M.O. 400.
(Kew)

Air Ministry

METEOROLOGICAL OFFICE

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THE OBSERVATORIES' YEAR BOOK 1936

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

Published by the authority of the
METEOROLOGICAL COMMITTEE

LONDON
HIS MAJESTY'S STATIONERY OFFICE
1938

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. A general view of the Observatory building and the exposure lawn, an aerial photograph, a plan of the surrounding country and a site plan are to be found in the 1935 volume. The photographs were taken in 1935. For the early history of the Observa-

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 litres of air. The unit shade is therefore equivalent to 0·1mg/m³. When fog prevails the auxiliary tank is put out of action and the unit shade reverts to the value 0·32 mg/m³.

Special attention is 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; January 1, 1928; (retrospectively) August 1, 1930; January 1, 1931; June 1, 1931; and March 1, 1933.

During 1936 the highest estimate of pollution was 3·5 mg/m³, this value occurring on January 12th from 20h to 21h. There were 33 days on which the pollution reached 1·0 mg/m³; the number of hours credited with 1·0 mg/m³. or more being 190. The months in which these days and hours occurred are given in the accompanying table.

	days	hours
Jan.	9	82
Feb.	11	62
Mar.	4	16
Apr.	2	4
Oct.	1	1
Nov.	5	20
Dec.	1	5
Year	33	190

Table 544 gives for each month mean hourly values derived from all the days for which complete records were obtained. There were 365 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/m³

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*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

Kew Observatory. Atmospheric Pollution. Mean values mg/m³

	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Jan.-Feb.	·29	·25	·22	·40	·18	·24	·32	·25	·44	·19	·39
Mar.-Apr.	·30	·10	·18	·27	·13	·15	·26	·17	·19	·15	·19
May-June	·08	·07	·09	·05	·05	·06	·09	·10	·10	·05	·09
July-Aug.	·07	·05	·05	·06	·07	·07	·05	·08	·08	·05	·04
Sept.-Oct.	·19	·17	·15	·10	·13	·25	·15	·21	·10	·07	·13
Nov.-Dec.	·26	·21	·25	·21	·29	·33	·29	·43	·30	·27	·21
Year	·20	·14	·15	·18	·14	·18	·19	·21	·20	·13	·17

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 1936 the principal maximum was in the evening from January to 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.

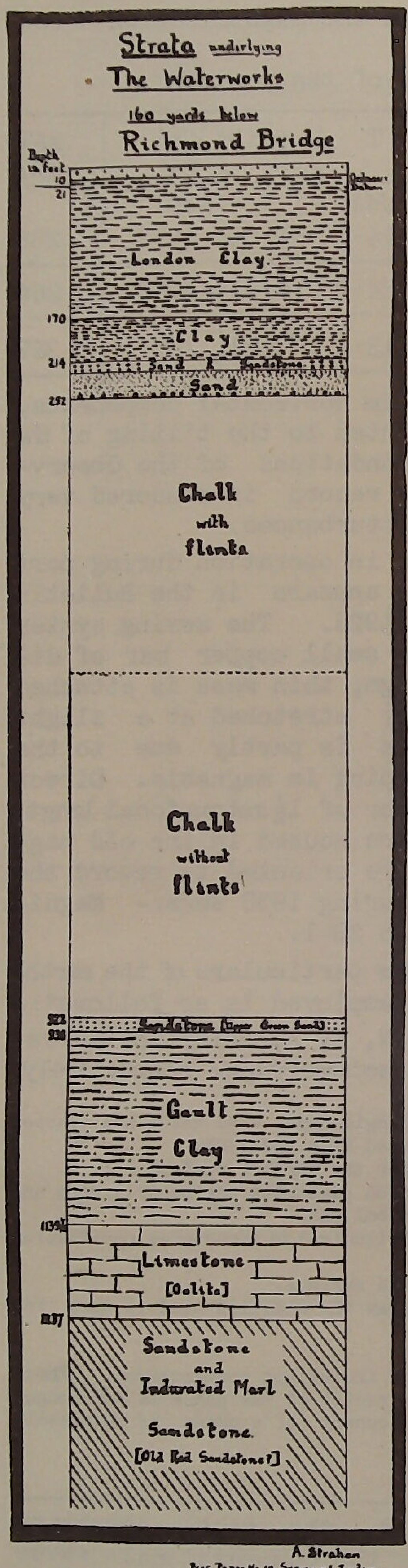
SEISMOLOGY

Notes on Instruments.- The standard 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 17, 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 $0{\cdot}2^{\circ}$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 séismographs, 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



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 Seismometrie (Leipzig, 1914), or to G.W. Walker's "Modern Seismology" (London, 1913).††

Timing is controlled by a Synchronome clock (Hope-Jones No.1901) which is rated daily from 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 Galitzin seismographs were not standardised during 1936, and it has been assumed that the constants had not changed from the values determined in September, 1934.

