M.O. 380
(Kew)

Air Ministry

METEOROLOGICAL OFFICE

THE OBSERVATORIES' YEAR BOOK 1934

Comprising the meteorological and geophysical results obtained from autographic records and eye observations at the observatories at Lerwick, Aberdeen, Eskdalemuir, Valentia, and Kew, and the results of soundings of the upper atmosphere by means of registering balloons.

KEW OBSERVATORY

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METEOROLOGICAL COMMITTEE

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KEW OBSERVATORY.

Latitude	51° 28′ N.
Longitude	0° 19′ W.
G.M.T. of Local Mean Noon	12h. 1m.

Heights in Metres above Sea Level.

Barometer	10·4
Raingauge Site..	5·5
Dines Pressure Tube Anemometer	28

Heights in Metres above Ground.

Thermometer Bulbs	3·0
Sunshine Recorder	13·3
Dines Pressure Tube Anemometer	23
Beckley Raingauge Rim	0·53

INTRODUCTION.

The observatory was built in 1769 as the private observatory of King George III. Since 1842 it has been devoted to physics and meteorology. The meteorological records are continuous from 1854. The Observatory is in the Old Deer Park, Richmond (Surrey), about 10 miles (16 km.) to the west of the City of London. The Observatory stands on a low artificial mound whose level is about 1½ metres higher than that of the surrounding park. Round the Observatory a golf course has been laid out. The river Thames is distant about 300 metres on the north and west. Kew Gardens, which are extensively wooded, lie to the east-north-east, the nearest point of the Gardens being about 600 metres away. The town of Richmond, to the south-east, is about 1,100 metres distant. On the east side of the Park is the main road from Richmond to Kew; on the south side the railway from Richmond to Twickenham. An open area partly wooded, Syon Park, lies to the north-north-east across the river. Richmond Park is about 1½ miles (2½ km.) to the south-east. General views of the Observatory building and the exposure lawn are to be found in the 1928 volume. The photographs were taken in 1925. The changes (before the end of 1934) which need be noted are the substitution of other experimental screens for the small marine screens which were being tested in 1925, the removal in 1929 of the hedge near the North Wall Screen, the erection in 1929

ATMOSPHERIC POLLUTION.

The Owens atmospheric pollution recorder or air filter No.1*is situated in the Clinical House, and the level of the intake is about 1½m. above that of the adjacent ground. The weight of the pollution is not obtained directly but is deduced from shade numbers 0,1,2, etc., assigned to the deposit left on the filter paper through which the air is drawn. The equivalents of the shade numbers are allotted in accordance with the results of an investigation carried out for the Atmospheric Pollution Committee by Mr.J.G.Clark.† When the normal volume of air, 2 litres, is aspirated (it is drawn through a hole 3·2 mm. in diameter) shade number 1 answers to 0·32 milligrams per cubic metre. The Owens apparatus was designed in the first place for dealing with the air of cities, and the amount of pollution at the Observatory is usually so small that the shade recorded when the 2 litres are aspirated is either 0 or 1.

Preliminary experiments with a spare recorder having justified the assumption that increasing the volume of air would increase the shade number in proportion, an auxiliary tank was brought into use at the beginning of July, 1928. With this tank in operation each spot on the filter paper corresponds with 6·4 litre of air. The unit shade is therefore equivalent to 0·1mg/m^3. When fog prevails the auxiliary tank is put out of action and the unit shade reverts to the value 0·32 mg/m^3.

Special attention is now paid to the maintenance of consistency in the standard of shades. Each new scale of shades is compared directly with the standard preserved by Dr. Owens. New scales of shades were taken into use on the following dates:-

June 7, 1925; July 1, 1926; (retrospectively) January 1, 1928; August 1, 1930; January 1, 1931; June 1, 1931; and March 1, 1933.

During 1934 the highest estimate of pollution was 4·2 mg/m^3, this value occurring on January 24th from 14h to 15h. There were 44 days on which the pollution reached 1·0 mg/m^3; the number of hours credited with 1·0 mg/m^3. or more being 321. The months in which these days and hours occurred are given in the accompanying table.

	days	hours
Jan.	12	112
Feb.	11	94
Mar.	2	4
Apr.	3	4
Nov.	13	98
Dec.	3	9
Year	44	321

Table 544 gives for each month mean hourly values derived from all the days for which complete records were obtained. There were 361 such days in the year. The highest and lowest of these hourly values are underlined.

Table 545 gives diurnal inequalities derived from the data in Table 544 after the application of non-cyclic corrections. The principal reason for computing the diurnal inequalities was to facilitate comparison with the corresponding diurnal variations in barometric pressure and in the potential gradient of atmospheric electricity.

The mean values computed for recent years are given in the following table, together with the means for successive pairs of months. The unit is 1 mg/m^3.

*A description of the instrument is given in the "Report of the Advisory Committee for Atmospheric Pollution", 4th Report, 1917-1918, p. 20.
†"Report of the Advisory Committee for Atmospheric Pollution," 3rd Report, 1916-1917, p.20.

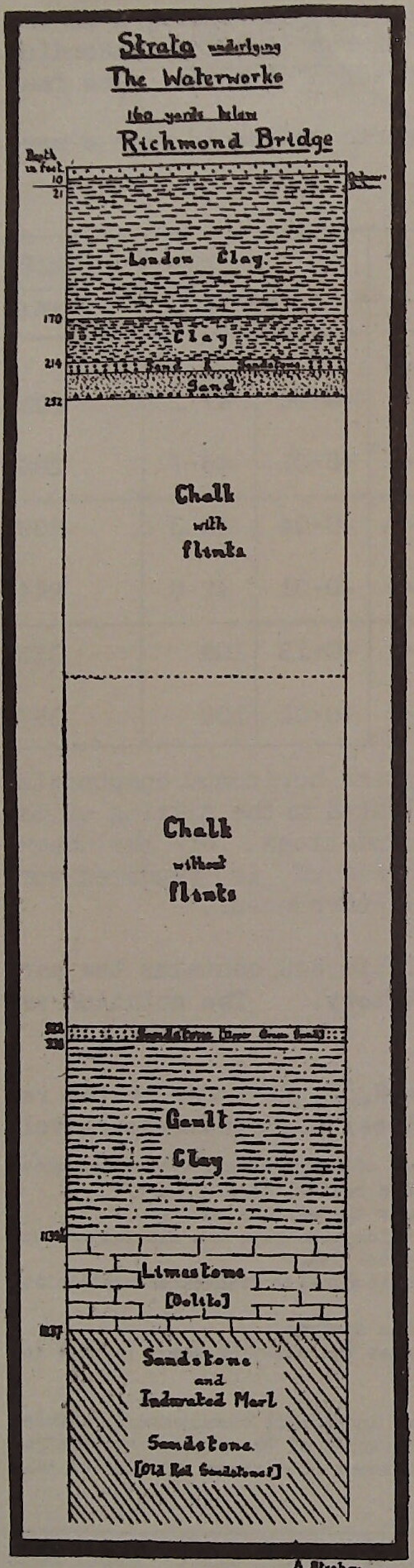
	1926	1927	1928	1929	1930	1931	1932	1933	1934
Jan.-Feb.	·29	·25	·22	·40	·18	·24	·32	·25	·44
Mar.-Apr.	·30	·10	·18	·27	·13	·15	·26	·17	·19
May-June	·08	·07	·09	·05	·05	·06	·09	·10	·10
July-Aug.	·07	·05	·05	·06	·07	·07	·05	·08	·08
Sept.-Oct.	·19	·17	·15	·10	·13	·25	·15	·21	·10
Nov.-Dec.	·26	·21	·25	·21	·29	·33	·29	·43	·30
Year	·20	·14	·15	·18	·14	·18	·19	·21	·20

The nature of the diurnal variation is most easily recognised in Table 545. There is always a well defined minimum during the night and another in the early afternoon. The first maximum of the day usually occurs about 9h and the second one follows about 12 hours later. This double oscillation is apparently due to two causes, the variation in human activity in producing pollution and the variation in the wind which disperses it. In 1934 the principal maximum was in the evening in January, February, April and from October to December; in the forenoon in the remaining months. The principal minimum occurred in the afternoon from May to September; in the early morning in the remaining months. Curves illustrating the diurnal variation of atmospheric pollution will be found in the Annual Reports of the Advisory Committee on Atmospheric Pollution and in a paper‡ by Dr.Whipple on the relation between Atmospheric Pollution and Potential Gradient.

SEISMOLOGY.

Notes on Instruments.- The seismographs, three Galitzin pendulums with galvanometric registration, were transferred from Eskdalemuir Observatory during the latter part of 1925 and have been in regular operation since the beginning of 1926. Earth movements in the north, east and vertical directions are recorded. The pendulums, which are in the old magnetograph room, are mounted on a massive concrete pillar, separated from the floor. The galvanometers and recording apparatus are accommodated on slate slabs in the old seismograph room, which housed the Milne instrument until it was put out of action on June 17th, 1925. To eliminate temperature variation as far as possible, the windows of the pendulum room are provided with triple glass and also shielded by louvred screens from direct sunshine which might fall on them morning and evening. The annual range of temperature variation is about 10°C. and the mean daily range about 0·2°C. To diminish the sensitivity of the vertical pendulum to temperature changes the steel controlling spring was replaced in May, 1928, by one made of elinvar, an alloy which has a temperature coefficient of elasticity about one-tenth that of steel.* A detailed report on the behaviour of the spring has been published in a paper† by F.J. Scrase. The difficulties usually associated with the operation of the vertical pendulum have been greatly diminished.

‡"London, Quart. J.R. met. Soc.," 55, 1929, pp. 351-361.
*Y. Dammann. "Contribution à l'étude des propriétés elastiques de l'élinvar. Son utilisation dans les séismographes, Publ. Bur. Cent. Seis. Int., Strasbourg," Ser. A, Fasc. No. 5, 1927, pp. 122-129.
†"London, Inst. Physics, J. Sci. Instr.," 6, 1929, p.385.



A. Strahan
Prof. Paper No 10, Survey of India.

The concrete pillar rests on gravel. The underlying geological strata are shown in the diagram on this page. The diagram is based on the results obtained*in sinking a well near Richmond Bridge. The Richmond boring terminated at a depth of 440 metres in Old Red Sandstone. At Stonebridge Park, 8 km. to the north, a boring was carried down† to a depth of 600 metres, the last 280 metres being in Old Red Sandstone. There is no information as to deeper strata near Richmond. It may be noted, however, that the sandstone beds dip at about 30° and that a boring at Little Missenden, Bucks, entered Silurian rocks at a depth of 370 metres with no evidence of the presence of Old Red Sandstone.

For detailed description of the Galitzin seismograph and for particulars of interpretation of the records, reference may be made to Fürst B Galitzin's "Vorlesungen über Seismometric (Leipzig, 1914), or to G.W. Walker's "Modern Seismology" (London, 1913).††

From January to August timing was controlled by the half-seconds clock (Morrison 8587) which had been in use since the seismographs were installed. A Synchronome clock (Hope-Jones No. 1901) was brought into use from August 23rd. Daily comparisons are made with the Greenwich wireless time-signal relayed by Droitwich. Time breaks are made electro-magnetically every minute and seismometric readings can be determined to the nearest second.

The free periods of the Galvanometers (T_1), were determined in November, 1925, and were found to have suffered very little change since the original determinations at Eskdalemuir were made. The lengths of the simple equivalent pendulums (ℓ) are assumed to have remained unaltered.

The values of the other constants which are used for deriving the scale values were re-determined in September, 1934. In the case of the horizontal instruments it was found that the magnifications agreed closely with those obtained from the previous tests in October, 1933.

In the following table are summarized the values of the constants. T is the free period of the pendulum, μ is a damping coefficient which

*"London, Quart. J. geol. Soc.", 40, 1884, p.274; 41, 1885, p. 523.
†Records of London Wells, "Mem. Geol. Surv. Eng., London", 1913.
††The graphical method adopted at Kew for determining the constants of the pendulums is explained in a memoir by F.J. Scrase, "London, Met. Off., Geophys. Mem.," 5, No. 49, 1930.

vanishes when the free movement of the pendulum is just aperiodic, A is the length of the beam of light from the galvanometer mirror to the recording drum (usually about 1100 mm), and k is the "transmission" factor. The factor $\frac{kAT}{4\pi\ell}$ determines the magnification for regular earth movements with a period equal to that of the pendulum.

Component	ℓ	T_1	1934	T	μ^2	$\frac{kA}{\pi\ell}$	$\frac{kAT}{4\pi\ell}$
	mm.	sec.		sec.		$sec.^{-1}$	
N	118	24·68	Jan. 1 to Sept. 5	24·9	−0·04	47·1	293
			Sept. 5 to Dec. 31	24·5	+0·01	46·7	286
E	118	24·80	Jan. 1 to Sept. 6	24·8	−0·04	43·3	269
			Sept. 6 to Dec. 31	24·8	−0·01	42·6	264
Z	360	13·04	Jan. 1 to Sept.11	12·3	+0·13	109	335
			Sept.11 to Dec. 31	13·1	+0·01	109	357

In windy weather the seismographs, especially the horizontal components, are affected by slow oscillations, which are attributed to the tilting of the ground, the movement being conveyed through the foundations of the Observatory. On occasions the reading of an earthquake record is rendered very difficult, if not impossible, by these irregular disturbances.

Notes on Tables.- The "Seismological Diary", Table 546, contains the particulars of the earthquakes recorded at the Observatory. The notation employed is as follows*:-

In the second column of the diary the entries N, E, Z, refer to the records from the north-south, east- est and vertical seismographs respectively.

P is the normal first phase (longitudinal waves). Other types of longitudinal vibrations occur when the waves are reflected from (PcP or penetrate (PKP) the earth's central core.

PP, PPP... are longitudinal waves reflected once, twice ... near the earth's surface.

S is the normal second phase (transverse waves). The waves which penetrate the central core and pass through it as longitudinal vibrations are designated by the symbol SKS.

PS and PPS are waves which suffer a change or changes from longitudinal to transverse oscillation or vice versa, on reflection near the surface.

SS, SSS...are transverse waves reflected once, twice... near the surface.

For the supplementary reflected waves from deep focus earthquakes the notation used is that introduced by F.J. Scrase, London. Proc. roy. Soc., A. 132,(1931).

L indicates long waves (surface waves).

i is the sudden commencement of a phase. e means a gradual or indistinct commencement. These letters are used as prefixes to the phase symbols, but where the character of the phase is not assignable the letters are used as independent symbols. When the commencement of a phase is moderately clear the prefixes are not used.

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*The notation was amended from the beginning of 1933, the most important change being the adoption of a special letter, K,for the compressional waves through the core. This symbol has been taken from the Georgetown bulletins, and is now being introduced in the International Seismological Summary, 1930. Previously a pulse which started and finished as a transverse wave but passed through the core as a compressional wave was denoted by ScPcS. In the new notation such a pulse is denoted by SKS.

All times entered against the above phases are the times of arrival of the phases at the station. The phases denoted by M are successive prominent maxima occurring during the principal or surface phase.

The period is the duration of a double oscillation (to and fro movement).

The entries under A are the amplitudes, in microns(1μ =0·001 mm.), of the components of the true displacement of the ground from the position of rest. Displacements to the north, east and upwards are regarded as being positive. When successive positive and negative displacements have the same magnitude the time of occurrence is given for the positive one.

