

SEISMOLOGICAL BULLETIN
OF THE
IMPERIAL MARINE OBSERVATORY
AND
KOBE METEOROLOGICAL OBSERVATORY.

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SEISMOLOGICAL BULLETIN

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

Instruments: Omori's Seismograph.
 (Horizontal Pendulum)

Wiechert Seismograph.
 (Horizontal & Vertical)

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July

	T_o	ϵ	$\frac{r}{T_o^2}$	V
A _E :	19.0		0.0001	20
A _N :	9.9		0.0001	20

	T_o	ϵ	$\frac{r}{T_o^2}$	V
A _E :	6.5	Aperiodic	0.006	101
A _N :	6.5	„	0.007	101
A _Z :	5.8	„	0.007	118

Aug.

	T_o	ϵ	$\frac{r}{T_o^2}$	V
A _E :	18.5		0.0001	20
A _N :	18.9		0.0001	20

	T_o	ϵ	$\frac{r}{T_o^2}$	V
A _E :	6.9	Aperiodic	0.006	101
A _N :	6.3	„	0.005	109
A _Z :	4.8	10	0.006	85

Sept.

	T_o	ϵ	$\frac{r}{T_o^2}$	V
A _E :	19.2		0.0001	20
A _N :	19.4		0.0001	20

	T_o	ϵ	$\frac{r}{T_o^2}$	V
A _E :	6.4	Aperiodic	0.006	122
A _N :	6.3	„	0.006	123
A _Z :	4.7	6	0.006	70

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			G	M	T		A _E	A _N	A _Z		
157	July 6	eP _N	h	m	s	s	μ	μ	μ	km. 395	Northern part of the Tokyo Bay. Weak shocks were felt in Kwanto district.
		eP _Z	2	00	44						
		eS _E	2	00	42						
		eS _Z	2	01	37						
		M _E	2	01	34	1.9	+9				
		M _N	2	01	42	2.6		+5			
		M _Z	2	01	41	1.9			-3		



No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					A _E μ	A _N μ	A _Z μ		
158	July 7	eF _E	2 09 ±					-	Near Mineyama, north-western part of Kyoto Prefecture.
		eF _N	2 07 ±						
		eF _Z	2 12 ±						
		e _{EN}	16 01 51						
		e _{SE} ?	16 01 59						
		M _E	16 02 01	+2					
159	July 8	M _N	16 02 01			±1		?	East off Miyake Isl, south of the Izu Peninsula. Felt in southern part of Kwanto district, and Hatidyô Isl.
		F _{EN}	16 02 25						
		P _E	7 58 28						
		eP _Z ?	7 58 29						
		e _Z	7 58 48						
		S _E	7 59 18						
160	July 9	S _N	7 59 14						SE far off Yetorofu Isl, Kurile IIs. Felt in eastern part of Hokkaido.
		e _Z	7 59 15						
		eS _Z	7 59 31						
		M _E	7 59 57	2.7	±2				
		M _Z	7 59 48	2.9		±1			
		eF _{EZ}	8 07 ±						
		eF _N	8 06 ±						
		eP _N	1 33 36						
		eP _Z	1 33 37						
		P _{ENZ}	1 33 44						
i _{EZ}	1 33 59								
161	July 9	eL _E	1 37 27						
		eL _Z	1 39 20						
		L ^(R) _E	1 39 28	20.4					
		M _{1E}	1 40 42	18.0	+14				
		M _N	1 41 39	18.7					
		M _{1Z}	1 42 03	16.1					
		M _{2E}	1 45 38	15.1	+6				
		M _{2Z}	1 47 45	14.6					
		eF _E	2 18 ±						
		eF _N	2 10 ±						
		eF _Z	2 25 ±						

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks		
					A _E μ	A _N μ	A _Z μ				
161	July 9	eP _E	9 31 37						SE off Yetorofu Isl, Kurile IIs.		
		eP _Z	9 31 35								
		e _E	9 35 25								
		e _N	9 35 26								
		i _E	9 37 26	18.5							
		e _Z	9 37 33	18.5							
		M _E	9 38 30	15.2	-16						
		M _N	9 39 11	15.0		+7					
		M _Z	9 39 42	16.0							
162	July 9							1830	The end part Overlapped by the following earthquake. Ditto.		
		P	9 51 55								
		eS _N	9 55 03								
		M _E	9 58 42	15.0	-6						
		M _N	9 59 21	13.1		±2					
		M _Z	10 00 02	15.5							
		eF _E	10 19 ±								
163	July 9	eF _N	10 20 ±						Near Kisiwada, Osaka Prefecture.		
		eF _Z	10 30 ±								
		e _N	11 14 11								
		e _Z	11 14 12								
		iS _{EN}	11 14 15	+5	+5						
164	July 9	M _{EN}	11 14 15	0.7	+5	+5			SE off Yetorofu Isl, Kurile IIs.		
		M _Z	11 14 19								
		eF	11 17 ±								
		eP _E	11 25 16								
		eP _Z	11 25 15								
		e _Z	11 25 33	1.6							
165	July 9	eL _{2E}	11 30 29								
		eM _E	11 32 06	12.0	+3						
		eM _Z	11 32 01								
		eF _E	11 42 ±								
		eF _N	11 39 ±								
		eF _Z	11 44 ±								

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			G.	M.	T.		A _E	A _N	A _Z		
165	July 9	ePEN	h	m	s	7.2	μ	μ	μ	1875	SE far off Yotorofu IIs., Kurile IIs.
		PZ	12	34	10		-2	-0.5	+2		
		eE	12	34	23						
		eN	12	34	38						
		eSN	12	37	22						
		Sz	12	37	26						
		S _{R1} N	12	37	33			+8			
		LEN	12	38	06		19.6				
		ez	12	38	40		18.2				
		M ₁ N	12	38	59		16.6		+45		
		M ₁ E	12	41	19		16.7	-142			
		M ₂ N	12	41	51		13.5		+55		
		Mz	12	42	30		17.2		-20		
		M ₂ E	12	45	08		14.8	+35			
		eFE	14	26	±						
eFN	14	18	±								
eFz	14	30	±								
166	July 9	ez	16	11	00	15.1?					East off Nosyappu Cape, Hokkaidō.
		eE	16	11	00						
		M _E	16	17	26		19.5	±3			
		M _N	16	18	04		14.5				
		eMz	16	18	59		18.4				
		eFE	16	33	±						
		eFN	16	31	±						
eFz	16	35	±								
167	July 9	eE	16	57	50	4.7					Near Beppu, Oita Pre- fecture.
		eN	16	57	49						
		ez	16	57	45						
		eN	16	58	08						
		eF	17	02	±						
168	July 9	M _E	18	02	06	16.1	±2			East off Nosyappu Cape, Hokkaidō.	
		eMz	18	03	26	15.8					
		eFE	18	11	±						
		eFN	18	09	±						

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks	
			G.	M.	T.		A _E	A _N	A _Z			
169	July 9	eFz	h	m	s	18.8	μ	μ	μ	km.	Ditto.	
		M _E	18	12	±							
		M _N	22	25	29		16.5	±2	±2			
		Mz	22	24	39		17.1					±1
		eFE	22	41	±							
		eFN	22	36	±							
		eFz	22	33	±							
		170	July 10	eE	0		23	36	20.2?			
P _E	0			23	42	1.8	+4					
iPz	0			23	41	1.8		-3				
iE	0			23	53							
eE	0			26	02	4.6	+12					
eN	0			26	25							
eE	0			26	55		±10					
iN	0			27	44	3.9		±14				
eF _{EN}	0			36	±							
eFz	0			35	±							
171	July 10	P _N	10	40	55	4.0		-4	4330	Eastern part of Molucca IIs.		
		Pz	10	40	55	5.8		-3				
		P _{R1} N	10	42	12	3.4		+9				
		S _E	10	47	00	5.4	-4					
		eS _N	10	46	58							
		eS _Z	10	47	02							
		eFE	10	56	±							
		eFNz	11	02	±							
172	July 11	eP _E	6	01	06	2.6			700	Off the Kujūkuri shore Tiba Prefecture.		
		eP _N	6	01	09							
		ePz	6	01	08							
		eS _E	6	02	23							
		eS _Z	6	02	12							
		M _N	6	02	57			-6				
		Mz	6	02	57		2.5				-5	
M ₁ E	6	03	35	3.7	+7							

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					A _E μ	A _N μ	A _Z μ		
173	July 11	M _{2E}	6 04 23	3.8	-8			610	ESE off Katuura, Tiba Prefecture.
		eFEZ	6 14 ±						
		eFN	6 15 ±						
		ePE	6 51 17						
		eSEN	6 52 24						
		eSZ	6 52 28						
		M _{1E}	6 53 02	5.1	+9				
		M _N	6 53 29	4.5		-13			
		M _Z	6 53 18	4.2			-6		
		M _{2E}	6 54 00	5.6	-17				
		eFE	7 10 ±						
		eFN	7 09 ±						
eFz	7 05 ±								
174	July 11	eSE	8 30 50				Off the Hatidyô Isl.		
		eSN	8 30 54						
		eSz	8 30 53						
		M _E	8 31 47	4.1	-2				
		M _N	8 31 49	5.0		+2			
		M _Z	8 31 47						
		eFE	8 38 ±						
		eFN	8 37 ±						
		eFz	8 35 ±						
		eN	9 22 43						
175	July 11	M _E	9 24 08	3.7	-2		Off the Kujukuri shore, Tiba Prefecture.		
		M _N	9 24 03	3.7		±3			
		eFE	9 27 ±						
		eFN	9 28 ±						
		eFz	9 25 ±						
		ePE	21 04 38						
176	July 11	M _E	21 06 42	3.0	±1		SE off Inubô Cape, Tiba Prefecture.		
		M _N	21 05 46	2.3		±1			
		eFE	21 13 ±						
		eFN	21 11 ±						
		eFN	21 11 ±						

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					A _E μ	A _N μ	A _Z μ		
177	July 12	eFz	21 09 ±				610	ESE off Katuura, Tiba Prefecture.	
		eFEZ	18 54 43						
		ePN	18 54 39						
		eSE	18 55 49						
		eSN	18 56 03						
		M _E	18 57 34	3.0	-2				
		M _N	18 56 41	2.8		-2			
		eFEN	19 04 ±						
		eFz	19 02 ±						
		178	July 13	ePN?	7 59 51				
eSE	8 01 20								
eSz	8 01 19								
S _N	8 01 28					-4			
M _E	8 02 55			12.0	+7				
M _N	8 04 24			10.9		+7			
M _Z	8 04 01			11.1			±4		
eFE	8 14 ±								
eFN	8 13 ±								
eFz	8 12 ±								
179	July 14	PEN	16 05 43				980	Off Vladivostok.	
		iFz	16 05 43						
		eE	16 07 01						
		eN	16 07 03						
		iSE	16 07 24			-8			
		eSN	16 07 22						
		eSz	16 07 21						
		M _E	16 07 26	3.3	+10				
		M _N	16 07 32	8.7		-10			
		M _Z	16 07 30	3.3					+4
179	July 14	eE	16 07 24	2.6	±1		980	Off Vladivostok.	
		eN	16 07 23	2.6		+2			
		eFE	16 22 ±						
		eFN	16 21 ±						
		eFz	16 20 ±						