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

*"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

"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	Date of Standardisation	T	μ^2	$\frac{kA}{\pi\ell}$	$\frac{kAT}{4\pi\ell}$
	mm.	sec.		sec.		$sec.^{-1}$	
N	118	24·68	Sept. 5, 1934	24·5	+0·01	46·7	286
E	118	24·80	Sept. 6, 1934	24·8	-0·01	42·6	264
Z	360	13·04	Sept.11, 1934	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.

A pair of Wood-Anderson seismographs was also in operation during part of 1936. A complete description of this instrument appears in the Bulletin of the Seismological Society of America, XV/I Mar. 1925. The moving system is very small, that of the Kew type consisting of a small copper bar of dimensions 25·4 mm x 4·8 mm x 1·6 mm and weighing 1·5 gm; this mass is attached to the side of a tungsten wire (·025 mm in diameter) stretched at a slight inclination to the vertical. The controlling force is partly due to the torsion of the wire and partly to gravity. The damping is magnetic. Direct optical recording is employed, a small concave mirror of 1½ metres focal length being fitted to the copper bar. The instruments are housed in the old magnetograph room beside the Galitzin pendulums, and are oriented to record the N-S and E-W components. The approximate constants during 1936 were:- Magnification, 1500; Free period 2 seconds; Damping ratio 20-1.

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-west and vertical seismographs respectively.

P is the normal first phase (longitudinal waves). PKP is a longitudinal wave which has passed through the earth's central core, and PcP one which has been reflected from the 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.

*The notation was emended 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, taken from the Georgetown bulletins, is now used in the International Seismological Summary. 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 (1 =0·001 mm.), of the components of the true displacement of the ground from the position of rest. Displacement 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 records

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

in these formulae T_p is the period of the earth wave considered, T, T_1 and μ are as defined on p.369.

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

Δ is the distance in kilometres of the epicentre measured along the arc of a great circle. For earthquakes of normal focal depth located within 10,000 km. of Kew, the distance is generally derived from the interval between P and S by the table, due to Zeissig, given in Klotz's "Seismological Tables" (Publication of the Dominion Observatory, Ottawa, Vol. III, No.2). For greater distances other phases are considered and Δ is obtained from the travel curves given by Gutenberg.* In the case of deep focus shocks both Δ and the depth of focus are determined from the Brunner diagram†. 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 letters 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 256. The phases being sufficiently well defined, estimates of the epicentral distances were obtained for 72 shocks, whilst in 6 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 8 earthquakes which produced a disturbance at the observatory with an amplitude exceeding 0·1mm. in a horizontal component. These earthquakes originated, in the East Indies (April 1st), in the Solomon Islands (April 19th), in the Himalayas (May 27th), in the Pacific south of Kamtchatka (June 30th), in the Pacific off Northern Chile (July 13th), in Formosa (August 22nd), in Japan (November 2nd) and in the Bering Sea (November 30th).

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	Shocks 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
1935	232	72	10	13
1936	256	72	6	8

*Handbuch der Geophysik, Berlin, 1929, p.212
†The Brunner Focal Depth-Time-Distance Chart, G.T. Brunner and J.B. Macelwane, New York, 1935

__Microseisms__.- The routine tabulations of microseisms recorded at Kew from 1926 to 1934, and at Eskdalemuir from 1911 to 1925, were taken from the north-south component for each day at 0h, 6h, 12h and 18h. The results obtained from a comparison of the microseisms recorded by the three components during a complete year (1932) having shown* that the vertical is more reliable than either of the horizontal components for such tabulations, the vertical component was adopted from the beginning of 1935.

The advantages of the vertical component are:-

(a) The amplitude recorded does not depend upon the direction of travel of the waves.

(b) The effects of the local geological structure are smaller.

(c) For oscillations with the period of microseisms the vertical Galitzin seismograph has, with the tuning adopted at Kew, the higher magnification.

(d) Freedom from wind disturbance.

The hours of tabulation are the same as for the north-south component in earlier years. 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 obtained 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	6·0	5·7
5	6·0	5·8	5·6	3·4	5·2	5·0	4·8	4·6
6	5·0	4·8	4·7	4·5	4·3	4·2	4·0	3·8
7	4·3	4·1	4·0	3·9	3·7	3·6	3·4	3·3
8	3·7	3·6	3·5	3·4	3·3	3·1	3·0	2·9
9	3·3	3·2	3·1	3·0	2·9	2·8	2·7	2·6
10	3·0	2·9	2·8	2·7	2·6	2·5	2·4	2·3
11	2·7	2·6	2·5	2·5	2·4	2·3	2·2	2·1
12	2·5	2·4	2·3	2·3	2·2	2·1	2·0	1·9

On the occasions of failure of the Z record, gaps in the tabulations (Table ... ,) have been filled in by interpolation or from measurements of the microseisms recorded by the horizontal seismographs. By use of the data of 1932 (Geophysical Memoir No. 66) it was found that there was a linear relation between the ratio of horizontal to vertical amplitude and the period of the oscillations, the ratio varying from 1·2 for microseisms of period 4½sec. to 0·85 for those of period 9 sec. Allowance is accordingly made for the difference between the amplitudes recorded by the horizontal and vertical components. Values obtained by interpolation or from the horizontal seismograms are bracketed in the tables.

