21 41					
		FN	1 21 16					
41	6 May	e(PS)	12 23 58				3452	Wave forms were flat, probably No. 39, No. 40 & No. 41 happened at the same origin.
		eL	12 30 55	16.8	±5	±5		
		FE	12 42 32					
		FE	12 44 02					

No	Date	Phase	Time G. M. T.	Period	Amplitude AN	Amplitude AE	△	Remarks
			h. m. s.	s.	μ	μ	k.m.	
42	9 May	iP	3 29 47				508	Yatabe, near Mt. Tsukuba. At Tokyo a slight shock was felt.
		S	3 30 26					
		L	3 30 57					
		M¹E	3 31 13	6.2		±90		
		M¹N	3 31 12	5.1	±80			
		M²E	3 33 36	2.4		±80		
		M²N	3 32 41	3.2	±40			
		CE	3 33 58					
		CN	3 35 00					
		FE	3 43 43					
		FN	3 40 36					
43	10 May	ME	16 35 39	2.2		±40		P & S phases were not recorded.
		FE	16 38 53					
44	17 May	P	20 23 30				1224	Ern off the coast of Rikutiu, registered even at Manila and Zikawei.
		L	20 26 14					
		ME	20 26 16	8.7		±40		
		CE	20 30 04					
		FE	20 45 16					
45	16 May	P	1 30 40				15	Local shock.
		L	1 30 41			+20		
		F	1 30 50					
46	16 May	P	8 11 17				4220	Flat wave form. Trace of a distant earthquake.
		S	8 15 12					
		L	8 20 12	16.8		±15		
		FE	9 05 47					
47	17 May	i(PS)	18 51 33				112	Srn part of Naruto channel. At Sumoto & Tokushima a weak shock was felt.
		L	18 51 43					
		ME	18 51 46	0.2		±105		
		MN	18 51 48	0.2	±130			
		FE	18 55 22					
		FN	18 54 42					
48	18 May	(PS)	23 40 31				23.8	Local shock.
		L	23 40 34	0.1	±20	±30		
		FE	23 41 35					
		FN	23 41 16					
49	28 May	P	12 16 —				554	The time checker had been out of order, so the times described were not correct. Near Siwobara, Totigi.
		S	12 16 —					
		L	12 17 —					
		ME	12 18 —	3.2		± 30		
		MN	12 19 —	3.4	±20			
		FE	12 27 —					
		FN	12 28 —					
50	2 June	P	12 29 16				15.6	Local shock.
		L	12 29 18	0.1	±30	±35		
		FE	12 29 45					
		FN	12 29 47					
51	2 June	(PS)	20 17 41				3375	Ern off Mrndanao Isl.
		L	20 24 25					
		M¹E	20 25 59	8.4		±60		
		M¹N	20 30 25	8.2	±40			
		M²E	20 36 01	8.4		±45		
		M²N	20 33 06	8.4	±35			
		FE	21 15 44					
		FN	21 07 05					

No	Date	Phase	Time G. M. T.	Period	Amplitude		△	Remarks
					A_N	A_E		
			h. m. s.	s.	μ	μ	k.m.	
52	3 June	P	4 56 50				721	Sea coast of Iwaki, at epicentral region a weak shock was felt.
		S	4 58 36					
		L	4 59 24					
		M^1_E	5 00 38	2.4		±70		
		M^1_N	4 59 32	2.4	±90			
		M^2_E	5 02 12					
		M^2_N	5 01 03					
		F_E	5 15 24					
		F_N	5 09 19					
53	5 June	P	14 01 19				1985	Ern far off Kushiro. Flat wave form.
		L_E	14 04 25	18.6		±15		
		L_N	14 04 25	18.4	±15			
		F_E	14 16 18					
		F_N	14 14 06					
54	7 June	P	17 54 30				539	Kasima Sea. Near the epicenter a slight shock was felt.
		L_E	17 55 39	1.9		±15		
		L_N	17 55 39	1.8	±15			
		F_E	17 59 59					
		F_N	18 00 13					
55	18 June	P	12 15 00				200	Ern off Kumano coast. The tail of this was overlaped by the following one.
		L	12 15 23					
		M^1_E	12 15 25	1.2		±55		
		M^2_E	12 16 35	2.1		±50		
56	18 June	iP	12 17 49			−20	238	Ditto, slight shock was felt.
