

No. 53.

Geodætisk Institut
Proviantgaarden, Copenhagen, Denmark.



Bulletin
of the seismological station

KØBENHAVN

$\varphi = 55^{\circ}41' N.$ $\lambda = 12^{\circ}26' E.$ $h = 13$ m.

Lithologic foundation: chalk.

No. 53. Jan.—Dec. 1943.

Instruments:

Galitzin-Wilip seismographs.

Constants:

Component	l	A_1	T_1	T	k
	cm	cm	sec	sec	
N	12.5	100	12.59	12.7	104
E	12.5	100	12.60	$12\frac{1}{2}$ -13	101
Z	14.5	100	11.52	10	90

Damping was approximately aperiodic.

Wiechert 1000 kg. horizontal seismograph.

Wiechert 1300 kg. vertical seismograph.

Constants:

Component	T	ν	ρ	V
	sec		mm	
N	9.0	5	$\frac{1}{2}$	180
E	9.0	6		185
Z	6	6	0.3	155

Recording on E was suspended at the end of October.

Milne-Shaw seismograph, E component, with the approximate constants $T = 12^s$ $\nu = 20$ $V = 300$.

Benioff vertical seismograph, $T_1 = \frac{1}{4}^s$ $T = 1^s$.

København.

No.	Date	Hour	Forerunners				L	Δ	Remarks
			P or P'	S					
			m s	m s	m s	m s	h m	°	
1	1943 Jan.	7 11	i e 18 58	22 30			57	20	
2		7 22	i e 40 21	44 12			6	21	
3		9 0							
4		9 18	i 52 13						
5		10 20	i 18 42				8		
6		11 12		5 3				41	
7		11 19	i i 58 3	64 17	59 36	66 57			
8		12 9					27		
9		19 21	i 36 1		i 40 11				
10		20 0	i 10 35						
11		20 12	i 41 20				45		
12		21 5	e 1 57					75	
13		27 2	e e 56 44	66 19					
14		27 3	i 26 2						
15		30 5		57 14	56 42	57 43			Ecuador.
16	Febr.	6 2	i i 44 39 +	51 39	46 33				Deeper than normal.
17		14 7	i i 32 42 -	36 14			38	20	
18		16 7			52 10	55 35			
19		22 9	e e 33 37	44 17	33 49	37.3	60	87	45m47s, 51m.4. Mexico.
20		28 13	i i 2 17 +	i 8 29	4 8	5 3	41		9m36s, 11m43s. Depth 210 km. Hindu Kush.
21	March	4 6	i 50 48						
22		5 0	e e 44 40	56 7	55 24	57 39		98	
23		7 3	e e 12 13	20 46	14 44	24 47		64	Bering Sea.
24		9 10			9 26	16 16			17m12s, 19m9s.
25		14 12	e e 11 22				41		
26		14 12	e 54 52				84		
27		14 17	e e 30 36		51.3	57.5			
28		14 18	e 51 44		55 31	e 55 50			62m.1, 63m3s.
29		15 1	i 5 13						
30		15 2	e 44 2						
31		15 23	i 18 7						
32		20 5			13 30	15 35	1.5		
33		21 20	e 55 37		55 57	56 26			65m58s, 67m32s, 72m.5, 76m.9.
34		25 2		58 8	54 43				
35		25 18	e 46 33		48 6	54 23			57m24s, 64m.0, 68m.0.
36		26 8							
37		26 17	i i 57 49 -		i 58 15	69 38		0	80m2s.
38		29 5	e 26 10		36 6				
39	April	1 14			42 28	43 5			49m.7.
40		5 2	- e 5 39	10 26	6 33	11 47		28	
41		6 16			26 26	32 52			
42		7 23			46 51				33m51s, 35m22s, PS 36m21s very large. 40m43s, SS 42m.0, Chile. Aftershock.



København.

