DANMARKS GEODÆTISKE INSTITUT

BULLETIN

OF THE SEISMOLOGICAL STATION

KØBENHAVN

NOS. 5 — 8

1928

PUBLISHED BY THE
GEODETIC INSTITUTE
COPENHAGEN
DENMARK

No. 5. 1928.

Geodætisk Institut
Proviantgaarden, Copenhagen, Denmark.

Bulletin
of the seismological station

KØBENHAVN

$\varphi = 55°41'$ N. $\lambda = 12°27'$ E. $h = 13$ m.

Lithologic foundation: chalk.

No. 5. Jan.—March 1928

Instruments:

Galitzin pendulums with galvanometric registration.

Constants:

Component	l	T_1	A_1		μ^2	T	k
N	12.5 cm	$12^s.63$	100 cm	$^1/_1$—$^{19}/_1$	—0.05	$11^s.6$	100
				$^{19}/_1$—$^{28}/_2$	0.13	$11^s.8$	104
				$^{28}/_2$—$^{31}/_3$	0.08	$12^s.5$	107
E	12.4 cm	$12^s.69$	100 cm	$^1/_1$—$^{22}/_3$	0.14	$11^s.1$	84
				$^{23}/_3$—$^{31}/_3$	0.19	$11^s.5$	84
Z	14.4 cm.	$11^s.55$	100 cm		0.2	10^s	100

Wiechert 1000 kg. horizontal seismograph.
Wiechert 1300 kg. vertical seismograph.

Constants (mean values):

Component	T	ν	ϱ	V
N	$9^s.1$	4.0	0.4	219
E	$9^s.2$	3.8	0.5	196
Z	$5^s.6$	4	0.3	165

Milne-Shaw seismographs, N and E components, with the approximate constants $T = 12^s$ $\nu = 20$ $V_N = 350$ $V_E = 285$.

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928		*N*	*E*	*Z*	*h m s*	sec	μ	μ	μ	
1	Jan. 1		ε			0 9					
		L	*e*			24					
		„		*e*		29					
		F				1.3					
2	„ 1	*L*				7 59					
		F				8.5					
3	„ 1	*P*		ε	*e*	9 38 44					Off Southern coast of Mexico.
		$\overline{S_cP_cS}$				49 12					△ = c. 90°.
		SS				55.4					
		SSS				59					
		L				10 10					
		M_1				12.8	28		8		
		M_2				13.6	25			4	
		M_3				17.5	23	5			
		F				11.0					
4	„ 1		*e*	ε	*i*	18 53 31					
			e		*e*	56 7					
			e			19 0 19					
			e	ε		1 43					
			e			4.7					
			e	*i*		4 57					
			e	*e*	*e*	6.2					
			e			6 20					
			e		*e*	9					
		F				19.9					
5	„ 3	*L*				6 45					
		F				53					
6	„ 3					14 36					
		F				43					
7	„ 4	*L*				0 21					
		F				0.7					
8	„ 4	*L*				18 21					
		F				29					
9	„ 4		*e*	*e*	*i*	21 55 6					The beginning uncertain; masked by microseisms.
			e	*e*	*e*	56.1					
						22 1 47					
						4.8					
			e	*e*		11					
		L				22					
		M_1				30.3	20	10			
		M_2				30.6	25			13	
		M_3				31.9	25		16		
		F				23.8					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
10	Jan. 5					c. 14.5					Disturbed.
11	„ 6	*P*				19 41 53					$\triangle$ = 58°.
		PP				44 8					0°.5 S. 36°.5 E. according to Strasbourg.
		PPP				45 28					
		S				49 52					
		PS				50.6					
			e	*e*		51 49					
		SSS				56					
		L				59					
		M_1				20 5.2	28	39			
		M_2				6.9	20		49		
		M_3				11.7	15	30			
		M_4				17.3	11		27		
		L'				22.0					
		F				23.2					
12	„ 10					2 50					
		F				3.4					
13	„ 12	$\overline{S_c P_c}$ $\overline{P_c S}$		*e*		13 33					29°.5 S. 68°.2 W. according to La Paz.
			e			35.2					$\triangle$ = c. 110°.
		PS			*e*	35.7					
		SS	*e*			42					
		L		*e*		14 3					
		„	*e*		*e*	5					
		M_1				8.7	25		10		
		M_2				12.1	21		12		
		M_3				12.2	19			8	
		M_4				14.5	20	8			
		F				15.1					
14	„ 18	*L*				13.0					
		F				13.7					
15	„ 20					0 1					
		F				0.9					
16	„ 20					4 58					
		F				5 13					
17	„ 22	*L*				0 28					
		F				35					
18	„ 24					7 45					
		M				50.2	14		9		
		F				8 5					
19	„ 26					22 16					
		L				43					
		F				23.1					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
20	Jan. 27					23 7					
		F				17					
21	„ 29	*L*				0 41					
		F				1.4					
22	„ 30				ε	3 28.5					
				ε	ε	39					
				e		41					
				ε		57					
		L				4 5					
		M_1				13.8	22			6	
		M_2				15.3	20		4		
		M_3				20.6	16	7			
		F				5.1					
23	„ 30					5 31					
		F				47					
24	Febr. 3	*P*	*e*		*e*	13 56 1					△ = 47°.
				e		10					Siberia.
		PP				57 53*)					*) Time-mark.
		S				14 2 49					
		SS				6 20					
		SSS				8					
		L				11					
		M_1				14.5	18	30			
		M_2				14.7	16		51		
		M_3				22.0	9			11	
		F				15.1					
25	„ 4					6 44					Preliminary motion masked by microseisms.
		L				7 5					
		M_1				18.8	18		11		
		M_2				19.1	20	11		16	
		F				8.0					
26	„ 6	*L*				0 12					
		F				31					
27	„ 6	*L*				4 38					As under 25.
		M_1				44.6	25	47	26		
		M_2				53.3	17		14		
		F				5.3					
28	„ 7	*S*		*i*		0 24 39					0°.5 S. 87°.5 E according to Kew.
		SS				30 21					△ = c. 80°.
		(*L*)	ε	ε		37					
		L				48					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.) h m s	Period sec	Amplitude A_N μ	Amplitude A_E μ	Amplitude A_Z μ	Remarks
	1928										
28	Febr. 7	M_1				0 50.8	23	43			
		M_2				55.1	19			19	
		M_3				55.4	17		32		
		F				1.8					
29	„ 10	P			ϵ	4 51 8					Mexico.
		S	i	i		5 1 50					△ = c. 85°.
		PS		e		3.1					
		L				19					
		F				5.7					
30	„ 12	L				7 7					
		F				14					
31	„ 12					16.2					
		F				16.5					
32	„ 13			ϵ	ϵ	5 51.9					
			e	e		58.6					
					ϵ	6 0					
			ϵ	ϵ		6					
				ϵ		10					
		L				23					
		F				6.9					
33	„ 13			ϵ		17 4					
		L				41					
		F				17.9					
34	„ 17	L				13 40					
		F				14.2					
35	„17-18					23 41					
		F				0.1					
36	„ 19	L				21 43					
		F				22 0					
37	„ 19					22 31					
		L				37					
		F				53					
38	„ 21	P			e	19 58 49*)					*) Time-mark.
		„	i			54					△ = c. 58°.
				ϵ		20 5.6					Siberia.
		S	e			6 45					
		„		i	i	48*)					*) Time-mark.
		SS				10.8					
		SSS				13					
		L				16					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
38	Febr. 21	M_1				20 19.2	15	14			
		M_2				25.7	16		23		
		M_3				28.7	15	18			
		M_4				35.4	15			5	
		F				22.0					
39	„ 23	L				10 6					
		F				21					
40	„ 24					14 27					
		L				34					
		M_1				40.6	30	13			
		M_2				42.6	22		12		
		M_3				48.2	16	7			
		M_4				48.3	16			8	
		F				15.8					
41	„ 25	L				11.7					
		F				12.3					
42	„ 25					17.6					
		F				17.8					
43	„ 26	P			e	1 28.9					$\triangle$ = c. 58°.
		PPP			ε	32.4					
			ε			35					
		S		e		36.9					
		„	e		ε	36 57					
		SS				41					
		SSS				43					
		L				46					
		M_1				49.1	29	28			
		M_2				49.4	26			22	
		M_3				55.9	17		16		
		M_4				57.0	18	8			
		M_5				57.2	16			16	
		F				3.2					
44	„ 28	L				0 10					
		F				22					
45	„ 28		ε			2 28.3					
			e	e		33.4					
			e	e		38					
		L				48					
		F				3.7					
46	„ 28	L				9 54					Disturbed.
		F				10.9					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					h m s	sec	μ	μ	μ	
47	Febr. 29— March 1				*e*	22.3					
				e		22.4					
				e		22 40.8					
				e		48.1					
		L	*e*			23 14					
		„		*e*		16					
		F				0.3					
48	March 2	*L*				19 10					
		F				15					
49	„ 3	*L*				10 19					
		F				10.9					
50	„ 3	*L*				17 54					
		F				18.4					
51	„ 3				*e*	19 7 40					
				e		29 38					
		L				59					
		F				20.6					
52	„ 4					21 35					
		F				22.1					
53	„ 6	*L*				22 59					
		F				23 14					
54	„ 7					10 6					
		F				10.5					
55	„ 7	*P*	*i*	*e*	*i*	10 59 9		+	−	+	△ = 17°.
		m				59.2	6	− 16	2	− 17	Felt in South of Italy.
			e	*e*	*e*	59 48					
			e			11 0 42					
		S				2 25					
				e		3.3					
					e	3.4					
	•		*e*	*e*	*e*	4					
		M_1				5.2	9		18		
		M_2				6.6	8			15	
		M_3				7.7	9	17			*F* disturbed.
56	„ 7-8	*P*			*e*	22 53 29					△ = 60°.
		S				23 1 43					
		SS				6.7					
		SSS				8.2					
				e		10					
					e	11					
		L				14					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
56	March 7-8	M_1				23 16.3	12	23			
		M_2				20.2	10		14		
		M_3				22.3	9			12	
		F				0.9					
57	„ 8					5 55					
		F				6.1					
58	„ 8		ε		ε	18 21					
			e	e		28 7					
		L				40					
		M_1				42.3	15			3	
		M_2				43.5	11	3			
		M_3				44.5	11		2		
		F				19.4					
59	„ 9		ε	ε		0 50.8					
			ε	ε		59					
		L				1 11					
		M_1				14.2	15		2		
		M_2				17.6	16	2			
		M_3				20.2	15			2	
		F				1.9					
60	„ 9	L				11 57					The beginning disturbed.
		F				12.3					
61	„ 9	P			ε	18 18 0					$\triangle$ = c. 80°.
		„	ε	ε		1					Indian Ocean.
		„	i	i	i	11					
		PP			e	21 6					
		„	e	e		21.3					
		PPP				23 16					
			e			24 46					
				e		25.0					
			e	e		27.5					
				e		27 59					
					e	28 16					
		S		i		30					
		„	i			33 *)					*) Time-mark.
		PS			e	29.3					
		„		i		29.5					
		SS				33.8					
		SSS				37.5					
		L				(45)					
		M_1				56.8	20	240			
		M_2				59.6	20			282	
		M_3				59.8	20		312		
		M_4				19 4.9	15		186		
		M_5				7.8	14	116			
		M_6				8.1	14			128	
		F				23.1					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.) h m s	Period sec	Amplitude A_N μ	Amplitude A_E μ	Amplitude A_Z μ	Remarks
	1928										
62	March 10			*e*		3 40 57					
				ε		46					
		L	*e*			4 4					
		„		*e*		6					
		M				11.3	16	2			
		F				4.7					
63	„ 10	*L*				6 42					
		F				7.2					
64	„ 12	*L*				17 42					
		M				46.8	20	3			
		F				18.3					
65	„ 12					20.9					
		F				21.1					
66	„ 13	*L*				2 23					
		F				2.8					
67	„ 13	*P'*			*ε*	18 50 34					△ = c. 120°.
			ε	*ε*	*ε*	51 52					
		PP	*e*	*e*	*e*	52.3					
					e	53 35					
		$\overline{S_cP_cS}$	*e*	*e*		57 28					
		$\overline{S_cP_cP_cS}$				58 56					
		PS	*e*		*e*	19 1 52					
				e		2.0					
		PPS			*e*	3 0					
					e	4.8					
		SS	*e*	*e*	*e*	8 7					
		„	*i*			32					
			e	*e*		11 42					
				e		14					
		L	*e*	*e*		26					
		M_1				30.3	42		64		
		M_2				30.9	35	32			
		L			*e*	34					
		M_3				34.9	19	6			
		M_4				44.4	20		6		
		M_5				45.2	25			9	
		F				21.7					
68	„ 16	*P'*	*ε*	*ε*	*i*	5 20 36				—	South Pacific Ocean.
		„	*e*	*e*	*i*	48					△ = c. 146°.
		m_1				21.3	14			21	
			e	*e*		22.4					
		PP		*e*	*e*	23.8					
		$\overline{P_cP_cS}$	*e*		*e*	24 2					
		m_2				24.4	14			25	