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			G.	M.	T.		A _E	A _N	A _Z		
180	July 15	F _N	h	m	s	s	μ	μ	μ	357 km.	Basin off the Kokai River, Ibaraki Prefecture.
		eF _Z	3	56	49						
		eS _E	3	57	42						
		eS _N	3	57	37						
		eS _Z	3	57	35						
		M _E	3	58	00	2.3	± 2				
		M _N	3	58	02	2.3		+2			
		M _Z	3	57	52	2.1			-1		
		eF _E	4	04	\pm						
		eF _N	4	03	\pm						
eF _Z	4	02	\pm								
181	July 18	eP?	11	26	53					790	Near Yckoate Isl, Ryûkyû IIs.
		eS _E	11	28	19						
		eS _N	11	28	17						
		eS _Z	11	28	20						
		M _E	11	28	49	6.8	+6				
		M _N	11	28	45	4.1		-5			
		M _Z	11	28	47	3.8			± 2		
		eF _E	11	37	\pm						
		eF _N	11	36	\pm						
		eF _Z	11	34	\pm						
182	July 18	eP	17	59	56					153	Near Mt. Tengi, north-western part of Okayama Prefecture.
		S _{EN}	18	00	16		+4	+4			
		S _Z	18	00	15				+4		
		M _{EN}	18	00	19	0.7	-9	-10			
		M _Z	18	00	20	0.7			-4		
		eF _E	18	04	\pm						
		eF _{NZ}	18	03	\pm						
183	July 18	eF _E	19	10	32						A distant earthquake. Caroline IIs, North Pacific Ocean.
		P _N	19	10	34	3.9		+1			
		P _Z	19	10	35						
		e _N	19	10	53	3.7		+5			
		e _N	19	11	51	3.2		-7			
		eS _E ?	19	15	15						

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			G.	M.	T.		A _E	A _N	A _Z		
		M _E	h	m	s	s	μ	μ	μ	km.	
		M _N	19	17	53		-1				
		M _Z	19	17	38			+1			
		eF _E	19	17	28						
		eF _{NZ}	19	36	\pm						
		eF _{NZ}	19	34	\pm						
		eF _{NZ}	19	34	\pm						
184	July 19	P _{EN}	2	28	39					58	Lower basin of the Arita River, Wakayama Prefecture.
		P _Z	2	28	40						
		iS _{EN}	2	28	47						
		e _N	2	28	49						
		S _Z	2	28	50						
		M _E	2	28	51	0.5	-14				
		M _N	2	28	51	0.4		+30			
M _Z	2	28	52				-13				
eF _{EZ}	2	34	\pm								
eF _N	2	35	\pm								
185	July 19	e _Z	13	39	57						A distant earthquake. Aleutian IIs.
		e _Z	13	40	15	2.9			-2		
		eS _E ?	13	46	08						
		e _E	13	46	35	3.5					
		eF _E	13	50	\pm						
		eF _N	13	51	\pm						
		eF _Z	13	49	\pm						
186	July 19	P _E	15	07	28	2.3	-2			4315	A distant earthquake. Aleutian IIs.
		P _Z	15	07	28	1.9			+3		
		eS _{EN}	15	13	34	3.7					
		eF _E	15	30	\pm						
		eF _N	15	32	\pm						
		eF _Z	15	34	\pm						
		eF _Z	15	34	\pm						
187	July 20	eP _E	23	16	05						An after shock of the great earthquake off the coast of Sanriku, on March 3rd 1933. Weak shocks were felt in the Pacific coast of NE Japan and Hokkaidô.
		F _E	23	16	06		+2				
		P _Z	23	16	05	1.9			-2		
		e _E	23	17	38						
		e _N	23	17	39						
		e _N	23	17	39						

No.	Date	Phase	Time	Period	Amplitude			Δ	Remarks
					A _E	A _N	A _Z		
			G. M. T.	s	μ	μ	μ	km.	
		ez	23 18 07						
		ez	23 18 31	4.1			+8		
		eLN?	23 18 50	14.-		+20			
		eME	23 19 50	3.2	-11				
		eFE	23 33 ±						
		eFN	23 31 ±						
		eFz	23 30 ±						
188	July 22	eP	21 03 14				+2.2	4645	
		iE	21 03 18	2.0	+9				
		iN	21 03 18	2.2		+6			
		iz	21 03 17	1.6			-13		
		P _{R1E}	21 04 50						
		eE	21 08 51						
		eN	21 08 12						
		SE	21 09 37		-4				
		eSN	21 09 34						
		eSz	21 09 37						
		eLE	21 12 51						
		eLN	21 12 24						
		eLz	21 13 06						
		M _{1E}	21 18 55	20.0	-15				
		M _{1N}	21 17 27	23.		-10			
		M _{1Z}	21 18 24	24.-			-8		
		M _{2N}	21 22 51	18.-		-8			
		M _{2Z}	21 22 36	19.-			-5		
		M _{2E}	21 28 11	20.0	±6				
		eFE	22 02 ±						
		eFN	22 03 ±						
		eFz	22 01 ±						
189	July 24	eE	8 41 31		-11				
		ez	8 41 40	3.0			+4		
		eFEN	8 47 ±	2.0					
		eFz	8 46 ±						

No.	Date	Phase	Time	Period	Amplitude			Δ	Remarks
					A _E	A _N	A _Z		
			G. M. T.	s	μ	μ	μ	km.	
*190	July 28	iP _{EN}	16 43 39		+4.3	+39.4		78	
		iP _Z	16 43 38				+25.0		
		iE	16 43 41	1.8	+193				
		iN	16 43 41	1.3		-250			
		iz	16 43 40	1.3			-235		
		SNZ	16 43 49						
		M _{1E}	16 43 50	1.6	-390				
		M _{1N}	16 43 50	0.8		±410			
		M _Z	16 43 54	2.3			-350		
		M _{2E}	16 44 59	2.6	+123				
		M _{2N}	16 44 55	2.4		-125			
		eF _{EN}	16 55 ±						
		eF _Z	16 54 ±						
191	July 31	P _Z	2 58 10					810	
		SEZ	2 59 33						
		SN	2 59 40						
		M _E	3 00 24	3.9	-2				
		M _N	3 00 18	4.1		+1			
		M _Z ?	2 59 41	2.5			±1		
		eF _{EZ}	3 11 ±						
		eF _N	3 10 ±						
192	July 31	eP _E	9 04 25						
		eN	9 04 50	3.2					
		ez	9 05 24	3.5			±1		
		eSE	9 05 59						
		eSN	9 05 56						
		eME	9 06 58	3.0					
		eF _{EZ}	9 14 ±						
		eF _N	9 12 ±						
193	Aug. 5	ez	0 52 47						
		ez	0 55 41	2.8					
		ez'	0 59 01	3.2					
		M _E	1 10 44	12.5	-3				
		M _N	1 10 40	13.5		±8			
		eF	1 18 ±						

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			G.	M.	T.		A _E	A _N	A _Z		
194	Aug. 6	PEN	h	m	s	s	μ	μ	μ	km. 53	Near Wakayama City.
		iN	11	16	15						
		SN	11	16	17						
		ME	11	16	22						
		MN	11	16	27						
		F	11	16	28						
195	Aug. 7	PE	4	46	07	0.4	± 1			63	Lower basin of the Arita River, Wakayama Prefecture.
		iPN	4	46	07						
		PZ	4	46	05						
		iN	4	46	08						
		iZ ₁	4	46	06						
		SE	4	46	08						
		SN	4	46	15						
		MEN	4	46	16						
		FE	4	47	01						
		FN	4	47	21						
		FZ	4	46	31						
196	Aug. 11	eSN	9	09	32	16.0					Upper course of the Yangtze River, China.
		eL ₁ N	9	10	03						
		ez	9	12	05						
		ME	9	13	24						
		MN	9	13	00						
		MZ	9	14	20						
		eFE	9	33	\pm						
		eFN	9	36	\pm						
eFZ	9	25	\pm								
197	Aug. 15	PE	3	00	09	2.1	$+3.4$				NNE off Bonin Isl. Abnormal felt area in Kwanto district.
		PN	3	00	09						
		PZ	3	00	08						
		iE	3	00	15						
		iE	3	00	21						
		eLN	3	03	35						
		MN	3	05	08						
		MZ	3	05	22						

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			G.	M.	T.		A _E	A _N	A _Z		
198	Aug. 18	eFE	h	m	s	s	μ	μ	μ	km.	730?
		eFN	3	20	\pm						
		eFZ	3	19	\pm						
		eP ₁ N	3	14	\pm						
		eP ₂ N	8	21	37						
		eSE	8	22	57						
199	Aug. 20	M ₁ EN	8	23	42	4.1	$+4$	-5		2280	WSW off Yaku Isl., Ryūkyū IIs, Felt in northern part of Ryūkyū IIs.
		MZ	8	23	41						
		M ₂ E	8	25	17						
		eFE	8	31	\pm						
		eFN	8	30	\pm						
		eFZ	8	28	\pm						
200	Aug. 20	ePN	11	50	14	17.5				2320	An distant earthquake. East off Philippine. Felt in southeastern part of Luzon.
		eE	11	50	17						
		ePz	11	50	17						
		P _{R1} N	11	50	29						
		P _{R1} Z	11	50	32						
		P _{R2} N	11	50	41						
		eSN	11	54	01						
		eSz	11	53	55						
		eL ₁ EN	11	24	22						
		ME	11	58	07						
		MN	11	57	18						
201	Aug. 20	eFE	12	03	\pm	19.0		$+2$			An after shock of No 199.
		eFN	12	10	\pm						
		eFZ	12	04	\pm						
		ePEN	12	11	02						
		P _{R1} N	12	11	21						
		eSN	12	14	52						
201	Aug. 20	eLE	12	15	11	2.2				10	Local shock.
		eFEN	12	21	\pm						
		eFz	12	20	\pm						
		PEN	18	11	54						
		iN	18	11	54	12.0		-5			
		iSE	18	11	55						

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					A _E μ	A _N μ	A _Z μ		
202	Aug. 22	ME	18 11 56	1.6	+4				A distant earthquake. An after shock of No 199.
		FEN	18 12 10						
		FZ	18 13 00						
		eP ₁ N	13 18 11						
		eS ₁ N	13 21 44						
		eLE	13 22 22						
		eLN	13 22 18						
203	Aug. 24	eFEZ	13 31 ±	0.7	±2				Upper Valley of the Suzuka River, Mie Prefecture.
		eFN	13 33 ±						
		eE	0 30 41						
		eZ	0 30 40						
		eZ	0 30 42						
		ME	0 30 53						
		MN	0 30 53						
*204	Aug. 24	eMZ	0 30 52	0.4		±1			Perceptible. Upper basin of the Sasa- yama River, Hyôgo Prefec- ture.
		FE	0 31 51						
		FN	0 31 39						
		FZ	0 31 28						
		P	0 40 16						
		iN	0 40 20						
		iz	0 40 21						
205	Aug. 24	S	0 40 21	0.5	-40				Near Wakayama City.
		ME	0 40 22						
		MN	0 40 22						
		MZ	0 40 22						
		eFEN	0 44 ±						
		eFZ	0 45 ±						
		eNZ	6 29 42						
206	Aug. 25	ie	6 29 51	0.5?		-83			Perceptible. Upper basin of the Sasa- yama River, Hyôgo Prefec- ture.
		eZ	6 29 51						
		ME	6 29 55						
		iN	6 29 55						
		MN	6 29 56						
		eFE	6 30 ±						
		eFN	6 30 ±						

