

KEW OBSERVATORY

- 5 JUL 1934

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SEISMOLOGICAL BULLETIN

OF THE

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KOBE, JAPAN.

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KOBE

—
June. 1934.

KÔBE JAPAN.

SEISMOLOGICAL BULLETIN

of the Imperial Marine Observatory and the Kobe Meteorological Observatory of Japan.
 $\varphi = 34^{\circ} 41' 18''$ $\lambda = 135^{\circ} 10' 51''$ $h = 58.3$ m Underground: Diluvial Series.

Instruments: Omori's Seismograph.
(Horizontal Pendulum)

Wiechert Seismograph.
(Horizontal & Vertical)

CONTENTS

	Page.
Seismological Bulletin of Kobe	64
Seismological Bulletin of Sumoto	82
Seismological Bulletin of Toyooka	101

April

	T_0	ε	$\frac{r}{T_0^2}$	V
AE:	14.4		0.0001	20
AN:	18.0		0.0001	20

	T_0	ε	$\frac{r}{T_0^2}$	V
AE:	6.3	Aperiodic	0.007	110
AN:	7.5	"	0.005	110
AZ:	4.7	9	0.005	89

May

	T_0	ε	$\frac{r}{T_0^2}$	V
AE:	15.6		0.0001	20
AN:	17.6		0.0001	20

	T_0	ε	$\frac{r}{T_0^2}$	V
AE:	6.4	Aperiodic	0.004	109
AN:	7.6	"	0.005	87
AZ:	4.8	10	0.006	88

June

	T_0	ε	$\frac{r}{T_0^2}$	V
AE:	19.0		0.0001	20
AN:	19.9		0.0001	20

	T_0	ε	$\frac{r}{T_0^2}$	V
AE:	6.5	Aperiodic	0.006	101
AN:	6.5	"	0.007	101
AZ:	5.8	7	0.007	82

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			G.	M.	T.		AE	AN	AZ		
101	April 1	PE	h	m	s	s	μ	μ	μ	km.	An after shock of the great earthquake off the coast of Sanriku, on March 2nd 1933. Felt in the Pacific coast of Oou and Hokkaido.
			16	01	01						
		PZ	16	01	02						
		SE	16	02	45						
		eSN	16	02	49						
		eSz	16	02	53						
		ME	16	03	31						
MN	16	03	44	12.5		-19					

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					A _E μ	A _N μ	A _Z μ		
102	April 1	M _Z	16 03 35	5.5			-10	1070	An after shock of the great earthquake off the coast of Sanriku, on March 2nd 1933.
		eF _E	16 17 ±						
		eF _N	16 24 ±						
		eF _Z	16 19 ±						
		eP _{EN}	22 43 10						
		eP _Z	22 43 08						
		eS _E	22 45 13						
		S _{NZ}	22 45 03						
		M _E	22 46 27		+4				
		M _N	22 46 50	7.5	+5				
M _Z	22 46 09	6.3		+4					
eF _E	22 51 ±								
eF _{NZ}	22 52 ±								
103	April 2	eP _E	9 53 57				700	Mouth of the Kuji River, Ibaragi Prefecture.	
		eP _Z	9 54 00						
		i _Z	9 54 26	2.0		+6			
		S _{NZ}	9 55 15			-8			
		M _E	9 55 25	2.4	-10				
		M _N	9 55 25	2.4		+12			
		M _Z	9 55 24	2.2		+11			
		eF _E	10 02 ±						
eF _{NZ}	10 04 ±								
104	April 2	e _N	10 14 27					An after shock of the great earthquake off the coast of Sanriku, on March 2nd 1933.	
		e _Z	10 14 32						
		M _E	10 15 07	2.0	+2				
		M _N	10 15 04	2.5		-3			
		M _Z	10 15 05	2.5		-2			
		eF _{EN}	10 22 ±						
		eF _Z	10 19 ±						
105	April 7	e _P	0 56 23				42	Lower basin of the Hidaka River, Wakayama Prefecture.	
		iS _{EN}	0 56 29		+2	-2			
		M _{IE}	0 56 30	0.7	-5				

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					A _E μ	A _N μ	A _Z μ		
106	April 9	M _{1N}	0 56 30	1.0		-4		870	An after shock of the great earthquake off the coast of Sanriku, on March 2nd 1933. Felt in Oou district.
		M _Z	0 56 25	0.9			-1		
		M _{2E}	0 56 37	0.7	+5				
		M _{2N}	0 56 31	0.8		+4			
		eF	0 58 ±						
		eP _{EN}	2 48 38						
		eP _Z	2 48 40						
		S _N	2 50 13				-9		
		S _Z	2 50 20				-12		
		L _E	2 51 08	18.5					
L _N	2 51 07	18.5							
L _Z	2 51 08	11.1							
M _{1E}	2 51 28	15.0	+56						
M _N	2 51 27	16.0		-76					
M _{1Z}	2 51 37	7.0			-27				
M _{2E}	2 52 43	10.3	+113						
M _{2Z}	2 52 10	12.9			-29				
eF _E	3 30 ±								
eF _N	3 45 ±								
eF _Z	3 25 ±								
107	April 9	e _P	10 32 25				900	An after shock of the great earthquake off the coast of Sanriku, on March 2nd 1933.	
		S _E	10 34 02		-5				
		eS _Z	10 34 05						
		L _N	10 34 21						
		i _E	10 35 17			-6			
		M _N	10 35 10	15.3		-9			
		M _Z	10 34 59	3.2					-4
		M _E	10 36 33	3.2	±10				
		eF _E	10 47 ±						
		eF _N	10 46 ±						
eF _Z	10 44 ±								
108	April 13	eP _{EZ}	3 54 17					Near Volcano Aso, Kyūsyū.	
		eS _E	3 55 00						

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					A _E μ	A _N μ	A _Z μ		
109	April 16	eS _N	3 55 03					4015	A distant earthquake. North Australia.
		eS _Z	3 54 58						
		M _E	3 55 13	1.6	+2				
		M _N	3 55 16	1.7		-2			
		M _Z	3 55 14	1.7			± 1		
		eF _E	3 58 \pm						
		eF _N	3 57 \pm						
		eF _Z	3 59 \pm						
		eP _Z	19 23 47						
		P _{EN}	19 23 49		+1.0	-2.0			
		P _Z	19 23 49	1.5			-2.2		
		FR _{NZ}	19 25 50						
		eZ	19 27 10	3.6			-1		
		S _E ?	19 29 38		-3				
		S _Z ?	19 29 35						
		e _E	19 32 33						
		e _N	19 32 19						
eL _N	19 32 44								
eL _Z	19 32 47								
M _N	19 35 54	20.3	± 1						
M _Z	19 35 59	18.5		± 1					
eF _E	19 41 \pm								
eF _N	19 50 \pm								
eF _Z	19 43 \pm								
110	April 19	P _{EN}	2 57 46				970	An after shock of the great earthquake off the coast of Sanriku, on March 2nd 1933.	
		P _Z	2 57 45						
		S _{EN}	2 59 31						
		eS _Z	2 59 38						
		M _E	3 00 44		± 1				
		M _N	3 00 40			-1			
		M _Z	3 01 01						± 1
		e _N	3 01 33	17.0		+1			
		eF _E	3 08 \pm						
		eF _N	3 10 \pm						

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					A _E μ	A _N μ	A _Z μ		
111	April 19	P	6 48 28				2185	Near the Mouth of the Daidakusui River, north- eastren coast of Formosa. Moderate shocks were felt in Northeastern part of Formosa.	
		eS _{EN}	6 52 06						
		eS _Z	6 51 57						
		eL _E	6 53 14						
		eL _Z	6 52 33						
		M _E	6 56 06	14.5	-15				
		M _N	6 56 15	15.2		-9			
		M _Z	6 56 11	14.4					-10
		eF _E	7 25 \pm						
		eF _N	7 27 \pm						
eF _Z	7 19 \pm								
112	April 21	iP _{EN}	20 41 10		-0.6	+1	431	East off Miyake Isl, south off the Izu Peninsula. Felt in Kwanto district.	
		iP _Z	20 41 09						+1.3
		S _{EN}	20 42 08		+3	-3			
		iS _Z	20 42 09						-2
		M _E	20 42 11	1.2	-14				
		M _N	20 42 21	1.7		± 5			
		M _Z	20 42 11	1.7					+4
		i _E	20 43 27	2.0	+6				
		eF _{EN}	20 52 \pm						
		eF _Z	20 49 \pm						
113	April 23	S _{EN}	17 46 22		+3	+3	Near Motoyama, Koti Pre- fecture.		
		M _{EN}	17 46 25	1.2	+3	+4			
		eF _{EN}	17 47 \pm						
114	April 23	eP _E	6 09 59				8450	A distant earthquake. Destructive at Kos Isl. Aegean Sea. 36.5N. 26.5E.	
		eP _N	6 10 01						
		eP _Z	6 09 56	4.8					
		eS _{EN}	6 19 40						
		eS _Z	6 19 39						
		eS _{RZ}	6 23 57						
		eL _E	6 30 44						
		eL _Z	6 30 57						
M _E	6 42 06	18.-							