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
68	March 16			*e*		5 24 30					
			i	*i*		50					
			e	*e*		26.8					
		$\frac{PPP}{S_eP_e \; P_eS}$			*e*	27 4					
					e	29.8					
				e		30.7					
			e			31 38					
				e	*e*	32.4					
			e			32.6					
		$\overline{S_eP_eS}\,P$	*e*		*i*	34 0					
			e			34.6					
				e		35.5					
		SS	*e*	*e*		42.2					
				e		43 51					
					e	44.7					
				e		46.0					
		SSS	*e*	*e*	*e*	48					
		L				6 2					
		M_1				23.7	20		89	147	
		M_2				24.4	20	124			
		C					c. 17				
		F				10.6					
69	„ 17					14 54.9					
		L				15 19					
		F				15.7					
70	„ 17					19 49.6					
			e	*e*		51.5					
		F				56					
71	„ 18					2 1					
		F				8					
72	„ 18					4 13					
		L				20					
		F				5.3					
73	„ 18					13.2					
		F				14.2					
74	„ 19	*L*				10 21					
		F				10.6					
75	„ 20					2 55					
		F				3 4					
76	„ 22	*P*	*e*	*e*	*i*	4 29 47				+	$\triangle = 79°$.
			e	*i*	*i*	53					Mexico.
		m_1				30.0	10			67	

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
76	March 22	*PP*			*i*	4 33 5					
		„	*e*	*i*	*i*	33.2					
		m_2				34.4	14			44	
		PPP	*i*		*e*	34 55					
			e	*e*		35.9					
				e		39.8					
		S	*i*			39 55					
		„		*e*		40.4					
		PS			*e*	40 45					
		m_3*				53	13		88		
		PPS	*i*	*i*	*e*	41 30					
		m_4				41.7	15; 17	65	145		
			e	*e*		42 51					
				e		44.3					
			e			44.7					
		SS				45.9					
		SSS				51					
		„				53					
		L	*e*			54					
		„		*e*		57					
		„			*e*	58					
		M_1*				5 3.0	28			568	
		M_2				3.3	25		566		
		M_3				3.9	25	199			
		M_4				8.0	22		465		
		M_5*				8.8	20			409	
		M_6				9.5	21	592			*F* disturbed.
77	„ 22	*L*				21.6					
		F				21.9					
78	„ 23				*e*	20 21.2					No time-marks on Galitzin *N*.
					e	22 15					
				e		38					
				e		43					
					e	59					
				e	*e*	21 5					
		L				25					
		M_1				27.9	25		4		
		F				22.3					
79	„ 24					11 10					No records from $11^h\,0^m$ till $11^h\,10^m$.
		F				11.7					
80	„ 25					20 8					
		F				20.9					
81	„ 26	*PP*		*e*		5 44.3					$\triangle$ = c. 100°.
				e		45 1					Menado according to Batavia.
		$\overline{S_cP_cS}$				50 58					No Galitzin *Z* record.

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
81	March 26	*PS*				5 53 8					
		SS				59.2					
		SSS				6 2.5					
		L	*e*			15					
				e		18					
		M				30.1	17		7		*F* in following movement.
82	„ 26	$\overline{S_c P_c S}$				7 7 54					Menado.
		PS				10.2					
		SS				16.2					
		L	*e*			35					
		„		*e*		39					
		M				47.0	19		3		
		F				8.3					
83	„ 26	$(\overline{S_c P_c S})$		ε		8.5					Menado.
		(*SS*)		ε		8 43					No Galitzin *N* and *Z* records.
		L				9 1					
		F				9.6					
84	„ 26			ε		10 2					No Galitzin *N* and *Z* records.
				ε		20					
		L				41					*F* disturbed.
85	„ 26				ε	14 (43.1)					Northern Italy.
				ε		44 32					△ = c. 11°.
					e	45					No *N* record.
				e		55					
				i	*e*	45 27					
		M_1				46.0	6		16		
		M_2				47.1	9			8	
		F				15.3					
86	„ 27					5.8					
		L				5 50					
		F				6.5					
87	„ 27	*P*	*e*		*e*	8 34 42					Destructive in Northern Italy.
				ε		35.1					△ = c. 11°.
				e		36 9					
			e	*i*	*e*	26					
			i	*i*	*i*	50					
		M_1				38.0	10		93		
		M_2				38.9	10			66	
		F				10.0					
88	„ 27			*e*		14 2 3					
				e		3 1					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928		*N*	*E*	*Z*	*h m* s	sec	μ	μ	μ	
88	March 27		*e*			14 4 12					
				ε		5					
			ε			10.6					
			e			15.3					
		L	*e*			28					
		F				15.9					
89	„ 27					18 4.2					
		L				9					
		M				11.9	15		2		
		F				18.4					
90	„ 27		*e*	*e*		19 30 58					
			ε	*ε*		33.9					
				ε		35 6					
			ε	*ε*		38					
		L				52					
		M_1				57.9	30		37		
		M_2				20 18.3	15		2		
		F				21.0					
91	„ 27	*L*		*ε*		21 12					
		L				25					
		F				21.7					
92	„ 28	*L*				13 15					
		F				13.5					
93	„ 29	*P*	*ε*	*ε*	*i*	5 17 38				—	$\triangle = 73°$.
					ε	18 4					
					ε	19 14					
				ε		19.4					
					ε	23 14					
		S	*i*			27 10					
		„		*i*		11					
		*m**				27.3	10	28	30		
			e	*e*		29.7					
		SS				32.3					
		L				46					
		M_1*				51.9	15		1		
		M_2*				52.4	15	1			
		F				7.9					
94	„ 30					1 18					
		L				23					
		M_1				24.5	11	2			
		M_2				26.8	14		3		
		F				1.7					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.) h m s	Period sec	Amplitude A_N μ	Amplitude A_E μ	Amplitude A_Z μ	Remarks
	1928										
95	March 31	*P*	*i*	*i*	*i*	0 34 24					△ = 21°.
			e			35 50					Destructive near Smyrna.
		S	*i*	*i*		38 7					
					i	14					
		L				40					
		M_1				43.5	13		167		
		M_2				44.5	9	96			
		M_3				44.7	10			95	
		F				2.0					
96	„ 31	*L*				5 21					
		M				26.0	11	5			
		F				5.7					

TYP. BIANCO LUNO, ROMA

No. 6. 1928.

Geodætisk Institut
Proviantgaarden, Copenhagen, Denmark.

Bulletin
of the seismological station

KØBENHAVN

$\varphi = 55°41'$ N. $\lambda = 12°27'$ E. $h = 13$ m.
Lithologic foundation: chalk.

No. 6. April—June 1928

Instruments:

Galitzin pendulums with galvanometric registration.

Constants:

Component	l	T_1	A_1		μ^2	T	k
N	12.5 cm	$12^s.63$	100 cm		0.08	$12^s.5$	107
E	12.5 cm	$12^s.69$	100 cm	$^1/_4$—$^{12}/_4$	0.2	$11^s.5$	84
				$^{12}/_4$—$^2/_5$	0.0	$12^s.8$	84
				$^2/_5$—$^1/_7$	0.2	$12^s.5$	100
Z	14.4 cm.	$11^s.55$	100 cm	$^1/_4$—$^{14}/_5$	0.3	10^s	104
				$^{14}/_5$—$^1/_7$	0.0	10^s	105

Wiechert 1000 kg. horizontal seismograph.
Wiechert 1300 kg. vertical seismograph.

Constants (mean values):

Component	T	ν	ϱ	V
N	$9^s.2$	4.1	0.4	219
E	$9^s.3$	3.9	0.5	198
Z	$5^s.7$	4	0.3	165

Milne-Shaw seismographs, N and E components, with the approximate constants $T = 12^s$ $\nu = 20$ $V = 300$.