		L	12 18 17					
		M^1_E	12 18 20	1.2		±660		
		M^2_E	12 19 28	1.8		±300		
		C_E	12 21 32					
		F_E	12 29 40					
57	20 June	eP	8 49 21					Flat wave form, each phase was not distinct.
		F_E	8 58 39					
		F_N	8 59 23					
58	27 June	eP	14 36 02				3960	Trace of a distant earthquake probable origin near Mindanao.
		L	14 44 37					
		M^1_E	14 46 56	5.0		±30		
		M^2_E	14 53 25	4.2		±20		
		F_E	15 11 50					
59	29 June	eP	4 52 46				731	Faint record. The beginning of P phase was probable value.
		L_E	4 54 21	13.3		±15		
		L_N	4 54 21	13.2	±10			
		F_E	5 09 25					
		F_N	5 08 36					
60	2 July	P	8 28 59				481	Near Tokyo.
		L	8 31 00	2.1	±15			
		M_E	8 32 34	1.7		±20		
		F_E	8 36 00					
		F_N	8 34 17					
61	2 July	P	12 19 26				48.1	Ern part of Mimasaka at Toyooka slight shock was felt.
		L	12 19 32	0.6	±20	±25		
		F_E	12 20 16					
		F_N	12 20 26					

No	Date	Phase	Time G. M. T.	Period	Amplitude		△	Remarks
					A_N	A_E		
			h. m. s.	s.	μ	μ	k.m.	
62	2 July	P	13 43 52				6055	Near Samoa.
		L	13 57 28					
		M_E	14 00 34	24.0		±30		
		M_N	14 00 14	24.0	±30			
		F_E	14 29 38					
		F_N	14 33 56					
63	5 July	P	20 22 03				576	Off Kinkazan, Miyagi province. Near epicenter a moderate shock was felt.
		S	20 22 41					
		L	20 23 17					
		M^1_E	20 24 03	3.6		±90		
		M^1_N	20 23 54	3.6	±10			
		M^2_E	20 26 20	6.0		±80		
		M^2_N	20 24 23	6.2	±80			
		F_E	20 36 ±					
		F_N	20 33 22					
64	11 July	P	14 16 31					Srn off the Ogasawara Ils.
		M_E	14 19 25	3.7		±30		
		M_N	14 17 28	3.7	±30			
		F_E	14 25 05					
		F_N	14 26 24					
65	12 July	P	4 32 45					Near Beppu, Oita province. Near origin a weak shock was felt.
		F_E	4 35 15					
		F_N	4 36 17					
66	13 July	P	5 04 25				3898	Near the Caroline Ils.
		L	5 12 29					
		M_E	5 15 29	18.2		±20		
		M_N	5 14 37	18.2	±25			
		F_E	5 34 01					
		F_N	5 31 59					
67	14 July	P	9 21 05				1460	Near Daito. Formosa.
		L	9 22 58					
		M_E	9 25 05	2.2		±10		
		M_N	9 23 59	2.2	±15			
		F_E	9 31 00					
		F_N	9 27 52					
68	15 July	P	3 22 49					Kii channel. At Sumoto a slight shock was felt.
		M_E	3 24 07	1.2		±10		
		M_N	3 24 06	1.2	±10			
		F_E	3 25 53					
		F_N	3 25 57					
69	6 Aug.	P	0 57 55				1545	Far off the east coast of Izu.
		S	0 58 45					
		L	1 00 02					
		M_E	1 01 37	11.5		±250		
		M_N	1 01 07	13.5	±190			
		C_E	1 08 52					
		C_N	1 08 53					
		F_E	1 28 ±					
		F_N	1 33 ±					
70	11 Aug.	eP	13 47 57					Flat wave form trace of a distant earthquake.
		M_E	13 53 38	7.6		±10		
		M_N	13 53 05	7.2	±10			
		F_E	14 20 ±					
		F_N	14 18 ±					

No	Date	Phase	Time G. M. T.	Period	Amplitude AN	Amplitude AE	△	Remarks
			h. m. s.	s.	μ	μ	k.m.	
71	13 Aug.	ME	1 02 05	17.2		±5		Wave form flat. A distant earth-
		MN	1 01 26	16.9	±10			quake.
		FE	1 16 ±					
		FN	1 18 ±					
72	16 Aug.	P	16 00 00			−20	2405	Near Kamtchaka.