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			G.	M.	T.		A _E	A _N	A _Z		
			h	m	s	s	μ	μ	μ	km.	
✓ 115	April 23	M _N	6	42	56	20.-				850	An after shock of the great earthquake, off the coast of Sanriku, on Mar. 2nd 1933.
		eM _Z	6	41	56	18.-					
		eF _E	7	00	±						
		eF _N	7	03	±						
		eF _Z	7	08	±						
		eP _{EN}	7	15	42						
		eP _Z	7	15	40						
		i _E	7	15	51						
		i _N	7	15	53						
		S _N	7	17	13						
		i _E	7	17	29						
		L _E	7	18	03						
		L _N	7	18	05						
		L _Z	7	18	06						
		i _N	7	18	13	21.0		-68			
		M _{1E}	7	18	34	8.3	+47				
		M _N	7	18	23	15.0		-73			
		M _{1Z}	7	18	30	5.0			-26		
		M _{2E}	7	19	15	10.8	-48				
		M _{2Z}	7	19	49	8.8			+22		
eF _E	8	13	±								
eF _N	8	15	±								
eF _Z	8	09	±								
✓ 116	April 23	eF _{EN}	8	28	00					960	An after shock of the great earthquake, off the coast of Sanriku, on March 2nd 1933.
		eP _Z	8	27	59						
		S _N	8	29	44						
		S _Z	8	29	43						
		M _E	8	30	51	6.8	+5				
		M _N	8	30	52	6.6		-7			
		M _Z	8	30	51				+3		
		eF _{EN}	8	50	±						
		eF _Z	8	46	±						
		117	April 23	e _E	12	21	59				

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			G.	M.	T.		A _E	A _N	A _Z		
			h	m	s	s	μ	μ	μ	km.	
118	April 25	e _{NZ}	12	21	57					5880	An after shock of the great earthquake off the coast of Sanriku, on March 2nd 1933.
		e _{2E}	12	23	41						
		e _{2Z}	12	23	39						
		eL _{2E}	12	24	11						
		M _N	12	24	38				-2		
		eF _{EN}	12	28	±						
		eF _Z	12	29	±						
		e _Z	2	01	48						
		e _E	2	02	04						
		e _N	2	02	01						
119	April 27	e _{2E}	2	02	38					5880	A distant earthquake. Some damage at Anchorage, Alaska. 60.7N 148.8W. (J.S.A.)
		e _{2N}	2	02	56						
		e _{2Z}	2	02	47						
		M _E	2	03	37	3.1	+2				
		M _N	2	03	06	3.3		-1			
		M _Z	2	03	07	2.5			-1		
		eF _E	2	09	±						
		eF _N	2	07	±						
		eF _Z	2	06	±						
		P _E	2	45	22	3.6					
✓ 119	April 27	P _N	2	45	23	3.6				5880	A distant earthquake. Some damage at Anchorage, Alaska. 60.7N 148.8W. (J.S.A.)
		P _Z	2	45	21	3.0			+1.5		
		i _Z	2	45	41	2.0			+8		
		e _E	2	46	49	2.3	+3				
		e _Z	2	46	49	2.0			+4		
		P _{R1EN}	2	47	12	2.9	+6	+2			
		P _{R1Z}	2	47	14						
		eP _{R2N}	2	47	51	6.1		-2			
		S _E	2	52	54		+4				
		i _{SN}	2	52	52			-10			
119	April 27	S _Z	2	52	52					5880	A distant earthquake. Some damage at Anchorage, Alaska. 60.7N 148.8W. (J.S.A.)
		e _N	2	53	31	35.-					
		eS _{R1EN}	2	56	45						
		eS _{R2N}	2	57	43						

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks	
			G.	M.	T.		A _E	A _N	A _Z			
			h	m	s	s	μ	μ	μ	km		
120	May 1	eLE	3	00	47							
		M _{1E}	3	06	56	19.0	-4					
		M _{1N}	3	06	58	17.6		+10				
		M _{1Z}	3	06	45	19.0			+3			
		M _{2E}	3	13	27	15.6	-7					
		M _{2N}	3	13	10	14.3		+11				
		M _{2Z}	3	14	48	13.1			-10			
		eFE	4	08	±							
		eFN	4	12	±							
		eFz	4	15	±							
		ePz	18	33	30							Near Yetorofu Isl., Kurile IIs.
		eE	18	33	36							
		eLz	18	38	22							
		eLE	19	39	05							
M _{1E}	18	40	01	18.-	+2							
M _N	18	40	07	17.-		+2						
M _Z	18	39	27	21.-								
M _{2E}	18	41	50	15.-	-2							
eFEN	18	47	±									
eFz	18	49	±									
121	May 1	eE	19	03	44	2.8	-1				Faint record. Near Yetorofu Isl., Kurile IIs.	
		eN	19	03	55	4.8		-4				
		eF?	19	09	±							
122	May 1	ePE	19	54	20						1980 South off Yetorofu Isl., Kurile IIs. Felt in Yetorofu Isl. and eastern part of Hokkaido.	
		ePN	19	54	21							
		Pz	19	54	20							
		iE	19	54	36	1.7	±3		-1			
		iz	19	54	36	1.8			±3			
		iN	19	54	43	1.7				-3		
		eSE	19	57	41							
		eSN	19	57	42							
		eL ^(Q) N	19	58	14	63.-						
		eLE	19	59	46							

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks	
			G.	M.	T.		A _E	A _N	A _Z			
			h	m	s	s	μ	μ	μ	km.		
123	May 11	eL _N	19	59	28							
		eL _Z	19	59	25							
		M _{1E}	20	00	38	19.3	-4					
		M _N	20	00	19	20.0		+6				
		M _Z	20	00	27	20.-				-2		
		M _{2E}	20	01	40	15.6	+9					
		eFE	20	24	±							
		eFN	20	29	±							
		eFz	20	27	±							
		PEN	6	49	40			+2.7	-2.2		80	Near Obako, Middle part of the Kii Peninsula.
		iPz	6	49	40					+12.2		
		iPEN	6	49	41			-7.3	+8.9			
		iN	6	49	42	0.6			±7			
iSEN	6	49	51			-28	-60					
iSz	6	49	50					+7				
MEN	6	49	52	1.0	+33	+71						
M _{1Z}	6	49	51	0.5				+12				
M _{2Z}	6	49	52	0.5				-12				
eN	6	50	25	3.4								
iE	6	50	43	2.1	+7							
iN	6	50	49	1.9			+5					
eZ	6	50	51	2.5								
eFEN	6	58	±									
eFz	6	56	±									
124	May 11	M _{1E}	19	59	20	15.-	-1				A distant earthquake. Near Salonica, Greece.	
		M _{1N}	19	59	39	15.-		±1				
		M _{2E}	20	02	12	13.-	-1					
		M _{2N}	20	03	23	14.-			+2			
		eFE	20	12	±							
eFN	20	18	±									
125	May 14	ePE	2	22	40					91	Local shock of Near Izusi, northern part of Hyôgo Prefecture.	
		SEN	2	22	52		-1	-1				
		eSZ	2	22	52							

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			G.	M.	T.		A _E	A _N	A _Z		
			h	m	s	s	μ	μ	μ	km.	
		M _{EN}	2	22	53	0.6	+2	+2			
		M _Z	2	22	52	0.7			-1		
		eF	2	24	±						
126	May 14	M _{EN}	23	55	48	0.5	+2	-2			Lower basin of the Arita River, Wakayama Prefecture.
		eF	23	56	07						
127	May 16	eP _{EN}	1	20	48				+1	4900	A distant earthquake. Northern part of Sumatora. Probable epicenter 96°E, 5°S.
		F _Z	1	20	47						
		eS _E	1	27	25						
		eS _N	1	27	21						
		eS _Z	1	27	41						
		eE	1	30	56						
		eN	1	30	59						
		eL _N	1	32	49						
		M _{1E}	1	38	38	17.-	-5				
		M _{1N}	1	38	27	15.-		+10			
		M _{1Z}	1	38	44	16.-			-3		
		M _{2E}	1	39	47	16.-	-5				
		M _{2N}	1	40	13	12.-		+10			
		M _{2Z}	1	39	38	16.-			-4		
		M _{3N}	1	42	47	13.-		+12			
		eF _E	2	00	±						
		eF _N	2	10	±						
		eF _Z	1	59	±						
128	May 16	P _{NZ}	3	42	26			+2	-1	193	Near Miyosi, Hirosima Prefecture.
		P _E	3	42	29		+2				
		P _{M_E}	3	42	29	0.7	+2				
		P _{M_N}	3	42	27	0.9		+3			
		P _{M_Z}	3	42	26	0.9			+2		
		iS _E	3	42	52						
		eS _{NZ}	3	42	51		-3				
		M _E	3	42	34	1.4	±2				
		M _N	3	42	53	0.8			-3		
		M _Z	3	42	53	1.4			-2		

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			G.	M.	T.		A _E	A _N	A _Z		
			h	m	s	s	μ	μ	μ	km.	
		eF _E	3	45	±						
		eF _N	3	46	±						
		eF _Z	3	44	±						
129	May 18	eP _{EN}	0	01	02						Near Marianne IIs, north Pacific Ocean.
		P _Z	0	01	02	1.2			+1		
		i _N	0	01	07	1.1		+3			
		eE	0	01	52	2.7					
		eS _E	0	05	06						
		eF _E	0	15	±						
		eF _N	0	16	±						
		eF _Z	0	14	±						
130	May 19	eN	19	12	32						A distant earthquake. SW off Guinea, Africa.
		eE	19	13	26						
		eE	19	16	39	21.-	-1				
		eN	19	17	20	22.-		+1			
		eM _E	19	21	45	22.-	-1				
		eM _N	19	23	29	22.-		-1			
		eF _E	19	37	±						
		eF _N	19	35	±						
131	May 20	P _{EN}	7	49	40					89	Near Mineyama, NW of Kyoto Prefecture.
		eF _Z	7	49	42						
		iS	7	49	52		-5	+5	-6		
		M _E	7	49	52	1.0	-8				
		M _N	7	49	53	0.5		-8			
		M _Z	7	49	44	0.5			-6		
		eF _{EN}	7	53	±						
		eF _Z	7	52	±						
132	May 20	eZ	13	54	59						Near Hatiman, Siga Prefecture.
		iS _E	13	55	04						
		M _E	13	55	05	0.4	-8				
		M _N	13	55	05	0.5		-5			
		M _Z	13	55	07	1.3			-2		

