

40
MAY 1954

SEISMOLOGICAL BULLETIN
of
The MATSUSHIRO SEISMOLOGICAL OBSERVATORY,
JAPAN.

for
November , 1953.

Latitude 36° 32' 30" N.
Longitude 138° 12' 32" E.
Height(M.S.L.) 440 M.

Instrument	comp.	M (kg.)	T (sec.)	V	v	$\frac{f}{T^2}$	M_o^2	T_g (sec.)	M_g^2
Wiechert	N	200	6.0	59	6.0	0.0110			
	E	200	4.9	78	4.9	0.0078			
	Z	80	3.1	67	7.6	0.0172			
1000kg. (C.M.O. type)	E	1000	28.7	104	5.0	0.0046			
Galitzin	N		14.9					near 15.3	Ordinary
	E		17.0				critical	15.3	damping
	Z		15.				"	12.8	"
							"	"	"

COPY

Date	Phase (comp)	Time G.M.T.	Remarks
1	eP (NEZ) eS (E)	00 ^h 21 ^m 06 ^s 25 00	50N., 159E. Off southeast coast of Kamchatka. H=00 16 25 U.S.C.G.S.
1	e (N) eL? (E)	09 37 29 39 29	
1	P ₁ (E) P ₂ (NEZ) S (E) L (E) L (N) i (N)	18 21 28 33 24 23 25 14 28 30 13 T=13 ^s	22N., 122E. Off east coast of Formosa. H= 18 16 50 U.S.C.G.S.
1	P (E) S (E) e (N) L (N)	20 59 19 21 02 13 59 03 41	Kurile Islands region. H=20 55 32 U.S.C.G.S.
2	eS? (E) eL (E)	04 29 38 31 32	P; unknown. Kurile Islands. H=04 22 35 U.S.C.G.S.
2	e (E) e (E) eL? (N)	15 48 42 46 49 42	Weak.
4	P, (NEZ) P ₂ (NEZ) PcP? (N) i (N) i (NE) S (N) S (E) i (N) i (E)	03 58 42.9 49.1 59 46 04 00 33 02 49 06 24 29 07 11 09 31	12 $\frac{1}{2}$ S., 166 $\frac{1}{2}$ E. New Hebrides Islands. H=03 49 04 U.S.C.G.S.
4	eP (E) eS (E) e (E)	06 07 07 08 39 12 20	39N., 129E. Off east coast of Korea. h:650km.ca. H=06 05 15 U.S.C.G.S.
4	eP? (N) eS (E) L? (N) L? (E) eL (N)	08 56 43 09 05 03 11 35 13 03 15 11	New Hebrides Islands region. H=08 47 19 U.S.C.G.S.

Date D	Phase (comp)	Time G.M.T.	Remarks
4	pP (NZ)	12 ^h 37 ^m 20 ^s	12S., 166 $\frac{1}{2}$ E.
	e (Z)	38 46	
	S (N)	44 56	New Hebrides Islands.
	S (E)	45 03	H= 12 27 41 U.S.C.G.S.
	Lq (N)	51 06	
	Lr (Z)	53 57	
5	eP (E)	04 47 28	
	eS (E)	53 38	
	eL (N)	56 45	
5	eP (E)	08 30 35	36 $\frac{1}{2}$ N., 70E. Hindu Kush.
	e (N)	37 17	h; 200km.ca. H=08 21 35
	e (E)	41 40	U.S.C.G.S.
6	e (E)	12 42 40	Weak, uncertainty.
	e (E)	15 50 42	3 $\frac{1}{2}$ N., 90E.
	e (E)	55 54	Near west coast of Sumatra.
	e (E)	13 02 03	
7	eP (Z)	13 12 18	Near west coast of Sumatra.
	eS (N)	19 39	H=13 03 07 U.S.C.G.S.
	eLq? (NE)	23 35	
	eLr? (E)	29 37 T=31 ^s	
7	e (E)	16 10 40	
	e (E)	19 18 17	13S., 166E.
	eL? (E)	24 54	New Hebrides Islands.
	e (N)	26 24	H= 19 15 37 U.S.C.G.S.
8	eP (Z)	03 18 08	
	e (Z)	52	
	e (E)	19 14	
	eL? (NE)	20 07	
9	eP (E)	13 53 42	
	e (E)	55 46	
	eL?	56 22	
9	P (NEZ)	17 30 31	50 $\frac{1}{2}$ N., 157E.
	i (EZ)	32 01	Near east coast of Kamchatka.
	S (NE)	34 31	H=17 25 42 U.S.C.G.S.
	L (E)	36 17 T=19 ^s	
	L (Z)	37 29 T=28 ^s	
	i (E)	37 58 T=21 ^s	
	M (E)	38 30 T=21 ^s	
i (N)	57 T=17 ^s		
10	e (E)	10 11 54	
	e (E)	17 59	
	eL? (E)	20 03	
	e (E)	35 03 T=18 ^s	



