International Seismological Centre From the ISC collection scanned by SISMOS

SEISMOLOGICAL BULLETIN.

JANUARY 1921.

BATAVIA OBSERVATORY, JAVA.

Foundation: River Quartair.
Greenwich Mean Time. S. Latitude 6° 11′ 0″. Height above sealevel.
E. Longitude 7h 7m 19s.
WIECHERT Horizontal Pendulum, 1000 kilograms.
The symbols are according to WIECHERT.

No.	Date 1921.	Character.	Phase.	Time (Greenwich).	Period in seconds.	Amplitude (half) A_E	Amplitude (half) A_N	Distance of epicentrum.	Remarks.
				h m s		μ	μ		
1	Jan. 2	I	e	7 17 0					
			i	7 25 37					
			F	7 37					
2	» 4	I	e	7 42					
			F	7 45					
3	» 6	I	e_E	12 8 11					
			M	12 12 14					
			L	12 27 42					
			F	12 30					
4	» 6	I	e	23 30 40					
			M	23 33 47					
			F	23 42					
5	» 7	I_u	i P	1 12 16				8330	ESE — WNW.
			i_N	1 13 0					
			i	1 15 14					
			i S	1 21 43					
			i	1 22 31					
			M	1 23 53					
			e L	1 35 19					
			M	1 43					
			F	1 57					
6	» 7	I	i P	3 0 50					
			i	3 5 57					
			i	3 11 21					
			M	3 12 5	6.3	34.1	15.6		
			F	3 37					
7	» 7	I	e	10 5 43					
			M	10 9 43					
			F	10 17					
8	» 7	I_v	i P	17 48 32				270	EW, Lampongs (Sumatra).
			i S	17 49 3					
			M	17 50 9					
			F	18 6					
9	» 9	I	P	14 7 5					
			S	14 16 52					
			F	14 25					

International Seismological Centre From the ISC collection scanned by SISMOS

No.	Date 1921.	Character.	Phase.	Time (Greenwich). h	m	s	Period in seconds.	Amplitude (half) A_E μ	A_N μ	Distance of epicentrum	Remarks.
10	Jan. 11	I	e	20	7	32					
			F	20	11						
11	» 12	I_r	eP	2	5	3					Malabar P — S = 17 sec.
			M	2	5	59					△ = 150.
			F	2	9						
12	» 16	I	e	10	53	35					Central Celebes.
			F	11	1						
13	» 16	I	e	13	23	2					Central Celebes.
			M_E	13	34	30					
			F	13	48						
14	» 21	I_r	e	21	22	33				1410	Malabar very faint.
			e S	21	25	1					Eastern Java.
			M	21	25	30					
			F	21	31						
15	» 24	II_r	P	11	19	42				1390	
			i S	11	22	8					
			i_1	11	23,0						No minute marks.
			i_2	11	23,6						Malabar P — S? = $3^m\ 7^s$
			M_1	11	23,9		6.5	144	93.5		△ = 1820.
			M_2	11	25,1		5.9	65.2	130		Tapanoeli, Sumatra (damage
			F	11	47						at Taroetoeng).
16	» 26	II_r	i P	17	58	25				780	WNW — ESE.
			iS = M	17	59	50					Malabar P — i S = 22 sec.
			eL	18	4						△ = 200;
			F	18	54						Azimuth NW — SE.
17	» 27	I	e	0	41	29					
			M	0	45	16					
			F	0	52						
18	» 30	I	e	7	48	54					
			M	7	50	18					
			F	7	54						
19	» 30	I	e	10	49	9					
			i	10	53	9					
			F	11	2						
20	» 31	III,	P?								P during changing of papers.
			M = S?	0	25	59					Malabar P $0^h\ 23^m\ 58^s$.
			eL	0	28	55					
			F	0	43						
21	» 31	I	eP	9	23	58				200	Malabar P — i S = 16 sec.
			i P	9	24	3					△ = 140.
			i S	9	24	20					Western Java.
			F	9	29						

SEISMOLOGICAL BULLETIN 1921.

BATAVIA OBSERVATORY, JAVA.

PREFACE.

The astatic Seismograph of WIECHERT of 1000 K.G. has been registering regularly since December 6th 1908. The results are published from the beginning of 1909 (the Messina earthquake included) in a monthly bulletin.

The instrument is mounted on a heavy brick pillar in a room with thick walls (about 70 centimeters), that is protected against the sun's heat by open galeries around it. The components are placed in E-W and N-S direction respectively.

The pins are lifted electrically every hour for a period of 10 seconds by the Javanese oberver on duty. A lifting of two seconds every minute is given by an electrical clock of PEYER FAVARGER by means of the second-dial passing through a drop of mercury.

For each month the mean constants for that month are applied. T_o and ε, the oscillation period and the coefficient of damping, are determined every week. V, the magnification for very short waves, is determined occasionally only. It is found by direct measurement, giving the pendulum a displacement by means of the horizontal adjusting screws, the value of which can be determined easily form the pitch (*a*), the angle of displacement of the screws and the height of the screws (*b*) and of the centre of gravity (*c*) above the Cardanic suspension apparatus.

It was found

(*a*) = 1.407 millimeters.
(*b*) = 1225 „
(*c*) = 895 „

The constants used in 1920 are given below.

1920.	E-W component. V.	T_o.	ε.	N-S component. V.	T_o.	ε.
January	216	7.7	4.9	193	7.8	4.5
February	„	7.6	„	„	„	4.6
March	„	„	„	„	„	4.5
April	„	„	„	„	„	4.4
May	„	7.7	4.8	„	„	4.6
June	218	7.8	4.6	209	„	4.4
July	„	„	4.8	„	„	4.4
August	„	„	4.9	„	„	4.3
September	„	7.7	4.3	„	„	4.2
October	„	7.9	4.6	„	8.0	4.2
November	„	„	4.7	„	„	4.3
December	„	7.8	4.4	„	7.9	4.0

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hat of the Göttingen Geophysical Institute.

The following abbreviations are employed:

CHARACTER OF THE EARTHQUAKE.

I = perceptible; II = moderately strong; III = strong.
d (terrae motus domesticus) = local.
v („ „ vicinus) = near (less than 1000 K.M.).
r („ „ remotus) = distant (1000 to 5000 K.M.).
u („ „ ultimus) = very distant (over 5000 K.M.).

PHASES.

P (undae primae) = 1st priliminary tremors.
S („ secundae) = 2nd „ „
L („ longae) = principal phase, long waves.
M („ maximae) = maximum amplitude.
C (coda) = prominent waves among the after tremors.
F (finis) = end of perceptible movement.
PR_1, PR_2, ... SR_1, SR_2, ... = 1st, 2nd ..... reflected waves of P and S.
PS = waves changed by reflection from longitudinal to transversal oscillation.

WAVE-ELEMENTS, UNITS.

T = complete period in seconds.
A = amplitude, measured from median position in microns.
A_E = E.-W. component of A.
A_N = N.-S. „ „ „
i (impetus) = abrupt commencement, clearly defined.
e (emersio) = gradual „ , not clearly defined.