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			G.	M.	T.		A _E	A _N	A _Z		
			h	m	s	s	μ	μ	μ	km.	
133	May 20	eF _{EN}	13	56	±						Lower basin of the Miya River, Mie Prefecture.
		eF _Z	13	57	±						
		iS _E	18	30	43		+4				
		S _Z	18	30	44				-1		
		M _{EN}	18	30	47	1.1	+7	-7			
		M _Z	18	30	46	1.0			+2		
134	May 21	eF	18	32	±						SSE off Hatidyô Isl?
		eP _N	11	57	01						
		e _N	11	59	10						
		M _E	12	02	14	8.6	-2				
		M _N	12	01	24	8.6		-3			
		M _Z	12	03	03	8.0			-1		
135	May 22	eF _{EZ}	12	12	±						An after shock of the great earthquake, off the coast of Sanriku, on Mar. 2nd 1933.
		eF _N	12	17	±						
		iP _E	15	31	02	2.4	+3.9				
		iP _N	15	31	02			+3.1			
		iP _Z	15	31	02	2.1			-4.4		
		e _E	15	32	22						
136	May 23	M _{?E}	15	32	31	2.8	+4				In the Hiuga Nada, SE off Miyazaki Prefecture.
		M _{?N}	15	32	36	3.3		±3			
		M _{?Z}	15	32	34	3.5			-3		
		eF _E	15	36	±						
		eF _N	15	37	±						
		eF _Z	15	35	±						
137	May 23	eP _{?N}	16	37	46						In the Hiuga Nada, SE off Miyazaki Prefecture.
		iS _E	16	39	27		+15				
		eS _N	16	39	16						
		eS _Z	16	39	11						
		M _{1N}	16	39	33	1.8		±15			
		M _Z	16	39	34	2.2					
		M _E	16	39	41	2.5	-23		±12		
		M _{2N}	16	39	39	3.1			-17		

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks	
			G.	M.	T.		A _E	A _N	A _Z			
			h	m	s	s	μ	μ	μ	km.		
137	May 23	eF _E	16	49	±						In the Hiuga Nada, SE off Miyazaki Prefecture.	
		eF _N	16	50	±							
		iS _E	16	54	45				-13			
		eS _N	16	54	35							
		eS _Z	16	54	26							
		M _E	16	54	49	2.3	+12					
		M _{NZ}	16	54	49	2.0		+10	-9			
		M _{2E}	16	54	58	2.0	+18					
138	May 28	M _{2N}	16	54	59	2.2			-12		Deep focus earthquake. WSW of Hatidyô Isl.	
		eF _{EN}	17	05	±							
		eF _Z	17	03	±							
		P _N	23	41	08					-1.0		370
		iP _E	23	41	08	1.0	-2.0					
		iP _N	23	41	08				+3.0			
139	June 2	iS _E	23	41	58				-3		Very faint record. Record is deep focus type. Off the Sata Cape, south end of Kyûshû.	
		iS _N	23	41	57				-2			
		M _E	23	41	59	2.2	+6					
		M _N	23	41	59	2.0			+			
		e _E	23	43	38	3.9	±2					
		e _N	23	43	42	3.2			±1			
		eF	23	48	±							
		eP _{NZ}	4	43	33					+1		550
139	June 2	i _E	4	43	37	0.7	+2				Very faint record. Record is deep focus type. Off the Sata Cape, south end of Kyûshû.	
		i _N	4	43	35	1.1			-3			
		i _Z	4	43	34	1.3				-2		
		eS _E	4	44	34							
		iS _N	4	44	36	1.1			+3			
		eS _Z	4	44	33							
		M _E	4	44	38	1.0	+3					
		M _N	4	44	37	1.3			+3			
		M _Z	4	44	35	1.5				+1		
		eF _E	4	49	±							
eF _N	4	48	±									

No.	Date	Phase	Time		Period	Amplitude			Δ	Remarks	
			G.	M. T.		A _E	A _N	A _Z			
			h	m s	s	μ	μ	μ	km.		
140	June 2	eFz	4	47 ±					970	Moderate shocks were felt in southern part of Kyûsyû.	
		ePE	7	39 57							
		ePN	7	39 56							
		ePz	7	39 58							
		eE	7	40 10	4.6						
		eN	7	40 07	5.6						
		iZ	7	40 09	9.0						
		iSE	7	41 41		+32					
		iSZ	7	41 37				+20			
		M _{1E}	7	41 51	3.9	-72					
		M _N	7	41 55	4.6		+107				
		M _{1Z}	7	42 00	4.0			+32			
		M _{2E}	7	42 01	4.0	+57					
		M _{3E}	7	42 39	16.5	±50					
		M _{2Z}	7	42 45	18.0			±27			
		eFE	8	11 ±							
eFN	8	15 ±									
eFz	8	14 ±									
141	June 3	ePE	17	11 10					1070	Near Amami-Ôsima, Ryû-kyû IIs.	
		PN	17	11 11		-4					
		Pz	17	11 10				-1			
		iPEN	17	11 12	2.4	+7.0	+14.0				
		iPz	17	11 11	1.8			-6.8			
		iE	17	11 17	2.0	+11					
		iN	17	11 16	2.0			-15			
		eSN	17	13 06							
		eSz	17	13 15							
		eLE	17	13 51							
		eLz	17	14 01							
		M _{1EN}	17	14 21	11.5	+25	-35				
		M _{1Z}	17	14 43	9.0			-12			
		M _{2N}	17	15 33	7.5			-27			
		M _{2Z}	17	15 12	9.6						-10
		M _{3E}	17	17 51	6.4	±26					

No.	Date	Phase	Time		Period	Amplitude			Δ	Remarks			
			G.	M. T.		A _E	A _N	A _Z					
			h	m s	s	μ	μ	μ	km.				
142	June 4	eFE	17	45 ±					3.2	-4	-3	A distant earthquake. North off New-Guinea?	
		eFN	17	41 ±									
		eFz	17	40 ±									
		ePEN	13	47 56									
143	June 5	iEN	13	54 03									
		eFE	14	07 ±									
		eFN	14	06 ±									
		ePN	1	52 34									NNE of Tyôsi, Tiba Prefecture.
		ePz	1	52 41									Weak shocks were felt in Kwanto district.
		e _{1E}	1	53 46									
		e _{2E}	1	54 11									
		eN	1	54 01									
		eZ	1	53 57									
		ME	1	54 41	4.8	±4							
144	June 6	MN	1	54 22	4.8		+4						
		MZ	1	54 24	4.1								
		eFEN	2	03 ±									
		eFz	2	02 ±									
		ePN	2	33 47									2890
		ePz	2	33 49									A distant earthquake. Record is deep focus type. Strong shocks were felt in southern part of Luzon. Epicenter 14°20' N 121°35' E. (Manila's report)
		PE	2	33 50	2.4	-4							
		iPN	2	33 51	3.1			-9					
		iPz	2	33 51	2.5								
		i _{1N}	2	34 30	4.0			+5					
144	June 6	i _{2N}	2	35 34	3.6		+7						
		eSEZ	2	38 24									
		eLN	2	41 15									
		eLz	2	41 03									
		ME	2	43 29		-1							
		MN	2	44 31				+2					
		MZ	2	46 07	18.-								
		eFE	2	55 ±									
		eFN	2	57 ±									

No.	Date	Phase	Time	Period	Amplitude			Δ	Remarks
					A _E	A _N	A _Z		
			G. M. T.	s	μ	μ	μ	km.	
145	June 6	eFz	2 59 ±					52	In the Wakaura Bay, Kii Channel.
		P _N	4 28 23						
		P _Z	4 28 22						
		S _E	4 28 31		+3				
		S _Z	4 28 29			+1			
		M _E	4 28 38	0.8	+4				
		M _N	4 28 37	0.5		-4			
		M _Z	4 28 35	0.5		+1			
		F _{EN}	4 28 55						
F _Z	4 29 05								
146	June 6	eP _{NZ}	6 47 27				1010	North off Bonin Isl..	
		S _Z	6 49 16			+2			
		M _N	6 50 45	3.8		-3			
		M _Z	6 50 17	4.1		-2			
		eF _E	6 56 ±						
		eF _N	6 55 ±						
		eF _Z	6 54 ±						
147	June 7	e _E	11 56 13					A distant earthquake. Northeastern part of Burma.	
		e _N	11 58 59						
		eS _{?E}	12 00 55						
		eL _N	12 02 35						
		M _{1N}	12 03 51	12.2		+11			
		M _E	12 05 51	10.5	-13				
		M _{2N}	12 06 11	8.5		+11			
		M _Z	12 05 48	10.5		-5			
		eF _E	12 24 ±						
		eF _N	12 34 ±						
eF _Z	12 18 ±								
148	June 7	P _{EN}	13 24 50				76	Mouth of the Arita River, Wakayama Prefecture.	
		P _Z	13 24 49						
		i _N	13 24 56						
		i _Z	13 24 57						
						+2			