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
1	April 1	*L*				18 45					
		M				56.8	20		2		
		F				19.4					
2	„ 2					4 3					
		F				4.2					
3	„ 2-3	*L*				23 48					
		F				0.5					
4	„ 3	*P*			*e*	16 54					Probably Atlantic Ocean.
		S				17 3 16					
			e			6.6					
		SS				7.6					
		L				15					
		M_1				19.8	24	10			
		M_2				20.8	22		10		
		F				18.2					
5	„ 7	*L*				8 17					
		F				8.7					
6	„ 7		*e*			20 40 12					
				e	*e*	40.4					
		L				21 8					
		M				15.1	22	4			
		F				22.0					
7	„ 9	*P*			*i*	17 47 47					Destructive in Peru.
		„		*e*		48					14° S. 70°.4 W. according to Sucre
		PP		*e*	*i*	51 41					and La Paz.
		$\overline{S_c P_e S}$		*e*		58 23					△ = c. 95°.
		S	*e*	*e*		59 9					
		PS			*e*	18 0 28					
		PPS		*e*		43					
		SS				5.8					
		SSS				10					
		L (*Q*)	*e*			15					
		M_1				19.6	31	27			
		L (*R*)		*e*	*e*	18 20					
		M_2				22.5	24		18		
		M_3				26.7	22			29	
		M_4				27.4	20		26		
		M_5				32.7	17		24		
		M_6				33.5	15	10			
		F				20.9					
8	„ 10		*e*	*e*		1 15					
		F				26					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
9	April 10	*L*				17 25					
		F				17.9					
10	„ 12					15.7					
		F				16.1					
11	„ 12			*e*		18 37.1					
		L				19 2					
		F				19.9					
12	„ 13-14	*P*				23 29 1					Pacific Ocean South of Mexico.
		PP				32 26					$\triangle$ = c. 90°.
		$\overline{S_cP_cS}$		*e*		39 34					
		S				40 41					
		PS				41 44					
		SS				45.7					
		L				58					
		M_1				0 2.4	18		3		
		M_2				4.6	22			3	
		M_3				18.5	14			2	
		F				1.5					
13	„ 14	*P*	*i*	*i*	*i*	9 3 41		—	+	—	Bulgaria.
		m_1				3.7	5		7		
		m_2				3.9	5	23		22	
		m_3				4.2	5		13		
			e	*e*		4 50					
		S	*i*	*e*		6 39					
				i		52	35				
					e	6.9					
					i	9.0					
		M_1^*				10.5	12		463		
		M_2^*				11.0	12	496			
		M_3^*				12.1	10	360			
		M_4^*				12.8	10			499	
		M_5^*				12.9	10		322		*F* in following.
14	„ 14	(*P*)	*e*		*e*	10 27 27					Bulgaria.
		M_1				34.2	13		8		
		M_2				35.8	11			8	
		F				12.9					
15	„ 14					13 26					
		M				40.1	17	2			
		F				14.3					
16	„ 14	*L*				16 29					
		F				17.0					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.) h m s	Period sec	Amplitude A_N μ	Amplitude A_E μ	Amplitude A_Z μ	Remarks
	1928										
17	April 15	*L*				10.3					For some hours before and after, faint long waves.
		F				11.4					
18	„ 15	*L*				22.6					
		F				23.0					
19	„ 16					9					Disturbed by change of sheets.
20	„ 16		*e*			20 21 58					
				e	*e*	25					
		F				20.5					
21	„ 17	*P*	*ε*	*ε*	*e*	3 37 57					Felt in Mexico.
					e	38 26					
		m_1				38.4	7			7	
		PP				41.2					
		PPP				43.2					
		PPPP				44.0					
		S	*e*			48.2					
			e	*i*		48 22					
					e	29					
		m_2				48.6	5		21		
		SS				53					
				e		56					
		SSS				58.0					
		L	*e*			4 1					
		„		*e*		2					
		M_1				2.5	35	33			
		M_2				7.5	34		60		
		M_3				8.1	37			49	
		M_4				10.2	30			41	
		M_5				10.8	27		41		
		M_6				17.1	18	16			*F* in following.
22	„ 17					5 55					
		M				57.9	13		3		
		F				6.3					
23	„ 18	*L*				4.4					
		F				5.2					
24	„ 18					8 54					
		F				9 2					
25	„ 18					11 51					
		F				13.0					
26	„ 18					17 57					
		F				18 19					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
27	April 18	*P*	*i*	*i*	*i*	19 26 31		+	−	+	Bulgaria.
			i	*i*	*i*	36					
		m				26.7	6	44	36	44	
					e	28 14					
			e	*e*		28.3					
			e	*e*	*e*	28 48					
		S	*i*	*i*		29 30					
					i	34					
		*M**				34.0	10			610	N and E maxima off the charts. *F* in following.
28	„ 18	*P*				23 18 32					Bulgaria.
		S	*e*			21 29					
		„		*e*		45					
			e			22.8					
		L		*e*		23.2					
		„	*e*			23.6					
		M_1				24.6	13		13		
		M_2				27.1	9	12			
		F				0.4					
29	„ 19					1 13					
						19.5					
		M				22.7	8	1			
		F				2.2					
30	„ 19					4 57					
		L				5 8					
		F				5.4					
31	„ 19	*L*				5 32					
		F				5.8					
32	„ 19					6 41					
						55					
		F				7.2					
33	„ 19					7 54					
		F				8.1					
34	„ 19					10 11					Disturbed.
		F				16					
35	„ 19					22 46					
		L				49.0					
		M_1				50.0	16		2		
		M_2				52.5	13	1			
		F				23.2					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928		*N*	*E*	*Z*	*h m s*	sec	μ	μ	μ	
36	April 20		ε	ε		6 21					Inclusive this shock all the shocks which follow that on April 18th 19h are probably repetitions from Bulgarian epicentres.
		L				24					
		M_1				25.6	14		1		
		M_2				27.6	10	½			
		F				6.7					
37	„ 20	*P*			*e*	8 21.4					△ = c. 28°.
		S	*e*	ε		26.0					
		L				31					
		F				8.9					
38	„ 20					17 29					Very faint.
		F				39					
39	„ 21					6 24					Very faint.
		F				6.6					
40	„ 21					16 8					Very faint.
		F				16.7					
41	„ 22	*L*				4 30					
		F				4.7					
42	„ 22	*P*	ε	ε	*e*	5 5 47					
		(*S*)	*e*	*e*	*e*	14 30 *)					*) Time-mark.
			e			15 17					Possibly 2 shocks from different epicentres.
			e	*e*		16 49					
		(*L*)				23					
		F				7.4					
43	„ 22					8 30					
		F				8.6					
44	„ 22	*L*				19 11.4					
		M				13.7	11	1			
		F				19.6					
45	„ 22					20 7 18					Bulgaria.
		L				10					
		M_1				12.1	11		5		
		M_2				12.5	13	6			
		M_3				13.2	10			3	*F* in following.
46	„ 22	*P*	*e*	*e*	*i*	20 18 17	5			+	Corinth.
		S	*e*	*e*	*e*	21 49	11; 14; 10				
		M_1				26.6	12		79		
		M_2				27.0	14	86			
		M_3				27.8	9			41	
		F				22.3					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
47	April 24					1 25					
		F				1.6					
48	„ 24		*e*			16 6					
		L				16.3					
		M				16 34.3	20		3		
		F				17.2					
49	„ 24	*L*				20 23					21.0^h the movement increases; probably 2 earthquakes.
		M_1				29.1	26	7			
		M_2				31.1	18	5			
		M_3				36.2	19		4		
		F				21.6					
50	„ 24		*e*			21 59					
		L				22.1					
		F				23.4					
51	„ 25					0 39.2					
		L				42					
		M				45.1	9	4	5	3	
		F				1.2					
52	„ 25			*e*	*e*	1 26 34					
				e		31 12					
		(*L*)	*e*	*e*		1.6					
		F				1.9					
53	„ 25	*P*	*e*	*e*	*e*	9 29.7					Bulgaria.
		S				32 44					
		L				34.5					
		M_1				37.2	15	32			
		M_2				37.3	7			6	
		M_3				38.0	12		21		
		F				10.1					
54	„ 26	*L*				15.9					
		F				16.3					
55	„ 27	*L*				0 8					
		F				0.4					
56	„ 27		*e*	*e*	*e*	13 27 39					
		(*L*)				30					
		F				14.1					
57	„ 27	*L*				14.5					
		M				14 41.6	13; 16; 16	1	3	2	
		F				15.1					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
58	April 27	*P*	*e*	*e*	*e*	20 48 31					Peru.
		PP	*e*	*e*	*e*	52 26					△ = ca. 95°.
		$\overline{S_cP_cS}$		*e*		58 33					
		S	*e*	*e*		59.8					
		PS			*e*	21 1 11					
		„		*e*		22					
			e			2.7					
			e			5.4					
		SS				6.4					
						7.6					
		SSS				20					
		L				22					
		M_1				25.1	26	9			
		M_2				29.6	20; 21		25	23	
		M_3				32.4	17	8			
		F				23.8					
59	„ 28	*P*	*e*	*e*	*e*	18 2 47					Bulgaria.
		S	*e*	*e*		5.9					
		L				7.5					
		M				11.3	8; 10; 9	5	10	8	
		F				19.0					
60	„ 29					8 8.8					
		F				8 14					
61	„ 29	*P*	*e*		*e*	9 53 38					Corinth.
		S	*e*	*e*		57 10					
		L				59.8					
		M_1				10 2.1	11		5		
		M_2				3.1	9	4		3	
		F				10.9					
62	May 1			*e*		0 40.8					
		L				1.1					
		F				2.4					
63	„ 1	*P*	*e*		*e*	19 4 33					△ = 58°.
		PP	*e*			6.6					
		S	*e*	*e*	*e*	12.5					
			e			14.4					
		SS				16.5					
		SSS				18.5					
		L				22					
		M_1				24.6	31; 26	9		7	
		M_2				26.9	20		5		
		M_3				32.0	15		4		
		M_4				32.2	18	5			
		M_5				32.4	16			4	
		F				20.8					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
64	May 2	*P*	*e*	*i*	*i*	21 58 59		+	−	+	△ = 19°.
		S	*e*	*e*		22 2 30					Destructive in Anatolia.
					i	39					
		L				4					
		M_1				6.7	16; 15	130	203		
		M_2				7.8	12	67			
		M_3				8.5	11	56		46	
		M_4				9.2	9		67		
		F				0.5					
65	„ 3					1 36					
		F				2.0					
66	„ 4	*L*				5 12					
		F				5.6					
67	„ 5		*ε*			14 1.6					
		L	*e*			10					
		„		*e*		12					
		M				13.9	13	2			
		F				14.8					
68	„ 6	*L*				7 45					
		F				8.0					
69	„ 8	*P*	*i*	*i*	*i*	4 56 12		+	+	−	△ = 60°.
		m_1				56 14	3			6	Kurile Islands.
			e		*e*	58 9					
				e	*i*	14					
		m_2				17	4			4	
		PP				54					
		PPP				5 0.2					
			e		*e*	1.9					
		S	*ε*	*e*		4 22					
		„	*e*			4.7					
		PS			*e*	4 52					
			e			5 11					
			e		*e*	7.8					
		SS				9.1					
		L				12					
		M_1				13.7	19			7	
		M_2				21.0	10		2		
		F				6.6					
70	„ 9	*L*	*e*			20 14					
		„		*e*		15					
		M_1				18.1	14	1			
		M_2				21.6	12		1		
		F				20.6					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
71	May 10		*e*			1 31					
		F				40					
72	„ 12	*P*			*e*	20 38 14					△ = 61°.
		„	*e*	*e*		15					Atlantic Ocean N.E. of St. Paul according to Strasbourg.
		PP			*e*	40.5					
		PPP	*e*			42.2					
		S				46 33					
		SS				50 35					
		SSS				53.2					
		L				59					
		M_1				21 3.9	19		3		
		M_2				5.9	21; 19	4		2	
		F				22.3					
73	„ 13	(*P*)	*e*	*e*	*e*	20 11.8					
		(*S*)				16.4					
		L				21					
		F				20.6					
74	„ 14			*e*		0 2					
		L	*e*			25					
		„		*e*		29					
		F				0.9					
75	„ 14	*L*				3 49					
		F				5.0					
76	„ 14		*e*			7 14.9					
			e			17.4					
			e	*e*		24.7					
		(*L*)	*e*			39					
		„		*e*		43					
		F				8.2					
77	„ 14-15	*P*			*e*	22 28 10					△ = c. 95°.
			e	*e*	*e*	13					Destructive in Peru and Ecuador.
				e	*e*	31.4					
		PP				32.1					
				e		36.6					
			e			38.3					
		$\overline{S_e P_e S}$	*e*	*i*		38 50					
		$\overline{S_e P_e P_e S}$	*i*	*i*		39 35					
		PS		*i*	*i*	40 50					
		„	*e*			41.0					
		PPS		*e*		41.6					
			e	*e*		45					
		SS				45.8					
			e	*e*		49					
		L (*Q*)	*e*			54					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
77	May 14-15	M_1				22 57.8	46	195			
		L	*e*	*e*	*e*	59					
		M_2				23 7.3	23	46			
		M_3				9.2	19		74		
		M_4				9.3	20			81	*F* in following.
78	„ 15	P			*e*	2 49 35					△ = c. 95°.
				e		42					Peru.
		PP				53.4					
		$\overline{S_e P_e S}$	*ε*	*e*		3 0 10					
		$\overline{S_e P_e P_e S}$				50					
		PS				2 1					
		PPS				2.8					
		SS				7					
			e			10					
		L	*ε*			17					
		„		*e*		22					
		M_1				27.5	23	4			
		M_2				29.9	21		7		
		M_3				35.7	19	4			*F* in following.
79	„ 15	P'	*e*	*e*	*e*	6 3 44					△ = c. 130°.
		PP	*e*			6					Sucre gives the approximate epi-
		PPP	*e*	*e*		9.6					centre 63° S. 30° W.
		$\overline{S_e P_e P_e S}$	*e*	*e*		13 30					
		PS				19					
		SS				24					
		SSS				31					
		L				40					
		M_1				49.1	18	2			
		M_2				49.9	18		2		
		F				8					*F* disturbed.
80	„ 15					15.3					Possibly none-seismic.
		F				15.8					
81	„ 16	P	*ε*		*e*	5 24 51					△ = 73°.
		S	*e*	*e*		34 24					
		SS				39					
		L				49					
		F				6.6					
82	„ 16	P			*ε*	8 10.3					△ = c. 95°.
		$\overline{S_e P_e S}$	*ε*	*e*		20 45					Peru.
		PS			*ε*	22.6					
		SS				28					
		L				40					
		M				51.1	20		2		*F* disturbed.

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
83	May 17					11.3					Disturbed by change of sheets.
		F				12.7					
84	„ 17-18	*L*				23 41					
		F				0.2					
85	„ 18	(*P*)			ε	2 25 37					
		(*S*)	*e*	ε		35.0					
		L				2.8					
		F				3.7					
86	„ 18	*L*				3 54					
		F				4.4					
87	„ 18		*e*		*e*	15 54.1					
		L				58					
		F				16.1					
88	„ 18	*L*				18 4					
		F				18.5					
89	„ 18	*L*				18 50					Very faint.
		F				19.0					
90	„ 19	*L*				0 16					
		F				27					
91	„ 19	*P*			ε	3 40 23					△ = 71°.
		PP			ε	43.2					
		S	*e*			49 44					
		PS	*e*	*e*	ε	50 4					
		SS				54					
		SSS				58					
				e		4 3					
		L				9					*F* in following.
92	„ 19	*L*				4.9					
		F				6.4					
93	„ 19	*P*	*e*	*e*	*e*	9 44 5*)					*) Time-mark.
		PP	*e*	*e*	*e*	47 5*)					*) Time-mark.
		S	*e*	*e*		54 0					△ = 77°.
			e	*e*	ε	23					Japan.
		PS		*e*	ε	53					
		SS				58.9					
		L				10 11					
		M_1				14.5	23	6			
		M_2				15.0	20		6		
		M_3				21.1	19			7	
		M_4				21.2	16	5			
		M_5				21.4	17		6		*F* disturbed.

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m* s	sec	μ	μ	μ	
94	May 19	*L*				21 25					
		F				21.8					
95	„ 20	*P*	*e*	ε	*i*	16 41 7				+	△ = 76°.
		PP	ε		ε	44.1					Japan.
		S	*e*	*e*		50 58					
		PS	*e*		ε	51 27					
		SS				56					
		L				17 7					
		M_1				13.7	15	2			
		M_2				17.7	16		2		
		F				17.8					
96	„ 21			*e*		17 26.5					
			e	*e*		27.3					
		L				50					
		F				18.2					
97	„ 22			ε	ε	13 52					
			ε	ε		58					
		L				14 20					
		F				14.8					
98	„ 23			ε		21 19					
			ε			28					
				e		35.1					
		L				47					
		F				22.5					
99	„ 24			ε		6 1.6					
			e	*e*		1.9					
		L				16					
		M				24.4	23		2		
		F				7.1					
100	„ 24					20.0					
		F				20.4					
101	„ 26		ε	*e*	ε	6 1.4					Coast of Otranto, Apulia.
				e		3.7					
				e		4.2					
		M_1				4.8	15		3		
		M_2				7.3	9			2	
		F				6.8					
102	„ 26	*PP*				8 47.1					△ = c. 108°.
		$\overline{S_c P_c S}$	*e*	*e*		53 24					Epicentre 25° S. 71° W. according
		S	*e*	*e*		54 5					to La Paz.
		SS	*e*	*e*		9 1					
		L				21					
		F				10.3					

København.