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks								
					A _E μ	A _N μ	A _Z μ										
207	Aug. 26	FE	6 30 26	2.3					The Frontier of Szechwan and Kwansu, China.								
		FN	6 30 20														
		FZ	6 30 27														
		PE	7 56 08														
		ePz	7 56 08														
		iPz	7 56 11														
		eN	7 56 14														
		iz	7 56 14														
		ie	7 56 17														
		PMz	7 56 27														
		eZ	8 00 42														
		iz	8 00 55														
		208	Aug. 26							iSE	8 00 45	9.4					NW off Amami-Osima, Northern part of Ryûkyû.
iSz	8 00 58																
SME	8 01 00																
eLE	8 03 39																
eLZ	8 05 02																
ME	8 05 22																
MN	8 07 04																
M ₂ E	8 10 02																
M ₂ N	8 09 23																
MZ	8 09 45																
eFE	9 32 ±																
eFN	9 26 ±																
eFZ	9 25 ±																
209	Aug. 26	eN	1 32 55	1.9					NW off Amami-Osima, Northern part of Ryûkyû.								
		eZ	1 33 17														
		eE	1 34 29														
		eN	1 34 17														
		eZ	1 34 22														
		ME?	1 36 10														
		MN?	1 35 14														
		eFEN	1 41 ±														
		eFZ	1 39 ±														
		210	Aug. 26							eN	1 32 55	3.6	±1				NW off Amami-Osima, Northern part of Ryûkyû.
										eZ	1 33 17						
										eE	1 34 29						
										eN	1 34 17						
eZ	1 34 22																
ME?	1 36 10																
MN?	1 35 14																
eFEN	1 41 ±																
eFZ	1 39 ±																
211	Aug. 26			eN	1 32 55	3.9		±2			NW off Amami-Osima, Northern part of Ryûkyû.						
				eZ	1 33 17												
				eE	1 34 29												
				eN	1 34 17												
		eZ	1 34 22														
		ME?	1 36 10														
		MN?	1 35 14														
		eFEN	1 41 ±														
		eFZ	1 39 ±														

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					A _E μ	A _N μ	A _Z μ		
208	Aug. 28	eP'E	22 39 37					South Atlantic Ocean.	
		eP'N	22 39 37						
		eP'Z	22 39 33						
		eZ	22 39 39						
		iN	22 39 50						
		iz	23 39 52						
		iE	22 41 51						
		iN	22 44 19						
		PR ₁ Z	22 43 27						
		eE	23 52 45	9.7					
		eN	22 52 25	21.3					
		SR ₁ E	22 02 46	21.8					
		SR ₁ N	22 02 49	21.3					
		eL _E	23 22 24	30.7					
		M ₁ E	23 23 32	45.0	± 7				
		eE	23 44 15	23.1					
		eN	23 43 45	19.8					
		M _N	23 50 25	19.3		± 5			
		M _E	0 11 38	20.4	± 3				
		M _Z	0 11 14	23.4		± 3			
eF _E	1 03 \pm								
eF _N	0 55 \pm								
eF _Z	0 47 \pm								
209	Aug. 29	eP _{EN}	12 32 57				770 SE off the month of Abukuma River, Miyagi Prefecture. Weak shocks were felt in the Pacific Coast of Southern part of Oou and Kwanto district.		
		eS _E	12 34 20						
		eS _N	12 34 22						
		eS _Z	12 34 23						
		M _E	12 34 51	2.1	+11				
		M _N	12 34 46	2.4		-6			
		M ₁ Z	12 34 45	2.4		+8			
		M ₂ Z	12 35 55	2.5		-9			
		eF _E	12 42 \pm						
		eF _N	12 43 \pm						
eF _Z	12 41 \pm								
210	Aug. 29	eP _E	15 11 08				Off Hatidyô Isl.?		

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks	
					A _E μ	A _N μ	A _Z μ			
		cF _Z	15 11 07					Near the frontier of Brazil and Peru.?		
		eE	15 11 12	3.3	± 1					
		eN	15 11 12	2.5		± 1				
		iz	15 11 10	2.6		+5				
		M _Z	15 11 13							
		iz	15 13 32							
		eF _{EZ}	15 18 \pm							
		eF _N	15 19 \pm							
		211	Aug. 29	iP _{EN}	16 27 36		+2.8		-2.1	29 In the middle part of Osaka Bay. Felt in the coast of Osaka Bay.
				iP _Z	16 27 35				+10.2	
iS _E	16 27 40				-110					
iS _N	16 27 39					-36				
iS _Z	16 27 38									
M _E	16 27 41			1.0	-140					
M _N	16 27 41			0.7		-120				
M _Z	16 27 39			0.8		-35				
eF _{EN}	16 33 \pm									
eF _Z	16 31 \pm									
212	Aug. 30	iP _{EN}	16 40 51		+5	-8	267 Near Hamana Lake, Sizuoka Prefecture.			
		S _N	16 41 23							
		M _E	16 41 27	2.3	-9					
		M _N	16 41 27	2.0		-4				
		eF	16 44 \pm							
213	Sept. 2	P _{EN}	16 42 46.3		+2.5	-3.6	512 South off Hatidyô Isl. Focal depth about 300km. Abnormal felt area in SE ern part of Kwanto district.			
		iP _Z	16 42 44.9			-7.1				
		iE _N	16 42 48.8		-54	+83				
		iz	16 42 47.4			+63				
		iP _{ME}	16 42 50	3.0	± 50					
		iP _{MN}	16 42 50	3.3		± 77				
		iP _{MZ}	16 42 49	2.1		-98				
		iS _{EN}	16 43 55		+110	-105				
		S _Z	16 43 55			-38				
		M ₁ E	16 44 07	5.7	-310					
M ₁ N	16 44 05	6.5		+490						
M ₁ Z	16 44 04	3.7		-177						

No.	Date	Phase	Time g. m. t.	Period s	Amplitude			Δ km.	Remarks
					A _E μ	A _N μ	A _Z μ		
		M _{2Z}	16 44 17	5.2			-187		
		M _{2E}	16 44 52	4.8	-400				
		M _{2N}	16 44 55	4.0		-430			
		M _{3Z}	16 44 54	4.0			-166		
		e _E	16 52 01					} ScS wave?	
		i _E	16 55 22	5.0	+13				
		i _N	16 55 22	5.0		+31			
		e _{FE}	17 17 ±						
		e _{FN}	17 19 ±						
		e _{FZ}	17 12 ±						
214	Sept. 3	e _{PN} ?	23 41 58					Upper Valley of the Kumano River, Kii Peninsula. Very faint record.	
		S _{EN}	23 42 05						
		M _{EN}	23 42 06	0.8	-5	+5			
		e _F	23 44 ±						
215	Sept. 4	e _{PN} ?	13 42 18	2.6			-10	Obscured by heavy micro-seisms.	
		e _{SN} ?	13 44 20	3.4			-11		
		e _{FN}	13 47 ±						
216	Sept. 6	M _E	10 08 19	16.5	-3			East far off Nosyappu cape, Hoddaidô.	
		M _N	10 08 15	15.5		+2			
		e _{FEN}	10 14 ±						
		e _{FZ}	10 18 ±						
217	Sept. 6	P	22 18 51		+5.0	-3.3	-11.4	7015 A distant deep focus earthquake. Near Fiji Isl. South Pacific Ocean.	
		P	22 18 54		-16	-20	+29		
		PM _E	22 18 57	4.0	±17				
		PM _N	22 18 59	4.5		+32			
		PM _Z	22 18 58	4.2			+32		
		PR _{1Z}	22 21 35						
		S _{EN}	22 27 22		+6	+8			
		e _{SZ}	22 27 27						
		e _N	22 28 54	4.1			±12		
		e _N	22 31 03						
		e _E	22 31 54						
		e _{LE} ?	22 35 09						

No.	Date	Phase	Time g. m. t.	Period s	Amplitude			Δ km.	Remarks
					A _E μ	A _N μ	A _Z μ		
		e _{LN}	22 36 06						
		e _{FE}	22 55 ±						
		e _{FN}	22 59 ±						
		e _{FZ}	23 41 ±						
218	Sept. 9	P _{EN}	5 04 55					1070 Deep focus earthquake. Near Vladivostok.	
		P _Z	5 04 54						
		e _N	5 06 30						
		S	5 06 51						
		M _E	5 06 54	2.5	±6				
		M _N	5 07 00	3.4		-6			
		N _Z	5 07 02	3.1			-5		
		e _{EN}	5 16 16						
		e _{FE}	5 26 ±						
		e _{FN}	5 24 ±						
		e _{FZ}	5 19 ±						
219	Sept. 9	e _{PEN}	21 29 30					A distant earthquake. Each phases is not distinct. Near New-Caledonia.	
		e _{PZ}	21 29 27						
		e _N	21 34 28						
		e _E	21 36 30						
		e _N	21 36 48						
		e _{FE}	21 51 ±						
		e _{FN}	21 47 ±						
		e _{FZ}	21 44 ±						
220	Sept. 12	e _{PEN}	5 08 07					East off Miyako Isl., Ryûkyû IIs.	
		e _N	5 09 24						
		e _Z	5 09 21						
		e _E	5 09 40						
		M _E	5 10 41	3.2	-2				
		M _N	5 11 05	3.5					
		M _Z	5 11 08	3.8			-2		
		e _{FEZ}	5 15 ±						
		e _{FN}	5 14 ±						
221	Sept. 15	e _E	13 54 47						ENE off Hatidyô 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.	
222	Sept. 15	i _E	13	55	13						South off Yaku Isl., northern part of Ryûkyû IIs.
		e _N	13	56	07						
		eM _E	13	56	24	2.6	+2				
		eM _N	13	56	24	3.1		±2			
		e _F	14	00	±						
		eP _E	16	21	29						
		eP _N	16	21	32						
		eP _Z	16	21	31						
		e _E	16	22	46						
		e _Z	16	22	49						
		e _N	16	23	49						
		e _N	16	25	47	9.3		±1			
		eF _E	16	35	±						
		eF _N	16	36	±						
eF _Z	16	31	±								
223	Sept. 17	e _{EN}	4	01	44					East off Miyako, Iwate Prefecture.	
		e _{SE}	4	02	58						
		e _{SN}	4	03	03						
		M _N	4	04	27	6.7		+4			
		eF _E	4	11	±						
		eF _N	4	15	±						
		eF _Z	4	08	±						
224	Sept. 20	P _E	3	57	28		+9			297 Obscured by severe micro-seisms. Deep focus earthquake. In the Kumano-nada, SE off Kii Peninsula.	
		i _{SE}	3	58	08		-20				
		i _{SN}	3	58	08			-10			
		M _E	3	58	08	2.3	-20				
		M _N	3	58	08	2.6		+13			
		eF _{EN}	4	04	±						
eF _Z	4	02	±								
225	Sept. 21	iP _E	3	15	12	1.8	-8.0			285 Near Nanao, Noto Province. Some damage at the Near Nanao Bay. Moderate shocks were felt in Hokuriku and Tyûbu district.	
		iP _N	3	15	12	1.4		-3.3			
		iP _Z	3	15	12	1.9			+7.1		
		i _E	3	15	18	2.4	-25				

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.	
226	Sept. 21	i _N	3	15	18	3.0		-19		780 SE off Miyako, Iwate Prefecture. Felt in eastern part of Oôu district.	
		i _Z	3	15	10	2.9			+26		
		i _E	3	15	24	3.2	-42				
		i _N	3	15	24	3.2		-35			
		iS _N	3	15	51			-38			
		iS _Z	3	15	51				+53		
		M _{1E}	3	16	05	4.3	+155				
		M _{1N}	3	16	05	6.5		+146			
		M _Z	3	15	57	4.6			-125		
		M _{2E}	3	16	48	5.8	+133				
		M _{3E}	3	17	09	4.0	-160				
		M _{2N}	3	17	06	5.0		+112			
		eF _{EN}	3	44	±						
		eF _Z	3	42	±						
227	Sept. 21	eP _E	9	49	54					970 SE off Miyako, Iwate Prefecture. Felt in Iwate Prefecture	
		eP _Z	9	49	52						
		eS _E	9	51	19						
		eS _{NZ}	9	51	17						
		M _E	9	52	49	16.0	+14				
		M _N	9	52	18	17.5		+19			
		eM _Z	9	53	01				+14		
		eF _E	10	09	±						
		eF _N	10	06	±						
		eF _Z	10	08	±						
227	Sept. 21	eP _E	13	44	14					970 SE off Miyako, Iwate Prefecture. Felt in Iwate Prefecture	
		eP _{iN}	13	44	19						
		eP _Z	13	44	17						
		eS _{EN}	13	45	59						
		eS _Z	13	46	00						
		S _{iN}	13	46	11						
		eM _E	13	47	19		-6				
		M _N	13	47	09	11.0		+5			
		M _Z	13	47	37	7.5			-3		
		eF _{EN}	14	01	±						
eF _Z	14	06	±								