Date	Phase (comp.)	Time G.M.T.	Remarks
14	iP (NEZ)	20 ^h 08 ^m 28 ^s .0	52N., 160E.
	i (Z)	09 05	Off southeast coast of
	PP (Z)	50	Kamchatka.
	S (NE)	12 32	H=20 03 27 U.S.C.G.S.
	Lq (NE)	14 42	
	Lr (N)	15 19	
	M (N)	18 22	T=17 ^s
M (E)	20 27	T=18 ^s	
15	e (E)	15 48 27	Weak
	e (E)	51 30	
	e (E)	55 00	
16	eP (NE)	16 11 43	Loyalty Islands.
	eS (N)	20 10	H=16 00 53 U.S.C.G.S.
16	eP (NZ)	17 28 02	21 $\frac{1}{2}$ S., 169E.
	e (N)	30 59	Loyalty Islands.
	eS (NE)	36 50	H=17 17 27 U.S.C.G.S.
	Ne (E)	38 11	
17	e (N)	12 19 23	Weak.
	e (N)	36 56	
17	P (NEZ)	13 44 27	14N., 92W.
	PP (NEZ)	49 01	Near coast of Guatemala.
	ePPP (E)	51 00	H=13 29 52 U.S.C.G.S.
	SKKS? (NE)	55 14	
	S (E)	56 56	
	PS (NEZ)	58 43	
	PPS (E)	14 00 02	
	eSS? (NE)	04 52	
	SSS (NE)	08 51	
	L (NE)	15 13	
	L (E)	24 03	
	L (E)	26 18	
20	eS? (NE)	04 37 31	Microseisms.
	eL? (NE)	50 25	P unknown
	eL? (E)	05 01 32	
23	ePP? (NE)	03 48 05	13N., 145E. Off coast of
	e (N)	50 20	Guam.
	S? (NE)	51 22	H=03 41 45 U.S.C.G.S.
24	P (NE)	04 00 05.7	34.9N., 140.6E. h=60km
	S (E)	30.	Off southeast coast of
	S (N)	32	Katsuura, Japan. C.M.O.

Date	Phase (comp.)	Time G.M.T.	Remarks
24	eP (NE) i (N) iS? (N) iS? (E)	05 ^h 53 ^m 56 ^s 54 20 29 30	35.3N., 153.8E. Near Mikunidake, Kyoto Pref. Japan. C.M.O.
25	e (NE) e (NE) e (NE)	05 48 22 53 19 57 31	
25	P (Z) i (Z) i (NE)	17 46 44 47 14 21	Fiji Islands region. H=17 35 58 U.S.C.G.S. Disturbed by the next shock.
25	P, (NEZ) iP ₂ (EZ) iP ₂ (N) i (Z) i (N) iS (E) i (Z) M (E) M (Z) M (N)	17 49 53.9 55.5 55.9 50 24.5 28 37 39 51 17ca. 59ca.	$\left\{ \begin{array}{l} N(+)E(-)Z(+)E; -35^MZ; +27^M+48^M \end{array} \right.$ 34.3N., 141.2E h:20km. about 100km. southeast of Boso Peninsula. C.M.O. T=3.5 ^{Sec} , A=2600 ^M T=4.5 ^{Sec} , A=1000 ^M T=15.5 ^{Sec} , A=2000 ^M
26	P (NEZ) i (NE) S? (NE) M (N) M (E) M (Z)	00 04 27 32 05 08 25 34 07 07	
26	iP (NEZ) i (NEZ) S (NE) i (Z)	01 48 28 55 49 08 50 38	$\left\{ \begin{array}{l} N; +6.8E; -3.8Z; +3.0 \end{array} \right.$ After shock.
26	iP (NEZ) i (NE) iS (NEZ) i (N) M (N) M (E) M (Z)	08 15 11.5 18 56.7 17 24 17 30 16 44 16 49	$\left\{ \begin{array}{l} N; +13.6E; -9.0Z; +6.0 \end{array} \right.$ After shock. T=11.2 ^{Sec} , A=432 ^M T=4.4 ^{Sec} , A=239 ^M T=4.4 ^{Sec} , A=136 ^M