No.	Date	Phase	Time	Period	Amplitude			Δ	Remarks
					A _E	A _N	A _Z		
			G. M. T.	s	μ	μ	μ	μ	
149	June 8	i _S	13 25 00		+6	+5	-2	1170	ENE off Miyako, Iwate Prefecture. Felt in the Pacific coast of northeast Japan and Hokkaido.
		M _E	13 25 01	0.5	+7				
		M _N	13 25 00	0.4		+6			
		M _Z	13	0.5			-2		
		F _{EN}	13 25 56						
		F _Z	13 25 31						
		P _{EN}	18 12 59		+0.5				
		F _Z	18 13 00						
		S _E	18 15 04		-8				
		eS _N	18 14 44						
eS _Z	18 14 56								
i _E	18 15 13	5.3	±11						
M _E	18 16 25	17.-	+13						
M _N	18 16 28	16.-		-11					
M _Z	18 17 12	18.-							
eF _E	18 43 ±								
eF _N	18 41 ±								
eF _Z	18 36 ±								
150	June 12	eP _E	21 10 05				670	In the Kesenuma Bay, Miyagi Prefecture. Moderate shocks were felt at the near epicentral region. Felt area Oou and Hokkaido.	
		eP _N	21 10 07						
		S _E	21 11 18						
		eS _N	21 11 20						
		M _{1E}	21 12 48	3.1	-13				
		M _N	21 12 19	3.3		±11			
		M _{2E}	21 13 24	3.3	±12				
		eF _E	21 24 ±						
eF _N	21 23 ±								
151	June 13	eP _E	20 35 53				870	East off the Mabut River, Aomori Prefecture. Felt in the Pacific coast of Oou and Hokkaido.	
		eP _N	20 35 55						
		eP _Z	20 35 52						
		eS _N	20 37 30						
		eL _Z	20 37 58						
		M _E	20 39 28	19.-	-30				

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					A _E μ	A _N μ	A _Z μ		
152	June 18	M _N	20 39 01	19.-		+31		1020	North off Bonin Isl.
		M _Z	20 39 14	19.-			± 10		
		eF	20 58 \pm						
		eP _E	13 13 51						
		eP _N	13 13 59						
		eP _Z	13 13 53						
		eS _E	13 15 42						
		eS _N	13 15 34						
		eS _Z	13 15 36						
		M _E	13 16 59	12.8	-7				
		M _Z	13 17 01	16.-		-3			
		eF _E	13 26 \pm						
		eF _{NZ}	13 25 \pm						
153	June 18	P _Z	21 39 16			+0.3	660?	East off Kinkwazan, Miyagi Prefecture. Felt in NE Japan and Hokkaido, strong shocks in Miyagi and Iwate Prefecture.	
		eP _{EN}	21 39 18	-1.0	+0.7				
		iP _{EN}	21 39 19	-12.0	-4.3				
		iP _Z	21 39 17			+4.7			
		S _N	21 40 29			+38			
		S _Z	21 40 37			-22			
		L _E	21 40 56						
		L _Z	21 40 46						
		M _{1E}	21 41 22	12.5	-302				
		M _{1N}	21 41 19	13.3		-323			
		M _{1Z}	21 41 21	7.1		-147			
		M _{2E}	21 42 06	13.0	-314				
		M _{2N}	21 42 14	14.4		+240			
M _{2Z}	21 41 59	21.2		-177					
eF _E	23 44 \pm								
eF _N	23 28 \pm								
eF _Z	23 29 \pm								
154	June 24	eP	22 03 35				5830	A distant earthquake. Probable epicenter from field observation 5.°S	
		eP _{NE}	22 05 16						
		eP _{RE}	22 05 57						

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					A _E μ	A _N μ	A _Z μ		
155	June 29	S _{EN}	22 11 03		-9	+11		104.°2E, Zerotime 21h 54m 35s, according to Batavia's report.	
		eS _Z	22 11 08						
		iE	22 11 52	7.5	-30				
		eN	22 14 20						
		eL _E	22 16 22						
		eL _N	22 16 09						
		eL _Z	22 16 54						
		M _{1E}	22 29 18	12.7	+33				
		M _{1N}	22 28 25	13.1		+56			
		M _{1Z}	22 28 50	14.9			-12		
		M _{2E}	22 32 01	11.8	+46				
		M _{2N}	22 30 24	12.9		-42			
		M _{2Z}	22 32 03	13.1			-18		
		M _{2E}	22 33 45	10.8	+52				
		eF _E	23 42 \pm						
eF _N	23 54 \pm								
eF _Z	23 49 \pm								
156	June 30	eN	13 18 29				132	Near Kasimo, southern foot of the Mt. Ontake, Gifu Prefecture.	
		S _{EN}	13 18 33		+2	+1			
		M _E	13 18 35	1.2	+5				
		M _N	13 18 34	1.4		± 3			
		M _Z	13 18 35	1.8		-3			
		F	13 19 07						
156	June 30	F _{NZ}	17 46 42				132	Near Hukui City.	
		iS	17 47 00						
		M _{EZ}	17 47 01	0.5	-5	-5			
		M _N	17 47 00			-5			
		F _E	17 48 10						
		F _N	17 48 07						
F _Z	17 48 25								

SUMOTO JAPAN.

SEISMOLOGICAL BULLETIN

A Branch Station of the Kobe Meteorological Observatory of Japan.

$\phi=34^{\circ} 21'$ $\lambda=134^{\circ} 53'$ $h=109.0$ m. Underground: Cretaceous.

Instrument: Omori's Seismograph.
(Horizontal Pendulum.)

Wiechert Seismograph.
(Horizontal & Vertical)

April

	T_0	ϵ	$\frac{r}{T_0^2}$	V
AE:	17.6	1.7	0.0002	20
AN:	15.4	2.1	0.0002	20

	T_0	ϵ	$\frac{r}{T_0^2}$	V
AE:	4.6	Aperiodic	0.002	110
AN:	4.5	"	0.002	109
Az:	4.3	"	0.001	62

May

	T_0	ϵ	$\frac{r}{T_0^2}$	V
AE:	17.1	2.0	0.0001	20
AN:	16.1	2.1	0.0002	20

	T_0	ϵ	$\frac{r}{T_0^2}$	V
AE:	4.6	Aperiodic	0.003	114
AN:	4.6	"	0.002	101
Az:	4.2	"	0.002	67

June

	T_0	ϵ	$\frac{r}{T_0^2}$	V
AE:	18.0	1.9	0.0002	20
AN:	16.8	1.9	0.0001	20

	T_0	ϵ	$\frac{r}{T_0^2}$	V
AE:	4.5	Aperiodic	0.003	106
AN:	4.5	"	0.002	104
Az:	4.2	"	0.001	64

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					AE	AN	Az		
120	April 1	SEN	12 15 11		μ	μ	μ	Near Wakayama City.	
		ME	12 15 11	0.3	+2				
		MN	11 15 12	0.3	-3				
		F	12 15 37						
121	April 1	FEN	16 01 06				931	An after shock of the great earthquake, off the coast of Sanriku, on Mar. 2nd 1933.	
		iz	16 01 13						

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks	
					AE	AN	Az			
122	April 1	SE	16 03 08					1680?	Felt in the Pacific coast of Oou and Hokkaido.	
		SN	16 03 14							
		Sz	16 03 13							
		ME	16 03 46	4.4	-4					
		MN	16 03 46	7.3		+6				
		MZ	16 03 45	4.0			-2			
		eFE	16 13 ±							
		eFN	16 15 ±							
		eFz	16 12 ±							
		ePE	22 43 06							
123	April 2	PN	22 43 12					534	In the Mouth of the Kuji River, Ibaraki Pref. Weak shocks were felt in Kwanto district.	
		Pz	22 43 13							
		SN	22 46 06							
		ME	23 47 13	2.9	-1					
		MN	22 46 54	4.5		-1				
		eFE	22 53 ±							
		eFN	22 52 ±							
		eFN	23 01 ±							
		ePE	9 54 00							
		ePN	9 54 14							
124	April 2	ePz	9 54 11					824	An after shock of the great earthquake, off the coast of Sanriku, on Mar. 2nd 1933.	
		SE	9 55 21							
		SN	9 55 20							
		Sz	9 55 19							
		ME	9 55 34	2.2	±4					
		MN	9 55 21	2.4		±4				
		MZ	9 55 36	2.0			±2			
		eFEN	10 01 ±							
		eFz	10 00 ±							
		ePEN	10 13 15							
124	April 2	eSE	10 15 09					824	An after shock of the great earthquake, off the coast of Sanriku, on Mar. 2nd 1933.	
		SN	10 15 03							
		ME	10 15 31	2.8	+1					

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					A _E μ	A _N μ	A _Z μ		
125	April 2	M _N	10 15 16	2.8		-1		25	Near Wakayama City.
		M _Z	10 15 16	3.3			±1		
		eF _{EN}	10 22 ±						
		eF _Z	10 18 ±						
		PEN	12 22 24						
126	April 5	SEN	12 23 27				43	In the Kii Channel.	
		M	12 22 27	0.4	+1	-3			
		F	12 23 06						
		PEN	13 07 40						
		SEN	13 07 45						
127	April 7	ME	13 07 46	0.5	-3		39	Lower basin of the Hidaka River, Wakayama Prefecture.	
		MN	13 07 46	0.4		+4			
		F	13 08 22						
		PEN	0 56 17						
		S	0 56 22						
128	April 7	ME	0 56 23	0.4	+5		17	Ditto.	
		MN	0 56 23	0.5		-6			
		MZ	0 56 23	0.6					±2
		F	0 57 02						
		ePEN	0 57 03						
129	April 9	SEN	0 57 05				790	An after shock of the great earthquake, off the coast of Sanriku, on Mar. 2nd 1933. Felt in Oôu district.	
		ME	0 57 06	0.4		-1			
		MN	0 57 06						±2
		F	0 57 27						
		ePE	2 48 41						
130	April 9	ePN	2 48 39				975	An after shock of the great earthquake off the coast of Sanriku, on March 2nd 1933.	
		ePz	2 48 42						
		SE	2 50 24						
		SN	2 50 27						
		eSz	2 50 30						
		M _{1E}	2 51 41	10.5		-154			

