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OF THE SEISMOLOGICAL STATION

KØBENHAVN

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Bulletin

of the seismological station

KØBENHAVN

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

Foundation: chalk.

No. 1 March, April 1927

Instruments:

Galitzin horizontal pendulums with galvanometric registration:

N component (no. 151) $l = 11.9$ cm. $T_1 = 11^s.74$ $A_1 = 100$ cm.
E component (no. 152) $l = 11.9$ cm. $T_1 = 11^s.92$ $A_1 = 100$ cm.

For the rest of the constants the following mean values were adopted:

N				E			
Date	μ^2	T	k	Date	μ^2	T	k
$^1/_3$—$^{10}/_3$	— 0.06	12.5	76	$^1/_3$—$^{22}/_3$	0	12.6	63
$^{10}/_3$—$^{31}/_3$	0.10	12.7	76	$^{22}/_3$—$^1/_5$	0.08	12.7	101
$^{31}/_3$—$^1/_5$	0	12.5	102				

Wiechert 1000 kg. horizontal seismograph.

Wiechert 1300 kg. vertical seismograph.

The mean values of the constants were:

Component	T	ν	ϱ	V
N	9.1	4.1	0.6	222
E	9.3	3.8	0.5	194
Z	6.1	5	0.2	165

Milne-Shaw seismograph, *N* component, of the standard type with the approximate constants $T = 12^s$ $\nu = 20$ $V = 175$

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1927					h m s	sec	μ	μ	μ	
1	March 3	*P*		ε	ε	1 19.6					△ = c. 12000 km.
		P′				23.7					South Celebes and Flores according to Batavia.
		PP				23 59					
			ε	ε		24 29					
		$\overline{S_cP_cS}$				30 9					
		PS				33.1					No time-marks on Galitzin *N* component.
		PPS				34.1					
		SS				39					
					ε	44					
			e			46					
			e			48					
		L (Q)	e			53					
		M_1*				56.9	55	— 111			
		L		e	e	57					
		M_2*				2 2.6	25	— 77			
		M_3				14.3	19		— 40		
		M_4*				14.4	17; 20	30		— 33	
		C					c. 18				
		L′				3 11	c. 30				
		M_1'				25.8	20		5		
		F				4.2					
2	„ 3	*P*	e	ε	e	17 1 45					Kamtschatka or Kurile Islands.
		PP			ε	4.6					
		S				11.2					
		SS				16.1					No time-marks on Galitzin *N* component.
				ε		23					
		L				27					
		M_1				28.4	35		19		
		M_2				30.6	25		— 19		
		M_3*				34.9	20	— 7			
		M_4				36.2	15		— 10		
		C					c. 15				
		F				19.1					
3	„ 6	*P*		e	e	1 42 38					△ = 5600.
		PPP		e		45.7					
		S				49 49					
		L				57					
		F				2.7					
4	„ 7	*P*	i	e	i	9 39 32					△ = 8330.
		PR_1				42 19					Compression.
		PR_2				44 17					Japan.
		PR_3				45 17					
		S	i	i	(?)	49 17					The beginning of the record disturbed by work at the station.
			e	e		53.5					

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No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1927					h m s	sec	μ	μ	μ	
4	March 7	SR_1				54.1					Maxima on the horizontal components can not be evaluated as the light is too faint on the photographic records and the pens of the Wiechert seismograph have left the paper on one side.
		SR_2				58.7					
		L (Q)	e	e		10 2					
		L (R)				11					
		M				17.2	15			600	
		C					c. 15				
		L′				11.8					
		F				14					
5	„ 9		e	e		16 36.6					
			e			41.4					
		L	e			50					
		„		e		53					
		M_1				53.3	22	— 4			
		M_2				54.1	22		4		
		C					c. 20				
		F				17.7					
6	„ 12	*L*				13 0					
		F				25					
7	„ 12	*P′*			ε	19 4.1					△ = 15—16000.
		PP				6.6					South-Eastern Pacific.
		$\overline{P_cP_cS}$				7.6					
		SS				24.7					
		SSS				30.3					
		L				42					
		M_1				53.6	26		4		
		M_2				20 4.7	20		— 3		
		M_3				4.8	20	2			
		F				21.2					
8	„ 13		ε	ε		5 57					
		L				6 28					
		F				7.4					
9	„ 13	*L*				22 3					
		F				17					
10	„ 14	*L*				4 51					
		F				5 6					
11	„ 14		ε	ε		18.0					No *Z* record.
		L				18 15					China according to Sverdlovsk.
		M_1				17.5	13	5			
		M_2				26.4	14		— 5		
		F				19.0					
12	„ 15					17 30					No records from $8^h\ 0^m$ to $17^h\ 30^m$.
		F				50					

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No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1927					h m s	sec	μ	μ	μ	
13	March 15	*P*		ε	ε	21 58.4					Kouen-Loun according to Sverdlovsk.
		S	*e*	*i*		22 6 22					
		SS				11.3					
		(L)				17					*L* irregular.
		M_1				19.7	10	— 12			
		M_2				23.2	13			— 9	
		M_3				24.3	12		— 9		
		M_4				26.5	11	— 9			
		F				23.2					
14	„ 16	*P*			*e*	7 4 27					Kurile Islands according to Sverdlovsk.
		S	ε	ε		14.5					
		L				32					
		M_1				40.1	18	3			
		M_2				40.3	18		5		
		F				8					
15	„ 20		*e*			16 35.2					
				e		40.5					
		L				54					
		F				18					
16	„ 20	*L*				c. 9 35					Disturbed, change of sheets.
17	„ 21	*(L)*				10.7					The beginning disturbed by work at the station.
		F				11.3					
18	„ 21	$\overline{S_cP_cS}$	*e*	*e*		15 29 47					There is a faint movement previous to the first given phase.
		S	*i*	*i*		30 34					
				e		35.6					
		SS	*i*	*e*		37 35					
		(SSS)				40.9					
				e		47					
		L	*e*			51					
		„		*e*		52					
		M_1				55.8	32			— 18	
		M_2				56.3	28	13			
		M_3				16 3.5	20			— 7	
		M_4				4.8	20	7			
		M_5				12.5	17	— 6			
		M_6				14.0	17			9	
		F				17.7					
19	„ 22		*e*			1 20					
		L				39					
		F				2.6					
20	„ 22	*L*				23 7					
		F				13					

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No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1927					h m s	sec	μ	μ	μ	
21	March 24			ε		14 52.4					Crete.
				ε		55.2					Reading of first phases uncertain because of microseismic movement.
				e	*e*	55.8					
		L				59					
		M_1				15 2.7	13	12			
		M_2				3.3	12		12		No *Z* record.
		F				18					
22	„ 25			*e*		3 54.7					Reading of first phases uncertain as under 21.
		S				56.9					
		L				59					
		M_1				4 2	16		— 4		
		M_2				3.2	15	— 4			
		F				20					
23	„ 25	*P*	ε		*e*	13 6 6					Aleutic Islands according to Sverdlovsk.
		S				15.4					
		L				30					
		M_1				33.6	22		— 6		Strong irregular microseismic movement.
		M_2				43.6	18	— 6			
		M_3				45.0	17		— 7		
		F				14.2					
24	„ 25	*L*				21 8					
		F				10					
25 a	„ 29	*L*				22 43					Three similar groups of *L* waves.
		F				48					
25 b	„ 29	*L*				23 18					
		F				22					
25 c	„ 29	*L*				23 26					
		F				30					
26	„ 30	*L*				8					Very faint. No time-marks on Galitzin records.
27	„ 30	*L*									Time cannot be determined, time-marks failing. Probably between 14^h and 16^h.
28	„ 31	*L*				21 50					Strong irregular microseismic movement.
		M_1				52.2	16		5		
		M_2				52.5	15	— 5			
		F				22.2					
29	April 1	*P'*	*i*	*e*	*i*	19 24 59					*) Time-mark.
					e	26 33 *)					
		$\overline{P_cP_cS}$	*e*	*e*	*i*	28 1					
			e		*e*	30 29					

