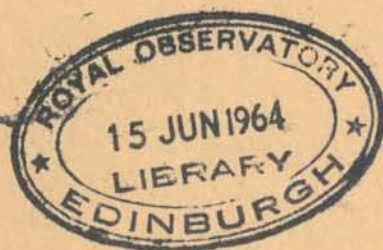


UNIVERSITETET I BERGEN  
JORDSKJELVSTASJONEN  
(SEISMOLOGICAL OBSERVATORY)

SEISMOLOGICAL BULLETIN  
BERGEN  
1960 — 1962



Bergen, Norway, 1963.

SEISMOLOGICAL BULLETIN 1960

Registration at the Seismological Observatory of the  
 UNIVERSITETET I BERGEN  
 University of Bergen, Norway.  
 JORDSKJELVSTASJONEN  
 (SEISMOLOGICAL OBSERVATORY)

MARKVARD A. SELLEVOLL

SEISMOLOGICAL BULLETIN

1960

By

Constantine  $\phi = 60^{\circ} 2' 2.5''$   $\lambda = 5^{\circ} 18' 18''$  E. 114.72m.

Constantine MARKVARD A. SELLEVOLL

and

MILOS JANKOVIC.

	Weight	$\sigma$	$\sigma$	$\sigma$	$\sigma^2$
Wischert A:					
Jan. 1-June 31	1200 kg	130	2.6	2.2	0.075
June 14-Dec. 31	1300 kg	274	3.7	1.57	0.121
Wischert B:					
Jan. 1-June 31	1000 kg	140	9.3	2.8	0.035
June 14-Dec. 31	1000 kg	124	7.7		
Wischert C:					
Jan. 1-June 31	1000 kg	200	8.2	2.4	0.038
June 14-Dec. 31	1000 kg	67	9.1		

Bergen, Norway 1963.

	$\sigma$	$\sigma$	Year
Wischert A-B	1,000.	9,7500.	08.30.1960
Wischert B-C	1,000.	58,7500.	08. 500



SEISMOLOGICAL BULLETIN 1960.  
 Registrations at the SEISMOLOGICAL BULLETIN 1960. of the  
 University in Bergen, Norway.

Registration at the Seismological Observatory of the  
University in Bergen, Norway.

No.	Date	Phase	Time (UTC)	Period	Amplitude	Remarks
By						
1	Jan. 3	cl <sub>1</sub>	12 48 55			44°N, 84 1/2°W (USCNS)
MARKVARD A. SELLEVOLL						
and						
2	15	cl <sub>1</sub>	09 55 12			15°S, 75°W (USCNS)
MILOS JANKOVIC						

Coordinates:  $\phi = 60^{\circ}23'43''$  N,  $\lambda = 5^{\circ}18'18''$  E. Alt. 22m.

Constants:

	Weight	V	T	$\epsilon = 1$	$r/T_0^2$
Wiechert Z:					
Jan. 1-June 13	1300 kg	320	3,6	2,2	0,075
June 14-Dec.31	1300 kg	274	3,7	1,97	0,123
Wiechert NS:					
Jan. 1-June 13	1000 kg	140	9,8	2,8	0,025
June 14-Dec.31	1000 kg	124	7,7		
Wiechert EW:					
Jan. 1-June 13	1000 kg	200	8,2	2,4	0,038
June 14-Dec.31	1000 kg	67	9,1		

	Ts	Tg	Vmax
Electromagnetic N-S	1,0sec.	0,75sec.	ca. 30.000
Electromagnetic N-S	1,0sec.	52,5sec.	ca. 500





No.	Date	Phase	Time (GMT)			Period	Amplitude			Remarks
							A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
			h.	m.	s.					
11	Mar. 4	cP <sub>N</sub>	16	28	12				72°N, 1 1/2°W(USCGS)	
		cS <sub>N</sub>		30	15					
		i <sub>N</sub>	16	30	21					
12	5	eS <sub>N</sub>	14	15	19				1°N, 129°E (USCGS)	
		cPS <sub>N</sub>		16	21					
		e <sub>1</sub> N		21	19					
		e <sub>2</sub> N		24	35					
		e <sub>3</sub> N		27	35					
		e <sub>4</sub> N		31	14					
		eLQ <sub>N</sub>		32	16					
		cLR <sub>N</sub>		36	21					
		M <sub>NE</sub>		47			27			
F	15	20								
13	Mar. 8	iPKP <sub>Z</sub>	1	52	29				16 1/2°S, 168 1/2°E (USCGS)	
		cPP <sub>NZ</sub>		55	07					
		PKS <sub>NZ</sub>			38					
		e <sub>1</sub> N		55	54					
		e <sub>2</sub> N		57	34					
		F	17	25						
14	10	N	14	43	43			47°N, 152°E (USCGS)		
15	12	eP <sub>N</sub>	11	58	45				42°N, 21°E (USCGS)	
		i <sub>N</sub>			47					
		eS <sub>N</sub>	12	02	37					
		eL <sub>1E</sub>		03	55					
		eL <sub>2N</sub>		05	30					
		F	12	25						
16	20		17	19	11				122°E(USCGS) (USCGS)	
		(i)pP <sub>Z</sub>			32					
		cPP <sub>N</sub>		21	48					
		cPPP <sub>N</sub>		23	32					
		e <sub>N</sub>		24	33					
		S <sub>N</sub>		28	40					
		iPS <sub>N</sub>		29	15					

No.	Date	Phase	Time (GMT)			Period	Amplitude			Remarks
							A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
			h.	m.	s.					
(16)	Mar. 20 (cont.)	iSS <sub>N</sub>	00	33	32					
		SSS <sub>N</sub>		36	46					
		LR <sub>(N)E</sub>		41	24					
		M <sub>NE</sub>		49	30	22				
		M <sub>1N</sub>		53	30	18				
		M <sub>1E</sub>		56		16				
		M <sub>2N</sub>		57		14				
		M <sub>2E</sub>	18			14				
		F	20							
17	Mar. 23	eP <sub>N</sub>	00	35	00				39 1/2°N, 143°E (USCGS)	
		ePPP <sub>Z</sub>		39	37					
		eS <sub>NE</sub>		44	50					
		LR <sub>N(E)</sub>		58	30					
		Lg <sub>1N</sub>	01	02	30					
		M <sub>N</sub>		07		20				
		M <sub>E</sub>			30	19				
		F	02	30						
18	23	e <sub>N</sub>	23	03	00				39 1/2°N, 143°E (USCGS)	
		F	23	25						
19	24	Lg <sub>1N</sub>	12	38	26				28°N, 54 1/2°E(USCGS)	
20	29	i <sub>N</sub>	08	04	45				Local ?	
21	29	e <sub>n</sub>	13	58	09					
22	29	e <sub>N</sub>	15	05	10					
23	29	ePP <sub>N</sub>	19	50	24				0°, 122°E(USCGS)	
		eLR <sub>N</sub>	20	20	40					
		eLg <sub>1N</sub>	20	24	10					
24	April 3	iP <sub>N</sub>	22	34	42				32°N, 140°E(USCGS)	
25	6	eP <sub>N</sub>	18	58	05				54°N, 161°E(USCGS)	



No.	Date	Phase	Time (GMT)			Period	Amplitude			Remarks
							A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
			g.	m.	s.					
26	May 7	eP <sub>N</sub> i <sub>N</sub>	08	16	21 26					
27	11	eLR <sub>N</sub>	19	28	33				3°S, 131°E(USCGS)	
28	12	eP <sub>N</sub> i(pP) <sub>N</sub>	22	44	53 58				7 1/2°N, 81°W(USCGS)	
29	13	eP <sub>N</sub> i <sub>N</sub>	02	02	18 24					
30	13	iP <sub>N</sub> i <sub>N</sub>	08	37	22 38					
31	13	iP <sub>N</sub> i)PP <sub>N</sub>	16	17	52 18 06				55°N, 161 1/2°W (USCGS) 50 Km	
32	14	P <sub>N</sub>	22	30	36				53 1/2°N, 159 1/2°E (USCGS)	
33	17	eP <sub>N</sub>	09	23	43				78°N, 8°E(USCGS)	
34	18	P <sub>N</sub> eLg <sub>N</sub>	06 07	47 16	13 35				29°N, 130°E(USCGS)	
35	19	iP <sub>N</sub> i <sub>N</sub> PPS <sub>N</sub> e(SS) <sub>N</sub> LQ <sub>N</sub>	02	15	22 27 22 40 25 33 02 26 14				36°N, 71°E(USCGS)	
36	19	c <sub>N</sub> eL <sub>N</sub>	09	35	40 49 05					
37	20	i <sub>N</sub> eL <sub>N</sub>	11 12	32 23	17 40				28°S, 167 1/2°E (USCGS)	

No.	Date	Phase	Time (GMT)			Period	Amplitude			Remarks
							A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
			h.	m.	s.					
38	May 21	ePP <sub>N</sub>	10	22	42				37 1/2°S, 73 1/2°W (USCGS)	
		e <sub>E</sub>			47					
		eSKKS <sub>E</sub>		30	16					
		ePS <sub>E</sub>		32	30					
		SS <sub>NE</sub>		38	56					
		e <sub>N</sub>		46	56					
		eLQ <sub>NE</sub>		51	56					
		M <sub>1E</sub>	11	04		26				
		M <sub>2E</sub>		07		20				
		M <sub>3E</sub>		10	30	19				
		M <sub>N</sub>		11		16				
		M <sub>4E</sub>		12		16				
		M <sub>NE</sub>		16		16				
		M <sub>5E</sub>		18	30	16				
		F	13	30						
39	22	ePP <sub>E</sub>	10	52	43			37 1/2°S, 73°W(USCGS)		
		ePS <sub>E</sub>	11	02	26					
		eSS <sub>NE</sub>		08	57					
		F	14	10						
40	22	ePP <sub>NE(Z)</sub>	19	15	54			38°S, 73 1/2°W(USCGS)  in next shock		
		eSKS <sub>E</sub>		21	35					
		ePS <sub>E</sub>		25	45					
		F								
41	22	PP <sub>EZ</sub>	19	30	49			38°N, 73 1/2°W(USCGS)		
		(i) <sub>NEZ</sub>		40	57					
		i <sub>E</sub>		41	13					
		(i) <sub>N</sub>		42	35					
		iSS <sub>N</sub>		47	41					
		M <sub>1N</sub>	20	05	30	36				
		M <sub>2N</sub>		18	30	20				
		M <sub>1E</sub>		21		17				
		M <sub>2E</sub>		24	30	17				
		M <sub>3N</sub>		28	30	17				
		M <sub>3E</sub>		31		16				
		LN		52	08					
F										