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					A _E μ	A _N μ	A _Z μ		
131	April 12	M _N	2 51 41	9.0		+179		51	In the Wakaura Bay, Kii Channel.
		M _Z	2 52 24	10.9			+59		
		M _{2E}	2 53 03	11.2	-155				
		eF _{EN}	3 22 ±						
		eF _Z	3 17 ±						
		ePE	10 32 40						
		ePN	10 32 36						
132	April 13	Pz	10 32 36				975	An after shock of the great earthquake off the coast of Sanriku, on March 2nd 1933.	
		SN	10 34 42						
		Sz	10 34 54						
		ME	10 35 38	2.3	±2				
		MN	10 36 21	6.4		+3			
		MZ	10 35 17	3.9					±2
		eFE	10 46 ±						
		eFN	10 44 ±						
eFz	10 43 ±								
131	April 12	eEN	15 31 55				51	In the Wakaura Bay, Kii Channel.	
		eEN	15 31 02						
		ME	15 32 02		+1				
		MN	15 32 02	0.4		-1			
		F	15 33 00						
132	April 13	eFE	3 54 11				790	Near Volcano Aso, Kyûshû.	
		eFN	3 54 06						
		eFz	3 54 13						
		eSEN	3 54 52						
		eSz	3 54 53						
		ME	3 55 04	1.7	-1				
		MN	3 54 54	1.9		+1			
		MZ	3 55 00	2.0					+1
FE	3 57 57								
FN	3 57 33								
eFz	3 56 ±								

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			G.	M.	T.		A _E	A _N	A _Z		
			h	m	s	s	μ	μ	μ	km.	
133	April 13	ePN	15	10	42						In the Wakaura Bay, Kii Channel.
		SEN	15	10	46						
		ME	15	10	46		± 1				
		MN	15	10	46	0.4		+1			
		F	15	11	30						
134	April 15	iEN	0	46	04					31	Near Motoyama, Kôti Prefecture.
		S	0	46	09						
		ME	0	46	10	0.4	+2				
		MNZ	0	46	11	0.6		± 4	+2		
		F	0	47	01						
135	April 16	FEZ	19	23	45					3965	A distant earthquake. North Austoralia.
		PN	19	23	47						
		S	19	29	31						
		LN	19	32	12						
		MN	19	35	16	22.3		± 10			
		eFEN	19	48	\pm						
		eFz	19	43	\pm						
136	April 19	SEN	2	10	39						Near Wakayama City.
		MEN	2	10	40	0.3	-2	-2			
		FEN	2	11	04						
137	April 19	PEN	2	57	50					777	An after shock of the great earthquake, off the coast of Sanriku, on Mar. 2nd 1933.
		SE	2	59	34						
		SN	2	59	35						
		ME	3	00	22	2.8	-1				
		MN	2	59	47	1.7		± 1			
		Mz	3	00	28	1.4			-1		
		eFEN	3	07	\pm						
		eFz	3	04	\pm						
138	April 19	P	6	48	21		+1.2	+1.4	+0.3	2100	Near the Mouth of the Daidakusui River NE coast of Formosa.
		SEN	6	51	54						
		Sz	6	51	51						

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			G.	M.	T.		A _E	A _N	A _Z		
			h	m	s	s	μ	μ	μ	km.	
		LE	6	55	33						Moderate shocks were felt in Northern part of Formosa.
		LN	6	55	40						
		LZ	6	55	45						
		ME	6	56	06	10.0	-17				
		MN	6	57	20	10.6		-40			
		Mz	6	56	10	14.1			-83		
		eFEN	7	21	\pm						
		eFz	7	15	\pm						
*139	April 21	iP	2	36	44						In the Wakaura Bay, Kii Channel. Perceptible.
		iS	2	36	49						
		MEN	2	36	49	0.4	-6	-7			
		Mz	2	36	49	0.5			± 2		
		F	2	37	55						
140	April 21	ePN	6	47	13						In the Wakaura Bay, Kii Channel.
		SEN	6	47	18						
		ME	6	47	18		+1				
		MN	6	47	18	0.4		-2			
		F	6	47	38						
141	April 21	PEN	20	41	10						East off Miyake Isl., south off Izu Peninsula. Felt in Kwanto district.
		Fz	20	41	13				+0.8		
		SE	20	42	13						
		SN	20	42	11						
		Sz	20	42	16						
		ME	20	42	26	2.3	+7				
		MN	20	42	25	1.7		-4			
		Mz	20	42	27	2.3			-5		
142	April 22	PEN	17	45	45						Near Motoyama, Kôti Prefecture.
		S	17	45	57						
		ME	17	45	58	0.4	+6				

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					A _E μ	A _N μ	A _Z μ		
✓ 143	April 23	MNZ	17 45 59	0.4		+6	-2	879	An after shock of the great earthquake, off the coast of Sanriku, on Mar. 2nd 1933.
		F	17 47 03						
		PE	7 15 45						
		PN	7 15 47						
		PZ	7 15 44						
		SE	7 17 41						
		SN	7 17 36						
		eSZ	7 17 55						
		ME	7 19 03	9.1	-69				
		MN	7 18 55	9.5		+100			
		MZ	7 19 05	6.4			± 21		
eFEN	7 57 \pm								
eFz	7 46 \pm								
144	April 23	PE	8 28 40				721	Ditto.	
		PN	8 28 42						
		eZ	8 30 13						
		SE	8 30 16						
		SN	8 30 20						
		ME	8 31 10	3.1	+3				
		MN	8 31 42	3.1		+3			
		MZ	8 30 45	4.1					± 1
		eFEN	8 42 \pm						
		eFz	8 37 \pm						
✓ 145	April 27	PEZ	2 45 25				5995	A distant earthquake. Some damage at Anchorage, Alaska.	
		PN	2 45 22						
		SE	2 53 09						
		SNZ	2 52 56						
		LE	3 00 05						
		LN	3 00 15						
		ME	3 12 56	15.0	-46				
		MN	3 15 05	13.9		-75			
		MZ	3 15 01	13.2					
		eFE	3 45 \pm						-100

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					A _E μ	A _N μ	A _Z μ		
✓ 146	May 1	eFN	3 53 \pm				68	Near Yotorofu Isl, Kurile Ils.	
		eFz	3 42 \pm						
		PEZ	19 54 40						
		PN	19 54 42						
		LEN	20 00 18						
		eLN	20 00 21						
		ME	20 01 12	19.7	± 33				
		MN	20 01 47	15.9		± 17			
		MZ	20 01 25	18.2					± 13
		eFEN	20 24 \pm						
eFz	20 17 \pm								
147	May 11	P	6 49 38				68	Near Mt. Obako, middle part of the Kii Peninsula.	
		SEN	6 49 47						
		ME	6 49 48	0.4	-4				
		MN	6 49 48	0.3		-8			
		MZ	6 49 51						± 2
		FEN	6 51 24						
		Fz	6 50 38						
148	May 14	ePEN	23 55 31				36	Lower basin of the Arita River, Wakayama Prefec- ture.	
		S	23 55 36						
		ME	23 55 37	0.4	+2				
		MN	23 55 37	0.2		+4			
		F	23 56 17						
149	May 15	ePN	1 12 27				352	Near Volcano Aso, Kyū- syū.	
		ie	1 12 57						
		SEN	1 13 14						
		ME	1 13 43	4.1	± 0.4				
		MN	1 13 36	4.1		± 1			
		eF	1 15 \pm						
150	May 16	PE	1 20 39				Northern part of Sumatra.		
		PNZ	1 20 41						

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks	
					A _E μ	A _N μ	A _Z μ			
151	May 16	SE	1 27 26							
		SN	1 27 16							
		SZ	1 27 11							
		LN	1 35 12							
		ME	1 43 04	14.5	-13					
		MN	1 41 47	14.5		+32				
		MZ	1 47 26	11.8			± 8			
		eF _{EN}	2 02 \pm							
		eF _Z	1 57 \pm							
		ePN	3 42 21						181	Near Miyosi, Hirosima, Prefecture.
S	3 42 46									
ME	3 42 48	0.8	+3							
MN	3 42 48	0.6		-5						
MZ	3 42 48	0.7			± 1					
FE	3 43 30									
FN	3 44 33									
Fz	3 43 25									
152	May 19	ePN	7 38 11						42	Near Siomisaki? south end of Kii Peninsula.
		SEN	7 38 17							
		ME	7 38 17	0.4	+4					
		MN	7 38 17	0.3		-5				
		F	7 38 47							
153	May 20	ePEN	7 49 47						114	Near Mineyama, NW of Kyôto Prefecture.
		S	7 50 02							
		ME	7 50 03				± 2			
		MN	7 50 03	0.4		-2				
		eF	7 51 \pm							
154	May 20	eEN	13 55 13							Near Hatiman, Siga Pref.
		S	13 55 16							
		M	13 55 16				± 1			
		F	13 55 33				± 1			

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks	
					A _E μ	A _N μ	A _Z μ			
155	May 20	ePE	18 30 25						119	Lower basin of the Miya River, Mie Prefecture.
		ePN	18 30 28							
		SEN	18 30 43							
		ME	18 30 51	0.8	-1					
		MN	18 30 50	0.7		+3				
		F	18 31 47							
156	May 21	iE	11 56 59						?	SSE off Hatidyo Isl?
		iN	11 56 57							
		eSEN	11 59 39							
		MN	12 02 43	7.5		± 1				
		eFE	12 13 \pm							
		eFN	12 18 \pm							
157	May 22	P	15 31 05						685	An after shock of the great earthquake, off the coast of Sanriku, on Mar. 2nd 1933.
		eSEN	15 32 37							
		ME	15 32 39	1.7	± 1					
		MN	15 32 41			+1				
		eFE	15 36 \pm							
		eFN	15 35 \pm							
158	May 22	eEN	19 01 58							Near Wakayama City.
		iEN	19 02 09							
		F	19 03 \pm							
159	May 22	ePE	20 45 20						387	In the Hyûga-nada, SE off Miyazaki Prefecture.
		ePN	20 45 15							
		eZ	20 45 27							
		SEN	20 46 09							
		SZ	20 46 11							
		ME	20 46 20	1.5	-1					
		MN	20 46 19	1.0		-2				
		MZ	20 46 21	1.3				± 1		
		eF _{EN}	20 50 \pm							
		eF _Z	20 48 \pm							