Date	Phase (comp,)	Time G.M.T.		Remarks	
26	P (NZ)	14 ^h	30 ^m	18 ^s { N(+) Z(+)	After shock.
	i (N)			58	
	i (NE)		31	07	
	i (Z)			23	
	i (N)			29	
	i (Z)		32	09	
27	eS (E)	23	20	49	17 $\frac{1}{2}$ S., 176E. Fiji Islands region. H=23 01 22; U.S.C.G.S.
	e (E)		26	47	
	eLq?(E)		28	04	
	eLr?(E)		31	40	
28	P (Z)	02	11	41	33 $\frac{1}{2}$ N., 141E. After shock.
	i (Z)			44	
	iS (E)		12	22	
	i (E)		14	12	
	M (E)			48 T=12 ^{sec}	
28	P (NEZ)	19	54	49 { N(+) E(-) Z(+)	After shock.
	i (N)			59	
	e (NE)		55	26	
	e (NE)			38	
	L (E)			58	
	L (N)			59	
	M (N)		56	24 T=22 ^{sec}	
	M (E)		57	31 T=21	
28	eL(E)	21	05	36	37N., 20E. Off west coast of Greece. H=20 17 21 U.S.C.G.S.
	eL(N)		12	55	
29	eS (N)	00	49	19	44N., 86E. Northern Sinkiang Province. H=00 35 40 U.S.C.G.S.
	e (N)		52	29	
	eLr?(N)		55	22	
30	iP (NEZ)	14	36	02 { N(+) E(-) Z(+)	Off southeast coast of Boso Peninsula. After shock.
	S? (E)			45	
	i (NE)		37	15	
	i (N)			25	
	i (N)			29	
	M (N)			59 T=16 ^{sec}	
	M (E)		38	09	

(109 after shocks of the earthquake of 25th 17h 49m,
are lost from the present report)

K. Sagisaka

K.Sagisaka.

Chief.

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Longitude 138° 12' 32" E.

Height (M.S.L.) 440 M.

Insturument	Comp	M (Kg.)	T (Sec.)	V	v	
Wiechert	N	200	6.4	69	6.9	0.0135
	E	200	5.2	75	6.3	0.0088
	Z	80	3.1	65	6.3	0.0197
1000 Kg. (C.M.O. type)	E	1000	26.7	104	3.1	0.0025
	N					
Galitzin	N		14.9			near 15.3 ordinary
	E		17.0			critical 15.3 damping
	Z		15			" 12.8 "