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.	
228	Sept. 21	eP _Z	19	45	31					4175	East off Kinkazan, Miyagi Prefecture.
		eS _E	19	47	23						
		eS _N	19	47	25						
		S _Z	19	47	36						
		eM _E	19	48	34		+7				
		M _N	19	48	49	17.0?		+5			
		M _Z	19	48	33				-5		
		eF _E	19	57	±						
		eF _N	19	56	±						
		eF _Z	20	02	±						
229	Sept. 24	eP _E	15	26	47					4175	Aleutian IIs. 51°9N 174°4W (J.S.A.)
		eP _N	15	26	56						
		eP _Z	15	26	57	2.1			+3°		
		iP _E	15	27	00		+4				
		iP _Z	15	27	00	2.4					
		P _{R1N}	15	28	36	3.6		+4	-7		
		P _{R2N}	15	28	57	3.6		+4			
		e _Z	15	29	09						
		eS _E	15	32	44						
		eS _N	15	32	47						
		eS _Z	15	32	50						
		e _Z	15	35	34						
		e _N	15	36	17						
		eL _N	15	37	25						
		M _Z	15	40	38	21.-			-2		
		M _N	15	41	58	20.-		+2			
eF _E	15	49	±								
eF _N	15	52	±								
eF _Z	15	54	±								
230	Sept. 25	eP _Z	13	52	46					3640	A distant earthquake. Melanesia?
		eP _E	13	52	52						
		eP _N	13	52	53						
		eS _E	13	58	20						
		eS _N	13	58	18						
		eS _Z	13	58	37						

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.	
231	Sept. 25	eL _N	14	00	23					4120	A distant earthquake. Northern part of Sinkiang, China.
		eF _E	14	20	±						
		eF _N	14	23	±						
		eF _Z	14	16	±						
		eP _N	18	58	39						
		eP _Z	18	58	37						
		iP _N	18	58	48						
		P _Z	18	58	46						
		eS _E	19	04	32						
		eS _N	19	04	33						
232	Sept. 27	e _E	19	09	13					4120	A distant earthquake. Melanesia?
		e _N	19	09	00						
		e _Z	19	09	06						
		eL _E	19	11	34						
		eL _N	19	11	23						
		eL _Z	19	11	22						
		M _E	19	16	51	13.2	+18				
		M _N	19	14	23	14.8		+16			
		M _Z	19	17	41	12.1			-8		
		eF _E	19	40	±						
eF _N	19	42	±								
eF _Z	19	37	±								
233	Sept. 30	eP _N	21	49	17					4120	A distant earthquake. Melanesia?
		P _Z	21	49	27	2.5					
		e _S	21	55	10						
		eF _E	22	10	±						
		eF _Z	22	16	±						
		eP _N	14	28	11						
233	Sept. 30	eP _Z	14	28	13					4120	A distant earthquake. New-Gu nea.
		e _E	14	29	10						
		P _{R1E}	14	30	36						
		S _Z ?	14	32	51						
		eL _Z	14	34	54						
		M _E	14	40	39	16.0	-1				

SUMOTO JAPAN.

SEISMOLOGICAL BULLETIN

A Branch Station of the Kobe Meteorological Observatory of Japan.
 $\varphi = 34^{\circ} 21' N$ $\lambda = 134^{\circ} 53' E$ $h = 109.0$ m. Underground: Cretaceous.

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

Wiechert Seismograph.
 (Horizontal & Vertical)

July

	T_0	ε	$\frac{r}{T_0^2}$	V
AE:	17.8	1.7	0.0003	20
AN:	16.9	1.8	0.0002	20

	T_0	ε	$\frac{r}{T_0^2}$	V
AE:	4.6	Aperiodic	0.003	117
AN:	4.4	"	0.003	115
Az:	4.3	"	0.001	64

Aug.

	T_0	ε	$\frac{r}{T_0^2}$	V
AE:	18.2	1.8	0.0003	20
AN:	17.4	1.8	0.0002	20

	T_0	ε	$\frac{r}{T_0^2}$	V
AE:	4.7	Aperiodic	0.002	114
AN:	4.4	"	0.002	120
Az:	4.3	"	0.002	64

Sept.

	T_0	ε	$\frac{r}{T_0^2}$	V
AE:	17.8	1.9	0.003	20
AN:	17.7	2.1	0.002	20

	T_0	ε	$\frac{r}{T_0^2}$	V
AE:	4.9	Aperiodic	0.003	106
AN:	4.7	"	0.002	100
Az:	4.3	"	0.001	62

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 _{1N}	14	39	54	20.-		+2			
		M _Z	14	39	49	22.-			± 2		
		M _{2N}	14	44	07	19.-		+2			
		eF _E	14	59	\pm						
		eF _N	15	01	\pm						
		eF _Z	15	00	\pm						

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			G.	M.	T.		A _E	A _N	A _Z		
197	July 2	eF _E	16	50	34	s	μ	μ	μ	km.	
		eP _N	16	50	33					751	NE off Miyako, Iwate Prefecture.
		S _E	16	52	16						Felt in northern part of Oou district.
		eS _N	16	52	13						
		M _E	16	52	47	2.0	+0.4				
		M _N	16	52	43	2.4		± 0.4			
		eF	16	57	\pm						

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks	
					A _E μ	A _N μ	A _Z μ			
198	July 3	eLEN	15 29 32	14.1		± 0.4		A distant earthquake. Near Burma?		
		MN	15 30 17							
		eF	15 38 ±							
199	July 6	ePEN	0 58 43	0.4	± 2	-3		Near Wakayama City.		
		SEN	0 58 46							
		M	0 58 46							
		F	0 59 18							
200	July 6	P	1 45 49	0.4	-3	-10	± 2	24 Near Wakayama City.		
		S	1 45 52							
		M	1 45 53							
		F	1 46 47							
201	July 6	ePEN	2 00 48	1.9	-2			332 Northern part of Tokyo bay, Weak Shocks were felt in Kwanto district.		
		SEN	2 01 33							
		eSz	2 01 34							
		ME	2 02 01							
		MN	2 01 59						2.1	-2
		MZ	2 01 52						2.0	
		eFE	2 06 ±							
		eFNZ	2 05 ±							
202	July 7	PEN	3 51 12	0.3	-2	-4		33 Near Isigaki, middle basin of the Arita River, Wakayama Prefecture.		
		SEN	3 51 16							
		MEN	3 51 17							
		F	3 51 54							
203	July 8	PE	7 58 19	2.0	-2			507 East off Miyake Isl. South off Izu Peninsula. Felt in Southern part of Kwanto district.		
		PN	7 58 22							
		SE	7 59 29							
		SN	7 59 28							
		ME	7 59 38							
		MN	7 59 31						2.0	± 2
		MZ	7 59 34						1.5	
		eFE	8 03 ±							
		eFNZ	8 02 ±							

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks	
					A _E μ	A _N μ	A _Z μ			
204	July 8	eFEN	18 07 48					57 In the Kii Channel.		
		SEN	18 07 55							
		MEN	18 07 56							
		F	18 08 22							
205	July 9	PZ	1 33 34	18.8	± 50			2185 SE for off Yotorofu Isl, Kurile IIs. 145.5E 43°N. Felt in eastern part of Hokkaido.		
		PEN	1 33 37							
		SE	1 37 17							
		SN	1 37 16							
		LE	1 39 16							
		LN	1 38 21							
		ME	1 40 48						20.6	± 58
		MN	1 40 48						15.9	
		MZ	1 42 03							
		eFE	2 06 ±							
		eFN	2 11 ±							
eFz	2 04 ±									
206	July 9	PE	9 31 40	15.5	-46			2330 SE off Yotorofu Isl, Kurile IIs. The end part overlapped by the following earthquake.		
		FN	9 31 41							
		eFz	9 31 44							
		SE	9 35 28							
		SN	9 35 36							
		LE	9 36 15							
		LN	9 36 17							
		ME	9 38 44						14.5	+40
		MN	9 39 19						14.1	
		MZ	9 39 28							
207	July 9	ePN	9 51 51	14.5	± 23			SE off Yotorofu Isl, Kurile IIs.		
		eEN	9 56 27							
		LE	9 57 48							
		ME	9 58 58							
		MN	9 59 41						14.5	± 18
		eFE	10 16 ±							
		eFN	10 13 ±							
eFz	10 06 ±									