No.	Date	Phase				Time (G. M. T.)	Period	Amplitude			Remarks
								A_N	A_E	A_Z	
	1928		*N*	*E*	*Z*	*h m s*	sec	μ	μ	μ	
103	May 26	*P*		ε	*e*	14 16 46					Peru.
		PP			ε	20.3					
		$(\overline{S_c P_c S})$		*e*		27 24					
		SS				c. 34					
		SSS				c. 38					
		L				49					
		F				15.9					
104	„ 27	*L*				1 29					
		F				40					
105	„ 27	*L*				6 19					
		F				c. 7.4					
106	„ 27	*P*	*i*	*i*	*i*	10 2 9		—	—	+	$\triangle = 74°$.
		PP				5 2					Japan.
		PPP				6 47					
			e	*e*	*e*	8.6					
			ε	ε		11.2					
		S	*i*	*i*		11 51					
		PS			*i*	12 17					
			e			14.8					
		SS				17.2					
		L				24					
		M_1*				34.6	18	245			
		M_2				34.7	20		224		
		M_3				38.1	20			478	
		F				15.2					
107	„ 28					c. 0					Longperiodic movement; it increases after $5^h 10^m$ and overlaps the beginning of the following disturbance.
						c. 3					
						c. 5 10					
108	„ 28	(*P'*)			*e*	7 0.6					Suva gives $\triangle = 4.5°$.
		(*PP*)		ε	ε	13.0					
				ε	ε	19					
		L				7.7					
		M_1				7 53.4	24			6	
		M_2				53.9	23		3		
		F				9.2					
109	„ 28	*P*				15 47 29					$\triangle = 74°$.
		PP				50.4					Japan.
		PPP				52.1					
		S				57 9					
		PS				57.6					
		SS				16 1.7					
		SSS				6					
		L				13					
		M_1				21.6	15		14		

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
109	May 28	M_2				16 24.0	16		21		
		M_3				24.2	16			22	
		F				18.4					
110	„ 28	*L*				20 9					
		F				20.6					
111	„ 29					12 51					
		F				13.8					
112	„ 30	*L*				7 33					
		F				8.4					
113	„ 30					20 7.7					
		M_1				9.3	10			1	
		M_2				10.9	10		1		
		F				20.5					
114	„ 31	*P*			*e*	7 37.8					$\triangle = 73°$.
		S	*e*	*e*		47.4					Japan.
		SS				52					
		SSS				58					
		L				8 3					
		M_1				12.2	15		5		
		M_2				14.5	16			6	
		F				c. 9.2					
115	„ 31	*L*				9 15					
		M				23.6	18		2		
		F				10.1					
116	„ 31	*P*			*e*	14 1 22					$\triangle = 81°$.
		PP				4.5					Japan.
		S	*e*	*e*		11 38					
		SS				16					
		SSS				21					
						27					
		L				32					
		M_1				36.5	18	5			
		M_2				37.1	15		3		
		M_3				43.3	18		5		
		F				15.5					
117	„ 31	*L*				18 29					
		F				19.5					
118	„ 31			ε		21 18					
				ε		26					
			ε	ε		31					
				ε		35					

København.

No.	Date	Phase				Time (G. M. T.)	Period	Amplitude			Remarks
								A_N	A_E	A_Z	
	1928		*N*	*E*	*Z*	*h m s*	sec	μ	μ	μ	
118	May 31	*L*				21 42					
		M_1				48.7	25	3			
		M_2				51.8	25	4			
		M_3				56.0	25		3		
119	„ 31			ε		23 (50)					
			e	*e*		53.0					
		L				0 17					
		M_1				26.7	25		4		
		M_2				31.2	19	3			
		M_3				37.5	19	4			
		M_4				40.7	18		4		
		F				2.1					
120	June 1	*L*				5 38					
		F				6.1					
121	„ 1	*L*				6 20					
		F				6.6					
122	„ 1			ε		8 20					
				ε		40					
		L				8.8					*F* disturbed.
123	„ 1	*P*		ε	ε	12 35 14					△ = 73°.
		S	ε	ε		44.8					Japan.
		L				59					Disturbed by work at the station. *F* in following.
124	„ 1	*P*	*e*	*e*	*i*	13 24 7				+	△ = 74°.
		PP	*e*	*e*	*e*	26 59					Japan.
		PPP	*e*	*e*	*e*	28.7					
		S	*e*	*e*		33 51					
		PS			ε	34.2					
		SS				39					
		L				51					
		M_1*				58.3	14		18		
		M_2*				14 0.9	16		34	53	*F* in following.
125	„ 1	*L*				c. 15 41					Japan.
		F				16.9					
126	„ 1					18.6					Japan.
		L				19 0					
		M				10.1	19		2		
		F				19.8					
127	„ 1	(*S*)				22 27.6					Japan.
		L				45					
		M				54.9	18		2		
		F				23.8					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
128	June 2	*L*				0 45					
		F				1.1					
129	„ 2					5 15					
		F				5.5					
130	„ 2	*L*				9 45					Between this and the preceding disturbance now and then long-periodic movement.
		F				10.1					
131	„ 2	*L*				18 11					
		F				18.6					
132	„ 2		*e*	*e*	*e*	20 27					
		F				21.0					
133	„ 3	*L*				3 49					Faint forerunners.
		F				5.4					
134	„ 3	*L*				7.5					Faint forerunners. *F* in following.
135	„ 3	*P*				8 42 58					$\triangle = 76°$.
		S				52 49					Japan.
				e		59					
				e		53 30					
		SS	*e*			58					
		SSS				9 1.6					
		L				10					
		M_1				20.5	14		42		
		M_2				20.6	15			40	*F* in following.
136	„ 3	*L*				10 0					Japan.
		M				8.2	14; 15		9	4	*F* disturbed.
137	„ 3-4	*L*				23 1					Faint forerunners.
		F				0.3					
138	„ 5	*S*		*e*		6 17.3					Japan.
		L				6 35					
		M				45.1	13		3	2	
		F				7.1					
139	„ 6	*L*				20 18					Faint forerunners. Origin probably in Tonga deep — according to Apia.
		M				34.2	20		1		
		F				21.5					
140	„ 7	*L*				3 47					
		F				4.6					

København.

No.	Date	Phase				Time (G. M. T.)	Period	Amplitude			Remarks
								A_N	A_E	A_Z	
	1928		*N*	*E*	*Z*	*h m s*	sec	μ	μ	μ	
141	June 7		*e*	*i*	*e*	6 43 6					
			e	*e*		47					
		F				7.5					
142	„ 7					13 3					
		M				6.3	22		3		
		F				c. 13.3					*F* disturbed.
143	„ 8					2 52					
		F				57					
144	„ 8	*P*				14 58 46					Suva gives: △ = 10°.
		P'				15 1.7					The forerunners are distinct but without marked phases.
		SS				21					
		(*L*)	*e*	*e*		35					
		L				44					
		M_1				49.3	27	8		5	
		M_2				51.3	23		6		
		F				17.9					
145	„ 11		*e*	*e*		6 27.9					
				e		31					
			e	*e*		34					
		(*L*)				40					
		F				7.0					
146	„ 13					8 0					Italy.
		F				8					
147	„ 14	*L*				0 31					
		F				39					
148	„ 14	*L*				16 51					
		M				57.4	13		2		
		F				17.3					
149	„ 15	*P*		*e*	*e*	6 25 34					△ = c. 90°.
		„	*e*			38					S. W. Mindoro Island according to Manila.
		PP	*e*	*e*		29 13					
			e	*e*	*e*	30.8					
			e		*e*	32.2					
		$\overline{S_c P_c S}$	*e*	*i*		36 10					
		m_1				36.4	15	3	7		
		S	*i*			36 31					
		PS				37.7					
		m_2				37.8	12	8	9		
		L				56					
		M_1				7 1.9	21	87			
		M_2				5.9	16	53			
		M_3				8.3	17		69		
		M_4				8.4	18			52	*F* disturbed.

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
150	June 15	*P*		ε	ε	17 29.3					△ = c. 90°.
		$\overline{S_eP_eS}$		*e*		40.0					S. W. Mindoro Island.
		S	*i*	*e*		40.3					
		PS				41.3					
		SS				46					
						53					
		L				58					
		M_1				18 4.6	23	55			
		M_2				12.7	17			22	
		M_3				14.2	17		32		
		F				21.0					
151	„ 16	*PP*			ε	18 46.8					△ = c. 115°.
		PPP				49.4					Amboine gives P 18h31m18s; △ =
		$\overline{S_eP_eS}$				52					1520 km.
		PS	ε	*e*	*e*	56.7					
		PPS		ε		58.1					
		SS				19 3.2					
		SSS				7					
		L				22					
		M_1				38.5	20		4		
		M_2				38.8	18	3			
		F				21.0					
152	„ 17					0 6					
		F				0.2					
153	„ 17					2 6					
		F				2.2					
154	„ 17	*P*	*e*	*i*	*i*	3 32 16		—	+	+	△ = c. 89°.
		m_1*				32.4	12; 12; 13	10	24	82	Mexico.
		PP				35.6					
		m_2*				35.8	12; 14	16		88	
		m_3*				36.2	12		38		
			ε	*e*	*e*	37.4					
			e			38.5					
			e	*e*		42.1					
		$\overline{S_eP_eS}$	*e*	*e*		42 40					
		S				43 11					
		m_4*				43.7	12	46			
		PS	*e*	*e*		44 1					
		„			*e*	44.3					
		m_5*				44.3	16		149		
		m_6*				44.4	13			51	
						47.4					
		SS				48.3					
		m_7*				48.9	12			193	
		m_8*				49.4	19; 24	131	185		

København.

No.	Date	Phase				Time (G. M. T.)	Period	Amplitude			Remarks
			N	E	Z			A_N	A_E	A_Z	
	1928					*h m s*	sec	μ	μ	μ	
163	June 21	M_6				17 9.1	16		31		
		M_7				11.8	16	36			
		L'				19.0					
		M_8				19 17.8	19	5			
		M_9				23.4	16		3		
		F				21.2					
164	„ 24	P		*i*	*i*	4 42 33					Probably 2 earthquakes.
			ε			42.7					
				i	*i*	42 59					
				i	*i*	43 12					
		m_1				15	5		5	8	
			e			43.4					
				e	*e*	44 18					
			e	*i*	*i*	54					
		m_2				45 0	10; 8		5	5	
			e	*e*	*e*	48 59					
			e			49 44					
				i		54					
		m_3				50 0	11		5		
		(L)	*i*	*e*		51.9					
					e	52.1					
			i	*i*		52 29					
		M_1				52.5	8			10	
		M_2				52.7	6		5		
		M_3				55.8	8; 5	5		4	
		M_4				57.3	8		4		
			e	*e*		59					
		F				6.0					
165	„ 25			ε		7 45					
		L				8 10					
		F				9.2					
166	„ 27		ε	ε		1 54					
		L				2 16					
		M				24.5	15		1		
		F				2.8					
167	„ 29	$(\overline{S_e P_e S})$	ε	*e*		20 4 13					
		L				27					
		M				34.5	24	5			
		F				21.5					
168	„ 29-30	P'			ε	23 8 58					$\triangle$ = c. 140°.
					e	9 35					The interpretation uncertain.
			ε	ε		9.8					Epicentre 18° S 173° E according
		PP	*e*	*e*	*e*	11 46					to Wellington.
			e	*e*		13.7					
			e	*e*	*e*	14.3					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
168	June 29-30	$\overline{S_e P_e}\ \overline{P_e S}$	*e*	*e*		23 18.1					
		$\overline{S_e P_e S}\ P$	*e*	*e*	*e*	22.0					
		PPS	*e*	*e*		24 7					
				e		24.9					
		SS	*e*	*e*		29.9					
		SSS	*i*	*e*	*e*	34 47					
			e	*e*		38.6					
		L				48					
		M_1				0 0.2	23	38			
		M_2				6.7	22			46	
		M_3				6.9	21		58		
		F				3.0					

BIANCO LUNOS BOGTRYKKERI A/S
KØBENHAVN

No. 7. 1928.

Geodætisk Institut
Proviantgaarden, Copenhagen, Denmark.

Bulletin
of the seismological station

KØBENHAVN

$\varphi = 55°41'$ N. $\lambda = 12°27'$ E. $h = 13$ m.
Lithologic foundation: chalk.

No. 7. July—Sept. 1928

Instruments:

Galitzin pendulums with galvanometric registration.

Constants:

Component	l	T_1	A_1		μ^2	T	k
N	12.5 cm	$12^s.63$	100 cm		0.08	$12^s.5$	107
E	12.5 cm	$12^s.69$	100 cm		0.36	$11^s.4$	96
				from $^{12}/_{9}$	0.10	$11^s.8$	99
Z	14.4 cm	$11^s.55$	100 cm		0.1	10^s	105

Wiechert 1000 kg. horizontal seismograph.
Wiechert 1300 kg. vertical seismograph.

