FORM : 3717

AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR JANUARY, 1930.

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS : GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS : FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 (SEC).	PENDULUM FREE PERIOD T (SEC).	DAMPING CONSTANT μ_2	$Ak/\pi L$ (SEC.)$^{-1}$
N	9th Sept. 1929.	24·68.	25·5.	0·00.	46·8.
E	10th Sept. 1929.	24·80.	24·7.	+0·09.	43·5.
Z	10th Sept. 1929.	13·04.	12·9.	+0·10.	113 .

TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK (MORRISON); TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY. SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	△ KM.	REMARKS.
Jan. 5.	e_Z	1	31·5							Disturbed by wind and microseisms.
	eL		57							
	F	2	30							
5.	e_Z	19	45							
	e_E		14·6							
	eL		34							
	F	20	15							
9	e_Z	19	39	43						Brittany. (according to Strasbourg.)
	e_{NE}		40	19						
	e_Z		40	24						
	$e(S)$		40	35						Felt at North Ockendon, Essex. — Kew File 52/30.
	e_{NZ}		40	52						
	M_E		40	55			42⊙			⊙ Amplitude as read in mm.
	e_N		41	3						
	e_{NE}		41	9						
	F		44·6							
14/15.	e_E	22	47·3							Disturbed by wind and microseisms.
	L_{NE}	23	12							
	L_Z		15							
	F	0	0							
16	eL_N	0	11							Traces on E and Z records.
	F		20							
17	eL	17	38							
	F	18	10							

P104 28302-1355, 100,000, M.&S.

SEISMOLOGICAL BULLETIN.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	△ KM.	REMARKS.
Jan. 18.	eL	7	31							
	F		?							Overlapped by next shock.
18.	eL	8	4							
	M_1		5	28	40		-33			
	M_2		12	19	30	-26				
	F	9	20							
20.	eL_{NE}	8	11							
	eL_z		19							
	F		55							
25.	eL_{NE}	2	28							
	eL_z		43							
	F	3	5							
28.	eL	7	30							
	F	8,	0							

F. J. W. Whipple.
Supt.
3.2.30.

KEW OBSERVATORY, RICHMOND, S

SEISMOLOGICAL BULLETIN FOR FEBRUARY, 1930.

Lat. 51° 28′ 6″ N, Long. 0 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS : GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS : FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 (SEC).	PENDULUM FREE PERIOD T (SEC).	DAMPING CONSTANT μ^2	$Ak/\pi L$ (SEC)$^{-1}$
N	9th. Sept. 1929.	24·68	25·5	0·00	46·8
E	10th. Sept. 1929.	24·80	24·7	+0·09	43·5
Z	10th. Sept. 1929.	13·04	12·9	+0·10	113·

TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK (MORRISON); TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY. SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
Feb. 1.	eL	19	41							
	F	20	5							
2.	e_Z	15	7·7							
	L_{NE}		17·7							
	L_Z		26							
	F		40							
7.	eL	7	32							
	F	8	10							
7.	e	17	30							
	F	18	10							
8.	eL	6	53							
	F	7	20							
12.	e_Z	6	41·7							
	L_{NE}	7	44							
	L_Z		54							
	F	8	50							
14.	iP	18	43	20					2510	Dilatation.
	iPR_1		43	42						Amplitudes of iP as read in mm:
	iS_{NE}		47	26						N E Z
	iS_Z		47	29						−0·95 +1·1 −3·0
	m_1		47	30	10	−69	+99			Azimuth = 129° ± 2° giving
	m_2		47	34	9			−63		epicentre near 36°N, 21°E.
	m_3		47	52	13	+48	−43			
	m_4		48	15	9			+33		
	L		49·5							
	M_1		51	35	23		−32			Destructive in Crete
	M_2		51	48	21	+57				
	M_3		52	5	10			−14		
	F	19	55							

088,28088-1862,1100,M&S,3/30

SEISMOLOGICAL BULLETIN.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
Feb. 14.	e_z	21	0·9							
	L_{NE}		55							
	L_z	22	4·6							
	F	23	20							
15.	e	19	25							
	eL_{NE}		31							
	F		50							
18.	e	2	22							
	eL_{NE}		45							
	eL_z		53							
	F	3	45							
18.	e	6	34							
	F	7	35							
23.	iP	18	23	50					2510	Compression.
	iS		27	56						Amplitudes of iP as
	L		29·4							read in mm:
	M_1		30	41	18	-56				N E Z
	M_2		31	27	14		-19			+1·8 -1·95 +3·4
	M_3		32	24	8			-14		Azimuth = 131°±1°.
	F	19	20							Repetition of Feb. 14^d 18^h.
24.	e	21	9							
	L_{NE}		47							
	L_z		54							
	F	22	20							
27.	eL	7	57							
	F	8	5							
28.	eP_z	1	7	(0)					(5430)	P confused by microseisms.
	eS_{NE}		14	22						
	eL_{NE}		18							
	eL_z		21							
	M_1		24	23	18	+7				
	M_2		24	43	17		+8			
	M_3		25	53	17			+10		
	F	2	20							
28	eL	19	26							
	F	20	5							

F. J. W. Whipple.
Sup^t.
5·3·30.

KEW OBSERVATORY, RICHMOND, S

SEISMOLOGICAL BULLETIN FOR MARCH 1930.

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS : GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION. THREE COMPONENTS.

CONSTANTS : FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 (SEC).	PENDULUM FREE PERIOD T (SEC).	DAMPING CONSTANT λ	$Ak/_{\pi L}$ (SEC).
N	9h Sept. 1929	24·68	25·5	0·00	46·8
E	10h Sept. 1929.	24·80	24·7	+0·09	43·5
Z	28h Mar. 1930*	13·04	13·0	0·00	109·

* Constants applying before this date are given in preceding bulletin.

TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK (MORRISON) ; TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY.

SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
Mar. 1.	eL	6	3							No records of "Z" and "E": 1d 21h 16m to 2d 10h 10m.
	F		30							
6.	e	0	2·0							Very small.
	F		10							
6.	eL	8	31·6							
	F		50							
6	e	9	24	4						
	e		28	2						
	L		30							
	F		45							
6	e	15	55·1							
	F	16	45							
6	eL	17	0							
	F		55							
7	L	6	49·4							
	F	7	10							
7	eL	11	45							
	F	12	5							
8	iP	3	57	11					8300	Compression.
	iS_{NE}	4	6	46						
	L		21							
	M_1		25	31	20	+2				
	M_2		26	11	20			+4		
	M_3		26	17	20		−4			
	F	5	0							