The following formulae, due to Galitzin, are employed for computing the times of the maxima and the amplitudes of sinusoidal waves:-

(1) Lag of the displacement shown by the galvanometer after the maximum displacement of the ground

$$= \frac{T_p}{2\pi}\left[\left(\frac{\pi}{2} + \text{Arctan}\,\frac{2u_1}{u_1^2-1}\right) + \text{Arctan}\,\frac{2u(1-\mu^2)^{\frac{1}{2}}}{u^2-1}\right]$$

each inverse tangent being taken as between 0 and π

(2) Magnification of record=

$$u = \frac{kA\,T_p}{\pi \ell}\;\frac{1}{(1+u^2)(1+u_1^2)\left\{1-\mu^2 f(u)\right\}^{\frac{1}{2}}}$$

in these formulae T_p is the period of the earth wave considered, T, T_1, and μ are as defined on p.365

$$u = \frac{T_p}{T},\quad u_1 = \frac{T_p}{T_1}\quad \text{and}\quad f(u) = \left[\frac{2u}{1+u^2}\right]$$

Δ is the distance in kilometres of the epicentre measured along the arc of a great circle. For earthquakes located within 10,000 km. of Kew the distance is generally derived from the interval between P. and S. by the tables, due to Zeissig, given in Klotz's "Seismological Tables" (Publication of the Dominion Observatory, Ottowa, Vol. III, No.2). For greater distances other phases are considered and Δ is obtained from the travel curves given by Gutenberg.* The azimuth of the epicentre (0° to 360°) is measured from north through east. When an estimation of the azimuth is possible, it is used, together with Δ, for provisional determination of the co-ordinates of the epicentre. The co-ordinates given in the Diary have generally been received at a later date; the authorities for these determinations are inserted in brackets. Here the letter J.S.A. signify the Jesuit Seismological Association of America, U.S.C.G.S., the United States Coast and Geodetic Survey., and U.R.S.S.the bulletins issued by the United Soviet States.

Brackets enclosing figures or phase symbols indicate that the interpretation is uncertain.

The total number of shocks recorded during the year was 269. The phases being sufficiently well defined, estimates of the epicentral distances were obtained for 59 shocks, whilst in 10 cases the records of the initial impulses were sufficiently sharp to allow of computations of azimuth and so of estimates of the co-ordinates of the epicentres. There were 9 earthquakes which produced a disturbance at the observatory with an amplitude exceeding 0·1mm. in a horizontal component. These earthquakes originated, in north-eastern India (January 15th), in the China Sea (February 14th), in New Zealand (March 5th), in the Philippine Islands (April 15th), in Panama (July 18th), in the New Hebrides (July 18th and 21st), in Tibet (December 15th), and in Lower California (December 31st).

For comparison the statistics for all the years in which the Galitzin seismographs have been in operation at Kew Observatory are given:-

YEAR	Shocks recorded.	Epicentral distances.	Azimuths estimated.	Shock exceeding 0·1 mm.
1926	306	55	-	10
1927	314	76	6	9
1928	339	97	19	18
1929	320	74	6	12
1930	301	56	6	8
1931	274	53	11	16
1932	246	57	8	8
1933	263	71	8	8
1934	269	59	10	9

*Handbuch der Geophysik, Berlin, 1929, p. 212.

<u>Microseisms</u>.- In Table 547 are given the amplitude (A) and period (Tp) of the microseisms shown by the north component seismograph on each day at 0h, 6h, 12h, and 18h. On a few occasions (less than 2 per cent, of the total number) when the north component record was not available measurements of the east component record have been included. The group of waves of greatest amplitude occurring in the 30 minutes centring at the hour in question is selected, and the amplitude tabulated is the mean obtained from the three largest complete waves in that group. The period is derived from a measurement made on the same group*. The total time, to the nearest second, for a number of complete consecutive waves is measured, the number of waves being chosen so that the time is between 23 and 30 seconds. The period is then derived from the following division table:-

Number of Waves	Time interval in seconds.							
	30	29	28	27	26	25	24	23
3	10·0	9·7	9·3	9·0	8·7	8·3	8·0	7·7
4	7·5	7·3	7·0	6·7	6·5	6·3		
5	6·0	5·8	5·6	5·4	5·2			
6	5·0	4·8	4·7	4·5				
7	4·3	4·1	4·0	3·9				
8	3·7	3·6	3·5					
9	3·3	3·2	3·1					
10	3·0	2·9	2·8					
11	2·7	2·6						
12	2·5							

In computing the mean period occasions of zero amplitude are omitted. The mean values of amplitude and period of each month of 1934 and for the year, together with the corresponding mean values for the period 1926 to 1933, are given below:-

MICROSEISMS-MONTHLY AND ANNUAL MEANS

1926 to 1933	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Amplitude(μ)	2·3	1·6	1·3	0·9	0·5	0·4	0·3	0·5	0·6	1·1	1·7	2·0	1·1
Period(sec.)	6·5	6·1	5·8	5·5	4·8	4·7	4·4	4·6	5·0	5·3	6·0	6·4	5·4
1934													
Amplitude(μ)	2·2	1·3	1·9	0·8	0·5	0·1	0·1	0·3	0·5	1·0	0·7	1·8	0·9
Period(sec.)	6·5	6·2	6·6	5·3	5·5	4·7	4·5	4·9	5·0	5·5	5·7	6·5	5·6

The means for the several hours are as follows:-

MICROSEISMS-MEANS AT SPECIFIED HOURS.

1926 to 1933	0h.	6h.	12h.	18h.
Amplitude(μ)	1·12	1·11	1·08	1·10
Period(sec.)	5·44	5·44	5·41	5·43
1934				
Amplitude(μ)	0·94	0·95	0·88	0·93
Period(sec.)	5·64	5·53	5·57	5·57

These figures indicate that there is no regular diurnal variation in amplitude or period of the microseisms recorded at Kew Observatory.†

*F.J.W. Whipple and F.J. Scrase, "On the Frequency of Microseisms of Different Periods at Eskdalemuir and at Kew," "London, Mon. Not. R. Astr. Soc., Geophys. Supp." 2, No. 2, 1928.

†F.J.W. Whipple and A.W. Lee, "Studies in Microseisms," "London, Mon. Not. R. Astr. Soc., Geophys. Supp." 2, No. 7, 1931.

SEISMOLOGICAL DIARY.

Galitzin Seismographs, three components.

546. KEW OBSERVATORY. Lat. 51° 28′ 6″ N. Long. 0° 18′ 47″ W. Height above M.S.L. 5 metres. **1934.**

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	Δ	Remarks.
Jan.			h. m. s.	s.	μ	km.	
1	N	e	4 59	...	...	...	Felt in Biarritz. Re-
		F	5 2	...	...	...	corded only by experi-
							mental Wood-Ander-
							son instrument.
2	NE	e	21 11	...	...	...	Persia.
	N	eL	19	...	...	...	33° N., 59° E.
	ZE	eL	23	...	...	...	(Bombay.)
	N	M	30 29	15	+ 9	...	
		F	22 5	...	...	...	
3	N	iP	9 53 36	...	...	7730	No "Z" record of
	E	iS	10 2 42	...	...	...	earlier phases. Sea of
	E	i	3 17	...	...	...	Okhotsk. 53° N., 155°
	NE	eL	12	...	...	...	E. (U.S.C.G.S.).
	Z	eL	20	...	...	...	Surface waves poorly
		F	11 5	...	...	...	developed.
12	ZNE	eL	14 11	...	...	...	Confused by micro-
	N	M	16 50	18	−15	...	seisms.
		F	40	...	...	...	Southern China.
							23° N., 103° E.
							(Chiufeng.)
15	ZN	eP	8 54 20	...	...	7530	Disturbed by micro-
	Z	iP	54 25	...	...	...	seisms.
	ZN	iPP	57 12	...	...	...	Bombay Δ=1630 Km.
	E	iPP	57 15	...	...	...	Epicentre determined
	N	i	58 38	...	...	...	from Kew and Bom-
	E	i	58 50	...	...	...	bay, 26·8° N., 86·3°
	Z	i	58 55	...	...	...	E. Near Churia Ghati
	N	i	9 1 50	...	...	...	Hills. Very destruc-
	NE	iS	3 16	...	...	...	tive in North-Eastern
	Z	iS	3 18	...	...	...	India.
	N	i	4 35	...	...	...	
	E	i	4 41	...	...	...	
	N	i	6 37	...	...	...	
	E	i	7 18	...	...	...	
	ZNE	eL	9	...	...	...	
	ZNE	M	20 33	(20±)	>300	...	
		F	13 15	...	...	...	Maxima doubtful;
							traces very faint and
							passing off lower edge
							of chart.
16		e	19 33	...	...	...	Sea of Celebes.
		F	20 00	...	...	...	4° N., 122° E.
							(Bombay.)
20	NE	e	18 24	...	...	...	
	NE	eL	29	...	...	...	
	Z	eL	34	...	...	...	
	N	M	40 3	15	−20	...	
		F	19 5	...	...	...	
20/21	NE	e	23 25	...	...	...	Felt in Turkey. (Trieste.) [20, 20/21, 21]
	NE	eL	38	...	...	...	
	Z	eL	43	...	...	...	
		F	0 5	...	...	...	
21	NE	eL	7 40	...	...	...	
	Z	eL	48	...	...	...	
		F	8 5	...	...	...	
28		e	14 55	...	...	...	
		F	15 25	...	...	...	
28	Z	iP	19 22 29	...	...	9170	Compression.
	NE	iP	22 31	...	...	...	
	Z	iPP	25 39	...	...	...	Destructive in south-
	NE	eS	32 48	...	...	...	ern and central Mexi-
	E	eSS	38 10	...	...	...	co. 17°N., 100° W.
	E	eSSS	41 58	...	...	...	(U.S.C.G.S.)
	ZNE	eL	49	...	...	...	
	E	M	52 7	30	−30	...	
	N	M	52 33	27	−27	...	
	N	M	56 3	25	−40	...	
	Z	M	56 20	25	−54	...	
	E	M	56 30	24	+47	...	
	Z	M	20 1 6	17	+45	...	
	E	M	1 21	18	−48	...	
	N	M	2 22	19	+32	...	
		F	22 0	...	...	...	

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	Δ	Remarks.
Jan.			h. m. s.	s.	μ	km.	
30		eP	20 28	...	...	(8000)	Very small.
	NE	eS	38 5	...	...	...	Felt in Nevada.
	NE	eSS	42 (33)	...	...	...	39° N., 119° W.
	NE	eSSS	45 12	...	...	...	(U.S.C.G.S.)
	ZNE	eL	48	...	...	...	
	N	M	55 29	29	−14	...	
	E	M	56 1	26	+18	...	
	N	M	58 40	22	−25	...	
	Z	M	59 29	17	+18	...	
		F	22 40	...	...	...	
31	ZN	e	11 3	...	...	...	Felt in Samoa.
	ZNE	eL	16	...	...	...	14° S., 173° W.
	Z	M	23 44	23	− 8	...	(Apia.)
	N	M	26 12	20	− 8	...	
	E	M	27 50	20	+ 4	...	
		F	12 15	...	...	...	
Feb. 2	Z	e	15 51 12	...	...	...	Caroline Islands.
	NE	eL	16 0	...	...	...	6° N., 146° E.
	N	M	5 9	33	+16	...	(U.R.S.S.)
	E	M	5 13	34	−18	...	
	Z	eL	8	...	...	...	
		F	40	...	...	...	
2		e	17 10	...	...	...	
		F	30	...	...	...	
2		e	20 0	...	...	...	
		F	35	...	...	...	
3	Z	ePP	14 54 16	...	...	(14250)	Bismarck Archipelago.
	NE	iPKS	55 41	...	...	...	4° S., 152° E.
	NE	eSS	15 12 13	...	...	...	(U.R.S.S.)
	E	eL	32	...	...	...	
	ZN	eL	37	...	...	...	
	N	M	43 5	26	+22	...	
	E	M	46 20	21	−12	...	
	N	M	46 58	23	+29	...	
	Z	M	47 29	24	−29	...	
	Z	M	50 14	21	−24	...	
	E	M	50 15	22	+16	...	
	N	M	50 29	22	+33		
		F	17 15				
4	N	iP	9 39 21	...	...	2230	P and S phases from
	N	iS	43 4	...	...	...	experimental Wood-
		L	44 44	...	...	...	Anderson instrument.
							Felt in Central
							Albania.
	NE	i	45 27	...	...	...	Large movements.
	E	M	48 35	17	+19	...	
		F	10 15	...	...	...	
4	ZE	iP	13 35 17	...	...	4690	Persia.
	NE	iS	41 42	...	...	...	35° N., 54° E.
	NE	e	44 53	...	...	...	(Strasbourg.)
	NE	eL	47	...	...	...	
	Z	eL	50	...	...	...	
	N	M	52 41	25	−33	...	
	N	M	54 13	20	−36	...	
	E	M	54 24	17	+31	...	
		F	15 0	...	...	...	
4		e	23 5	...	...	...	Banda Sea.
		F	35	...	...	...	5° S., 130° E.
							(U.R.S.S.)
9	NE	eL	10 32	...	...	...	Pacific Ocean.
	Z	eL	37	...	...	...	0°, 155° E.
	N	M	42 36	24	+12	...	(U.R.S.S.)
		F	11 5	...	...	...	
12		e	12 11	...	...	...	Southern China.
	NE	L	14	...	...	...	22° N., 109° E.
	E	M	15 32	28	+10	...	(Chiufeng.)
	N	M	16 12	25	+16	...	
	Z	L	17	...	...	...	
		F	13 0	...	...	...	
13	ZNE	eP	9 56 24	...	...	...	Greenland Sea.
	ZNE	eL	10 1	...	...	...	73° N., 17° W.
	E	M	2 43	16	− 8	...	(U.R.S.S.)
		F	20	...	...	...	

546. KEW OBSERVATORY. Lat. 51° 28′ 6″ N. Long. 0° 18′ 47″ W. Height above M.S.L. 5 metres. **1934.**

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	Δ	Remarks.
Feb.			h. m. s.	s.	μ	km.	
14	ZNE	iP	4 12 54	...	...	10110	Compression.
	ZNE	iPcP	13 7	...	...	...	China Sea.
	ZNE	iPP	16 38	...	...	...	18° N., 118° E.
	NE	eSKS	23 28	...	...	...	(U.S.C.G.S.)
	ZNE	iSKKS	23 44	...	...	...	
	Z	iS	23 57	...	...	...	
	NE	iPS	25 7	...	...	...	
	NE	iPPS	25 57	...	...	...	
	E	eSS	29 18	...	...	...	
	NE	eL	38	...	...	...	
	Z	eL	46	...	...	...	
	N	M	49 35	25	+150	...	
	E	M	49 49	25	+170	...	
	N	M	51 15	23	−270	...	
	N	M	58 7	20	+210	...	
	Z	M	58 57	16>	+270*	...	*Maxima passing off
	E	M	59 8	16>	+190*	...	lower edge of record.
	Z	M	59 39	14>	+220*	...	
		F	7 (30)	...	...	...	
14		e	18 3	...	...	...	
		F	30	...	...	...	
14		e	23 5	...	...	...	
		F	20	...	...	...	
16		e	7 28	...	...	...	
		F	8 5	...	...	...	
19		e	11 25	...	...	...	South Sumatra.
		F	55	...	...	...	2° S., 100° E.
							(Bombay.)
20		e	4 8	...	...	...	
		F	35	...	...	...	
21	NE	e	0 49 50	...	...	...	
	ZNE	L	54	...	...	...	
	N	M	55 31	16	− 5	...	
		F	1 30	...	...	...	Eastern Mediterran-
21	ZNE	eP	11 42 26	...	...	2770	ean. (Strasbourg.)
	ZNE	eS	46 52	...	...	...	
	ZNE	L	51	...	...	...	
	N	M	52 29	14	+ 8	...	
		F	12 10	...	...	...	
22	ZNE	e	8 14	...	...	...	
	ZNE	eL	20	...	...	...	
	Z	M	31 38	14	− 6	...	
		F	9 5	...	...	...	
24		e	1 2	...	...	...	
		F	30	...	...	...	
24	ZNE	iP	6 37 26	...	...	10650	Compression.
	ZNE	iPP	41 29	...	...	...	Marianne Islands.
	NE	eSKS	47 50	...	...	...	21° N., 145° E.
	E	eS	48 53	...	...	...	(U.S.C.G.S.)
	N	iS	48 57	...	...	...	
	NE	iSS	55 48	...	...	...	
	E	eSSS	59 24	...	...	...	
	NE	i	7 2 44	...	...	...	Possibly PPP by path
	NE	L	9	...	...	...	>180°.
	E	M	13 52	31	+100	...	
	N	M	14 8	33	+73	...	
	Z	L	15	...	...	...	
	N	M	18 39	21	+64	...	
	E	M	18 39	21	+83	...	
	N	M	27 51	20	+94	...	
	Z	M	28 26	18	+100	...	
	E	M	28 29	19	+98	...	
	N	M	32 27	17	+57	...	
	Z	M	34 3	15	+36	...	
		F	10 30	...	...	...	
25		e	17 14	...	...	...	
		F	35	...	...	...	
28	ZN	e	14 41 24	...	...	...	
	Z	e	43 29	...	...	...	Bismark Archipelago.
	NE	e	53 11	...	...	...	4° S., 153° E.
	NE	e	59 8	...	...	...	(Manila.)
	NE	e	15 1 18	...	...	...	
	NE	eL	5	...	...	...	
	Z	eL	13	...	...	...	
	N	M	24 22	37	+39	...	