Constants:

Component	T	ν	ϱ	V
N	$9^s.2$	4.0	0.4	218
E	$9^s.3$	3.9	0.5	198
Z	$5^s.8$	4	0.3	165

Milne-Shaw seismographs, N and E components, with the approximate constants $T = 12^s$ $\nu = 20$ $V = 300$.

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928		*N*	*E*	*Z*	*h m s*	sec	μ	μ	μ	
1	July 1		*e*	*e*	*e*	9 49					
			e		*e*	52.5					
		L				10.6					*F* disturbed.
2	„ 1					17 0					
		F				17.2					
3	„ 2	*L*				10.3					*F* disturbed.
4	„ 3	*L*				1 3					
		M_1				12.0	18	2			
		M_2				12.5	17		2		
		F				1.7					
5	„ 4	*S*	*e*	*e*		18 11.4					10.8° N. 58.3° E., Indian Ocean, according to the Russian stations.
		L				18.4					
		M				18 31.4	18	1			Some preceding and following disturbance.
											F uncertain.
6	„ 4		*e*	*e*		22 1 23					24°.1 N. 126.7° E., according to the Russian stations.
		L				22					
		M_1				24.3	23	2			
		M_2				33.2	14	1	2		
		F				23.2					
7	„ 5	*L*				3 42					
		F				4.0					
8	„ 5					23 18					
		F				23					
9	„ 6	*P*		*e*	*e*	0 58 8					△ = ca. 57°.
		PP				1 1					There seem to be 2 earthquakes,
					e	5.3					one at 3.7° N. 58.5° E., Indian
		S	*e*	*e*		7 39					Ocean, according to the Russian
		SS				11.9					stations.
		SSS				14.0					
				e		18 23					
		L				21					
		L				1.5					
		F				2.7					
10	„ 6			*e*		8 30.9					
				e		33.9					
		F				8.9					
11	„ 6	*L*				20 54					
		M				57.0	18	1			
		F				21.2					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
12	July 7	*P*	ε	ε		3 (47.0)					
		PP				50.2					
		(S)	*e*	*e*		57 45					
		L				4 17					
		M				30.2	14	1			
		F				5.4					
13	„ 7	*S*	*e*	*e*		18 21 31					Some disturbance.
			e			56					Japan, according to the Russian stations.
		L				37					
		M_1				47.7	18	4			
		M_2				48.2	15		3		
		F				19.5					
14	„ 8		*e*	*e*		12 19.8					
		L				12.6					
		M				12 48.6	20	1			
		F				13.3					
15	„ 9					16 22					
		F				16.7					
16	„ 9-10	*P'*			ε	21 42.6					Salomon Islands.
		PP	*e*	*e*	*e*	44 39					There are other phases in the fore-runners, but they are not clearly marked.
			e	*e*	*e*	45.5					
		$\overline{S_cP_cS}$	*e*	*e*		49.4					
		L				22.3					
		M_1				22 33.3	16		16		
		M_2				33.5	16	13			
		M_3				36.7	17			8	
		F				0.9					
17	„ 10	*P*			ε	2 15.5					
		PP				18 57					
		$\overline{S_cP_cS}$				25 58					
		PS				27.2					
		SS				31					
		L				43					
		M_1				51.5	23		5		
		M_2				56.1	18	2			
		F				3.8					
18	„ 11				*e*	3 10 54					
					ε	14					
		L				4.2					
		M_1				4 19.9	19	1			
		M_2				33.6	18		2		
		F				5.6					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
19	July 12	*L*				15 57					
		M				16 2.0	16		1		
		F				16.7					
20	„ 13				*ε*	9 48					Faint forerunners.
		L				10.4					*F* disturbed.
21	„ 13	*L*				20 44					
		F				21.3					
22	„ 14					8.6					Faint.
		F				9.0					
23	„ 15	*P*				9 38 10					$\triangle = 18°$.
		S	*e*			41 30					Asia Minor.
		„	*e*	*e*		50					
		L				43					
		M_1				47.0	10	13			
		M_2				47.7	10		15		
		F				10.6					
24	„ 16	*L*				1 32					
		F				1.8					
25	„ 16	*L*				2 13					
		F				2.4					
26	„ 18	*P*	*ε*	*e*	*i*	19 18 28					$\triangle = 95°$.
		m_1				18.7	8	1	2	8	Peru.
					e	20 0					
			e	*e*		21 29					
			e	*e*		22 18					
					i	22					
		m_2				22.5	8	1	3	6	
				e		28.6					
		$\overline{S_cP_cS}$	*e*	*i*		29 13					
		m_3				29.3	8; 9; 7	4	13	3	
		S	*i*	*i*		29 54*)					*) Time-mark.
					e	30 0					
		m_4				30.1	13; 12; 9	27	17	5	
		PS			*e*	30 57					
			e	*i*		31 4					
		m_5				31.3	12; 16; 8	9	23	6	
				e		32.8					
		SS	*e*	*e*		36.2					
		L	*e*			45					
		M_1				46.1	40	82			
		L		*e*		50					
		M_2				54.1	29			38	
		M_3				58.2	19	30			

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
26	July 18	M_4				19 59.4	20		51		
		M_5				20 0.4	20			42	
		F				23.7					
27	„ 19	(*P*)				20 24 26					China.
		L				48					
		F				21.2					
28	„ 19-20	*PP*			*e*	23 57 52					Atlantic Ocean.
				ε		0 5.6					
			e	*e*		7.2					
		L				31					
		M				43.3	17		2		*F* in following.
29	„ 20	*L*				1.8					
		F				2.6					
30	„ 20	*L*				18 39					
		M				40.6	13		1		
		F				18.9					
31	„ 20			*ε*	*ε*	20.0					Very faint.
32	„ 21			*ε*	*ε*	3 0.7					
				e		4.8					
		L				33					
		M				44.8	16	1			
		F				4.5					
33	„ 22	(*S*)	*e*			7 51 50					
			e			57.5					
		L				8 17					
		M				22.8	17	1			
		F				8.9					
34	„ 23				*ε*	8 1.4					Possibly 2 earthquakes.
				e		17					
			e	*e*		18					
			e	*e*		25.9					
			e			35					
		L				8.9					
		M				9 14.5	20	2			
		F				10.6					
35	„ 25	*L*				19 34					
		F				20.1					
36	„ 26	*L*				13 16					Faint forerunners masked by micro-seisms.
		F				13.9					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.) h m s	Period sec	Amplitude A_N μ	Amplitude A_E μ	Amplitude A_Z μ	Remarks
	1928										
37	July 27					12 53					Faint.
		F				13.4					
38	„ 27	*S*	ε	*e*		15 45 9					
		L				16 4					
		M_1				12.7	19	2			
		M_2				18.8	14		1		
		F				17.2					
39	„ 28		ε	ε		20.1					Faint forerunners.
				e		20 19 6					31°.9 S. 75° W. according to Sucre and La Paz.
		L				42					
		M_1				52.3	21		1		
		M_2				57.3	19	1			
		F				21.8					
40	„ 29	*L*				18 24					
		F				18.7					
41	„ 30			ε	ε	2 56.6					
			ε	*e*		3 7.0					
		L				24					
		M_1				32.3	19	2			
		M_2				32.9	19		3		
		M_3				35.7	17	2			
		F				4.9					
42	„ 31					0 40					
		F				0.9					
43	„ 31	*L*				1.6					
		F				2.1					
44	„ 31					4.2					
		F				4.4					
45	„ 31			*e*		12 32.9					No *N* and *Z* Galitzin records.
				e		33.8					
				e		37					
				e		41					
		F				14.2					
46	„ 31	*L*				20 6					Japan.
		M				17.2	18		2		
		F				20.9					
47	Aug. 1	*L*				3 32					
		F				3.9					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
48	Aug. 1			ϵ		17 1 26					Island.
		(*L*)				6					
		F				17.3					
49	„ 1					19 16					Island.
		F				21					
50	„ 1	*P*				19 50 42					Island. △ = 22°.
		S				54 34					
		L				56					
		M				59.5	14	1			
		F				20.3					
51	„ 1	*P*				20 32 29					Island. △ = 22°.
		S				36 22					
		L				38					
		M				41.2	15	1			*F* in following.
52	„ 1	*P*				20 50 16					Island. △ = 22°.
		S				54 11					
		L				56					
		M				59.3	14	1			
		F				21.3					
53	„ 2		*e*	*e*		6 57.4					
		L				7.2					
		F				8.2					
54	„ 3	*L*				5 35					
		M				37.2	20	1			
		F				5.9					
55	„ 3	*S*	*e*	*e*		7 21 41					△ = ca. 60°.
		L				7.5					Atlantic Ocean.
		M				39.8	14		1		
		F				8.2					
56	„ 3	*L*				8.6					
		F				8.9					
57	„ 3	*P*	*e*	*e*	*e*	11 55 4 *)					*) Time-mark.
		PPP				58 49					△ = 62°.
		S	*i*	*e*		12 3 27					North of St. Paul according to
		SSS				10					Strasbourg.
		L				13					
		M_1				14.6	15	7		5	
		M_2				17.2	16		8		
		F				14.6					

København.