F. 115, 1193, 11, 1000 4/30, M&S

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	KM.	
Mar. 10	eL	14	25							
	F		40							
10	e_Z	16	40·5							
	i_{NE}		44	0						
	L_{NE}	17	3							
	L_Z		10							
	F		40							
16	eL	5	49							
	F	6	10							
20	eL	13	58							Disturbed by wind and microseisms.
	F	14	15							
26	$e(P)_Z$	7	23·3						(13300)	Epicentre probably 2°S, 134°E, according to Strasbourg.
	iPR_1		32	12						
	eS_{NE}		40	3						
	iPS		41	55						
	iPPS		43	8						
	eSR_1		48	35						
	L_{NE}	8	1·8							
	L_Z		13·1							
	M_1		14	59	28	-52				
	M_2		16	49	26		+28			
	M_3		21	58	24	-51				
	M_4		22	3	24			+29		
	M_5		23	52	23		-25			
	M_6		27	3	22		+29			
	M_7		27	19	19			+21		
	M_8		28	10	24	+40				
	eL_2	9	12							Via antipodes.
	F	10	5							
26	eL	12	32							No records, 26d 14h 10m to 16h 47m, 27d 9h 30m to 17h 9m; 28d 9h 35m to 13h 8m, during standardisation of "Z" instrument.
	F	13	0							
30	eL	1	20							
	F		50							
30	e	8	54·6							
	eL	9	15							
	F	10	50							
30	e	15	39	36						
	e		49	17						
	eL_{NE}	16	17							
	eL_Z		25							
	F		40							
31	eP	12	38	30					2230	
	eS		42	13						
	L		43·3							
	M_1		44	51	25		+26			
	M_2		45	27	14	-69				
	M_3		45	33	12		+23			
	M_4		46	21	19	-48				
	M_5		47	36	10			-18		
	M_6		50	33	10			-16		
	F	13	35							

J. J. Shaw for Supt. 5.4.30.

SEISMOLOGICAL BULLETIN FOR APRIL 1930.

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS : GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS : FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 (SEC).	PENDULUM FREE PERIOD T (SEC).	DAMPING CONSTANT $\mu 2$	$Ak/\pi L$ (SEC).
N	9th Sept. 1929.	24·68	25·5	0·00	46·8
E	10th Sept. 1929.	24·80	24·7	+0·09	43·5
Z	28th Mar. 1930.	13·04	13·0	0·00	109·

TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK (MORRISON); TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY. SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	PHASE.	G.M.T. HR.	G.M.T. MIN.	G.M.T. SEC.	PERIOD. SEC.	AMPLITUDE. An μ	AMPLITUDE. Ae μ	AMPLITUDE. Az μ	Δ KM.	REMARKS.
Apr. 2	–	–	–	–						1h37m to 9h46m – No Z record.
2	eL_{NE}	5	14							
	F		40							
2	e_{NE}	20	42							
	eL		49							
	F	21	30							
4	eL	10	33							
	F	11	0							
5	e	12	3							
	F		25							
9	e	5	41							
	F		55							
10	eL	14	50							
	F	15	25							
15	e	11	45							Horizontal components disturbed by wind.
	F	12	5							
15	e	12	46							
	F	13	0							
15	e	15	56							
	F	16	5							
16	eL	4	39							
	F	5	0							

P1141,3432-212,100,5.30,H&S

SEISMOLOGICAL BULLETIN.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
16	e_Z	13	49	31						
	eL		54							
	F	14	20							
17	iP	20	11	31					2430	Compression.
	e_{NE}		15	23						Destructive in Greece.
	iS_Z		15	30						Epicentre :- 37°.5 N, 23°.5 E.
	L_{NE}		16·2							(Strasbourg).
	M_1		18	46	20	+42	+17			
	M_2		18	56	18	-43				
	L_Z		19·3							
	M_3		19	19	14		+19			
	M_4		21	2	10			-31		
	M_5		21	5	11		-29			
	M_6		22	10	12			+12		
	F	21	5							
18	e	13	8							
	F		20							
19	-	-	-	-						$9^h 40^m$ to $20^h 57^m$ - No E-W record.
21	e	10	31	23						
	e_{NE}		39	35						
	L	11	5							
	F		40							
21	e	12	5							
	e_{NE}		16·0							
	L		47							
	M_1		48	57	22	+14				
	M_2		49	18	19		+7			
	M_3		52	11	18	+15				
	M_4		52	50	18		+7			
	M_5		54	46	16			-13		
	eL_2	14	7							Long waves via the Antipodes.
	F	15	0							
22	e	14	44							
	F		55							

SEISMOLOGICAL BULLETIN.

DATE.	PHASE.	G.M.T. HR.	G.M.T. MIN.	G.M.T. SEC.	PERIOD. SEC.	AMPLITUDE. An μ	AMPLITUDE. Ae μ	AMPLITUDE. Az μ	Δ KM.	REMARKS.
23	eL	19	7							Confused by microseisms.
	F		25							
23/24	e_{NZ}	22	1	7						
	e_Z		4·3							
	e_{NE}		11·1							
	e_Z		12·3							
	e_{NE}		17·0							
	L_{NE}		24							
	L_Z		32							
	M_1		32	45	26		-18			
	M_2		35	15	20	-13				
	M_3		36	29	20		+14			
	M_4		37	56	20	-15				
	M_5		38	11	20		+17			
	M_6		41	0	19		+15			
	M_7		44	13	19	+13				
	M_8		53	24	17			+16		
	F		?							Overlapped by next shock.
24	eL	1	3							
	F		55							
24/25	–	–	–	–						17h 47m to 9h 30m – No E-W record.
25	e	11	50							
	F	12	0							
25	e	13	1							
	F		30							
25	e_Z	15	16	53						
	L_{NE}		51							
	L_Z		55							
	F	16	25							
26	eL_{NE}	7	5							5h 35m to 9h 35m – No Z record.
	F		45							

SEISMOLOGICAL BULLETIN.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS
26	iP_{NZ}	16	30	9					8580	Amplitudes of iP as read in mm. –
	eS_{NE}		39	58						N E Z
	PS_N		40	56						−0·7 0·0 +1·1
	SR_{IN}		45·6							Azimuth approximately
	L_{NE}		50							north giving epicentre
	L_Z		55							near 51°N., 180°.
	M_1	17	9	33	20		+20			(Aleutian Islands).
	M_2		10	0	18	+17				
	M_3		11	30	19			−16		Bombay telegraphs :-
	M_4		13	0	20	+31				P. 16h 30m 52s.
	M_5		13	15	18			+24		S-P. 10m 31s.
	M_6		13	25	18		+18			Δ. 9400 Km.
	M_7		15	41	18		−16			
	M_8		16	15	16			+14		
	eL_2	18	34							Long waves via the Antipodes.
	F	19	20							
27	e_Z	14	40·1							
	eL	15	21							
	F	17	0							
28	e	13	29							Very small.
	F	14	45							
28	iP_Z	18	46	23					8400	Compression.
	iS		56	3						
	e	19	4·7							Bombay telegraphs :-
	L_{NE}		12							P. 18h 40m 3s.
	L_Z		16							S-P. 4m 29s.
	M_1		16	29	24		−15			Δ. 2800 Km.
	M_2		16	30	25	+27				
	M_3		22.	48	15			−12		
	F	20	40							
30	e(P)	16	25	33						
	i_Z		25	37						
	e_Z		26	11						
	F	18	35							

J. J. W. Whipple
Supt.
5-5-30.

SEISMOLOGICAL BULLETIN FOR ..... MAY, ...