No.	Date	Phase	Time (GMT)			Period	Amplitude			Remarks
							A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
			h.	m.	s.					
42	May 25	e <sub>N</sub>	09	03	40	17				45°S, 76°W(USCGS)
		e <sub>1E</sub>		05	36					
		e <sub>2E</sub>		09	40					
		e <sub>SS</sub> <sub>NE</sub>		11	58					
		e <sub>L</sub> <sub>N</sub>		25	37					
		M <sub>E</sub>		50						
		F	10	10						
43	26	iP	05	15	08	12				40°N, 20°E (USCGS)
		iPPP			45					
		eS		19	08					
		e(SSS)			47					
		e(LR) <sub>N</sub>		20	57					
		M <sub>E</sub>		24						
		M <sub>N</sub>			30					
		F	05	45						
44	31	iP	11	12	51					18°N, 62°W (USCGS)
		e		35	33					
45	June 2	ePS <sub>N</sub>	08	17	08					5 1/2°S, 15 1/2°E (USCGS)
		eLQ <sub>N</sub>		47	11					
46	2	P <sub>N</sub>	12	50	11				33 1/2°N, 49°E (USCGS)	
47	3	eP <sub>N</sub>	09	55	06					
		i			09					
		i <sub>N</sub>			14					
48	3	iP <sub>N</sub>	10	16	59					
		i <sub>N</sub>		17	01					
		i <sub>N</sub>			06					
49	3	eP <sub>N</sub>	16	29	24				41 1/2°N, 141 1/2°E (USCGS)	
50	4	e <sub>N</sub>	02	39	28				20°N, 95 1/2°W (USCGS)	

No.	Date	Phase	Time (GMT)			Period	Amplitude			Remarks
							A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
			h.	m.	s.					
51	June 6	eP <sub>N</sub>	01	29	07				41°N, 125°W(USCGS)	
		i <sub>N</sub>			11					
		eS <sub>N</sub>		38	30					
		e(LQ) <sub>N</sub>		46	44					
52	6	e <sub>1N</sub>	06	14	45				45 1/2°S, 73 1/2°W (USCGS)	
		e <sub>1E</sub>		17	08					
		e <sub>2E</sub>		19	41					
		e <sub>2N</sub>		25	30					
		eSKKS <sub>E</sub>		33	25					
		e <sub>3N</sub>		34	35					
		eL <sub>E</sub>		49	21					
		M <sub>1E</sub>	07	02		26				
		M <sub>2E</sub>		07	30	19				
		M <sub>3E</sub>		13						
eL <sub>N</sub>		36	20							
F	08	40								
53	7	iP <sub>N</sub>	13	07	57				53°N, 158 1/2°E (USCGS)	
54	11	e <sub>N</sub>	15	48	44				9°S, 152 1/2°E (USCGS)	
		eL <sub>E</sub>	16	11	01					
		F	16	45						
55	11	eSS <sub>N</sub>	17	15	01				9 1/2°S, 152 1/2°E (USCGS)	
		eL <sub>NE</sub>		33	30					
		F								
56	20	e <sub>1NE</sub>	02	29	10				38°S, 73 1/2°W(USCGS)	
		e <sub>2NE</sub>		31	00					
		F	02	50						
57	20	eSS <sub>N</sub>	13	36	00				39 1/2°S, 73°W(USCGS)	
		eL <sub>N</sub>		50	15					
		F	14	40						



No.	Date	Phase	Time (GMT)			Period	Amplitude			Remarks
							A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
			h.	m.	s.					
58	June 20	e <sub>1N</sub>	14	27	38					
		e <sub>2N</sub>		29	44					
		eSS <sub>N</sub>		36	09					
		e <sub>3N</sub>		39	30					
59	20	e <sub>N</sub>	15	18	51					
60	23	e <sub>N</sub>	22	00	22					
61	24	ePn <sub>N</sub>	03	48	23					Σ = 290 Km Felt at Hadeland, Eastern Norway
		iSn <sub>N</sub>			56					
		iSg <sub>N</sub>		49	05					
62	25	ePKP <sub>N</sub>	02	22	30				30 1/2°S, 177°W (USCGS)	
63	25	e <sub>N</sub>	15	01	41				30 1/2°S, 177°W (USCGS)	
64	26	i	23	57	01					
		i			15					
65	July 3	iP <sub>N</sub>	20	31	59					50 1/2°N, 177°W (USCGS)
		eS <sub>N</sub>		41	08					
		eSS <sub>N</sub>		45	45					
		(LQ) <sub>N</sub>		54	20					
66	3	P <sub>N</sub>	23	03	38				50 1/2°N, 177°E (USCGS)	
67	4	eP <sub>N</sub>	04	39	10					52°N, 131 1/2°W (USCGS)
		eS <sub>N</sub>		47	36					
		L <sub>N</sub>		58	46					
68	4	eLg <sub>N</sub>	13	43	20				52°N, 131°W(USCGS)	
69	6	iP	05	25	00				36 1/2°N, 70 1/2°E (USCGS)	
70	6	i	14	46	07					

No.	Date	Phase	Time (GMT)			Period	Amplitude			Remarks
							A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
71	July 7	iP	h.	m.	s.					
		i	16	11	07					
		e			12					
72	9	eP	16	11	59					
		i								
73	10	eS <sub>N</sub>	09	58	13					
		e <sub>N</sub>			30					
		eL <sub>N</sub>	00	29	22				0°, 98°E (USCGS)	
74	13	eP <sub>N</sub>		42	16					
		eS <sub>N</sub>	00	50	28					
		eL <sub>N</sub>								
75	15	iP <sub>N</sub>	13	06	07				41°N, 23 1/2°E(USCGS)	
		eS <sub>N</sub>		10	10					
		eL <sub>N</sub>	13	16	07					
76	15	iP <sub>N</sub>	08	38	49				Local	
77	15	iP <sub>N</sub>	10	36	26				Local	
78	15	iP <sub>N</sub>	12	48	18				Local	
79	24	eP <sub>N</sub>	09	59	22				56°N, 164°E(USCGS)	
		eSS <sub>N</sub>	10	12	20					
80	25	eP	03	51	33				55°N, 163°E(USCGS)	
		eS	04	00	06					
81	25	iP	11	22	30				54°N, 159°E(USCGS)	
		eS		30	55					
81	31	ePP <sub>N</sub>	03	15	57				5.6°S, 150°E(USCGS)	
		ePS <sub>N</sub>		25	38					
		eSS <sub>N</sub>		32	48					
		e <sub>N</sub>		37	17					
		e(LR) <sub>N</sub>	03	48	17					



No.	Date	Phase	Time (GMT)			Period	Amplitude			Remarks
							A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
			h.	m.	s.					
82	July 31	iP <sub>N</sub>	10	52	21					
		i <sub>N</sub>			25					
		i <sub>N</sub>			33					
83	Aug. 2	e <sub>N</sub>	20	41	20					
84	4	eP <sub>N</sub>	07	45	52				51.4°N, 179.1°E (USCGS)	
		eS <sub>N</sub>		15	54	54				
		SS <sub>N</sub>			59	22				
85	9	eP <sub>N</sub>	07	50	49				40°N, 126.6°W(USCGS)	
		epP <sub>N</sub>		16	22	56				
		e(PPP) <sub>N</sub>			55	00				
		e(PS) <sub>N</sub>	08	00	22					
		eSS <sub>N</sub>			04	26				
86	13	e <sub>1N</sub>	15	42	58					
		e <sub>2N</sub>	16	06	53					
		e <sub>3N</sub>		10	50					
87	17	e <sub>N</sub>	12	15	45					
88	18	P <sub>N</sub>	21	58	22					
89	23.	e <sub>N</sub>	01	54	36					
		(i) <sub>N</sub>			48					
90	25	e <sub>N</sub>	17	52	52				52.7°N, 169.6°W (USCGS)	
91	Sept. 1	iP	15	47	36				56.1°N, 153.7°W (USCGS)	
		i			48					
92	2	eLg <sub>1</sub>	14	21	30				28.7°N, 98.3°E (USCGS)	
		eLg <sub>2</sub>		22	36					
93	2	iP	22	13	47				52°N, 171.4°W(USCGS)	
		eL		34	00					

No.	Date	Phase	Time (GMT)			Period	Amplitude			Remarks
							A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
			h.	m.	s.					
94	Sept. 3	iF P	12	59	42				6.1°S, 154.5°E (USCGS)	
95	3	iP	23	57	44				44.6°N, 149.1°E (USCGS)	
96	4	eLg <sub>1</sub>	00	22	52				44.6°N, 149.1°E (USCGS)	
97	6	iP	15	36	00				41.9°N, 142.5°E (USCGS)	
98	8	iP	14	42	42				52.5°N, 158.8°E (USCGS)	
99	9	iP	16	22	09				71.5°N, 2.4°W(USCGS)	
100	9	i								
101	9	iP iPP iS	20	07	24 31 09 25				71.7°N, 1.3°W(USCGS)	
102	17	eL <sub>1</sub> eL <sub>2</sub>	08	45	15 47 40					
103	19	e(PPS) e <sub>1</sub> e <sub>2</sub> eSS	04	24	17 25 53 26 55 04 28 29				15.5°N, 120°E(USCGS)	
104	21	iP	23	12	45				31.9°N, 50.4°E (USCGS)	
105	22	iP i	09	16	26 33				3.3°S, 29.3°E(USCGS)	
106	22	iP i	09	25	41 46				2.8°S, 29.8°E(USCGS)	
107	29	e <sub>1</sub> e <sub>2</sub> eL	11	48	28 51 21 12 07 22					