		S	16 01 33					
		L	16 04 18					
		ME	16 06 18	5.6		±40		
		CE	16 10 38					
		FE	16 28 ±					
73	19 Aug.	P	5 33 34				262	Near Miyosi, Hirosima prefecture.
		L	5 34 05	0.8	±15	+10		
		FE	5 35 11					
		FN	5 35 08					
74	20 Aug,	P	13 27 59				126	Srn part of Wakayama prefecture.
		L	13 28 11	0.3	±60	±35		
		FE	13 29 10					
		FN	13 29 19					
75	24 Aug.	e(PS)	19 46 40				454	Near Kasumigaura, in the epi-
		L	19 47 38					central region a weak shock was
		ME	19 47 47	2.4		±20		felt.
		MN	19 47 49	2.4	±20			
		FE	19 53 ±					
		FN	19 53 ±					
76	25 Aug.	eL	19 51 34					Distant earth. quake.
		ME	19 53 02	12.4		±20		
		MN	19 52 01	12.6	±15			
		FE	20 11 ±					
		FN	20 12 ±					
77	29 Aug.	P	17 06 38				2650	Ern far off the coast of Philip-
		S	17 09 38					pine.
		L	17 11 33					
		ME	17 16 00	9.6		±10		
		MN	17 15 08	9.8	±15			
		FE	17 37 ±					
		FN	17 42 ±					
78	1 Sept.	P	19 19 45		+20	+130	1855	SErn off Giran, Formosa. 11men
		S	19 22 54		−70	−40		injured, and 36 houses damaged
		eL	19 24 51					near the epicenter.
		M1E	19 25 38	24.0		±2250		
		M1N	19 26 34	24.0	±2150			
		M2E	19 27 54	16.8		±2100		
		M2N	19 32 54	16.3	±850			
		M3E	19 30 42	16.6		±1300		
		C1E	19 39 13					
		C1N	19 37 53					
		C2E	19 47 40					
		FE	20 28 ±					
		FN	20 33 ±					
79	3 Sept.	P	15 58 51				2575	After-shock of No. 78. Flat wave.
		eL	16 03 35					
		FE	16 16 ±					
		FN	16 18 ±					

No	Date	Phase	Time G. M. T.	Period	Amplitude		△	Remarks
					A_N	A_E		
			h. m. s.	s.	μ	μ	k.m.	
80	6 Sept.	ME	22 22 58	16.3		±15		After-shock of No. 78. Flat wave.
		MN	22 21 19	16.4	±10			
		FE	22 38 ±					
		FN	22 36 ±					
81	9 Sept.	P	7 09 58				41	Local shock. In Osaka Bay.
		L	7 10 02	0.5	+45	+50		
		FE	7 10 32					
		FN	7 10 26					
82	10 Sept.	L	6 11 42					After-shock of No. 78.
		ME	6 12 39	3.5		±30		
		MN	6 12 35	3.5	±30			
		FE	6 14 ±					
		FN	6 18 ±					
83	11 Sept.	ME	14 52 56	2.8		±20		Ditto.
		MN	14 51 40	2.5	±15			
		FE	15 04 ±					
		FN	15 03 ±					
84	14 Sept.	P	19 35 21				2105	Ern off Giran, Formosa. Many houses were broken down in the epicentral region and a few persons were ingrued.
		S	19 38 55					
		eL	19 41 01					
		M^1E	19 42 42	14.8		±1420		
		M^1N	19 42 22	14.6	±1610			
		M^2E	19 46 17	12.8		±380		
		M^2N	19 45 08	13.2	±360			
		CE	19 50 22					
		CN	19 51 11					
		FE	20 22 ±					
		FN	20 16 ±					
85	16 Sept.	P	22 48 02				2220	After-shock of No. 84. A weak shock was felt in epicentral region.
		L	22 51 53					
		ME	22 56 38	12.2		±50		
		MN	22 54 45	12.1	±40			
		FE	23 17 ±					
		FN	23 24 ±					
86	17 Sept.	eL	7 59 40					Ditto.
		ME	8 03 25	14.8		±45		
		MN	8 03 43	14.8	±55			
		FE	8 21 ±					
		FN	8 15 ±					
87	17 Sept.	eL	8 30 21					Ditto.