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	Δ	Remarks.
Feb.			h. m. s.	s.	μ	km.	
28	E	M	27 7	34	−50	...	
cont.	N	M	30 35	29	−68	...	
	E	M	33 43	24	+62	...	
	N	M	34 2	22	−42	...	
	Z	M	34 28	24	+36	...	
	Z	M	36 0	24	−42	...	
		F	17 40	...	...	...	
Mar.							
1		e	4 53	...	...	...	Very small; possibly
		F	5 15	...	...	...	not seismic.
1	E	e	20 36	...	...	...	Bismarck Archipelago.
	NE	eL	45	...	...	...	(Manila.)
	Z	eL	52	...	...	...	
	E	M	54 24	22	− 5	...	
		F	21 55	...	...	...	
1	ZNE	ePP	22 4 23	...	...	(12250)	Chile.
	NE	eSKKS	11 12	...	...	...	39° S., 73° W.
	E	i	11 20	...	...	...	(U.S.C.G.S.).
	Z	iSP	13 46	...	...	...	Probably deep focus.
	NE	eSS	19 00	...	...	...	
	NE	eSSS	24	...	...	...	
	ZNE	eL	30	...	...	...	Surface waves poorly
		F	23 45	...	...	...	developed.
4	NE	e	7 2	...	...	...	Near New Hebrides.
	NE	eL	10	...	...	...	(Manila.)
	Z	eL	15	...	...	...	
		F	8 10	...	...	...	
4	NE	eL	11 49	...	...	...	Behring Sea.
	Z	eL	53	...	...	...	58° N., 171° E.
	E	M	12 1 25	21	− 7	...	(U.R.S.S.)
		F	40	...	...	...	
5	Z	iPKP$_1$	12 6 20	...	...	(19000)	Compression.
	Z	i	6 34	...	...	...	
	Z	ePKP$_2$	7 38	...	...	...	PKP$_2$ by path of
	ZNE	iPP	11 18	...	...	...	greater deviation.
	ZNE	iPPP	15 41	...	...	...	
	NE	iSKKS	19 36	...	...	...	By path greater than
	N	eSKSP	21 52	...	...	...	180°.
	N	ePS	25 4	...	...	...	Felt over the greater
	Z	iSP	25 13	...	...	...	portion of New Zea-
	NE	iSS	32 12	...	...	...	land.
	NE	ePSS	33 36	...	...	...	41·0° S., 176·5° E.
	N	e	37 22	...	...	...	(Wellington.)
	N	iSSS	44 2	...	...	...	
	NE	L	57	...	...	...	
	Z	L	13 8	...	...	...	
	N	M	19 49	24	+99	...	
	N	M	27 37	21	+90	...	
	E	M	28 38	20	+125	...	
	Z	M	33 44	19	−105	...	
	N	M	36 53	19	+100	...	
	E	M	37 19	18	+96	...	
	Z	M	37 33	18	+105	...	
		F	15 20	...	...	...	
7/8	NE	e	23 3	...	...	...	Central America.
	NE	eL	12	...	...	...	14° N., 88° W.
	Z	eL	21	...	...	...	(U.S.C.G.S.)
	E	M	22 39	23	+ 8	...	
	Z	M	25 11	18	− 7	...	
		F	0 5	...	...	...	
8		e	3 7	...	...	...	
		F	20	...	...	...	
9		e	14 45	...	...	...	Very small.
		F	15 15	...	...	...	
12	NE	e	15 15	...	...	...	Confused by micro-
	NE	eL	33	...	...	...	seisms.
	Z	eL	40	...	...	...	Near Great Salt Lake,
	N	M	43 39	18	+26	...	Utah.
	E	M	46 19	15	−20	...	41·7° N., 112·6° W.
		F	16 40	...	...	...	(U.S.C.G.S.)
12		e	18 49	...	...	...	Repetition of preced-
		F	19 20	...	...	...	ing shock.

SEISMOLOGICAL DIARY—*continued.*

Galitzin Seismographs, three components.

546. KEW OBSERVATORY. Lat. 51° 28′ 6″ N. Long. 0° 18′ 47″ W. Height above M.S.L. 5 metres. **1934.**

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	Δ	Remarks.
			h. m. s.	s.	μ	km.	
Mar. 13	NE	e(SS)	13 52 21	...	...	...	New Hebrides.
	NE	eL	14 17	...	...	...	(St. Louis.)
	Z	eL	22	...	...	...	
	N	M	27 3	24	+12	...	
		F	15 55	...	...	...	
15		e	12 17	...	...	...	Disturbed by wind
		F	40	...	...	...	and microseisms.
20	NE	e(SS)	3 16 52	...	...	...	Confused by micro-
	NE	eL	41	...	...	...	seisms.
	Z	eL	47	...	...	...	Bismarck Archipelago.
	N	M	55 39	20	+11	...	4° S., 154° E.
		F	4 25	...	...	...	(U.R.S.S.)
21		e	1 40	...	...	...	
		F	55	...	...	...	
24	Z	ePKP	12 23 49	...	...	(15000)	Solomon Islands.
	ZNE	iPP	26 57	...	...	...	10°S. 161° E.
	ZNE	iPKS	27 26	...	...	...	(U.S.C.G.S.)
	N	ePSKS	36 30	...	...	...	
	NE	ePS	37 10	...	...	...	
	Z	e	41 5	...	...	...	
	NE	i	42 34	...	...	...	
	E	iSS	44 36	...	...	...	
	NE	eL	57	...	...	...	
	Z	eL	13 9	...	...	...	
	E	M	13 35	29	+49	...	
	N	M	13 56	29	−73	...	
	N	M	18 31	25	+57	...	
	N	M	32 48	19	+40	...	
	Z	M	32 55	20	−50	...	
	E	M	40 4	20	−41	...	
		F	15 40	...	...	...	
29	ZE	eP	20 10 (59)	...	...	2030	In minute break;
	ZE	iP	11 2	...	...	...	uncertain to ±1 sec.
	ZE	iPP	11 35	...	...	...	
	ZN	eS	14 25	...	...	...	Destructive in the
	E	iS	14 27	...	...	...	Balkans.
	ZE	i	14 45	...	...	...	46° N., 27° E.
	ZNE	i	15 10	...	...	...	(Strasbourg.)
	NE	L	15 20	...	...	...	
		F	30	...	...	...	
April 3		e	8 15	...	...	...	
		F	40	...	...	...	
3		e	18 26	...	...	...	
		F	50	...	...	...	
3		e	23 12	...	...	...	South-west of Volcano
		F	50	...	...	...	Islands.
							23° N., 139° E.
							(Bombay).
4/5			— — —	...	...	...	No records: 4d. 17h.
							to 5d. 7h.
6	Z	iP	19 22 2	...	...	9150	Pacific Ocean off
	N	eS	32 20	...	...	...	Japan.
	ZE	e	32 29	...	...	...	37·3° N., 141·7° E.
	Z	eSPP	33 27	...	...	...	(Batavia.)
	NE	eL	49	...	...	...	
	Z	eL	53	...	...	...	
	E	M	55 43	30	+ 6	...	
		F	20 25	...	...	...	
9	Z	e	15 59 38	...	...	...	
	E	e	16 11 21	...	...	...	
	ZNE	eL	27	...	...	...	
	E	M	30 43	27	− 8	...	
	Z	M	31 1	26	+10	...	
	N	M	34 6	22	− 5	...	
		F	17 10	...	...	...	
9		e	17 28	...	...	...	Very small, possibly
		F	35	...	...	...	not seismic.
10		e	6 16	...	...	...	
		F	35	...	...	...	
Apr. 10	ZNE	e	10 51 43	...	...	...	Felt in eastern Java.
	ZNE	eL	11 17	...	...	...	(Batavia.)
	N	M	33 18	20	+ 8	...	
		F	12 00	...	...	...	
11	Z	e(PKP)	21 31 21	...	...	...	Emergent on hori-
	Z	i	31 28	...	...	...	zontal components.
	Z	i	32 8	...	...	...	
	E	e	52 44	...	...	...	
	E	i	54 58	...	...	...	No surface waves.
		F	22 10	...	...	...	New Hebrides.
							19° S., 169° E.
							(U.R.S.S.)
12	NE	eL	4 10	...	...	...	North of Luzon.
	Z	eL	18	...	...	...	21° N., 122° E.
		F	30	...	...	...	(Manila.)
15/16	Z	eP	22 29 47	...	...	11800	Philippine Islands.
	ZNE	ePP	34 15	...	...	...	8° N., 127° E.
	NE	iSKS	40 27	...	...	...	(Strasbourg.)
	ZNE	ePS	43 17	...	...	...	
	NE	eSS	49 10	...	...	...	
	N	L	59	...	...	...	
	E	L	23 2	...	...	...	
	Z	L	7	...	...	...	
	N	M	6 48	43	+120	...	
	E	M	7 11	39	+80	...	
	N	M	10 30	29	+99	...	
	E	M	19 22	24	−97	...	
	E	M	21 57	21	−95	...	
	N	M	21 58	18	−85	...	
	Z	M	22 13	19	−95	...	
	Z	M	24 50	18	+77	...	
		F	1 15	...	...	...	
16	NE	eL	4 51	...	...	...	Mindanao.
	Z	eL	5 00	...	...	...	7° N., 127° E.
		F	30	...	...	...	(Bombay.)
16			— — —	...	...	...	10h. 39m. to 13h. 11m. no records.
16	NE	eL	14 26	...	...	...	Near Formosa.
	Z	eL	35	...	...	...	22° N., 121° E.
		F	45	...	...	...	(Batavia.)
17	ZE	eP	2 41 11	...	...	...	
	ZNE	eL	45	...	...	...	
	E	M	46 3	25	+ 2	...	
		F	55	...	...	...	
18		e	13 00	...	...	...	Very small.
		F	30	...	...	...	
20	ZNE	eL	15 20	...	...	...	
		F	35	...	...	...	
24	NE	e	18 47	...	...	...	
	ZNE	eL	52	...	...	...	
	N	M	19 2 52	20	− 5	...	
		F	55	...	...	...	
26	NE	e	14 38	...	...	...	No "Z" record.
	NE	eL	43	...	...	...	Felt in northern Cele-
		F	55	...	...	...	bes. (Batavia.)
26	NE	eSS	21 41 18	...	...	...	No "Z" record.
	NE	eL	22 10	...	...	...	Near New Hebrides.
	N	M	21 21	21	+ 4	...	(Manila.)
		F	23 25	...	...	...	
27	Z	e	21 7	...	...	...	South-east of New
	NE	e	13 00	...	...	...	Hebrides.
	N	e	26 40	...	...	...	23° S., 173° E.
	NE	eL	59	...	...	...	(Manila.)
	Z	eL	22 5	...	...	...	
	N	M	16 38	23	+ 5	...	
		F	45	...	...	...	
28		e	16 17	...	...	...	
		F	40	...	...	...	
28		e	19 9	...	...	...	
		F	30	...	...	...	

SEISMOLOGICAL DIARY—*continued.*

Galitzin Seismographs, three components.

546. KEW OBSERVATORY. Lat. 51° 28′ 6″ N. Long. 0° 18′ 47″ W. Height above M.S.L. 5 metres. **1934.**

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	Δ	Remarks.
May			h. m. s.	s.	μ	km.	
1		e	4 14	...	...	...	Sind.
		F	20	...	...	...	25° N., 69° E.
							(Bombay.)
1	Z	iP	} 7 17 53	...	...	(9800)	Compression.
	NE	eP					Indian Ocean
	E	iSKS	} 7 28 12	...	...	...	8° N., 95° E.
	ZN	eSKS					(Strasbourg.)
	E	iS	28 42	...	...	...	Probably deep focus.
		F	33	...	...	...	
3	NE	eL	2 22	...	...	...	North of Bonin Island.
	Z	eL	28	...	...	...	29° N., 141° E.
		F	55	...	...	...	(Bombay.)
4	ZNE	iP	4 46 42	...	...	7170	Amplitudes of iP as
	Z	iPP	49 4	...	...	...	read in mm. :—
	ZNE	iS	55 20	...	...	...	Z N E
	N	iSS	59 20	...	...	...	−7·0 +2·2 −1·1
	E	L	5	...	...	...	Azimuth=331°.
	ZN	L	7	...	...	...	Alaska.
	N	M	10 5	30	−97	...	61° N., 148° W.
	Z	M	10 17	30	+97	...	(U.S.C.G.S.)
	E	M	10 30	28	−58	...	
	N	M	16 6	19	−51	...	
	Z	M	16 12	18	+50	...	
		eL_2	7 4	...	...	...	Via the Antipodes.
		F	55	...	...	...	
5	Z	e	16 0	...	...	...	Very small.
		F	10	...	...	...	
9		e	16 55	...	...	...	South of Kurile Is-
	ZNE	eL	17 3	...	...	...	lands.
		F	30	...	...	...	45° N., 155° E.
							(U.R.S.S.)
11			— — —	...	...	...	5h. 20m. to 9h. 40m. no records.
11		e	18 1	...	...	...	Very small.
		F	10	...	...	...	
11	E	e	21 8 12	...	...	...	Very small. Felt in La
		F	11	...	...	...	Drôme.
							(Strasbourg.)
13	ZNE	ePP	9 23 21	...	...	(14000)	Solomon Islands.
	NE	iPKS	24 34	...	...	...	5° S., 154° E.
	NE	eL	58	...	...	...	(U.S.C.G.S.)
	Z	eL	10 4	...	...	...	
	N	M	10 58	30	−14	...	
		F	11 20	...	...	...	
14		e	13 56	...	...	...	Lower California.
		F	14 15	...	...	...	28° N., 113° W.
							(J.S.A.)
14	ZNE	eP	22 23 53	...	...	7550	South of Alaska.
	NE	iS	32 50	...	...	...	56° N., 151° W.
	NE	eL	40	...	...	...	(J.S.A.)
	E	M	46 13	37	+12	...	
	Z	eL	49	...	...	...	
		F	23 40	...	...	...	
19	NE	e	1 39 44	...	...	...	
	E	eL	46	...	...	...	
	ZN	eL	50	...	...	...	
		F	2 15	...	...	...	
20	NE	e	19 9 49	...	...	...	
	ZNE	L	11	...	...	...	
	N	M	11 49	19	− 5	...	
	E	M	12 32	18	+ 5	...	
		F	25	...	...	...	
21		e	5 28	...	...	...	
		F	40	...	...	...	
21	ZN	eP	10 11 59	...	...	2290	Greenland Sea.
	NE	eS	15 47	...	...	...	72° N., 4° W.
	ZNE	L	17	...	...	...	(Strasbourg).
	E	M	18 44	17	+ 4	...	
		F	35	...	...	...	