No.	Date	Phase	Time (GMT)			Period	Amplitude			Remarks
			h.	m.	s.		A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
108	Oct. 1	ePS or PPS e <sub>1</sub> e <sub>2</sub> eL	16	31	07 48 05 17				52.2°N, 172.6°W (USCGS)	
109	6	P	20	00	01				58.2°N, 31.6°W (USCGS)	
110	8	iP i	06	03	18 21				40°N, 129.7°E(USCGS)	
111	13	e <sub>N</sub> F	15	18	53 16				54.8°N, 161.2°E (USCGS)	
112	14	P <sub>N</sub> eS <sub>N</sub> eSS <sub>N</sub> eL	21	30	12 01 45 00				51.7°N, 172.1°W (USCGS)	
113	14	iP <sub>N</sub> eS <sub>N</sub> L <sub>N</sub>	23	00	16 34 05				55.5°N, 35.2°W (USCGS)	
114	28	iP <sub>NE</sub> PPP <sub>NE</sub> e <sub>NE</sub> iS <sub>NE</sub> eLR <sub>NE</sub> M <sub>NE</sub> F	04	21	37 53 16 51 30 29 05	14			71.3°N, 8.6°W(USCGS)	
115	31	P <sub>N</sub> (i) <sub>N</sub> i <sub>N</sub>	12	16	24 32 40					
116	Nov. 1	eSS <sub>NE</sub> eLQ <sub>NE</sub> eLR <sub>NE</sub> F	09	22	16 17 08 40				38.4°S, 74.4°W(USCGS) Z out of work	

No.	Date	Phase	Time (GMT)			Period	Amplitude			Remarks
							A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
			h.	m.	s.					
117	Nov. 2	e <sub>N</sub> F	18	23	54 40					
118	4	i <sub>P</sub> i	09	44	44 47					
119	4	i	10	52	24				Local	
120	9	ePS <sub>N</sub> eSS <sub>N</sub> eLQ <sub>N</sub>	03	48	37 55 00				60.7°S, 24.8°W (USCGS)	
121	9	eL <sub>N</sub> M <sub>NE</sub> F	11	13	59 20 50	19			32.7°N, 103.4°E (USCGS)	
122	11	ePP	05	36	52				39.5°N, 21.1°E (USCGS)	
123	13	iP <sub>Z</sub> ipP <sub>N</sub> eS <sub>NE</sub> ScS <sub>N</sub> e <sub>NE</sub> eLR <sub>NE</sub> M <sub>1N</sub> M <sub>2N</sub> F	09	31	37 52 40 43 24 04 30 13 55	22 16			51.1°N, 168.8°W (USCGS) 55 Km	
124	20	e <sub>N</sub> eL <sub>NE</sub> F	22	19	05 09 45					
125	23	eL <sub>N</sub> F	15	20	15 20				24.5°S, 176.4°W (USCGS)	



No.	Date	Phase	Time (GMT)	Period	Amplitude			Remarks
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
			h. m. s.					
126	Nov. 24	PKP <sub>N(E)</sub>	07 12 26				24.2°S, 176.1°W (USCGS) Z out of work	
		e <sub>NE</sub>	28 56					
		eSS <sub>N</sub>	34 00					
		M <sub>NE</sub>	08 18	20				
		F	09 20					
127	Dec. 2	eSS <sub>E</sub>	09 44 01				24.5°S, 69.9°W (USCGS) Microseismic agit.	
		e <sub>NE</sub>	48 18					
		eLQ <sub>E</sub>	54 10					
		M <sub>1NE</sub>	59	33				
		M <sub>2NE</sub>	10 06	25				
		F	10 50					
128	3	e <sub>N</sub>	04 50 01				42.8°N, 104.5°E (USCGS)	
		M <sub>1NE</sub>	57 30	9				
		M <sub>E</sub>	05 01	17				
		M <sub>2NE</sub>	02	11				
		F	05 50					
129	13	e <sub>NE</sub>	08 22 03				52.1°S, 160.9°E (USCGS)	
		eLQ <sub>NE</sub>	44 58					
		F	09 50					
130	15	e <sub>N</sub>	00 29 15					
		eL <sub>N</sub>	37 15					
		F	10 10					

SEISMOLOGICAL BULLETIN 1961.

Registration at the Seismological Observatory of the  
University in Bergen, Norway.

By

MAGNE LUNDE

Constants:

	Weight	V	To	$\epsilon: 1$	$r/To^2$
Wiechert Z:	1300 kg	274	3,7	1,97	0,123
Wiechert NS:	1000 kg	130	7,4	1,54	0,020
Wiechert EW:	1000 kg	135	7,2	1,30	0,021

	Ts	Tg	Vmax
Electromagnetic N-S	1,0sec.	0,75sec.	ca. 30.000
Electromagnetic N-S	1,0sec.	52,5sec.	ca. 500

All distances given are from the quoted provisional epicenters, calculated by a graphical method.



Date	Phase	Time (GMT)	Period	Amplitude $\mu$			Remarks
				A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
Jan. 10.	iP	14 33 15					0: 14 22 18.2
	iS?	41 42					49.9N 156.2E h ~ 29km $\Delta \sim 68.5^\circ$ Kurile Islands Region
16.	iP	07 32 08					0: 07 20 18.6
	e	41 52					36N 141.1E h ~ 131km $\Delta \sim 77.5^\circ$ Near east coast of Honshu, Japan.
	e <sub>L</sub>	08 08 38					
	P	11 31 40					Honshu, Japan.
	eP	12 24 20					- " -
	e	15 53 11					- " -
17.	i	11 00 27,6					Local explosion?
	i	11 48 06,8					- " -
	i	11 56 31,4					- " -
	i	12 28 22,4					- " -
	i	13 53 42,5					- " -
19.	iP	11 33 24,9					Local
	i	50,5					
	iP	16 25 01,9					Local
	iS	18,6					150km
	iP	17 33 14,8					0: 17 22 16,9
	i	28,6					49,7 N 155,8 E h ~ 31km $\Delta \sim 68^\circ$ Kurile Islands
20.	P	17 19 36					0: 17 09 15,7 56,4N 152,3E h ~ 46km $\Delta \sim 61,5^\circ$ Sea of Okhotsk

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Date	Phase	Time (GMT)	Period	Amplitude $\mu$			Remarks
				A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
Jan, 20,	eP	h m s 22 46 34					0: 22 34 51.1 38.1N 142.2E h ~ 52km $\Delta \sim 76^\circ$ Near east coast of Honshu, Japan.
21.	P <sub>b</sub> P <sub>g</sub>	05 31 44,7 32 02,7					Uppsala: 0: 05 29 37 68 N 12 E Near Lofoten, Norway $\Delta \sim 7,4^\circ$
	S <sub>b</sub>	33 39					
22.	ePKP	03 43 18					0: 03 24 04,5 11,9S 166,2E h ~ 25km $\Delta \sim 130^\circ$ Santa Cruz Islands
	e	16 29 08					0: 16 09 37,3 28,5S 174,8W h ~ 68km $\Delta \sim 147^\circ$ Kermadec Islands
23.	P	04 59 45					0: 04 48 21,4 42,9N 145,3E h ~ 46km $\Delta \sim 72^\circ$ Hokkaido, Japan.
24.	i	13 18 11,7					Disturbances?
25.	iP	19 15 14					0: 19 04 22,8 49,8N 156,0E h ~ 98km $\Delta \sim 67,5^\circ$ Kurile Islands





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No.	Date	Phase	Time (GMT)	Period	Amplitude $\mu$			Remarks
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
Feb. 17.		e	03 25 51				Uppsala: O: 03 21 47 65,3 N 24,0 E Gulf of Bothnia	
22.		iP	09 19 11,2				Local explosion	
		iP	10 38 08,4				- " -	
		iP	11 37 35,2				- " -	
23.		e	03 28 04				O: 03 23 16,0 35,0N 27,3 E h ~ 16km $\Delta \sim 28,5^\circ$ Dodecanese Islands Disturbances? - " -	
		e <sub>L</sub>	03 48 58					
		e <sub>L</sub>	57 48					
26.		iP	18 22 49,1				O: 18 10 48,7 31,4 N 131,2 E h ~ 54km $\Delta \sim 75^\circ$ Near coast of Ryusha, Japan.	
		PP	25 39,2					
		S	32 12,8					
		Max	18 54 (00)	25				
28.		eP	12 44 46				O: 12 33 32,1 46,5N 152,2E h ~ 29km $\Delta \sim 70^\circ$ Kurile Islands	
March 7.		PKP	10 30 23				O: 10 10 38,9 28,2S 175,7W h ~ 43 km $\Delta \sim 147,5^\circ$ K rmadec Islands region.	
		i	32 38					
		PKS?	34 33,6					



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No.	Date	Phase	Time (GMT)	Period	Amplitude $\mu$			Remarks
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
	March 20.	P	h m s 03 38 53,7				0: 03 30 27,4 36,6N 71,1E h ~ 121km $\Delta \sim 47,5^\circ$ Hindu Kush	
		PKP	16 12 12,7				0: 15 53 09,9 18,4S 175,2W h ~ 175km $\Delta \sim 138^\circ$ Tonga Islands	
	Apr. 1.	iP	15 27 05,6				0: 15 18 22,8	
		PPP	29 40,2				39,6 N 77,7 E	
		IQ	40 20				h ~ 21km	
		Ig <sub>2</sub>	43 30				$\Delta \sim 48^\circ$	
		Ig <sub>1</sub>	44 03				Sinkiang Province	
		Max	44 27	8			China	
	4.	eP	09 55 22				0: 09 46 33,6 Sin Kiang Province	
		P <sub>n</sub>	22 43 12,8				West Norway	
		i	18,6				local	
		i	44					
		i	44 14					
	7.	eP	21 26 07,4				0: 21 17 43,8 39,3 N 73,0 E h ~ 44km $\Delta \sim 46^\circ$ Kirghiz-Tadzik border	
	9.	e	16 17 12				0: 15 35 05,4	
		e	19 50				24,1 N 122,2 E h ~ 13km $\Delta \sim 81,5^\circ$ Near coast of Formosa	

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No.	Date	Phase	Time (GMT)	Period	Amplitude $A$			Remarks
					$A_N$	$A_E$	$A_Z$	
			h m s					
	Apr. 13.	e <sub>L</sub>	16 43 23				0: 16 34 39,1 40,1 N 77,8 E h ~ 19 km $\Delta \sim 47,5^\circ$ China.	
	14.	e	12 01 18 02 13				Disturbances?	
	16.	P	11 51 17,7				0: 11 40 40,7 53,5 N 158,7 E h ~ 27 km $\Delta \sim 64,5^\circ$ Kamchatka.	
	18.	i	10 37 15				Local explosion?	
		i	14 23 40				- " -	
	19.	i	16 24 23,6				- " -	
	21.	i	20 21 46				0: 20 10 38,3 47,7 N 154,6 E h ~ 27 km $\Delta \sim 69,5^\circ$ Kurile Islands.	
	22.	i	11 29 09				Local	
		i	22				"	
		i	30 11				"	
	23.	PcP	09 13 18				0: 09 01 41,8	
		S	22 13				44,6 N 150,2 E	
		Max	49 (00)	15			h ~ 44 km $\Delta \sim 72^\circ$ Kurile Islands.	
	25.	iP	01 28 58				0: 01 17 42,7 44,5 N 150,0 E $\Delta \sim 72^\circ$ Kurile Islands.	
		e	11 36 44				0: 11 16 41,4 32,7 S 178,5 W h ~ 45 km $\Delta \sim 152^\circ$ Kermadec Islands region.	