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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
	1927										
29	April 1	*PPP*				31 19					
			e		*e*	33.6					
		$\overline{S_cP_cP_cS}$				34 33					
					e	36.7					
		$\overline{S_cP_cS}$ *P*				37 55					
		PPS				40 13					
		SS				47.0					
		SSS				51.3					
		F				21.4					
30	„ 3	*L*				14 33					
		F				52					
31	„ 4		*e*	*e*		5 20.7					
		L				38					
		F				6.1					
32 a	„ 6					19 13					
		F				20					Irregular movement visible on Galitzin records only.
32 b	„ 6					20 37					
		F				54					
33	„ 7	*L*				18 41					
		F				55					
34	„ 9	*L*				9 48					
		F				10.1					
35	„ 9		*e*	*e*		17 15 59*)					*) Time-mark.
			ε	ε		20.2					
		L	*e*			36					
		„		*e*		42					
		F				18					
36	„ 9	*L*				19 56					
		F				20.1					
37	„ 10	*(L)*				12					Seismic?
		F				14					
38	„ 13	*P*			*e*	13 56 42					Luzon.
				ε	*e*	57 21					
				e		14 6 8					An increase of *L* about 15h 19m is probably due to a second chock which occurs 50m after the first one.
		$\overline{S_cP_cS}$	*i*			7 5					
		PS	*i*	*e*		8 13					
		SS				13.2					
		SSS				17.2					
			e			19.7					
				e		25.0					

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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
	1927										
38	April 13	*L (Q)*	*e*			27					
		L		*e*		30					
		M_1				29.5	28	19			
		M_2				31.9	18		— 7		
		M_3				32.6	15	10			
		M_4				41.1	15		7		
		F				15.5					
39	„ 14	*P*		ε	ε	6 37 58					Chile and Argentine.
		P'			ε	41 55					
			e	*e*		42.2					
		PP	*e*	*i*	*e*	42 42					
					i	43 13					
			e			45 13					
		PPP			*e*	45 36					
		$\overline{S_cP_cP_cS}$		*i*		49 31					
		„	*i*			38					
		S	*e*	*i*		50 23					
		PS	ε	*e*		52.1					
		PPS	*i*	*e*		53 3					
					e	54 6					
		SS				58					
		SSS				7 2					
		L	*e*			12					The beginning of *L* difficult to distinguish on *E*. Galitzin *E* is altogether difficult to read, as the light is too faint.
		M_1				14.3	30	— 32			
		M_2				27.7	20		— 28		
		M_3				27.9	20	— 23		22	
		M_4				33.8	18	15			
		M_5				35.8	18		18		
		F				9.1					
40	„ 16	*P*			*e*	8 26 24*)					*) Time-mark.
			ε	*e*		35 58					The sheets were changed shortly after the beginning of *L*, and the whole record has been disturbed by work at the station.
				e		48.9					
		(L)	*e*			54					Strong microseismic movement.
		„		*e*		57					
		F				10.8					
41	„ 19	*P*			*e*	17 42 40*)					*) Time-mark.
					e	43.2					
		PP			*e*	47 1					Luzon and Formosa.
		PPP			*e*	49 25					
		$\overline{S_cP_cS}$	*i*	*e*	*e*	53 8					No Galitzin *E* record.
		(PS)	ε	*e*	*e*	54 2					The Galitzin *Z* component, otherwise not in function, has recorded this earthquake.
		SS				59.2					
			i			18 5 37					
		L				13					
		M_1				16.0	32	39			
		M_2				16.3	25	— 34			

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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
	1927										
41	April 19	M_3				19.8	18	— 19			
		M_4*				24.0	16		13		
		M_5				24.1	15			14	
		F				18.9					
42	„ 21					4 3					
		F				13					
43	„ 22	L				11 32					
		F				47					
44	„ 24		e	e		11 34 39					
			e	ε		35 29					
			e	e		37 55					
			ε	ε		41.5					
		F				11.9					
45	„ 27				ε	3 9.6					
			ε			12.7					
			e	ε		13.4					
				ε		15					
		L				58					
		F				4.7					
46	„ 27	P			e	19 28 46					
		S	i	e		39 9					
		L				20 0					
		M_1				1.8	20	7	— 6		
		M_2				6.8	16		— 6		
		M_3				8.8	15	— 7			
		M_4				10.0	14		— 5		
		F				20.7					
47	„ 28					11 13					No Galitzin records.
						20					
	„ 29*)										*) No records from $5^h 50^m$ to $13^h 47^m$.
48	„ 30			e		14 11 40					No Galitzin N record.
			e			11.8					
			ε	e		15 50					
				e		18 24*)					*) Time-mark.
			e			19.4					
			e	e		20.8					
		M_1				24.5	8		16		
		M_2				27.4	14		15		
		F				15.5					

No. 2. 1927.

Geodætisk Institut

(Den danske Gradmaaling)

Proviantgaarden, Copenhagen, Denmark.

Bulletin

of the seismological station

KØBENHAVN

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

Foundation: chalk.

No. 2 May, June 1927

Instruments:

Galitzin horizontal pendulums with galvanometric registration.

Constants (mean values):

Component	l	T_1	A_1	μ^2	T	k
N	11.9 cm	$11^s.74$	100 cm	0.11	$12^s.5$	103
E	11.9 cm	$11^s.92$	100 cm	0.05	$13^s.0$	100

The Galitzin pendulums were dismounted on June 24th.

Wiechert 1000 kg. horizontal seismograph.

Wiechert 1300 kg. vertical seismograph.

Constants (mean values):

Component	T	ν	ϱ	V
N	9.1	4.1	0.5	225
E	9.4	3.8	0.4	195
Z	6.1	5	0.1	165

Milne-Shaw seismograph, N component, with the approximate constants $T = 12^s$ $\nu = 20$ $V = 175$; from $^{25}/_5$ $V = 350$.

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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
1	May 2	*L*				6 37					
		F				44					
2	„ 2	*L*				12 9					
		F				21					
3	„ 2		*e*	*e*		13 0 5					
		L				30					
		F				14.0					
4	„ 2	*L*				22 30					
		M				38.5	10		—2		
		F				48					
5	„ 3			ε		14 6					*N* components disturbed.
				ε		17					
		L				44					
		M				53.6	20		—3		
		F				15.9					
6	„ 4			ε		14 53					
		F				15 9					
7	„ 7	*L*				22 32					No Galitzin *N* records from May 7th 15^h to May 8th 9^h.
		F				23.0					
8	„ 7			ε		3 42					
		F				54					
9	„ 9	*P*			*i*	10 39 42				+	△ = 4700 km.
		„		*i*		45			+		
		„	ε			40.0					*L* irregular.
		PP		*e*		41 23					
		PPP		*e*		41 33					
		S				46 2					
		SS				49.3					
		(*L*)				52					
		M_1				11 4.1	12	—7			
		M_2				4.9	12		—7		
		F				12.1					
10	„ 9	*P*		ε		20 18.5					Epicentrum according to la Paz 18° N 93° W.
		S				28 48					
		SSS				35					
		L				45					
		M_1				51.3	25		—11		
		M_2				52.7	22	+4			
		M_3				56.7	18	—6			
		F				21.7					

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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
11	May 10		*e*	*e*	ε	6 27 33					
		L				54					
		F				8.8					
12	„ 10			*e*		18 58					
			e			19 0					
		F				19 5					
13	„ 10			ε		20 19					
			ε			21					
			e	*e*		34					
		F				20.9					
14	„ 11			ε		1 46					
		L				2 17					
		F				2.8					
15	„ 13	(*L*)				0 34					
		F				1.2					
16	„ 13	*S*				15 36 13					There is a faint previous movement masked by microseisms.
		PS				37 28					Galitzin *N* disturbed.
		SS				42					China Sea.
		L	*e*			16 0					
		M				8.7	15		—2		
		F				16.8					
17	„ 13-14	(*P*)	*e*	*i*	*i*	23 28 54		+	+	—	
			e	ε		36 25					
			e			37 38					
			e	*i*	ε	38 32					
		SS				44 52					
			ε			56					
		L	*e*			0 1					
		„		*e*		4					
		M_1				7.3	30	—10			
		M_2				10.0	30		—10		
		M_3				10.2	18	—4			
		M_4				11.9	17		+5		
		F				1.5					
18	„ 14	*L*				7 18					
		F				32					
19	„ 14		*e*	*e*		20 39					
		F				56					
20	„ 15	*P*	*e*	ε	*e*	2 50 15					Jugo Slavia near Belgrade.
			i		ε	41					
		S	*e*	*e*	ε	52 40					