COPY

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COAST & GEODETIC SURVEY

Date	Phase (comp)	Time G.M.T.			Remarks
		h	m	s	
1	iP (NEZ)	05	11	25	Ryukyu Is.
	i (NEZ)			32	
	e (N)	13	26		h=6.0km
	e (N)			42	
	i (N)			45	H=05 03 30 U.S.C.G.S.
	i (Z)			47	
	i (N)			49	
1	iP (Z)	21	33	07 (-)	29S. 130.
	pP (Z)		34	51	
	e (Z)		35	46	
	eSf (Z)		36	01	h=500km
	iS (E)		42	03	
	ScS (Z)			13	H=21 22 27 U.S.C.G.S.
	SP (Z)			39	
	i			59	
	eS (E)		44	51	
	e (E)		49	16	
2	iP (NEZ)	04	32	28 E(-) Z(-)	North New Guinea
	i (E)		33	24	
	pPP (Z)		34	29	
	iS (NE)		38	27	H=04 24 50 U.S.C.G.S.
	Lq (E)		41	44	
	Lr (E)		43	55	
	Lq (N)		43	01	
	Lr (E)		51	30	
3	eP (NEZ)	01	17	40	Off north coast of New Guinea
	S? (N)		23	16	
	S (E)			31	H=01 02 57 U.S.C.G.S.
	Lq (NE)		25	52	
	L (Z)		29	52	
3	eP (NEZ)	15	02	10	Central Tibet
	ePP (E)		03	50	
	ePP (Z)			55	H=14 54 03 U.S.C.G.S.
	e (E)		08	04	
	eS (Z)			32	
	eS (NE)			39	
	e (Z)		11	55	
	SS?		12	18	
	L (NE)		18	30	
4	P (E)	15	05	15	Off coast of Vancouver Is.
	i (Z)			27	
	i (N)		07	07	H=14 54 46 U.S.C.G.S.
	ePP (N)			50	
	e (E)		08	10	
	ePPP (E)		09	03	
	iS (E)		14	09	
	eScS?		15	15	
	L (E)		21	40	
	L (Z)		23	59	

Date	Phase (comp)	Time G.M.T.	Remarks
6	S? L	04 ^h 15 ^m 00 ^s 17 27	Off east coast of Kamchatka H=04 06 03 U.S.C.G.S.
7	iP' (Z) P' (NE) i (Z) iPP(M) iSP' i (N) i (E) iPP(Z) iSP(M)? PPorPKS(Z) i (Z) i (E) SKSP(N) PSKS(E) SSS(L) Lr (N) Lr (Z) Lr (E)	02 25 18 19 23 43 20 09 28 10 53 29 08 49 32 14 33 13 36 05 38 56 40 10 48 31 03 15 35 16 08 17 21	Z(-) Z(+) Z(+) Northern Chili n=100km H=02 05 37
7	P (Z) S (N)	18 55 41 05 04	Tonga Is. H=18 44 10
8	iP (NE) i (N) i (N) S? (N)	02 12 47 13 12 38 14 30	Bonin Is. region H=02 10 47 U.S.C.G.S.
10	e (E) e (E) e (E)	01 45 54 52 32 02 33 20	Unknown
12	eP (E) S (NE)	05 34 07 36 50	Marianas Is. region U.S.C.G.S. h=about 500km H=05 30 40
12	PorPP(E) P' (Z) PP (Z) i (NEZ) eSKS(E) i (N) SKKS(E) SKSP(L) SKSP(N) PPS (Z) i (HZ)	17 31 22 50 43 53 10 54 04 57 31 18 01 50 17 59 49 18 02 54 03 28 05 57 06 45	3/2 S. 31W. Near coast of Peru H=17 31 22 U.S.C.G.S.

Date	Phase (comp)	Time G.M.T.	Remarks
12	SS (NE)	18 ^h 10 ^m 12 ^s	
	SP (N)		
	SSS (E)	14 54	
	i (E)	16 54	
	Lq (NE)	25 54	
	Lq (E)	26 54	
	Lr (NEE)	32 35	
	L	39 54	
	Lq	44 54	
	W? (NEE)	1. 30 00	
13	iP (NEE)	07 00 40	N(-) L(-) X(+) Off south coast of Kamchatka
	PP (N)	01 28	
	S (NE)	04 00	H=06 56 00 U.S.C.G.S.
	i (E)	26	
	L (EE)	07 02	
14	iP (E)	10 42 02	N(-) L(-) Off north coast of Luzon
	i (E)	41	
	S? (E)	45 30	H=10 37 01 U.S.C.G.S.
	i (NEE)	46 15	
14	P (N)	13 44 53	Off north coast of Luzon
	i (E)	46 21	
	S (NE)	48 56	H=13 39 46 U.S.C.G.S.
	L (E)	50 47	
16	e (E)	03 50 41	Unknown
	e (NE)	56 41	
	e (E)	04 07 41	
20	eP	06 40 46	Near west coast of Luzon
	ePP	41 49	
	e	42 55	H=06 34 48 U.S.C.G.S.
	e	44 54	
	eS	45 41	
	eL	46 50	
20	eP' (E)	09 40 03	Central Chile
	PP (E)	44 27	
	SKKS (NE)	50 26	H=09 19 40 U.S.C.G.S.
	SS (NE)	10 03 20	
	L (NE)	33 21	
	L (N)	56 40	
22	e (E)	02 32 01	Unknown
	e(L?)(E)	34 50	
	L (E)	38 24	