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No.	Date	Phase	Time (GMT)			Period	Amplitude $\mu$			Remarks
							A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
Apr. 26.		iP	h	m	s	15				0: 07 38 54,1
		eS?		59	34					44,6 N 179,9 E
		e	08	19	12					h ~ 20km
		Max	08	27	(00)					$\Delta \sim 72^\circ$ Kurile Islands
27.		i	20	45	00					Local explosion?
28.		P	09	30	44					- " -
		S			46					- " -
		P	19	29	57					- " -
		S			59					- " -
29.		i	05	46	37	13				- " -
		iP	09	32	02					0: 09 29 09,5
		ePPP?		32	30					71,3 N 7,4 W
		eS		34	05					h ~ 14km
				39	55					$\Delta \sim 11,5^\circ$ Jan Mayen
30.		iP	07	38	46	14				0: 07 33 53,5
		i		39	30					52,0 N 31,9 W
		ePPP?		42	49					h ~ 38km
		e		44	21					$\Delta \sim 22,5^\circ$
		e		49	20					North Atlantic
		Max		48	30					Ocean
		e <sub>L</sub>	11	58	49					
		e <sub>L</sub>	12	00	50					
May 2.		P	03	14	34,2	14				0: 03 11 45,7
		i			39,2					71,2 N 6,9 W
		S		16	38,6					h ~ 22km
										$\Delta \sim 11,5^\circ$ Jan Mayen region
		P	23	04	30					0: 22 44 44,3
										27,8 S 176,5 W
										h ~ 47km
										$\Delta \sim 87^\circ$

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No.	Date	Phase	Time (GMT)	Period	Amplitude $\mu$			Remarks
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
May 4.	i	02 04 49					Local disturbance ?	
	i	11 04 58					- " -	
	i	07 37					- " -	
	i	40					- " -	
	i	11 11 45					- " -	
6.	i	09 00 57,6					- " -	
7.	iP	15 43 40,7					O: 15 40 52,5	
	iS	45 50,8					71,2'N 7,1'W h ~ 66km $\Delta \sim 11,5^\circ$ Jan Mayen region	
9.	i	07 21 12					Local	
	i	22 02					- "-	
	i	40					- "-	
	i	16 44 13					- "-	
	i	49					- "-	
16.	i	21 57 31,3					Uppsala: Ryukyu Islands	
17.	iP	19 40 18,3					O: 19 29 19,3	
	e	49 42					52,0'N 173,9'E h ~ 21km $\Delta \sim 68,5^\circ$ Near Aleutian Islands	
23.	iP	02 51 05,4					O: 02 45 16,0	
	i	35					36,4'N 28,3'E	
	S	55 37,8					h ~ 49km	
	Rg	03 01 45,7					$\Delta \sim 28,5^\circ$	
	Max	04 45	14				Dodekanes Island	
June 13.	i	12 25 01					Local?	





No.	Date	Phase	Time (GMT)	Period	Amplitude $\mu$			Remarks
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
June 15.		iP	h m s 23 36 09				0: 23 24 40,5 45,4 N 151,3 E h ~ 38km $\Delta \sim 72^\circ$ Kurile Islands	
18.		iP	14 14 32,4				Uppsala: Kermadec Islands region	
19.		iP	17 13 01,4				0: 17 04 30,3 36,6 N 71,0 E h ~ 151km $\Delta \sim 47^\circ$ Hindu Kush	
22.		P	00 59 42				0: 00 56 04,7 42,4 N 19,6 E h ~ 53km $\Delta \sim 20^\circ$ Northern Albania- Jougoslavia border.	
		P	14 25 09				Local?	
		i	14				"-	
23.		i	09 40 11,5				"-	
		i	11 44 14				"-	
		i	20,5				"-	
26.		P	14 58 28				0: 14 47 26,1 52,4 N 174,5 E h ~ 60km $\Delta \sim 68,5^\circ$ Aleutian Islands	
		i	43					
27.		e <sub>L</sub>	07 31 46				Local?	
		e <sub>L</sub>	39 44				"-	

No.	Date	Phase	Time (GMT)	Period	Amplitude $\mu$			Remarks
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
			h m s					
	June 27.	iP	08 02 55				O: 07 52 23,7	
		i	57				54,6 N 157,7 E	
		i	03 08				h ~ 19km	
		i	09,4				$\Delta \sim 63,5^\circ$	
							Kamchatka.	
	29.	i	09 27 59,2				Local?	
		i	28 07,4				- " -	
	July 1.	i	11 25 34,5				Local disturbances?	
		i	25 46,5				- " -	
		i	26 14,5				- " -	
	4.	i	19 30 35,9				Disturbances?	
		i	39,1				- " -	
		i	43,8				- " -	
		i	31 00				- " -	
		i	24,2				- " -	
	6.	e	22 28 57	(without time correction)			O: 22 09 31,4	
							20,0 S 169,0 E	
							h ~ 47km	
							$\Delta \sim 138^\circ$	
							New Hebrides Islands	
	7.	e <sub>L</sub>	13 44 15	(without time correction)			O: 13 10 43,8	
							5,7 S 147,7 E	
							h ~ 57km	
							New Britain	
	8.	i	10 54 30	(without time correction)			Local	
		i	44				- " -	
	11.	e <sub>L</sub> (LQ?)	10 13 00				O: 09 31 57,2	
		e <sub>L</sub> (LR?)	16 33				8,3 N 93,3 E	
		e <sub>L</sub>	22 12				h ~ 163km	
							$\Delta \sim 82^\circ$	
							Nicobar Islands region.	





No.	Date	Phase	Time (GMT)	Period	Amplitude $\mu$			Remarks
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
	Aug. 25.	i	05 43 40					Local?
	27.	iP	16 33 22					O: 16 22 08,1 46,6 N 154,1 E h ~ 31km $\Delta \sim 71^\circ$ Kurile Islands
		iP	21 07 30,7					O: 20 56 15,6 Kurile Islands
		e	22 14 48					Disturbances?
	28.	i	12 25 59					- " -
	31.	P	02 00 48					O: 01 48 37,5 10,6S 70,9 W h ~ 620km $\Delta \sim 88^\circ$ Peru - Brazil border
		iP	02 09 18					O: 01 57 08
		i	11 05					10,4 S 70,7 W
		i	16 12					h ~ 629 km
		SKS	18 54					$\Delta \sim 92^\circ$
		S	19 36	11				Peru-Brazil border.
	Sept. 1.	PKP	00 28 18					O: 00 09 34,6
		i	29 48					59,3 S 27,3 W
		PS	40 02	12				h ~ 131km
		SS	46 21					$\Delta \sim 122^\circ$
		PKPPKP?	47 11					Sandwich Islands region
		i	49 40					
	5.	(ee <sub>L</sub>	ca. 06 20 00)					Disturbances?
		eP	11 44 30					O: 11 34 37,3 59,8 N 150,6 W h ~ 44 km $\Delta \sim 60^\circ$ Kenai Peninsula.





No.	Date	Phase	Time (GMT)	Period	Amplitude $\mu$			Remarks
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
			h m s					
	Sept. 29.	e	13 14 02				Local disturbances?	
		e	13 54 47				- " -	
		e	17 02 01,7				O: 16 50 32,9	
							42,9 N 145,4 E	
							h $\sim$ 37km	
							$\Delta \sim 72^\circ$	
							Near east coast of Hokkaido.	
	Oct. 2.	i <sub>k</sub> <sup>P</sup>	07 27 15				O: 07 21 49,4	
		i <sub>S</sub>	32 06				37,2 N 22,2 E	
		(I <sub>g1</sub> ?)	38 02				$\Delta = 25^\circ$	
		(R <sub>g</sub> )	39 17				Near coast of Greece.	
		e	11 02 48					
		i	11 33 44,6				O: 11 29 39,6	
		i	13 07 52				Local explosion.	
							h $\sim$ 63km	
							$\Delta \sim 149^\circ$	
	4.	i	14 33 12				Fernandez Islands.	
	5.	i	08 54 50,4				Disturbances?	
		i	11 00 14,6					
		i	12 46 16,3					
		i	52 00,5					
		i	24 18,1				Local disturbances?	
		i	45,6				Local explosions.	
	6.	i	15 16 17,5				Local disturbances?	
		e	21 32,9				Local explosions.	
		e	22 36,8				- " -	
							- " -	
	9.	i	14 16 29,2				Local disturbances?	
		i	15 08 32,6				- " -	
	10.	i	09 05 41,5				O: 10 10 48	
		i	11 38 41,9				Local disturbances?	
		i	11 54 46				- " -	
		e	17 08 58				Local explosion	
		e	00 11 00				Novaja Zemlja.	
							Local disturbances?	