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	Δ	Remarks.
May			h. m. s.	s.	μ	km.	
22		e	2 18	...	...	...	Very small.
		F	30	...	...	...	
22	ZN	e(S)	11 19 31	...	...	...	West of St. Paul's
	NE	e	25 34	...	...	...	Rock.
	ZNE	L	28	...	...	...	1° N., 31° W.
	N	M	29 00	25	+ 8	...	(J.S.A.)
		F	12 00	...	...	...	
30		e	12 23	...	...	...	} Very small.
		F	40	...	...	...	
31		e	13 30	...	...	...	
		F	40	...	...	...	
31		e	15 7	...	...	...	
		F	20	...	...	...	
June							
2	Z	eP	6 5 58	...	...	8050	Assam.
	ZNE	ePcP	6 33	...	...	...	27° N., 95° E.
	ZNE	eS	15 20	...	...	...	(U.R.S.S.)
	E	e	24 11	...	...	...	
	ZNE	eL	33	...	...	...	
	Z	M	43 6	13	+ 1	...	
		F	7 10	...	...	...	
2	ZNE	iP	13 46 40	...	...	2050	Amplitudes as read in
	ZNE	i	46 49	...	...	...	mm :
	E	iS	50 8	...	...	...	N. E. Z.
	E	L	50 46	...	...	...	iP... +0·7 −0·3 −1·2
	N	L	51 16	...	...	...	i ... −5·2 +2·0 +5·3
	Z	L	51 19	...	...	...	Azimuth about 337°,
	N	M	51 48	23	−51	...	giving epicentre near
	E	M	52 19	16	+76	...	68° N., 19° W.
	N	M	53 24	14	+50	...	Felt in Northern Ice-
	Z	M	53 25	13	−32	...	land.
		F	16 5	...	...	...	
2	Z	eP	16 56 12	...	...	...	Horizontal compon-
	ZNE	eL	17 18	...	...	...	ents disturbed by
		F	18 15	...	...	...	wind.
							Alaska.
							63° N., 150° W.
							(U.R.S.S.)
2	ZNE	eL	21 27	...	...	...	Near New Hebrides.
		F	22 40	...	...	...	(Manila.)
3	Z	eP	16 34 59	...	...	...	Very small.
		F	17 5	...	...	...	
3		e	22 0	...	...	...	New Guinea.
	NE	eL	6	...	...	...	4° S., 141° E.
	Z	eL	11	...	...	...	(U.R.S.S.)
		F	35	...	...	...	
5/6	Z	e	23 45	...	...	...	
	ZNE	eL	49	...	...	...	
		F	00 5	...	...	...	
6	ZNE	eL	4 30	...	...	...	
		F	5 30	...	...	...	
6	ZNE	eL	7 9	...	...	...	
		F	45	...	...	...	
8	Z	e	3 21 35	...	...	...	Not very distant.
	E	e	21 59	...	...	...	
	N	e	22 5	...	...	...	
	NE	e	22 19	...	...	...	
	NE	e	22 47	...	...	...	
	NE	e	22 58	...	...	...	
	N	L	23 14	...	...	...	
	E	L	23 22	...	...	...	
	Z	L	23 35	...	...	...	
	Z	M	23 46	8	+ 1	...	
		F	27	...	...	...	
8	NE	eS	5 9 46	...	...	...	California.
	NE	eL	20	...	...	...	35·8° N., 120·3° W.
	Z	eL	25	...	...	...	(Pasadena.)
	E	M	32 57	17	− 9	...	
		F	6 35	...	...	...	

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SEISMOLOGICAL DIARY—*continued.*

Galitzin Seismographs, three components.

546. KEW OBSERVATORY. Lat. 51° 28′ 6″ N. Long. 0° 18′ 47″ W. Height above M.S.L. 5 metres. **1934.**

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	Δ	Remarks.
June			h. m. s.	s.	μ	km.	
8	ZNE	eL	16 44	...	...	...	
		F	55	...	...	...	
9	Z	i	13 17 37	...	...	...	New Guinea.
	ZNE	i	19 41	...	...	...	7° S., 145° E.
	ZNE	i	20 23	...	...	...	(Manila.)
	NE	i	20 58	...	...	...	
	Z	e	22 55	...	...	...	
	NE	e	36 27	...	...	...	
	ZNE	eL	50	...	...	...	
	N	M	14 5 9	23	+13	...	
	Z	M	11 59	21	−5	...	
		F	15 45	...	...	...	
13	ZNE	iP	2 3 3	...	...	8780	Compression.
	ZNE	iS	13 2	...	...	...	Sea of Okhotsk.
	ZNE	eL	29	...	...	...	48° N., 148° E.
	E	M	34 30	29	−14	...	(Strasbourg.)
	N	M	36 (3)	28	−22	...	
		F	3 55	...	...	...	
13	ZNE	e	9 9 40	...	...	...	Felt in Northern
	ZNE	e	9 59	...	...	...	Italy.
	ZNE	i	10 43	...	...	...	
	E	i	11 35	...	...	...	
		L	13	...	...	...	
		F	15	...	...	...	
13/14	ZE	eP	22 19 30	...	...	5680	Amplitudes of iP as
	ZNE	iP	19 32	...	...	...	read in mm.
	Z	i	19 49	...	...	...	N. E. Z.
	ZE	iPP	22 21 36	...	...	...	(+0·1) −0·7 +2·0
	E	iS	26 49	...	...	...	Azimuth about east.
	NE	i	26 51	...	...	...	Afghanistan.
	Z	iSP	26 55	...	...	...	29·5° N., 63·5° E.
	NE	iScS	29 14	...	...	...	(Strasbourg.)
	ZE	i	31 34	...	...	...	
	ZNE	eL	34	...	...	...	
	E	M	39 53	31	−42	...	
	N	M	45 26	19	−60	...	
	Z	M	51 57	11	−16	...	
		F	1 30	...	...	...	
14		e	22 16	...	...	...	Very small.
		F	25	...	...	...	
15	NE	eL	3 45	...	...	...	
	Z	eL	58	...	...	...	
		F	4 30	...	...	...	
15	NE	eL	6 45	...	...	...	
	Z	eL	50	...	...	...	
		F	7 15	...	...	...	
16		e	5 56	...	...	...	Very small.
		F	6 15	...	...	...	
17	NE	e	15 7 27	...	...	...	
	ZNE	eL	17	...	...	...	
		F	40	...	...	...	
18	ZN	iP	9 24 50	...	...	6890	Alaska.
	NE	iS	33 13	...	...	...	62° N., 150° W.
	NE	iPS	33 47	...	...	...	(U.S.C.G.S.)
	ZNE	eL	45	...	...	...	
	N	M	49 8	30	−7	...	
		F	10 45	...	...	...	
19	ZE	eP	18 48 44	...	...	2890	
	E	iS	53 19	...	...	...	Emergent on "Z" and
	NE	L	56	...	...	...	"N" components.
	Z	L	57	...	...	...	Asia Minor.
	N	M	57 35	17	−11	...	(Strasbourg.)
		F	19 20	...	...	...	
22	ZNE	eL	19 10	...	...	...	Horizontal compon-
		F	40	...	...	...	ents disturbed by wind.
23	ZNE	eS	5 39 40	...	...	...	Tibet.
	NE	eL	50	...	...	...	33° N., 90° E.
	E	M	56 33	26	−10	...	(Manila.)
	Z	eL	57	...	...	...	

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	Δ	Remarks.
June			h. m. s.	s.	μ	km.	
23 cont.	N	M	58 26	13	+13	...	
		F	6 55	...	...	...	
24	Z	eL	2 26	...	...	...	Horizontal compon-
		F	3 5	...	...	...	ents disturbed by
24	Z	e	4 46	...	...	...	wind.
		F	5 40	...	...	...	
24	Z	iP	6 12 46	...	...	10110	Dilatation.
	Z	i	13 13	...	...	...	Emergent on horizon-
	Z	iPP	16 35	...	...	...	tal components.
	NE	iSKS	23 14	...	...	...	Northern Chile.
	NE	iS	23 49	...	...	...	23° S., 68° W.
	Z	iSP	25 10	...	...	...	(U.S.C.G.S.)
	E	iSS	30 23	...	...	...	
	ZNE	eL	38	...	...	...	
	N	M	48 39	25	−22	...	
	Z	M	50 9	25	−46	...	
	E	M	50 14	24	+37	...	
		F	9 0	...	...	...	
24		e	14 46	...	...	...	Very small.
		F	15 10	...	...	...	
25	Z	e(P)	15 30 13	...	...	...	
	ZNE	eL	36	...	...	...	
	N	M	38 13	12	+ 3	...	
		F	50	...	...	...	
28	NE	e	1 21 33	...	...	...	New Hebrides.
	N	e	25 21	...	...	...	17° S., 165° E.
	NE	eL	2 4	...	...	...	(Manila.)
	Z	eL	13	...	...	...	
	N	M	20 4	20	+ 2	...	
		F	3 30	...	...	...	
29	Z	iPKP	8 42 45	...	...	(13000)	Sunda Sea.
	Z	iPP	44 7	...	...	...	6° S., 123° E.
	Z	epPP	46 5	...	...	...	Focal depth 700 km.
	Z	esPP	47 6	...	...	...	below normal.
	NE	e	50 45	...	...	...	(J.S.A.)
	ZNE	i	52 37	...	...	...	
	Z	i	53 50	...	...	...	
	ZNE	i	54 31	...	...	...	
	ZE	e	56 49	...	...	...	
	ZE	e	58 5	...	...	...	
	ZNE	e	9 2 41	...	...	...	
		eL	(12)	...	...	...	Very small.
		F	10 10	...	...	...	
29		e	13 1	...	...	...	Very small.
		F	15	...	...	...	
30	Z	e(P)	10 35 32	...	...	...	Horizontal compon-
	ZNE	eL	40	...	...	...	ents disturbed by
		F	11 5	...	...	...	wind.
30	Z	e(P)	12 16 0	...	...	...	
	ZNE	eL	21	...	...	...	
		F	55	...	...	...	
30	Z	e	13 35	...	...	...	
	ZNE	eL	40	...	...	...	
		F	14 10	...	...	...	
July 1	ZNE	eL	20 50	...	...	...	
		F	21 40	...	...	...	
3	ZNE	eL	4 30	...	...	...	
		F	5 0	...	...	...	
4	Z	e	2 1 2	...	...	...	Atlantic Ocean.
	NE	eL	30	...	...	...	53° S., 15° W.
	Z	eL	36	...	...	...	(U.R.S.S.)
		F	4 20	...	...	...	
6/7	ZNE	eP	23 0 44	...	...	8400	Pacific Ocean off
	ZNE	ePP	4 2	...	...	...	Southern Oregon.
	NE	eS	10 24	...	...	...	42° N., 126° W.
	NE	iSKS	10 32	...	...	...	(U.S.C.G.S.)
	NE	eSS	15 22	...	...	...	
	NE	L	22	...	...	...	
	Z	L	26	...	...	...	
	E	M	30 17	18	+38	...	

SEISMOLOGICAL DIARY—*continued.*

Galitzin Seismographs, three components.

546. KEW OBSERVATORY. Lat. 51° 28′ 6″ N. Long. 0° 18′ 47″ W. Height above M.S.L. 5 metres. **1934.**

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	Δ	Remarks.
July			h. m. s.	s.	μ	km.	
6/7 cont.	N	M	30 41	18	−61	...	
	Z	M	35 3	15	−69	...	
		F	2 55	...	...	...	
7/12			— — —	...	...	...	No records 7d. 14h. 59m. to 12d. 9h. 27m.
12		e	10 30	...	...	...	Pacific Ocean off Japan.
	NE	eL	36	...	...	...	37° N., 143° E.
	Z	eL	40	...	...	...	(U.R.S.S.)
		F	11 20	...	...	...	
12		e	15 30	...	...	...	Very small; possibly not seismic.
		F	50	...	...	...	
13		e	11 4	...	...	...	
		F	15	...	...	...	
13		e	13 19	...	...	...	
		F	25	...	...	...	
16	Z	eP	8 31 30	...	...	...	Mexico.
	ZNE	eL	9 4	...	...	...	17° N., 100° W.
		F	40	...	...	...	(J.S.A.)
18	ZE	iP	1 48 29	...	...	9230	Amplitudes of iP as read in mm :—
	ZE	iPP	51 28	...	...	...	N. E. Z.
	ZNE	iSKS	58 41	...	...	...	(0·0) +3·0 +7·0
	N	iS	58 51	...	...	...	Azimuth about west.
	N	i	2 5 39	...	...	...	Destructive in Chiriqui Province, Panama.
	ZNE	eL	13	...	...	...	8° N., 83° W.
	E	M	13 12	39	+380	...	(U.S.C.G.S.)
	N	M	17 24	23	−165	...	
	Z	M	18 29	15	+155	...	
	E	M	19 29	21	+170	...	
	Z	M	20 9	15	+180	...	
	N	M	23 31	19	−160	...	
		F	— — —	...	...	...	Overlapped by next shock.
18	Z	iP	4 12 46	...	...	8670	Confused by coda of preceding shock.
	NE	eS	22 40	...	...	...	
	ZNE	eL	37	...	...	...	
	E	M	42 9	21	−25	...	
	N	M	46 39	18	+15	...	
	Z	M	54 33	17	−27	...	
		F	8 0	...	...	...	
18		eL	16 45	...	...	...	
		F	17 10	...	...	...	
18	ZE	iP	17 11 45	...	...	9070	Amplitudes of iP as read in mm. :—
	Z	i	11 59	...	...	...	N. E. Z.
	N	i	21 46	...	...	...	0·0 +0·7 +2·2
	NE	iS	21 59	...	...	...	Azimuth about west.
	E	iPS	23 28	...	...	...	Repetition from 18d. 1h.
	E	iSS	27 23	...	...	...	
	ZNE	L	35	...	...	...	
	N	M	35 44	24	−35	...	
	E	M	42 4	23	+46	...	
	N	M	43 57	19	+27	...	
	E	M	43 58	21	+43	...	
	Z	M	44 2	19	+41	...	
	Z	M	45 47	19	+43	...	
		F	— — —	...	...	...	Overlapped by next shock.
18	Z	iPKP	19 59 36	...	...	(15500)	Dilatation. Emergent on horizontal components.
	NE	iPP	20 2 46	...	...	...	
	NE	iPKS	3 38	...	...	...	
	E	iPPP	5 45	...	...	...	New Hebrides.
	NE	i	16 35	...	...	...	17° S., 167° E.
	E	iSS	21 26	...	...	...	(J.S.A.)
	NE	iPSS	22 26	...	...	...	
	NE	iSSS	26 48	...	...	...	
	NE	L	34	...	...	...	
	Z	i	37 38	...	...	...	
	Z	eL	47	...	...	...	
	N	M	20 53 to	...	>350	...	Maxima doubtful.
	E	M	21 6	...	>300	...	Traces very faint and confused by overlapping.
	Z	M	20 55 58	26	+630	...	
		F	— — —	...	...	...	Overlapped by following shocks.

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	Δ	Remarks.
July			h. m. s.	s.	μ	km.	
19	Z	iPKP	0 26 18	...	...	...	Repetition of preceding shock.
	ZN	ePP	29 5	...	...	...	Later phases obscured by coda of previous shock.
	NE	iPKS	29 54	...	...	...	
		F	— — —	...	...	...	
19	Z	iPP	1 47 18	...	...	(13000)	Molucca Islands.
	Z	iPS	56 54	...	...	...	30 S., 129° E.
	N	iSS	2 3 34	...	...	...	(U.R.S.S.)
	NE	eL	15	...	...	...	
	Z	eL	25	...	...	...	
	N	M	25 34	31	+67	...	
	E	M	25 52	30	+76	...	
	N	M	27 29	28	+67	...	
	Z	M	43 3	18	−38	...	
		F	5 0	...	...	...	
19	Z	ePKP	6 4 39	...	...	(15500)	Between New Hebrides and Fiji islands.
	Z	ePP	7 42	...	...	...	15° S., 173° E.
	ZNE	eL	22	...	...	...	(Manila.)
		F	— — —	...	...	...	Overlapped by next shock.
19	Z	iPKP	7 56 27	...	...	(15500)	New Hebrides.
	NE	ePP	59 54	...	...	...	13° S., 167° E.
	NE	e	8 17 35	...	...	...	(Manila.)
	NE	eL	44	...	...	...	
	Z	eL	50	...	...	...	
	E	M	9 0 57	20	+12	...	
	N	M	1 23	19	+17	...	
	Z	M	3 32	18	+21	...	
		F	10 55	...	...	...	
19		e	23 17 12	...	...	...	Very small.
		F	55	...	...	...	
20		e	0 15	...	...	...	
		F	1 10	...	...	...	
20	Z	eP	2 22 38	...	...	...	Aleutian Islands.
	ZNE	eL	53	...	...	...	51° N., 175° W.
		F	3 50	...	...	...	(U.R.S.S.)
20		e	5 30	...	...	...	Very small.
		F	35	...	...	...	
20		e	14 25	...	...	...	Very small.
		F	15 0	...	...	...	
20		e	18 30	...	...	...	
	NE	eL	19 13	...	...	...	
	Z	eL	20	...	...	...	
	E	M	57 20	25	− 9	...	
	N	M	20 17 4	18	+ 6	...	
	Z	M	30 59	17	+ 5	...	
		F	21 45	...	...	...	
21	NE	eL	5 27	...	...	...	Luzon.
	Z	eL	32	...	...	...	17° N., 123° E.
		F	50	...	...	...	(U.R.S.S.)
21	Z	e	6 37 46	...	...	...	Near New Hebrides.
	ZNE	i	41 46	...	...	...	18° S., 164° E.
	NE	i	49 37	...	...	...	(J.S.A.)
	NE	i	58 56	...	...	...	
	NE	i	7 0 23	...	...	...	
	E	i	1 19	...	...	...	
	N	i	4 14	...	...	...	
	E	i	4 26	...	...	...	
	NE	L	11	...	...	...	
	Z	L	14	...	...	...	
	E	M	27 28	25	+140	...	
	N	M	34 17	20	+59	...	
	Z	M	50 1	18	+61	...	
		F	— — —	...	...	...	Overlapped by next shock.
21	ZE	iP	10 51 3	...	...	8970	Amplitudes of iP as read in mm. :—
	N	e	54 54	...	...	...	N. E. Z.
	NE	eS	11 1 9	...	...	...	0·0 +1·1 +2·0
	E	iPS	1 43	...	...	...	Azimuth about west.
	ZE	i	2 6	...	...	...	Panama.
	E	i	2 43	...	...	...	8° N., 83° W.
	NE	eSS	6 10	...	...	...	(J.S.A.)