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* A.W.Lee, London, Met. Off., Geophys. Mem., 7, No.66, 1935

The mean values of amplitude and period, together with the maximum amplitudes, for each month of 1936 are given below:-

Kew Observatory. Microseisms of Vertical Component. 1936

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Mean Period (sec)	5·9	6·0	5·2	5·6	5·2	4·8	4·6	4·7	5·1	6·1	6·7	6·7	5·6
Mean Amplitude (μ)	2·1	2·4	0·7	0·9	0·5	0·3	0·4	0·3	0·6	1·5	1·7	2·7	1·2
Maximum Amplitude (μ)	7·7	8·5	4·3	2·6	1·5	0·9	1·7	1·2	2·7	5·1	5·5	8·8	8·8
Maximum Amplitude; (day and hour)	10:12	11:0	5:12	25:12	15:12	15:18	24:0	18:12	8:0	26:0	30:18	20:18	Dec. 20:18

The greatest amplitude of the year was 8·8μ on 20th December at 18h. Amplitudes of 5μ or more were recorded of the following dates:- January, 10th and 11th; February, 9th, 10th and 11th; October, 26th; November, 30th; December, 4th, 16th, 17th, 18th, 20th and 21st.

For comparison, the following table gives for Kew the monthly and annual means of amplitude and period of the north-south component microseisms from 1926 to 1934, and of the vertical component microseisms from 1935 to 1936.

Kew Observatory. Microseisms, 1926-36

Component	Years			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
N-S	1926-34	Mean Period	(sec).	6·5	6·1	5·9	5·4	4·9	4·7	4·4	4·6	5·0	5·4	6·0	6·4	5·5
		Mean Amplitude (μ)		2·3	1·6	1·4	0·9	0·5	0·4	0·3	0·5	0·6	1·1	1·6	2·0	1·1
Z	1935-36	Mean Period	(sec).	6·2	6·2	5·8	5·4	5·1	4·8	4·8	4·8	5·1	6·1	6·6	6·4	5·6
		Mean Amplitude (μ)		1·9	2·5	1·0	0·8	0·4	0·3	0·3	0·2	0·6	1·5	1·8	2·3	1·1

The means of amplitude and period for the several hours are given in the following table. The values entered are those for the vertical component during 1936, together with averages for the vertical component from 1935 to 1936 and for the north-south component from 1926 to 1934

Component	Years		0h.	6h.	12h.	18h.
Z	1936	Amplitude (μ)	1·15	1·18	1·20	1·18
		Period (sec)	5·56	5·57	5·56	5·56
Z	1935-36	Amplitude (μ)	1·12	1·11	1·13	1·13
		Period (sec)	5·60	5·61	5·60	5·62
N-S	1926-34	Amplitude (μ)	1·10	1·09	1·06	1·08
		Period (sec)	5·46	5·45	5·42	5·45

It may be noticed that there is no regular diurnal variation in the amplitude or period of the microseisms when recorded by frictionless seismographs.

The results obtained from the special investigation for 1932 showed that, within the accuracy of the measurements, the annual means of amplitude and period were equal for the three components. Accordingly the value of the data for determining secular variations was not impaired by the change from the north-south to the vertical component. The annual means of amplitude and period from 1926 to 1936 are:-

	N-S Component								Z Component	
Year	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Mean amplitude (μ)	1·1	1·3	1·3	1·3	1·1	0·9	0·9	0·8	0·9	1·1	1·2
Mean period (sec)	5·5	5·4	5·5	5·3	5·4	5·3	5·6	5·5	5·6	5·7	5·6