Date	(Phase (Comp))	Time G.M.T.	Remarks
22	e (N) e (E) e (E)	08 ^h 10 ^m 57 ^s 13 25 15 27	Unknown
22	iP (NE) e (N) i (Z) i PP (N) i e (N) e (N) S (N)	18 50 56 $\left. \begin{matrix} N(+) \\ E(+) \end{matrix} \right\}$ 58 59 51 38 52 08 53 23 55 17 42 56 02	Near west coast of Luzon H=18 45 18 U.S.C.G.S. After S phase, disturbed by next earthquake
22	P (Z) PP (N) i (Z) i (Z) S (NE) eL (N)	20 48 52 $N(+)$ 50 30 53 10 23 54 15 55 22	Near west coast of Luzon H=20 43 09 U.S.C.G.S.
23	P (NEZ) PP (E) S (NE) L (E)	18 34 52 $\left. \begin{matrix} N(+) \\ E(+) \\ Z(-) \end{matrix} \right\}$ 35 32 38 18 39 25	Kurile Is. region H=18 30 30 U.S.C.G.S.
24	iP (NEZ) i (E) PP (NEZ) i (E) S (NE) L (E) L (E)	02 38 36 $\left. \begin{matrix} N(-) \\ E(-) \\ Z(+) \end{matrix} \right\}$ 48 39 38 42 36 42 43 58 45 19	Near east coast of Kamchatka H=02 33 39 U.S.C.G.S.
24	iP (NEZ) i (Z) i (Z) iS (E) i (N) L (E) L (E) L (N)	23 26 08 41 27 23 30 13 19 32 11 34 54 35 09	Off east coast of Kamchatka H=23 21 09 U.S.C.G.S. M _(E) : 5.1M
25	eP (E) eP eL	01 56 25 02 00 29 02 31	Off east coast of Kamchatka H=01 51 26 U.S.C.G.S.

Date	Phase (comp)	Time G.M.T.			Remarks
		h	m	s	
25	e (E)	08	25	44	Unknown
	e (N)		27	08	
	e (L)		31	10	
	e (U)		33	49	
26	e (NE)	02	01	51	Unknown
	e (NE)		06	00	
	e (E)		07	15	
	e (NE)		08	16	
26	eP (E)	10	13	11	Near east coast of Kamchatka H=10 05 20 U.S.C.G.S.
	eS (E)		16	52	
	L (E)		18	08	
26	eP (NEZ)	13	17	37	Off east coast of Kamchatka H=13 12 35 U.S.C.G.S.
	i (Z)			48	
	S (NE)		21	41	
	L (E)		22	58	
	L (E)		24	27	
26	s (E)	18	22	49	Off southeast coast of Kamchatka H=18 13 45 U.S.C.G.S.
	e (N)		24	45	
	eL (N)		26	00	
30	e (E)	08	39	14	Unknown
	e (E)		47	07	
	e (E)		50	30	
30	eP (Z)	16	13	07	Off southeast coast of Kamchatka H=16 08 09 U.S.C.G.S.
	eS (NEZ)		17	14	
	eL (E)		19	15	
	eL (N)			22	
31	eS (E)	09	38	56	Loyalty Is. region H=09 19 01
	L (E)		46	28	
	L (E)		50	35	