SEISMOLOGICAL DIARY—*continued.*

Galitzin Seismographs, three components.

546. KEW OBSERVATORY. Lat. 51° 28′ 6″ N. Long. 0° 18′ 47″ W. Height above M.S.L. 5 metres. **1934.**

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	Δ	Remarks.
			h. m. s.	s.	μ	km.	
July 21 cont.	ZNE	eL	15	...	...	...	
	N	M	19 37	20	+25	...	
	Z	M	20 2	21	+44	...	
	E	M	21 8	22	−42	...	
	Z	M	33 18	17	−40	...	
		F	14 50	...	...	...	
22	Z	ePKP	3 17 14	...	...	...	Between New Hebrides
	ZNE	ePKS	20 54	...	...	...	and Fiji Islands.
	NE	eL	4 3	...	...	...	13°S., 173°E.
	Z	eL	11	...	...	...	(Manila.)
	N	M	5 8 56	16	+ 2	...	
		F	40	...	...	...	
22	Z	iP	20 5 39	...	...	5370	Compression. Emergent on horizontal
	ZNE	i	6 36	...	...	...	components.
	ZNE	i	7 2	...	...	...	West of Pamir.
	ZNE	iS	12 41	...	...	...	38° N., 72° E.
	NE	i	14 15	...	...	...	(U.R.S.S.)
	ZE	i	14 28	...	...	...	Surface waves very
	NE	eL	22	...	...	...	poorly developed.
	N	M	27 46	21	− 6	...	
	Z	eL	28	...	...	...	
	F	F	21 10	...	...	...	
23	Z	eP	18 30 43	...	...	5830	Atlantic Ocean.
	ZNE	eS	38 10	...	...	...	3° S., 17° W.
	NE	eL	44	...	...	...	(U.R.S.S.)
	Z	eL	46	...	...	...	
	N	M	46 7	14	− 4	...	
		F	19 45	...	...	...	
24		e	3 25	...	...	...	
		F	50	...	...	...	
27		e	2 52	...	...	...	} Very small.
		F	3 25	...	...	...	
27		e	13 45	...	...	...	
		F	14 50	...	...	...	
28	ZNE	e	2 27 23	...	...	...	Tibet.
	ZNE	eL	35	...	...	...	35° N., 87° E.
	N	M	39 44	18	+ 3	...	(Bombay.)
		F	3 10	...	...	...	
28		e	16 10	...	...	...	Very small.
		F	35	...	...	...	
28/29	ZN	iP	21 48 21	...	...	8000	Amplitudes of iP as
	ZN	iPP	51 6	...	...	...	read in mm. :—
	ZNE	iS	57 41	...	...	...	N. E. Z.
	E	L	22 11	...	...	...	−1·0 (+0·2) +2·7
	E	M	12 44	32	−35	...	Azimuth between N.
	NZ	L	14	...	...	...	and NNW.
	N	M	16 25	27	+57	...	Alaska.
	E	M	16 32	26	−34	...	56° N., 157° W.
	Z	M	16 59	26	−56	...	(U.S.C.G.S.)
	Z	M	22 12	18	−63	...	
	N	M	22 34	19	−56	...	
		eL_2	0 2	...	...	...	
		F	1 0	...	...	...	Via the Antipodes.
30	ZNE	eL	2 23	...	...	...	
		F	35	...	...	...	
30	ZNE	eL	3 13	...	...	...	
		F	25	...	...	...	
30	ZNE	eL	4 4	...	...	...	
		F	20	...	...	...	
30	ZNE	eL	4 49	...	...	...	
		F	5 10	...	...	...	
31	NE	eL	6 49	...	...	...	Luzon.
	Z	eL	55	...	...	...	16° N., 121° E.
		F	7 25	...	...	...	(U.R.S.S.)
31	ZNE	e(S)	12 13 17	...	...	...	Very small.
		F	13 15	...	...	...	

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	Δ	Remarks.
			h. m. s.	s.	μ	km.	
Aug. 2	Z	e	7 23 56	...	...	...	Horizontal components disturbed by
	ZNE	eL	50	...	...	...	wind.
		F	8 40	...	...	...	
4	Z	e	13 30	...	...	...	New Guinea.
	NE	eL	14 5	...	...	...	7° S., 146° E.
	Z	eL	11	...	...	...	(Manila.)
		F	15 35	...	...	...	
6	Z	e	12 19 16	...	...	...	
	ZNE	eL	46	...	...	...	
		F	13 15	...	...	...	
6		e	17 34	...	...	...	Very small.
		F	45	...	...	...	
7	ZNE	ePKP	3 59 25	...	...	(15500)	New Hebrides.
	ZNE	ePP	4 2 35	...	...	...	14° S., 167° E.
	N	e	18 38	...	...	...	(U.S.C.G.S.)
	ZNE	eSS	21 18	...	...	...	
	N	eSSS	26 23	...	...	...	
	NE	eL	43	...	...	...	
	Z	eL	50	...	...	...	
	E	M	5 1 1	22	+19	...	
	N	M	1 45	22	+30	...	
	Z	M	1 50	21	−29	...	
		F	7 20	...	...	...	
7	Z	eP	11 59 47	...	...	...	China.
	NE	eL	12 17	...	...	...	43° N., 87° E.
	Z	eL	22	...	...	...	(U.R.S.S.)
	N	M	25 10	12	−13	...	
	Z	M	26 44	12	−13	...	
		F	13 40	...	...	...	
9		e	20 39	...	...	...	
		F	21 30	...	...	...	
10		e	23 29	...	...	...	Very small
		F	55	...	...	...	
11	Z	eP	8 31 18	...	...	...	Formosa.
	NE	eL	58	...	...	...	25° N., 122° E.
	Z	eL	9 6	...	...	...	(Manila.)
	N	M	13 48	19	+21	...	
	Z	M	16 7	16	+16	...	
		F	10 20	...	...	...	
11	ZNE	iPKS	12 20 9	...	...	...	Solomon Islands.
	Z	eSKKS	25 19	...	...	...	4° S., 155° E.
	ZNE	eL	30	...	...	...	(Manila.) Overlapped by next
		F	— — —	...	...	...	shock.
11	Z	eP	13 3 36	...	...	...	
	ZNE	eL	7	...	...	...	
	N	M	15 29	22	+14	...	
		F	14 30	...	...	...	
11		e	15 26	...	...	...	
		F	40	...	...	...	
12		e	14 57	...	...	...	Very small; possibly
		F	15 10	...	...	...	not seismic.
13	ZNE	eP	0 3 36	...	...	(11500)	Mindanao.
	ZNE	ePP	7 46	...	...	...	8° N., 127° E.
	ZNE	ePS	16 48	...	...	...	(Manila.)
	NE	eL	39	...	...	...	
	Z	eL	44	...	...	...	
	E	M	53 12	27	−56	...	
	N	M	55 46	19	−36	...	
	Z	M	56 0	20	−39	...	
		F	2 35	...	...	...	
14	ZNE	i	9 9 1	...	...	...	
	NE	eL	10 1	...	...	...	
	Z	eL	11	...	...	...	
		F	11 5	...	...	...	
15	ZNE	eL	11 44	...	...	...	
		F	12 20	...	...	...	

SEISMOLOGICAL DIARY—*continued.*

Galitzin Seismographs, three components.

546. KEW OBSERVATORY. Lat. 51° 28′ 6″ N. Long. 0° 18′ 47″ W. Height above M.S.L. 5 metres. **1934.**

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	Δ	Remarks.
Aug.			h. m. s.	s.	μ	km.	
16		i	2 16 41	...	...	...	Very small. Felt in
		i	16 56	...	...	...	northern and central
		i	17 3	...	...	...	Scotland. Measure-
		i	17 26	...	...	...	ments taken from
		i	17 49	...	...	...	experimental Wood-
		F	20	...	...	...	Anderson instru-
							ment.
18	NE	eL	3 23	...	...	...	Japan.
	Z	eL	29	...	...	...	34° N., 133° E.
		F	55	...	...	...	(U.R.S. S.)
19/20	ZNE	eL	23 44	...	...	...	
		F	0 5	...	...	...	
21	NE	eL	20 22	...	...	...	Horizontal components
	Z	eL	26	...	...	...	disturbed by wind.
	N	M	25 19	24	− 5	...	West of Sumatra.
		F	21 0	...	...	...	1° S., 94° E.
							(Manila.)
22		e	8 2	...	...	...	Very small.
		F	10	...	...	...	
23		e	23 29	...	...	...	
		F	40	...	...	...	
24	ZNE	e	0 8 7	...	...	...	
	ZNE	e	11 7	...	...	...	
	NE	eL	56	...	...	...	
	Z	eL	1 2	...	...	...	
	Z	M	12 56	18	+ 5	...	
		F	2 20	...	...	...	
26	NE	eL	2 6	...	...	...	
	Z	eL	13	...	...	...	
	Z	M	20 11	16	+ 4	...	
		F	50	...	...	...	
28		e	12 6	...	...	...	
		F	20	...	...	...	
31	ZNE	eP	5 9 50	...	...	3810	Dilatation.
	ZNE	iP	9 58	...	...	...	Amplitudes of iP as
	ZNE	ePP	11 27	...	...	...	read in mm.:—
	ZNE	iS	15 26	...	...	...	N. E. Z.
	ZNE	L	20	...	...	...	−2·3 +1·0 +2·8
							Azimuth about 335°.
	E	M	20 20	27	+48	...	Baffin Bay.
	N	M	20 43	27	+62	...	72° N., 70° W.
	N	M	24 35	17	+41	...	(J.S.A.)
	E	M	25 44	13	+42	...	
	Z	M	26 53	13	+37	...	
		F	7 5	...	...	...	
31	ZN	eP	15 6 42	...	...	(5700)	East of Hissar.
	NE	eSS	17 28	...	...	...	39° N., 71° E.
	NE	eL	21	...	...	...	(U.R.S.S.)
	Z	eL	26	...	...	...	
	N	M	27 0	16	−77	...	
	E	M	27 1	17	+44	...	
	Z	M	29 51	13	+32	...	
	E	M	29 54	17	+36	...	
		F	16 40	...	...	...	
Sept. 1		e	7 55	...	...	...	
		F	8 15	...	...	...	
1	ZNE	e	11 56 46	...	...	...	
	ZNE	eL	12 5	...	...	...	
		F	45	...	...	...	
4	ZN	ePKP	16 54 34	...	...	...	Loyalty Islands.
	ZNE	eL	17 50	...	...	...	21° S., 169° E.
		F	19 5	...	...	...	(Manila.)
5*			— — —	...	...	...	*No records during standardisation, etc. 5d. 13h. 10m.—15h. 31m. 6d. 8h. 28m.—16h. 33m.
6	ZNE	e	2 41	...	...	...	Felt in Mindanao.
	NE	eL	3 12	...	...	...	(Manila.)
	Z	eL	18	...	...	...	
		F	35	...	...	...	

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	Δ	Remarks.
Sept.			h. m. s.	s.	μ	km.	
6*			— — —	...	...	...	
7	ZN	iP	3 43 2	...	...	1790	Algeria. (Strasbourg.)
	NE	eS	46 6	...	...	...	
	ZNE	eL	47	...	...	...	
	E	M	47 38	15	− 7	...	
	Z	M	50 16	8	− 4	...	
		F	4 10	...	...	...	
7		e	20 31	...	...	...	
		F	40	...	...	...	
8		e	7 7	...	...	...	Repetition from Aug. 31d. 15h.
	NE	eL	11	...	...	...	
	Z	eL	15	...	...	...	
		F	30	...	...	...	
8	Z	e	11 33 56	...	...	...	
	Z	i	34 24	...	...	...	
	ZNE	eL	12 34	...	...	...	
		F	13 40	...	...	...	
11	ZNE	eL	1 29	...	...	...	
		F	35	...	...	...	
12	NE	eL	15 15	...	...	...	
	Z	eL	17	...	...	...	
	E	M	24 13	13	+ 5	...	
	Z	M	24 15	13	− 5	...	
		F	45	...	...	...	
12		e	16 32	...	...	...	Very small; possibly not seismic.
		F	35	...	...	...	
12	NE	eL	18 32	...	...	...	
	Z	eL	39	...	...	...	
		F	55	...	...	...	
13		e	3 52	...	...	...	
		F	4 10	...	...	...	
13		e	15 9	...	...	...	
		F	30	...	...	...	
15	NE	eP	7 9 26	...	...	9070	No "Z" record.
	NE	eS	19 40	...	...	...	Mexico.
	NE	eL	34	...	...	...	20° N., 105° W.
	E	M	45 23	18	+20	...	(U.S.C.G.S.)
	N	M	45 48	19	+ 9	...	
		F	8 35	...	...	...	
16		e	14 2	...	...	...	
		F	35	...	...	...	
21	NE	eSKS	13 2 34	...	...	...	Very small; traces on
	NE	eS	3 14	...	...	...	"Z" record.
	NE	ePS	3 52	...	...	...	Felt in northern
		F	50	...	...	...	Sumatra. (Batavia.)
23		e	1 54	...	...	...	
		F	2 5	...	...	...	
23	Z	ePKP	8 18 54	...	...	(16000)	
	Z	eSKKS	29 9	...	...	...	
	ZNE	eL	9 23	...	...	...	
		F	10 0	...	...	...	
26	Z	eP	7 37 10	...	...	5750	
	NE	eS	44 33	...	...	...	
	NE	eSS	47 42	...	...	...	
	ZNE	eL	53	...	...	...	
		F	8 45	...	...	...	
27	ZNE	eL	23 18	...	...	...	
		F	35	...	...	...	
Oct. 5	Z	eP	20 38 11	...	...	8750	Pacific Ocean off
	E	eS	48 9	...	...	...	Japan.
	NE	eL	21 8	...	...	...	40° N., 145° E.
	Z	eL	12	...	...	...	(U.R.S.S.)
	E	M	13 28	22	−10	...	
	N	M	15 8	25	+ 8	...	
	Z	M	20 10	17	+ 4	...	
		F	50	...	...	...	

SEISMOLOGICAL DIARY—*continued.*

Galitzin Seismographs, three components.