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.									
208	July 9	eFEN	11	14	13	0.5	+2	-2		48	Near Kishiwada, Osaka Pref.,								
		SEN	11	14	19														
		ME	11	14	19														
		MN	11	14	20														
		F	11	15	04														
209	July 9	PE	12	34	17	16.8	+1.4	-800		1900	SE off Yotorofu Isl, Kurile IIs.								
		PNZ	12	34	18														
		S	12	37	28														
		LE	12	38	27														
		LN	12	38	18														
		ME	12	41	22														
		MN	12	41	59														
		MZ	12	42	39														
		eFE	14	06	±														
		eFN	13	59	±														
		eFz	13	58	±														
210	July 9	ePE	16	11	17	17.4	±19			1990	East off Nosyappu cape, Hokkaidô.								
		ePN	16	11	24														
		eSE	16	14	45														
		eSN	16	14	40														
		ME	16	18	10														
		MN	16	18	20														
		MZ	16	17	06														
		eFEN	16	35	±														
		eFz	16	26	±														
		211	July 9	ePE	16							56	47	2.1	±4			374	Near Betuppu, Ôita Prefecture.
				ePN	16							56	49						
S	16			57	38														
ME	16			57	42														
MN	16			57	38														
MZ	16			57	39														
eFEN	17			01	±														
eFz	17			00	±														
212	July 9			ePE	22	18	24	2.4	+1	+1		710	Off the Kujukuri shore, Tiba Prefecture.						
				ePN	22	18	33												
				eLN	22	24	09												
		eLE	22	24	32														
		eF	22	35	±														
		213	July 10	P	0	23	44							4.6				594	ESE off Katuura, Tiba Prefecture.
				eE	0	26	25												
				eN	0	26	24												
				eZ	0	26	33												
				eE	0	27	15												
				eN	0	27	51												
eZ	0			27	52														
eFEN	0			41	±														
eFz	0			36	±														
214	July 10			PE	10	40	53	2.4	+1	+1		594	ESE off Katuura, Tiba Prefecture.						
				PN	10	40	51												
		Pz	10	40	52														
		eE	10	46	55														
		eN	10	46	56														
		eLEN	10	53	28														
		eFEN	11	06	±														
		eFz	10	52	±														
		215	July 11	PE	6	01	22							4.6				594	ESE off Katuura, Tiba Prefecture.
				PN	6	01	24												
				eFz	6	01	22												
SEN	6			02	59														
MEN	6			03	12														
MZ	6			03	11														
FE	6			09	05														
FN	6			08	41														
eFz	6			07	±														
216	July 11			PEN	6	51	25	4.6				594	ESE off Katuura, Tiba Prefecture.						
				SE	6	52	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.	
217	July 11	SN	6	52	45						Off the Hatidyô Isl.
		MZ	6	53	26	3.6			± 2		
		ME	6	53	42	4.3	± 3				
		MN	6	53	44	3.2		-2			
		FE	7	03	51						
		FN	7	03	22						
		FZ	6	59	56						
218	July 13	eEN	8	30	50						Near Yaku Isl., Ryûkyû Ils.
		ME	8	30	56	2.8	+1				
		MN	8	30	55	2.4		+2			
		eFEN	8	33	\pm						
219	July 12	ePE	14	48	34					495	Near Wakayama City.
		ePN	14	48	36						
		eSEN	14	49	31						
		ME	14	49	53	2.0	± 0.4				
		MN	14	49	53	2.1		± 1			
		MZ	14	50	04	2.0					
220	July 12	eFN	18	37	02					28	SE off Inubô Cape, Tiba Prefecture.
		SEN	18	37	05						
		ME	18	37	06		± 1				
		MN	18	37	06	0.2		± 2			
		F	18	37	22						
221	July 13	ePE	18	54	47					529	Near Yokoate Isl, Ryûkyû Ils.
		eN	18	55	45						
		eSE	18	55	58						
		eSN	18	55	59						
		ME	18	56	59	2.1	± 0.4				
		MN	18	56	30	2.3		+0.4			
222	July 14	eF	14	55	\pm						NW off Okujiri Isl., west off Hokkaidô.
		eFN	18	37	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.	
222	July 14	SEN	8	02	44						Basin of the Arita river, Wakayama Prefecture.
		ME	8	03	20	10.9	+1				
		MN	8	04	48	10.3		± 1			
		MZ	8	04	01	11.3			+2		
		eFEN	8	17	\pm						
		eFz	8	10	\pm						
		223	July 14	PEN	12	10	40				
SEN	12			10	44						
M	12			10	45	0.4	-2	+2			
F	12			11	32						
224	July 16	PEN	16	05	46		+0.4	-0.9	+1.7	762	Local shock.
		Pz	16	05	45						
		S	16	07	29						
		ME	16	07	30	2.7	± 4				
		MN	16	07	30	2.9		+4			
		MZ	16	07	33	2.4			± 1		
225	July 16	eFEN	16	16	\pm						Near Wakayama City.
		eFz	16	12	\pm						
		PEN	15	31	26					42	
		SEN	15	31	31						
226	July 18	M	15	31	32	0.4	± 2	-4	+2		Near Yokoate Isl, Ryûkyû Ils.
		F	15	32	09						
		P	11	26	50					783	
227	July 18	eNE	11	28	10						Near Yokoate Isl, Ryûkyû Ils.
		eZ	11	28	12						
		SE	11	28	38						
		SN	11	28	33						

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			G.	M.	S.		A _E	A _N	A _Z		
			h	m	s	s	μ	μ	μ	km.	
227	July 18	Sz	11	23	36						
		M _{EN}	11	28	39	1.8	± 3	-3			
		M _Z	11	28	45	1.8			-2		
		eF _{EN}	11	35	\pm						
		eF _Z	11	32	\pm						
	July 18	PEZ	17	59	53		-0.4	-0.9		154	Near Mt. Tengi, northern part of Okayama Prefecture.
		P _N	17	59	54						
		SE	18	00	15						
		SNZ	18	00	14						
		M _{EN}	18	00	16	0.4	-6	-4			
M _Z		18	00	15	1.1			± 2			
FE		18	02	52							
FN		18	02	06							
Fz	18	01	22								
228	July 18	PEZ	19	10	14		-0.4	-0.9	+1.6	2945	A distant earthquake. Caloline IIs, north Pacific Ocean.
		P _N	19	10	15						
		SEN	19	14	53						
		LE	19	17	15						
		LN	19	17	12						
		M _E	19	17	26	10.3	± 6				
		M _N	19	18	05	10.3		± 3			
		eF _E	19	44	\pm						
		eF _N	19	41	\pm						
		eF _Z	19	27	\pm						
229	July 19	iP	2	28	34		+0.9	-0.9	-1.6	48	Lower basin of the Arita River, Wakayama Prefecture
		S	2	28	41						
		M _E	2	28	42	0.5	-13				
		M _N	2	28	42	0.4		± 14			
		M _Z	2	28	42	0.8			± 4		
		F	2	30	29						
230	July 20	P	23	16	11		-2.6	+0.4	+3.1	925	An after shock of the great earthquake, off the Coast of Sanriku, on Mar. 2nd 1933.
		SEN	23	18	15						
		Sz	23	18	16						

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			G.	M.	S.		A _E	A _N	A _Z		
			h	m	s	s	μ	μ	μ	km.	
		M _E	23	18	24	3.4	-7				Weak shocks were felt in the Pacific coast of NE Japan and Hokkaido.
		M _N	23	18	18	2.6		± 9			
		M _Z	23	18	17	2.3			-3		
		eF _{EN}	23	36	\pm						
		eF _Z	23	25	\pm						
231	July 21	P _{EN}	8	30	52					25	Near Tadono, basin of the Arita River, Wakayama Prefecture.
		S	8	30	56						
		M _E	8	30	55	0.2	+3				
		M _N	8	30	56	0.3		+4			
		M _Z	8	30	55				± 1		
		F	8	31	40						
232	July 22	P	21	03	21		+1.7	+0.9	-1.6	4630	A distant earthquake. Aleutian IIs.
		SE	21	09	44						
		SN	21	09	42						
		LE	21	13	18						
		LN	21	14	09						
		M _E	21	19	14	20.9	± 75				
		M _N	21	22	29	18.2		± 38			
		M _Z	21	18	20	23.4			± 100		
		eF _E	22	16	\pm						
		eF _N	22	12	\pm						
eF _Z	22	06	\pm								
233	July 23	eP _{EN}	1	19	32					85	Near Siomisaki, southend of Kii Peninsula.
		SEN	1	19	43						
		M _E	1	19	44	0.4	-3				
		M _N	1	19	45	0.4		+2			
F	1	20	26								
234	July 25	eP _{EN}	4	15	20					36	Near Wakayama City.
		SEN	4	15	25						
		M _E	4	15	25	0.4	+2				
		M _N	4	15	25	0.3		-3			
		F	4	16	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.	
235	July 26	ePEN	15	00	47					19	Local shock.
		SEN	15	00	50						
		MEN	15	00	50		+2	± 1			
		F	15	00	54						
236	July 27	SEN	0	58	54						Ditto.
		MEN	0	58	55		± 1	± 1			
		F	0	59	07						
237	July 27	PEN	1	28	40					35	Near Wakayama City.
		S	1	28	44						
		ME	1	28	45	0.5	-3				
		MN	1	28	45	0.3		-3			
		MZ	1	28	45				± 1		
		F	1	29	20						
238	July 27	SEN	14	03	38						Near Wakayama City.
		ME	14	03	38		+0.4				
		MN	14	03	38	0.4		± 1			
		F	14	03	53						
*239	July 28	iPEN	16	43	31		-3.4	+3.9		36	Near Yura, Wakayama Prefecture.
		iPZ	16	43	33				+4.7		
		SEN	16	43	36						
		SZ	16	43	38						
		M _{1E}	16	43	39	2.6	-556				
		MN	16	43	43	1.9			-513		
		M _{1Z}	16	43	44	2.3					
		M _{2E}	16	43	49	1.9	+103				
		M _{2Z}	16	43	51	3.4					
		FE	17	00	22				-91		
		FN	17	00	03						
Fz	16	56	04								
240	July 28	ePN	17	20	27					26	Near Yuasa, Wakayama Prefecture.
		SEN	17	20	31						
		ME	17	20	31		± 0.4				



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.	
		MN	17	20	31	0.5			-1		
		F	17	21	05						
241	July 29	ePN	19	19	12					38	Near Yuasa, Wakayama Prefecture.
		SEN	19	19	17						
		ME	19	19	18	0.3	± 1				
		MN	19	19	18	0.4		± 1			
242	July 30	PEN	8	37	50					47	Near Wakayama City.
		S	8	37	56						
		ME	8	37	57	0.5	-3				
		MN	8	37	56	0.4		-4			
		MZ	8	37	57	0.5			± 1		
F	8	38	37								
243	July 31	ePE	2	58	07					643	SSE off Hatidyô Isi.
		ePN	2	58	06						
		SEN	2	59	33						
		ME	2	59	38	1.9	+1				
		MN	2	59	36	2.4		-1			
		eF	3	04	\pm						
244	Aug. 1	SEN	1	23	26						In the Kii Channel.
		MEN	1	23	26	0.4	-2	± 1			
		F	1	23	42						
245	Aug. 1	ePN	2	56	09					31	Near Wakayama City.
		SEN	2	56	13						
		ME	2	56	13		± 0.4				
		MN	2	56	13	0.3		± 1			
		F	2	56	24						
246	Aug. 2	PEN	18	28	14					35	In the Kii Channel.
		SEN	18	28	18						
		MEN	18	28	17	0.4	± 1	± 2			
		F	18	28	57						

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.	
247	Aug. 3	ePEN	10	15	31					15	Near Wakayama City.
		S	10	15	33						
		ME	10	15	33	0.5	-2				
		MN	10	15	34	0.4		-3			
		F	10	16	01						
248	Aug. 3	PEN	14	41	55					33	In the Kii Channel.
		S	14	42	00						
		ME	14	42	01	0.4	-3				
		MN	14	42	01	0.3		± 3			
		F	14	42	29						
249	Aug. 5	ePE	0	52	55						A distant earthquake. Near Solomon IIs, Melanesia.
		PNZ	0	52	56						
		eEN	0	59	46						
		eFEN	1	23	\pm						
		eFz	1	21	\pm						
250	Aug. 6	PEN	11	16	11					32	Near Wakayama City.
		S	11	16	16						
		ME	11	16	16	0.4	+9				
		MNZ	11	16	17	0.5		± 6	-2		
		F	11	17	36						
251	Aug. 7	ePE	0	43	51					1450	An after shock of the great earthquake, off the coast of Sanriku, on Mar. 2nd 1933. Felt in Oou district.
		ePN	0	43	50						
		eSE	0	46	18						
		eSN	0	46	26						
		ME	0	46	55	2.4	± 1				
		MN	0	46	29	2.6		± 1			
		eF	0	50	\pm						
252	Aug. 7	iP	4	46	00					40	Lower basin of the Arida River, Wakayama Prefecture.
		S	4	46	05						
		ME _N	4	46	06	0.3	+5	+8			
		MZ	4	46	06						
		F	4	47	40				± 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.	
253	Aug. 11	eN	9	07	06						Upper course of the Yangtze River, China.
		eE	9	07	52						
		eZ	9	08	24						
		SE	9	11	49						
		SN	9	11	24						
		Sz	9	11	47						
		ME	9	14	54	11.5	± 12				
		MN	9	13	50	12.2		+27			
		MZ	9	14	05	11.8			-11		
		eFEN	9	30	\pm						
eFz	9	25	\pm								
254	Aug. 15	iPEN	3	00	09		+4.3	-1.7	-3.1		NNE off Bonin Isl. Abnormal felt area in Kwanto district.
		iPz	3	00	08						
		iE	3	01	49						
		iNZ	3	01	50						
		eS	3	03	21						
		ME	3	05	53	8.4	-5				
		MN	3	05	30	11.3		+11			
		MZ	3	05	50	10.3			-8		
		eFE	3	23	\pm						
		eFN	3	16	\pm						
eFz	3	11	\pm								
255	Aug. 16	eN	4	12	31						Near Kiyama, Kumamoto Prefecture.
		eE	4	12	33						
		eN	4	12	34						
		eE	4	12	35						
		eZ	4	12	36						
		eF	4	14	\pm						