		ME	8 33 40	8.7		±20		
		MN	8 32 28	8.6	±15			
		FE	8 47 ±					
		FN	8 45 ±					
88	17 Sept.	S	10 34 54					Ditto.
		L	10 36 48					
		ME	10 43 25	12.8		±45		
		MN	10 44 01	12.6	±40			
		FE	11 01 ±					
		FN	11 00 ±					
89	23 Sept.	eP	6 38 31				496	Kasima Sea, near epicenter, Mito, Utunomiya, & Asio a weak shock was felt.
		L	6 39 35					
		ME	6 40 10	1.2		±40		
		MN	6 39 45	1.2	±40			
		FE	6 45 ±					
		FN	6 44 ±					

No	Date	Phase	Time G. M. T.	Period	Amplitude A_N	Amplitude A_E	△	Remarks
			h. m. s.	s.	μ	μ	k.m.	
90	24 Sept.	P	7 47 02					Srn part of Wakayama province.
		L	7 47 15	0.2	±40	±30	135	
		F_E	7 48 55					
		F_N	7 48 51					
91	25 Sept.	(PS)	15 27 27				33	Local shock.
		L	15 27 31	0.5	+40	+20		
		F_E	15 31 ±					
		F_N	15 30 ±					
92	28 Sept.	eP	22 01 56				4380	After-shock of the Formosa earthquake.
		L	22 11 14					
		M_E	22 17 54	10.2		±20		
		M_N	22 16 31	10.6	±30			
		F_E	22 30 ±					
		F_N	22 29 ±					
93	3 Oct.	(PS)	5 46 —					Kii channel.
		L	5 46 —					
		M	5 46 —					
		F	5 50 —					
94	5 Oct.	eP	5 19 58				466	Flat wave form.
		eL	5 20 57					
		M_E	5 23 34	3.5		±15		
		M_N	5 23 08	3.6	±25			
		F_E	5 32 ±					
		F_N	5 28 ±					
95	5 Oct.	P	16 49 29				513	Central part of Boso peninsula.
		iS	16 49 55					
		L	16 50 35					
		M_E	16 50 52	3.6		±50		
		M_N	16 50 48	2.4	±25			
		C_E	16 53 28					
		F_E	17 01 ±					
		F_N	17 00 ±					
96	13 Oct.	eP	23 59 26				2040	After-shock of Formosa earthquake. Near epicenter a strong shock was felt.
		eL	0 02 47					
		M_N	0 04 10	3.7		±10		
		F_E	0 31 ±					
		F_N	0 34 ±					
97	14 Oct.	M_E	4 08 23					Ditto.
		M_N	4 07 53					
		F_E	4 17 ±					
		F_N	4 26 ±					
98	14 Oct.	P	23 50 41				3197	Ditto.
		S	23 53 48					
		L	23 56 59					
		M_{1E}	23 57 36	15.4		±788		
		M_{1N}	23 57 31	18.2	±950			
		M_{2E}	23 59 04	14.4		±647		
		M_{2N}	0 00 06	14.0	±290			
		M_{3E}	0 01 20	14.0		±534		
		C_N	0 05 15	12.0	±150			
		F_E	1 42 ±					
		F_N	1 33 ±					

No	Date	Phase	Time G. M. T.	Period	Amplitude		△	Remarks
					AN	AE		
			h. m. s.	s.	μ	μ	k.m.	
99	17 Oct.	ME	7 06 26					Ditto.
		MN	7 04 33					
		FE	7 15 ±					
		FN	7 17 ±					
100	24 Oct.	P	21 25 06				2009	Near the Kurile island.
		L	21 28 23					
		M1E	21 28 49	15.0		+630		
		M1N	21 28 44	11.0	+ 520			
		M2E	21 31 18	19.0		−280		
		M2N	21 33 47	13.9	−270			
		M3E	21 32 42	19.0		−320		
		CE	21 43 02	10.0		+50		
		CN	21 39 28	9.0	±55			
		FE	23 08 ±					
		FN	23 00 ±					
101	27 Oct.	eP	16 27 14				3422	Distant earthquake.
		eL	16 34 07					
		ME	16 39 34	9.2		±15		
		MN	16 41 10	7.1	±20			
		FE	16 53 ±					
		FN	16 57 ±					
102	29 Oct.	P	0 10 13					Kii channel. At Wakayama a slight shock was felt.