546. KEW OBSERVATORY. Lat 51° 28′ 6″ N. Long 0° 18′ 47″ W. Height above M S.L. 5 metres. **1934.**

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	Δ	Remarks.
Oct.			h. m. s.	s.	μ	km.	
5		e	22 42	...	...	...	
		F	23 25	...	...	...	
6	ZE	eP	0 24 3	...	...	2190	
	NE	iS	27 42	...	...	...	
	ZNE	eL	29	...	...	...	
	E	M	30 8	17	− 4	...	
	N	M	30 46	14	+ 5	...	
		F	50	...	...	...	
6	ZNE	e	13 5 57	...	...	...	
	E	eL	12	...	...	...	
	ZN	eL	15	...	...	...	
	N	M	15 27	24	+ 7	...	
	E	M	16 17	16	+ 5	...	
		F	50	...	...	...	
7		e	11 3	...	...	...	
		F	15	...	...	...	
8		e	7 22	...	...	...	
		F	30	...	...	...	
10	Z	iPKP	16 0 57	...	...	...	Compression. Emer-
	Z	i	1 1	...	...	...	gent on horizontal
	Z	i	1 20	...	...	...	components.
	ZN	e	3 5	...	...	...	Between Fiji and Ker-
	N	i	10 50	...	...	...	madec Islands.
	ZN	e	14 21	...	...	...	23° S., 176° W.
	N	e	17 2	...	...	...	(U.S.C.G.S.)
	E	i	23 36	...	...	...	Deep focus.
	ZN	i	24 14	...	...	...	
	NE	e	28 0	...	...	...	
	E	e	29 24	...	...	...	
	ZNE	eL	32	...	...	...	Irregular.
	N	M	36 27	26	−22	...	
		F	18 25	...	...	...	
18	Z	ePKP	8 8 41	...	...	...	Pacific Ocean.
	Z	ePP	11 39	...	...	...	4° S., 173° E.
	NE	eL	52	...	...	...	(U.R.S.S.)
	Z	eL	59	...	...	...	
	N	M	9 19 5	19	+ 7	...	
	Z	M	23 22	20	− 8	...	
	E	M	27 8	18	+ 7	...	
		F	10 35	...	...	...	
19	NE	eL	21 29	...	...	...	Himalayas.
	N	M	32 4	21	+ 7	...	33° N., 78° E.
	Z	eL	35	...	...	...	(U.R.S.S.)
		F	50	...	...	...	
21		e	18 48	...	...	...	
		F	19 10	...	...	...	
26	Z	iP	17 24 2	...	...	(9750)	} Emergent on horizon-
	Z	iPP	27 43	...	...	...	tal components.
	N	e(S)	34 49	...	...	...	
	ZNE	iPS	36 0	...	...	...	Pacific Ocean off Japan
	E	e	45 36	...	...	...	31° N., 132° E.
	NE	eL	54	...	...	...	(Chiufeng.)
	Z	eL	59	...	...	...	
	E	M	59 35	28	+29	...	
	N	M	59 47	28	+22	...	
	E	M	18 8 49	19	+21	...	
	N	M	9 9	16	+23	...	
	Z	M	9 13	17	−23	...	
		F	50	...	...	...	
27		e	11 5	...	...	...	Possibly not seismic.
		F	35	...	...	...	
29	NE	eL	0 23	...	...	...	Pacific Ocean.
	Z	eL	30	...	...	...	20° N., 133° E.
		F	45	...	...	...	(U.R.S.S.)
29	NE	eL	3 13	...	...	...	
	N	M	17 13	22	− 6	...	
	Z	eL	18	...	...	...	
		F	40	...	...	...	
29	NE	e	16 22	...	...	...	
	NE	eL	33	...	...	...	
	N	M	36 3	29	−20	...	
	Z	eL	38	...	...	...	
		F	17 0	...	...	...	

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	Δ	Remarks.
Nov.			h. m. s.	s.	μ	km.	
4*	Z	e	3 13	...	...	...	
	NE	eL	35	...	...	...	
	Z	eL	42	...	...	...	
	N	M	49 21	19	− 7	...	
		F	— — —	...	...	...	Overlapped by next shock.
4*	NE	eL	4 25	...	...	...	
	Z	eL	30	...	...	...	
	N	M	5 9 58	20	+10	...	
		F	45	...	...	...	
5/6	Z	eP	23 14 16	...	...	...	Aleutian Islands.
	N	i	25 12	...	...	...	52° N., 176° W.
	NE	e	33 2	...	...	...	(U.S.C.G.S.)
	NE	e	37 0	...	...	...	
	ZNE	eL	40	...	...	...	
	N	M	54 9	19	− 7	...	
	E	M	54 39	19	− 7	...	
	Z	M	58 41	18	+ 7	...	
		F	0 50	...	...	...	
7		e	14 40	...	...	...	
		F	45	...	...	...	
9	ZN	iP	13 46 0	...	...	...	Dilatation.
	ZN	eL	54	...	...	...	No E–W record.
		F	14 0	...	...	...	Felt in Cairo.
							(Helwan.)
10	ZE	eP	15 44 25	...	...	...	
	ZNE	L	49	...	...	...	
	N	M	50 9	20	+ 7	...	
	Z	M	50 37	20	− 8	...	
	E	M	50 42	18	+ 7	...	
		F	16 20	...	...	...	
12	ZNE	e	7 27	...	...	...	Asia Minor.
	NE	L	34	...	...	...	37° N., 40° E.
	N	M	34 21	40	(−30)	...	(Strasbourg.)
	Z	L	36	...	...	...	
	N	M	38 56	19	−20	...	
	E	M	38 59	21	+20	...	
	Z	M	43 3	14	+ 9	...	
		F	8 35	...	...	...	
16	ZNE	eL	10 53	...	...	...	
		F	11 35	...	...	...	
16	Z	e	14 16 28	...	...	...	
	NE	eL	42	...	...	...	
	Z	eL	47	...	...	...	
	N	M	48 23	26	−10	...	
	E	M	48 47	26	+ 9	...	
		F	16 15	...	...	...	
18	ZNE	iP	3 30 9	...	...	5430	Compression.
	ZE	i	31 22	...	...	...	Turkestan.
	ZE	i	33 0	...	...	...	37° N., 66·5° E.
	E	iS	37 14	...	...	...	(Strasbourg.)
	ZN	iS	37 16	...	...	...	
	E	e	38 34	...	...	...	
	NE	e	41 7	...	...	...	Surface waves poorly
	N	M	52 17	19	−10	...	developed.
		F	4 20	...	...	...	
18	NE	e	15 36	...	...	...	
	NE	eL	42	...	...	...	
	Z	eL	49	...	...	...	
		F	16 5	...	...	...	
18/19	Z	iPKP	22 59 17	...	...	(14000)	Compression.
	ZNE	ePP	23 1 26	...	...	...	
	Z	iPKS	2 32	...	...	...	Emergent on horizon-
	NE	eSKKS	8 36	...	...	...	tal components.
	NE	eL	36	...	...	...	North of New Ireland.
	Z	eL	43	...	...	...	1° S., 155° E.
	Z	M	49 17	27	−15	...	(Bombay.)
	N	M	50 57	25	−13	...	
	E	M	53 52	25	+ 6	...	
		F	1 0	...	...	...	
21	E	e(S)	22 36 22	...	...	...	
	ZNE	eL	43	...	...	...	
		F	55	...	...	...	

* Confused by wind.

Galitzin Seismographs, three components.

546. KEW OBSERVATORY. Lat. 51° 28′ 6″ N. Long. 0° 18′ 47″ W. Height above M.S.L. 5 metres. **1934.**

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	Δ	Remarks.
Nov.			h. m. s.	s.	μ	km.	
24	ZNE	eL	14 1	...	...	...	
	N	M	8 48	19	+ 4	...	
		F	45	...	...	...	
26	NE	eL	13 0	...	...	...	Philippine Islands.
	Z	eL	5	...	...	...	14° N., 120° E.
	N	M	10 6	19	− 7	...	(Manila.)
		F	30	...	...	...	
27	ZNE	ePP	6 33 22	...	...	(12200)	Molucca Islands.
	ZNE	eSKS	39 16	...	...	...	1° S., 127° E.
	ZNE	eSP	42 37	...	...	...	(U.S.C.G.S.)
	NE	eL	7 3	...	...	...	
	Z	eL	7	...	...	...	
	N	M	14 18	27	−16	...	
	E	M	15 21	26	−13	...	
	Z	M	26 37	19	− 9	...	
		F	8 0	...	...	...	
							Amplitudes as read in mm. :—
30	ZE	iP	2 17 53	...	...	} 9280	N. E. Z.
	N	eP	17 53	...	...		iP...(+0·2) −0·5 −2·0
	ZNE	i	17 55	...	...	...	i ... −0·6 +2·1 +9·6
	ZN	e	19 11	...	...	...	giving azimuth about 285°.
	NE	eSKS	28 14	...	...	...	
	NE	iS	28 17	...	...	...	Large movement.
	NE	eSS	33 45	...	...	...	Pacific Ocean off Mexico.
	M	eL	40	...	...	...	
	ZE	eL	42	...	...	...	19° N., 105° W.
	N	M	47 40	27	+99	...	(J.S.A.)
	E	M	49 33	25	+93	...	
	Z	M	54 3	17	−74	...	
		F	— — —	...	...	...	Overlapped by next shock.
30	Z	iP	3 1 6	...	...	...	Emergent on Galitzin horizontal com-
	NE	i	4 12	...	...	...	ponents; clearly
	N	i	4 59	...	...	...	recorded by experi-
	NE	i	6 45	...	...	...	mental Wood-Ander-
		F	5 5	...	...	...	son seismograph (N-S component).
							Felt at Ancona, Italy. 43·8° N., 13·3° E.
							(Strasbourg.)
Dec.							
1		e	19 53	...	...	...	
		F	20 5	...	...	...	
3	ZN	eP	2 50 27	...	...	...	Central America.
	ZNE	eL	3 18	...	...	...	15° N., 89° W.
	E	M	28 5	18	+ 5	...	(U.S.C.G.S.)
		F	4 5	...	...	...	
4	NE	eSKS	17 48 8	...	...	(10000)	Northern Chile.
	NE	eS	48 43	...	...	...	19° S., 70° W.
	ZNE	ePS	49 58	...	...	...	(U.S.C.G.S.)
	NE	eL	18 8	...	...	...	
	Z	eL	11	...	...	...	
	E	M	13 50	23	−16	...	
	Z	M	14 8	23	+ 7	...	
	N	M	14 37	21	−12	...	
		F	45	...	...	...	
8		e	10 24	...	...	...	Mexico. (Pasadena.)
		F	45	...	...	...	
15	Z	eP	2 8 25	...	...	7330	Amplitudes of iP as
	ZNE	iP	8 31	...	...	...	read in mm. :—
	N	eS	17 11	...	...	...	N. E. Z.
	NE	iS	17 16	...	...	...	−0·7 −1·2 +2·0
	Z	iSP	17 22	...	...	...	giving azimuth = 62°
	Z	eSS	21 53	...	...	...	±5°.
	N	i	24 3	...	...	...	Tibet.
	NE	i	24 27	...	...	...	31·5 N., 89° E.
	Z	i	24 34	...	...	...	(Strasbourg.)

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	Δ	Remarks.
Dec.			h. m. s.	s.	μ	km.	
15	NE	i	24 40	...	...	...	
cont.	ZNE	eL	28	...	...	...	
	E	M	33 53	28	+210	...	
	N	M	34 6	24	+320	...	
	E	M	36 39	20	+145	...	
	N	M	37 24	15	−270	...	
	N	M	38 29	15	+230	...	
	Z	M	39 14	15	+120	...	
	E	M	40 1	17	+155	...	
	Z	M	40 13	14	+105	...	
	Z	M	42 47	11	−63	...	
		F	4 (30)	...	...	...	
17	NE	eL	16 49	...	...	...	Masked by micro-seisms.
	Z	eL	58	...	...	...	
	N	M	17 7 6	23	+13	...	New Guinea.
		F	18 0	...	...	...	7° N., 145° E. (Bombay.)
21		e	13 17	...	...	...	Very small.
		F	25	...	...	...	
22	ZNE	e	14 52 21	...	...	...	Pacific Ocean off
	ZNE	e	57 16	...	...	...	Central America.
	NE	e	15 0 37	...	...	...	8° N., 89° W.
	N	eL	2	...	...	...	(U.S.C.G.S.)
	E	e	2 14	...	...	...	
	ZE	eL	5	...	...	...	
	E	M	10 8	23	−35	...	
	Z	M	10 13	23	−40	...	
	N	M	12 47	19	+20	...	
		F	16 10	...	...	...	
23	ZNE	e	10 16 5	...	...	...	South America
	ZNE	i	16 10	...	...	...	(Pasadena.)
	N	i	17 7	...	...	...	
	Z	e	18 6	...	...	...	
	NE	eL	30	...	...	...	Surface waves small.
	Z	eL	36	...	...	...	
		F	11 0	...	...	...	
23		e	23 48	...	...	...	
		F	0 0	...	...	...	
24	ZNE	e	16 0 45	...	...	...	Confused by micro-seisms.
	N	i	2 41	...	...	...	
	NE	i	2 53	...	...	...	
	NE	i	3 16	...	...	...	
	N	M	4 33	14	+16	...	
		F	10	...	...	...	
25		e	7 28	...	...	...	Possibly not seismic.
		F	50	...	...	...	
28		e	12 50	...	...	...	
		F	13 30	...	...	...	
30	Z	e	14 20 42	...	...	...	Disturbed by wind and
	Z	e	24 52	...	...	...	microseisms.
	NE	L	28	...	...	...	Lower California.
	Z	L	31	...	...	...	31° N., 116° W.
	N	M	36 33	17	+35	...	(U.S.C.G.S.)
	E	M	37 21	17	+25	...	
	Z	M	39 19	15	+26	...	
		F	15 55	...	...	...	
31	ZNE	eP	18 58 8	...	...	8670	Repetition of preced-
	ZNE	ePP	19 1 38	...	...	...	ing shock.
	NE	eSKS	7 57	...	...	...	30° N., 116° W.
	NE	iS	8 2	...	...	...	(U.S.C.G.S.)
	Z	eSP	9 4	...	...	...	
	N	eSS	12 48	...	...	...	
	NE	L	18	...	...	...	
	Z	L	25	...	...	...	
	N	M	26 54	20	−135	...	
	E	M	29 27	17	−140	...	
	N	M	30 28	16	+120	...	
	Z	M	30 29	15	−110	...	
		F	23 0	...	...	...	

MICROSEISMS OF NORTH COMPONENT: AMPLITUDE (μ = ·001 mm.) AND PERIOD (seconds).
Derived from readings for the period of thirty minutes centring at the exact hours, Greenwich Mean Time.

547. KEW OBSERVATORY:

Month	JANUARY							
Hour G.M.T.	0h.		6h.		12h.		18h.	
	A.	Tρ	A.	Tρ	A.	Tρ	A.	Tρ
Day	μ	s	μ	s	μ	s	μ	s
1	1·8	7·0	1·7	7·3	1·9	7·5	2·0	7·5
2	1·8	7·0	2·5	7·0	1·8	6·7	1·7	7·3
3	1·8	6·7	2·2	6·7	1·8	7·0	1·7	6·5
4	1·9	6·5	1·9	6·5	2·4	6·7	3·6	7·0
5	3·4	7·0	4·9	7·5	2·7	7·5	1·8	7·0
6	2·1	7·0	2·0	6·7	2·2	6·0	2·5	6·3
7	2·9	6·3	2·0	6·0	2·6	6·0	2·0	6·0
8	1·9	6·3	2·7	7·0	1·9	6·3	3·2	7·0
9	1·9	6·5	1·6	6·0	2·0	6·0	1·5	5·6
10	2·0	6·0	1·9	6·5	1·8	6·0	1·6	5·0
11	1·7	6·7	2·6	6·0	2·1	6·5	2·1	6·5
12	3·0	7·7	4·2	8·3	5·3	8·3	5·9	8·3
13	5·1	8·7	6·1	8·0	4·8	7·5	2·3	6·5
14	2·1	6·3	2·3	5·8	1·9	6·5	2·2	6·0
15	2·6	6·5	2·0	6·0	2·2	6·0	1·8	7·0
16	1·9	6·5	1·5	6·5	1·8	6·7	2·0	6·0
17	2·0	6·0	1·5	6·3	2·1	6·5	3·3	6·0
18	5·0	6·7	3·6	6·0	3·2	6·0	3·0	6·5
19	2·2	6·0	2·2	6·0	2·2	5·4	2·3	5·6
20	1·9	6·3	1·5	6·5	2·2	6·0	2·2	6·0
21	2·0	6·7	2·5	6·3	2·3	7·0	2·4	6·7
22	2·6	7·3	1·9	7·3	2·0	7·5	3·7	7·7
23	2·4	7·5	2·3	7·0	1·8	7·0	2·0	8·0
24	2·6	7·3	3·3	6·3	3·2	6·5	4·3	7·0
25	3·9	7·5	4·0	7·3	2·3	6·5	2·7	7·0
26	1·9	6·5	1·9	6·3	0·9	5·2	1·0	6·3
27	1·2	6·3	1·5	5·6	1·2	4·7	0·9	5·4
28	0·4	6·5	0·5	4·3	1·1	5·2	1·2	5·0
29	0·7	5·2	0·9	5·2	0·4	6·5	0·6	6·0
30	0·6	6·5	0·6	6·5	0·4	6·0	0·6	6·0
31	0·4	5·4	0·4	6·0	0·4	6·0	0·2	5·0
Mean	2·2	6·7	2·3	6·5	2·1	6·4	2·2	6·4
Mean for Days.	A = 2·2μ; Tρ = 6·5s.							