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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
	1927										
20	May 15		*e*	*e*	ε	53 16					
				e		48					
					e	57					
			i			54 32					
		L		*e*		54.3					
		„	*e*		*e*	55					
		M_1				56.4	10	— 28			
		M_2				56.7	10		— 24	— 30	
		M_3				58.4	9	31	— 31	17	
		M_4				0.7	9		23		
		F				4.7					
20a	„ 15					3 19					
		M_1				21.2	10	— 4			A second shock superposed on the preceding one.
		M_2				22.2	9		— 5		
		M_3				22.7	9	6			
21	„ 15	*L*				6 41					
		F				48					
22	„ 16	*P*	ε	ε	*e*	12 13 36					△ = 9160 km.
		S	*e*	*i*		23 59					
		SS				29.5					
		L				44					
		M_1				51.0	17	4			
		M_2				51.5	17			7	
		M_3				58.3	16	— 6			
		C					c. 15				
		F				15.1					
23	„ 17		*e*	*e*		6 33 43					
				ε		39.2					
		L				53					
		F				7.6					
24	„ 17	*P*	ε	ε		21 54					
		PP				57 14					
		S	*e*	*i*		22 2 49					
		PS				3 35*)					*) Time-mark.
		SS				7.3					
		L•)									•) faint, beginning uncertain.
		F				23.0					
25	„ 18	*L*				1 56					
		F				2.3					
26	„ 18	*L*				10.1					
		F				10.7					

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
	1927										
27	May 18-19			*e*		23 14 58					
		L				35					
		M_1				39.6	19		— 2		
		M_2				44.5	15		— 2		
		M_3				45.0	14	— 1			
		F				0.1					
28	„ 19	*P*		ε		5 39					Epicentre 2°, 3 N 83°, 5 W according to La Paz.
		PP	ε	ε		42.6					
			ε			47.2					
		S				49 36					
		SS				55					
		L	*e*			6 6					
		„		*e*		8					
		M_1				14.3	22	2			
		M_2				15.4	22		3		
		F				7.6					
29	„ 19	*L*				20 1					
		F				14					
30	„ 20					11 15					
		F				49					
31	„ 20	*L*				14 7					
		F				15					
32	„ 20		ε	ε		22 32.1					
		L				53					
		F				23.5					
33	„ 21			ε		8 20.4					
			ε			22					
		F				8.9					
34	„ 21	*(P)*			*e*	17 12 58					
			ε	ε		13 12					
					e	16 26					
			e	ε		22 59					
				e		34 52					
		F				18.8					
35	„ 22	*P*		ε		1 59					Epicentre 20°, 5 S 69°, 5 W according to La Paz.
		PP		ε		2 3					
		$\overline{S_c P_c S}$	*e*	*i*		9 21					
		S	*e*			10.3					
		F				3.1					
36	„ 22				ε	12 13.6					
			e	*e*		22 4					
		L	*e*			45					

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No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1927					h m s	sec	μ	μ	μ	
36	May 22	*L*		*e*		46					
		M_1				47.9	14	1			
		M_2				54.8	15		— 3		
		F				13.6					
37	„ 22			ε		22 11					Not quite finished when the following begins.
			ε			12					
		M_1				16.3	12	— 3			
		M_2				21.0	14		— 2		
38	„ 22-23	*P*	*i*	*i*	*e*	22 42 52		—	—	+	Kan-Sou.
		PP			*e*	45.9					
		PPP		*e*		46.9					
		„	*e*			47.1					
			e			49.0					
		S				51.2					
			e	*e*		52.8					
		SS				56					
		L				23 0					
		M (N)				3—17	8—12				During these intervals the displacements exceeded the range of the recorders.
		M (E)				6—18	8—12				
		M (Z)				7—15	8—12				
		F				4.7					
38 a	„ 23	*L*				3 15					Aftershock.
		M_1				19.0	13	— 11			
		M_2				23.8	13		9		
39	„ 23	*L*				5 9					
		F				5.4					
40	„ 23	*L*				7 8					
		F				7.5					
41	„ 23	*L*				10.5					
		F				11.1					
42	„ 23		ε	ε		14 9					No records from $13^h\ 59^m$ to $14^h\ 7^m$.
		L				22					
		M_1				24.1	12	— 10	5		
		M_2				29.0	12		— 5		
		F				15.2					
43	„ 23	*L*				16 58					
		F				17 16					
44	„ 23		ε	ε		22.6					
		L				22 57					Very regular waves.
		M_1				14.2	20	— 1			Not quite finished when following movement begins.
		M_2				17.2	18		— 2		

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No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1927					h m s	sec	μ	μ	μ	
45	May 24		*e*	ε		0 3.4					
		L	*e*			16					*L* irregular.
		„		*e*		17					
		M				17.9	13	— 6	4		
		F				1.4					
46	„ 24					5 18					
		F				34					
47	„ 24					7 25					
		F				7.7					
48	„ 24					12 29					About $12^h\ 55^m$ a long periodic movement begins which possibly is not connected with the preceding movement.
		F				13.4					
49	„ 24	*L*				16 28					
		M				34.4	13	— 3			
		F				17.1					
50	„ 24					20 58					
		F				21 16					
51	„ 25			*e*		2 57					
			e			58					
		M_1				59.1	18		4		
		M_2				3 0.7	11		1		
		F				3.5					
52	„ 26					2 50					
		F				57					
53	„ 26					12 1					
		F				9					
54	„ 26					17 41					
		F				49					
55	„ 27		ε	ε		3 6					
		L	*e*			25					
		„		*e*		26					
		M				28.1	12	— 3	1		
		F				3.9					
56	„ 27					17 36					No time marks on Galitzin *N*.
		F				50					
57	„ 28	*L*				2 1					„
		F				2.2					
58	„ 28	*L*				2.5					„
		F				3.3					

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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
	1927										
59	May 28					23 18					No-time marks on Galitzin *N*.
		F				43					
60	„ 29	*L*				10 51					„
		F				11 7					
61	„ 29					17 22					„
		F				33					
62	„ 31			ε		13 13.1					Very faint.
				ε		23.4					Galitzin *N* disturbed.
		F				14.1					
63	„ 31	*L*				23 4					No Galitzin *N* record.
		F				21					
64	June 1					c. 17 30					No Galitzin *N* record.
		F				49					No time-marks on Galitzin *E*.
65	„ 1	*L*				c. 20.4					As under 64.
		F				21.2					Regular long-periodic movement.
66	„ 2					6 29					As under 64.
		F				45					
67	„ 2			ε		16 47 34*)					*) Time-mark.
			e	ε		55 41					
			ε	*e*		59.5					
			e			17 5.0					
		L	*e*			10					
		„		*e*		11					
		M_1				10.9	15	— 8			
		M_2				13.9	12	8			
		M_3				17.9	12		7		
		F				18.5					
68	„ 3	*P*			ε	7 26 37*)					*) Time-mark.
		„	*e*	*e*	*e*	41					Moluccas and New Guinea according to Batavia.
		P'	ε	*e*	*e*	29 58					
			e	*e*		30.6					
		PP		*e*	*e*	31 15					
		„	*e*			23					
		PPP				33.4					
		$\overline{S_cP_cP_cS}$	*e*	*e*		37.8					
		S	*e*			38 46					
		PS			*e*	40 35*)					*) Time-mark.
		„	*i*	*i*		51					
		SS	*e*			46 6					
		m				47.0	20	— 72			
			e			58					

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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
	1927										
68	June 3	*L (Q)*	*e*			8 2					
		L		*e*	*e*	6					
		M_1				8.7	24	137			
		M_2				14.2	25	— 236			
		M_3				17.0	22		— 125		
		M_4*				18.9	23			92	
		M_5				20.3	24		— 136		
		L'				9.4					
		M_1'				25.9	20	10			
		M_2'				32.2	21		— 17		
		C					c. 18				
		F				12.3					
69	„ 3	*L*				20 56					
		F				21.1					
70	„ 5					4 5					
		F				4.2					
71	„ 5	*P*	*i*	*i*	*i*	8 30 2		+	—	+	Azimuth *SE*.
					e	30.4					△ = 2700 km.
				e		32 2					Asia Minor.
		S				34 13					
		L				38					*M* disturbed by change of sheets.
72	„ 5	*L*				23 23					
		F				23.6					
73	„ 6					4 3					NB. From June 6th the Galitzin pendulums, especially the *E* component, have often been out of function.
		F				4.5					
74	„ 6			ε	*e*	6 0 5					
		L		*e*		24					
		„		*e*		26					
		F				7.3					
75	„ 6			ε		12 48.3					
		L				13 22					
		F				14.1					
76	„ 6			ε		18 44 4					
					ε	18					
					e	33					
				ε		48.0					
					ε	49.2					
				e		19 3					
		L		*e*		37					
		„			*e*	44					
		M_1				40.5		35	4		
		M_2				51.1		22	4		
		C						18—20			
		F				21.0					