		S	0 10 16					
		L	0 10 20					
		ME	0 10 21	0.7		±25		
		MN	0 10 20					
		CE	0 11 56					
		CN	0 11 33					
		FE	0 14 ±					
		FN	0 14 ±					
103	31 Oct.	P	21 58 20				122.3	Near Kinomoto, Mie prefecture.
		L	21 58 31					
		ME	21 58 32			±25		
		MN	21 58 32		±20			
		FE	22 01 ±					
		FN	22 02 ±					
104	3 Nov	P	18 16 31				23.8	Local shock.
		L	18 16 33					
		ME	18 16 34	0.2		±15		
		MN	18 16 34	0.7	±10			
		FE	18 17 19					
		FN	18 17 37					
105	5 Nov	eP	2 00 30				33.6	Local shock.
		L	2 20 34					
		ME	2 20 39	0.5		±15		
		MN	2 20 37	0.5	±50			
		FE	2 21 05					
		FN	2 21 04					
106	8 Nov	P	20 17 42				399	Near Sahara, Tiba prefecture.
		S	20 18 15					
		L	20 18 32					
		ME	20 18 58	4.0		±55		
		MN	20 18 46	4.0	±35			
		CN	20 22 42					
		FE	20 28 ±					
		FN	20 27 ±					

No	Date	Phase	Time G. M. T.	Period	Amplitude AN	Amplitude AE	△	Remarks
			h. m. s.	s.	μ	μ	k.m.	
107	11 Nov	P	4 52 38				10656	Chile earthquake.
		S	5 04 12					
		L	5 17 57					
		M^1_E	6 05 21	18.2		± 420		
		M^1_N	6 03 33	18.5	± 450			
		M^2_N	6 04 18	19.6	± 420			
		M^3_N	6 22 50	22.5	± 300			
		F_E	7 33 ±					
		F_N	7 43 ±					
108	2 Dec.	L	3 58 35					NE Formosa. In Nrn part of Formosa a moderatly strong shock was felt. One of the after-shock of Formosa earthquake.
		M_E	3 58 45					
		M_N	3 59 09					
		F_E	4 11 ±					
		F_N	4 11 ±					
109	3 Dec.	eP	14 44 58				1840	After shock of Formosa earthquake.
		L	14 47 49					
		M_E	14 48 02	2.9		± 20		
		M_N	14 47 56	2.5	± 30			
		F_E	15 00 ±					
		F_N	15 02 ±					
110	6 Dec.	P	14 04 23				1806	Ditto.
		S	14 05 14					
		L	14 07 10					
		M_E	14 08 40	4.3		± 40		
		M_N	14 08 18	3.4	± 15			
111	6 Dec.	P	14 10 08				1728	Ditto.
		S	14 11 24					
		L	14 12 42					
		M_E	14 13 13	4.2		± 60		
		M_N	14 12 51	4.3	± 20			
		F_E	14 42 ±					
		F_N	14 35 ±					
112	7 Dec.	eP	7 19 08					Fore shock of Simabara earthquake.
		L	7 20 23					
		M_E	7 20 54	4.3		± 7		
		M_N	7 21 20	3.6	± 8			
		E_E	7 27 ±					
		E_N	7 24 ±					
113	7 Dec.	P	16 51 22				593	Swrn part of Simabara. A strong shock was felt in epicentral region.
		S	16 52 14					
		L	16 52 38					
		M_E	16 52 55	3.2		±1450		25 persons killed 200 houses & more damaged.
		M_N	16 52 53	4.1	±3010			
		C_E	17 02 17	8.7		± 150		
		C_N	17 04 41	8.4	± 65			
114	7 Dec.	P	17 12 17				494	After shock of No. 113.
		L	17 13 20					
		M_E	17 14 33	2.9		± 15		
		M_N	17 16 02	8.8	± 15			
		F_E	17 30 ±					
		F_N	17 33 ±					
115	7 Dec.	M_E	18 09 43	4.9				Ditto.
		M_N	18 09 36					
		F_E	18 45 ±					
		F_N	18 44 ±					

No	Date	Phase	Time G. M. T.	Period	Amplitude AN	Amplitude AE	△	Remarks
			h. m. s.	s.	μ	μ	k.m.	
116	7 Dec.	P	20 08 17				505	Ditto.