Lat. 51 28' 6" N, Long. 0 18 [illegible] W. Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS : GALITZIN APERIODIC SEISMOGRAPHS PHOTOGALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS : FOR NOTATION SEE FÜRST B. GALITZIN "UNTERSUCHUNGEN ÜBER SEISMOMETRIE (LEIPZIG, 1914)
OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T (SEC)	PENDULUM FREE PERIOD T (SEC).	DAMPING CONSTANT μ^2	$A_k / \frac{\pi}{T} L$ (SEC)$^{-1}$
N	9th Sept. 1929.	24·68	25·5	0·00	44·8
E	10th Sept. 1929.	24·80	24·7	+0·09	43·5
Z	28th Mar. 1930.	13·04	13·0	0·00	10·7

TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK (MORRISON) ;
TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY.
SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND

DATE.	PHASE.	G.M.T. HR.	G.M.T. MIN.	G.M.T. SEC.	PERIOD. SEC.	AMPLITUDE. An μ	AMPLITUDE. [illegible]	AMPLITUDE. Az μ	Δ KM.	REMARKS.
May. 1	iP_Z	1	10	37					9470	Compressional.
	eS_{NE}		21	11						
	L_{NE}		36							
	L_Z		42							
	M_1		46	13	24		[illegible]			
	M_2		51	39	20	[illegible]		+9		
	M_3		51	43	23					
	F	2	50							
1	e	11	0							
	F		15							
2	eP_Z	2	1	4						
	e_{NE}		22·5							
	L_{NE}		54							
	L_Z	3	1							
	F	4	0							
2	eP_Z	6	21	12						
	e_Z		24·4							
	L_{NE}	7	10							
	L_Z		15							
	F	8	25							
4	-	-	-	-						$3^h 26^m$ & $7^h 10^m$ No Z record.

P1156, 6104-932, 100, 6/30, M&S.

SEISMOLOGICAL BULLETIN.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	△ KM.	REMARKS.
5	iP	13	58	11					8840	Compression.
	ePR1	14	1·3							
	iSNE		8	15						Destructive in Burma.
	e		9	40						
	SR1 NE		14·4							
	SR2 NE		17·7							
	L		24·0							
	M1		32·3 to 33·6		(27)	±326*				
	M2		32	34	24		+189			* Positive and negative maxima off chart.
	M3		33	29	25		+172			† Positive maximum off chart.
	M4		34	30	22	+223†				
	M5		34	33	22		-148			
	M6		36	39	21	+173†				
	M7		37	45	19	-167				
	M8		38	39	17	-152				
	M9		38	40	21			+146		
	M10		40	55	17			+129		
	M11		41	30	19		-162			
	M12		42	41	17	-138				
	M13		43	10	15			-98		
	M14		44	41	15			-98		
	F	18	25							
6	eL	7	17							
	F		45							
6/7	iPEZ	22	41	9					3750	Dilutation.
	eS		46	42						Azimuth about East,
	ePSZ		47·5							giving epicentre near
	L		49·6							40° N., 45° E.
	M1		52	33	33	+510†				
	M2		54	7	27	+430*				Destructive in N.W. Persia.
	M3		55	36	17	+300*				
	M4		55	39	24		-360*			* Positive and negative maxima off chart.
	M5		55	46	16	-300*				
	M6		56	2	19	-310*				† Negative maxima off chart.

KEW OBSERVATORY, RICHMOND, SURREY.

SEISMOLOGICAL BULLETIN.

MAY, 1930.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	As μ	Az μ	Δ KM.	REMARKS.
6/7 (cont.)	M_7	22	56	2	21		-320*			
	M_8		57	35	17			-352		
	M_9		57	59	18			+356		
	M_{10}	23	0	12	18	+280				
	M_{11}		0	25	14			-183		
	F	3	5							
7	eL	14	9							
	F		30							
8	eL	5	50							
	F	6	0							
8	e_Z	13	55·1							
	eL	14	49							
	F		?							Overlapped by next shock.
8	i	15	42	12						
	e_{NE}		47	36						
	L		49·4							
	M_1		55	45	23	-25				
	M_2		56	42	22		-22			
	M_3		58	24	17	+23				
	M_4		58	27	13			+18		
	M_5		58	52	16		+21			
	M_6	16	2	33	14			-15		
	F	17	30							
9	e_Z	7	13·2							
	e_{NE}		17·8							
	L		21							
	F	8	0							
9	e	14	45							
	F	15	5							
10	eL	22	51							
	F	23	10							

SEISMOLOGICAL BULLETIN.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	△ KM.	REMARKS.
11	iP	22	44	24					5250	Compression.
	ePR$_1$		46·4							
	eS		51	20						
	SR$_{1\,NE}$		54·7							
	L		55							
	M$_1$	23	3	54	22	−8				
	M$_2$		4	55	23		+ 6			
	M$_3$		10	5	20			+7		
	F									
12	i	0	29	49						
	e		36	48						
	L		48							
	F	1	15							
14	e	0	6							Not very distant.
	F		10							
14	eL	20	14							
	F	21	5							
15	-	-	-	-						$2^h 0^m$ to $7^h 33^m$. No records.
16	eL	3	22							
	F	4	0							
16	eL	21	1							
	F		20							
18	eL	1	8							Disturbed by wind and microseisms.
	F		30							
19	e$_z$	3	40·8							
	L	4	2							
	M$_1$		13	50	17		+4			
	M$_2$		14	11	17			+10		
	M$_3$		14	25	17	+6				
	F	5	25							
19	e$_z$	15	28	43						
	L$_{NE}$		51							
	L$_z$		58							
	M$_1$	16	3	7	16	−8				
	M$_2$		3	11	16			+10		
	F		30							

KEW OBSERVATORY, RICHMOND, SURREY, E

SEISMOLOGICAL BULLETIN.

MAY, 1930.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	△ KM.	REMARKS.
20	eL	8	42							
	F	9	20							
20	e	11	26	55						
	e_{NE}		36	44						
	e		42	15						
	L		55							
	M_1		56	48	24	+9				
	M_2		57	9	27		+11			
	M_3	12	8	43	19	+12				
	M_4		11	57	17		+10			
	M_5		12	18	17			-14		
	F	14	5							
										Very small.
21	e	12	23							
	F	13	0							
									2550	Compression.
21	eP	22	14	4						
	i_N		14	12						
	i		14	26						
	S_{NE}		18	13						
	L		19	4						
	M_1		20	40	12	+11				
	M_2		20	51	15		-9			
	M_3		20	55	15			-7		
	F	23	10							
23	eL	0	40							
	F	1	10							
23	eL	10	8							N-S and E-W records disturbed by wind.
	F		30							
23	e_Z	16	51	17						
	e_{NE}	17	0	58						
	e		1	15						
	e		2	16						
	L		28							
	F	18	5							
										Not very distant.
24	e_Z	22	6	24						
	L		7	57						
	F		20							

KEW OBSERVATORY, RICHMOND, SURREY

SEISMOLOGICAL BULLETIN.