No.	Date	Hour	Forerunners				L	Δ	Remarks
			P or P'	S					
			m s	m s	m s	m s	h m	°	
43	1943 April	9 9	e 2 4		3 6	6 33			6m50s, 8m52s, 13m4s, 13m31s, 15m16s, 19m3s.
44		9 19	i 51 59	56 3*	52 14	56 15		23	
45		11 14	e i 58 2 +	67 59	61 0	68 17		79	70m9s, 73m9s. Off Japan.
46		12 4	e 26 17	36 26				81	
47		12 19	i e 55 25 +	65 22	58 24	65 41		79	
48		12 20	e e 3 11						
49		13 6	i 49 38					79	
50		14 8	e e 20 9	23 50				27	20
51		16 11	e 47 53		e 27 58	37 14		54	
52		20 15	e 27 21						
53		23 6	i 24 46						
54		29 0	e i 2 24		i 4 6	i 4 12			
55		29 15	- i 36 23	45 47	46 18			73	
56		29 20			53 27	61 8			
57		30 8		43 40				46	
58	May	2 1			e 9 59	e 10 37		12	
59		2 17	i e 30 49 -		i 30 59	i 41 24		53	
60		3 2	e e 12 16		16 5	22 47			23m25s, 24m33s, 27m37s, SS 30m.5, The Philippines.
61		7 20	e e 34 19	43 40*				62	72
62		22 22	e e 10 1	13 29				16	19
63		25 23	i i 21 12 +		25 13	27 9			29m44s, 31m46s, 32m36s, 33m50s, 39m.2. The Philippines.
64		26 10			48 11	56 0			
65		27 5	i 43 3						
66		28 0	e 26 0					28	Germany.
67	June	1 13	i 27 47						Seismic?
68		2 3	e e 3 18	9 35	4 51			42	
69		3 12	e e 31 44		i 31 46	41 7			Tonga region.
70		3 20	e e 13 11						
71		3 21	e 7 37		11 15				
72		7 11	e 44 51		48 10	48 29		50	L _R 50m.9. Time corrections not quite certain.
		7 23							Time corrections uncertain.
		8 1							67m28s.
73		8 20	e 55 55		66 19	66 49			
74		9 3	e e 19 16		29 30	30 9		43	
75		13 5	e e 23 17	32 52	26 6	37.9		45	75
76		13 8	e 48 38						i 23m30s, 26m18s, 33m4s. Kurile Islands. Other phases lost in change of sheets.
77		13 17	e i 50 57 -	60 29	53 45			74	Kurile Islands.
78		14 3			23 50				
79		14 7			54 24				
80		14 16	e e 34 0	44 1				79	
81		14 23	e 13 28		i 13 30				Tonga region.
82		15 11	e i 22 23 +	31 57	25 7	32 21		47	74
									36m49s. Kurile Islands.

København.

No.	Date	Hour	Forerunners				L	△	Remarks
			P or P'	S					
	1943								
	June		<i>m s</i>	<i>m s</i>	<i>m s</i>	<i>m s</i>	<i>h m</i>	°	
83	15	18	<i>e</i> 34 30+		45 2		63		
84	15	19	<i>e</i> 58 11*		68 46				
85	15	20	<i>e</i> 38 29		48 50				
86	20	15	<i>e i</i> 37 13—	40 39	40 48			Turkey.	
87	20	16	<i>e e</i> 52 17						
88	20	17	<i>e e</i> 50 54	60 8	64 31		73	71	
89	20	18	<i>e</i> 12 54					<i>i i</i> 12 ^m 56 ^s .	
90	20	18	<i>i e</i> 13 50						
91	21	10	<i>e</i> 23 46						
92	27	10	<i>e e</i> 10 32	14 41			47	23	
93	28	15			26 12				
94	29	9			22 45	23 19			
95	30	11			9 2	11 55			
96	30	20			30 45	38 0			
	July								
97	1	4	<i>i i</i> 51 37	61 25				77	
98	1	6			10 3				
99	1	7	<i>e</i> 24 22						
100	4	10	<i>e e</i> 4 43	15 20	15 6			87	
101	4	22			39 36				
102	5	21	<i>e</i> 21 39	33 26	25 47	32 19		103	
103	6	13			28 35				
104	8	15			0 19				
105	9	23	<i>e e</i> 40 1	49 24	<i>i</i> 40 14			72	
106	10	0	<i>i i</i> 17 45—		<i>i</i> 17 49				
107	11	2	<i>e</i> 30 7+		30 33	30 36			
108	13	16			12 57		17		
109	15	12	<i>e</i> 2 13	8 52	9 2	12 9		45	
110	15	20	<i>e i</i> 50 26—						
111	16	1	<i>i e</i> 59 17	63 34				24	
112	21	2	<i>e e</i> 11 8	14 36				19	
113	22	7	<i>e e</i> 13 39	17 3				19	
114	23	15	<i>e e</i> 6 52		9 56	10 35			
115	24	1	<i>e</i> 46 17				50		
116	29	3	<i>-e</i> 13 23	22 28	16 11	28 31		69	
117	30	1	<i>i e</i> 13 35	22 36	23 34			35	
118	31	3		42 14				68	
	Aug.								
119	1	16			40 47	40 58			
120	2	1	<i>-e</i> 6 31		10 59	12 2			
121	3	0	<i>i</i> 7 4						
122	7	19			57 44				
123	9	17			22 0				
124	10	4	<i>i</i> 7 33						
125	10	15	<i>i i</i> 24 12	33 7					
126	10	15	<i>i</i> 47 27				46	67	
127	11	5			43 56		65		

København.