		L	20 09 21					
		ME	20 10 45	3.9		± 25		
		MN	20 10 45	2.5	± 20			
		CE	20 12 32	3.1		± 18		
		FE	20 18 ±					
		FN	20 19 ±					
117	7 Dec.	P	22 22 52				574	Ditto.
		L	22 24 05					
		ME	22 25 17	5.5		± 95		
		MN	22 24 12	4.5	± 100			
		FE	22 40 ±					
		FN	22 41 ±					
118	7 Dec.	ME	22 52 55	4.3				Ditto.
		MN	22 52 38	2.5				
		FE	23 05 ±					
		FN	23 06 ±					
119	8 Dec.	P	2 03 23				600	In Tijiwa Bay, corsed by No. 113. NW coast of Simabara Peninsula, a strong shock was felt, some persons were killed, and many houses damaged.
		S	2 03 59					
		L	2 04 41					
		ME	2 05 17	3.1		± 755		
		MN	2 04 49	4.3	±1160			
		CE	2 14 19	6.7		± 50		
		CN	2 12 49	7.2	± 70			
		FE	2 30 ±					
		FN	2 28 ±					
120	8 Dec.	eP	5 18 21					After-shock of Simabara earthquake.
		L	5 19 13					
		ME	5 20 16	3.8		± 50		
		MN	5 19 30	7.5	± 105			
		FE	5 30 ±					
		FN	5 29 ±					
121	8 Dec.	P	6 46 20				492	Ditto.
		L	6 47 23					
		ME	6 48 32	3.7		± 30		
		MN	6 47 28	4.2	± 45			
		FE	6 58 ±					
		FN	6 56 ±					
122	8 Dec.	P	7 16 42				609	Ditto.
		L	7 18 01					
		ME	7 18 02	2.8		± 15		
		MN	7 18 44					
		FE	7 27 ±					
		FN	7 27 ±					
123	8 Dec.	P	13 41 17				594	Ditto.
		L	13 42 34					
		ME	13 42 38	2.5		± 15		
		MN	13 42 45	2.5	± 15			
		FE	13 53 ±					
		FN	13 52 ±					
124	8 Dec.	P	20 20 49				581	Ditto.
		S	20 21 24					
		L	20 22 04					
		ME	20 22 28	5.5		± 25		
		MN	20 22 48	2.4				
		FE	20 31 ±					
		FN	20 30 ±					

No	Date	Phase	Time G. M. T.	Period	Amplitude AN	Amplitude AE	△	Remarks
			h. m.s.	s.	μ	μ	k.m.	
125	8 Dec.	P	22 35 21				873	Ern off Mutu province.
		L	22 37 16					
		ME	22 38 32	3.8		± 150		
		MN	22 37 27	9.2	± 100			
		CE	22 46 21	8.2	±	± 40		
		CN	22 43 13	2.6	40			
		FE	23 01 ±					
		FN	22 59 ±					
126	18 Dec.	P	22 29 46				507	Ditto.
		S	22 30 14					
		L	22 30 50					
		ME	22 32 26	3.6		± 65		
		M1N	22 31 10	4.6	± 35			
		M2N	22 32 36	2.5	± 45			
		FE	22 43 ±					
		FN	22 43 ±					
127	24 Dec.	e(PS)	2 38 45				39.0	NErn part of Harima, at Himeji a slight shock was felt.
		L	2 38 50					
		ME	2 38 50	0.4		± 30		
		MN	2 38 51	0.7	± 8			
		FE	2 40 ±					
		FN	2 40 ±					
128	27 Dec.	eP	9 32 13				572	Near Kisaratu.
		S	9 32 59					
		L	9 33 26					
		ME	9 34 38	2.8		± 10		
		MN	9 33 27	1.7	± 10			
		FE	9 41 ±					
		FN	9 39 ±					
129	31 Dec.	P	7 23 56				2894	Near Kamtchatka.
		S	7 27 10					
		L	7 29 29					
		M1E	7 30 10	19.8		± 600		
		M1N	7 30 37	18.4	± 530			
		M2E	7 32 24	12.6		±1550		
		M2N	7 32 20	16.8	± 620			
		M3E	7 33 27	17.0		±1480		
		M4E	7 36 22	17.0		±1400		
		C1E	7 41 20	13.8		± 165		
		CN	7 37 17	14.0	± 40			
		C2E	8 10 17	12.9		± 50		
		FE	8 17 ±					
		FN	7 57 ±					