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Date	Phase	Time (GMT)	Period	Amplitude $\mu$			Remarks
				A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
Oct. 11.	i	15 11 13,1					Local disturbances?
12.	i	11 43 32					
17.		08 29 12					Local disturbances?
	i	14 39 33,6					Local disturbances?
	i	40 26					- " -
	i	41 28					- " -
	i	42 32					- " -
	i	42 53,3					- " -
	i	45 43,5					- " -
18.	PKP	03 09 38,7					0: 02 49 59,6 29,9 S 177,6 W h ~ 65km $\Delta \sim 149^\circ$ Kermadec Islands.
19.	i	08 37 23,9					Disturbances?
	i	11 42 36,8					Local disturbances?
	i	14 22 53,6					Local disturbances?
	i	23 17,1					Local disturbances?
	i	24 15,6					Local disturbances?
21.	i	08 47 05,6					Local disturbances?
	i	11 24 42,1					- " -
	i	12 42 50,3					- " -
22.	i	12 38 37,8					Local " -
	i	51,9					- " -
23.	iP	10 35 44,4					0: 10 30 48 70,4 N 54,0 E $\Delta \sim 22^\circ$ Atomic explosion Novaja Semlja.

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Date	Phase	Time (GMT)	Period	Amplitude $\mu$			Remarks
				A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
Oct. 27.	i	09 57 10,3					Local disturbances?
	i	13 48 15,3					- " -
	i	49 08,3					- " -
	i	50 06,9					- " -
28.	i	09 54 25,3					- " -
	i	54 56,7					- " -
	iP	10 54 03,2					O: 10 46 40,2 33,7 N 48,3 E h $\sim$ 34km $\Delta = 39^\circ$ Iran.
							Local disturbances?
Nov. 1.	P <sub>n</sub>	14 53 20					O: 13 52 17
	iP <sub>b</sub>	25					59,3 N 9 E
	S <sub>n</sub>	54 01					$\Delta \sim 3,3^\circ$
	S <sub>b</sub>	08					West Norway.
	S <sub>g</sub>	17					
5.	i	08 48 05,8					Local disturbances?
6.	i	14 42 13,9					Local disturbances?
	i	17,8					- " -
	i	21,3					- " -
	iP	15 30 02,5					Local explosion ( $\Delta \sim 30$ km)
	iS	04					
7.	i	08 37 23,6					Local explosion.
	i	38 07,6					- " -
	i	09 01 19,7					Local explosion
	i	40,6					- " -
	i	42,8					- " -
	i	49,6					- " -
	iP	14 52 02					Local explosion ( $\Delta \sim 20$ km)
	iS	03,4					



No.	Date	Phase	Time (GMT)	Period	Amplitude $\mu$			Remarks
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
Nov. 9.		P <sub>n</sub>	08 40 44,5					0: 08 39 10
		S <sub>n</sub>	41 24,5					59 N 10,5 E
		S <sub>b</sub>	31					$\Delta \sim 350$ km
								Oslo Fjord.
10.		i	09 33 19					Local?
		i	14 56 12,5					- " -
		i	09 02 53					- " -
		i	11 36 24,5					- " -
11.		i	13 05 07,2					- " -
		i	14 16 33					Local disturbances?
		i	09 14 00,4					Local disturbances?
		i	12 08 12,7					- " -
12.		iP	20 13 17,1					
		iS	37,2					$\Delta \sim 190$ km
13.		i	12 39 09,5					Local?
		i	14 15 46,3					- " -
		iP	19 49 59					Probably Kurile Islands.
14.		e	10 40 17,9					Kurile Islands?
		e	12 59 16,9					New Zealand?
15.		iP	07 29 03,2					Near Coast of Hokkaido.
		iS	38 21,9					
		i	14 30 26,2					$\Delta \sim 72^\circ$
		iP	15 40 04,9					
		iS	06,6					50km.
20.		i	14 27 15,7					Disturbances?
		i	28 02,5					- " -
		e	18 06 10,6					North Atlantic Ocean.

ergen, 1961.

19.

Date	Phase	Time (GMT)	Period	Amplitude $\mu$			Remarks
				A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
Nov. 23.	i	h m s 12 57 41,4					Disturbances?
24.	i	11 42 07,5					Local explosion.
	i	11 2 20,1					- " -
	i	11 51 20,4					- " -
27.	i	13 19 42,9					Local disturbances?
	i	57					- " -
	i	20 19,5					- " -
	i	23					- " -
	i	21 00					- " -
	i	24,6					- " -
28.	P	10 24 34,1					India - Pakistan border.
.30.	i	14 08 44,9					Local disturbances?
		08 58,6					- " -
		09 10,6					- " -
		10 05,5					- " -
Dec. 1.	P	21 24 38,2					0: 21 13 04,1
	PeP	25 15,2					26,5 N 124,9 E
	i	49,5					h ~ 206km
	i	26 02,7					$\Delta \sim 84,5^\circ$
	i	17,2					
2.	P	12 45 38					Northern Tunisia.
3.	i	20 05 31					Near Vladivostok. U S.S.R.
4.	P	11 15 06,5					$\Delta \sim 140\text{km}$
	S	23,5					
	e <sub>L</sub>	13 11 53	18				Probably from
		14 56					earthquake in Tibet.





Utsunomiya, 1901.

No.	Date	Phase	Time (GMT)	Period	Amplitude $\mu$			Remarks
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
			h m s					
	Dec. 12.	iP	23 17 38,5				O: 23 06 18,4 43,5 N 146,2 <sup>r</sup> E h ~ 44km $\Delta \sim 73^\circ$ Near east coast of Hokkaido.	
15.		i	11 50 21				Local disturbances?	
		i	14 11 38,5				Explosions?	
			44,7				- " -	
			50				- " -	
16.		i	12 07 14,4				Local disturbances?	
		i	23,7				- " -	
		i	08 08,2				- " -	
		i	09 51,8				- " -	
		i	10 20,6				- " -	
		i	32,1				- " -	
18.		e	13 06 21,2				Disturbances?	
19.		i	12 38 27,5				Disturbances?	
							Short period seismograph out of repair from 19/12 kl.2132 - 21/12 kl.0829.	
24.		P	07 02 03,5				O: 06 50 48,4 43,8 N 143,9 E Near coast of northern Hokkaido.	
26.		i	09 15 33,1				Local?	
		i	44,8				- " -	
		i	54,7				- " -	
		i	59,6				- " -	
		i	16 07,1				- " -	
		i	20,6				- " -	



Bergen 1961.

No.	Date	Phase	Time (GMT)	Period	Amplitude $\mu$			Remarks
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
			h m s					
	Dec. 30.	P	00 50 23,6				0:00 39 24,1	
		i	21,9				52,3 N 177,7 E	
							h ~ 50km	
							$\Delta \sim 69^\circ$	
							Kat I. land	
							Aleutian.	

	Weight	r	r	r	r	r/r <sub>0</sub>
Wacker 2a						
Jan. 1- Dec. 31	1300	g	214	3,7	1,97	0,183
Dec. 12- Dec. 31	1300	g	280	3,6	4,25	0,002
Wacker 2B:						
Jan. 1- Dec. 31	1000	g	130	1,4	1,54	0,000
Dec. 12- Dec. 31	1000	g	50	2,2	0,6	0,12
Wacker 2C:						
Jan. 1- Dec. 31	1000	g	135	1,4	1,30	0,001
Dec. 12- Dec. 31	1000	g	107	1,6	2,65	0,001

	T <sub>0</sub>	T	Year
Electromagnetic N-1	1,0sec.	0,75 sec.	ca. 10000
Electromagnetic N-5	1,0sec.	2,5 sec.	ca. 100

All distances given are from the epicentre, calculated by a graphical method.

SEISMOLOGICAL BULLETIN 1962.

Registration at the Seismological Observatory of the

University in Bergen, Norway.

By

MAGNE LUNDE

Constants:

	Weight	V	T	$\epsilon: 1$	$r/To^2$
Wiechert Z:					
Jan. 1.-Dec.11	1300 kg	274	3,7	1,97	0,123
Dec.12 -Dec.31	1300 kg	280	3,6	4,25	0,062
Wiechert NS:					
Jan. 1-Dec.11	1000 kg	130	7,4	1,54	0,020
Dec.12-Dec.31	1000 kg	98	5,5	0,6	0,11
Wiechert EW:					
Jan. 1-Dec.11	1000 kg	135	7,2	1,30	0,021
Dec.12-Dec.31	1000 kg	107	5,6	2,65	0,09

	Ts	Tg	Vmax
Electromagnetic N-S	1,0sec.	0,75sec.	ca. 30.000
Electromagnetic N-S	1,0sec.	52,5 sec.	ca. 500

All distances given are from the quoted provisional epicenters, calculated by a graphical method.



Bergen, 1962.

2.

No.	Date	Phase	Time (GMT)	Period	Amplitude $\mu$			Remarks
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
Jan. 1.		P <sub>n</sub>	18 06 06				Uppsala: 0: 18 05 45	
		S <sub>b</sub>	25,3				61,8°N 5,5°E	
		S <sub>n</sub>	28,6				West coast of Norway.	
		S <sub>g</sub>	32,1				$\Delta \sim 1,45^\circ$	
Jan. 2.		(P)	00 12 29,5				$\Delta \sim 1,6^\circ$	
		(S)	48,7					
		P	12 27 38,3				0: 12 22 58,7	
		i	42,1				80,0°N 24,3°E	
		i	35 00,9				h $\sim$ 48km	
		S	16,6				$\Delta \sim 20,5^\circ$	
		i	21,9					
Jan. 3.		P	20 07 57,4				$\Delta \sim 0,5^\circ$	
		iS	08 0',9				Local explosion.	
Jan. 4.		P	04 46 46				Near Shikoku, Japan.	
		S	57 23				$\Delta \sim 86^\circ$ .	
		PKKS	05 08 03					
		PPP	13 13					
		Max	05 18	23				
Jan. 7.		P	10 07 30,6				0: 10 03 12,8	
		i	13 05				43,4°N 17,4°E	
		i <sub>max</sub>	15 09	11			$\Delta \sim 18,5^\circ$	
			22,4				Yugoslavia.	
			30					
			34					
Jan. 8.		P	01 11 34				0: 01 00 24,2	
							Dominian Republic, Coordinates missing.	
							$\Delta \sim 70^\circ$	
		PKP	06 02 24				Tonga Islands region.	

Bergen, 1962.