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 **1936**

Date	Compt.	Phase	G.M.T.	Period	Amplitude	Δ	Remarks
Jan.			h. m. s.	s.	μ	km.	
2	NE	eL	0 48	...	...	...	Confused by micro-
	Z	eL	0 50	...	...	...	seisms.
	E	M	49 55	29	− 6	...	North-West of Spitz-bergen.
		F	1 20	...	...	...	81° N., 7° E. (U.R.S.S.)
2	NE	eL	18 27	...	...	...	New Guinea.
	Z	eL	35	...	...	...	1° S., 134° E.
		F	55	...	...	...	(Manila.)
2/3	NE	i(S)	22 59 6	...	...	...	No " Z " record.
	NE	e	23 0 52	...	...	...	Sumatra.
	NE	eL	16	...	...	...	1° N., 98° E.
	N	M	21 15	36	+20	...	(Strasbourg.)
	E	M	39 31	19	+14	...	
		F	1 15	...	...	...	
13	—	—	10 12 to	...	...	...	No records.
			12 36	...	...	...	
14	N	e	6 5 37	...	...	...	Confused by micro-
	NE	i	11 55	...	...	...	seisms.
	E	i	15 58	...	...	...	
	NE	L	22	...	...	...	
	E	M	26 20	44	−62	...	
	N	M	26 42	33	−15	...	
	Z	L	29	...	...	...	
	E	M	30 17	23	−21	...	
	N	M	34 18	24	−20	...	
	Z	M	39 6	19	+23	...	
		F	8 0	...	...	...	
14	—	—	10 31 to	...	...	...	No records.
			16 36	...	...	...	
14	Z	i(PKP)	18 0 46	...	...	...	New Hebrides.
	NE	eL	50	...	...	...	16° S., 165° E.
	Z	eL	58	...	...	...	(Wellington.)
	N	M	19 11 49	18	+ 6	...	
		F	20 20	...	...	...	
15	—	—	10 16 to	...	...	...	No records.
			12 34	...	...	...	
15	—	—	13 40 to	...	...	...	No records.
			15 48	...	...	...	
15	NE	eL	16 1	...	...	...	Loyalty Islands.
	Z	eL	6	...	...	...	21° S., 168° E.
		F	17 0	...	...	...	(Wellington).
19/20	ZE	e	23 48	...	...	...	No " N-S." record.
		F	0 5	...	...	...	
20	ZE	e	8 13 10	...	...	...	No " N-S." record.
	ZE	L	15	...	...	...	Libya.
	E	M	16 30	17	−13	...	31° N., 23° E.
	Z	M	18 27	11	− 8	...	(U.R.S.S.)
		F	40	...	...	...	
20	Z	ePP	17 15 1	...	...	12000	Confused by wind and
	NE	eSKS	21 30	...	...	...	microseisms.
	NE	i	21 36	...	...	...	Felt in eastern and
	NE	L	46	...	...	...	southern Mindanao.
	Z	L	51	...	...	...	6° N., 129° E.
	N	M	58 16	26	−41	...	(Apia.)
	E	M	58 48	26	−30	...	
	Z	M	59 7	28	−41	...	
		F	18 35	...	...	...	
22		e	16 52	...	...	...	
		F	17 25	...	...	...	
27	ZNE	eL	16 19	...	...	...	Confused by micro-
		F	45	...	...	...	seisms.
27	NE	eL	20 0	...	...	...	Confused by micro-
	Z	eL	6	...	...	...	seisms.
		F	25	...	...	...	Great Altai Mountains.
							47° N., 94° E. (U.R.S.S.)
Feb. 7	Z	iPKP	1 7 47	...	...	16000	East of Tonga Islands.
	ZNE	eL	2 0	...	...	...	19° S., 170° W.
	N	M	8 48	22	+ 3	...	(U.R.S.S.)
		F	3 15	...	...	...	

Date	Compt.	Phase	G.M.T.	Period	Amplitude	Δ	Remarks
Feb.			h. m. s.	s.	μ	km.	
7	ZNE	eS	9 17 1	...	...	...	Destructive in Kansu,
	NE	eSS	21 31	...	...	...	China.
	E	iSSS	24 37	...	...	...	36° N., 102° E.
	ZNE	i	24 59	...	...	...	(Strasbourg.)
	N	i	25 7	...	...	...	
	ZNE	eL	28	...	...	...	
	N	M	39 44	22	−51	..	
	Z	M	41 4	18	+37	...	
	E	M	43 36	18	−42	...	
		F	11 5	...	...	...	
8	NE	eL	13 14	...	...	...	Confused by wind and
	Z	eL	17	...	...	...	microseisms.
		F	40	...	...	...	New Guinea.
							7° S., 140° E. (U.R.S.S.)
12	ZN	eP	11 2 45	...	...	...	Confused by micro-
	N	e	11 50	...	...	...	seisms.
	N	e	12 29	...	...	...	Mediterranean Sea,
	ZE	e	14 9	...	...	...	south-west of Crete.
		F	55	...	...	...	(Strasbourg.)
							No surface waves.
15	Z	e	13 5	...	...	13200	Commencement indefinite.
	ZNE	iPP	7 11	...	...	...	Banda Sea.
	ZE	ePPP	9 30	...	...	...	5° S., 133° E.
	ZNE	eSKS	12 42	...	...	...	(J.S.A.)
	NE	iSKKS	13 59	...	...	...	
	NE	iPS	16 53	...	...	...	
	Z	iSP	16 56	...	...	...	
	E	e	19 9	...	...	...	
	NE	eSS	24 1	...	...	...	
	NE	eL	36	...	...	...	
	Z	eL	41	...	...	...	
	E	M	55 29	21	−68	...	
	N	M	14 1 16	21	+83	...	
	Z	M	3 19	20	+56	...	
		eL_2	47	...	...	...	Via Antipodes.
	E	M	57 17	20	+13	...	
	Z	M	58 4	20	+13	...	
	N	M	58 19	19	+11	...	
		F	16 20	...	...	...	
16		e	14 36	...	...	...	Very small. Pacific
		F	40	...	...	...	Ocean, south-east of Japan.
							33° N., 143° E. (U.R.S.S.)
21	NE	eL	1 53	...	...	...	Felt in Osaka, Tokyo
	Z	eL	58	...	...	...	and vicinity.
	N	M	58 49	16	− 4	...	(Chiufeng.)
		F	2 20	...	...	...	34° N., 136° E. (U.R.S.S.)
21	NE	eL	7 2	...	...	...	Sze-Chwan, China.
	Z	eL	6	...	...	...	27° N., 102° E.
		F	30	...	...	...	(U.R.S.S.)
21	Z	e	17 18 28	...	...	...	Possibly not seismic.
	ZNE	e	28 12	...	...	...	Bismarck Archipelago.
	E	e	48 52	...	...	...	0°., 147° E.
	NE	L	59	...	...	...	(U.R.S.S.)
	Z	L	18 2	...	...	...	
	E	M	3 38	32	+23	...	
	Z	M	9 58	23	+16	...	
	N	M	10 55	24	+18	...	
		F	19 15	...	...	...	
22	Z	$iPKP_1$	15 52 8	...	...	19000	
	ZE	$iPKP_2$	53 34	...	...	...	By path of greater deviation.
	E	iSKKS	16 4 2	...	...	...	
	E	eSKSP	7 45	...	...	...	South of New Zealand.
	E	i	19 40	...	...	...	54° S., 165° E.
	N	i	19 44	...	...	...	(Wellington.)
	E	i	23 3	...	...	...	
	NE	iSSS	25 15	...	...	...	
	NE	L	42	...	...	...	
	Z	L	51	...	...	...	
	E	M	17 14 39	19	+36	...	
	N	M	14 46	19	−41	...	
	Z	M	15 33	19	+53	...	
		F	18 25	...	...	...	