MALABAR.

July 1911 an astatic Wiechert pendulum of 100 K.G. which is the possession of Mr. K. A. R. Bosscha, chief administrator of the tea estate Malabar (Preanger, Java; E. Long. 107° 37′; S. Lat. 7° 13′) has been erected.

Particulars about the registrations have been put under the remarks.

International Seismological Centre From the ISC collection scanned by SISMOS

SEISMOLOGICAL BULLETIN

FEBRUARY 1921.

BATAVIA OBSERVATORY, JAVA.

Foundation: River Quartair.
Greenwich Mean Time. S. Latitude 6° 11′ 0″. Height above sealevel.
E. Longitude 7^h 7^m 19^s.
WIECHERT Horizontal Pendulum, 1000 kilograms.
The symbols are according to WIECHERT.

No.	Date 1921.	Character.	Phase.	Time (Greenwich). h	m	s	Period in seconds.	Amplitude (half) A_E μ	A_N μ	Distance of epicentrum.	Remarks.
22	Febr. 3	I	e	19	27	33					
			M	19	28	45					
			F	19	36						
23	» 4	I_u	e	8	42	39					
			i_1	8	43	46					
			i_2	8	49	56					
			i_3	8	56	50	5.7	17.8	17.3		
			i_4	9	0	23					
			eL_1	9	6						
			eL_2	9	44						
			eL_3	10	9		24.0				
			F	10	24						
24	» 4	I	e	13	1	29					
			M_1	13	5	13					
			M_2	13	9	27					
			F	13	12						
25	» 5	I	e	8	57	44					
			i_1	8	59	28					
			i_2	9	1	40					
			eL	9	6	14					
			F	9	12						
26	» 10	I	e	19	56	4					
			F	20	7						
27	» 11	I	e	0	1	52					
			i_1	0	2	32					
			i_2	0	4	45					
			F	0	22						
28	» 13	I_r	e	12	38	40					Menado and Taroena (Sangir Isles).
			F	12	47						
29	» 14	I_r	P	1	5	40				2400	Menado and Sangir Isles (probably at Ternate).
			S	1	9	37					
			M	1	10	28	5.9	65.1	96.7		
			eL	1	16						
			F	1	37						
30	» 19	II_r	P	14	39	36				3020	
			i	14	41	15					
			iS	14	44	20					
			M	14	45	7	7.2				
			eL	14	52	20					
			F	15	8						

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No.	Date 1921.	Character	Phase.	Time (Greenwich). h	m	s	Period in seconds.	Amplitude (half) A_E μ	A_N μ	Distance of epicentrum.	Remarks.
31	Febr. 19	I	e	18	21	22					
			i_1	18	23	31					
			i_2	18	24	32					
			i_3	18	25	8					
			i_{4N}	18	27	1					
			i_5	18	29	22					
			eL	18	33	22					
			F	19	12						
32	» 26	I_v	e	5	59	14					Malabar iP — iS = 10 sec; △ = 90.
			i	5	59	35					
			F	6	3						Preanger (Java).
33	» 26	I	P	13	48	19				290	Malabar P — S? = 53 sec; △ = 470?
			S	13	48	52					
			F	13	56						
34	» 27	III_s	P	18	35	42				8730	ESE — WNW.
			iP	18	35	44					
			iS	18	45	35					Malabar P — S = 9m 52 sec. △ = 8710.
			M	18	45	43	6.6	386	338		
			eL	18	55	35					
			M	19	8	35	22.0	323	387		
			F	20	7						

International Seismological Centre From the ISC collection scanned by SISMOS

SEISMOLOGICAL BULLETIN.

MARCH 1921.

BATAVIA OBSERVATORY, JAVA.

Foundation: River Quartair.
Greenwich Mean Time. S. Latitude 6° 11′ 0″. Height above sealevel 8 m.
E. Longitude 7h 7m 19s.
WIECHERT Horizontal Pendulum, 1000 kilograms.
The symbols are according to WIECHERT.

No.	Date 1920.	Character.	Phase.	Time (Greenwich). h	m	s	Period in seconds.	Amplitude (half) A_E μ	A_N μ	Distance of epicentrum.	Remarks.
35	March 1	I	e	6	42	54					
			i_1	6	43	4					
			i_2	6	51	2					
			F	7	6						
36	» 1	I_v	iP	19	51	49					SSE.
			eS?	19	52	13					Malabar iS — iP = 12 sec.
			K	19	53	27					△ = 100 KM; az. ± NS
			F	19	53	21					Preanger.
37	» 2	II	P	12	4	33					
			i	12	4	55					
			K	12	6	26	5.7	96 6	107		
			F	12	16						
38	» 3	I	P	3	11,0					(8700,	Confused by street traffic.
			i_1	3	11	49					
			i_2	3	12	57					
			i_3	3	14	47					
			i_4	3	18	29					
			i_5	3	19	23					
			iS	3	20	46					
			L	3	37						
			F	3	48						
39	» 3	III_d	iP	8	21	25				220 (1)	SW; pens thrown off.
			M	8	22	0					Malabar iS? — iP = 7 sec.
			F	9	37						△ = 60 (?)
40	» 4	I	P_E	12	58	49					Felt from Benkoelen (Sumatra)
			S_N	13	4	57					to Kedoe (Central Java).
			F	13	8						
41	» 5	II	e	6	28	35					
			M	6	35	24	14.8	257	193		
			F	7	28						
42	» 9	I	e	22	14	46					
			i_1	22	15	6					
			i_3	22	22	44					
			F	22	26						
43	» 10	I	i_E	20	14	12					
			i_1	20	17	26					
			i_2	20	21	19					
			F	20	38						

(1) read from Bosch seismograph.

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No.	Date 1920.	Character.	Phase.	Time (Greenwich). h	m	s	Period in seconds.	Amplitude (half) A_E μ	A_N μ	Distance of epicentrum.	Remarks.
44	March 13	I	e_1	2	50	23					
			e_2	2	55	30					
			F	3	1						
45	» 15	I_v	P	14	42	50					Lebak Parai (Bantam), Java.
			M	14	43	13	6.0				
			F	14	45	39					
46	» 16	I	e	11	44	7					
			i	11	50	45					
			F	12	3						
47	» 19	I	e	8	29	43					
			eL	8	39	13					
			M	8	40	57					
			F	8	54						
48	» 23	I	eP	2	49	10					
			S	2	49	59					
			F	2	56						
49	» 23	II_r	eP	22	49	19				2750	Malabar eS — eP = 4m 5s; △ = 2510.
			eS	22	53	43					
			M_1	22	54	9	5.9	105	185		
			M_2	22	55	9	6.0	175	198		
			eL	23	1						
			F	23	28						
50	» 24	II_r	eP	1	30	44				2700	EW. Malabar S — eP = 4m 5s; △ = 2510.
			iS	1	35	4					
			M	1	36	32	5.5	116	218		
			eL	1	41						
			F	2	3						
51	» 24	I	e	9	29	11					
			M	9	39	47					
			eL	9	59	27	20				
			M	10	11	11	18 0				
			F	10	18						
52	» 24	I	e_1	14	53	14					
			e_2	14	56	23					
			i	15	2	22					
			eL	15	18	14					
			F	15	35						
53	» 28	II_u △	e	8	9	41					Malabar S — P = 11m 23s; △ = 10570?
			i_1	8	14	26					
			M	8	14	55	6.0	359	80 0		
			i_2	8	20	41					
			L_1	8	43	44					
			L_2	9	9	19					
			M_1	9	19	19					
			M_2	9	28	19	25.3				
			M_3	9	42	19	20.0				
			F	9	45						
54	» 29	I	e	17	19	56					
			F	17	26						
55	» 29	I	e_1	22	21	36					
			e_2	22	26	23					
			e_3	22	31	8					
			F	22	39						