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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
	1927										
77	June 7					3 49					
		F				4.2					
78	„ 7	*L*				10 26					
		F				10.8					
79	„ 7					23 38					
		F				45					
80	„ 8					5 18					
		F				24					
81	„ 9	*L*				4 6					NB. June 9th & 10th there is a disturbance of unknown origin in the direction *N—S*.
		F				4.3					
82	„ 10		ε			17 32.7					
		L				56					
		F				18.6					
83	„ 11		ε	ε		2 56.8					
			ε	ε		3 0.1					
		L				3.4					
		F				4.3					
84	„ 14					1 17					
		F				27					
85	„ 14		ε			4 23.3					
			ε			38.8					
		L				42					
		F				5.9					
86	„ 14			ε	*e*	17 36 46					
			ε			37					
			e	ε		59					
		L				18 28					
		F				20.3					
87	„ 17	*L*				7 1					
		F				9					
88	„ 18		*e*			1 19.1					
		L				40					
		F				2.1					

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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
	1927										
89	June 19					0 38					
		L				41					
		F				1.3					
90	„ 20	*P*	ε			14 26					No Z-record.
		S	*e*	*e*		36 25					
			e	*e*		42					
		SS	*e*			42					
				ε		44					
		L		*e*		53					
		„	*e*			54					
		M_1				55.3	29		— 5		
		M_2				15 3.1	17		— 9		
		M_3				3.4	17	7			
		M_4				5.8	13	3			
		F				15.9					
91	„ 22		*e*	*e*		0 8 51					
			ε	ε		14					
			e			21 6					
		L				24					
		F				1.0					
92	„ 23	*L*				11 50					
		F				12 17					
93	„ 24		ε	ε		0 5					
			ε			9.0					
						12					
		L				14					
		M_1				14.9	13		4		
		M_2				15.4	11	6			
		F				0.8					
94	„ 26	*P*				11 24 52*)					*) Time-mark. Crimean Peninsula.
		S	*e*			27 58					
		„		*e*		28 2					
		L				30					
		M_1*				30.6	7			— 22	
		M_2*				31.0	5		33		
		M_3*				31.2	13; 4	— 96		18	
		M_4*				32.4	8; 11	— 42	— 49		
		F				13.1					
95	„ 27	*L*				5 19					
		F				23					

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No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1927					h m s	sec	μ	μ	μ	
96	June 27		e	e	i	12 43 36					
		F				13.6					
97	„ 28	L				2 25					
		F				2.7					
98	„ 28	L				17 57					
		F				18.4					
99	„ 30	P				23 3 50					Greece.
		S		e		7 11					△ = 2000 km.
		„	e			19					
		L				10					
		M_1*				10.4	13		18		
		M_2*				11.4	9			7	
		M_3*				11.6	9	5			
		F				23.9					

TYP. BIANCO LUNO KBH.A

No. 3. 1927.

Geodætisk Institut

Proviantgaarden, Copenhagen, Denmark.

Bulletin

of the seismological station

KØBENHAVN

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

Foundation: chalk.

No. 3. July—Sept. 1927

Instruments:

Wiechert 1000 kg. horizontal seismograph.

Wiechert 1300 kg. vertical seismograph.

Constants (mean values):

Component	T	v	ϱ	V
N	9.2	4.5	0.5	225
E	9.4	4.0	0.5	195
Z	6.1	5	0.1	165

Milne-Shaw seismograph, N component, with the approximate constants $T = 12^s$ $v = 20$ $V = 350$.

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1927					h m s	sec	μ	μ	μ	
1	July 1	*P*				8 23.5					Greece.
				e		24 43					The beginning disturbed.
		S				27 12*)					*) Time-mark.
		m_1				27.4	7; 6	85	— 138		
		m_2				27.7	7			— 69	
		L		*e*		29					
		,,	*e*			30					
		M_1				31.9	11		51		
		M_2				33.6	8	41			
		M_3				34.6	9			34	
		F				9.8					
2	,, 2	*L*				2 43					
		F				53					
3	,, 2	*L*				8 43					
		F				47					
4	,, 2					20 58.3					
		L				21 12					
		M				14.5	20	2			
		F				21.8					
5	,, 3	*P*			ε	8 29.6					
		PP	ε		ε	33.6					
		S	*e*			40					
		L				9 4					*L* disturbed by change of sheets.
		F				9.9					
6	,, 3	*P*			ε	10 57 14					△ = c. 140°.
			ε			57.9					17° S. 175° W. according to Wellington.
		PP	*e*	ε	*e*	11 0 10					
		$\overline{P_cP_cS}$			*e*	43					
		SS	ε	ε		18					
		L				44	c. 35				
		M				51.4	24	3			
		F				13.2					
7	,, 3					16 42					
		F				53					
8	,, 3	*L*				22 33					
		F				42					
9	,, 4					0 45					
		F				49					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1927					h m s	sec	μ	μ	μ	
10	July 4		*e*		*e*	14 31 35					
			e			35.4					
		L				38					
		M				41.2	12	— 1			
		F				15.0					
11	,, 4	*L*				15 40					
		F				59					
12	,, 6	*P*			*e*	0 9 27*)					*) Time-mark.
			ε			13.3					
		L				18					
		F				0.6					
13	,, 7					8 10					
		F				33					
14	,, 7	*P*			*i*	20 14 46				÷	△ = 46°.
		m				15.3	3			— 3	Persia.
		S	*i*	*e*		21 27					
		m				21.9	10		4		
		SS				24.6					
		L				30					
		M_1				33.6	9		3		
		M_2				39.1	11	3			
		F				21.6					
15	,, 8	*L*				1 13					
		F				31					
16	,, 10					4 23.0					
		L				5 10					
		F				6.1					
17	,, 11	*L*				c. 8 50					Disturbed by change of sheets.
18	,, 11	*P*	*e*	*e*	*i*	13 10 5			÷	+ ÷	Palestine.
		S				14.8					
			e			15.3					
		L				19					
		M_1				22.1	20	35	— 36		
		M_2				23.9	18			20	
		F				14.3					
19	,, 12	*P*	*i*	*e*	*i*	21 19 19			÷	÷ +	Azimuth NE.
			e			24					△ = 70°.
		S	*i*	*i*	*e*	28 35					Japan.
		L				(42)					
		M_1				46.5	11		— 6		
		M_2				46.7	8	— 6			
		F				23.2					

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
	1927										
20	July 14	*L*				7 7					
		F				11					
21	„ 14-15					23 45					
		L				0 (16)					
		F				0.8					
22	„ 15	*P*		ε	*i*	3 54 21				+	Turkestan.
			ε			54					△ = 41°.
		S	*e*			4 0 31					
		SS	*e*			3.8					
		„		*e*		4.1					
		F				4.3					
23	„ 15					18 54					
		F				19.7					
24	„ 15					21 43					
		F				55					
25	„ 16		*e*	ε	ε	1 31 31					
			ε	ε	ε	33.7					
			i	*e*	*e*	35 39					
		L_1				38					
			i	*e*	*e*	39 40					
			e			42					
		L_2				44					
		F				2.0					
26	„ 16		*i*	*e*	*e*	2 20 39					
		L				25					
		F				2.6					
27	„ 17	*L*				9 39					
		F				10 1					The record was disturbed from 9h 0m to 9h 39m.
28	„ 18	*P'*	ε	ε	*i*	11 39 39				+	
					e	40 7					△ = c. 150°.
			e	*e*		40.4					Probably White Island, New Zealand, according to Wellington.
		PP				43 47					
		$\overline{S_cP_cS}$				47					
		$\overline{S_cP_cP_cS}$				50 33					
		$\overline{S_cP_cS\ P}$				54.1					
		PPS				57					
		SS				12 3					
		SSS				9					
		L				35					
		M_1				45.0	25	− 9			
		M_2				47.7	25		3		
		F				13.6					