No.	Dat	Phase	Time (GMT)	Period	Amplitude $\mu$			Remarks
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
Jan. 11.		P	05 09 19				0: 05 05 01,6	
		i	24				43,5°N 17,7°E	
		i	31				h ~ 25km	
							$\Delta \sim 18,6^\circ$	
							Yugoslavia.	
							Long p. out of repair.	
Jan. 19.		P	19 43 20				0: 19 38 04,1	
							38,5°N 22,1°E	
							h ~ 38km	
							$\Delta \sim 24,5^\circ$	
							Greece.	
Jan. 26.		eS <sub>L</sub>	08 28 11				0: 08 17 37	
		eeLR <sub>L</sub>	30 55				35,1°N 22,7°E	
		Max	32	13			h ~ 32km	
							$\Delta \sim 27,6^\circ$	
							West of Crete.	
Feb. 1.		P	12 09 13				Uppsala:	
		S	20,5				0: 12 08 59	
							60,2°N 6,3°E	
							$\Delta \sim 0,5^\circ$	
							Southwest Norway.	
Feb. 5.		P	23 07 30				0: 22 55 49,6	
							35,9°N 138,8°E	
							h ~ 151km	
							$\Delta \sim 77^\circ$	
							Central Honshu, Japan.	
Feb. 6.		i	09 39 14				Local disturbances?	
		i	09 46 58				"	
Feb. 12.		P	14 29 31,4				Local explosion?	
		iS	36,7					



bergen 1962.

No.	Date	Phase	Time (GMT)	Period	Amplitude $\mu$			Remarks
					A <sub>N</sub>	A <sub>Z</sub>	A <sub>E</sub>	
	Feb. 12.	P	14 37 55,1				Local explosion?	
		iS	38 00,6					
		P	14 53 15,1				Explosions?	
		iS	19,6				$\Delta \sim 0,3^\circ$	
	Feb. 13.	e	13 17 46				Disturbances?	
	Feb. 14.	e	07 03 43				O: 06 36 01,3	
		e	06 02				38,1°S 73,1°W	
		e	12 16				h ~ 44km	
		e	15 24				$\Delta \sim 117,5^\circ$	
		e <sub>max</sub>	43 (00)	20			Near coast of Chile.	
	Feb. 18.	P	17 37 26,8				O: 17 25 17,3	
							8,1°N 74,6°W	
							h ~ 70km	
							$\Delta \sim 72\frac{1}{2}^\circ$	
							Northern Colombia.	
	Feb. 20.	PKP	10 25 54				O: 10 07 26,6	
							25,9°S 178,4°E	
							$\Delta \sim 145^\circ$	
							h ~ 655km	
							South of Fidji Islands region.	
		P	16 17 04				O: 16 05 44,6	
							43,0°N 144,9°E	
							h ~ 55km	
							$\Delta \sim 72^\circ$	
							Near coast of Hokkaido, Japan.	
		P	22 13 48				O: 22 02 38,2	
		e	38 10				26,1°N 96,8°E	
		e	42 23				h ~ 25km	
		e <sub>max</sub>	44 52	14			Northern Burma.	
							$\Delta \sim 68,5^\circ$	

Bergen 1962.

No.	Date	Phase	Time (GMT)	Period	Amplitude $\mu$			Remarks
					A <sub>N</sub>	A	A <sub>Z</sub>	
	Feb. 21	PKP	00 25 35					0: 00 06 02,4 24,8S 177,1W h $\sim$ 38km $\Delta \sim$ 144° Tonga Islands region
		P <sub>n</sub>	12 44 18,5					0: 12 44 00
		P <sub>b</sub>	19,4					61,5°N 3,5°E
		i	22,6					$\Delta \sim$ 1,1°
		i	25,6					Off West coast of Norway.
		Sg	33,5					
	Feb. 27	P	21 38 26,8					0: 21 34 11,8 46,1°N 26,5°E h $\sim$ 115km $\Delta \sim$ 19° Romania.
	Mars 1.	P	18 46 37,5					Near east coast of Hokkaido, Japan.
	Mars 2.	P	15 08 43,5					Explosion? Local $\Delta \sim$ 0,25°
		S	46,6					
	Mars 7.	P	11 13 19					0: 11 01 00,4 19,3°N 145,3°E h $\sim$ 680km $\Delta \sim$ 94° Mariena Islands.
	Mars 9.	PKP	17 48 33,9					0: 17 30 02,0 24,5°S 179,6°W h $\sim$ 586km $\Delta \sim$ 144° Fiji Islands region.



Bergen 1902.

No.	Date	Phase	Time (GMT)	Period	Amplitude $A$			Remarks
					$A_N$	$A_E$	$A_Z$	
Mars 10.		ePKP	05 19 17					0: 04 59 27,5 31,2°S 178,3°W h ~ 69km Kermadec Island.
Mars 11.		eP	15 34 34					Uppsala: Kat Island Aleutene.
		eeLQ	19 51 26					0: 19 19 05,6
		eLg	59 49					9,0°N 126,7°E h ~ 25km Near east coast of Mindanao.
Mars 12.		eP	11 52 32					0: 11 40 12,8
		ePS	12 01 40					8,1°N 83,0°W
		eLQ	12 14 53					h ~ 58km $\Delta \sim 77^\circ$ Near coast of Panama and Costa Rica.
Mars 13.		P	16 59 35,7					Local explosion? $\Delta \sim 1^\circ$
		S	48,8					
Mars 14.		iK	08 45 59,2					Disturbances?
		elong	08 46 12					"
Mars 17.		P	18 09 29,4					0: 17 58 38,6 51,4°N 159,2°E h ~ 25km $\Delta \sim 67^\circ$ Kurile Islands regio
		P	20 53 27					Local?
		S	48,6					S-P 1,7°
		P	20 57 50,5					0: 20 47 31,7
		PS	21 06 03					10,6°N 43,7°W
		SeS	07 35					h ~ 25km
		LQ	12 50					$\Delta \sim 57^\circ$
		e <sub>max</sub>	14 (00)	32				





argen 1962.

Date	Phase	Time (GMT)	Period	Amplitude $\mu$			Remarks
				A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
Apr. 10.	P	21 42 30,9					0:21 37 12,6
	S	47 02					37,9°N 20,1°E
	i	53 49					h ~ 35 km $\Delta \sim 24,5^\circ$ Ionian Sea.
Apr. 10.	e	10 52 31,4				Ionian Sea?	
Apr. 12.	P	01 04 34	28				0:00 52 47,0
	eS	14 08					38,2°N 142,3°E
	eSS	19 10,5					h ~ 68 km
	Max	36 (00)					$\Delta \sim 77^\circ$ Near east coast of Honshu.
Apr. 15.	eP	18 19 02				0: 18 08 27,3 2,9°S 11,9°W h ~ 25 km $\Delta \sim 57,5^\circ$ Ascension Island region.	
Apr. 16.	eP	00 20 32				0: 00 15 15,7 38,2°N 20,4°E h ~ 25 km Ionian Sea. $\Delta \sim 24^\circ$	
	eP	13 32 22				0: 13 20 15,1 30,6°N 140,6°E h ~ 176 km $\Delta \sim 82^\circ$ South of Honshu, Japan.	
Apr. 17.	eP	10 08 14				0: 10 03 46,9 42,3°N 17,3°E h ~ 25 km $\Delta \sim 19^\circ$	
	eP	11 39 10				0: 11 33 51,0 37,8°N 19,9°E h ~ 25 km $\Delta \sim 24,5^\circ$ Ionian Sea.	

No.	Date.	Phase.	Time (GMT)	Period	Amplitude $\mu$			Remarks.
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
	Apr. 17.	eP	21 05 51					O: 20 54 13,4 38,4°N 142,2°E h ~ 110 km $\Delta \sim 75,5^\circ$ Near east coast of Honshu, Japan.
		eP	22 45 30					O: 22 34 56,7 1,5°S 14,9°W h ~ 25 km $\Delta \sim 62^\circ$ Mid-Atlantic Ocean
	Apr. 18.	eP	19 28 06					O: 19 14 37,2 10°S 79°W h ~ 39 km $\Delta \sim 91^\circ$ Off coast of Peru
	Apr. 19.	eP	02 11 15					O: 02 05 59,4 38,5°N 20,5°E h ~ 25 km $\Delta \sim 24,5^\circ$ Ionian Sea.
		iP	23 24 29,8					O: 23 16 04,1 69,8°N 138,6°E h ~ 0 km $\Delta \sim 45,5^\circ$ Sikeria U.S.S.R.
	Apr. 20.	P	05 58 43,8					
		i	59,8					
		PcP	59 15,1					O: 05 47 55,3 20,6°N 72,2°W
		eS	06 07 27,7					h ~ 25 km Near north coast of Haiti. $\Delta \sim 66^\circ$



bergen 1962.

10.

No.	Date.	Phase.	Time (GMT).	Period.	Amplitude $\mu$			Remarks.
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
	Apr. 21.	PKP	08 04 51,6					0: 07 46 18,5 23,7°S 180° h ~ 559 km $\Delta$ ~ 143 Fiji Islands regio
	Apr. 22.	P	15 56 27					Local explosion?
		S	31,5					
		P	16 32 03,8					
		S	09,5					
	Apr. 23.	P	06 09 29					0: 05 58 04,9 42,9°N 143,4°E h ~ 25 km $\Delta$ ~ 71,5° Hokkaido, Japan.
		PcP	45					
		S	18 48					
		eLR	31 00					
		e <sub>max</sub>	36 00	32				
	Apr. 25.	e	04 48 26,8					0: 04 44 51,3 45,3°N 5,2°E h ~ 30 km $\Delta$ ~ 15° Southeastern Franc
		e	15 59 06					0: 15 47 29,4 38,4°N 142,5°E h ~ 56 km $\Delta$ ~ 75,5° Honshu, Japan.
	Apr. 26.	eP	03 19 58					<u>Uppsala:</u> Kazakh U.S.S.R.
			11 45 00					Local disturbances
	Apr. 28.	eP	11 25 13					0: 11 18 57,4 36,4°N 26,6°E h ~ 40 km $\Delta$ ~ 28° Dodecanese Islands.

Bergen 1962.