No.	Date	Hour	Forerunners				L	△	Remarks
			P or P'	S					
	1943								
	Aug.		<i>m s</i>	<i>m s</i>	<i>m s</i>	<i>m s</i>	<i>h m</i>	°	
128	12	5	--		12 21			30	
129	13	7	--		56 34				
130	20	1	<i>e</i> 35 29		46 16				
131	27	1	<i>i</i> 1 9						
132	27	1			18 14	22 2		24 ^m 15 ^s . } One or two shocks?	
133	31	15			49 9				
134	31	16	<i>i e</i> 23 18		26 38	26 56		52	
	Sept.								
135	5	8			<i>i</i> 52 43	58 57			
136	6	4	<i>e i</i> 1 27		2 5	5 59		45	
137	6	16	<i>i</i> 37 12	41 4				22	
138	8	17	<i>i</i> 30 25						
139	9	4	<i>i i</i> 14 2—	20 17	14 42	15 3		45	
140	10	8	<i>i i</i> 48 48	58 26	63 26			75	
141	11	19	<i>e</i> 53 40		56 30	57 8			
142	12	1			55 20	56 16			
143	13	6	<i>i</i> 35 47						
144	14	2	<i>e</i> 20 42		20 55	23 56			
145	14	4	<i>e</i> 6 40		9 54	10 29			
146	14	7	<i>e</i> 37 55		<i>e</i> 38 0	<i>i</i> 38 6			
		16	0						
147	17	3	<i>e</i> 42 54						
148	17	10	<i>e</i> 28 40		31 58	37 55			
149	19	0	<i>i</i> 38 48						
150	19	5			11 27				
151	19	6	<i>i e</i> 18 12						
152	22	23	<i>e</i> 38 12		38 33	42 31		37	
153	23	15	<i>e</i> 13 13		16 29	23 29			
154	24	11	<i>i i</i> 39 40+	<i>i</i> 46 21	41 27	49 42			
155	27	22	<i>e i</i> 23 28+		27 7	37 33			
156	28	17	<i>i</i> 25 46						
	Oct.								
157	1	18			12 7				
158	3	8						35	
159	5	11	<i>e</i> 19 25						
160	7	2	<i>i</i> 51 29						
161	16	13	<i>i i</i> 13 42	<i>i</i> 17 40	13 59*	18 7		22	
162	21	23	<i>e</i> 27 43		30 28	31 16		1.2	
163	22	16	<i>e</i> 13 33	23 39	33.4			43	
164	23	17	<i>i i</i> 33 52+	<i>i</i> 42 23	34 10	36 16		63	
165	24	16	<i>i i</i> 24 19—		27 30	30 51		76	

København.

No.	Date	Hour	Forerunners				L	△	Remarks
			P or P'	S					
	1943								
	Oct.		<i>m s</i>	<i>m s</i>	<i>m s</i>	<i>m s</i>	<i>h m</i>	°	
166	24	23	<i>e i</i> 33 52 +	42 47	<i>i</i> 33 53			67	
167	27	16	<i>e i</i> 23 38 +				53		
	Nov.								
168	2	18			28 15	34 3			
169	3	14	- <i>e</i> 42 41 +	51 5	51.9	52.4		62	
170	4	6	20 24	29.4			44	68	
171	5	10	<i>i i</i> 36 20 +	<i>i</i> 39 42	<i>i</i> 36 36			41	
172	6	8	<i>e</i> 46 39		<i>i</i> 51 15	57 13			
173	7	6	<i>i</i> 54 38						
	7	8							
174	8	7	<i>e e</i> 4 42	9 0	<i>i</i> 4 48			24	
175	9	11	<i>i i</i> 58 1 +	67 23	<i>i</i> 59 1	68 1			
176	11	1	<i>i</i> 11 2		<i>e</i> 13 14				
177	13	19	<i>e</i> 3 37		7 5				
178	15	11	<i>e</i> 47 53	52 1				23	
179	16	7	<i>e e</i> 17 18	20 47				19	
180	17	14	<i>i</i> 37 9						
181	17	15	<i>i</i> 8 58	<i>i</i> 18 30	<i>i</i> 9 58				
182	18	22			14 17				
183	20	10	- <i>e</i> 6 49	10 49				22	
184	24	13	- <i>e</i> 29 39	39 47				81	
185	26	21	- <i>e</i> 38 8 +	48 48	48 26	49 44			
186	26	22	- <i>e</i> 25 14	29 9	<i>i</i> 25 23				
187	28	6			44 9				
188	28	17		30 51				45	
189	29	18			53 53			62	
	Dec.								
190	1	6			24 32	25 1			
191	1	10	- <i>e</i> 48 41		52.6	52 52		79	
192	2	2	- <i>e</i> 13 57		17 51				
193	2	5	- <i>e</i> 21 17	31 28	32 19			49	
194	3	4			57 32	65 9		87	
195	3	7	- <i>i</i> 4 20	13 48	14 22				
196	5	3	- 24 2*		25 47	30 15		73	
197	8	19	- <i>e</i> 51 41		62 14	62 30			
198	12	16	<i>i i</i> 2 6	8 24	4 15	4 30		82	
199	21	13	- <i>i</i> 58 9 +	67 52	60 56	72 39		79	
200	22	7			25 13	25 43		76	
201	22	13	<i>e e</i> 4 56	14 42					
202	23	16	- <i>e</i> 7 52	17 40				25	
203	23	19			20 10	20 30		28	
204	24	2			18 18			51	
								44	