Month	FEBRUARY							
Hour G.M.T.	0h.		6h.		12h.		18h.	
	A.	Tρ	A.	Tρ	A.	Tρ	A.	Tρ
Day	μ	s	μ	s	μ	s	μ	s
1	0·3	4·3	0·2	5·6	0·2	5·0	0·4	5·6
2	1·0	4·5	0·4	5·6	0·7	5·0	1·4	7·0
3	1·2	5·8	1·4	5·8	1·0	5·8	0·6	5·6
4	0·6	5·6	0·5	5·2	0·9	6·5	0·6	6·0
5	1·0	6·0	0·6	5·6	0·7	4·7	1·1	7·0
6	1·6	7·0	1·7	8·0	1·6	7·0	1·4	7·0
7	1·2	6·0	1·8	6·0	...	...	2·0	6·0
8	4·3	6·7	4·8	6·7	4·5	6·5	3·4	6·0
9	2·5	6·3	1·5	6·7	1·9	6·3	1·9	6·5
10	1·9	6·3	1·8	7·0	3·2	5·6	4·8	6·0
11	1·9	7·5	1·7	7·5	1·7	7·3	1·6	7·0
12	1·5	5·6	0·6	6·0	0·6	5·6	0·6	5·6
13	1·0	5·8	1·4	5·8	1·3	6·5	1·2	5·8
14	0·6	6·7	...	...	0·6	6·5	0·8	6·5
15	0·2	5·6	0·4	6·0	0·2	6·0	0·2	5·6
16	0·2	6·0	0·4	6·0	0·2	6·0	0·5	7·0
17	1·1	6·7	1·6	7·3	1·5	6·5	0·9	7·0
18	1·3	7·0	0·5	7·5	0·6	6·0	0·5	7·5
19	0·9	6·5	1·8	7·0	2·4	7·5	2·5	7·0
20	1·7	7·3	2·2	6·0	1·5	6·3	1·4	6·0
21	1·4	5·8	1·8	5·8	0·4	5·6	0·2	5·4
22	0·4	5·6	0·2	4·7	0·2	4·8	0·3	4·5
23	0·2	5·6	0·2	5·2	0·2	5·6	0·5	7·0
24	1·4	7·0	0·6	5·6	0·2	5·2	0·4	6·0
25	1·0	6·0	1·9	7·5	2·2	6·7	2·0	6·7
26	1·8	6·7	2·0	5·2	2·0	6·0	1·7	6·7
27	1·8	6·0	1·7	6·7	1·6	7·0	1·2	6·3
28	1·3	6·5	1·0	6·3	1·0	6·0	1·0	6·3
Mean	1·3	6·2	1·3	6·2	1·2	6·1	1·3	6·3
Mean for Days.	A = 1·3μ; Tρ = 6·2s.							

Month	MARCH							
Hour G.M.T.	0h.		6h.		12h.		18h.	
	A.	Tρ	A.	Tρ	A.	Tρ	A.	Tρ
Day	μ	s	μ	s	μ	s	μ	s
1	1·0	6·3	0·9	6·5	0·8	6·5	1·3	7·0
2	2·5	8·0	3·0	8·0	1·5	7·7	1·8	7·0
3	1·7	7·5	2·6	6·7	1·8	7·0	3·4	7·5
4	2·5	7·5	1·7	7·3	1·9	7·3	1·8	7·0
5	1·7	6·7	1·6	7·0	2·0	6·7	2·8	8·0
6	3·7	7·7	2·5	7·5	1·7	7·3	3·4	7·0
7	1·5	6·5	1·6	5·0	1·9	5·6	1·3	5·6
8	1·2	5·0	0·5	5·0	0·5	5·0	0·5	4·7
9	0·5	4·8	0·7	5·2	0·4	5·6	0·4	5·6
10	1·8	5·0	1·7	5·4	1·5	5·4	1·7	6·3
11	1·9	6·3	1·3	5·2	2·8	5·0	2·2	7·5
12	3·0	7·0	3·0	8·0	3·2	8·3	4·7	8·7
13	3·7	9·0	3·0	9·3	2·0	8·0	1·8	6·0
14	1·4	7·5	1·8	5·8	2·0	6·0	2·5	4·7
15	3·9	5·0	3·6	5·6	3·8	7·5	4·5	7·7
16	4·6	7·5	4·3	8·0	3·4	7·7	3·8	7·0
17	5·5	7·0	6·3	7·5	5·5	6·7	4·3	8·3
18	4·9	8·0	3·1	8·0	3·0	6·0	2·2	6·7
19	1·6	5·8	2·7	7·5	2·2	8·7	2·1	5·6
20	1·5	6·3	2·1	5·6	2·3	6·3	1·5	5·6
21	1·2	7·5	1·2	5·8	0·9	6·0	0·5	4·8
22	0·4	6·0	0·8	6·0	1·2	7·5	1·7	7·7
23	1·8	7·0	0·9	7·3	0·5	7·3	0·4	6·0
24	0·4	6·0	1·3	5·2	0·4	5·8	0·4	5·8
25	0·4	5·6	0·4	5·8	0·2	5·4	0·2	5·4
26	0·2	5·8	0·2	5·6	1·4	8·7	1·7	7·7
27	2·0	8·0	1·7	7·5	0·9	7·3	1·7	7·7
28	1·3	6·5	1·5	6·7	1·4	7·0	1·8	7·0
29	1·7	6·7	1·3	6·5	1·0	6·3	0·6	5·8
30	0·8	6·5	0·5	4·7	0·3	4·0	0·3	4·3
31	0·4	6·3	0·7	4·8	0·3	4·3	0·3	4·1
Mean	2·0	6·7	1·9	6·5	1·7	6·6	1·9	6·5
Mean for Days.	A = 1·9μ; Tρ = 6·6s.							

Month	APRIL							
Hour G.M.T.	0h.		6h.		12h.		18h.	
	A.	Tρ	A.	Tρ	A.	Tρ	A.	Tρ
Day	μ	s.	μ	s.	μ	s.	μ	s.
1	0·6	4·0	0·6	4·1	0·3	4·0	0·2	4·7
2	0·3	4·3	0·3	4·0	0·3	4·0	0·3	4·0
3	0·3	3·9	0·3	3·6	0·3	3·3	0·0	---
4	0·0	---	0·3	3·5	0·3	4·0	0·3	4·3
5	...	...	...	...	0·2	5·4	0·2	5·6
6	0·7	4·8	1·1	5·6	0·6	5·6	0·5	5·0
7	0·2	4·7	0·2	4·7	0·2	4·7	0·5	4·3
8	0·7	5·0	0·9	5·0	0·6	5·6	0·2	5·8
9	0·6	5·6	0·5	5·2	0·4	5·4	0·5	5·0
10	0·2	5·0	0·5	4·8	1·0	4·7	0·8	4·3
11	1·2	5·0	0·5	4·8	0·3	4·3	0·5	4·7
12	0·8	4·5	0·7	4·8	...	...	0·7	4·7
13	1·2	5·0	1·8	5·2	0·7	5·0	1·2	4·7
14	1·4	5·0	0·9	5·4	0·6	5·6	0·5	5·0
15	0·7	5·4	0·8	6·0	1·6	6·0	1·8	5·2
16	...	...	2·0	6·0	...	...	1·3	5·6
17	1·9	5·6	1·8	5·0	2·2	5·4	2·0	6·0
18	1·6	5·8	1·4	6·0	2·1	5·6	2·2	5·4
19	1·4	5·0	0·9	5·2	0·4	5·4	0·4	5·8
20	0·3	4·3	0·3	4·3	0·3	3·5	0·2	4·7
21	0·5	5·0	1·2	5·0	1·7	6·5	2·2	6·7
22	1·7	7·5	2·3	6·5	1·9	6·5	1·4	7·0
23	1·2	6·3	0·7	7·0	0·9	5·4	0·6	5·8
24	0·4	5·6	1·4	4·8	1·8	7·0	1·3	5·6
25	1·0	6·0	0·7	5·0	0·6	5·6	0·9	5·4
26	0·8	5·6	1·8	6·0	1·6	7·0	1·1	7·0
27	1·0	6·0	0·4	5·6	0·6	6·3	0·3	4·5
28	0·2	6·0	0·2	5·6	0·2	4·7	0·2	5·0
29	0·2	4·7	0·0	---	0·0	---	0·2	7·5
30	0·5	8·0	0·5	7·0	0·3	3·9	0·2	5·0
Mean	0·8	5·3	0·9	5·2	0·8	5·2	0·8	5·3
Mean for Days.	A = 0·8μ; Tρ = 5·3s.							

Month	MAY							
Hour G.M.T.	0h.		6h.		12h.		18h.	
	A.	Tρ	A.	Tρ	A.	Tρ	A.	Tρ
Day	μ	s.	μ	s.	μ	s.	μ	s.
1	1·0	6·0	0·8	6·3	1·3	7·0	0·9	7·0
2	1·8	7·0	1·8	6·7	2·1	7·0	2·5	7·5
3	2·0	7·5	1·7	7·3	0·5	7·0	0·9	6·7
4	1·2	7·5	...	...	0·6	6·0	0·6	6·5
5	0·9	7·0	0·2	7·0	0·5	4·8	0·8	6·0
6	1·1	7·0	0·7	4·7	1·3	4·3	1·1	5·2
7	1·6	6·0	0·9	5·0	1·3	6·7	1·6	6·0
8	1·4	7·0	1·2	5·0	0·6	5·8	0·7	5·0
9	0·6	5·6	0·7	7·5	1·0	6·3	1·0	6·3
10	0·6	6·0	0·4	5·6	0·2	5·0	0·4	5·4
11	0·2	5·8	...	...	0·2	5·0	0·2	5·6
12	0·4	6·0	0·4	6·5	0·2	6·0	0·2	6·0
13	0·4	5·6	0·2	6·0	0·6	6·3	0·6	6·0
14	0·6	6·0	0·8	5·8	0·2	6·0	0·5	5·2
15	0·4	5·8	0·4	5·4	0·2	4·7	0·3	4·3
16	0·2	4·7	0·6	3·9	0·6	4·1	0·6	4·0
17	0·3	3·9	0·5	5·2	0·2	5·2	0·2	5·6
18	0·4	5·6	0·5	5·0	0·3	4·0	0·3	4·0
19	0·2	4·7	0·5	5·0	0·5	5·0	0·4	6·0
20	0·5	5·0	0·6	6·0	0·6	6·0	0·6	6·0
21	1·0	6·0	1·0	6·3	0·8	6·0	1·1	5·4
22	1·1	5·4	0·8	6·0	0·2	4·8	0·2	4·8
23	0·2	5·6	0·2	4·8	0·2	5·2	0·2	5·0
24	0·3	4·5	0·3	4·3	0·0	---	0·2	4·7
25	0·2	5·0	0·2	6·0	0·0	---	0·0	---
26	0·0	---	0·0	---	0·3	4·0	0·3	4·0
27	0·3	3·7	0·3	4·5	0·3	3·7	0·0	---
28	0·2	4·7	0·2	4·8	0·0	---	0·0	---
29	0·0	---	0·0	---	0·0	---	0·0	---
30	0·0	---	0·0	---	0·0	---	0·0	---
Mean	0·6	5·7	0·5	5·6	0·5	5·4	0·5	5·5
Mean for Days.	A = 0·5μ; Tρ = 5·5s.							

Month	JUNE							
Hour G.M.T.	0h.		6h.		12h.		18h.	
	A.	Tρ	A.	Tρ	A.	Tρ	A.	Tρ
Day	μ	s.	μ	s.	μ	s.	μ	s.
1	0·0	---	0·0	---	0·0	---	0·0	---
2	0·0	---	0·2	5·0	0·0	---	0·0	---
3	0·0	---	0·0	---	0·2	6·7	0·0	---
4	0·2	6·7	0·2	4·8	0·0	---	0·3	4·0
5	0·3	4·3	0·3	4·3	0·2	5·0	0·0	---
6	0·0	---	0·0	---	0·0	---	0·0	---
7	0·0	---	0·0	---	0·2	6·0	0·2	6·0
8	0·2	5·6	...	...	0·0	---	0·0	---
9	0·0	---	0·0	---	0·0	---	0·0	---
10	0·0	---	0·0	---	0·0	---	0·0	---
11	0·0	---	0·0	---	0·0	---	0·0	---
12	0·0	---	0·0	---	0·0	---	0·0	---
13	0·0	---	0·0	---	0·0	---	0·0	---
14	0·0	---	0·0	---	0·0	---	0·0	---
15	0·0	---	0·0	---	0·2	5·0	0·2	5·0
16	0·2	5·0	0·3	4·3	0·2	4·7	0·2	5·0
17	0·2	5·0	0·3	4·5	0·2	4·7	0·3	4·3
18	0·2	4·7	0·3	4·3	0·2	4·7	0·3	4·5
19	0·3	4·3	0·2	4·7	0·3	4·3	0·3	4·0
20	0·3	3·7	0·3	4·5	0·3	4·0	0·2	4·7
21	0·5	4·3	0·2	4·7	0·3	4·5	0·5	4·5
22	0·5	4·7	0·3	4·3	0·3	3·5	0·6	4·0
23	0·3	3·5	0·3	3·7	0·3	3·6	0·3	4·0
24	0·3	4·0	0·3	3·7	0·3	3·7	0·3	4·1
25	0·3	4·0	0·0	---	0·0	---	0·0	---
26	0·0	---	0·2	5·0	0·0	---	0·2	4·6
27	0·2	5·0	0·2	5·2	0·2	6·0	0·4	5·4
28	0·2	5·6	0·2	5·6	0·3	4·3	0·2	5·0
29	0·2	5·0	0·2	4·7	0·0	---	0·3	4·5
30	0·0	---	0·0	---	0·0	---	0·0	---
Mean	0·1	4·7	0·1	4·6	0·1	4·7	0·2	4·6
Mean for Days.	A = 0·1μ; Tρ = 4·7s.							

Note.- The Symbol ... indicates that microseisms were not measured, either by reason of occurrence of earthquakes or lack of record.

MICROSEISMS OF NORTH COMPONENT: AMPLITUDE (μ = ·001 mm.) AND PERIOD (seconds).
Derived from readings for the period of thiry minutes centring at the exact hours, Greenwich Mean Time.