No.	Date	Phase				Time (G. M. T.)	Period	Amplitude			Remarks
								A_N	A_E	A_Z	
	1928		*N*	*E*	*Z*	*h m s*	sec	μ	μ	μ	
58	Aug. 4	*L*				2 53					
		F				58					
59	„ 4					4 26					Felt in Liguria and Toscana.
		F				4.6					
60	„ 4		*e*	*e*	*e*	7 21.3					
		L				25					
		M_1				28.3	9	1			
		M_2				28.8	11		1		
		F				7.8					
61	„ 4	*P*	*i*	*i*	*i*	18 39 4					16° N. 98° W. according to Strasbourg.
		m_1				39.3	13; 14; 14	6	2	45	
					e	41 55					$\triangle$ = ca. 90°.
		PP	*i*	*i*	*i*	42 32					*S* phase composed of $\overline{S_e P_e S}$ and *S*.
		m_2				42.8	13; 15; 15	10	28	41	
		PPP				44 25					
			e	*e*		46.1					
				e		48 56					
			e			49 18					
			i	*i*		49					
			i	*i*	*e*	50.1					
		m_3				50.4	23; 11	76	45		
		PS	*i*	*i*	*e*	50 58					
		m_4				51.1	18			54	
				e		55 15					
		SS	*i*	*i*	*e*	49					
		m_5				56.1	23; 23; 12	76	118	19	
		SSS	*e*	*i*	*e*	59 34					
		L				19 7					
		M_1				13.4	26		397		
		M_2				13.7	26			307	
		M_3				17.6	20	142			
		F				23.8					
62	„ 5	*P*	*e*	*e*	*e*	14 54 37					China See near Zambales coasts according to Manila.
		(*S*)				15 5 2					
		L				25					
		M_1				31.3	27	8			
		M_2				36.1	18	3	7		
		F				17.6					
63	„ 5					19.5					
		F				19.7					
64	„ 6	*L*				18.7					Faint.
		F				18.9					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
65	Aug. 7					5.1					Faint.
		F				5.5					
66	„ 8		*ε*		*ε*	2 28.9					There are some other faint phases in the forerunners.
			ε		*ε*	33.0					
		L				3 3					Tananarive gives *iP* $2^h19^m26^s$.
		M				13.9	20	1			
		(*L'*)				4.5					
		F				5.0					
67	„ 10	*P*	*ε*	*e*	*i*	15 41 29					$\triangle = 41°$.
				i	*i*	42 46					Sverdlovsk gives the approximate epicenter 38.7° N. 70° E.
		PP				43 16					
				i	*e*	44 26					
		S	*i*	*e*		47 40					
				e		49 0					
			i	*e*		51 6					
		L									*L* irregular, the beginning uncertain.
		F				16.7					
68	„ 12	*P*		*ε*	*ε*	8 22.8					2.0° N. 125.0° E. according to the Russian stations.
		PP				26 46					
		$\overline{S_cP_cS}$	*i*	*i*		33 3					
			e	*e*		45					
				e		36.1					
				e		37.6					
		SS	*i*	*e*		41 25					
		L				8.9					
		M_1				9 4.8	25	8			
		M_2				12.0	18; 15; 15	5	4	2	
		F				10.9					
69	„ 12					16.8					Faint.
70	„ 13	*L*				4.3					Faint.
		F				4.8					
71	„ 13		*e*	*e*		22 29.5					
		L				37					
		F				23.0					
72	„ 14					0.6					
		F				0.9					
73	„ 14					5 25					
		F				29					
74	„ 15	*L*				8 23					
		F				8.7					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
75	Aug. 15					12 14.8					
		L				18					
		M_1				21.5	16	2			
		M_2				22.1	13		2		
		F				12.7					
76	„ 15	*P*			*e*	15 47.1					△ = ca. 46°. Atlantic Ocean.
		„		*e*		47.2					
		S	*e*	*e*		53 46					
		SS				57.2					
		L				16 1					
		M				2.5	24		2		
		F				16.9					
77	„ 15			*e*	*e*	17 31.0					26.8° S. 64.6° W. according to Sucre and La Paz.
			e	*e*	*e*	33 11					
				e	*e*	35 15					
			e	*i*		38 32					
			e	*e*		39 22					
			i	*e*		52 *)					*) Time-mark.
			e	*e*	*e*	41.5					
				e		45.4					
			e			47 22					
			e	*e*		51					
		L									*L* small, the beginning uncertain.
		F				19.9					
78	„ 16		*e*	*e*		7 51 39					75.0° N. 127.0° E. according to Sverdlovsk.
						55					
		L				8 0					
		M				3.4	19		10		
		F				8.9					
79	„ 16	*L*				17 24					
		F				17.9					
80	„ 17	*L*				7 45					
		F				8.1					
81	„ 18	*L*				2.5					
		F				3.1					
82	„ 18	*L*				6.5					
		F				7.2					
83	„ 18	*L*				20 28					*F* in following.
84	„ 18	*L*				20 45					
		F				21.1					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
85	Aug. 19	*(S)*				3 0.4					
		L				3.5					
		M				5.8	17		1		
		F				3.6					
86	„ 19					4 10					
		L				21					
		M_1				28.6	13	1			
		M_2				28.7	15		1		
		F				5.1					
87	„ 20	*P*			*e*	2 8 25					△ = ca. 71°.
		S	*e*	*e*		17.8					43.4° N. 165.0° E., SE of Kamtchatka according to the Russian stations.
		PS				18.8					
		L				33					
		M_1				33.3	19	3			
		M_2				41.7	21		3		
		F				3.5					
88	„ 20			*e*		18 11.6					
		F				19.1					
89	„ 21					8 22					
		F				8.5					
90	„ 21	*P*		*e*	*e*	19 9 21					△ = 37°.
		S		*e*		15 7					36.1° N. 61.6° E., Persia, according to the Russian stations.
		L				22					
		M_1				27.5	16; 15		3	2	
		M_2				30.5	21	5			
		F				20.3					
91	„ 22	*L*				2 12					
		F				2.5					
92	„ 22			*e*	*e*	6 39.0					
						6.9					
		L				7 20					
		F				8.0					
93	„ 22		*e*	*e*		20 19 35					
		L				28					
		F				21.3					
94	„ 23	*P*	*e*	*e*	*e*	1 27 57					△ = 61°.
		PP	*e*	*e*	*e*	29 59					56° N. 140° E., Sea of Okhotsk, according to the Russian stations.
		S	*e*	*e*		36 12					
		PS	*e*	*e*		58					*L* small.
		SS	*e*	*e*		39.7					
		F				2.9					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928		*N*	*E*	*Z*	*h m* s	sec	μ	μ	μ	
95	Aug. 23	*P*		*e*	*e*	4 1 24					$\triangle = 41°$.
		PP				2 54					42.5° N. 74.0° E., Turkestan, according to the Russian stations.
		S	*e*	*e*		7 36					
		SS				10.2					
		M_1				16.6	10	6			
		M_2				19.2	8		7		
		M_3				19.6	8			6	
		F				5.0					
96	„ 23	*S*	*e*	*i*		6 25 42					37.1° N. 136.0° E., Asia Minor, according to the Russian stations.
		L				31					
		M				34.1	10		1		
		F				6.9					
97	„ 24	*L*				6 41					
		F				6.9					
98	„ 24	*P*			*e*	9 49 9					$\triangle = 24°$.
		„	*e*	*ε*		49.2					Alger.
		S	*e*	*e*		53 14					
					e	20					
		L				54.9					
		M_1				58.0	12		8		
		M_2				58.1	13	7			
		M_3				10 0.2	10			4	
		F				10.8					
99	„ 24		*ε*			14 30.0					
		L				33					
		M				35.9	11		1		
		F				14.9					
100	„ 24				*e*	22 2 33					Two or more earthquakes superposed on one another.
					e	3 19					
			ε		*e*	5 6					
					e	48					
			e	*e*		6 0					
			e	*e*		50					
			e	*e*		11 44					
				e		16.0					
			e	*e*	*ε*	16 55					
			e	*e*	*e*	17.9					
				e		19 15					
			e	*e*		22 55					
				e		24.8					
			e	*e*		27.4					
		M_1				49.0	25		6		
		M_2				57.4	20	3			
		M_3				23 6.8	22		4		*F* in following.

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
101	Aug. 24-25		*e*	*e*		23 48.6					
		L				0 19					
		M_1				26.1	23	3			
		M_2				30.8	19		4		
		F				1.3					
102	„ 25	*L*				2 23					
		M_1				26.9	19	4			
		M_2				27.2	19		5		
		F				3.0					
103	„ 25	*L*				17 8					
		F				17.5					
104	„ 25			*e*		21 8.0					
				e		8 37					
				e		9 25					
105	„ 25		*e*			21 13.6					Yougo-Slavia.
		L				14					Zagreb gives *iP* $21^h9^m11^s8$.
		M_1				15.7	9; 8		5	2	
		M_2				15.9	12	4			
		F				21.5					
106	„ 25	(*L*)		*e*		23.8					Faint.
107	„ 26					4.7					Faint forerunners.
		L				5.1					*F* in following.
108	„ 26	*L*				6.0					
		F				7.1					
109	„ 26	*L*				18 51					
		F				19.4					
110	„ 26	*L*				22 54					
		F				23.3					
111	„ 26					23 35					Faint.
		F				23.9					
112	„ 27					3.9					Faint.
		F				4.1					
113	„ 27		*ε*	*ε*		4 32.6					
		F				5.0					
114	„ 28	*L*				1 48					
		M				51.1	12	1			
		F				2.1					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
115	Aug. 28	*L*				9 20					
		M				36.8	20		2		
		F				10.1					
116	„ 29	*L*				3 49					
		F				4.7					
117	„ 29	*S*				17 38 37					Southern Formosa according to Taihoku.
		L				57					
		M_1				18 5.6	14	1			
		M_2				6.4	11		2		
		F				18.7					
118	„ 29					21 21					Faint.
		L				21.7					
		F				21.9					
119	„ 30	*L*				0 0					Faint.
		F				0.2					
120	„ 30	*L*				0 25					
		F				0.7					
121	„ 30	*P*	*e*	*e*	*e*	6 43 23					$\triangle = 80°$.
		S				53 34					Southern Formosa as No. 117.
		L				7 14					
		M_1				15.8	21	5			
		M_2				22.0	14		4	2	
		F				8.3					
122	„ 30	*L*				11.6					
		F				12.0					
123	„ 30	*S*				12 31.9					Much disturbed by work at the station.
		L				47					
		F				13.3					Assam according to the Russian stations.
124	„ 30	*L*				19 52					
		F				20.0					
125	„ 30		*e*	*e*		22 22.8					
		L				44					
		F				23.2					
126	„ 31	*L*				1 30					
		F				1.8					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
127	Aug. 31					5.4					
			ε	ε		5 33.3					
		L				41					
		M				47.9	13		1		
		F				6.3					
128	„ 31	*L*				22 4					
		F				22.2					
129	„ 31	*L*				22.4					
		F				23.0					
130	Sept. 1	*P*	ε	*e*	*e*	6 17 47					$\triangle = 48°$.
		PP				19 47					Hindustani.
		S		*e*		24 42					Absolute time uncertain Sept. 1—3.
		„	*e*			51					
			e	*e*		25.8					
		SS				28.4					
		SSS				30.0					
		L				33					
		M_1				39.2	13	41			
		M_2				45.1	11; 12		37	24	*F* in following.
131	„ 1	*L*				8.8					
		F				10.4					
132	„ 1	*L*				11 54					
		F				12.1					
133	„ 2	*P*		*e*	*e*	0 6 50					Central America.
		„	ε			54					
		PP				10.2					
				ε		14.1					
		(*S*)	*e*	*i*		17 19					
		SS				23.4					
		L				34					
		M_1				40.4	25		6		
		M_2				42.2	24	4			
		M_3				46.6	19			3	
		M_4				47.1	19		6		
		C					ca. 18				
		F				1.8					
134	„ 2		ε			17 20					
				ε		37					
		L				18 18					
		M				24.3	15	1			
		F				19.2					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.) h m s	Period sec	Amplitude A_N μ	A_E μ	A_Z μ	Remarks
	1928										
135	Sept. 3		ε		ε	6 1 5					
			ε	ε		6					
					e	10 57					
			e	ε		11					
		L				40					
		F				6.9					
136	„ 3	*L*				22 2					
		F				22.3					
137	„ 5	*L*				3 12					
		F				3.6					
138	„ 6	*P*			ε	6 40.3					△ = ca. 75°.
		S	e	ε	ε	50 5					East of Japan.
		L				7 9					
		M_1				14.8	15		3		
		M_2				17.2	16; 15	3		3	
		F				8.1					
139	„ 6					10 3					*F* disturbed.
140	„ 7				e	3 9 16*)					*) Time-mark.
			ε	ε		24					
				ε	ε	11.8					
			ε	ε		15					
			e	e	ε	19 3					
			e	e	e	25 41					
						30					
		L				47					
		M_1				51.1	33		8		
		M_2				57.7	26	6			
		F				5.6					
141	„ 10	*L*				17 53					
		F				18.2					
142	„ 10					22 40					
		F				23 0					
143	„ 11	*P*			ε	0 55 59					△ = ca. 115°.
		PP	e	ε	e	57 22*)					*) Time mark.
		PPP			ε	59.8					5.0° S. 150.0° E. according to Irkutsk.
		$\overline{S_cP_eS}$				1 3 22*)					*) Time-mark.
		$\overline{S_cP_cP_eS}$				4 46					
		$\overline{PS}$				7.0					
		$\overline{S_cP_eS\,P}$				7.7					
		SS				14.0					
		L				36					
		M_1				43.3	22	4			