256	Aug. 18	P	8	21	16					841	WSW off Yaku Isl. Felt in northern part of Ryūkyū IIs.
		SE _N	8	23	10						
		Sz	8	23	03						
		ME	8	23	53	3.4	-1				
		MN	8	23	37	2.8		-2			
		MZ	8	23	26	1.9			-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.	
257	Aug. 19	eF _E	8	30	±						In the Kii Channel.
		eF _N	8	29	±						
		eF _Z	8	28	±						
		P _{EN}	4	55	13						
		S	4	55	19						
		M _E	4	55	19	0.2	+3				
		M _N	4	55	20	0.4		-5			
258	Aug. 20	M _Z	4	55	19				+2		2500 East off Philippine. Felt in southern part of Luzon. The end part overlapped by the following earthquake.
		F	4	56	21						
		P _E	11	50	15						
		P _N	11	50	17						
		P _Z	11	50	13						
		S _{EN}	11	54	21						
		L _E	11	57	09						
259	Aug. 20	L _N	11	56	41						2525 An after shock of No 258.
		M _E	11	57	56	12.7	±6				
		M _N	11	57	22	14.6		±14			
		F _{EN}	12	11	11						
		eF _Z	12	11	16						
		S _{EN}	12	15	18						
		eF _{EN}	12	29	±						
260	Aug. 24	eF _Z	12	21	±						Upper Valley of the Suzuka River, Mie Prefecture.
		e _{EN}	0	31	00						
		e _{SEN}	0	31	03						
		M _N	0	31	03	0.6		±1			
261	Aug. 24	F	0	31	17						74 Upper basin of the Sasayama River, Hyôgo Prefecture.
		iF _{EN}	0	40	22		+0.9	-1.8	+2.7		
		iF _Z	0	40	23						
		S _{EN}	0	40	32						
		S _Z	0	40	33						
		M	0	40	33	0.4	-10	-15	+3		

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.	
262	Aug. 24	I _Z	0	41	29						27 Near Wakayama City.
		P	6	29	37						
		S	6	29	40						
		M	6	29	41	0.5	-11	-9	±2		
263	Aug. 25	F	6	30	57						2890 The frontier of Szechwan and Kwansu, China.
		P _{EN}	7	56	05		+0.9	+1.7?			
		F _Z	7	56	06					-2.3?	
		S _E	8	00	32						
		S _N	8	00	48						
		S _Z	8	00	41						
		M _{1E}	8	01	01	11.3	+573				
		M _{1N}	8	01	01	7.7		+79			
		M _{1Z}	8	00	58	11.6			+289		
		e _E	8	04	52						
		e _N	8	04	49						
		M _{2E}	8	05	23	6.6	-132				
		M _{2N}	8	05	19	6.6		+117			
		M _{2E}	8	06	54	9.0	-233				
M _{2Z}	8	07	46	13.0			-443				
264	Aug. 25	M _{2N}	8	08	35	10.9		+379			648? NW off Amami-Osima, northern part of Ryûkyû.
		eF _E	9	34	±						
		eF _N	9	23	±						
		eF _Z	9	07	±						
		eP _N	11	11	50						
		S _E	11	13	19						
265	Aug. 25	S _N	11	13	17						Local shock.
		M _E	11	13	40	2.8	+1				
		M _N	11	13	35	3.4		+1			
		eF	11	16	±						
		S _{EN}	23	36	33						
		M _N	23	36	33	0.3		+2			
		F	23	36	50						

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
							AE	AN	Az		
			G.	M.	T.	s	μ	μ	μ	km.	
266	Aug. 26	eFEN	1	31	52					1320	NW off Amami-Osima, northern part of Ryūkyū Ils.
		cZ	1	32	21						
		SE	1	34	15						
		SN	1	34	09						
		ME	1	34	55	3.9	-1				
		MN	1	34	45	3.0		-1			
		MZ	1	34	47	2.4			± 1		
		eFz	1	37	\pm						
267	Aug. 28	PEN	6	00	06					33	Near Wakayama City.
		S	6	00	10						
		ME	6	00	11	0.3	+4				
		MN	6	00	11	0.4		-9			
		MZ	6	00	11				± 2		
		F	6	01	11						
268	Aug. 28	ePEN	20	20	45					Ditto.	
		S	20	20	46						
		ME	20	20	47		-1				
		MN	20	20	48	0.3		-3			
		F	20	21	09						
269	Aug. 28-29	PEN	22	39	35					A distant earthquake. South Atlantic Ocean.	
		Pz	22	39	38						
		eSE	22	46	33						
		eSN	22	46	09						
		eLE	22	58	53						
		eLN	22	59	02						
		MN	23	09	04	19.1		-42			
		ME	23	22	31	31.9	-100				
		MZ	23	52	01	19.7			-50		
		eFE	0	53	\pm						
		eFN	0	46	\pm						
eFz	0	38	\pm								
270	Aug. 29	SEN	5	08	46					Near Wakayama City.	

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
							AE	AN	Az		
			G.	M.	T.	s	μ	μ	μ	km.	
271	Aug. 29	MN	5	08	47					540?	SE off the month of the Abukuma River, Miyagi Prefecture. Weak shocks were felt in the Pacific coast of Kwanto and southern part of Oou district.
		F	5	09	03			± 1			
		PEN	12	33	06						
		Pz	12	33	05						
		SE	12	34	21						
		SN	12	34	19						
		Sz	12	34	17						
		ME	12	35	16	3.3	-4				
		MN	12	34	59	2.6		-3			
		MZ	12	35	15	3.1			-2		
272	Aug. 29	eE	13	17	27					Local shock?	
		eN	13	17	32						
		eF	13	20	\pm						
273	Agu. 29	eEN	14	06	10					Near Wakayama City.	
		SEN	14	06	11						
		MEN	14	06	12	0.4	-1	± 1			
		F	14	06	28						
274	Aug. 29	ePE	15	11	12					Off Hatidyo Isl.?	
		ePNZ	15	11	09						
		eF	15	16	\pm						
*275	Aug. 29	eP	16	27	36					23	Perceptible. In the Osaka bay. Felt in the coast of Osaka bay.
		S	16	27	39						
		ME	16	27	39		-155				
		MN	16	27	41	0.6		-64			
		MZ	16	27	39	0.3			+22		
		FEN	16	31	25						
		Fz	16	29	25						
276	Aug. 30	P	16	40	53		+0.9	(-)	(-)	277	Near Hamana Lake, Sizuoka Prefecture.
		eSE	16	41	30						

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.	
277	Sept. 2	eSNZ	16	41	31					494	Deep focus earthquake. South off Hatidyô Isl. focal depth about 300km. Abnormal felt area in south- eastern part of Kwantô district.
		M _E	16	41	31	1.0	+1				
		M _N	16	41	31	1.3		+2			
		M _Z	16	41	31	1.2			-1		
		eF _{EN}	16	45	±						
		eF _Z	16	43	±						
		iP _{EN}	16	42	43.9		+4.7	-3.0	-3.2		
		iP _Z	16	42	43.4						
		S _{EN}	16	43	50						
		S _Z	16	43	52						
M _E	16	44	05	6.2	-185						
M _N	16	44	01	5.8		-312					
M _Z	16	44	00	4.1			+4.4				
eF _{EN}	17	18	±								
eF _Z	17	11	±								
278	Sept. 3	P _{EN}	23	41	47					97	Upper Valley of the Kumano River, Kii Peninsula.
		S	23	42	00						
		M _E	23	42	00	0.4	-4				
		M _N	23	42	01	0.4		±5			
		M _Z	23	42	01				±1		
		F	23	43	03						
279	Sept. 4	S _{EN}	14	41	02						In the Kii Channel.
		M _E	14	41	03	0.4	±1				
		M _N	14	41	03	0.3		+3			
		F	14	41	20						
280	Sept. 5	eP _{EN}	13	19	06					33	Basin of the Arita River Wakayama Prefecture.
		S _{EN}	13	19	10						
		M _E	13	19	11	0.4	-5				
		M _N	13	19	11	0.5		-5			
		F	13	19	48						
281	Sept. 5	eP _N	14	37	45					35	Near Wakayama City.
		S _{EN}	14	37	49						
		M _E	14	37	49		+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.	
		M _N	14	37	51	0.3			-4		
		F	14	38	10						
282	Sept. 5	eP _{EN}	15	09	50					33	Near Wakayama City.
		S _{EN}	15	09	55						
		M _E	15	09	55		+2				
		M _N	15	09	56	0.4		+4			
		F	15	10	13						
283	Sept. 6	L _E	10	06	51						East far off Nosyappu Cape, Hokkaidô.
		L _N	10	07	59						
		eF	10	16	±						
284	Sept. 6	P _{EN}	22	18	51		+3.3	-1.0	-8.1	2960	A distant deep focus earth- quake. Near Fiji IIs, South Pacific Ocean.
		P _Z	22	18	50						
		eS _E	22	23	08						
		eS _N	22	23	53						
		eE	22	27	16						
		eN	22	27	19						
		M _E	22	27	30	5.5	-9				
		M _N	22	27	26	6.4		-12			
		M _Z	22	27	35	6.6			+2		
		eF _{EN}	22	57	±						
eF _Z	22	47	±								
285	Sept. 8	P _{EN}	11	39	55					34	Near Wakayama City.
		S _{EN}	11	40	00						
		M _{EN}	11	40	00	0.4	+2	-4			
		F	11	40	41						
286	Sept. 9	P _{EN}	5	04	56		(+)	(-)	-0.8	887	Near Vladivostok.
		P _Z	5	04	54						
		S _E	5	06	54						
		S _{NZ}	5	06	55						
		M _E	5	06	59	2.3	-3				
		M _N	5	07	15	2.6		±4			
		M _Z	5	07	16	2.7			-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.	
287	Sept. 9	eFEN	5	16	±						
		eFZ	5	12	±						
		PEN	21	29	30						
		PZ _o	21	29	29						
		eFEN	21	41	±						
288	Sept. 11	ePN	5	29	09					36	A distant earthquake. Near New-Caledonia.
		SEN	5	29	14						
		ME	5	29	14		-2				
		MN	5	29	14	0.4		+3			
		F	5	29	42						
289	Sept. 11	ePN	11	20	02					37	Ditto.
		S	11	20	07						
		MEZ	11	20	07		+2		±1		
		MN	11	20	08	0.3		-4			
		F	11	20	53						
290	Sept. 12	eE	5	09	82						
		eN	5	09	35						
		eSN	5	10	20						
		eFEN	5	15	±						
291	Sept. 13	ePEN	13	27	06					22	Lower basin of the Arita R., Wakayama Prefecture
		S	13	27	09						
		ME	13	27	10	0.3	±2				
		MN	13	27	10	0.4		+3			
		F	13	27	50						
292	Sept. 14	ePEN	2	39	29					22	Near Hinomisaki, Kii Channel.
		SEN	2	39	32						
		MEN	2	39	32	0.4	+1	+2			
		F	2	40	05						
293	Sept. 14	iP	12	16	47					24	Near Wakayama City.