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					A _E μ	A _N μ	A _Z μ		
160	May 23	PEN	16 37 39		+0.9	+1.0		625	Ditto.
		PZ	16 37 38				+		
		SE	16 39 05						
		SNZ	16 39 02						
		ME	16 39 18	1.8	-16				
		MN	16 39 16	2.2		-29			
		MZ	16 39 16	2.3			+9		
		eFEN	16 48 ±						
		eFZ	16 46 ±						
161	May 23	PEN	16 52 54		+0.9	+		655	Ditto.
		PZ	16 52 51				+0.7		
		SE	16 54 23						
		SN	16 54 18						
		SZ	16 54 24						
		ME	16 54 34	2.0	-9				
		MN	16 54 32	2.0		-15			
		MZ	16 54 33	2.2			-5		
		eFEN	17 03 ±						
eFZ	17 00 ±								
162	May 28	P	23 41 07				368	WSW off Hatidyô Isl. Deep focus earthquake.	
		SEZ	23 41 57						
		SN	23 41 56						
		ME	23 41 57	1.9	±1				
		MN	23 41 58	2.4		+3			
		MZ	23 41 57	1.1					+1
		eFEN	23 44 ±						
eFZ	23 43 ±								
163	May 29	P	4 25 33				28	Near Wakayama City.	
		SEN	4 25 37						+0.2
		ME	4 25 38	0.3	-4				
		MN	4 25 38	0.4		-9			
		MZ	4 25 38						
		FEN	4 26 40						

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					A _E μ	A _N μ	A _Z μ		
164	May 30	FZ	4 26 24					22?	Ditto.
		ePN	12 48 27						
		SEN	12 48 30						
		ME	12 48 32	0.4	+2				
		MN	12 48 31	0.3		+2			
		F	12 49 12						
165	June 2	PEN	4 43 27		+0.9	+1.0		418	Off the Sata Cape, South end of Kyûsyû.
		PZ	4 43 28				+1.6		
		eSEN	4 44 23						
		MEN	4 44 27	0.5	-1	±1			
		eFEN	4 47 ±						
		eFZ	4 46 ±						
166	June 2	P	7 39 52		+1.4	+1.0	+1.9	675	Moderate shocks were felt in southern part of Kyûsyû.
		S	7 41 23						
		ME	7 41 51	3.4	-49				
		MN	7 41 54	3.2		-73			
		MZ	7 42 04	3.4			+25		
		eFE	8 08 ±						
		eFN	8 09 ±						
		eFZ	8 05 ±						
167	June 3	ePN	13 32 02					373	Near Volcano Aso, Kyûsyû.
		SE	13 32 53						
		SN	13 32 52						
		ME	13 32 58	1.7	±1				
		MN	13 32 57	1.7		-1			
		MZ	13 32 59	1.3			±1		
		eFEN	13 35 ±						
		eFZ	13 33 ±						
168	June 3	iEN	16 56 42						Near Kakioka, Ibaraki Prefecture.
		eSN	16 56 51						
		eSE	16 57 00						

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			G.	M.	T.		A _E	A _N	A _Z		
			h	m	s	s	μ	μ	μ	km.	
✓ 169	June 3	F	16	59	±					1490	Near Amami-osima, Ryūkyū.
		iP	17	11	06		-1.9	-1.9	-2.3		
		SEN	17	13	35						
		eSz	17	13	54						
		ME	17	14	56	10.5	-13				
		MN	17	14	11	6.5		-22			
		MZ	17	14	35	9.1			-11		
		eFEN	17	48	±						
eFz	17	35	±								
170	June 3	PEN	18	09	09					27	Near Wakayama City.
		SEN	18	09	12						
		ME	18	09	12	0.2	±2				
		MN	18	09	14	0.3		±4			
		F	18	09	40						
171	June 4	PE	13	47	52					4330	A distant earthquake. North off New Guinea?
		PNZ	13	47	53						
		SEN	13	53	59						
		eF	14	13	±						
172	June 5	ePEN	1	53	05					497	NNE off Tyosi, Tiba Prefecture. Weak shocks were felt in Kwanto district.
		SEN	1	54	12						
		ME	1	54	24	2.4	±1				
		MN	1	54	41	2.4		+1			
		MZ	1	54	18	2.4			±1		
		eFEZ	1	58	±						
eFN	1	59	±								
173	June 5	ePN	2	58	09					235	Mouth of the Hidi River, Ehime Prefecture.
		iE	2	58	27						
		eSE	2	58	40						
		eSN	2	58	41						
		ME	2	58	44		±1				
		MN	2	58	43	0.8		±1			

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks		
			G.	M.	T.		A _E	A _N	A _Z				
			h	m	s	s	μ	μ	μ	km.			
174	June 5	eFEN	3	00	±					±1	In the Wakaura Bay, Kii Channel.		
		SEN	4	14	38								
		ME	4	14	40								
		MN	4	14	39	0.4		±1					
175	June 6	F	4	15	05					2875	Strong shocks were felt in southern part of Luzon. Epicenter 14°20'N 121°35'E, according to the Manila's report.		
		PEN	2	33	44								
		PZ	2	33	46								
		SN	2	38	17								
		SE	2	38	19								
176	June 6	eFEN	2	51	±					+1.9	-2.9		
		eFz	2	53	±							-1.6	26
		iP	4	28	18								
		iS	4	28	21								
		ME	4	28	22	0.9	-21						
		MN	4	28	22	0.8		-36					
177	June 6	MZ	4	28	22	0.5				-8	In the Wakaura Bay, Kii Channel.		
		FE	4	30	04								
		FN	4	30	19								
		Fz	4	29	28								
		ePN	13	00	38								
		SEN	13	00	39								
178	June 6	ME	13	00	35					±1	Near Yuasa, Wakayama Prefecture.		
		MN	13	00	35	0.4		+2					
		F	13	00	54								
		ePN	16	08	15								
		SEN	16	08	18								
179	June 6	ME	16	08	18					±2	Near Wakayama City.		
		MN	16	08	19	0.4		-5					
		F	16	08	42								
		SEN	20	45	57								

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks	
					A _E μ	A _N μ	A _Z μ			
180	June 7	M _E	20 45 57	0.5	± 1			4865	A distant earthquake, NE of Burma.	
		M _N	20 45 57	0.3		± 2				
		F	20 46 13							
		P	11 52 22							
		S _N	11 58 44							
		S _E	11 59 10							
		M _E	12 06 59	9.3	-12					
		M _N	12 05 46	12.8		-21				
		M _Z	12 05 42	12.5			-31			
		eF _{EN}	12 20 \pm							
eF _Z	12 05 \pm									
181	June 7	iP	13 24 43				32	Mouth of the Arita River, Wakayama Prefecture.		
		iS	13 24 47							
		M _{EZ}	13 24 47	0.4	-8				-2	
		M _N	13 24 48	0.4		-11				
		F _{EN}	13 26 27							
		F _Z	13 25 36							
		182	June 8	F _E	18 13 03					
F _Z	18 13 01									
eP _N	18 13 15									
i _E	18 15 39									
i _N	18 15 38									
i _Z	18 15 37									
M _{EN}	18 16 43			14.5	-3	+7				
M _Z	18 17 37						+3			
eF _{EN}	18 33 \pm									
eF _Z	18 33 \pm									
183	June 11	iP	5 51 59				0.4	25	Local shock.	
		S	5 52 02							
		M _E	5 52 03		± 3					
		M _N	5 52 03							
		F	5 52 36							± 5

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks	
					A _E μ	A _N μ	A _Z μ			
184	June 12	eP _E	21 10 12				4.5	636	In the Kesenuma Bay, Miyagi Prefecture. Moderate shocks were felt at the near epicentral region.	
		eP _N	21 10 14							
		eF _Z	21 10 20							
		eS _E	21 11 33							
		eS _N	21 11 38							
		eS _Z	21 11 52							
		M _E	21 12 37	3.0	+7					
		M _N	21 13 30			-9				
		M _Z	21 12 25	3.5						± 2
		eF _{EN}	21 21 \pm							
eF _Z	21 16 \pm									
185	June 13	P _{EZ}	20 35 59				5.8	844	East off the Mabuti River, Aomori Prefecture. Felt in the Pacific coast of O \ddot{u} and Hokkaido.	
		P _N	20 35 56							
		S _E	20 37 53							
		S _N	20 37 51							
		S _Z	20 37 52							
		M _N	20 38 50	4.5		+13				
		M _Z	20 38 54							+4
		M _E	20 39 34	3.9	+12					
		eF _{EN}	20 55 \pm							
		eF _Z	20 49 \pm							
186	June 18	S	2 43 01				0.2	Local shock.		
		M _E	2 43 02	0.5	± 7					
		M _N	2 43 02			-9				
		M _Z	2 43 02						± 2	
		F	2 43 21							
187	June 18	eP	10 08 25				0.4	18	In the Wakaura Bay, K \ddot{u}	
		S	10 08 28							
		M _E	10 08 28		± 2					
		M _N	10 08 28	0.3						+3
		F	10 08 55							
188	June 18	P _E	13 13 07				1560	North off Bonin Isl.		