Galitzin Seismographs, three components

546 KEW OBSERVATORY Lat. 51° 28′ 6″ N. Long. 0° 18′ 47″ W. Height above M.S.L. 5 metres **1936**

Date	Compt.	Phase	G.M.T.	Period	Amplitude	Δ	Remarks
			h. m. s.	s.	μ	km.	
Feb. 22	Z	ePKP	19 43 12	...	...	...	Repetition of preceding
	Z	e	50 6	...	...	...	shock.
	E	eSKKS	54 41	...	...	...	
	NE	eL	20 50	...	...	...	
	Z	eL	21 1	...	...	...	
	Z	M	5 2	24	+10	...	
		F	50	...	...	...	
27	NE	eL	11 6	...	...	...	Confused by micro-
	E	M	11 24	26	+ 9	...	seisms.
	Z	eL	13	...	...	...	New Guinea.
		F	35	...	...	...	3° S., 133° E.
							(J.S.A.)
28		e	3 41	...	...	...	
		F	4 0	...	...	...	
28	NE	eL	17 12	...	...	...	Java Sea.
	N	M	16 37	23	+ 6	...	5° S., 115° E.
	Z	eL	20	...	...	...	(U.R.S.S.)
		F	40	...	...	...	
Mar. 1	Z	e	11 16	...	...	...	Sea of Okhotsk.
	NE	eL	35	...	...	...	47° N., 148° E.
	Z	eL	42	...	...	...	(U.R.S.S.)
	N	M	48 36	18	+ 7	...	
	E	M	49 30	19	+ 8	...	
	Z	M	50 16	18	+ 6	...	
		F	12 55	...	...	...	
2	Z	iP	3 31 25	...	...	9030	Compression. Small
	Z	i	31 43	...	...	...	on N.-S. component.
	E	iS	41 37	...	...	...	Sea of Japan.
	NE	iSKS	41 45	...	...	...	43° N., 139° E.
	Z	eS_cS	41 59	...	...	...	(Strasbourg.)
	N	i	42 41	...	...	...	
	NE	eSS	47 15	...	...	...	
	N	eSSS	50 39	...	...	...	
	E	e	50 59	...	...	...	
	E	L	55	...	...	...	
	ZN	L	4 0	...	...	...	
	E	M	5 12	24	+55	...	
	N	M	5 46	24	+36	...	
	N	M	13 36	17	+34	...	
	Z	M	13 40	17	−35	...	
		F	6 10	...	...	...	
6	Z	ePKP	14 45 25	...	...	16500	South-east of Tonga
	ZNE	eL	15 45	...	...	...	Islands.
		F	16 40	...	...	...	23° S., 173° W.
							(Wellington.)
8	NE	eL	1 12	...	...	...	Very small.
	Z	eL	23	...	...	...	East of Formosa.
		F	30	...	...	...	(Peichiko.)
10	NE	eL	8 40	...	...	...	Very small.
	Z	eL	45	...	...	...	
		F	9 10	...	...	...	
10		e	12 50	...	...	...	Very small. South of
		F	13 10	...	...	...	Aleutian Islands.
							47° N., 177° W.
							(U.R.S.S.)
10	Z	eP	20 48 13	...	...	...	North-east of Japan.
	NE	eL	21 16	...	...	...	42° N., 146° E.
	Z	eL	21	...	...	...	(U.R.S.S.)
	E	M	21 59	24	+ 8	...	
	N	M	22 32	24	+ 6	...	
	Z	M	29 46	15	+ 4	...	
		F	22 10	...	...	...	
11	NE	eL	1 29	...	...	...	Japan.
	Z	eL	33	...	...	...	37° N., 140° E.
		F	2 0	...	...	...	(U.R.S.S.)
14		e	10 15	...	...	...	Very small.
		F	35	...	...	...	