MAY. 1930.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	As μ	Az μ	KM.	REMARKS.
26	e	23	4							
	F		20							
29	eL	17	29							
	F	18	10							
31	eL	10	57							
	F	11	25							
31	eP_Z	18	11	(4)						In minute break.
	e_{NE}		21·4							
	L_{NE}		38							
	L_Z		42							
	M_1		43	30	34	+6				
	M_2		43	56	34		-11			
	F	19	15							

G. J. Scrase.
For Supt.
5·6·30.

SEISMOLOGICAL BULLETIN FOR ..... Ju.

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS : GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION THREE COMPONENTS.

CONSTANTS : FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 (SEC).	PENDULUM FREE PERIOD T (SEC).	DAMPING CONSTANT λ	$Ak/\pi L$ (SEC.)$^{-1}$
N	9th Sept. 1929.	24·68.	25·5.	0·00.	46·8.
E	10th Sept. 1929.	24·80.	24·7.	+0·09.	43·5.
Z	28th Mar. 1930.	13·04.	13·0.	0·00.	109·.

TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK (MORRISON); TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY. SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
JUNE. 1.	e_{NE}	13	34·4							No "Z" record, $1^d\,1^h\,35^m$ to $2^d\,9^h\,45^m$
	e_E		56·6							
	L	14	15							
	M_1		34	43	23	−4				
	M_2		41	48	21		−5			
	F	15	55							
4	e_{ZE}	7	34	58						
	e_N		40	21						
	eL		46							
	F	8	30							
4	eP_{ZE}	10	9	59						
	PR_{IZE}		11·9							
	e_{NE}		19·0							
	L		47							
	M		51	7	26	−6				
	F	11	30							
5	iP_Z	12	2	24						
	L		51							Compression.
	M	13	6	2	22	+8	−6			Horizontal components disturbed by wind.
	F	14	25							
5	e	22	9							
	F		25							
6	–	–	–	–						No "Z" record, $2^h\,48^m$ to $9^h\,43^m$.

P.1174,8732,480,100,7/30.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
7	e	10	58							Very small.
	F	11	20							
8	e	14	5							Very small.
	F		20							
9	e_{ZN}	4	48							No "E-W" record, 4^h0^m to 9^h15^m.
	F		55							
11	e_Z	1	8·9							
	i_Z		10	57						
	i_{NE}		12	13						
	e_N		18·0							
	L_{NE}		29							
	L_Z		32							
	M_1		57	16	26	+41				
	M_2		58	22	26		+45			
	M_3		59	33	24		−42			
	M_4	2	1	13	26	+57				
	M_5		3	0	24	+64	+51			
	M_6		3	43	23			+77		
	M_7		10	25	20			−38.		
	F	3	40							
11	e	11	30							Very small.
	F		35							
11	e	14	42							Very small.
	F		50							
12	-	-	-	-						No "E-W" record, 15^h30^m to $16^h20^m33^s$.
13	ePz	1	5	50					8820	Compression.
	$eSvE$		15	51						
	L		36							
	M_1		46	33	18	+4	+3			
	M_2		46	36	19			−9		
	F	3	0							
13	e_Z	21	28							
	F		40							
15	e	8	51							
	F	9	45							

DATE	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
15	e_z	21	30·4							
	L	22	15							
	M_1		16	48	28		+7			
	M_2		17	51	27			+8		
	F	23	35							
17	eL	20	41							
	F	21	5							
18	e	16	30							Very small.
	F		45							
19	e	13	53							
	L	14	10							
	F	15	25							
21	e	21	55							
	F	22	10							
22	-	-	-	-						No "Z" record, 0^h45^m to 9^h30^m.
22	L	19	21							
	F	22	0							
23	-	-	-	-						E-W record defective, 5^h30^m to 9^h20^m. No records, 9^h20^m to 10^h36^m.
23	e_z	20	5							
	eL		40							
	F	21	50							
25	eP_z	10	30	55						Compression.
	PR_{1Z}		34	36						
	e_E		41	32						
	e		43	24						
	L	11	4							
	M_1		11	52	17	+7	+9			
	M_2		11	56	17			+15		
	F	-	-	-						Overlapped by next shock.
25	eP_z	12	16	9					6460	
	eS_{NE}		24	10						
	L		33							
	M_1		35	17	22			+6		
	M_2		35	21	24		+7			
	F	13	30							
25	e	13	50							
	F	14	15							

			HR.	MIN.	SEC.	PERIOD. SEC.	MOTION. An μ	Ae μ	Az μ	Δ KM.	
25		eP	21	34	53					(10700)	Pacific Ocean near Peru. 16°S., 79°W. (U.S.C.G.S.)
		PR$_1$		38·6							
		e$_{NE}$		45	28						
		e$_E$		46·5							
		L$_{NE}$	22	1							
		L$_Z$		6							
		M$_1$		10	29	23	−18	−29			
		M$_2$		10	47	22			+34		
		M$_3$		14	51	17	+20				
		M$_4$		15	26	17		+29			
		M$_5$		15	39	17			−43		
		F	0	30							
26		e	4	34							
		F		45							
27		e	19	53							Very small.
		F	20	10							
28		-	-	-	-						
29		-	-	-	-						No "N-S" record, 7^{h}3^m to 9^{h}40^m. No "Z" record, 9^{h}40^m to 12^{h}45^m.

F J W Whipple.
Sup^t.
4-7-30.

KEW OBSERVATORY, RICHMOND, [illegible], ENGLAND.

SEISMOLOGICAL BULLETIN FOR JULY, 1930.

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS : GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS : FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 (SEC).	PENDULUM FREE PERIOD T (SEC).	DAMPING CONSTANT μ^2	$Ak/\pi L$ (SEC.)
N	9th Sept. 1929.	24·68	25·5	0·00	46·8
E	10th Sept. 1929.	24·80	24·7	+0·09	43·5
Z	28th Mar. 1930.	13·04	13·0	0·00	109·

TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK (MORRISON); TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY. SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	PHASE.	G.M.T. HR.	G.M.T. MIN.	G.M.T. SEC.	PERIOD. SEC.	AMPLITUDE. An μ	AMPLITUDE. Ae μ	AMPLITUDE. Az μ	Δ KM.	REMARKS.
July. 1.	eP_Z	1	20	21					(7700)	N Pacific Ocean off British Columbia.
	eSR_{NE}		37·8							
	L_{NE}		40							52°N., 137°W.
	L_Z		45							(U.S.C. & G.S.)
	M_1		51	24	15			+7		
	M_2		51	37	15	−6				
	M_3		52	9	13		+4			
	F	2	55							
1	—	—	—	—						No records, 10^h11^m to 11^h49^m.
2	iP	21	14	58					7780	Compression.
	i		15	8						Destructive in Gauhati,
	PR_1		17·8							Assam.
	PR_2		19·3							
	iS		24	7						27·5°N., 90°E. (Strasbourg).
	SR_1		29·1							
	SR_2		32·3							Bombay telegraphs :-
	L_{NE}		33							iP $21^h7^m43^s$.
	L_Z		40							S−P 3^m15^s.
	M_1		45	46	23	+135				Δ 1900 Km.
	M_2		47	53	23		−110			
	M_3		49	24	20	+100	+130	−190		
	M_4		49	30	20					
	F		—	—						overlapped by next shock.
3	eP_Z	0	30	15					7700	Probably repetition of
	eL		49							preceding shock.
	F	1	20							
3	e	14	57							Very small.
	F	15	10							
4	e	21	11							Not very distant.
	F		15							

P1180, 11374, 8045, 100, M&S, T.&S.