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
	1927										
29	July 22	*P*	*e*	*i*	*i*	4 2 9		+	÷	+	Persia.
		S				7.6					△ = c. 35°.
						11					
		L	*e*			13					
		„		*e*	*e*	17					
		M_1				17.6	20	− 69			
		M_2				21.1	16		38		
		M_3				22.3	16			− 31	
		M_4				22.5	12	− 38			
		F				7.1					
30	„ 22	*S*				8 50 15					Disturbed by change of sheets.
		L				58					Persia.
		F				10.0					
31	„ 22					20 46 9					
		F				21.3					
32	„ 23	*L*				18 2					
		F				18.6					
33	„ 23					19 24					
		F				28					
34	„ 23	*P*	*e*	*e*	*i*	20 24 59				+	Persia. △ = 36°.
		S				30 33*)					*) Time-mark.
			e			34.0					
		L	*e*			37					
		„		*e*	*e*	40					
		M_1				41.7	13		6		
		M_2				42.4	15	6			
		M_3				44.0	13			− 5	
		M_4				44.1	12		− 3		
		F				22.2					
35	„ 23-24	*P*				22 47 30				+	Persia. △ = 36°.
		S				53.0					Repetition of preceding shock.
			ε			56					
		L	*e*			59					
		„		*e*		23 2					
		M_1				4.9	16	4			
		M_2				6.6	12		− 2		
		F				0.4					
36	„ 24					13 33					
		F				14.1					
37	„ 24					14 14					
		F				50					
38	„ 24					20 22					
		F				40					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1927					h m s	sec	μ	μ	μ	
39	July 25	*L*				4 13					
		F				40					
40	„ 25					20 39					Eastern Alps.
			e	*e*	*e*	40.0					
		M_1				40.2	3		6		
		M_2				40.6	3			3	
		M_3				41.2	8	− 4			
		F				20.9					
41	„ 26					12 15 53					From July 26th till Aug. 22nd there is an uncertainty of 1—2 seconds in time determinations.
						17.0					
		F				22					
42	„ 27	*P*			ε	15 3 48					△ = 79°.
		S				13 54					Japan.
			ε			28					
		L				34					
		F				16.0					
43	„ 28					6 58					
		F				7.2					
44	„ 28	*P*	*e*	ε	*i*	16 28 55					△ = c. 67°.
					i	29 10					Alaska.
		S				37.9					
		L				50					
		M_1				55.5	23	− 8			
		M_2				56.2	24		9		
		M_3				17 5.5	19		4		
		M_4				8.4	18			− 5	
		M_5				8.5	18	− 4			
		F				17.8					
45	„ 29	*P*	ε	*e*	*i*	0 14 21					△ = 69°.
		PP		ε	*e*	16.8					Bay of Bengal.
		S	*e*			23 30					
		L	*e*			40					
		„		*e*		43					
		M_1				44.4	18	− 6			
		M_2				51.4	15		− 4		
		F				1.5					
46	„ 29					11 57					
		F				12.1					
47	„ 30	*P*				14 30 22					
		S				40.6					△ = c. 81°.
		L				59					East of Japan.
		M_1				15 7.4	17		− 3		
		M_2				8.4	17	2			
		F				15.5					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1927					h m s	sec	μ	μ	μ	
48	July 31	*L*				18 3					
		F				18.5					
49	„ 31	*L*				21.1					
		F				21.3					
50	Aug. 1		ε	*e*		11 52 36					
			ε	*e*		53 21					
			e			53.7					
			e			55.2					
		L				12 18					
		F				13.2					
51	„ 1	*P*	ε		*e*	17 17 31					△ = c. 71°.
		S	*e*	*e*		26.9					
		L				39					
		M_1				54.1	16	− 3			
		M_2				57.6	17		3		*F* in following.
52	„ 1		ε		*e*	18 57 52					
		S		*e*		19 7 6					
		„	*e*			7.2					
		SS	*e*			11.6					
		L				21					
		M_1				34.5	17	5			
		M_2				37.8	16		− 5		
		F				21.0					
53	„ 2	*P*			*e*	1 2 40					△ = c. 90°.
		S				11.6					
		PS				12.6					
		L				25					
		F				2.2					
54	„ 3					6 28.2					
		L				56					
		F				7.4					
55	„ 3	*L*				12 25					
		F				12.9					
56	„ 3					13 15					
		F				23					
57	„ 4					16 14					Disturbed before 16h 14m.
		F				17.1					
58	„ 5	*P*				21 24 49					△ = 76°.
		PP				27 46					Japan.
		PPP				29 34					The record is disturbed by change of sheets.
						31.1					
						34.4					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1927					h m s	sec	μ	μ	μ	
58	Aug. 5	*S*				34 39					
		SS				39.9					
		SSS				42.9					
		L				49					
		M_1				58.0	23		193		
		M_2				58.4	27			161	
		M_3				22 0.4	22	− 142			*F* in following.
59	„ 6	*P*				0 25 5*)					*) Time-mark.
		S				34 5					△ = 67°.
			e			35.4					Alaska.
		SS				39.5					
		SSS				41.5					
		L				47					
		M_1				52.6	23		− 5		
		M_2				55.7	22	5			
		M_3				1 3.4	20	− 4			
		M_4				3.6	18			− 5	
		L'				2 44					
		F				3.4					
60	„ 6	*L*				21 25					
		F				41					
61	„ 7					6 37.2					
		(*L*)				41					
		M_1				42.8	10		− 1		
		M_2				44.2	7	− 1			
		F				7.4					
62	„ 7	(*L*)				22 5					
		F				22.5					
63	„ 8	*P*	ε		ε	0 1 16					△ = 19°.
		„		ε		30					
		S		ε		4 43					
		„	ε			4.8					
		L				6.6					
		F				0.4					
64	„ 8	*P*				0 29 37					
		S				33 3					△ = 19°,
		L				34.9					
		M				36.3	16	− 1			
		F				1.0					
65	„ 8	*P*				1 8 55					
		PPP				13.6					△ = 67°.
		S				17 55					
		PS				18.7					
		(*SSS*)				26.5					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1927					h m s	sec	μ	μ	μ	
65	Aug. 8	*L*				33					
		M				38.9	13		1		
		F				2.7					
66	„ 8	*P*	ε		ε	3 48 38					△ = 19°.
		„		ε		48.7					
		S				52 5					
		L				54.1					
		M				56.3	6		− ½		
		F				4.4					
67	„ 8		ε	ε		19 6.6					
			e	*e*		8.2					
				e		10.9					
			ε			11.5					
			e			16.1					
			e			20.3					
		L				(40)					
		F				20.1					
68	„ 9	*L*				2 1					
		F				2.7					
69	„ 10	*P*	ε	*e*	*e*	1 48 16*)					△ = c. 83°.
			e	*e*		54					Central America.
		PP			*e*	51 36					
		PPP			*e*	53 37					
		S				58.7					
						58 56					
		PS				59.9					
				e		2 1.6					
		SS				4					
			ε			5.4					
		SSS				9.1					
		L				13					
		M_1				25.9	19		9		
		M_2				29.6	18	15			
		M_3				29.7	20			− 12	
		F				4.6					
70	„ 10	*P*	ε	ε	ε	11 50 33					△ = c. 105°.
		PP	*e*	*e*	*e*	54 57					New Guinea.
		PPP		*e*	*e*	58 5					
		$\overline{S_c P_c S}$				12 1 5					
		$\overline{S_c P_c}\ \overline{P_c S}$				2.2					
		PS				4 3					
		PPS				4.7					
				e		4 55					
				e	ε	8.3					
		SS				9.4					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1927					h m s	sec	μ	μ	μ	
70	Aug. 10	*SS*				10 0					
		m				10.0	12	12			
		SSS				14					
			e			20.0					
					ε	20.2					
		L	*e*			26					
		„		*e*		30					
		M_1				35.5	17	− 39	41		
		M_2				38.8	24			− 54	
		M_3				47.4	16		− 28		
		M_4				47.8	18	− 50		64	
		L'				13 50					
		F				15.6					
71	„ 11	*L*				6 27					
		F				6.9					
72	„ 12	*P*			*e*	0 45 34					△ = 74°.
					e	47 21					Japan.
		S	*e*	*e*		55 11					
			e	*e*		58 34					
		SS				1 1 12					
		SSS				3.8					
		L				17					
		F				1.7					
73	„ 12	*P*		ε	*e*	10 30 29					△ = 40°.
		PP		*e*	*e*	32 0					
			ε			36 9					
		S		*e*		36 35					
		„	*e*			36 49					
		SS				39.6					
			e			42 11					
		L				42					
		M_1				48.5	8		9	− 8	
		M_2				48.6	8	8			
		F				11.8					
74	„ 12	*S*				16 30.7					
		SS				34.1					
		L				37.2					
		M				42.5	8	− 2	2	− 2	
		F				17.2					
75	„ 13		ε			1 2.3					
				ε		2.4					
		F				9					
76	„ 13		ε			8 11.4					
		F				15					