No.	Date 1919.	Character.	Phase.	Time (Greenwich). h	m	s	Period in seconds.	Amplitude (half) A_E μ	A_N μ	Distance of epicentrum.	Remarks.
56	March 30	I	e	10	33	1					
			M	10	40	12					
			F	10	56						
57	» 30	III_r	P	15	6	45				2230	WNW.
			eS	15	10	28					Malabar iS — P = 3m 33s; △ = 2120
			M	15	11	9	6.5	339	373		
			F	15	58						

International Seismological Centre From the ISC collection scanned by SISMOS

SEISMOLOGICAL BULLETIN.

APRIL 1921.

BATAVIA OBSERVATORY, JAVA.

Foundation: River Quartair.
Greenwich Mean Time. S. Latitude 6° 11′ 0″. Height above sealevel 8 m.
E. Longitude 7h 7m 19s.
WIECHERT Horizontal Pendulum, 1000 kilograms.
The symbols are according to WIECHERT.

N°.	Date 1920.	Character.	Phase.	Time (Greenwich).	Period in seconds.	Amplitude (half) A_E	Amplitude (half) A_N	Distance of epicentrum.	Remarks.
				h m s		μ	μ		
58	April 1	III_r	i P	4 9 29				1410	Destructive earthquake at Taroetoeng (Tapanoeli), Sumatra.
			e S	4 11 55	8.0	110	62.7		
			i	4 13 4					
			M_1	4 13 55					
			M_2	4 18 43					
			e L	4 21 23					
			F	5 28					
59	» 1	I_r	e P	12 10 29					Tapanoeli.
			F	12 39					
60	» 2	II	P	9 43 40				3800	E—W.
			i	9 45 17					
			S	9 49 5					
			e L	10 3					
			F	10 28					
61	» 10	I	e	3 46					Troubled by street traffic.
			F	3 58					
62	» 12	I_v	e P	5 36 31					Bodjong Aseh (Preanger) Java.
			F	5 41					
63	» 12	I	e	9 44 25					
			i	9 51 1					
			i	10 1 44					
			F	10 13					
64	» 13	I	e	21 32 10					± E—W.
			F	21 35					Eastern Java and Bali.
65	» 14	II	P	0 27 39				1180?	
			i	0 28 4					
			eS?	0 29 43					
			e L	0 32 31					
			F	0 45					
66	» 15	I	i	21 18 46					
			i	21 29 5					
			F	21 36 1					
67	» 18	I_v	e	3 32 20					Benkoelen.
			i	3 33 8					
			M	3 33 36					
			F	3 39					

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	1919.	racter.		(Greenwich).			Period in seconds.	Amplitude (half)		Distance of epi-centrum.	Remarks.
				h	m	s		A_E	A_N		
								μ	μ		
68	April 22	I_u	e	6	35	53					
			eL	7	2	59					
			M	7	9						
			eL	7	21						
			F	7	27						
69	» 23	I	i	6	37	53					
			F	6	40						
70	» 25	I_u	e	17	44	34					
			e	17	53	46					
			M	17	55	34	5.9	20.3	15.1		
			eL	18	5						
			F	18	18						

International Seismological Centre From the ISC collection scanned by SISMOS

SEISMOLOGICAL BULLETIN.

MAY 1921.

BATAVIA OBSERVATORY, JAVA.

Foundation: River Quartair.

Greenwich Mean Time. S. Latitude 6° 11′ 0″. Height above sealevel 8 m.

E. Longitude 7h 7m 19s.

Wiechert Horizontal Pendulum. 1000 kilograms.

The symbols are according to Wichert.

No.	Date 1921.	Character.	Phase.	Time (Greenwich).	Period in seconds.	Amplitude (half) A_E	Amplitude (half) A_N	Distance of epicentrum	Remarks.
				h m s		μ	μ		
71	May. 1	I	e	14 39 56					
			F	14 46					
72	» 1	I	e	19 12 49					
			M	19 16 49					
			F						F in next.
73	» 1	I_r	P	19 27 20				190	Malabar e — e S = 29 sec.
			iS	19 27 42					△ = 260.
			M	19 28 45					
			F	19 35					
74	» 1	I_r	iP	19 45 3				800	EW.
			iS	19 46 29					Malabar P — S = 78 sec.
			F	19 55					△ = 720.
75	» 4	I	e	5 19 6					
			F	5 27					
76	» 4	I	i	21 33 52					
			M	21 34 18					
			F	21 41					
77	» 5	I	e	5 35 17					
			iN	5 58 41					
			iN	5 59 18					
			M	6 0 36					
			F	6 13					
78	» 7	I_r	e	4 53 14				270	
			iS	4 53 44					
			F	4 59					
79	» 12	I	e	3 48 27					
			i_1	3 55 16					
			i_2	3 57 40					
			eL	4 3					
			F	4 18					
80	» 13	II_r	eP	12 44 57					
			e	12 49 23					
			M	12 51 15					
			F	13 13					