KEW OBSERVATORY, RICHMOND, SURREY

SEISMOLOGICAL BULLETIN.

JULY, 1930.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	△ KM.	REMARKS.
5	e	18	18	4						
	eL		56							
	F	20	10							
5	e_z	23	18	2						Southern Spain.
	M		19	47	15	+3	-6			
	F		40							
7	eL	14	6							
	M_1		19	7	19		-7			
	M_2		19	12	18			-8		
	F	15	0							
7	e	20	42							
	F	21	5							
7	e	21	17							
	F		40							
8	e	10	27							
	F		40							Very small.
10	e	17	26							
	F		40							
11	e	7	47							
	F	8	5							
11	e	15	14							
	F		20							
13	eL	1	33							overlapped by next shock.
	F	-	-							
13	eL	2	10							
	M_1		25	2	18			-6		
	M_2		25	8	19	+4	+4			
	F	3	45							
13	eL	13	58							
	F	14	20							
13	e_z	14	33							
	L		43							
	F	15	5							
13	eP	19	38	5					7340	Dilatation.
	iP		38	7						
	PR		42·1							Nan Shan, China.
	eS_{NE}		46	53						38°N., 98°E. (Strasbourg).
	SR_{1NE}		51·3							
	SR_{2NE}		53·9							Bombay telegraphs :-
	L_{NE}		58							iP 19h 33m 21s.
	L_z	20	4							S-P 5m 3s.
	M_1		4	51	14	+30				△ 3300 KM.
	M_2		9	20	14		-29	+32		
	M_3		9	24	13					
	F	21	40							
14	e	21	14							Very small.
	F		20							

SEISMOLOGICAL BULLETIN.

JULY, 1930.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	△ KM.	REMARKS.
14/15	eP_{ZE}	22	52	42					8710	Compression.
	PR_{IE}		55·5							
	cS	23	2	38						
	SR_{INE}		7·7							
	L		17·6							
	M_1		19	54	23	+50				
	M_2		26	38	19		−58			
	M_3		26	43	18			−72		
	M_4		31	3	17			−62		
	F	3	0							
15	e	9	40							Very small.
	F	10	5							
15	e	15	17·6							
	F		35							
20	e	0	3							
	F		20							
20	e	11	20							
	F		35							
22	e	11	57							
	F	12	5							
22	eP_Z	19	37	50					8730	Compression.
	iP_{NZ}		37	52						
	iP_EP_Z		38	23						
	iS_E		47	47						
	L_{NE}	20	1							
	L_Z		7							
	M_1		11	13	24		−24			
	M_2		11	56	23	+17				
	F	21	30							
23	eP	0	12	11					1700	Destructive in Southern Italy.
	i		12	16						41·1° N., 15·4° E. (Strasbourg).
	i_Z		15	0						
	iS_E		15	7						
	i_{ZE}		16	17						
	L		16·8							
	M_1		18	20	15	>+290*		>−260†		*Positive and negative maxima off chart.
	M_2		19	11	13					†Positive maxima off chart.
	M_3		19·1m to 19·6m.		12	>±300*				⊙Negative maxima off chart.
	M_4		19	23	(15)		>+320⊙			Very large oscillations on "Z" component, 19·2m to 19·8m;
	M_5		20	41	14		+160			trace too faint for these to be measured.
	M_6		21	17	11	+115				
	M_7		21	33	10			+135		
	M_8		23	31	11		+55			
	F	2	20							
23	e	5	39							Very small.
	F		45							
23	e	14	2							
	F		10							
23	e	18	40							
	F		45							

KEW OBSERVATORY, RICHMOND, SURREY

SEISMOLOGICAL BULLETIN.

JULY, 1930.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	△ KM.	REMARKS.
23	e	19	37							
	F		45							
24	e	8	29							Very small.
	F		35							
24	e	12	14							
	F		20							
25	e_{NE}	20	4							No "Z" record, $25^d 9^h 33^m$ to $26^d 9^h 37^m$.
	F		10							
25	e_{NE}	22	14							
	F		35							
27	eP_Z	19	10	58					9050	Pacific Ocean off Central America. 12°N., 91°W. (U.S.C. & G.S.)
	eS		21	11						
	L		37							
	F	20	35							
29	eS_{NE}	6	46·2							12°N., 89°W. (U.S.C. & G.S.)
	L	7	1							No "Z" record, $28^d 12^h 30^m$ to $29^d 9^h 55^m$.
	F		30							
31	e	0	35							
	F		45							

F. J. Sharp
for Supt.
5-8-30.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR AUGUST, 1930.

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS : GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS : FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 (SEC).	PENDULUM FREE PERIOD T (SEC).	DAMPING CONSTANT μ^2	$Ak/\pi t_1$ (SEC.)$^{-1}$
N	9th Sept. 1929.	24·68	25·5	0·00	46·8
E	10th Sept. 1929.	24·80	24·7	+0·09	43·5
Z	28th Mar. 1930.	13·04	13·0	0·00	109·

TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK (MORRISON) : TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY. SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
Aug. 1	e	0	58							
	F	1	15							
2	e	16	23							
	F	-	-							Overlapped by next shock.
2	eL	17	19							
	F	18	35							
3	-	-	-	-						No "Z" record; 1h 20m to 9h 45m.
3	e	22	25							Very small.
	F		35							
4	e_Z	5	18	22						
	e_E		25	29						
	e_{ZN}		25	31						
	i_{NE}		25	42						
	e_{ZN}		26	49						
	L		28							
	F	6	10							
4	e	16	33							
	F	17	15							
5	e	0	55							
	F	1	5							
5	e	23	34							
	F		50							
8	eL	0	34							
	F		55							
9	e	18	13	36						
	L		19							
	F		35							