Date	Compt.	Phase	G.M.T.	Period	Amplitude	Δ	Remarks
			h. m. s.	s.	μ	km.	
Mar. 17		e	20 28	...	...	...	Indian Ocean.
	NE	eL	40	...	...	...	5° S., 83° E.
	Z	eL	50	...	...	...	(U.R.S.S.)
		F	21 10	...	...	...	
18		e	13 17	...	...	...	Very small.
		F	30	...	...	...	
18		e	14 52	...	...	...	Very small.
		F	15 5	...	...	...	
20		e	18 15	...	...	...	Very small.
		F	30	...	...	...	
20	NE	e	19 14	...	...	...	Caribbean Sea off
	NE	eL	20	...	...	...	Nicaragua.
	Z	eL	23	...	...	...	12° N., 83° W.
		F	20 0	...	...	...	(J.S.A.)
21	Z	iPP	0 16 9	...	...	...	N.E., e.
	ZNE	eL	59	...	...	...	Samoa.
	N	M	1 11 13	21	+ 8	...	13° S., 171° W.
	Z	M	12 29	20	+ 8	...	(U.R.S.S.)
	ZNE	eL_2	52	...	...	...	Via Antipodes.
		F	— — —	...	...	...	Overlapped by next shock.
21	NE	eSKS	2 16 5	...	...	...	Indian Ocean.
	ZNE	L	29	...	...	...	17° S., 73° E.
		F	3 15	...	...	...	(U.R.S.S.)
22		e	5 22	...	...	...	Very small.
		F	35	...	...	...	
22	Z	e	13 21	...	...	...	Coral Sea.
	NE	eL	25	...	...	...	10° S., 157° E.
	Z	eL	32	...	...	...	(Wellington.)
		F	14 25	...	...	...	
24		e	22 53	...	...	...	Very small. Felt in
		F	23 10	...	...	...	north-eastern
							Mindanao.
							(Peichiko.)
25	ZNE	eP	8 46 9	...	...	2250	Probably same epi-
	ZN	eS	49 53	...	...	...	centre as following
	ZNE	L	51	...	...	...	shock.
	N	M	51 57	20	+ 4	...	
	Z	M	52 12	18	+ 6	...	
	E	M	52 18	17	− 6	...	
		F	— — —	...	...	...	Overlapped by next shock.
25	ZNE	iP	9 3 15	...	...	2250	Amplitudes of iP as
	N	iS	6 59	...	...	...	read in mm :—
	Z	i	7 7	...	...	...	N. E. Z.
	ZNE	L	8	...	...	...	−2.5 +3.0 +4.0
	E	M	8 31	25	+27	...	Azimuth about 307°.
	N	M	8 57	19	−25	...	North Atlantic Ocean,
	E	M	9 34	18	+35	...	south-west of Iceland.
	Z	M	9 47	16	−33	...	55° N., 35° W.
		F	10 10	...	...	...	(Strasbourg.)
25	ZNE	eP	11 37 27	...	...	...	Repetition of preced-
	ZNE	L	43	...	...	...	ing shock.
		F	12 5	...	...	...	
25/26	Z	eP	23 56 18	...	...	...	Further repetition.
	ZNE	L	0 2	...	...	...	
		F	25	...	...	...	
26	ZE	eL	9 49	...	...	...	
		F	55	...	...	...	
27		e	3 5	...	...	...	
		F	45	...	...	...	
29		e	21 35	...	...	...	
		F	45	...	...	...	