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
	Sept. 11	M_2				1 44.1	28			5	
		M_3				44.3	27		5		
		F				3.1					
144	„ 11	*P*		*ε*	*ε*	12 47 49					△ = 79°.
			ε	*ε*	*e*	48.4					Pacific Ocean.
		S	*e*	*e*		57 55					
		SS				13 7					
		L				16					
		M_1*				18.3	20		12		
		M_2*				22.5	20	15			
		M_3*				23.0	17			10	
		C					ca. 15				
		F				15.9					
145	„ 12	P_1'			*e*	1 38 59					△ = ca. 160°.
		„		*ε*		39 11					North of New Zealand according
		P_2'	*ε*	*e*		38					to the Russian stations.
			ε		*ε*	41.7					
		PP	*ε*	*e*	*e*	42 58					
		$\overline{S_eP_eS}$		*ε*		45.3					
		PPP			*ε*	46.5					
		$\overline{S_eP_eP_eS}$	*ε*	*e*	*ε*	48.7					
		$\overline{S_eP_eS}\,P$				52					
		PPS				55					
		SS				2 4					
				e		23					
		L				32					
		M				36.8	19		2		
		F				3.9					
146	„ 13	*P*		*ε*	*e*	3 40 17					△ = ca. 100°.
		PP		*ε*	*e*	44 33					2.5° N. 126.5° E. according to the
			e			45 2					Russian stations.
		$\overline{S_eP_eS}$		*i*		50 51					
			e		*ε*	53					
		PS	*e*	*e*		53 19					
		SS		*e*		59.2					
		L	*e*			4 15					
		„		*e*	*e*	16					
		M_1				24.9	20	13			
		M_2				26.8	25			9	
		M_3				27.1	25		15		
		F				6.3					
147	„ 13					19 12.2					
		(*L*)				15					
		F				19.6					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.) h m s	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928						sec	μ	μ	μ	
148	Sept. 13			e		22 3.5					
			e			4					
			e			5 19					
		L				23					
		F				22.5					
149	„ 14	*L*				1 35					
		F				1.8					
150	„ 14					6.2					
		F				6.3					
151	„ 14	*P*				8 11 30*)					*) Time-mark.
		S				19 8					$\triangle = 55°$.
			e			25					Atlantic Ocean.
				e		27					
		F				9.3					
152	„ 15					9 56					
		L				10 24					
		F				10.6					
153	„ 16	(*L*)		e		3 6					
		F				18					
154	„ 18	*P*	e	e	e	17 30 1					$\triangle = 61°$.
				e	e	31 7					Atlantic Ocean.
		PPP	e	e	e	33.9					
		S	i		e	38 20					
				i		23					
				e		41 4					
		SS	e		e	42					
		SSS				45 0					
		(*L*)	e	e		47					
		L			e	52					
		M_1				56.7	14		15		
		M_2				18 5.2	14; 18	12		12	
		F				19.9					
155	„ 18	*P*			e	20 1 45					$\triangle = 53°$.
			e	i		50					Bay of Aden.
		PP				3 50					
		S	e		e	9 10					
		„		i		17					
		SS	e	e	e	13 3					
		L	e	e		19					
		„			e	22					
		M_1				26.5	19	18			
		M_2				27.0	14		8		
		M_3				29.1	15			9	
		F				22.1					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
156	Sept. 19	*P*			*i*	8 28 14					29.5° N. 144.5° E., Pacific Ocean, according to the Russian stations.
		PP				32					
		(S)	*e*	*e*		38 50					
				i		39 6					
		L				59					
		M				9 4.9	16; 19	1	2		
		F				9.7					
157	„ 21	*PP*		*e*	*e*	13 44 21					Peru.
		$\overline{S_cP_cS}$		*e*		50 34					
		$\overline{S_cP_c\ P_cS}$	*e*	*e*		51 24					
		PS				52.8					
		SS	*e*			58 8					
		(L)	*e*			14 9					
		(L)	*e*			11					
		L				20					
		F				14.9					
158	„ 22				*i*	6 19 23					
			e			29					
				e		36					
		L				7 8					*F* in following.
159	„ 22	*P'*		*e*	*e*	7 50.6					△ = ca. 135°.
		PP	*i*	*e*	*i*	53 4					West of New Hebrides.
		P_cP_cS	*i*	*e*	*e*	54 11					
					e	54.4					
		PPP	*e*	*e*		56.3					
			e			8 2 11					
		PPS	*e*	*e*	*e*	6.1					
		SS				11					
		SSS				16					
				e		24					
		(L)				31					
		L				36					
		M_1				44.3	24	44			
		M_2				53.5	18			32	
		M_3				59.1	19	32			
		F				12.6					
160	„ 22		*e*			22 27.9					
		L				23 7					
		F				23.9					
161	„ 23		*e*	*e*		14 3.9					
		L				26					
		F				14.9					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.) h m s	Period sec	Amplitude A_N μ	A_E μ	A_Z μ	Remarks
	1928										
162	Sept. 23					15 16					None-seismic?
		F				15.4					
163	„ 23					23 40					
		F				23.9					
164	„ 24		ε	ε		9 7					
		F				9.2					
165	„ 24		ε	ε		9 37					
		L				10 2					
		F				10.7					
166	„ 25	*P*				5 10 25					△ = 75°.
		S	*e*	*e*		20 9					Japan.
		SS	ε	ε		25					
		(*L*)				35					
		L				39					
		F				6.1					
167	„ 25	*L*				8 2					
		F				4					
168	„ 25	*P*	*e*	ε	*i*	8 14 13					△ = 73°.
		PP	*e*	ε	ε	16.8					42° N. 149° E. according to Kobe.
		S	*i*	*e*		23 47					
		PS			*e*	24 10					
		SS				28.0					
		L		*e*		38					
		„	*e*			40					
		„			*e*	42					
		M_1				42.9	26		8		
		M_2				47.5	17; 19	5		3	
		M_3				52.3	14		5		
		M_4				52.4	14			2	
		C					15				
		F				10.4					
169	„ 25					19 10 13					
		L				13.4					
		M				17.4	12		2		*F* in following.
170	„ 25	*L*				19 34					
		F				19.7					
171	„ 26					15 53					
		F				55					

No. 7.

No.	Dat
	192
172	Sept.

København.

No.	Date	Phase				Time (G. M. T.)	Period	Amplitude			Remarks
								A_N	A_E	A_Z	
	1928		*N*	*E*	*Z*	*h m s*	sec	μ	μ	μ	
172	Sept. 27	*P*		*e*	*e*	0 55 12					$\triangle = 71°$. 13° N. 58.2° W. according to the Jesuit Seism. Association.
		PP		*e*		58.1					
		S	*i*	*e*		1 4 36					
		PS		*e*		5.0					
		„	*e*			5 13					
		SS				8.5					
		SSS				12					
		L	*e*			16					
		„		*e*		17					
		M_1				18.8	23		10		
		M_2				23.2	17	3			
		F				2.3					

No. 8. 1928.

Geodætisk Institut
Proviantgaarden, Copenhagen, Denmark.

Bulletin
of the seismological station

KØBENHAVN

$\varphi = 55°41'$ N. $\lambda = 12°27'$ E. $h = 13$ m.

Lithologic foundation: chalk.

No. 8. Oct.—Dec. 1928.

Instruments:

Galitzin pendulums with galvanometric registration.

Constants:

Component	l	T_1	A_1		μ^2	T	k
N	12.5 cm	$12^s.63$	100 cm		0.08	$12^s.5$	107
E	12.5 cm	$12^s.69$	100 cm		0.10	$11^s.8$	99
				from $^{30}/_{11}$	0.18	$12^s.4$	98
Z	14.4 cm	$11^s.55$	100 cm	$^{1}/_{10}$—$^{27}/_{10}$	0.1	10^s	105
				$^{27}/_{10}$—$^{8}/_{12}$	Repairs;	constants	undetermined.
				from $^{8}/_{12}$	0.1	10^s	95

Wiechert 1000 kg. horizontal seismograph.

Wiechert 1300 kg. vertical seismograph.

Constants:

Component	T	ν	ϱ	V
N	$9^s.1$	4.0	0.7	218
E	$9^s.2$	3.9	0.5	198
Z	$5^s.8$	4	0.3	165

Milne-Shaw seismographs, N and E components, with the approximate constants $T = 12^s$ $\nu = 20$ $V = 300$.