International Seismological Centre From the ISC collection scanned by SISMOS

No.	Date 1920.	Character.	Phase.	Time (Greenwich). h	m	s	Period in seconds.	Amplitude (half) A_E μ	A_N μ	Distance of epicentrum.	Remarks.
81	May 13	II_r	eP	20	2	52				3560?	
			i	20	6	55					
			iS?	20	8	2					
			M_1	20	8	24	6.2	114	213		
			M_2	20	9	30					
			eL	20	16						
			F	20	31						
82	» 13	I_r	e	20	40	3					
			i	20	43	26					
			i	20	44	3					
			F	21	3						
83	» 13	II_r	eP	21	12	20				2390	Malabar $e - i_2 = 237$ sec. $\triangle = 2480$.
			i	21	15	22					
			S	21	16	10					
			M_1	21	16	45	7.0	172	333		
			M_2	21	19	14	6.0	269	191		
			F	21	43						
84	» 14	III_r	P	11	20	34				2320	Malabar $e - i_2 = 217$ sec. $\triangle = 2230$
			i_1	11	20	54					
			i_2	11	24	2					
			S	11	24	19					
			M_1	11	24	39	5.9	287	580		
			M_2	11	26	5	5.9	519	543		
			F	12	8						
85	» 15	I	i	14	55	5					
			F	15	6						
86	» 18	I_v	e	5	3	14					Preanger (Java).
			F	5	6						
87	» 18	I_v	iP	18	15	23				210	Malabar $P - eS = \pm 18$ sec. $\triangle = \pm 160$.
			iS	18	15	47					Preanger (Java).
			F	18	21						
88	» 18	I	P	23	57,6						Troubled by street traffic.
			i_N	23	59	12					
	» 19		F	0	8						
89	» 20	I_u	P	0	52,9					± 5200	Troubled by street traffic.
			S_E	0	59	41					
			F	1	22						
90	» 20	I_r	P	13	27	4				2490	EW — NS.
			S	13	31	2					
			M	13	32	21	6.0	28.6	52.8		
			F	13	40						
91	» 21	I	eP	8	47	42					
			M	8	54	36					
			eL	8	59	3					
			F	9	15	30					
92	» 21	II_u	e	22	37	9				7900	
			eS	22	46	20					
			F	22	53						
93	» 21	I	e	23	43	14					
			i_E	23	46	20					
			F	23	57						

No.	Date 1921.	Character.	Phase.	Time (Greenwich). h	m	s	Periode in seconds.	Amplitude (half). A_E μ	A_N μ	Distance of epicentrum.	Remark.
94	May 23	I	e	4	19	10					
			F	4	41						
95	» 28	I	P	19	24	36					EW > NS.
			M	19	26	18					
			eL	19	37						
			F	19	41						

International Seismological Centre From the ISC collection scanned by SISMOS

SEISMOLOGICAL BULLETIN

JUNE 1921.

BATAVIA OBSERVATORY, JAVA.

Foundation: River Quartair.
Greenwich Mean Time. S. Latitude 6° 11′ 0″. Height above sealevel.
E. Longitude 7ʰ 7ᵐ 19ˢ.
WIECHERT Horizontal Pendulum, 1000 kilograms.
The symbols are according to WIECHERT.

No.	Date 1921.	Character.	Phase.	Time (Greenwich).	Period in seconds.	Amplitude (half)		Distance of epicentrum.	Remarks.
						A_E	A_N		
				h m s		μ	μ		
96	June 1	I	e	19 56 31					
			M	19 56 49					
			F	20 2					
97	» 2	II_r	eP	7 9 18				1230?	Padang and Tapanoeli (Sumatra).
			eS?	7 11 27					
			M_1	7 13 27	6.1	123	129		
			M_2	7 14 25	5.6	134	169		
			M_3	7 15 11					
			M_4	7 16 13	6.0	121	69.0		
			F	7 32					
98	» 3	I	e	4 17 12					Ternate (?).
			i	4 20 55					
			F	4 31					
99	» 4	I	e_1	16 12 50					
			e_2	16 16 49					
			F	16 49					
100	» 7	I	e	4 49 37					Central Celebes (?).
			i	4 53 18					
			M	4 54 20					
			F	5 3					
101	» 8	II_v	iP	15 10 18					N 65 W.
			i_1	15 10 58					Benkoelen (Sumatra).
			i_2	15 11 9					
			F	15 21 27					
102	» 9	II_r	P	10 40 5				2570	EW > NS.
			iS	10 44 9					
			eL	10 47 2					
			F	10 56					
103	» 12	I_v	P	23 42 1					EW > NS.
			i_N	23 42 49					Benkoelen.
			M_1	23 43 54					
			M_2	23 43 28					
			F	23 55					
104	» 14	I_v	P	0 33 48				240	EW > NS.
			iS	0 34 15					Malabar P — S = 34 sec.
			F	0 41					△ = 300 KM.
									Lampongs (Sumatra).

International Seismological Centre From the ISC collection scanned by SISMOS

No.	Date 1921.	Character.	Phase.	Time (Greenwich) h	m	s	Period in seconds.	Amplitude (half) A_E μ	A_N μ	Distance of epicentrum.	Remarks.
105	June 14	I	P	6	45	57					EW.
			M_N	6	49	41					Soela Islands (?).
			F	6	58						
106	» 14	I	e	7	1	56					Benkoelen (Sumatra).
			F	7	5	22					
107	» 18	I_v	e	15	22	14				200	
			iS	15	22	37					
			M	15	23	49					
			F	15	31						
108	» 19	I	eP	4	17	32				300	Troubled by street traffic.
			S	4	18	6					Malabar iP — iS = 11 sec;
			F	4	21						△ = 100.
											Preanger (Java).
109	» 19	I_r	e	9	31	8				2570	Menado (Celebes).
			S	9	35	12					
			F	9	44						
110	» 25	I	i	15	45	19					
			i_E	15	46	51					
			i_E	15	46	48					
			F	15	57						
111	» 28	I_u	P	14	9	55				7700	
			i	14	11	8					
			iS	14	18	57					
			i	14	19	42					
			eL	14	33	10					
			M_N	14	36	4	19.0				
			F	14	39						

International Seismological Centre From the ISC collection scanned by SISMOS

SEISMOLOGICAL BULLETIN.

JULY 1921.

BATAVIA OBSERVATORY, JAVA.

Foundation: River Quartair.
Greenwich Mean Time. S. Latitude 6° 11′ 0″. Height above sealevel 8 m.
E. Longitude 7h 7m 19s.
WIECHERT Horizontal Pendulum, 1000 kilograms.
The symbols are according to WIECHERT.

No.	Date 1921.	Character.	Phase	Time (Greenwich).	Period in seconds.	Amplitude (half)		Distance of epicentrum	Remarks.
						A_E	A_N		
				h m s		μ	μ		
112	July 2	I_v	eP	1 11 14				160	Malabar P — iS = 12 sec.
			iS	1 11 32					△ = 100.
			F	1 13 57					Preanger and Bantam (Java).
113	» 3	II_v	iP	14 3 59				160	± NS.
			iS	14 4 17					Malabar iP — iS = 10 sec.
			M	14 5 37	4 7	264	174		△ = 90 KM; EW.
			F	14 13 3					Western Java.
114	» 4	I_r	i_1	14 25 59	6 0	22.3	13.1	4830	
			i_2	14 27 47					
			iS	14 32 27	5.9	30 0	57.3		
			F	14 47					
115	» 7	I	e_1	10 55 44					
			e_2	10 59 28					
			F	11 11					
116	» 8	III_v	P	13 17 12				300	NS.
			S_E	13 17 46					Malabar iP — iS? = ± 100.
			M_1	13 18 40	6.1	502	629		Preanger and Central Java.
			M_2	13 20 36	6.1	416	445		
			F	13 46					
117	» 9	II	P	20 57,9					In minute mark.
			i	20 58 51					
			F	20 59 52					
118	» 9	I	e	21 14 24					
			F	21 20					
119	» 9	I	i_E	21 27 34					
			i	21 28 44					
			M	21 29 42					
			F	21 36					
120	» 13	I	e	13 24 2					
			F	13 31					
121	» 15	I	eP	6 3 15					
			F	6 13					
122	» 15	I	e	10 8 23					
			i_E	10 9 4					
			F	10 15					