No.	Date.	Phase.	Time (GMT).	Period	Amplitude $\mu$			Remarks.
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
	Apr. 29.	P	08 15 56,3					$\Delta \sim 1,7^\circ$
		S	16 18,6					
	Apr. 30.	P	02 38 03					0: 02 26 30,0 38,8°N 140,9°E h $\sim$ 104 km $\Delta \sim 75^\circ$
		P	23 53 17,8					North east of Jan Mayen.
	May 2.	P	01 03 57,4					Local explosion? $\Delta \sim 0,5^\circ$
		S	04 05,0					
	May 3.	P	02 49 21,4					0: 02 37 56,6 42,6°N 144,6°E h $\sim$ 49 km $\Delta \sim 72^\circ$ Off southeast coast of Hokkaido, Japan
		eP	23 31 29					Spain?
	May 5.	PKP	23 25 52					0: 23 05 56,9 31,6°S 176,7°W h $\sim$ 41 km $\Delta \sim 151^\circ$ Kermadec Islands region.
	May 6.	PKP	19 19 12					0: 19 00 10,2 60,0°S 32,8°W $\Delta \sim 122^\circ$ Sandwich Islands region.
	May 7.	P	17 51 04					0: 17 39 50,3
		PP	53 40					45,3°N 146,7°E
		PPP	55 27					h $\sim$ 25 km
		S	18 00 11					$\Delta \sim 70^\circ$
		LQ	18 09 16	15				Kurile Islands



No	Date.	Phase.	Time (GMT).	Period	Amplitude <sup>u</sup>			Remarks.
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
	May 8.	eP	23 59 45					0: 23 54 01,7 35,9°N 24,4°E h ~ 93 km Δ ~ 27° Sea of Crete.
	May 9.	iP	18 51 59					Local explosion.
		iS	52 10					Δ ~ 0,5° Alaska.
		P	23 58 18					
	May 15.	e	05 43 13					0: 05 23 45,9 7,3°S 128,3°E h ~ 34 km Δ ~ 112° Banda Sea.
		eP	19 42 59					0: 19 32 22,5 53,4°N 159,6°E h ~ 30 km Δ ~ 65° Near east coast of Kamchatka.
	May 19.	P	15 10 38					0: 14 58 13,3
		S	20 21					17,2°N 99,5°W
		PS	57					h ~ 20 km Δ ~ 82,5° Near coast of Mexi
	May 21.	P	12 12 52,3					0: 12 02 50,6
		S	21 02					37,3°N 96,0°E
		LQ	26 23					h ~ 25 km
		IR	30 15					Δ ~ 58,5°
		Max	38 (00)	13				Chinghai Province.
		i	21 34 17,2					0: 21 15 31,0
		i	19,3					20,0°S 177,5°W Fiji Islands regio

bergen 1962.

13.

No.	Date.	Phase.	Time(GMT).	Period	Amplitude, $\mu$			Remarks.
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
								Last days of May the seismograms of bad quality.
	June 2.	iP	16 18 11,4					Local explosion? $\Delta \sim 1,8^\circ$
		iS	33,1					
		eL	17 56 08					0: 17 15 08,7 29,8°N 130,6°E h $\sim$ 15 km $\Delta \sim 83^\circ$ Kyushu, Japan.
	June 11.	P	07 19 57					0: 07 15 37,6
		S	23 33					43,5°N 18,3°E
		LR	23 49					h $\sim$ 21 km
		Rg	27 57					$\Delta \sim 19^\circ$ Yugoslavia.
	June 23.	e	09 57 10					0: 09 44 37,7 25,7°N 128,5°E h $\sim$ 36 km $\Delta \sim 82,5^\circ$ Ryukyu Islands.
		i	10 11 26					0: 09 58 26,0 19,1°N 121,4°E h $\sim$ 40 km $\Delta \sim 85,5^\circ$ Near coast of Luzon Phillipine Islands
	June 29.	e	22 43 19					0: 22 35 40,5 32,1°N 48,4°E h $\sim$ 25 km $\Delta \sim 39,5^\circ$ Iran.



Bergen 1962.

No.	Date.	Phase.	Time (GMT).	Period	Amplitude, $\mu$			Remarks.
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
	July 1.	eP	11 53 45					0: 11 46 29,8 40,8°N 49,9°E h ~ 46 km $\Delta \sim 33^\circ$ Off coast of Azarbaijan, U.S.S.R.
	July 4.	e	19 02 37					<u>Uppsala:</u> 0: 18 56 00 66,3°N 29,0°E Finland. U.S.S.R. border. $\Delta \sim 11,5^\circ$
	July 6.	eP	09 21 35					0: 09 16 15,0 38,0°N 20,2°E h ~ 30km $\Delta \sim 19^\circ$ Ionian Sea.
		P	23 13 44					0: 23 05 32,2
		S	20 18					36,6°N 70,4°E
		SS	23 08					h ~ 203km
		i	24 54					$\Delta \sim 47^\circ$
		L <sub>2</sub>	28 32	9				Hindu Kush.
		L <sub>1</sub>	28 46					
	July 7.	eP	21 31 45					0: 21 20 57,7 51,9°N 158,6°E h ~ 33km $\Delta \sim 67^\circ$ Near south coast of Kamchatka.
	July 9.	e	11 01 27					0: 11 00 31,8 57°29'16"N 9°4'2" North of Jutland. 2000 kg TNT at 2500 m water depth. (data from Geodetic Institute, Copenhagen).

Augen 1962.

No.	Date.	Phase.	Time (GMT)	Period	Amplitude			Remarks.
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
	July 14.	i	11 15 30					Disturbances?
		i	11 27 39					
		i	11 44,5					
	July 15.	P	06 58 47					O: 06 47 22,5 39,8°N 140,9°E h ~ 103 km Δ ~ 75° Honshu, Japan.
		P	04 39 09,5					local explosion.
	July 16.	iP	07 09 02					Greece?
		iP	13 04 28,8					O: 12 54 40,6 62,3°N 153,1°W h ~ 39km Δ ~ 57° Alaska.
	July 17.	eP	17 31 43					O: 17 20 22,9 43,1°N 144,5°E h ~ 30 km Δ ~ 71,5° Hokkaido, Japan.
	July 21.	iP	08 03 25,8					Local explosion.
	July 25.	e	04 49 12					O: 04 37 50,7 18,9°N 81,1°W h ~ 64 km Δ ~ 77° West of Jamaica.
	July 26.	P	04 34 23					O: 04 23 11,9 47,1°N 153,9°E h ~ 35 km Δ ~ 70° Kurile Islands.



Bergen 1962.

NO.	Date.	Phase.	Time (GMT)	Period	Amplitude, $\mu$			Remarks.
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
	July 26.	P	08 27 07,5					0: 08 14 41,8 7,5°N 82,7°W h ~ 21 km $\Delta$ ~ 82,5° South of Panama. Difficult to estimate other phases.
	July 28.	P S	04 59 09,5 14,					Local explosion.
	July 30.	e	17 35 50					0: 17 16 44,4 3,3°S 143,9°E h ~ 25 km $\Delta$ ~ 115° Near coast of New Guinea.
		P i S PPS SS LQ	20 31 05,8 49,5 41 07 42 07,5 46 17 52 18	26				0: 20 18 49,3 5,0°N 76,3°W h ~ 45 km $\Delta$ ~ 81,5° Colombia.
	Aug. 1.	P <sub>b</sub>	13 55 43 53					Bergen: 0: 13 55 27,5 59,8°N 6°E Uppsala: 0: 13 55 33 60°N 8°E
		e e	13 57 43 53					Same epicenter? 0: 13 57 27.
	Aug. 2.	iP iS	14 23 23 25,5					Local explosion?

Bergen 1902.

No.	Date.	Phase.	Time (GMT)	Period	Amplitude $\mu$			Remarks.
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
	Aug. 3.	S	09 20 30					
		PS	19 21 28					0: 08 56 12,1 23,2°S 67,5°W h ~ 71 km $\Delta$ ~ 101° Northern Chile - Argentine border.
		e	11 27 50	35				0: 11 04 03,6 40,9°N 73,3°E h ~ 25 km $\Delta$ ~ 45° Kirghiz U.S.S.R. Local explosion?
		iP	20 27 10,2					
		iS	14, 1					
	Aug. 6.	PKP	21 11 33					0: 20 51 56,8 26,9°S 177,1°W h ~ 50 km $\Delta$ ~ 144° Kermadec Islands region. Time marks missing 7 <sup>th</sup> - 27 <sup>th</sup> .
	Aug. 28.	P	11 05 13,6					
		ePP	39					0: 10 59 58,5 38,0°N 23,1°E h ~ 120 km $\Delta$ ~ 25° Greece. Uppsala: Norwegian Sea. Time correction uncertain.
		S	09 28					
		SS	10 20					
	Sept. 1.	i	11 54 27,6					
		i	55 37,6					
		i	52,5					



Bergen 1962.

N	Date.	Phase.	Time (GMT)	Period	Amplitude $\mu$			Remarks.
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
	Sept. 1.	P	19 27 55					0: 19 20 38,8
		i	59					35,3°N 49,7°E
		PP	29 15					h ~ 33 km
		S	33 40					$\Delta \sim 37,5^\circ$
		eSS	35 47					Northwest Iran.
	Sept. 9.	IR	39 53	35				
		Rg	43 40					
	Sept. 10.	PKP	16 02 13,3					0: 15 43 59,4
		PP	05 30,5					21,1°S 179,2°W
								h ~ 640 km
								$\Delta \sim 141^\circ$
								Fiji Islands.
	Sept. 11.	i	10 57 41,5					
		i	58 03					Most probably disturbances.
	Sept. 15.	eP	23 01 54					0: 22 50 46,3
								48,5°N 156,8°E
								h ~ 33 km
								$\Delta \sim 69^\circ$
								Kurile Islands.
	Sept. 17.	eP	15 36 58					Uppsala:
		eS	38 45					Probably explosion in the Baltic.
								$\Delta \sim 9,3^\circ$
		eFKP	18 14 00					0: 17 55 45,4
								21,0°S 179,1°W
								h ~ 601 km
								$\Delta \sim 141^\circ$
								Fiji Islands.
	Sept. 18.	eP	00 41 35					0: 00 29 05,2
		S	51 42					7,5°N 82,3°W
								h ~ 33 km
								$\Delta \sim 82^\circ$
								South of Panama.

bergen 1962.