P 1196, 13398, 960, 100, 9/30,

Malby & Sons, T to S.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	KM.	
9	e	20	34							Very small.
	F		45							
9	e	22	5							
	F		10							
9	e	23	9							
	F		20							
10	eL	0	57							
	F	1	40							
13	e_Z	22	18							Very small.
	F		25							
17	iPR_{1Z}	12	38	6						No "E-W" record; $9^h 25^m$ to $12^h 49^m$.
	eS_N		44	55						
	e_N		47	55						
	L_{NE}		56							
	L_Z		59							
	F	13	25							
18	eP_Z	10	8	9					11,800	South Atlantic Ocean.
	ePR_{1Z}		12·7							52°S, 25°W. (Strasbourg.)
	$iS_oP_cS_N$		18	38						
	eS_E		20	23						
	ePPS		22	20						
	SR_{1N}		28·5							
	L_E		38							
	L_{NZ}		43							
	M_1		47	48	27	+58				
	M_2		47	52	26		−37	+40		
	M_3		50	23	22		−33			
	M_4		52	59	23	+31				
	M_5		55	9	18			−27		
	F	13	25							
19	e	5	52							
	F	6	10							
19	e	14	35							Very small.
	F		45							
20	eP_Z	21	7	6					9,750	Bombay telegraphs:-
	S_N		14	53						
	SR_1		23	40						iP. $21^h 2^m 36^s$.
	L		35							S-P. $6^m 44^s$.
	M_1		42	54	23	+81	−82			
	M_2		45	12	16	−49				Δ. 5000 Km.
	M_3		48	48	19		+46			
	M_4		48	52	19			−38		
	M_5		49	36	19	+39				
	M_6		50	44	15			−33		
	F	23	25							

KEW OBSERVATORY, RICHMOND, SURR

SEISMOLOGICAL BULLETIN. AUGUST 1930.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS
										Compression.
23	iP_{ZE}	11	1	51					5,170	Persia. 29°N, 58°E.
	ePP_{RIZE}		3	51						(Strasbourg).
	iS		8	42						
	eSR_{INE}		11·7							Bombay telegraphs :-
	L		16							h m s
	M_1		20	45	23	+17				iP. 10 57 34.
	M_2		23	21	17		+11			S-P. 3m 55s.
	M_3		27	16	15			−8		Δ. 2400 Km.
	F	12	55							
23	e	14	51							Small movements masked by wind disturbance on horizontal components.
	F	17								
24	eL	10	18							
	F	11	10							
24	e	11	25							
	F		45							
25	e	15	32							
	F	16	0							
27	-	-	-	-						No "Z" record; 0h 2m to 9h 33m.
27	e	16	6							? if seismic.
	F		25							
29	eL_{NZ}	7	41							No "E-W" record;
	F		55							28d 9h 14m to 30d 9h 35m.
29	eL_{NZ}	8	55							
	F	10	5							

F. J. Scrase.
for Supt.
4·9·30.

FORM : 3717.

AIR MINISTRY, METEOROLOGICAL OFFICE,

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR SEPTEMBER 1930.

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS : GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS : FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 (SEC).	PENDULUM FREE PERIOD T (SEC).	DAMPING CONSTANT μ^2	$Ak/\pi L$ (SEC.)
N	9th. SEPT. 1930.*	24·7	25·2	−0·01	47·3
E		24·8	25·2	−0·04	44·2
Z		13·0	13·5	+0·12	106·

* Constants applying before this date are given in preceding bulletin.

TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK (MORRISON); TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY. SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	PHASE.	G.M.T. HR.	G.M.T. MIN.	G.M.T. SEC.	PERIOD. SEC.	AMPLITUDE. An μ	AMPLITUDE. Ae μ	AMPLITUDE. Az μ	Δ KM.	REMARKS.
Sept. 1.	e	5	56							
	F	6	15							
1	eP_Z	17	53	(9)					6050	Destructive near Stalinabad, Tajikistan.
	eS_{NE}	18	1	(15)						
	e_Z		7·1							
	L_{NE}		13							Bombay telegraphs :-
	M_1		15	58	21	−13				iP. 17h 47m 20s.
	L_Z		17							S-P. 3m 30s.
	M_2		21	0	17		−10			Δ. 2100 Km.
	M_3		21	4	17			+12		
	F		55							
2	eL	16	32							
	F		55							
2	i	19	6	57						
	e		13	23						
	e		16·7							
	eL		25							
	F.	20	0							
3	e	16	20							Not very distant.
	F		25							
5	e	16	46							
	F	17	10							
7	e	11	9							
	F		30							
7	e	14	56							
	F	15	5							
8.9.	–	–	–	–						No records, $8^d 12^h 23^m$ to $16^h 21^m$ and $9^d 8^h 25^m$ to $17^h 12^m$ during adjustments and standardisation.

KEW OBSERVATORY, RICHMOND, SUR

SEISMOLOGICAL BULLETIN. SEPTEMBER 1930.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	△ KM.	REMARKS.
11	e	3	26							
	F		40							
11	eP	12	42	18					3250	
	eS		47	19						
	L		49							
	M_1		51	51	17	+46				
	M_2		54	0	15			-15		
	F	14	0							
12	e	8	27							Not very distant.
	F		40							
12	e	9	25							
	F		40							
12	e	13	45							
	eL_{NE}		58							
	F	14	25							
13	e	20	14							
	F		30							
13	e	23	37							Very small.
	F		50							
14	e	0	40							
	F	1	25							
14	e	3	21							
	eL	4	27							
	F	5	35							
14	e	13	57							
	F	14	5							
14	e	15	22							
	F		35							
14	e	17	32							
	F	18	0							
16	e	0	32							
	F	1	35							
17	e	3	52							
	F	4	5							
21/22	eP	23	16	1					8380	Compression.
	PR_1		18·6							BURMA. 27°N., 98°E. (Strasbourg)
	eS		25	40						
	e_Z		34·1							
	L_{NE}		39							
	M_1		45	55	27	-120	+76			Bombay telegraphs :-
	L_Z		46							
	M_2		46	11	25	+135				iP. 23h (9)m 39s.
	M_3		48	48	17	- 50				S-P 4m 23s.
	M_4		49	43	23		-48			Δ. 2800 Km
	M_5		52	36	22			+50		
	M_6		55	11	15			+27		
	F	1	50							

P. 1218, 1569, 115, 6, 109, 10/30.

Malby & Sons, Photo-Litho
Malby & Sons, T. to S.

KEW OBSERVATORY, RICHMOND, SURREY,

SEISMOLOGICAL BULLETIN.

SEPTEMBER 1930.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	△ KM.	REMARKS.
22	i_Z	1	51	24						
	e_E	2	16·5							
	L	3	2							
	M_1		16	20	17	+8				
	M_2		29	15	16		−9			
	M_3		29	42	16			−10		
	F	5	5							
22	eL	5	35							
	F		55							
22	e	13	26							
	F		40							
22	i_Z	14	30	42						
	e_{NE}		40	4						
	e		40	32						
	e_{NE}		44·9							
	L_{NE}		52							
	L_Z	15	0							
	M_1		0	17	25	+18				
	M_2		5	7	22		−7			
	M_3		7	19	16			−5		
	F		50							
22	e	16	42	34						
	eL		53							
	F	17	30							
22	e	22	0							
	F		10							
23	e	12	51							Very small.
	F	13	0							
24	e	0	22							
	F		50							
24	e	8	38							
	eL		43							
	F	9	0							
24	e_Z	12	34	27						
	eL	13	3							
	M_1		8	57	22		+8			
	M_2		17	28	17			+6		
	F		55							
25	e	12	42							
	eL		48							
	F	13	5							
25	e	17	43							
	F		50							
25	e_Z	18	45	(13)						
	e_E		54	(59)						
	eL_{NE}	19	13							
	eL_Z		17							
	F	20	30							

SEISMOLOGICAL BULLETIN.