International Seismological Centre From the ISC collection scanned by SISMOS

No.	1921.	racter.	Phase.	(Greenwich). h	m	s	Period in seconds.	Amplitude (half) A_E μ	A_N μ	Distance of epi-centrum.	Remarks.
123	July 15	II_r	P	18	11	5				2430	EW > NS.
			i	18	12	17					Malabar e — iS = 3m 47 sec.
			iS	18	14	56					△ = 2350.
			M_1	18	15	6	5.7	175	292		Taroena (Sangi Isles), Kopandakan (N. Celebes) and Ternate.
			M_2	18	16	28	6.0	170	232		
			F	18	28						
124	» 17	III_v	P	20	48	5				230	S 9,5° E.
			iS	20	48	31					Malabar iP — iS = 38 sec.
			M	20	49	21	5.6	444	601		△ = 330.
			F	21	5						Preanger.
125	» 17	I_v	eP	21	58	6				100	S in minute marks.
			S	21	58,3						Malabar P — iS = 11 sec.
			F	22	2						△ = 330
											Tjikentjreng (Preanger).
126	» 18	I	e	0	28	41					
			M	0	30	21					
			F	0	32						
127	» 18	I	eP	1	45	5					
			i_E	1	45	16					
			i	1	46	29					
			M	1	46	57					
			F	1	52						
128	» 18	I	e	11	17						
			M	11	21						
			F	11	27						
129	» 19	I	e	2	2	8					
			i	2	3	38					
			M	2	4	26					
			F	2	7						
130	» 25	I_v	iP	16	32	48				160	Malabar e — S = 16 sec.
			iS	16	33	6					△ = 140.
			F	16	38	4					Lebak Parai (Bantam).
131	» 25	I	e	19	33	45					
			M	19	35	4					
			F	19	37						
132	» 25	I	e	20	3	19					
			i	20	7	27					
			i_E	20	8	19					
			F	20	12						
133	» 25	II_v	P	23	26	11				480	S in minute marks.
			i	23	26	51					Azimuth N 76,3 W.
			S_N	23	27,1						Malabar iP — S = 1m 0 sec.
			M	23	28	15					△ = 540; EW.
			F	23	44						Benkoelen and Padang (Sumatra).
134	» 29	I_r	P	2	41	31				870?	EW > NS.
			eS?	2	43	4					Padang and Mentawei Isles (Sumatra)
			M	2	45	31					
			F	3	2						
135	» 31	I	P?	10	0	56					
			i_E	10	4	15					
			i_1	10	4	45					
			i_2	10	9	5					
			eL	10	23	57					
			F	10	36						

International Seismological Centre From the ISC collection scanned by SISMOS

SEISMOLOGICAL BULLETIN.

AUGUST 1921

BATAVIA OBSERVATORY, JAVA.

Foundation: River Quartair.
Greenwich Mean Time. S. Latitude 6° 11′ 0″. Height above sealevel 8 m.
E. Longitude 7h 7m 19s.
Wiechert Horizontal Pendulum, 1000 kilograms.
The symbols are according to Wiechert.

No.	Date 1921.	Character.	Phase.	Time (Greenwich). h	m	s	Period in seconds.	Amplitude (half) A_E μ	A_N μ	Distance of epicentrum.	Remarks.
136	Aug. 1	I	i_E	17	48	24					
			i	17	49	7					
			i_E	17	49	52					
			M	17	49	46					
			F	17	53						
137	» 2	I_v	iP	6	15	50				150	Malabar iP — iS = 13 sec.
			S	6	16	7					△ = 100.
			M	6	16	46					Western Java.
			F	6	20						
138	» 4	I_r	eP	23	18	26				2500	Menado.
			S	23	22	24					
			F	23	26						
139	» 13	II_r	iP	12	58	28				1750?	Azimuth S 74 E.
			S_N?	13	1	25					Malabar P — S = 3m 1 sec.
			M	13	2	59					△ = 1790.
			F	13	27	16					Timor and Flores.
140	» 14	I	i	13	36	6					
			M	13	37	2					
			F	13	40						
141	» 16	II	P	6	53	59					± NS. (P troubled by street traffic).
			i	6	54	43					
			M_1	6	56	25	5.5	241	132		
			M_2	6	57	37	5.5	150	162		
			i	6	0	51					
			M	6	3	0	6.5	216	199		
			F	in next.							
142	» 16	I	e	7	27	52					e troubled by No. 141.
			i	7	29	22					
			F	7	42						
143	» 20	I	eP	5	26	57				660	Malabar eP — S = 76 sec.
			iS	5	28	8					△ = 710.
			i	5	28	52					
			F	5	38						
144	» 22	I	e	13	36	59					
			i_E	13	38	19					
			i	13	41	0					
			F	13	45						

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No.	Date 1921.	Instrument recter.	Phase.	Time (Greenwich). h	m	s	Periode in seconds.	Amplitude (half). A_E	A_N	Distance of epi-centrum	Remark.
								μ	μ		
145	Aug. 23	I_r	e	10	1	8				2150	Malabar P — S = 3m 30 sec.
			i	10	1	13					△ = 2140.
			i S_E	10	4	39					
			i	10	5	48					Kisar and Maety Miarang (Southern Moluccas).
			M	10	6	24	5.9	38.9	20.3		
			F	10	17						
146	» 26	I	P	17	54	58					
			F	17	58						

International Seismological Centre From the ISC collection scanned by SISMOS

SEISMOLOGICAL BULLETIN.

SEPTEMBER 1921.

BATAVIA OBSERVATORY, JAVA.

Foundation: River Quartair.

Greenwich Mean Time. S. Latitude 6° 11′ 0″. Height above sealevel.
E. Longitude 7^h 7^m 19^s.

WIECHERT Horizontal Pendulum, 1000 kilograms.

The symbols are according to WIECHERT.

No.	Date 1921.	Character.	Phase.	Time (Greenwich).	Period in seconds.	Amplitude (half) A_E	Amplitude (half) A_N	Distance of epicentrum.	Remarks.
				h m s		μ	μ		
147	Sept. 5	I	e P_N	20 7 44					
			i	20 16 36					
			i_E	20 17 29					
			e L_E	20 34					
			F	21 2					
148	» 6	I_v	e P	12 46 20				420	
			S	12 47 7					
			M	12 47 47					
			F	12 55					
149	» 11	III_d	i P	4 3 16				760?	S 39.6 E.
			i	4 4 1					Pens thrown off 4^h 4^m 57 sec; removed 4^h 27^m.
			S?	4 4 38					Malabar i P — i_2 = 59 sec.
			F	6 52					△ = 540; S 24 E.
									Epicenter ± 11° S, 111° E.
									Felt all over the Isles of Java, Madoera, Bali and Lombok and at Kroe (Benkoelen Sumatra).
150	» 11	I_v	e P	8 25 6					Malabar e — i S = 51 sec.
			i	8 26 9					△ = 460.
			F	8 36					Kali Baroe (Besoeki) Java.
151	» 11	I_v	P	11 47,3					P in hour mark.
			F	11 58					Malabar e — S = 50 sec.
									△ = 450.
152	» 11	I_v	e	12 19 34					Malabar e — S = 53 sec.
			F	12 22					△ = 480.
153	» 11	I	P	15 29 11					
			F	15 34					
154	» 11	I	e	16 31 19					
			F	16 38					
155	» 11	I_v	P	21 57 52					Malabar e — S = 52 sec.
			i	21 59 1					△ = 470.
			F	22 6					
156	» 12	I_v	e P	13 59 0					Malabar e — i S = 57 sec.
			F	13 41					△ = 510.
									Central Java.