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No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1927					h m s	sec	μ	μ	μ	
77	Aug. 13					12 10.7					
		L				36					
		F				13.2					
78	„ 15		ε			c. 9 50					
79	„ 16		ε			21 35.9					
			e			41 16					
			e			45 21					
			ε			52					
		L				22 11					*L* and the preceding movement possibly refer to different shocks.
		F				22.6					
80	„ 17		ε			8 13					
			ε			16.0					
		F				8.5					
81	„ 18	*P*		ε	*e*	19 40 1					△ = 79°.
			ε			5					East of Japan.
					e	41 9					
		PP				43.1					
			e			44.3					
		PPP				46.1					
		S	*e*	*e*		50 7					
				e		14					
			e			50.7					
				e		52 23					
		SS				55.4					
		SSS				59					
			ε	*e*		20 3.1					
			e	*e*		6.1					
		L				9					
		M_1				14.0		15		− 71	
		M_2				14.2		15	− 74		
		M_3				18.2		13	− 66		
		M_4				22.5		13		− 60	29
		F				22.8					
82	„ 19-20		*e*			23 39 9					
			ε			44					
		L				0 0					
		F				0.8					
83	„ 20	*L*				20 46					
		F				21.0					
84	„ 20		ε			21 50.2					
		(*S*)	*e*			59 36					
			e			22 17					
		L				20					

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No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1927					h m s	sec	μ	μ	μ	
84	Aug. 20	M_1				27.5	13	5	4		
		M_2				33.1	13			— 5	
		F				23.8					
85	„ 21	P	ε	e	i	0 7 21			—	—	△ = c. 85°. South of Panama.
					ε	9.9					
			e			10.4					
		PP		e	e	10.8					
			e			11.9					
		PPP				13.1					
			e			14.5					
			ε			16.8					
		$\overline{S_cP_cS}$	e			17.6					
				e	ε	17 51 *)					*) Time-mark.
			i			18 7					
				e		13					
		m				18.3	8	13			
		PS				19.1					
			e			20.1					
			e			21.9					
		SS	e			23.6					
		„		e		23.8					
		SSS				27.3					
		L				32					
		M_1				40.4	27	29			
		M_2				41.4	21; 23		18	— 17	
		F				3.0					
86	„ 21		ε			10 43					
		L				59					
		F				11.3					
87	„ 21		ε			17 35.5					
			e			38.9					
		F				45					
88	„ 23	P	e			6 41 28					△ = c. 75°.
		„		ε		41.9					
		PP	e	ε		44.5					
		S				51.2					
			e			54.0					
		SSS				7 1.0					
			e			8					
		L				11					
		M_1				20.6	13; 12	16	12		
		M_2				23.3	15			— 10	F disturbed.
89	„ 24	P	ε	ε	ε	9 8.0					△ = c. 79°. Japan.
		PPP				13.1					
		S	e	e		18 6 *)					*) Time-mark.
		SS				23.0					

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No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1927					h m s	sec	μ	μ	μ	
89	Aug. 24	SSS				26.6					
			e			31					
		L	e			39					
		„		e		41					M disturbed by change of sheets.
		F				10.9					
90	„ 24	L				16 2					
		F				16.6					
91	„ 24	P			e	18 21 11					△ = 79°.
		„	e	e	i	18					
		S	e	e		31 18					
			i	e		33					
		L	e			49					
		„		e		50					
		M_1				53.4	20	— 32			
		M_2				59.8	15; 16		— 27	— 35	
		F				20.1					
92	„ 25	L				0 35					
		F				1.1					
93	„ 25		ε			17 16 50					
			ε			25					
		L				44					
		F				18.2					
94	„ 25	L				23 30					
		F				23.9					
95	„ 26	L				1 23					
		F				1.7					
96	„ 27					12 49					
		F				13.3					
97	„ 29	L				6 16					
		F				6.8					
98	„ 29	L				8 9					
		F				9.0					
99	Sept. 2	L				2 57					
		F				3 7					
100	„ 3	P				19 58 7					△ = 63°. Atlantic Ocean.
		PPP				20 2					
		S				6 36					
			e			7.7					
		$L\,(Q)$	e			13					
		L		e		15					
		„	e			17					

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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
	1927										
100	Sept. 3	M_1				19.2	18			8	
		M_2				19.4	16	28			
		M_3				20.0	15		12		
		C					15—16				
		F				22.8					
101	„ 5	L				20 34					
		F				47					
102	„ 6	P				7 20 58					Disturbed by change of sheets.
103	„ 7	L				13 31					
		F				14.3					
104	„ 7	P'		ε	ε	20 17					
		L				21 16					
		F				22.3					
105	„ 8	P				8 57 47					△ = c. 25°.
		S				9 2.0					
		L				4					
		M_1				6.5	17	— 4			
		M_2				6.6	13		— 4		
		F				9.6					
106	„ 8	L				18 11					
		F				19.1					
107	„ 9	L				0 17					
		F				0.7					
108	„ 9					1 10.8					
		F				1.3					
109	„ 10					4 35					
		F				42					
110	„ 10		ε			16 46					
			ε			52.1					
			ε			56					
		L				17 18					
		F				17.9					
111	„ 11	P	e	ε	e	22 19 51		—		+	Crimea.
		„	e	i	i	59					
		m_1				20.1	7; 6; 6	14	6	— 25	
			e			20.4					
				e		20.7					
				e		22.4					
		S		e		22 51					
		„	i		e	23 1					
		m_2				23.1	6; 3	38	29		
			i	i		23 26*)					*) Time-mark.

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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
	1927										
111	Sept. 11	m_3				23.6	6	— 65	56		
			i			25 3					
			i	i		19					
			i	i	i	25.6					The pen was thrown off the Wiechert
		M_1				26.2	6		c. 300		N-component.
		M_2				27.4	10			c. 700	F in following.
112	„ 11-12	P	ε	ε	e	23 48 41					Crimea.
		S				51 49					
			e	e	e	53 59					
					e	54 14					
			i	i		24					
		M				56.2	9		53	46	
		F				0.9					
113	„ 12	P	ε	e	e	3 24 13					Crimea.
		S				27 14					
				e		37					
			e	e		27.7					
			e	e	e	28					
			i	i	i	29.7					
		M_1				29.9	7			44	
		M_2				31.7	10		— 178	171	
		F				5.0					
114	„ 12	P		ε	ε	6 37 32					Crimea.
		S				40.5					
			e	ε	e	40.8					
				e		40.9					
			e			41.7					
			e			42.6					
			e	e	e	43					
		M_1				44.9	9		— 27		
		M_2				45.1	8			— 18	
		F				7.3					
115	„ 12	P			ε	7 46 37					Crimea.
		S				49					
			e		e	51.9					
			e			52.5					
		M				54.0	10; 8		3	— 1	
		F				8.2					
116	„ 12	S				13 8.4					Crimea.
			ε			9 8					
				e		10.7					
			e			10.8					
		M_1				12.2	5	5			
		M_2				12.9	10		7		
		F				13.6					

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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
	1927										
117	Sept. 12					13 43.1					
		F				13.9					
118	„ 12	*P*	*e*	*e*	*e*	14 28 1					Crimea.
		„			*e*	6					
		S	*e*			31 8					
		„		*e*		11					
			e			31.4					
			e			32.0					
				e		33.2					
			e			33.3					
		M_1				35.1	12	53			
		M_2				35.6	12		49		
		M_3				35.8	10	35			
		M_4				40 3	9		32		
		F				16.0					
119	„ 12					16 41.2					
		F				16.9					
120	„ 12					16 58					
		F				17.1					
121	„ 12					18 20					
		F				18.5					
122	„ 12					19 39					
		L				43					
		F				19.9					
123	„ 13					0 34					
		F				0.7					
124	„ 13					2 18.1					
		F				2.4					
125	„ 13	*P′*			*e*	10 35 14					△ = c. 140°.
					ε	36 52					Probably in New Hebrides region
					ε	37 17					according to Wellington.
		PP	ε	ε	ε	38.0					
		$\frac{P_cP_cS}{PPP}$	*e*	*e*		38 51					
		PPP				41					
		PS				49					
		SSS				11 1					
		L				20					
		F				12.7					
126	„ 14	*L*				2 8					
		F				15					