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
1	Oct. 1			*e*		13 23.3					
		L				27					
		M				29.8	27		2		
		F				14.0					
2	„ 2	*L*				14 29					
		F				32					
3	„ 3	*P*			*e*	1 1.7					Asia Minor.
		S				5 34					
		L				9.8					
		F				1.5					
4	„ 4	*P*	*e*	*e*	*e*	11 18 48					Asia Minor.
		S				22.7					
		L				26.9					
		M_1*				28.9	13		2		
		M_2*				31.2	10	2			
		F				11.9					
5	„ 4	*P*	*e*	*e*	*e*	18 32 13 *)					*) Time-mark.
		S	*e*			39.7					△ = ca. 53°.
				e		39.9					S.W. Abessinia.
				e		42					
		SS				43					
		SSS				46					
		F				20.0					The beginning of *L* uncertain.
6	„ 9	*P*	*e*	*i*	*i*	3 13 58					Mexico.
		PP				17 19 *)					*) Time-mark.
		PPP				19.4					16°22′ N. 97°48′ W. according to
				e		21.0					Mexico.
		$\overline{S_c P_c S}$	*i*	*i*		24 38					
		S	*e*	*i*		25 16					
		PS	*e*	*i*	*e*	50					
		SS		*i*		30 17					
		SSS				34					
		L				42.3					
		M_1*				47.3	25		375		
		M_2*				48.4	24			399	
		M_3*				54.6	20	355			
		L′				5.6					
		F				7.8					
7	„ 9					15.7					
		L				16 3					
		F				16.4					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
8	Oct. 10	*L*				21 28					
		M				33.6	17		2		
		F				22.1					
9	„ 11-12		ε			23 46					
		L		*e*		0 10					
		„	*e*			14					
		M				32.5	20	4			
		F				1.4					
10	„ 12	*P*			*e*	7 41 8				+	△ = 71°.
		„	*e*	*e*		11					Sea of Okhotsk.
		S	*e*	*e*		50 34					
		SS				55					
		SSS				59					
		L				8 5					
		M_1				9.1	28		13		
		M_2				9.4	26	4			
		M_3				17.6	15		3		
		M_4				19.0	13	6			
		F				9.9					
11	„ 12					17.8					Faint.
		F				18.3					
12	„ 13					2.4					Faint.
		F				2.7					
13	„ 13		ε	ε		13 32					
		L				50					
		M_1				55.0	25		1		
		M_2				14 2.1	19	1			
		F				14.3					
14	„ 13		*e*	ε		15 41 35					Philippine Islands; △ = ca. 100°.
				i		41					
		SS				49					
				e		57					
		L				16 6					
		M_1				18.3	21	3			
		M_2				21.9	18			2	
		M_3				22.0	23		3		
		F				17.0					
15	„ 13					17 34					
		F				55					
16	„ 15			ε		8 57.2					S.W. Pacific Ocean; △ = ca. 120°.
		PS	ε	ε	ε	9 0.9					
		SS	ε	ε		7.6					
		SSS		*e*		11.3					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
16	Oct. 15	*SSS*	*e*			9 11.7					
		L				27					
		M				32.2	20	5			
		F				10.8					
17	„ 15	*P*		*e*	*e*	14 28 14					$\triangle = 48°$.
		„		*i*	*i*	16					Balutchistan.
		„	*e*			19					
		m_1*				28.4	4; 5; 5	2	8	9	
		PP	*e*	*i*	*e*	30 8					
		m_2*				30.2	6; 7		8	6	
		S	*e*	*e*		35 8					
		„	*i*			11					
		m_3*				35.5	12; 8; 7	16	36	6	
			e	*e*		37.7					
		SS	*e*	*e*		38.7					
				e		39.8					
		L				47					
		M_1*				50.1	16	184			
		M_2*				53.9	12; 16		90	148	
		L'				16.9					
		F				17.5					
18	„ 17	*L*				7 32					
		F				8.1					
19	„ 17		*e*	*e*		15 49					S.W. Atlantic Ocean?
			e	*e*		57.9					
			e	*e*		16 2.1					
		L				16.3					
		M_1				16 31.8	20	8			
		M_2				41.5	20		12		
		M_3				41.7	17			6	
		F				18.0					
20	„ 19	*L*				6 42					
		F				51					
21	„ 19	*P'*	*e*		*e*	10 39					Kermadec Islands.
		PP	*e*	*e*		43					$\triangle =$ ca. 160°.
		L				11.6					*F* disturbed.
22	„ 21					13 40					No records Oct. 20. 10^h—16^h.
		F				46					
23	„ 21					16 55					
		L				17 12					
		M_1				16.4	23	6			
		M_2				16.8	20		3		
		F				17.7					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
24	Oct. 22	*L*				4 10					
		M				13.5	16	1			
		F				21					
25	„ 22		ε			7 12					
				ε		14					
		L				21					
		F				7.8					
26	„ 23	*P*		ε	*i*	18 3 23				+	△ = ca. 68°.
		PPP			ε	8					Kamtchatka.
		S				12.5					
		SSS				20.8					
		L				24					
		M_1^*				32.6	26		7		
		M_2^*				35.3	23	8			
		F				20.0					
27	„ 25	*P*		ε	ε	12 45 40					Nicaragua.
		(*S*)	ε	e	ε	56 11					△ = ca. 85°.
		SS				13 2.2					
		SSS				5.9					
		L				11					
		M_1^*				18.3	22		33	17	
		M_2^*				19.9	19	12			
		M_3^*				23.3	18; 20		17	14	
		F				14.5					
28	„ 25	*L*				15 2					
		F				15.1					
29	„ 26					4 36.5					
		F				49					
30	„ 28	*L*				15 18					
		F				15.7					
31	„ 30	(*S*)		ε		4 46.8					Mexico; △ = ca. 88°.
			ε			5 2					
		L				6					
		M_1				12.5	19		3		
		M_2				14.7	19	2			
		F				5.7					
32	„ 31	*L*				20 40					
		M_1				52.2	16		7		
		M_2				52.4	18		9		
		F				21.3					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
33	Nov. 1	*P*			*i*	4 25 14				÷	Mexico.
		„	*e*	*e*		18					△ = ca. 85°.
		(*S*)		*e*		35.6					
			e			36 19					
			e	*e*		39.3					
			e			47					
		L				52					
		M_1				55.3	30		18		
		M_2				56.3	23	14			
		M_3				5 0.3	18		16		
		M_4				5.6	14	9			
		F				6.2					
34	„ 1	*L*				16 48					Forerunners disturbed.
		F				18.4					
35	„ 3	*L*				9 58					
		F				10.2					
36	„ 6	*P'*	*e*	*e*	*e*	4 24 27					Loyalty Islands.
		PP				27.3					△ = ca. 145°.
				e		46					
				e		49					
		L				5 6					
		M_1				10.7	31		27		
		M_2				15.3	25	13			
		M_3				24.1	24		18		
		M_4				29.5	18	13			
		F				7.3					
37	„ 6	*S*	*e*			13 54					
		F				14.3					
38	„ 7	*L*				16 1					
		F				16.6					
39	„ 9	*L*				7 43					
		F				8.2					
40	„ 9	*L*				12.0					Disturbed.
											No records Nov. 10. 9^h—17^h.
41	„ 11-12	*PP*				22 58.5					Indian Ocean.
		$\overline{S_e P_e S}$				23 5 8					△ = ca. 100°.
		S				6.0					
		PPS				7.9					
		SS				12					
		L				28					
		M_1				34.2	27		5		
		M_2				44.0	22	8			
		F				0.7					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
42	Nov. 12	*L*				0 57					
		F				1.5					
43	„ 14					4 51.4					Strong microseismic movement.
		L				57					
		M_1				5 1.0	10	4			
		M_2				1.1	10		3		
		F				5.5					
44	„ 15	*L*				3 23					
		F				4.0					
45	„ 15	*L*				8.5					*F* disturbed.
46	„ 15	*L*				13 31					
		F				13.9					
47	„ 16	*L*				11.9					
		F				12.2					
48	„ 18	*L*				19 26					
		F				19.7					
49	„ 20	*P*		*e*	*e*	20 49 16					Antofagasta, North Chile.
		PP	*e*	*i*	*i*	53 31					$\triangle$ = ca. 105°.
		PPP		*e*		55.8					
		$\overline{S_cP_cS}$	*e*	*i*		59 56					
		$\overline{S_cP_c\overline{P_cS}}$	*e*	*e*		21 0 59					
		S	*i*	*e*		1 31					
		PS		*i*		2 49					
		„	*e*			3 1 *)					*) Time-mark.
		SS	*e*			8 38					
		L				21.4					
		M_1				21 30.3	14		66		
		M_2				32.6	24	38			
		M_3				32.8	22		46		
		F				22.7					
50	„ 21	*L*				17 43					
		M				46.6	24	9			
		F				18.2					
51	„ 22		*e*			8 56.1					Possibly 2 earthquakes, one in the South Atlantic Ocean, $\triangle$ = ca. 120°.
			ε	*e*		58.4					
				e		59 54					
			e	*e*		9 1 29					
			e			3 34					
			i			6 3					
				e		6.2					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
51	Nov. 22		*e*	*e*		9 9.8					
			e	*e*		17					
		L				9.4					
		M_1				9 30.5	16	6			
		M_2				31.0	22		11		
		M_3				36.5	16		7		
		M_4				40.9	17	9			*F* disturbed.
52	„ 26	*L*				9 11					
		F				9.6					
53	„ 27	*L*				9 52					*F* disturbed.
54	„ 28	*P*			*ε*	1 36 10					Mexico.
		PP		*ε*	*e*	39 22					△ = ca. 88°.
		$\overline{S_cP_cS}$		*e*		46.7					
		S	*e*	*e*	*ε*	47.0					
		PS		*e*	*e*	48.0					
		SS				52.8					Recording interrupted 2^h5^m–2^h13^m.
		F				2.8					
55	„ 28			*e*		7 48 21					
		L				53					
		M				57.5	16		4		
		F				8.2					
56	„ 28	*P*		*ε*	*e*	10 57 30					Sunda Islands. △ = ca. 107°.
		PP		*e*		2 1*)					*) Time-mark.
		„	*e*		*i*	6					
				i		9 36					
											Change of sheets.
		L	*e*			32					
		„		*e*		35					
		M_1				39.3	33	35			
		M_2				48.4	22	24			
		M_3				51.0	18		19		
		M_4				55.5	18		27		
		L'				12 58					
		F				13.8					
57	„ 29	*L*				13 14					
		F				13.9					
58	„ 29	*L*				17 9					Preceding movement disturbed.
		F				18.2					
59	„ 29	*PP*	*ε*	*ε*		18 24					South of Tonga Islands; △ = ca. 150°.
		$\overline{S_cP_cS}\,P$	*e*			34 9					
		SS		*e*		43 12					No GZ record.
		SSS	*e*			50					
		L				19 12					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.) h m s	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928						sec	μ	μ	μ	
59	Nov. 29	M_1				19 24.8	21	5			
		M_2				29.9	17		5		
		M_3				30.8	19	6			
		M_4				43.2	17		7		
		F				21.0					
60	„ 29-30	PP				23 34					South of Tonga Islands; △ = ca. 150°.
		SS				53					
		SSS				0 0					No GZ record.
		L				22					
		M_1				45.2	18		2		
		M_2				48.6	21	2			
		F				1.6					
61	Dec. 1					4					Strong earthquake (Chile). No time-marks.
62	„ 1	L				10					No time-marks.
63	„ 1		ε	ε		18 59.0					Chile; repetition.
				ε		19 1.9					
		L				33					
		M				40.5	19		4		
		F				20.1					
64	„ 2	PP	ε	ε	e	4 40 10					Chile; repetition. △ = ca. 115°.
		$\overline{S_cP_cS}$		e		45 57					
		PS		e	e	49 57					
		PPS	e	e		50 27					
		SS				55.9					
		L				5 14					
		M_1				24.2	23		40		
		M_2				27.1	23	59			
		M_3				28.9	19		44		
		F				7.7					
65	„ 2	L				23 3					
		F				7					
66	„ 3	L				5 38					
		M_1				42.0	14		2		
		M_2				42.3	16	2			
		F				6.0					
67	„ 3	L				13 8					
		F				13.8					
68	„ 3					17 16					
		F				20					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
69	Dec. 7	$\overline{S_e P_e S}$		ε		9 38.4					New Guinea; △ = ca. 110°.
		PS		*e*		41 53					Recorded on M-S E. Other instruments not in function.
				e		59.1					
		L				10 8					*F* disturbed.
70	„ 9	*SS*				0 35.7					Salomon Islands.
		L				56					△ = ca. 125°.
		M_1				1 3.1	19	2			
		M_2				6.0	18		4		
		F				2.2					
71	„ 9					3 43					
		F				47					
72	„ 9		ε	ε		5.4					Salomon Islands.
		PS		ε		5 35					△ = ca. 125°.
		SS				43.5					
						52.9					
		L				6 4					
		M_1				20.2	16	4			
		M_2				22.2	18		5		
		F				7.8					
73	„ 9	*PP*	ε	ε		18 31.4					Salomon Islands region.
			ε			33.6					△ = ca. 128°.
		SS	*e*	*e*		48.5					
				ε		55					
				e		19 6					
		L				9					
		M_1				16.1	20	4			
		M_2				19.0	18		3		
		F				20.8					
74	„ 10	*S*				4 56.7					North Sumatra.
		L				5 14					△ = ca. 85°.
		F				6.0					
75	„ 10	*P*	ε	ε		7 7 44					No *Z* records.
			i			8 5					Crete. △ = ca. 20°.
		S	*e*	*e*		11.4					
			i			11 31					
		m				11.6	7; 5	4	4		
			i	*e*		12 3					
		F				7.5					
76	„ 10	*L*				16 6					
		F				16.5					
77	„ 11	*L*				19 56					
		F				20 3					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1928					*h m s*	sec	μ	μ	μ	
78	Dec. 12		*e*	ε		1 54					
		F				2.1					
79	„ 12	*P'*	*e*	ε	*i*	20 39 34					NE of New-Zealand. △ = ca. 150°.
		m				39.7	7			6	
		PP	*e*		*e*	43.3					
			ε			47					
		$(\overline{S_cP_cS})$		*e*	ε	47 27*)					*) Time-mark.
		$\overline{S_eP_c}\ \overline{P_eS}$		*e*		50.2					
					e	50.5					
		$\overline{S_eP_eS}\,P$	*e*			53 35					
		PS		*e*		55.3					
		PPS	*e*			56 27*)					*) Time-mark.
			e		ε	59.7					
		SS				21 2.9					
		SSS				9					
				e		11.9					
		L				33					
		M_1				40.7	24	10			
		M_2				46.6	20		12		
		M_3				49.7	21	19			
		M_4				56.7	18	13			
		M_5				22 3.1	17		9		
		C					15-17				
		F				23.8					
80	„ 13					3 28.2					
		(*L*)				31.2					
		M				32.0	12; 11; 12	3	4	2	
		F				3.8					
81	„ 14	(*S*)				0 43 52					Hindustani.
		SS	*e*			47					△ = ca. 50°.
		L	*e*			54					
		„		*e*		56					
		M_1				59.0	13	5			
		M_2				1 10.5	16			5	
		M_3				10.6	14		4		
		F				1.6					
82	„ 14		*e*			1 39					
				e		43					
		F				2.0					
83	„ 14	(*L*)				2 48					
		M				50.2	15	2			
		F				3.2					
84	„ 16	*L*				19 48					
		F				20.1					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.) h m s	Period sec	Amplitude A_N μ	Amplitude A_E μ	Amplitude A_Z μ	Remarks
	1928										
85	Dec. 18		*e*	*ε*		9 44					
		F				50					
86	„ 19					5 27					
		F				5.8					
87	„ 19	*P*	*ε*	*ε*	*e*	11 50 43					Mindanao.
					e	51 30					△ = ca. 98°.
				e		52 48					
		PP		*i*	*e*	54 46					
				e	*i*	55 26					
		PPP	*e*			57 13					
		$\overline{S_cP_cS}$		*e*	*e*	12 0 20					
			e			58					
		„		*e*		1 3					
		S	*i*	*e*		2 10					
		PS		*e*	*e*	3.7					
			e			6.9					
				e		7.4					
		SS	*e*	*e*		8 48					
		SSS	*e*		*e*	12.6 *)					*) Time-mark.
			e		*e*	16.1					
		L	*e*			20					
		„		*e*		21					
		M_1*				30.4	22	663	368		
		M_2				37.0	20			226	
		M_3*				38.6	18		250		
		F				16.5					
88	„ 20	*L*				7 31					
		F				8.0					
89	„ 22	*L*				14 55					
		F				15.1					
90	„ 26	*PS*	*e*	*e*		21 59.4					Epicentre according to St. Louis
		SS	*ε*	*e*		22 4.6					5°.2 N. 101°.3 W.
		SSS	*ε*			8.8					△ = ca. 98°.
		L				17					
		F				22.7					
91	„ 27	*L*				5 52					
		F				6.3					
92	„ 28	*P*			*ε*	14 33.1					Mindanao.
				ε	*ε*	35.6					△ = ca. 98° (as no. 87).
				e		42.9					
		$\overline{S_cP_cS}$	*e*	*e*		43 43					
		S	*e*			44 27					
		PPS		*e*		46 32					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.) h m s	Period sec	Amplitude A_N μ	Amplitude A_E μ	Amplitude A_Z μ	Remarks
	1928										
92	Dec. 28	*SS*	*e*			14 51					
		SSS	*e*			55.6					
		L	*e*			15 6					
		,,		*e*		7					
		M_1				12.3	24		57		
		M_2				14.8	21	68			
		M_3				20.1	15			25	
		M_4				20.3	17		32		
		F				17.5					
93	,, 30	*L*				21.9					
		F				22.1					
94	,, 30	*L*				23 21					
		F				30					
95	,, 31	*L*				8 10					
		F				8.3					

The seismological station København is equipped with the following instruments:

1 Wiechert 1000 kg. horizontal seismograph,
1 Wiechert 1300 kg. vertical seismograph,
3 component Galitzin pendulums with galvanometric registration,
2 component Milne-Shaw seismographs,
2 component Wood-Anderson torsion seismometers.

The instruments are not always all working and in each bulletin it is stated which instruments have been working during the corresponding period and their constants for that period are given.

The time-marking clock is controlled daily by scientific time-signals from Nauen or from Tour Eiffel, and time is known with an accuracy of $^1/_{10}$ sec.

The coordinates of the station are: $\varphi = 55°41'$ N., $\lambda = 12°27'$ E., h = 13 m. The lithologic foundation consists of chalk.

Seismometric readings: Notation

P — normal first preliminary tremors, longitudinal waves.
$PP...$ — longitudinal waves reflected at the earth's surface.
S — normal second preliminary tremors, transverse waves.
$SS...$ — transverse waves reflected at the earth's surface.
PS; PPS; ... — waves reflected at the earth's surface which travel partly as longitudinal, partly as transverse waves.
P' — longitudinal waves that have traversed the earth's central core.
$\overline{S_cP_cS}$ — waves which traverse the mantle as transverse waves but are refracted through the core with longitudinal oscillation.
$\overline{P_cP_cS}$ — waves which pass the mantle on one side of the core as longitudinal waves, on the other side as transverse waves and are refracted through the core with longitudinal oscillation.
$\overline{S_cP_c}\ \overline{P_cS}$ — waves which traverse the mantle as transverse waves, are refracted through the core with longitudinal vibration and are reflected on its inner boundary.
L — long, or surface, waves; main phase. (L_Q — transverse waves; L_R — Rayleigh waves).
L' — surface waves travelling along the major arc to the station.
M (M_1, M_2, ...) — waves of greatest amplitude in the surface waves.
m (m_1, m_2, ...) — waves of greatest amplitude in other phases.
C — regular waves at the end of main phase.
F — end of discernible movement.
i — sharply defined beginning of a phase.
e — gradual beginning of a phase.
ε — beginning of a phase which is but faintly discernible.
A_N,A_E,A_Z — half amplitude of earth motion measured from the position of equilibrium in microns (1 micron, $\mu = {}^1/_{10^3}$ mm) positive towards north, east or zenith.
Δ — arcual distance from the station to the epicenter.

M and m are, as a rule, measured on the Galitzin records; if they are measured on the records of other seismographs they are marked with an asterisk. The time of M and m is not corrected for retardation.