No.	Date 1919.	Character.	Phase.	Time (Greenwich). h	m	s	Period in seconds.	Amplitude (half) A_E μ	A_N μ	Distance of epicentrum.	Remarks.
157	Sept. 12	I_v	P	14	35	20					Malabar e — iS = 57 sec.
			F	14	40						△ = 510.
158	» 12	I_v	e	19	8	42					Malabar e — iS = 41 sec.
			F	19	14						△ = 360.
159	» 12	I	i	23	44	40					
			F	23	47						
160	» 13	I_v	e	0	49.0						Troubled by street traffic.
			F	0	53						Malabar e — iS = 56 sec.
											△ = 510.
161	» 13	I_v	iP	2	39	54				180	NS.
			iS	2	40	15					Malabar iP — iS = 7,5 sec.
			M_E	2	40	54					△ = 70; SW.
			F	2	47	58					Preanger (Java).
162	» 13	I_u	e_1	2	56	1					
			e_2	3	1	57					
			L_N	3	27	53					
			L_E	3	36	25					
			F	4	2						
163	» 13	I_v	eP	8	0	29				490	Malabar e — iS = 52 sec.
			S	8	1	23					△ = 460.
			F	8	12						
164	» 13	I	e	11	25	21					
			F	11	31						
165	» 14	I_v	e	16	2	16				360?	Malabar e — iS = 58 sec.
			i	16	2	57					△ = 520.
			F	16	6						Tjimiring (Banjoemas), Java.
166	» 14	I_v	e	16	40	51				140?	Malabar e — S = 22 sec.
			i	16	40	49					△ = 190.
			F	16	43						
167	» 15	I_v	e	13	3	4					Malabar e — S = 54 sec.
			F	13	7						△ = 490.
168	» 16	I	e	6	51	40					
			i	6	52	24					
			F	6	56						
169	» 16	I	e	12	16						Central Java
			F	12	22						
170	» 17	I_r	eP	7	43	40				1810	Tapanoeli, (Sumatra).
			eS	7	46	43					
			M	7	47	55					
			F	7	53						
171	» 17	I	e	23	7	33					Djambi (Sumatra).
			F	23	14						
172	» 18	I_v	e	15	58	15				680	Djambi (Sumatra).
			iS	15	59	28					
			F	16	6						

International Seismological Centre

N°.	Date 1921.	Character.	Phase.	Time (Greenwich).	Period in seconds.	Amplitude (half) A_E	Amplitude (half) A_N	Distance of epicentrum.	Remarks.
				h m s		μ	μ		
173	Sept. 19	I	iP	23 27 49					EW.
			i	23 28 47					
			i	23 30 59					
			i_N	23 37 44					
			i_E	23 38 30					
			F	0 7					
174	» 20	I	e	11 56 11					Malabar e — S = 73 sec.
			F	12 0					△ = 780.
175	» 20	I	e	19 3 10					Dobo Isles (Moluccas)?
			F	19 17					
176	» 20	II,	iP	20 22 44				580	ESE.
			iS	20 23 47					Malabar iP — iS = 63 sec.
			i	20 28 40					△ = 580, ESE.
	» 20		F	20 45					Central and Eastern Java.
177	» 20	I,	eP	22 57 32					Malabar P — iS = 13 sec.
			F	in next.					△ = 110.
									Preanger.
178	» 20	I,	eP	22 59 36					Malabar P — iS = 11 sec.
			F	23 4					△ = 90.
179	» 20	I,	e	23 13 6					Malabar P — S = 10 sec.
			F	23 16					△ = 80.
180	» 21	II,	iP	1 33 56				270?	NS.
			S?	1 34 26					Malabar iP — S = 12 sec.
			F	1 47					△ = 100, S 13 W.
									Preanger.
181	» 21	I	i	11 22 29					
			F	11 37					
182	» 22	II,	iP	6 34 30				460	EW.
			S	6 35 21					Malabar P — S = 65 sec.
			i	6 36 19					△ = 600.
			F	7 5					
183	» 22	I,	eP	9 19 16				2470	
			eS	9 23 13					
			F	9 32					
184	» 22	I,	P	17 50 3				250	ESE.
			iS	17 50 31					
			F	17 55					
185	» 26	II,	iP	14 14 36				550	± SE.
			i_E	14 15 9					Malabar iP — iS = 35 sec.
			S	14 15 36					△ = 310, SSE.
			i_N	14 16 8					Java.
			F	14 32					
186	» 27	I,	eP	14 33 15					Malabar iP — S = 13 sec.
			F	14 37					△ = 100, SW.
187	» 29	I	eP_N	13 20 19					Preanger and Banjoemas.
			i_E	13 29 23					
			F	13 34					

International Seismological Centre

International Seismological Centre From the ISC collection scanned by SISMOS

GICAL BULLETIN.

OCTOBER 1921.

BATAVIA OBSERVATORY, JAVA.

Foundation: River Quartair.
Greenwich Mean Time. S. Latitude 6° 11′ 0″. Height above sealevel.
E. Longitude 7h 7m 19s.
Wiechert Horizontal Pendulum, 1000 kilograms.
The symbols are according to Wiechert.