DATE.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.			△	REMARKS.
						An	Ae	Az		
		HR.	MIN.	SEC.	SEC.	μ	μ	μ	KM.	
29	e_L	14	3							
	F		25							
30/1	e	21	42							
	e_Z		44·5							
	e_{NE}		58·4							
	$e_{L_{NE}}$	22	16							
	e_{L_Z}		22							
	M_1		25	3	25	−25				
	M_2		25	14	25		−26			
	M_3		37	45	19			+14		
	F	0	50							

J. J. W. Whipple.
Supt.
14-10-30.

FORM : 3717.

AIR MINISTRY, METEOROLOGICAL OFFICE, L

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR OCTOBER, 1930.

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS : GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS : FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 (SEC).	PENDULUM FREE PERIOD T (SEC).	DAMPING CONSTANT $\mu 2$	$Ak/\pi L$ (SEC). $=1$
N	9th Sept. 1930.	24·7	25·2	−0·01	47·3
E		24·8	25·2	−0·04	44·2
Z		13·0	13·5	+0·12	106·

TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK (MORRISON); TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY. SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
Oct. 1	eL	3	39							
	F	4	5							
1	e	14	40							
	F	15	0							
2	e_{NE}	1	32							
	L		50							
	F	2	5							
2	e_{NE}	15	40·7							
	L		53							
	F	16	15							
3	e	19	15							
	F		40							
3/4	e_{ZE}	23	49	13						
	L		53							
	F	0	20							
4	e	6	57							Very small.
	F	7	5							
5	e	19	57							
	F	20	15							
7	e_Z	23	29	50						Felt in Germany.
	e_Z		31	12						
	e_{NE}		31	23						
	e_N		31	28						
	L		31	43						
	M_1		31	56	9	−11				
	M_2		32	1	10		+5			
	M_3		32	47	7			+4		
	F		35							

P.1235, 18987, 1262, 100, 11/30.

Malby & Sons, Photo-Lith.

SEISMOLOGICAL BULLETIN.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
Oct. 8.	e	11	6							Badly disturbed by wind and microseisms.
	e		12	38						
	eL		22							
	M_1		28	18	26		−17			
	M_2		42	29	21			+31		
	F	12	55							
9	eL_{NE}	22	4							
	eL_Z		9							
	F		20							
10	e	1	11							
	L_{NE}		18							
	L_Z		24							
	F		40							
11	iP_{NZ}	3	11	7					2410	Compression. Amplitudes of iP as read in mm :- N. E. Z. −1·0 0·0 +1·3. Azimuth about north giving epicentre near 73°N, 0°.
	iS_{NZ}		15	5						
	L		16	27						
	M_1		17	27	16		−13			
	M_2		17	49	18	+17				
	M_3		18	54	14			+15		
	F	4	5							
12	e	15	38							
	F		45							
16	eL	22	21							
	F		45							
17	e_{NE}	9	11	9						No "Z" record $4^h 20^m$ to $9^h 38^m$.
	e_{NE}		11	45						
	e_E		27	4						
	L_{NE}		-	-						Between $9^h 32^m$ and $9^h 31^m$; Lost during changing of charts.
	L_Z		40							
	M_1		42	24	24		+9			
	M_2		46	22	18			+8		
	M_3		46	57	20	+7				
	F	10	25							
21	e_{ZE}	19	10	44						No "N" record $21^d 17^h 10^m$ to $22^d 6^h 53^m$.
	e_E		14	43.						
	L_{ZE}		16·2							
	F		25							
22	eL	19	15							
	F		30							
23	e_{ZE}	9	15	(21)						
	e_Z		16	(49)						
	e_{NE}		26	33						
	i_{NE}		49	53						
	L	10	9							
	F	11	30							
24	e	0	57							Not very distant. Disturbed by microseisms.
	F	1	0							

KEW OBSERVATORY, RICHMOND, SURR

SEISMOLOGICAL BULLETIN.

OCTOBER, 1930.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
Oct. 24	e	11	15							
	F		40							
24	eP	20	29	34					(10700)	Confused by microseisms.
	ePR_1		33	19						
	$ePR_{2\,NE}$		35	44						
	$i(SRS)_{NE}$		39	49						Bombay telegraphs :-
	$i(S)_{NE}$		41	3						iP. $20^h 26^m 17^s$.
	$i(PS)_{NE}$		42	37						S-P. $9^m 5^s$.
	iSR_{INE}		48	25						Δ. 7600 Km.
	L_{NE}		58							
	L_Z	21	5							
	M_1		6	33	36	−90	+120			
	M_2		9	57	26		+100			
	M_3		12	3	23	+59				
	M_4		12	48	21		−80			
	M_5		15	52	23	−74				
	M_6		18	12	17	+58				
	M_7		26	7	17			−39		
	M_8		30	20	17			+33		
	F	23	10							
25	e	12	32							
	F	13	20							
26	e	7	19	47						Not very distant.
	e_{NE}		20	36						
	F		23							
26	e	7	36	8						
	e_{NE}		37	9						
	F		41							
27/28.	eL	23	52							
	F	0	35							
28	e_{NE}	21	36	13						
	L_{NE}	22	2							
	L_Z		10							
	M_1		11	6	20		−14			
	M_2		11	23	23	+15				
	M_3		19	24	19			+13		
	F	23	45							
30	eP_Z	7	16	7					1760	Destructive at Ancona, Italy.
	eS_N		19	8						
	eS_E		19	21						
	i_{NE}		19	49						
	M_1		21	9	13	−75				
	M_2		21	37	15		−56			
	M_3		22	16	9			+34		
	F	8	20							
31	e_{NE}	11	4	28						
	L_{NE}		34							
	L_Z		44							
	M_1		50	46	21		+6			
	M_2		51	54	20	+6				
	F	12	40							

F. J. Scrase
for Supt.
4.11.30.

FORM : 3717.

AIR MINISTRY, METEOROLOGICAL OFFICE, L

Lib. Table

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR NOVEMBER, 1930.