547. KEW OBSERVATORY: 1954.

Month	JULY							
Hour G.M.T.	0h.		6h.		12h.		18h.	
	A.	Tρ	A.	Tρ	A.	Tρ	A.	Tρ
Day	μ	s	μ	s	μ	s	μ	s
1	0·0	---	0·0	---	0·0	---	0·3	4·3
2	0·2	5·0	0·2	5·0	0·0	---	0·2	4·7
3	0·0	---	0·0	---	0·0	---	0·0	---
4	0·0	---	0·0	---	0·0	---	0·0	---
5	0·2	5·0	0·2	5·0	0·0	---	0·2	5·2
6	0·2	5·2	0·0	---	0·0	---	0·0	---
7	...	...	0·0	---	0.0	---	...	...
8	...	...	...	...	...	...	...	...
9	...	...	...	...	...	...	...	...
10	...	...	...	...	...	...	...	...
11	...	...	...	...	...	...	...	...
12	...	...	...	...	0·0	---	0·0	---
13	0·0	---	0·0	---	0·0	---	0·0	---
14	0·0	---	0·0	---	0·0	---	0·0	---
15	0·0	---	0·0	---	0·0	---	0·0	---
16	0·0	---	0·0	---	0·0	---	0·0	---
17	0·0	---	0·0	---	0·0	---	0·0	---
18	0·0	---	0·0	---	0·0	---	0·0	---
19	0·0	---	0·0	---	0·0	---	0·0	---
20	0·0	---	0·0	---	0·2	4·7	0·2	4·7
21	0·3	4·5	0·3	3·9	0·0	---	0·2	5·0
22	0·2	5·4	0·2	4·7	0·0	---	0·0	---
23	0·0	---	0·0	---	0·0	---	0·0	---
24	0·0	---	0·0	---	0·0	---	0·0	---
25	0·0	---	0·0	---	0·2	4·7	0·2	5·4
26	0·2	5·4	0·2	4·7	0·2	5·2	0·2	4·7
27	0·3	3·6	0·3	4·0	0·2	4·7	0·3	3·7
28	0·2	5·0	0·3	4·3	0·3	3·7	0·3	3·5
29	0·3	3·5	0·3	4·0	0·2	4·7	0·4	3·2
30	0·4	3·2	0·3	3·5	0·2	4·7	0·3	4·0
31	0·2	4·7	0·2	4·7	0·3	4·3	0·3	4·0
Mean	0·1	4·6	0·1	4·4	0·1	4·6	0·1	4·4
Mean for day.	A = 0·1μ; Tρ = 4·5s.							

Month	AUGUST							
Hour G.M.T.	0h.		6h.		12h.		18h.	
	A.	Tρ	A.	Tρ	A.	Tρ	A.	Tρ
Day	μ	s	μ	s	μ	s	μ	s
1	0·2	4·7	0·3	4·3	0·3	4·3	0·3	3·9
2	0·3	3·9	0·3	3·9	0·3	4·0	0·3	4·3
3	0·3	4·3	0·3	3·7	0·3	4·5	0·3	4·0
4	0·2	4·7	0·2	4·7	0·2	4·7	0·0	---
5	0·3	4·3	0·3	4·3	0·3	4·0	C·0	---
6	0·3	3·6	0·3	4·1	0·3	3·6	0·3	3·5
7	0·0	---	0·0	---	0·0	---	0·0	---
8	0·0	---	0·0	---	0·0	---	0·0	---
9	0·0	---	0·2	4·8	0·9	6·7	0·4	6·5
10	0·2	5·2	0·2	5·8	0·3	4·5	0·3	4·3
11	0·2	4·8	0·3	3·5	0·3	3·9	0·3	4·3
12	0·2	4·7	0·3	4·5	0·3	4·3	0·3	4·1
13	0·2	4·7	0·3	4·3	0·0	---	0·3	4·3
14	0·3	4·3	0·3	4·3	0·0	---	0·0	---
15	0·0	---	0·0	---	0·0	---	0·0	---
16	0·0	---	0·0	---	0·2	4·7	0·2	5·0
17	0·2	4·7	0·2	4·7	0·0	---	0·0	---
18	0·0	---	0·0	---	0·0	---	0·3	4·3
19	0·2	5·6	1·8	8·0	2·8	8·0	2·0	7·7
20	1·7	7·3	1·4	7·0	0·4	5·8	0·5	4·8
21	0·6	4·0	0·6	4·0	0·3	3·6	0·3	4·0
22	0·2	5·6	0·2	5·6	0·2	4·7	0·2	4·7
23	0·2	5·0	0·2	5·0	0·2	5·0	0·2	4·8
24	0·2	5·0	0·2	4·7	0·0	---	0·0	---
25	0·0	---	0·0	---	0·0	---	0·0	---
26	0·0	---	0·0	---	0·3	4·0	0·3	4·5
27	0·2	6·0	0·2	6·0	0·2	5·4	0·2	6·0
28	0·2	5·8	0·2	5·4	0·2	5·0	0·2	5·0
29	0·4	6·0	0·5	4·5	0·6	3·6	1·0	4·5
30	0·8	5·6	0·7	4·8	0·5	5·2	0·5	4·7
31	0·5	5·0	0·4	5·4	0·6	6·0	0·4	6·0
Mean	0·3	5·0	0·3	4·9	0·3	4·8	0·3	4·8
Mean for day.	A = 0·3μ; Tρ = 4·9s.							

Month	SEPTEMBER							
Hour G.M.T.	0h.		6h.		12h.		18h.	
	A.	Tρ	A.	Tρ	A.	Tρ	A.	Tρ
Day	μ	s	μ	s	μ	s	μ	s
1	0·4	5·4	0·5	5·2	0·2	5·2	0·2	5·0
2	0·2	5·0	0·5	5·0	0·2	5·0	0·3	4·3
3	0·3	3·3	0·6	3·7	0·4	6·0	0·8	6·0
4	1·4	6·0	0·5	4·7	0·4	5·6	0·5	5·0
5	0·2	5·6	0·2	5·0	0·2	4·7	0·2	5·0
6	0·2	5·0	0·3	3·7	...	...	0·3	4·0
7	0·6	4·0	0·3	4·5	0·7	3·9	0·3	4·5
8	0·3	4·0	0·3	4·0	0·3	4·0	0·3	4·0
9	0·3	4·3	0·3	4·1	0·2	4·7	0·0	---
10	0·2	4·7	0·3	4·3	0·3	4·3	0·2	5·4
11	0·9	6·5	1·8	7·0	1·3	7·0	0·6	6·0
12	1·0	5·8	0·7	5·4	0·6	5·6	0·5	5·0
13	0·5	5·0	0·5	5·0	0·2	5·0	0·4	5·8
14	0·4	5·8	0·4	5·8	0·2	6·0	0·2	5·0
15	0·2	5·0	0·2	5·0	0·2	4·8	0·0	---
16	0·0	---	0·0	---	0·0	---	0·3	4·0
17	0·3	4·3	0·5	4·3	0·3	4·3	0·5	4·7
18	0·3	4·5	0·2	4·7	0·3	4·0	0·2	4·8
19	0·2	4·7	0·2	4·7	0·2	5·0	0·2	4·7
20	0·2	5·0	0·5	5·0	0·4	5·6	0·5	5·2
21	0·4	5·6	0·4	5·4	0·7	5·0	0·4	6·0
22	0·2	6·0	0·2	5·0	0·2	4·7	0·3	3·9
23	0·3	4·0	2·0	4·0	0·7	5·0	0·3	4·0
24	0·6	3·5	0·3	4·0	0·3	4·3	0·3	3·5
25	0·5	4·7	0·3	4·0	0·2	5·4	0·2	4·7
26	0·5	5·0	0·6	6·0	0·9	7·5	1·4	7·5
27	1·5	6·5	0·6	6·5	0·8	5·8	0·8	5·6
28	0·4	6·0	0·7	5·0	0·7	5·2	0·5	5·0
29	0·4	6·0	0·4	6·0	0·6	5·6	0·6	6·0
30	0·5	4·5	0·7	5·4	0·2	5·4	0·2	5·2
31								
Mean	0·5	5·0	0·5	4·9	0·4	5·2	0·4	5·0
Mean for day.	A = 0·5μ; Tρ = 5·0s.							

Month	OCTOBER							
Hour G.M.T.	0h.		6h.		12h.		18h.	
	A.	Tρ	A.	Tρ	A.	Tρ	A.	Tρ
Day	μ	s	μ	s	μ	s	μ	s
1	0·3	4·3	0·2	4·7	0·2	4·7	0·3	4·7
2	0·3	4·3	0·3	4·1	0·3	4·3	0·3	4·3
3	0·3	3·9	0·3	4·3	0·3	4·0	0·2	5·2
4	0·4	6·7	1·9	6·3	2·0	7·0	2·0	7·0
5	1·8	7·0	1·9	6·7	0·7	5·2	1·0	6·0
6	0·8	4·3	0·5	5·0	0·5	4·7	0·7	5·4
7	0·6	6·3	1·4	5·8	0·6	5·6	1·5	6·7
8	1·7	7·3	2·0	7·0	1·7	6·5	1·5	6·5
9	1·2	6·0	0·7	5·4	0·6	6·0	0·4	6·0
10	0·5	5·2	0·5	5·2	0·5	5·2	0·4	5·6
11	0·4	6·0	0·6	5·6	0·7	7·3	0·4	6·5
12	0·4	6·0	0·4	6·3	0·2	4·7	0·3	4·5
13	0·3	4·5	0·3	4·5	0·2	5·4	0·2	5·2
14	0·2	4·8	0·3	4·0	0·3	4·5	0·2	4·7
15	0·8	5·6	1·8	7·0	1·8	7·0	1·4	6·3
16	1·0	6·0	0·9	5·0	0·5	4·5	0·5	5·0
17	0·4	5·8	0·2	5·0	0·3	4·5	0·2	4·8
18	0·2	5·0	0·2	5·4	0·2	4·7	0·2	5·0
19	0·6	6·0	0·6	5·8	0·5	5·8	0·4	6·0
20	0·4	5·4	0·3	4·0	0·2	4·7	0·2	5·0
21	0·2	5·0	0·2	4·7	0·6	4·0	1·6	5·2
22	2·0	5·4	1·8	5·4	1·5	6·3	2·2	5·4
23	1·8	5·2	1·1	5·4	0·4	6·0	0·7	5·0
24	0·7	5·4	0·6	5·8	0·5	5·2	2·6	5·0
25	3·3	5·4	4·4	6·0	2·8	5·8	2·4	5·4
26	2·9	5·2	2·4	4·8	2·3	5·2	...	...
27	1·9	6·7	1·7	6·5	2·0	6·0	2·0	6·0
28	2·2	6·0	1·9	6·5	1·5	6·7	2·0	6·0
29	1·4	7·0	1·9	6·7	1·6	7·0	1·6	7·0
30	0·8	5·6	0·4	6·0	0·2	6·0	0·4	6·0
31	0·4	5·6	0·6	6·3	0·9	5·0	0·9	7·5
Mean	1·0	5·6	1·0	5·5	0·9	5·5	1·0	5·6
Mean for Day.	A = 1·0μ; Tρ= 5·5s.							

Month	NOVEMBER							
Hour G.M.T.	0h.		6h.		12h.		18h.	
	A.	Tρ	A.	Tρ	A.	Tρ	A.	Tρ
Day	μ	s	μ	s	μ	s	μ	s
1	0·4	6·7	0·6	6·3	0·2	6·0	0·6	6·0
2	0·6	6·0	0·6	6·0	0·2	6·3	0·7	7·0
3	0·8	6·0	0·8	5·6	0·5	5·0	0·6	6·0
4	0·7	7·0	0·6	4·0	0·6	3·7	0·3	4·0
5	0·3	4·0	0·8	4·3	0·3	4·0	0·3	3·7
6	0·3	3·7	0·3	3·7	0·3	3·3	0·3	4·3
7	0·3	4·0	0·5	5·0	0·2	4·7	0·2	5·4
8	0·2	5·4	0·2	5·4	0·2	4·7	0·3	3·6
9	0·6	4·0	0·3	4·3	0·5	4·5	1·1	4·3
10	1·2	5·0	1·2	4·8	0·7	4·7	0·7	4·7
11	0·5	4·7	0·4	5·6	0·3	3·7	0·2	6·0
12	0·2	4·8	0·3	4·1	0·2	5·0	0·2	5·0
13	0·2	6·0	0·2	4·8	1·7	7·3	2·1	7·5
14	1·9	7·3	1·6	7·0	1·5	6·7	1·5	6·3
15	1·4	6·0	0·9	6·7	0·3	3·7	0·2	4·7
16	0·3	4·8	0·4	3·5	0·3	3·6	0·3	4·0
17	0·3	4·0	0·3	3·9	0·0	---	0·2	7·0
18	0·4	6·0	0·5	7·0	0·3	7·5	0·2	6·7
19	0·2	7·0	0·2	6·0	0·4	6·0	1·1	5·6
20	1·2	7·7	1·7	7·5	1·7	7·7	1·6	7·3
21	1·7	7·3	2·3	7·0	1·7	7·5	1·7	7·5
22	1·7	7·7	1·7	7·5	1·4	7·0	0·3	7·5
23	1·4	7·0	0·4	6·7	0·4	6·5	0·2	5·6
24	0·2	6·5	0·4	6·3	0·6	6·7	0·9	7·0
25	0·8	6·3	1·0	6·3	1·9	6·7	1·7	6·5
26	0·8	6·0	1·0	6·3	1·0	6·0	0·4	6·3
27	0·4	6·0	0·7	6·3	0·2	5·6	0·6	6·5
28	0·8	6·0	0·4	5·6	0·8	6·5	0·9	6·7
29	1·0	6·0	0·8	5·8	0·6	6·0	0·6	6·0
30	0·6	5·6	0·9	5·2	0·9	5·4	0·5	5·2
31								
Mean	0·7	5·8	0·7	5·6	0·7	5·6	0·7	5·8
Mean for Day.	A = 0·7μ ; Tρ= 5·7s.							

Month	DECEMBER							
Hour G.M.T.	0h.		6h.		12h.		18h.	
	A.	Tρ	A.	Tρ	A.	Tρ	A.	Tρ
Day	μ	s	μ	s	μ	s	μ	s
1	0·6	5·8	1·0	6·0	1·7	6·5	1·8	6·0
2	1·4	6·3	1·1	6·7	1·7	5·6	2·0	5·4
3	2·1	5·0	1·4	5·8	2·1	5·0	1·7	4·8
4	1·3	4·3	1·0	4·5	2·2	4·8	2·2	4·7
5	2·7	5·2	4·2	6·0	3·2	6·5	2·3	5·6
6	1·9	5·4	2·2	4·7	1·5	5·4	2·0	4·7
7	1·1	5·2	0·7	5·2	0·7	4·7	0·7	4·7
8	0·5	5·0	0·5	5·0	0·6	4·1	1·4	5·0
9	1·1	5·2	1·6	8·3	3·2	8·3	3·0	8·7
10	3·8	8·0	2·7	8·3	2·2	8·0	1·7	7·7
11	2·2	8·0	1·7	7·5	3·2	8·0	2·2	8·0
12	1·9	7·7	2·1	8·7	3·0	8·7	3·1	8·3
13	2·3	8·7	2·1	8·3	1·7	8·0	1·5	6·5
14	0·9	6·5	1·7	7·7	1·5	8·0	1·6	8·3
15	1·9	6·7	1·7	6·5	3·0	8·0	2·9	7·5
16	1·9	7·5	2·0	7·7	1·7	8·0	1·6	7·0
17	0·9	7·0	1·4	6·0	1·4	6·3	1·0	6·0
18	1·4	5·0	1·8	5·2	1·9	6·5	3·9	8·7
19	3·1	8·3	3·0	8·0	3·2	8·3	2·5	8·0
20	1·7	7·5	1·6	7·0	0·7	6·7	0·7	6·7
21	0·6	5·6	0·6	6·5	0·4	5·4	0·4	6·7
22	0·9	6·5	1·5	6·5	1·7	6·5	1·3	6·7
23	1·3	6·7	1·0	7·7	0·8	6·0	0·9	7·5
24	1·7	7·7	2·8	8·0	1·7	7·7	2·7	8·3
25	3·0	8·0	3·1	7·3	1·8	7·0	2·1	7·5
26	3·2	7·5	3·2	6·5	2·2	6·7	2·6	6·0
27	3·4	6·0	2·8	5·6	1·9	6·7	1·9	6·3
28	1·8	7·0	1·7	6·5	1·3	6·5	1·6	5·0
29	1·3	5·4	0·7	5·2	1·1	6·0	0·9	5·0
30	0·8	4·5	1·0	4·5	0·6	6·0	1·0	6·0
31	1·2	6·0	0·9	5·2	0·9	6·7	1·5	7·5
Mean	1·7	6·4	1·8	6·5	1·8	6·7	1·8	6·6
Mean for Day.	A = 1·8μ; Tρ= 6·5s.							

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