No.	Date 1921.	Character.	Phase.	Time (Greenwich).	Period in seconds.	Amplitude (half) A_E	Amplitude (half) A_N	Distance of epicentrum.	Remarks.
				h m s		μ	μ		
188	Oct. 1	I	e	1 0,0					No minute marks.
			F	1 4,8					
189	» 1	II_v	P	4 19 57				500	E — W
			i_N	4 20 9					
			S	4 20 52					
			M	4 21 44	6.0	160	121		
			F	4 35					
190	» 1	I_v	eP	10 39 23				640	Malabar P — iS = 75 sec.
			iS	10 40 32					△ = 700.
			F	10 50					Eastern Java.
191	» 1	I_v	e	18 30 33					Malabar P — eS = 38 sec.
			F	18 39					△ = 330.
									Eastern Java.
192	» 2	I	i	18 30 33					
			F	18 33					
193	» 3	I_v	P	23 52 39				240	
			i	23 52 44					
			iS	23 53 6					
			F	23 57					
194	» 4	I	e	8 59 14					
			i_E	10 1 25					
			i_E	10 2 56					
			i_N	10 5 35					
			F	10 6					
195	» 5	I	e	0 28 35					
			F	0 40					
196	» 5	II	iP_E	1 55 21					
			i_N	1 56 17					
			i_E	1 56 52					
			i_E	1 57 52					
			M_N	2 0 0					
			F	2 37					
197	» 5	III_v	iP	17 53 57				180	ESE — WNW.
			iS	17 54 17					
			M	17 55 45	6.2	384	525		
			F	18 10					

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No.	Date 1921.	Character.	Phase.	Time (Greenwich). h m s	Period in seconds.	Amplitude (half) A_E μ	Amplitude (half) A_N μ	Distance of epicentrum.	Remarks.
198	Oct. 5	I_v	iP	18 38 13				180	
			iS_N	18 38 33					
			F	18 46					
199	» 6	I	i	16 20 25					
			F	16 24					
200	» 8	I	e_E	11 7 22					
			F	11 17					
201	» 9	II_r	P	0 16,6				1780	P troubled by street traffic. Malabar P — iS = 2m 50 sec. △ = 1670.
			i	0 17 54					
			e	0 18 18					
			S	0 19 36	5.3	372	216		
			eL	0 28					
			F	0 56					
202	» 9	I_v	P_E	1 17 28					Benkoelen (Sumatra).
			M_N	1 20 12					
			F	1 42					
203	» 9	II_v	e	4 54 53				330	Lais (Benkoelen).
			P	4 54 57					
			iS	4 55 35					
			M	4 57 1	5.9	230	252		
			F	5 16					
204	» 9	I	e	14 31 14					Kedoe (Java).
			F	14 34					
205	» 10	II_r	e	2 12 54					Dobo Isles and New Guinea.
			i_1	2 13 41					
			i_2	2 15 25					
			i_3	2 16 37					
			F	2 47					
206	» 11	I	e	7 55 43					
			i	7 56 46					
			i_N	7 57 26					
			F	8 7					
207	» 12	I	e	8 2 43					
			i	8 11 4					
			F	8 14					
208	» 14	I	e	16 52 31					
			i	16 53 15					
			L	17 7 7					
			F	in next.					
209	» 14	I_r	P	17 14 57				2390	Malabar eP — S = 3m 44 sec. △ = 2310. Menado and Ternate.
			iS	17 18 47					
			F	17 26					
210	» 15	H	P	5 8 18					EW.
			i	5 10 3					Malabar P? — S = 8m 26 sec. △ = 7000?
			i	5 17 14					
			i_E	5 17 53					
			eL	5 24					
			M	5 26					
			F	6 11					

No.	Date 1919.	Character.	Phase.	Time (Greenwich). h m s	Period in seconds.	Amplitude (half) A_E μ	Amplitude (half) A_N μ	Distance of epicentrum.	Remarks.
211	Oct. 16	I_v	iP	22 6 35				390?	ESE. Malabar iP — eS? = 43 sec. △ = 380?; SE. Central and Eastern Java.
			S?	22 7 19					
			M	22 9 32					
			F	22 19					
212	» 17	I	P	1 24 20					
			F	1 29					
213	» 17	I_v	P	20 39 38				220?	Malabar iP — iS = 10 sec. △ = 90. Preanger (Java).
			eS?	20 40 3					
			F	20 41 7					
214	» 17	I_v	e	20 49 3					
			F	20 51					
215	» 17	I_v	i	21 53 23					Malabar P — S = 15 sec. △ = 130. Sodonghilir (Preanger).
			F	21 56					
216	» 18	I	e	0 39 5					
			i	0 46 30					
			F	0 49					
217	» 20	I	e	6 23 10					
			i	6 24 53					
			i	6 27 6					
			i	6 46 20					
			F	6 53					
218	» 20	I	e	10 43 59					
			F	10 55					
219	» 24	I_v	iP	23 19 51				350	SE. Malabar P — S = 30 sec. △ = 270. Preanger and Central Java.
			iS	23 20 31					
			M	23 21 54					
			F	23 37					
220	» 30	I_r	P	7 53 36				2520	
			i	7 55 50					
			iS	7 57 36					
			F	8 3					
221	» 31	I_v	e	10 18 57					Malabar P — S = 29 sec. △ = 260. Preanger and Central Java.
			i	10 19 49					
			F	10 23					

International Seismological Centre From the ISC collection scanned by SISMOS

SEISMOLOGICAL BULLETIN.

NOVEMBER 1921.

BATAVIA OBSERVATORY, JAVA.

Foundation: River Quartair.
Greenwich Mean Time. S. Latitude 6° 11′ 0″. Height above sealevel.
E. Longitude 7^h 7^m 19^s.
WIECHERT Horizontal Pendulum, 1000 kilograms.
The symbols are according to WIECHERT.

No.	Date 1921.	Character.	Phase.	Time (Greenwich). h	m	s	Period in seconds.	Amplitude (half) A_E	A_N	Distance of epicentrum.	Remarks.
								μ	μ		
222	Nov. 7	II,	eP	16	5	2				2740	Malabar P — eS = 4^m 34 sec.
			iP	16	5	4					△ = 3000.
			i_1	16	5	21					P — L = 8^m 34 sec.
			iS	16	9	18					
			M	16	10	26	6.0	91.3	210		
			i_2	16	12	0					
			eL	16	15	30					
			e	16	16	11					
			F	16	54						
223	» 8	I	e	15	26	40					
			F	15	33						
224	» 10	I,	i	16	57	35					Malabar P — iS = 20 sec.
			F	16	59						△ = 180.
											Preanger.
225	» 11	III,	eP	18	41	46				2410?	Malabar iP — eS = 4^m 7 sec.
			iP	18	41	49					△ = 2620.
			i	18	42	44					iP — eL = $7{,}2^m$.
			eS?	18	45	38					Menado, Taroena; tide waves at
			i	18	46	10					Great Sangir Island.
			M	18	46	26	6.2	475	251		
			eL	18	49	10					
			F	20	7						
226	» 12	I,	e	23	53	23					Tjikentjreng (Preanger).
			i_1	23	54	31					
			i_2	23	54	55					
			i_N	23	55	15					
			i_E	23	57	17					
	» 13		F	0	8						
227	» 13	I	e	9	13	9					
			F	9	20						
228	» 13	I	e	12	53	11					Preanger.
			i	12	53	33					
			F	12	57						
229	» 13	I,	P	13	59	33					
			iP	13	59	34					
			S	14	6	7					
			i	14	7	2					
			F	14	15						