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			G.	M.	T.		A _E	A _N	A _Z		
			h	m	s	s	μ	μ	μ	km.	
189	June 18	P _N	13	13	16					643	East off Kinkwazan, Miyagi Prefecture. Strong shocks were felt in Miyagi and Iwate Prefecture. Felt areas NE Japan and Hokkaido.
		F _Z	13	13	12						
		S _N	13	16	00						
		i _E	13	17	20						
		eF _{EN}	13	40	±						
		eF _Z	13	27	±						
		iP _{EN}	21	39	21						
		P _Z	21	39	22						
		S _E	21	40	48						
		S _N	21	40	46						
		S _Z	21	40	50						
		M _{1E}	21	41	44	5.4	+116				
		M _{1N}	21	41	26	3.8		-137			
		M _Z	21	41	57	3.8			+63		
		M _{2E}	21	42	17	7.9	-141				
		M _{2N}	21	42	09	6.3		-101			
		eF _{EN}	22	31	±						
		eF _Z	22	24	±						
190	June 24	P _E	22	03	36					5560	A distant earthquake. Southeastern part of Sumatra. 5°0S 104.2°E, according to Batavia's report. Destructive in the epicentral region.
		eP _N	22	03	34						
		P _Z	22	03	31						
		S _E	22	10	47						
		S _N	22	10	49						
		L _E	22	15	25						
		L _N	22	15	21						
		M _E	22	31	54	12.7		-150			
		M _N	22	30	09	12.7			±192		
		M _Z	22	32	19	11.8					
		eF _Z									
191	June 25	eP	0	44	58					23	In the Wakaura Bay, Kii Channel.
		S	0	45	02						
		M _E	0	45	02						

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			G.	M.	T.		A _E	A _N	A _Z		
			h	m	s	s	μ	μ	μ	km.	
192	June 25	M _N	0	45	02	0.3		-1		32	Local shock.
		F	0	45	16						
		eS?	0	56	13						
		F	0	56	26						
193	June 25	P	9	09	40					32	In the Wakaura Bay, Kii Channel.
		S	9	09	44						
		M _E	9	09	45		-3				
		M _N	9	09	44	0.4		-4			
		M _Z	9	09	45	0.3			±1		
		F	9	10	17						
194	June 28	P	12	54	37					25	Ditto.
		S	12	54	40						
		M _E	12	54	41		-3				
		M _N	12	54	41	0.3		+7			
		F	12	54	10						
195	June 29	eP _{EN}	13	18	47					Near Kasimo, southern foot of Mt. Ontake, Gifu Pref..	
		F	13	19	30						
196	June 30	eP _N	17	47	01					Near Hukui City.	
		S _{EN}	17	47	12						
		M _E	17	47	14	0.7	+1				
		M _N	17	47	13	0.7			±1		
		F	17	47	50						

TOYOOKA JAPAN.

SEISMOLOGICAL BULLETIN

A Branch Station of the Kobe Meteorological Observatory of Japan.
 $\phi = 35^{\circ} 32'$ $\lambda = 134^{\circ} 49'$ $h = 32.2$ m. Underground: Tertiary.

Instruments: Omori's Seismograph. Wiechert Seismograph.
 (Horizontal Pendulum) (Horizontal & Vertical)

April

	T_0	ϵ	$\frac{r}{T_0^2}$	V
AE:	20.8	3.0	0.002	20
AN:	9.3	3.0	0.002	20

	T_0	ϵ	$\frac{r}{T_0^2}$	V
AE:	5.8	10.0	0.004	99
AN:	6.0	3.2	0.005	107
Az:	3.7	3.6	0.002	52

May

	T_0	ϵ	$\frac{r}{T_0^2}$	V
AE:	20.8	3.0	0.002	20
AN:	9.9	3.0	0.002	20

	T_0	ϵ	$\frac{r}{T_0^2}$	V
AE:	5.8	10.0	0.003	86
AN:	6.1	6.2	0.005	104
Az:	4.1	3.6	0.002	44

June

	T_0	ϵ	$\frac{r}{T_0^2}$	V
AE:	20.8	3.0	0.002	20
AN:	9.6	3.0	0.002	20

	T_0	ϵ	$\frac{r}{T_0^2}$	V
AE:	5.8	10.0	0.004	94
AN:	6.0	6.2	0.004	107
Az:	3.7	3.6	0.002	55

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			h	m	s		AE	AN	Az		
46	April 1	PEN	16	00	59	s	μ	μ	μ	km.	Faint record. An after shock of the great earthquake, off the coast of Sanriku, on Mar. 2nd 1933.
		Pz	16	00	57						
		eSE	16	02	43						
		eSN	16	02	48						
		MN	16	03	52						
		eFE	16	15	\pm						
		eFN	16	19	\pm						

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			h	m	s		AE	AN	Az		
47	April 2	eFz	16	10	\pm	s	μ	μ	μ	km.	Mouth of the Kuji River, Ibaraki Prefecture. Weak shocks were felt in Kwanto ditrict.
		PEZ	9	53	56						
		ePN	9	54	04						
		eSE	9	55	21						
		eSN	9	55	19						
		MN	9	55	34						
		eFE	9	58	\pm						
48	April 2	PE	10	13	39					930	An after shock of the great earthquake, off the coast of Sanriku, on Mar. 2nd 1933.
		PN	10	12	38						
		eF	10	17	\pm						
49	April 9	iPEN	2	48	39		+0.5	+0.4		930	Ditto.
		Pz	2	48	36						
		iE	2	50	25						
		iN	2	50	12						
		iz	2	50	27						
		SEN	2	50	44						
		ME	2	52	17						
		MN	2	51	42						
		Mz	2	52	19						
		eFE	3	12	\pm						
		eFN	3	08	\pm						
eFz	3	07	\pm								
50	April 9	PE	2	59	22					720	Very faint record. An after shock of the great earthquake, off the coast of Sanriku, on Mar. 2nd 1933.
		PN	2	59	23						
		iPz	2	59	38						
		eF	3	02	\pm						
51	April 9	PE	10	32	30					720	Ditto.
		PN	10	32	33						
		Pz	10	32	25						
		SEN	10	34	09						
		eSz	10	34	13						

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks		
					A _E μ	A _N μ	A _Z μ				
52	April 11	M _N	10 34 53		+3.0	-9		20	Near Mineyama, NW of Kyoto Prefecture.		
		eF _E	10 40 ±								
		eF _{NZ}	10 38 ±								
		iP	1 26 25								
		S _{EN}	1 26 27								
		S _Z	1 26 29								
		M _E	1 26 28							-20	-28
		M _Z	1 26 29								±13
		F _E	1 26 51								
F _N	1 27 00										
F _Z	2 26 41										
53	April 11	iP	14 07 04		-27	±15	±4	20	Local shock.		
		iS	14 07 07								
		M	14 07 07								
		F _E	14 07 21								
		F _N	14 07 25								
		F _Z	14 07 36								
54	April 13	eP _E	3 54 20						Near Volcano Aso, Kyūsyū.		
		eP _N	3 54 17								
		eS _E	3 55 05								
		eS _N	3 55 09								
		M _N	3 55 19								
		eF	3 57 ±							-3	
55	April 13	P	11 32 57		±10	±6		19	Near Yamada, NW of Kyoto Prefecture.		
		S	11 33 00								
		M	11 33 00								
		F	11 33 13								
56	April 19	P _{EN}	2 57 43					740	An after shock of the great earthquake, off the coast of Sanriku, on Mar. 2nd 1933.		
		S	2 59 23								
		eF	3 03 ±								

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks		
					A _E μ	A _N μ	A _Z μ				
57	April 19	P _{EN}	6 48 29						Near the Mouth of the Daidakusui River, Moderate shocks were felt in north- eastern part of Formosa.		
		P _Z	6 48 32								
		eE	6 53 36								
		iN	6 53 47								
		eZ	6 53 57								
		M _E	6 57 23							+10	
		M _N	6 57 55								+13
		eF _E	7 13 ±								
eF _N	7 15 ±										
eF _Z	7 04 ±										
58	April 21	P _E	20 41 15						471 East off Miyake Isl, south off Izu Peninsula. Felt in Kwanto district.		
		eP _N	20 41 15								
		eF _Z	20 41 17								
		S _E	20 42 19								
		S _N	20 42 23								
		M _E	20 42 50							+6	
		M _N	20 42 41								+7
		M _Z	20 42 38								+10
		eF _{EN}	20 47 ±								
eF _Z	20 45 ±										
59	April 23	P _{EN}	7 15 38						704 An after shock of the great earthquake, off the coast of Sanriku, on Mar. 2nd 1933.		
		P _Z	7 15 39								
		eS _E	7 15 12								
		S _N	7 15 13								
		eS _Z	7 17 25								
		M _E	7 19 16							+37	
		M _N	7 19 38							12.9	+104
		M _Z	7 19 18								-24
		eF _E	7 35 ±								
eF _N	7 46 ±										
eF _Z	7 47 ±										
60	April 23	eP _{EN}	8 27 56						Ditto. Faint record.		
		eF	8 40 ±								

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			g.	m.	s.		A _E	A _N	A _Z		
61	April 25	P	h	m	s	s	μ	μ	μ	km. 139	Near Sekigahara, western part of Gifu Prefecture.
		S	11	38	58						
		M	11	39	17		± 3	± 3			
		F	11	39	52						
62	April 27	iP _{NZ}	2	45	17	s				5790	A distant earthquake. Some damage at Anchorage, Alaska.
		eP _E	2	45	21						
		S _N	2	52	43						
		eL _E	3	01	14						
		M _{1E}	3	12	21		14.8	-9			
		M _{1N}	3	08	31		16.8	-13			
		M _{2E}	3	15	39		12.6	-9			
		M _{2N}	3	14	18		12.6	-20			
		eF _E	3	31	\pm						
		eF _N	3	33	\pm						
		eF _Z	3	30	\pm						
63	May 1	P _E	18	33	29	s					Near Yutorofu Isl, Kurile IIs.
		P _N	18	33	30						
		eF _E	18	52	\pm						
		eF _N	19	04	\pm						
64	May 1	iP _{EN}	19	54	31	s	+	+	+	1610	South off Yutorofu Isl. Kurile IIs. Felt in Yutorofu Isl.
		iP _Z	19	54	34						
		eS _E	19	57	19						
		L	19	58	51						
		eM _E	20	01	17		-3				
		M _N	20	01	25		-6				
		eF _E	20	23	\pm						
		eF _N	20	21	\pm						
		eF _Z	20	15	\pm						
65	May 5	eP _E	3	51	45	s				1720	Rather distant earthquake? Faint record.
		P _N	3	51	45						
		S _E	3	54	44						
		S _N	3	54	43						