Galitzin Seismographs, three components

546 KEW OBSERVATORY Lat. 51° 28′ 6″ N. Long. 0° 18′ 47″ W. Height above M.S.L. 5 metres **1936**

Date	Compt.	Phase	G.M.T.	Period	Amplitude	Δ	Remarks
April			h. m. s.	s.	μ	km.	
1	ZNE	iP	2 23 49	...	...	11770	Amplitudes of iP as
	ZNE	iPP	28 21	...	...	...	read in mm :—
	NE	iSKS	34 29	...	...	...	N. E. Z.
	NE	iSKKS	35 18	...	...	...	−0.7 −1.0 +2.7
	N	iS	36 1	...	...	...	giving azimuth about
	ZE	iSP	37 34	...	...	...	57°.
	N	iPS	37 41	...	...	...	Felt in Celebes and
	NE	iPPS	38 49	...	...	...	the Sangi Islands.
	N	iSS	43 39	...	...	...	3° N., 123° E.
	NE	i	43 55	...	...	...	(J.S.A.)
	E	i	44 42	...	...	...	
	N	i	45 3	...	...	...	
	E	iPPP	46 17	...	...	...	By path greater than
	NE	iSSS	47 39	...	...	...	180°.
	N	iSSSS	50 47	...	...	...	
	E	i	53 19	...	...	...	
	N	i	53 57	...	...	...	
	NE	L	58	...	...	...	
	E	M	3 2 31	37	−210	...	
	Z	L	4	...	...	...	
	N	M	— — —	(20)	>250	...	Uncertain : trace very
	E	M	6 18	30	−175	...	faint.
	Z	M	11 17	31	+300	...	
	Z	M	17 4	21	−260	...	
	ZNE	eL_2	4 18	...	...	...	Via Antipodes.
	E	M	23 37	21	−34	...	
	Z	M	23 43	19	−27	...	
	ZNE	eL_3	6 22	...	...	...	
		F	55	...	...	...	
1	ZN	ePP	20 30 2	...	...	...	South-west of Philip-
	NE	eSKS	36 1	...	...	...	pine Islands.
	ZNE	iPS	39 9	...	...	...	(Strasbourg.)
	E	eSS	46 4	...	...	...	
	ZNE	eL	55	...	...	...	
	E	M	21 13 35	23	+30	...	
	Z	M	18 54	20	−23	...	
	N	M	18 58	20	−31	...	
		F	22 40	...	...	...	
2	ZN	e(PPP)	6 40	...	...	...	Bismarck Archipelago.
	NE	eL	7 15	...	...	...	1° S., 150° E.
	Z	eL	22	...	...	...	(J.S.A.)
	N	M	29 6	24	−13	...	
	Z	M	29 12	25	+11	...	
	E	M	31 46	23	+ 8	...	
		F	8 55	...	...	...	
7		e	2 53	...	...	...	Very small.
		F	3 10	...	...	...	
8	ZE	eP	4 21 35	...	...	2190	Struma Valley.
	NE	eS	25 14	...	...	...	(Strasbourg.)
	ZNE	eL	27	...	...	...	
	N	M	28 14	13	+ 9	...	
		F	50	...	...	...	
9		e	1 20	...	...	...	Very small. Mediter-
		F	35	...	...	...	ranean Sea, south of
							Italy.
							38° N., 17° E.
							(U.R.S.S.)
9	ZNE	eL	8 30±	...	...	...	Time marks failed.
		F	9 0	...	...	...	
9	Z	iSKP	16 25 9	...	...	15000	Dilatation.
	NE	eL	17 18	...	...	...	Surface waves small
	Z	eL	25	...	...	...	and indefinite.
		F	18 25	...	...	...	West of Ellice Island.
							9° S., 175° E.
							(U.R.S.S.)
10		e	17 50	...	...	...	Very small. Felt in
		F	18 10	...	...	...	Butuan.
							7° N., 126° E.
							(U.R.S.S.)
10		e	20 34	...	...	...	
	NE	eL	40	...	...	...	
	Z	L	43 28	...	...	...	
		F	21 5	...	...	...	
12		e	0 36	...	...	...	Very small.
		F	1 5	...	...	...	Samar.
							12° N., 126° E.
							(Manila.)

Date	Compt.	Phase	G.M.T.	Period	Amplitude	Δ	Remarks
April			h. m. s.	s.	μ	km.	
12	ZNE	eP	21 5 38	...	...	(12500)	Caroline Islands.
	ZNE	iPP	10 14	...	...	...	10° N., 140° E.
	ZE	iPPP	12 38	...	...	...	(J.S.A.)
	N	iPPP	12 42	...	...	...	
	NE	iPS	19 47	...	...	...	
	Z	iSPP	20 36	...	...	...	
	NE	iPPS	20 44	...	...	...	
	E	iSS	25 44	...	...	...	
	N	iSS	25 54	...	...	...	
	Z	iSS	26 2	...	...	...	
	NE	eSSS	30 9	...	...	...	
	ZNE	L	43	...	...	...	
	E	M	46 26	32	−42	...	
	N	M	59 12	21	−38	...	
	Z	M	22 1 38	18	−40	...	
		F	23 45	...	...	...	
15	ZNE	eP	16 7 37	...	...	2150	
	E	eS	11 13	...	...	...	
	ZNE	eL	14	...	...	...	
		F	30	...	...	...	
15	NE	eL	19 56	...	...	...	Caroline Islands.
	Z	L	20 4	...	...	...	7° N., 137° E.
		F	25	...	...	...	(U.R.S.S.)
16	NE	eL	1 55	...	...	...	Caroline Islands.
	Z	eL	2 2	...	...	...	8° N., 139° E.
		F	25	...	...	...	(U.R.S.S.)
16		e	14 7	...	...	...	Very small.
		F	20	...	...	...	
16		e	21 0	...	...	...	Very small.
		F	20	...	...	...	
19	Z	eP	5 23 25	...	...	15000	Diffracted.
	Z	iPKP	26 30	...	...	...	
	ZNE	iPP	28 54	...	...	...	
	ZNE	iPKS	29 58	...	...	...	Solomon Islands.
	NE	i	30 44	...	...	...	9° S., 156° E.
	NE	eSKKS	35 28	...	...	...	(J.S.A.)
	NE	iSKSP	38 58	...	...	...	
	NE	iPPS	40 47	...	...	...	
	NE	eSS	46 30	...	...	...	
	E	iSKSP	48 44	...	...	...	By path greater than
	NE	iSSS	53 6	...	...	...	180°.
	Z	iSSS	53 10	...	...	...	
	N	e	57 2	...	...	...	
	NE	L	6 0	...	...	...	
	Z	L	12	...	...	...	
	E	M	9 22	38	+185	...	
	N	M	9 42	38	+120	...	
	N	M	19 29	26	+100	...	
	E	M	23 48	23	+55	...	
	Z	M	32 1	20	−67	...	
		F	— — —	...	...	...	Overlapped by next
							shock.
19	ZNE	eP	9 15 30	...	...	10400	Andaman Islands.
	NE	eS	26 46	...	...	...	(Strasbourg.)
	NE	eSS	32 36	...	...	...	
	NE	eL	38	...	...	...	
	Z	eL	44	...	...	...	
	E	M	51 58	24	+17	...	
	N	M	52 45	24	−35	...	
	E	M	59 55	19	+16	...	
	Z	M	10 0 1	19	−12	...	
		F	11 45	...	...	...	
21	ZNE	eP	2 23 20	...	...	9090	Southern Persia.
	N	eS	33 35	...	...	...	28° N., 55° E.
	ZNE	eL	43	...	...	...	(U.R.S.S.)
		F	55	...	...	...	
22		e	10 28	...	...	...	Disturbed by wind
		F	50	...	...	...	and microseisms.
							Atlantic Ocean.
							3° N., 24° W.
							(U.R.S.S.)
23/24	Z	iP	23 26 26	...	...	9540	South of Aleutian
	N	eS	37 3	...	...	...	Islands.
	N	L	42	...	...	...	48° N., 178° E.
	ZE	eL	48	...	...	...	(U.R.S.S.)
		F	0 30	...	...	...	