International Seismological Centre From the ISC collection scanned by SISMOS

No.	Date 1921.	Character.	Phase.	Time (Greenwich). h	m	s	Periode in seconds.	Amplitude (half). A_E μ	A_N μ	Distance of epicentrum.	Remarks.
230	Nov. 13	I	e	18	5	40					
			F	18	22						
231	» 14	I_u	e	7	2	30				6490?	
			i	7	3	52					
			S?	7	10	30					
			F	7	18						
232	» 14	I	e	7	53	36					
			F	8	5						
233	» 15	I	e	2	21	45					
			F	2	37						
234	» 15	II_u	iP	20	45	44					ESE — WNW.
			i_1	20	52	31					Malabar eP — iS = 7 m 24 sec.
			i_2	20	53	51					△ = 5790.
			i_3	20	54	15					eP — eL = 10,8m.
			eL	20	56						
			F	21	27						
235	» 16	I	e	4	42	45					Menado.
			F	4	54						
236	» 16	I	e	9	45	6					
			F	9	51						
237	» 16	I	e	14	45	20					Singkel (Atjeh)?
			F	14	57						
238	» 17	I_v	P	7	55	37					Malabar P — e = 4m 33 sec.
			i_1	7	57	39					△ = 2980.
			i_2	8	0	4					
			F	8	10						
239	» 18	I_v △	iP	20	43	46					SW; S in hour mark.
			S	20	43,9						Malabar P — iS = 16 sec.
			F	20	51						△ = 140.
											Western Java.
240	» 19	I_v	e	19	34	29					Eastern Java.
			i	19	35	35					
			F	19	40						
241	» 19	I_v	P	22	26	6					Central and Eastern Java.
			F	22	30						
242	» 20	I_v	P	11	58	8				2200?	NE.
			S_E?	12	1	43					Menado and Taroena.
			i	12	5	13					
			F	12	9						
243	» 21	I_v	e	17	40	51					
			i	17	41	10					
			F	17	43						
244	» 22	I	e_E	9	46	56					
			F	9	51						
245	» 22	I	e_1	20	14	19					
			e_2	20	17	55					
			e_3	20	19	40					
			F	20	22						
246	Nov. 24	I_v	P	2	7	51				140	NS.
			iS	2	8	7					Malabar P — eS = 13 sec.
			F	2	11	14					△ = 110.
											Preanger.
247	» 25	I	eP	18	45	26					
			i	18	46	42					
			F	18	50						
248	» 25	I	P	19	3	55					
			M	19	6	2					
			F	19	10						
249	» 25	I	e_1	18	49	42					
			e_2	18	52	53					
			e_3	18	58	10					
			F	19	3						
250	» 26	I	P	22	58	20					
			iS?	23	8	23					
			M	23	9	32					
			F	23	14						

N.B Earthquake 149, Sept 11th.
Computed epicentre 12,4 S; 110,8 E.
Time at epicentre 4h 1m 24s.

International Seismological Centre From the ISC collection scanned by SISMOS

SEISMOLOGICAL BULLETIN.

DECEMBER 1921.

BATAVIA OBSERVATORY, JAVA.

Foundation: River Quartair.
Greenwich Mean Time. S. Latitude 6° 11′ 0″. Height above sealevel 8 m.
E. Longitude 7h 7m 19s.
WIECHERT Horizontal Pendulum, 1000 kilograms.
The symbols are according to WIECHERT.

No.	Date 1921.	Character.	Phase.	Time (Greenwich). h	m	s	Period in seconds.	Amplitude (half) A_E μ	A_N μ	Distance of epicentrum	Remarks.
251	Dec. 1	I_u	e_E	10	57	58					
			i_1	11	4	6					
			i_2	11	4	47					
			eL	11	16	27					
			F	11	32						
252	» 2	I	e_E	20	53	28					
			i_1	20	56	48					
			i_2	21	1	48					
			F	21	7						
253	» 4	I_v	e	12	6	4					Malabar i P_N — S = 42 sec. △ = 370.
			i_N	12	7	4					
			i_E	12	7	11					
			i	12	8	28					
			F	12	22						
254	» 4	I_v	e	17	55	59					Malabar P — S = 48 sec. △ = 420.
			i	17	58	16					
			i	18	3	2					
			i_N	18	5	45					
			F	18	10						
255	» 6	I_v	P_N	12	39	34					Malabar eP — S = ± 30 sec. △ = ± 290.
			i_1	12	40	12					
			i_E	12	41	8					
			F	12	49						
256	» 7	I_v	e	12	24	24				190	Lebak Parai (Bantam) Java.
			iS	12	24	49					
			F	12	27						
257	» 7	II_r	i_E	17	32	16					Malabar i_1 — i_2 = 8m 10 sec.
			i_N	17	36	21					
			M	17	38	48	6.1	107	112		Menado, Taroena (Gr Sangir I.).
			eL	17	43						
			F	18	7						
258	» 7	I_r	i_1	18	45	55					Taroena, Gr Sangir Isles.
			i_2	18	48	28					
			i_3	18	51	41					
			F	18	55						
259	» 8	I_v	e	0	38						Troubled by street traffic. Bodjong Asih (Preanger), Java.
			F	0	41						

International Seismological Centre From the ISC collection scanned by SISMOS

No.	Date 1921.	Character.	Phase.	Time (Greenwich). h	m	s	Period in seconds.	Amplitude (half) A_E μ	A_N μ	Distance of epicentrum.	Remarks.
260	Dec. 8	I	e_1	12	40	40					
			e_2	12	45	9					
			$iS?_N$	12	47	55					
			F	13	7						
261	» 9	I_r	e	5	11	36					Praja, Lombok (?).
			i	5	13	5					
			F	5	16						
262	» 11	I	i_E	0	24	25					
			i	0	24	52					
			F	0	30						
263	» 13	I	i	2	30	13					
			M	2	31	13					
			F	2	53						
264	» 14	I_v	eP_E	14	20	22				230	
			iS	14	20	48					
			F	14	24						
265	» 15	I	eP	6	1	19					
			i	6	2	14					
			i_N	6	2	56					
			i	6	3	22					
			F	6	14						
266	» 16	I	P_E	2	45	39					
			i_E	2	47	25					
			i	2	51	4					
			F	2	57						
267	» 18	II_u	P_E	15	48	29				7680?	
			i_N	15	49	5					
			S_N?	15	57	29					
			i	15	57	49					
			eL	16	5						
			F	17	7						
268	» 20	I_u	iP	2	35	18				7350?	SE — NW.
			iS?	2	44	2					
			F	2	49						
269	» 22	I	e_E	2	0	5					
			M	2	4	30					
			F	2	12						
270	» 23	I	e	14	0	2					
			i	14	2	15					
			i_E	14	2	45					
			F	14	10						
271	» 26	I_r	e	11	6	58				1370	Malabar eP — eS = 1m 6 sec.
			S	11	9	20					△ = 610.
			F	11	14						Eastern Java.
272	» 27	I	e_E	22	21	58					
			i	22	26	31					
			F	22	32						
273	» 29	I_v	eP_E	0	1	25					Bodjong Asih (Preanger), Java.
			i_N	0	1	52					
			F	0	6						
274	» 29	I_v	P	19	46,2						P in hour mark.
			i	19	47	16					Malabar iP_E — iS = 17 sec
			F	19	52						△ = 130.
											Western Java.