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.	
		S	12	16	50						
		MEN	12	16	51	0.4	-11	+30			The end part overlapped by the following earthquake.
		MZ	12	16	51	0.3			-10		
294	Sept. 14	PEN	12	17	21					24	Near Wakayama City.
		S	12	17	24						
		ME	12	17	24	0.4	±1				
		MN	12	17	25	0.3		±4			
		F	12	18	01						
295	Sept. 15	eFN	2	15	±						A distant earthquake?
		eF	3	31	±						
296	Sept. 15	PEN	2	44	27					22	Near Wakayama City.
		S	2	44	30						
		MEZ	2	44	31		±1		±1		
		MN	2	44	31	0.3		+3			
		F	2	44	57						
297	Sept. 15	PEN	13	55	04					398	ENE off Hatidyô Isl.
		PZ	13	55	03						
		eSE	13	55	52						
		eSN	13	56	03						
		ME	13	56	08	2.6	-1				
		MN	13	56	23	2.3		+1			
		eFEN	14	01	±						
eFZ	13	58	±								
298	Sept. 15	iPE	16	21	27					1952?	South off Yaku Isl, North- ern part of Ryûkyû IIs.
		iPNZ	16	21	26						
		eE	16	22	39						
		eN	16	23	38						
		eSN	16	23	35						
		ME	16	24	39	2.6	-1				
		MN	16	24	21	2.6		+1			
		eFEN	16	30	±						
		eFZ	16	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.	
299	Sept. 17	PN	4	01	46					39	East off Miyako, Iwate Prefecture.
		PE	4	01	54						
		SEN	4	04	18						
		eF	4	12	±						
300	Sept. 20	PN	0	56	14					39	Near Wakayama City.
		SEN	0	56	20						
		MEN	0	56	20		±1	±1			
		F	0	56	44						
301	Sept. 20	iP	3	57	27					301	Deep focus earthquake. In the Kumano-nada, southeast off Kii Peninsula.
		SE	3	58	07						
		SNZ	3	58	08						
		ME	3	58	16	3.1	+4				
		MN	3	58	10	2.4		+11			
		MZ	3	58	10	1.9			±2		
302	Sept. 20	eP	23	38	58					302	East off Mindanao, Philippine. Disturbed by heavy microseisms.
		eEZ	23	39	11						
		eE	23	39	14	3.4	-3				
		eZ	23	39	27	2.0			-1		
		eS?N	23	39	29						
		eN	23	39	43	3.8		+2			
		eFEN	23	44	±						
eFZ	23	42	±								
303	Sept. 21	ePE	3	15	16					367	Near Nanao, Noto Province. Some damage at Nanao Bay. Moderate shocks were felt in Hokuriku and Tyubu district.
		PNZ	3	15	17						
		SE	3	16	06						
		SN	3	16	05						
		SZ	3	16	07						
		M _{1E}	3	16	30	3.6	+93				
		M _{1N}	3	16	41	3.4		-70			
		MZ	3	16	15	4.1			±55		
		M _{2E}	3	16	43	3.4	-85				
M _{2N}	3	16	45	3.4			+67				

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.	
304	Sept. 21	eFEN	3	40	±					1036 ³	SE off Miyako, Iwate Pref. Felt in eastern part of Oou district.
		eFZ	3	37	±						
304	Sept. 21	P	9	49	56					1036 ³	SE off Miyako, Iwate Pref. Felt in eastern part of Oou district.
		SE	9	52	17						
		SNZ	9	52	15						
		ME	9	52	30	4.7	+4				
		MN	9	52	46	8.0		-7			
		MZ	9	52	54	4.3			-2		
304	Sept. 21	eFEN	10	13	±					1036 ³	SE off Miyako, Iwate Pref. Felt in eastern part of Oou district.
		eFZ	10	04	±						
305	Sept. 21	eP	13	44	15					907	Ditto.
		SE	13	46	20						
		SN	13	46	14						
		SZ	13	46	18						
		ME	13	47	05	3.0	+4				
		MN	13	46	49	3.2		+2			
305	Sept. 21	MZ	13	46	52	2.4			±1	907	Ditto.
		eFEN	13	54	±						
		eFZ	13	49	±						
306	Sept. 21	ePE	19	45	57					725	East off Kinkwazan, Miyagi Prefecture.
		ePN	19	45	58						
		eZ	19	46	04						
		SEN	19	47	35						
		ME	19	48	21	3.5	-4				
		MN	19	48	09	2.7		-3			
306	Sept. 21	MZ	19	48	12	2.7			±1	725	East off Kinkwazan, Miyagi Prefecture.
		eFEN	19	55	±						
		eFZ	19	51	±						
307	Sept. 24	P	8	13	46					23	Near Wakayama City.
		S	8	13	49						
		ME	8	13	50	0.3	-7				
		MN	8	13	50	0.5		+10			
		MZ	8	13	50				±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.	
308	Sept. 24	F	8	14	38					89	Iyo nada, Inland Sea.
		ePN	13	50	18						
		eSEN	13	50	30						
		MN	13	50	41	0.6	-1				
		F	13	51	15						
309	Sept. 24	PEN	15	27	03		+2.0	+2.8	-3.2		Aleutian IIs.
		Pz	15	27	02						
		eSN(?)	15	31	26						
		eFEN	15	56	±						
		eFz	15	38	±						
310	Sept. 25	ePEN	7	48	06					19	Near Wakayama City.
		SEN	7	48	09						
		MEN	7	48	09	0.2	-1	-2			
		F	7	48	25						
311	Sept. 25	ePE	13	52	49						A distant earthquake Melanesia?
		eFN	13	52	53						
		ePz	13	52	48						
		eFEN	14	15	±						
		eFz	13	59	±						
312	Sept. 25	PEN	18	58	43		+0.9			4350	A distant earthquake. Northern part of Sinkiang China.
		Pz	18	58	44				+1.6		
		eSE	19	04	50						
		eE	19	08	30						
		eN	19	08	32						
		eLEN	19	12	17						
		eLz	19	11	17						
		ME	19	16	27	11.8	-40				
		MN	19	16	29	11.8					
		Mz	19	16	28	13.5		+31			
		eFE	19	43	±				-38		
		eFN	19	46	±						
		eFz	19	27	±						

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.	
313	Sept. 26	ePEN	12	50	58						Near Wakayama City.
		SEN	12	51	03						
		ME	12	51	03				±0.4		
		MN	12	51	03	0.3			±1		
		F	12	51	38						
314	Sept. 26	ePE	16	00	33					383	Near Kumamoto, Kyūsyū.
		ePN	16	00	36						
		eSEN	16	01	26						
		ME	16	01	29	3.8	±1				
		MN	16	01	29	3.2		±1			
		eF	16	03	±						
315	Sept. 27	ePEN	12	11	22					21	Near Wakayama City.
		S	12	11	25						
		MEN	12	11	26	0.4	+1	±1			
		F	12	11	45						
316	Sept. 27	PEZ	21	49	26						A distant earthquake. Melanesia?
		PN	21	49	25						
		eFEN	22	02	±						
		eFz	21	52	±						
317	Sept. 28	ePN	16	41	54					24	Local Shock.
		S	16	41	57						
		MEN	16	41	58	0.2	-2	-3			
		F	16	42	12						
318	Sept. 30	PEN	14	28	11		+0.9	-1.5		3740	A distant earthquake. New-Guinea.
		Fz	14	28	10				-1.6		
		SE	14	33	39						
		SN	14	33	45						
		LE	14	36	37						
		ME	14	39	21	14.5	±13				
		MN	14	41	33	14.5		±14			
		Mz	14	39	25	15.9			±20		
		eFEN	14	58	±						
		eFz	14	55	±						

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.
(Horizontal Pendulum)

Wiechert Seismograph.
(Horizontal & Vertical)

July

	T_o	ϵ	$\frac{r}{T_o^2}$	V
AE:	22.0	3.0	0.001	20
AN:	20.6	3.0	0.001	20

	T_o	ϵ	$\frac{r}{T_o^2}$	V
AE:	5.8	10.0	0.004	107
AN:	6.0	10.0	0.004	94
Az:	3.7	4.4	0.003	55

Aug.

	T_o	ϵ	$\frac{r}{T_o^2}$	V
AE:	21.0	3.0	0.001	20
AN:	20.8	3.0	0.001	20

	T_o	ϵ	$\frac{r}{T_o^2}$	V
AE:	6.0	10.0	0.004	97
AN:	6.4	10.0	0.005	93
Az:	3.8	4.4	0.003	63

Sept.

	T_o	ϵ	$\frac{r}{T_o^2}$	V
AE:	21.6	3.0	0.002	20
AN:	20.5	3.0	0.001	20

	T_o	ϵ	$\frac{r}{T_o^2}$	V
AE:	5.9	10.0	0.004	97
AN:	5.9	10.0	0.004	115
Az:	3.7	5.3	0.002	53

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					AE μ	AN μ	Az μ		
92	July 6	ePE	2 00 41	2.3	+5			445	Northern part of Tokyô Bay. Weak shocks were felt in Kwantô district.
		ePN	2 00 45						
		Fz	2 00 54						
		SE	2 01 41						
		SNZ	2 01 42						
		ME	2 01 58						
		MN	2 01 49						

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks
					AE μ	AN μ	Az μ		
*93	July 7	MZ	2 01 51	16.01.30	-98	+30	±17	21	Near Mineyama, NW of Kyôto Prefecture. Moderate shocks were felt in the border of Hyôgo and Kyôto Prefecture.
		FE	2 02 55						
		FN	2 02 57						
		FZ	2 02 37						
		PEN	16 01 30						
94	July 9	S	16 01 33	14.7	-17			1745	SE off Yetorofu Isl, Kurile IIs.
		ME	16 01 33						
		eMZ	16 01 33						
		FE	16 02 01						
		FN	16 01 59						
		FZ	16 02 47						
		ePE	9 31 40						
		ePN	9 31 37						
		LE	9 36 41						
		eLN	9 36 06						
95	July 9	ME	9 39 01	16.9					SE far off Yetorofu Isl. Kurile IIs. 149°E 42.5°N
		MN	9 39 31						
		eFE	9 50 ±						
		eFN	9 48 ±						
		P	12 34 09						
		eSE	12 37 12						
		SN	12 37 12						
		eLE	12 38 33						
		LN	12 38 43						
		eLz	12 39 13						
96	July 9	ME	12 41 41	11.6					East off Nosyappu Cape, Hokkaidô.
		MN	12 42 19						
		MZ	12 41 37						
		eFE	13 43 ±						
		eFN	13 40 ±						
		eFz	13 00 ±						
		ePEN	16 11 03						
		LE	16 16 20						

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks			
					AE μ	AN μ	Az μ					
97	July 10	eLN	16 16 22		+8				An after shock of the great earthquake, off the coast of Sanriku, on March 2nd 1933.			
		ME	16 18 01									
		eFEN	16 25 \pm									
		iP	0 23 39							+7.5	+2.2	-7.7
		iEZ	0 23 50							+7.5		
		iN	0 23 52									
		eSN	0 25 52									
ME	0 27 36											
eFE	0 36 \pm	Weak shocks were felt in the Pacific coast of NE Japan and Hokkaido.										
eFN	0 34 \pm											
eFZ	0 29 \pm											
98	July 10	ePE	10 41 02					Faint record. Eastern part of Moluca IIs.				
		Pz	10 40 53									
		eSE	10 47 13									
		eFEN	10 56 \pm									
99	July 11	ePE	6 01 20					P phase is not distinct. Off the Kujukuri shore, Tiba Prefecture.				
		SE	6 02 46									
		eSN	6 02 40									
		MN	6 02 55									
		eFE	6 09 \pm									
eFN	6 08 \pm											
100	July 11	eE	6 51 46					ESE off Katuura, Tiba Prefecture.				
		eN	6 51 36									
		eE	6 53 15									
		ME	6 53 23						+6			
		MN	6 53 15									
		eFEN	7 00 35						+17			
101	July 11	PEN	8 20 50					Faint record. Off the Hatidyo Isl.				
		SEN	8 31 11									
		MN	8 31 14									
		eFEN	8 34 \pm						-4			