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS : GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS : FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 (SEC).	PENDULUM FREE PERIOD T (SEC).	DAMPING CONSTANT μ^2	$Ak/\pi L$ (SEC.)
N	9th Sept. 1930.	24·7	25·2	−0·01	47·3
E		24·8	25·2	−0·04	44·2
Z		13·0	13·5	+0·12	106·

TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK MORRISON); TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY. SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
Nov. 3	eL	19	45							Confused by microseisms.
	F	20	5							
4	eL	16	19							
	F		30							
8	e_Z	3	40	28						Small. Record disturbed by wind and microseisms.
	i_{NE}		45	26						
	e_Z		48	27						
	F		55							
9	e	19	28	21						Bombay telegraphs :-
	e_Z		37	16						iP. 19h 18m 53s.
	e_{NE}		39	13						S-P. 8m 16s.
	e_{NE}		44	21						Δ. 6700 Km.
	e_E		47	20						
	e_N		48	8						
	e_N		54	27						
	L_{NE}		55	10						
	L_E	20	2	48						} Rayleigh waves.
	L_{NZ}		3	26						
	M_1		5	42	33	−92	+91			
	M_2		8	35	29	−60				
	M_3		9	1	27		+59			
	M_4		11	37	27	−52				
	M_5		20	54	23	−44				
	M_6		22	4	19			−42		
	M_7		26	40	19			+44		
	M_8		26	44	19		+40			
	F	22	30							

P1249,21135, 1441, 100 12/30.

Malby & Sons, Photo-Lith.

KEW OBSERVATORY, RICHMOND, SURI

SEISMOLOGICAL BULLETIN. ..... NOVEMBER 1930.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	△ KM.	REMARKS.
Nov. 10.	e	14	12							
	e_{NE}		15	12						
	e_N		34	3						
	L_{NE}		40							
	L_Z		44							
	M_1		49	2	24		+32			
	M_2		49	3	22	-22				
	M_3	15	6	2	16			+14		
	F	16	30							
11	e	21	12							Very small.
	F		30							
12	e	19	32							
	eL_{NE}		50							
	eL_Z		54							
	F	20	40							
14	e	12	42							Confused by microseisms.
	eL_{NE}	13	2							
	eL_Z		8							
	M		16	48	23	-9				
	F		45							
20	-	-	-	-						$9^h 50^m$ to 13^h. No records.
21	eP_E	2	4	37					2120.	No records of "N" and Z".
	iS_E		8	11						Destructive near VALONA,
	L_E		10	55						ALBANIA.
	M_1		12	15	16		-14			40·5°N, 19·5°E. (Strasbourg.)
	M_2		14	6	15		+24			
	F		40							No "N" record.
22	e_{EZ}	15	25							Confused by wind and
	F	16	5							microseisms.
24	e_{EZ}	4	16							No "N" record. Very small.
	F		30							
25	eP_Z	19	15	40					9440	No "N" record.
	eS_E		26	12						Destructive in Izu
	eS_Z		26	15						PENINSULA, JAPAN.
	e_E		31	52						
	e_E		36	58						40°N., 140°E. (Oxford.)
	e_{EZ}		39	4						
	L_E		41							
	L_Z		45							
	M_1		47	23	31		+95			Bombay telegraphs :-
	M_2		50	10	27		-115			
	M_3		53	24	28		-145			iP $19^h 13^m 2^s$.
	M_4		58	7	17		-64			$S-P$ $8^m 12^s$.
	M_5	20	2	1	13			-74		Δ 6600 KM.
	M_6		4	4	13			-46		
	M_7		5	38	13			-41		
	F	22	25							

FORM : 3718.

KEW OBSERVATORY, RICHMOND, SURREY,

SEISMOLOGICAL BULLETIN. ..... NOVEMBER, 1930.

DATE.	PHASE.	G.M.T. HR.	G.M.T. MIN.	G.M.T. SEC.	PERIOD. SEC.	AMPLITUDE. An μ	AMPLITUDE. Ae μ	AMPLITUDE. Az μ	△ KM.	REMARKS.
										No "N" record.
Nov. 28.	e_Z	7	46							Pacific Ocean off Mexico.
	eS_E		56	10						18°N, 105° W.
	eL_{EZ}	8	5	16	25		+11			
	M_E		16							
	F	9	5							
										Repetition of 28d 7h.
30	eS_{NE}	21	53	59						
	eL_{NE}	22	9							
	eL_Z		13							
	F		35							

J. J. W. Whipple.
Supt.
4.12.30.

SEISMOLOGICAL BULLETIN FOR DECEM

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS : GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS : FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 (SEC).	PENDULUM FREE PERIOD T (SEC).	DAMPING CONSTANT μ^2	$Ak/\pi I$, SEC.
N	1930 SEPT. 9	24·68	25·2	−0·01	[illegible]
E		24·80	25·2	−0·04	[illegible]
Z		13·04	13·5	+0·12	1026.

TIME SERVICE : MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK (MORRISON); TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY. SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	PHASE.	G.M.T. HR.	MIN.	SEC.	PERIOD. SEC.	AMPLITUDE. An μ	Ae μ	Az μ	Δ KM.	REMARKS.
DEC. 2	eNE	7	23							Confused by microseisms.
	eL		38							
	M		43	33	23	+19				
	F	8	5							
DEC. 3	iPNZ	19	4	1						No E record
	ePR1Z		7	(4)						PR1 in time break.
	iSN		14	2						
	iSZ		14	7						
	PSNZ		14	42						Epicentre: 95°5 E., 5 S., according to Strasbourg.
	iSR1NZ		18	53						
	iSR2N		20	24						Destructive in Burma.
	LN		22	17						
	LZ		32	38						
	M1		35	42	31	+470				
	M2		36·2 to 38·7		(24)	7360*				*Positive and negative maxima off chart.
	M3		40	24	22			+165		
	M4		40	54	(23)	−330†				†Positive maxima off chart.
	M5		43	57	19			+265		
	M6		43	59	23	+290				
	M7		46	21	20	+180				
	M8		48	5	15			−115		
	F	22	30							
DEC. 6	eL	7	41							
	F	8	25							
DEC. 8	eL	7	5							
	F		30							
DEC. 8	eL	8	44							
	F	9	30							

R181, 3926, 1544, 100, 1/31.

KEW OBSERVATORY, RICHMOND, SUR

SEISMOLOGICAL BULLETIN.

DECEMBER 1930

DATE.	PHASE.	G.M.T. HR.	G.M.T. MIN.	G.M.T. SEC.	PERIOD. SEC.	AMPLITUDE. An μ	AMPLITUDE. Ae μ	AMPLITUDE. Az μ	△ KM.	REMARKS.
DEC. 8	eZ	17	42	8						
	L	18	46							
	F	19	40							
DEC. 10	eL	10	44							
	F	11	5							
DEC. 15	e	16	48							
	F	17	0							
DEC. 20	eL	14	47							
	F	15	0							
DEC. 21	eL$_{NE}$	13	0							
	F		15							
DEC. 21	iZ	15	4	20						
	iZ		8	5						
	L$_{NE}$		35							
	F	16	15							
DEC. 22	eL$_{NE}$	0	37							
	M	1	4	54	17	+13				
	F	1	42							
DEC. 22	eL	5	5							
	F		44							
DEC. 23	eL	22	37							
	F	23	0							
DEC. 24	eL$_{NE}$	6	41							
	F	7	30							No Z record (lamp failed)
DEC. 25	eZ	13	20							
	L		49							
	F	14	0							
DEC. 30	e(L)	19	8							Confused by microseisms.
	F		15							

F. J. W. Whipple.
Superintendent
3. 12. 30.