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			g.	m.	s.		A _E	A _N	A _Z		
66	May 11	cF	h	m	s	s	μ	μ	μ	km. 140	Near Mt. Obako, middle part of Kii Peninsula.
			3	58	\pm						
		iP _{EN}	6	49	58		+	-1.2			
		iP _Z	6	49	57				+		
		iS	6	50	16						
		M _E	6	50	17		+9				
*67	May 14	M _N	6	50	16			+9	17	Local shock of Izusi, northern part of Hyogo Prefecture. Perceptible.	
		F _{EN}	6	51	05						
		F _Z	6	49	59						
		iP	2	22	25	-4.7	+9.6	+13.6			
		iS _{EN}	2	22	27						
		iS _Z	2	22	28						
68	May 16	M _{EN}	2	22	27		+163	-49	16	Northern part of Sumatora.	
		M _Z	2	22	28			+68			
		F _E	2	23	35						
		F _N	2	23	22						
		F _Z	2	23	29						
		iE	1	27	34						
		eN	1	27	32						
		L _E	1	36	26						
		eL _N	1	36	36						
		M _E	1	41	34	10.6	+6				
69	May 19	M _N	1	41	30	14.8		-8	16	Local shock at near Izusi, northern part of Hyogo Prefecture.	
		eF _E	1	57	\pm						
		eF _N	1	56	\pm						
		iP _{EN}	4	21	37		+8				
		iS _{ME}	4	21	39						
		F	4	21	50						
*70	May 20	iP	7	49	26		+3.5	+1.0	21	Near Mineyama, northern part of Kyoto Prefecture. Perceptible and with the earthsound.	
		iS	7	49	29						
		M	7	49	29		± 104	-144			
		F _E	7	51	46			± 55			

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					A _E μ	A _N μ	A _Z μ		
71	May 20	F _N	7 51 39					96	Near Hatiman, Siga Prefecture.
		F _Z	7 51 45						
		iP _{EN}	13 54 56						
		iS _{EN}	13 55 09						
		eM _E	13 55 09	± 2					
		F _E	13 55 29						
72	May 20	eP _{EN}	18 30 58				632?	Lower basin of the Miya River, Mie Prefecture. Very faint record.	
		S _N	18 31 07						
		M _N	18 31 12		-2				
		F	18 31 53						
73	May 22	P _{EN}	15 30 50				632?	An after shock of the great earthquake, off the coast of Sanriku, on Mar. 2nd 1933.	
		S _E	15 32 14						
		S _N	15 32 17						
		F _E	15 33 44						
		F _N	15 33 39						
74	May 23	eP _E	16 37 59				686	In the Hyūga-nada, SE off Miyazaki Prefecture.	
		P _N	16 37 53						
		P _Z	16 37 53						
		eS _E	16 39 27						
		S _N	16 39 25						
		S _Z	16 39 29						
		M _{1E}	16 39 39	1.9	-24				
		M _N	16 39 39	2.6		-35			
		M _Z	16 39 38	1.7					
		M _{2E}	16 39 45	1.9	+28	+23			
		eF _{EN}	16 45 \pm						
		eF _Z	16 44 \pm						
75	May 23	P _{NZ}	16 53 09				688	Ditto.	
		eP _E	16 53 18						
		S _E	16 54 43						

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					A _E μ	A _N μ	A _Z μ		
76	May 24	S _N	16 54 42				+17	East off Kinkwazan, Miyagi Prefecture.	
		S _Z	16 54 46						
		M _E	16 55 01	1.9					
		M _N	16 54 56	2.6		+16			
		M _Z	16 54 56			+16			
		eF _E	16 57 \pm						
		eF _{NZ}	16 58 \pm						
*77	May 28	eE	10 40 23				18	Near Izusi, upper valley of the Maruyama River, Hyōgo Prefecture, Perceptible.	
		eN	10 40 41						
		eF _E	10 44 \pm						
		eF _N	10 45 \pm						
78	June 2	iP	9 28 07				633	Moderate shocks were felt at the southern part of Kyūsyū.	
		iS	9 28 10						
		M	9 28 10		-3.5	-1.9			+4.6
		F	9 29 16		± 93	-25			-25
		F _N	7 40 14						
		iP _Z	7 40 13						
		eP _E	7 40 23						
		S _{EN}	7 41 40						
		S _Z	7 41 49						
		M _E	7 42 07	7.2		+56			
79	June 3	M _N	7 42 06	7.2			924	Near Amami-osima; Ryūkyū IIs.	
		M _Z	7 41 58						
		eF _E	8 03 \pm						
		eF _N	8 00 \pm						
		eF _Z	7 52 \pm						
		iP _{EN}	17 11 25						
		iP _Z	17 11 24						
		S _{EN}	17 13 29						
79	June 3	M _{EN}	17 13 26				924	Near Amami-osima; Ryūkyū IIs.	
		M _Z	17 13 29						
		eF _E	17 30 \pm						

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					A _E μ	A _N μ	A _Z μ		
80	June 6	eFN	17 35 ±					Very faint record. A distant earthquake. Epicenter 14.°20N 121.°35E, near Manila.	
		eFz	17 27 ±						
		ePE	2 33 56						
		PNZ	2 33 53						
		eFE	2 51 ±						
81	June 7	eFN	2 53 ±				A distant earthquake. NE of Burma.		
		eE	11 57 35						
		eN	11 57 30						
		ME	12 06 51	+7					
		MNZ	12 06 53		+7	+7			
82	June 8	eFE	12 17 ±				833 ENE off Miyako, Iwate Prefecture. Felt in the Pacific coast of NE Japan and Hokkaido.		
		eFN	12 19 ±						
		PEZ	18 12 55						
		PN	18 12 59						
		SE	18 14 47						
		eSN	18 15 05						
		eSz	18 14 40						
		ME	18 17 48	+5					
		MN	18 18 18		-6				
		eFE	18 29 ±						
83	June 9	eFN	18 28 ±				16 Local shock near Izumi, northern part of Hyôgo Prefecture.		
		eFz	18 21 ±						
		PE	1 15 49						
		SEN	1 15 51						
84	June 12	M	1 15 51		-11	±6	594 In the Kesenuma Bay, Miyagi Prefecture. Moderate shocks were felt at the near epicentral region.		
		F	1 16 09						
		iPEN	21 09 59		+	-			
		Pz	21 10 00						
		SEN	21 11 19						
		eSz	21 11 21						
		MEN	21 11 22		+9	-9			

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					A _E μ	A _N μ	A _Z μ		
85	June 13	M ₂ N	21 11 28			-7	699 East off the Mabuti River, Aomori Prefecture. Felt in the Pacific coast of Oôu and Hokkaido.		
		eFE	21 16 ±						
		eFN	21 18 ±						
		eFz	21 15 ±						
		iPEN	20 35 48		-4.2	-4.7		+3.6	
86	June 13	iPz	20 35 47				833 ENE off Miyako, Iwate Prefecture. Felt in the Pacific coast of NE Japan and Hokkaido.		
		eSE	20 37 20						
		SN	20 37 22						
		eSz	20 37 46						
		eME	20 39 35		-7				
		MN	20 39 23	16.3		-16			
		eFEN	20 49 ±						
		eFz	20 42 ±						
		ePN	20 38 36						
		Pz	20 38 45						
87	June 18	eFN	20 41 ±				786 North off Bonin Isl.		
		PE	13 13 21						
		FN	12 13 19						
		SE	13 15 08						
		SN	13 15 03						
		LE	13 15 54						
		eFE	13 27 ±						
		eFN	13 26 ±						
		iP	21 39 15		-18.1	-10.7		+14.5	
		88	June 18	SE	21 40 32				
SN	21 40 31								
Sz	21 40 33								
ME	21 42 01			15.8	+340				
MN	21 41 33			12.2		-518			
Mz	21 41 55					+255			
eFE	22 40 ±								
eFN	22 47 ±								

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			G.	M.	T.		A _E	A _N	A _Z		
			h	m	s	s	μ	μ	μ	km.	
✓ 89	June 24	eFz	22	27	±					5810	Southern part of Sumatora, Destructive near the epi- central region.
		PE	22	03	40						
		PN	22	04	07						
		Pz	22	04	39						
		SE	22	11	06						
		eLz	22	26	51						
		ME	22	28	26		-19				
		MN	22	28	21	12.9		-104			
		Mz	22	33	46	14.2			+18		
		eFEN	22	07	±						
eFz	22	57	±								
90	June 29	ePE	13	18	06					Near Kasimo, southern foot of Mt. Ontake, Gifu Pref..	
		eSE	13	18	33						
		SN	13	18	33						
		M	13	18	35		+2	-4			
		F	13	20	00						
91	June 30	PE	17	46	33					112	Near Hukui City.
		ePN	17	46	32						
		SEN	17	46	48						
		ME	17	46	49		-4				
		MN	17	46	50	0.8		+6			
		FE	17	47	45						
		FN	17	47	19						