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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
	1927										
127	Sept. 14	*S*				2 40.1					
			e			40 19					Crimea.
			e			41 42					
				e		42.5					
		M_1				44.6	9		— 12		
		M_2				44.8	9			11	
128	„ 14		*e*	*e*	*e*	2 55.1					
		M				57.2	9		5	— 3	
		F				3.3					
129	„ 14					5 17					
		L				18					
		F				24					
130	„ 16					c. 7 30					
131	„ 16		*e*	*e*		8 31.5					
		L				33.0					Disturbed by change of sheets.
		F				9.0					
132	„ 16		*e*	ε	*e*	15 58 2					
			e			16 7.4					
		L				25					
		M				31.0	15; 17	— 2	— 3		
		F				17.4					
133	„ 17					1 22					
		L				38					
		F				2.3					
134	„ 18	*L*				2 46					
		F				3.5					
135	„ 18	*L*				6.7					
		F				7.0					
136	„ 19	*L*				c. 9 30					Disturbed.
		F				c.10.1					
137	„ 21					5 51					
		F				56					
138	„ 23	*P*			*e*	14 2 47					△ = 47°.
		S	*e*	*e*		9 38					Turkestan.
			e			12.7					
		SS				13 16					
		(*L*)		*e*	*e*	15.2					
		(*L*)	*e*			15.7					
		M_1				19.1	10		26		
		M_2				19.3	6			22	
		M_3				22.0	8	39			
		M_4				22.8	11; 10		24	— 49	
		F				15.4					

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
-	1927										
139	Sept. 24	*P*				6 18 9					Crimea.
		S				21 11					
					e	21.4					
			e			21 33					
				e		39					
			e			22.8					
			e	*e*	*e*	23					
		M_1				24.3	11	− 33			
		M_2				25.8	10		− 62		
		M_3				25.9	10			55	
		F				7.3					
140	„ 24					18.0					
		L				18 23					
		F				19.1					
141	„ 30	*P*				7 49.6					△ = c. 78°.
		PP				52 52					
		S				59.6					
		SS				8 4.8					
			ε			10					
		L				16					*M* is disturbed.
		F				9.1					
142	„ 30	*L*				19 5					
		F				19.3					

TYP. BIANCO LUNO KBHVN.

No. 4. 1927.

Geodætisk Institut

Proviantgaarden, Copenhagen, Denmark.

Bulletin

of the seismological station

KØBENHAVN

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

Foundation: chalk.

No. 4. Oct.—Dec. 1927

Instruments:

Galitzin horizontal pendulums with galvanometric registration.

Constants (mean values):

Component	l	T_1	A_1		μ^2	T	k
N	12.5 cm	$12^s.63$	100 cm	from $^7/_{12}$	0	11.6	100
E	12.4 cm	$12^s.69$	100 cm	from $^{15}/_{12}$	0	11.4	85

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

Constants (mean values):

Component	T	ν	ϱ	V
N	9.2	4.5	0.4	222
E	9.4	4.0	0.5	197
Z	6.1	5	0.2	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
	1927					h m s	sec	μ	μ	μ	
1	Oct. 1	*L*				1 18					
		F				1.7					
2	„ 2	(*S*)		*e*		5 11					
		SS	*e*			17					
		L				29					
		F				5.8					
3	„ 5					17 21					
		F				17.6					
4	„ 7		ε	ε		14 27.3					
		L				30					
		F				14.7					
5	„ 7	*L*				19 47					
		F				20.0					
6	„ 7	*L*				21 53					
		F				22.2					
7	„ 8	*S*				10 51.7					
		SS				55					
		L				11 0					
		F				11.6					
8	„ 8	*L*				13 9					
		F				13.8					
9	„ 8		ε		ε	19 51 40					△ = 8°.
				e	ε	52 32					Schwadorf near Vienna.
				e		58					
		L				53 20					
		M_1				53.7	3	−12			
		M_2				53.8	4			4	
		M_3				54.3	9		−7		
		M_4				54.8	10	9			
		F				20.2					
10	„ 10	*L*				18 33					
		F				18.9					
11	„ 11	*L*				0 42					
		F				1.4					
12	„ 11	*L*				1 51					
		F				2.2					
13	„ 11	*L*				3 46					
		F				4.2					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1927					h m s	sec	μ	μ	μ	
14	Oct. 11	*L*				5 5					
		F				5.5					
15	„ 11		ε	ε	ε	14 52.4					
		M_1				54.4	9		−2		
		M_2				55.1	9	1			
		F				15.0					
16	„ 11	*P*	*e*		*e*	17 41 53					
		S				51.2					
		SS				56					
		SSS				18 0					
		L				5					
		F				18.7					
17	„ 12		ε			6 49					
			ε			59					
		L				7 9					
		M_1				12.7	16	−3			
		M_2				20.0	14		−3		
		F				7.8					
18	„ 12	*L*				8 38					
		F				9.0					
19	„ 13					8 3					
		F				8.2					
20	„ 14	*L*				10 15					
		F				10.6					
21	„ 15	*L*				7 7					
		F				7.5					
22	„ 15	*L*				11 59					
		F				12.5					
23	„ 16	*L*				7 25					Disturbed.
		F				7.5					
24	„ 16	*L*				13 20					
		F				13.8					
25	„ 16					15 11					
		F				15.5					
26	„ 19	*L*				14 41					
		F				15.5					
27	„ 19-20	*L*				23 11					
		F				0.0					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1927					h m s	sec	μ	μ	μ	
28	Oct. 23					16 58					
		F				17.1					
29	„ 24	*P*	*i*	*e*	*i*	16 10 30		+		−	△ = 63°.
		PP				12.9					Destructive in south-eastern Alaska.
		PPP				14.4					
			e		*e*	16.9					
		S		*e*		19 5					
			e			10					
					e	13					
			e	*e*		20.4					
		SS	*e*			23.0					
					e	23.2					
		L		*e*		27					
		„	*e*			29					
		„			*e*	30					
		M_1				35.5	30	235			
		M_2				36.4	25			− 197	
		M_3				37.1	19		− 121		
		M_4				37.8	22	167			
		M_5				41.3	13			− 49	
		M_6				47.6	14		− 66		
		L'				18 29					
		M_1'				50.2	18	13			
		M_2'				19 2.2	17		− 7		*F* in following.
30	„ 24	*L*				19 48					
		M				20 1.2	14	13	8		
		F				21.3					
31	„ 25	*L*				22 20					
		F				22.7					
32	„ 27	*L*				8 43					
		F				9.4					
33	„ 27		*e*			20 9					
		L				30					
		F				20.9					
34	„ 28	*S*				15 45 15					
		L				16 4					
		M_1				14.9	12			1	
		M_2				19.4	15	− 1			
		F				16.9					
35	„ 28					21 54					
		F				22 6					

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1927					h m s	sec	μ	μ	μ	
36	Oct. 29	(*S*)	ε			1 39.5					
		L				48					
		F				2.6					
37	„ 30	*P*			ε	3 13.4					
					e	13 33					
		S		*e*		17.0					
		L				19					
		M_1				21.9	14		3		
		M_2				23.1	14	− 5			
		F				3.8					
38	„ 31					18 51					
		F				19.1					
39	„ 31	*L*				23 53					
		F				0.1					
40	Nov. 2	*L*				21 56					
		F				22.3					
41	„ 2-3	*L*				23 41					
		F				0.1					
42	„ 4	*P*	*i*	*e*	*i*	14 3 23					△ = 80°.
		PP				6.4					Destructive in California.
		S	*e*	*e*		13 36					
		SS				18.4					
		SSS				22.4					
		L				30					
		M_1				39.6	19		134		
		M_2				41.3	18		108		
		L'				16 18					
		F				17.3					
43	„ 5	*L*				7 16					
		F				7.8					
44	„ 6	*L*				3 21					
		F				3.7					
45	„ 6				*e*	15 59.2					
					e	16 3.4					
				e		3.7					
		L				29					
		F				17.1					
46	„ 7	*L*				1 18					
		F				2.1					