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks			
					AE μ	AN μ	Az μ					
102	July 11	PEN	13 32 25					23	Near Miyazu, Kyoto Prefecture.			
		SEN	13 32 28									
		MEN	13 32 29							± 2	+7	
		FEN	13 32 55									
103	July 13	eE	8 01 13						NW off Okujiri Isl, west off Hokkaido. Felt in the Osima Peninsula, Hokkaido.			
		eN	8 01 17									
		eFEN	8 09 \pm									
104	July 14	ePE	16 05 33					254?	Off Vladivostok.			
		PN	16 05 33									
		SEN	16 06 07									
		ME	16 06 15							-7		
		MN	16 06 14									
		FE	16 12 30							-18		
FN	16 11 33											
105	July 18	PEN	11 27 01					658	Near Yokoate Isl, Ryukyu IIs.			
		SE	11 28 31									
		SN	11 28 28									
		eFEN	11 34 \pm									
106	July 18	P	17 59 51						Near Mt. Tengji, NW of Okayama Prefecture.			
		S	18 00 09									
		MEN	18 00 10							-12	+24	
		MZ	18 00 12									
		FE	18 01 15									
		FN	18 01 06									± 5
FZ	18 01 25											
107	July 19	ePE	15 07 22						Faint record. Aleutian IIs.			
		iPN	15 07 24									
		eF	15 15 \pm									
108	July 20	PEN	23 16 04						An after shock of the great earthquake, off the coast of Sanriku, on March 2nd 1933.			
		FZ	23 16 03							+4.7	+1.6	
		SEZ	23 17 36									
		-5.5										

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks			
					A _E μ	A _N μ	A _Z μ					
109	July 22	SN	23 17 35					4610	Weak shocks were felt in the Pacific coast of NE Japan and Hokkaidô.			
		M _{EN}	23 18 36		+7	-12						
		M _Z	23 18 23				+7					
		eF _{EN}	23 30 ±									
		eF _Z	23 24 ±									
		P _{EN}	21 03 12									
		P _Z	21 03 11									
		S _E	21 09 33									
		eS _N	21 09 49									
		eL _E	21 12 56									
110	July 24	PE	8 39 50				621	South off Vladivostok.				
		P _N	8 39 51									
		S _{EN}	8 41 14									
		M _E	8 41 19		+4							
		M _N	8 41 20			-17						
		eF _{EN}	8 46 ±									
		P	16 43 52		-0.9	+5.9			+7.3			
		P _{EN}	16 43 53		+8.4	-37.2						
		P _Z	16 43 55						-32.7			
		S _{EN}	16 44 14		+121	+56						
111	July 28	S _Z	16 44 16				161	Near Yura, Wakayama Prefecture.				
		M _E	16 44 17		-174							
		M _N	16 44 17	0.6		-117						
		M _Z	16 44 19						-73			
		F _{EN}	16 50 09									
		F _Z	16 50 52									
		eP _E	2 58 14									
		eP _N	2 58 21									
		112	July 31	PE	2 58 14						2500	SSE off Hatidyô Isl.
				eP _N	2 58 21							
S _{EN}	16 44 14				+121	+56						
S _Z	16 44 16						+22					
M _E	16 44 17				-174							
M _N	16 44 17			0.6		-117						
M _Z	16 44 19						-73					
F _{EN}	16 50 09											
F _Z	16 50 52											
eP _E	2 58 14											

No.	Date	Phase	Time G. M. T.	Period s	Amplitude			Δ km.	Remarks	
					A _E μ	A _N μ	A _Z μ			
113	Aug. 9	SEN	2 59 55		+3	+1		14	Local shock.	
		M _{EN}	2 59 57							
		F _E	3 01 35							
		F _N	3 01 46							
		P _{EN}	6 53 54							
		P _Z	6 53 53							
		S _{EN}	6 53 56							
		S _Z	6 53 55							
		M _{EN}	6 53 56		+19	-16				
		M _Z	6 53 55				±8			
114	Aug. 11	eP _E	9 00 35				14.8	4590	A distant earthquake. Upper valley of the Yangtze River, China.	
		P _N	9 00 44							
		L _E	9 12 14							
		L _N	9 11 53							
		M _E	9 14 04		+12					
		M _N	9 13 37			+15				
		eF _E	9 32 ±							
		eF _N	9 25 ±							
		P _{EN}	3 00 18		+4.1	-3.2				
		P _Z	3 00 21							-3.2
115	Aug. 15	eL _E	3 03 35				784	NNE off Bonin Isl. Abnormal felt area in Kwantô district.		
		eL _N	3 03 36							
		M _E	3 06 06		+2					
		eF	3 11 ±							
		eP _E	8 21 36							
		eP _N	8 21 41							
		S _{EN}	8 23 22							
		M _{EN}	8 23 58		+3	-3				
		eF	8 30 ±							
		P _E	11 50 38							
116	Aug. 18	eP _E	8 21 36				2500	A distant earthquake.		
		eP _N	8 21 41							
		S _{EN}	8 23 22							
		M _{EN}	8 23 58		+3	-3				
		eF	8 30 ±							
		P _E	11 50 38							
		P _{EN}	3 00 18		+4.1	-3.2				
		P _Z	3 00 21						-3.2	
		eL _E	3 03 35							
		eL _N	3 03 36							
117	Aug. 20	P _E	11 50 38				2500	A distant earthquake.		
		eP _N	8 21 41							
		S _{EN}	8 23 22							
		M _{EN}	8 23 58		+3	-3				
		eF	8 30 ±							
		P _E	11 50 38							
		P _{EN}	3 00 18		+4.1	-3.2				
		P _Z	3 00 21						-3.2	
		eL _E	3 03 35							
		eL _N	3 03 36							

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	Aug. 20	P _N	11	50	27					2690	East off Philippine.				
		S _E	11	54	44										
		S _N	11	54	42										
		eF	12	03	±										
		eP _E	12	11	20										
119	Aug. 24	P _N	12	11	18					54	Upper basin of Sasayama River, Hyōgo Prefecture.				
		S _{EN}	12	15	40										
		eF _E	12	25	±										
		eF _N	12	20	±										
		P _{EN}	0	40	19										
120	Aug. 25	P _Z	0	40	20					-31	-29	±5	2780	The frontier of Szechwan and Kwansu, China.	
		S _{EN}	0	40	27										
		S _Z	0	40	23										
		M _{EN}	0	40	27										
		M _Z	0	40	29										
		F _{EN}	0	41	39										
		F _Z	0	41	36										
		eF _E	7	56	04										
121	Aug. 28	P _E	7	56	11					+175	-167	12.6	10.2	21.0	A distant earthquake. South Atlantic Ocean.
		P _N	7	56	10										
		iS _E	8	00	38										
		S _N	8	00	47										
		eL _E	8	04	44										
		eL _N	8	04	08										
		M _E	0	08	05										
		M _N	8	08	43										
		eF	9	00	±										
		P _E	22	39	48										
122	Aug. 29	P _N	22	39	40					+9					
		P _Z	22	39	32										
		eL _E	23	22	45										
		M _N	23	46	25										
		eF	0	00	±										
		eF	0	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.				
122	Aug. 29	P	12	32	55					-5	+11	541	SE off the month of Abukuma River, Miyagi Prefecture. Weak shocks were felt in the Pacific coast of southern part of Oou and Kwanto district.	
		S _N	12	34	08									
		M _E	12	34	33									
		M _N	12	35	08									
		F _E	12	37	18									
		F _N	12	38	54									
		F _Z	12	37	54									
123	Aug. 29	P	16	27	50					+13	-20	-5	103	In the Ōsaka Bay. Felt in coast of the Ōsaka Bay.
		S	16	28	03									
		M _{EN}	16	28	04									
		M _Z	16	28	07									
		F _E	16	29	12									
		F _N	16	29	40									
124	Sept. 2	F _Z	16	29	05					(-)		571	South off Hatidyo Isl. Focal depth about 300 km. Abnormal felt area in Kwantō district.	
		eP _E	16	42	55.0									
		P _Z	16	42	56.7									
		iP _{EN}	16	42	56.2									
		iP _Z	16	42	57.2									
		S	16	44	13									
		M _E	16	44	21									
		M _N	16	44	25									
		M _Z	16	44	22									
		ScS _{EN}	16	55	24									
125	Sept. 6	F _{EN}	17	16	03					-29.9	+35.7	+64.1	7130	A distant earthquake. Near Fiji Isl, South Pacific Ocean. M phase is not distinct.
		F _Z	16	59	33									
		P _E	22	18	54									
		P _N	22	18	52									
125	Sept. 6	P _Z	22	18	55					(+)	(-)	-3.8	+18.8	+30.2
		i _Z	22	18	57									
		i _Z	22	19	02									
		S _E	22	27	29									
		S _N	22	27	30									
		eF _{EN}	22	50	±									
		eF _Z	22	25	±									

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			G.	M.	T.		A _E	A _N	A _Z		
126	Sept. 9	P	h	m	s	s	μ	μ	μ	km.	Near Vladivostok.
			5	04	47		(+)	-1.9	814		
		S	5	06	37						
		ME	5	06	38		-11				
		MN	5	06	41		2.1	+13			
		MZ	5	06	41				+4'		
		FE	5	10	54						
		FN	5	11	24						
		FZ	5	09	54						
127	Sept. 12	PE	5	07	25					329	East off Miyako Isl, Ryû-kyû IIs.
		PN	5	07	24						
		FEN	5	21	39						
128	Sept. 20	P	3	57	32					329	Deep focus earthquake. In the Kumano-nada, southeast off Kii Peninsula.
		SEN	3	53	16						
		ME	3	58	17		+7				
		MN	3	58	18			-9			
		FEN	4	00	36						
129	Sept. 21	PEN	3	15	05		-2.1	-1.7		250	Near Nanao, Noto Province. Small damage at Near Nanao Bay. Moderate shocks were felt in Hokuriku and Tyûbu district.
		PZ	3	15	04			+1.9			
		i	3	15	10						
		SEN	3	15	38						
		SZ	3	15	37						
		ME	3	15	46		+206				
		M ₁ N	3	15	53			+147			
		MZ	3	15	41				+132		
		M ₂ N	3	16	12			+200			
		FE	3	29	31						
		FN	3	29	22						
FZ	3	29	23								
130	Sept. 21	P	9	49	49					729	SE of Miyako, Iwate Pref.. Felt in eastern part of Oou district.
		SEN	9	51	27						
		SZ	9	51	28						
		eME	9	53	02		+10				
		MN	9	52	28		14.2	+23			

No.	Date	Phase	Time			Period	Amplitude			Δ	Remarks
			G.	M.	T.		A _E	A _N	A _Z		
131	Sept. 21		h	m	s	s	μ	μ	μ	km.	692
		eFEN	10	06	±						
		eFZ	10	00	±						
131	Sept. 21	PE	13	44	11					692	SE off Miyako, Iwate Prefecture. Felt in eastern part of Oou district.
		ePN	13	44	14						
		PZ	13	44	14						
		SE	13	45	44						
		eSZ	13	45	49						
		SN	13	45	40						
		eFEN	13	50	±						
132	Sept. 21	PE	19	45	31					683	East off Kinkazan, Miyagi Prefecture.
		PN	19	45	32						
		SE	19	47	03						
		eSN	19	47	01						
		FEN	19	50	04						
133	Sept. 25	PE	18	58	56						Northern part of Sinkiang, China.
		LE	19	11	48						
		LN	19	11	37						
		ME	19	16	25						
		MN	19	16	21						
		eFEN	19	30	±						