No.	Date.	Phase.	Time (GMT)	Period	Amplitude $\mu$			Remarks.
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
	Sept.17.	eP	05 17 46					0:05 07 39,1 48,1°N 145,1°E h ~ 466 km $\Delta \sim 67^\circ$ Near east coast of Sakhalin Island.
	Sept.19.	ee	10 15 (00)					Long periodical waves from nuclear explosion at Novaja Zemlja.
	Sept.22.	P S	07 02 33,5 11 32,3					0:06 51 32,3 26,5°N 97,0°E h ~ 33 km $\Delta \sim 68^\circ$ Northern Burma.
		e	08 14 52					0:08 06 28,2 36,4°N 69,°E h ~ 33 km $\Delta \sim 46,5^\circ$ Hindu Kush.
	Sept.24.	P	14 49 45,2					0: 14 38 21,7 42,8°N 145,3°E h ~ 33 km $\Delta \sim 72^\circ$ Near east coast of Hokkaido.
	Sept.25.	iP	14 18 59,9					Local explosion?
	Sept.27.	i	12 32 23					Uppsala: 0:12 29 33 66,8°N 11,7°E Off west coast of Norway.
	Sept.28.	i i i i i	17 25 24,9 29,7 40,1 49 26 13,5					Uppsala: 0:17 22 01 (64,5°N 20,5°E) North Sweden.



Bergen 1962.

No.	Date.	Phase.	Time (GMT)	Period	Amplituden			Remarks.
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
	Sept. 28.	eP	19 08 13					0:18 56 08,7 5,2°N 76,2°W h ~ 127 km Δ ~ 81° Western Colombia.
	Oct. 1.	eP	10 04 27					0:09 53 32,9 47,3°N 151,5°E h ~ 127 km Δ ~ 70 Kurile Islands.
		eP	12 22 25					0:12 13 57,4 27,9°N 54,9°E h ~ 16 km Δ ~ 6,5° Southern Iran.
	Oct. 4.	iP	14 30 56,1					Local explosion?
		iP	15 19 56					Local explosion?
		P	19 51 29,8					0: 19 46 10,1 38,3°N 22,7°E h ~ 38 km Δ ~ 24,5° Greece.
	Oct. 8.	P	15 15 44,5					0: 15 11 12,8 42,2°N 24,1°E h ~ 33 km Δ ~ 21° Bulgaria.
		e <sub>long</sub> P	22 35 00					Probably long-periodical waves from east coast of Formosa.
		Max	41 09	23				
	Oct. 9.	iP	11 34 15,6					Local explosion?
		iS	14 08 18,1					Local explosion?
		iP	15 02 50,9					Local explosion?
		iS	53,3					

Bergen 1962.

No.	Date.	Phase.	Time (GMT)	Period	Amplitude $\mu$			Remarks.
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
	Oct. 10.	i	12 44 44					Disturbances?
	Oct. 12.	iP	08 12 46					Local explosion?
	Oct. 16.	iP	16 14 08					Probably explosion Very shortp.
	Oct. 17.	iP	13 47 09,2					Local explosion?
	Oct. 18.	iP	10 36 39,4					Uppsala:
		i	37 01,4					60,9°N 11,9°E
		i	12,2					0:10 35 41
		iS	23,3					
		eP	11 33 37					0:11 22 40,2
	Oct. 19.	P	11 54 00					46,5°N 149,5°E
		i	52,7					h ~ 128 km
		i	55 05,7					$\Delta \sim 69,5^\circ$
	Oct. 21.	P	02 15 18,3					Uppsala:
		P	16 46 16,6					0:11 50 25
	Oct. 22.	e	15 34 31,1					59,4°N 21,6°E
		e	15 34 31,1					Possibly explosion Central Baltic.
	Oct. 23.	iP	11 57 30,5					0:02 05 22,7
		i	14 08 30,2					61,1°N 149,7°W
		i	14 21 27					h ~ 80 km
		i	31,9					$\Delta \sim 58^\circ$
		i	34					Vicinity Anchorage Alaska.

Local?  
0: 15 23 32,9  
49,8°N 155,8°E  
h ~ 19 km  
 $\Delta \sim 67,5^\circ$   
Northern Kurile  
Islands.  
Local explosion.  
Local explosion.  
Local?



Bergen 1962.

No.	Date.	Phase.	Time (GMT)	Period	Amplitude			Remarks.
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
	Oct. 24.	iP	15 02 57,6					Local explosion.
		iS	03 03,5					
	Oct. 29.	i	12 37 24					Disturbances.
		i	39 04,6					
		iP	13 02 57,8					Local explosion.
		iS	03 03,3					
		iP	13 24 11,6					Local explosion.
		iS	17,4					
		iP	13 33 34,3					Local explosion
		iP	13 38 43,5					Local explosion.
		iS	48,3					
	Nov. 1.	i	13 48 55,6					Local explosion.
		P	23 32 06					0:23 20 59,6 43,9°N 145,2°E h ~ 131 km Δ ~ 71° Kurile Islands.
	Nov. 2.	i	14 09 37,3					Local explosion.
	Nov. 3.	P	14 25 03					0: 14 22 14,7 72,1°N 2,5°E h ~ 45 km Δ ~ 11° Arctic Ocean.
	Nov. 5.	P <sub>n</sub> ?	11 47 44,2					Uppsala: 661/4°N 8°E
			48 45,5					
			48 49,5					
			49 04,4					
		i	13 17 42,5					Disturbances?
	Nov. 6.	iP	00 18 16					Washington Oregon border.
	Nov. 9.	eP	01 18 29					0:01 11 02,1 33,4°N 47,2°E h ~ 33 km Δ ~ 38° Iraq - Iran border.

No.	Date.	Phase.	Time (GMT)	Period	Amplitude $\mu$			Remarks.
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
	Nov. 9.	P	02 19 05					0:02 14 47,6 45,8°N 26,7°E h ~ 130 km $\Delta$ ~ 19,5° Romania. Arctic Ocean.
	Nov. 23.	eP	05 34 37					Local explosion.
		P	08 45 36					
		S	04 30 42					Local explosion.
		P	08 46 49,5					Local explosion
		i	55					
		i	00,6					
		i	10,4					
	Nov. 10.	iP	01 44 36,3					0:01 33 1 43,7°N 147,7°E h ~ 24 km $\Delta$ ~ 71° Kurile Islands region.
		S	01 53 54					
	Nov. 11.	eP	11 40 46					0:11 31 44,5 55,8°N 113,1°E h ~ 33 km $\Delta$ ~ 51° Lake Baikal region U.S.S.R. Local explosion? Local explosion?
		i	11 49 03,4					
		i	13 54 27,5					
	Nov. 15.	iP	05 07 54,6					Local explosion?
		iS	08 15,8					
	Nov. 16.	i	10 15 22,7					Local explosion.?
	Nov. 17.	iP	04 50 24					Local explosion.?
		iS	27					
	Nov. 21.	eP	01 40 39					Disturbances.



Bergen 1962.

No.	Date.	Phase	Time (GMT)	Period	Amplitude $\mu$			Remarks.
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
	Nov. 22.	e	11 43 38					Central Baltic Explosions.
		e	46 10					
		e	58 57					
	Nov. 23.	i	08 51 14					Explosion?
		iP	23 12 28,4					Explosion?
	Dec. 1.	PKP	04 36 43					0:04 16 59,6 29,7°S 177,7°W h ~ 52 km $\Delta$ ~ 150° Kermadec Islands. Local explosion?
			03 50 30					
			53 03					
		i	10 33 52,4					Local explosion?
	Dec. 3.	i	04 51 27,4					Local explosion?
	Dec. 7.	i	12 54 06,1					Local explosion?
		iPKP	14 15 21,1					0:14 03 37,0 29,2°S 139,2°E h ~ 411 km $\Delta$ ~ 136° Bonin Islands region.
		i	25 02 2					
			09 20 51,3					
	Dec. 8.	eP	21 40 15					0:21 27 22,2 25,8°S 63,4°W h ~ 620 km $\Delta$ ~ 103° Salta-Santiago Del Estero, Provinces border, Argentina.
			15 11 25,3					
		P	23 06 11					0:22 55 01,2 Adreanof Islands Aleutian Islands. 50,5°N 176,8°W h ~ 33 km $\Delta$ ~ 67,5°

Bergen 1962.

No.	Date.	Phase.	Time (GMT)	Period	Amplitude $\mu$			Remarks.
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
	Dec. 8.	eP	23 23 09					Kurile Islands?
	Dec. 12.	i	11 23 51					Local explosion?
		eP	23 09 23					0:22 56 45,8 4,6°N 96,5°E h ~ 138 km $\Delta$ ~ 86,5° Sumatra.
	Dec. 15.	P <sub>n</sub> S <sub>n</sub>	03 50 30 53 03					Uppsala: 0:03 48 41 67,0°N 13,8°E $\Delta$ ~ 11,7°. West coast of Norway.
	Dec. 21.	P	08 53 44					0:08 42 48,3 52,4°N 168,5°W h ~ 33 km $\Delta$ ~ 68° Fox Island. Aleutian Islands.
		P	09 20 57,5					0:09 10 01,6 52,5°N 168,5°W h ~ 33 km $\Delta$ ~ 68° Near south coast of Hokkaido, Japan.
		P	09 44 36					
	Dec. 22.	P	15 31 25,3					0:15 20 31,0 52,5°N 168,8°W h ~ 47 km $\Delta$ ~ 68° Fox Islands.
	Dec. 26.	P	22 35 56,5					0:22 25 15,5 53,9°N 168,7°E h ~ 33 km $\Delta$ ~ 65,5° Komandorskie Islands.



gen 1962.

26.

No.	Date.	Phase.	Time (GMT)	Period	Amplitude, $\mu$			Remarks.
					A <sub>N</sub>	A <sub>E</sub>	A <sub>Z</sub>	
	Dec. 26.	P	23 56 54,8					0:23 46 14,7 54,0°N 168,8°E h ~ 33 km $\Delta$ ~ 65,5° Komandorskie Islands.
	Dec. 27.	P	18 30 15,2					0:18 18 42,0 39,9°N 142,0°E h ~ 36 km $\Delta$ ~ 74° Near west coast of southern Honshu.
	Dec. 28.	i	13 12 45					Disturbances.
	Dec. 29.	e	15 07 43					0:14 47 41,4 31,2°S 177,9°W h ~ 43 km $\Delta$ ~ 149° Kermadec Islands region.