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
	1927										
47	Nov. 8	PP	ϵ			3 27					△ = c. 90°.
		$\overline{S_cP_cS}$		e		34.3					
		$\overline{S_cP_cP_cS}$	e			34.6					
		SS	e	e		42.1					
		L				52					
		M_1				4 14.1	20	− 8			
		M_2				19.0	17		− 4		
		F				5.8					
48	„ 9		e	ϵ		1 42					
		L				2 3					
		M				19.2	18		2		
		F				2.9					
49	„ 10	L				3 59					
		F				4.4					
50	„ 12	L				12 51					
		F				13.2					
51	„ 12	P	ϵ	e	e	14 52 28					△ = 34°.
		S				57 53					Persia.
		SS				15 0.1					
			e			1.1					
			e	e		1.9					
		L	e			4					
		„		e		7					
		M_1				9.4	11		3		
		M_2				10.0	12	4			
		F				16.4					
52	„ 12	L				22 31					
		F				23.0					
53	„ 14	P	i	e	i	0 20 33		+		−	△ = 47°.
		PP				22.4					Siberia.
						24.0					
		P_cS				26					
		S		e		27 18					
		„	i		e	20					
					i	26					
		SS				30.3					
			e	e	e	30.7					
			e	e		32					
		M_1				38.4	5			15	
		M_2				39.3	22	296			
		M_3				39.6	20		− 179		
		F				2.4					

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
	1927										
54	Nov. 14	P	e		i	5 4 58					△ = 47°.
				e		5.0					Repetition of preceding shock.
		PP				6 47					
					e	8.3					
		S		e		11 44					
					e	46					
			e			50					
		SS				14.6					
			e	e		15					
		M_1				23.2	5			35	
		M_2				23.6	17; 18	− 421	283		
		F				7.5					
55	„ 14	P	ϵ		ϵ	7 34					
		PP	e	ϵ		38 19					
		„	e	e	e	36					
		PPP			e	40 51					
			e			41.6					
		$\overline{S_cP_cS}$		ϵ		44					
		S	e			45.8					
				e		46.0					
			e			46.7					
		PS	e	e	e	48.0					
		PPS	e	e		48.5					
		SS	e	e		54					
		L	e			8 9					
		„		e	e	11					
		M_1				14.8	28		− 16		
		M_2				22.2	28	− 29			
		C					c. 18				F disturbed.
56	„ 14	P	ϵ			15 23					
				ϵ		30					
		S	e	ϵ		33 0					
		SS	e	e		38.9					
		SSS	e			43					
		L				54					
		M_1				16 7.6	21	− 4			
		M_2				9.3	17		− 1		
		F				17.1					
57	„ 14					17 12					
		F				17.4					
58	„ 15	P			e	8 40 43				−	Aleutic Islands.
		L				9 4					Disturbed by change of sheets.
		F				10.2					
59	„ 15					15.0					
		F				15.2					

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
	1927										
60	Nov. 15	*P*				21 57 11					△ = 46°.
		S				22 3 56					
		(*SS*)				7.8					
						9					
		L				13					
		M_1				15.7	14		— 9		
		M_2				17.7	13	— 6			
		F				23.0					
61	„ 16-17	*P*				21 23 42					△ = c. 99°.
		PP				27.6					
		$\overline{S_cP_cS}$				34.1					
		S				34.7					
		PS				36					
		SS				41.8					
		L				(47)					
		M_1				22 0.6	35			— 59	
		M_2				1.3	30	— 109			
		M_3				2.5	21		— 38		
		M_4				10.4	23			41	
		M_5				12.0	19		— 32		
		F				0.3					
62	„ 17	*L*				14 48					
		F				15.2					
63	„ 17	*L*				15 45					
		F				16.3					
64	„ 17	*L*				23 29					
		F				39					
65	„ 18				ε	3 41					
		$\overline{S_cP_cS}$	ε		*e*	48.6					
		L				4 10					
		M_1				17.8	22	— 12			
		M_2				24.8	18		12		
		M_3				24.9	19			— 11	
		F				5.3					
	„ 18										No records from c. 8h till 14h.
66	„ 19					7 17					
		F				37					
67	„ 19	*L*				8.7					Disturbed.
		F				9.7					
68	„ 19	*L*				18 14					
		F				18.5					

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
	1927										
69	Nov. 20	*L*				18 9					
		F				18.7					
70	„ 21	*L*		ε		19.7					
		F				20.2					
71	„ 21-22	*PPP*		*e*		23 35.2					△ = c. 120°.
		$\overline{S_cP_cS}$		*e*		38.5					44° S. 74° W.
		PS	*e*			41.6					
		SS	*e*	*e*		49.8					
		SSS		*e*		54					
		L				0.0					
		M_1				0 14.2	30	— 59			
		M_2				16.8	25			30	
		M_3				20.4	22			— 60	
		M_4				23.5	27		58		
		M_5				23.9	20			— 62	
		M_6				24.2	20	28			
		M_7				32.0	19		— 58		
		F				2.4					
72	„ 22	*L*				13 29					
		F				14.2					
73	„ 23	*L*				0 54					
		F				1.3					
74	„ 26	$\overline{S_cP_cS}$	*e*	*i*		13 18 12					△ = c. 100°.
			e	*i*		18 56					23.6° S. 68° W. according to La Paz.
		PS	*e*	*e*		21.0					
		(*L*)	*e*	*e*		37.6					
		F				14.5					
75	Dec. 1	$\overline{S_cP_cS}$		*e*		5 1 57					△ = c. 100°.
			e			2.6					Celebes, according to Batavia.
		SS		ε		8					
		L				31					
		M				38.6	24	— 17			
		F				6.2					
76	„ 1					23 13					
		F				25					
77	„ 4	*L*				4 35					
		F				50					
78	„ 5	*L*				18 48					
		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
	1927					h m s	sec	μ	μ	μ	
79	Dec. 11		ε			16 11.9					
				e		16.2					
		L				16.8					F in following.
80	„ 11		ε	e		17 50 20					
			ε	ε		52.8					
			e			58					
		L				18 17					
		M_1				21.8	30	— 9			
		M_2				31.9	23		— 3		
		F				19.1					
81	„ 12					20 21.9					
		F				21.1					
82	„ 15		ε	ε		16 37					
		L	e			17 7					
		„		e		8					
		F				17.8					
83	„ 28	P	ε		i	9 5 45				+	△ = c. 65°. Kamtchatka.
		„		ε		6.0					
		PP	ε		i	8 . 11					
		S	ε	ε		14.5					
		SS	e			19.0					
		SSS	e		e	22.5					
		L		e		27					
		„	e			31					
		M_1				33.3	19	— 7			
		M_2				33.5	19		— 5		
		M_3				39.7	12; 15	— 4	— 9		
		F				10.4					
84	„ 28	P	e		i	18 31 15				+	△ = 65°. Kamtchatka.
		„		e		18					
		m_1				31.5	8			— 27	
		PP	e	e	i	33 50					
		m_2				33.9	11			— 36	
		PPP				35 43					
		S	e	ε		40 8					
		„	e	i		15					
				e		41.0					
			e			41 49					
		SS		e	e	44.4					
		„	i			44 42					
		SSS				47					
		L		e		49					
		„	e			52					
		M_1				58.9	20	— 188			
		M_2				59.9	16		— 144		

København.

No.	Date	Phase	N	E	Z	Time (G. M. T.)	Period	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Remarks
	1927					h m s	sec	μ	μ	μ	
84	Dec. 28	M_3				19 0.5	19			83	
		M_4				6.2	14			81	
		M_5				6.3	14	118			
		L'				21.0					
		F				22.5					
85	„ 30	L				13 2					
		F				13.7					
86	„ 30-31	L				23 54					
		F				0.5					
87	„ 31					14 22					
		F				39					
88	„ 31					19 30					
		F				20.4					

The seismological station København was erected during the autumn 1926 and the service inaugurated in November that year. During the first months the time-service occasionaly failed and it was not until March 1927 that the working of the station was considered satisfactory and the publication of the records began.

The station is equipped with

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.

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