Galitzin Seismographs, three components

546 KEW OBSERVATORY Lat. 51° 28′ 6″ N. Long. 0° 18′ 47″ W. Height above M.S.L. 5 metres **1936**

Date	Compt.	Phase	G.M.T.	Period	Amplitude	Δ	Remarks
			h. m. s.	s.	μ	km.	
April 27	ZNE	eP	0 10 57	...	...	8520	Felt in Yunnan, China.
	NE	eS	20 43	...	...	...	28° N., 104° E.
	NE	eSSS	29 34	...	...	...	(Peichiko.)
	NE	eL	34	...	...	...	
	Z	eL	39	...	...	...	
	N	M	39 53	30	−50	...	
	E	M	39 53	30	+46	...	
		F	1 45	...	...	...	
27	ZNE	eL	7 9	...	...	...	Gulf of Honduras.
		F	45	...	...	...	16° N., 88° W.
							(J.S.A.)
28	Z	e	6 12 53	...	...	...	Possibly microseismic.
	NE	e	19 6	...	...	...	East of Solomon Is-
	NE	eL	43	...	...	...	lands.
	Z	eL	51	...	...	...	5° S., 170° E.
		F	8 0	...	...	...	(U.R.S.S.)
May 5	ZNE	eL	20 48	...	...	...	New Guinea.
	N	M	58 42	22	− 3	...	7° S., 148° E.
		F	21 25	...	...	...	(Manila.)
7		e	2 22	...	...	...	Very small. North-western India.
		F	35	...	...	...	31° N., 70° E.
							(U.R.S.S.)
8	ZE	i	9 37 45	...	...	...	Deep focus shock.
	ZE	e	38 53	...	...	...	Java Sea.
	N	e	42 45	...	...	...	5° S., 115° E. with
	NE	i	45 6	...	...	...	depth of focus
	NE	e	10 5 21	...	...	...	600 km.
	NE	e	8 30	...	...	...	(Pasadena.)
		F	30	...	...	...	No surface waves.
8		e	16 6	...	...	...	Felt in Chentu, China.
		F	25	...	...	...	28° N., 103° E.
							(U.R.S.S.)
11	ZNE	e(PKP)	17 46 35	...	...	(13500)	Identification of
	Z	e(PP)	48 41	...	...	...	phases doubtful.
	ZNE	e(PKS)	49 53	...	...	...	East of New Guinea.
	Z	e(SKSP)	58 40	...	...	...	7° S., 151° E.
	NE	e	18 6 21	...	...	...	(J.S.A.)
	NE	e	14 53	...	...	...	
	E	eL	25	...	...	...	
	ZN	L	30	...	...	...	
	E	M	37 12	32	+ 9	...	
	N	M	37 25	27	−15	...	
	Z	M	46 42	20	+16	...	
		F	20 10	...	...	...	
16	NE	iS	7 27 19	...	...	...	No "Z" record.
	NE	e	35 58	...	...	...	Sze-Chwan, China.
	NE	L	41	...	...	...	28° N., 102° E.
	N	M	46 12	29	+56	...	(Strasbourg.)
	E	M	46 43	29	−55	...	
		F	9 30	...	...	...	
19	NE	eS	21 17 43	...	...	...	No "Z" record.
	NE	eL	48	...	...	...	North of New Guinea.
		F	23 15	...	...	...	1° N., 141° E.
							(Manila.)
20	NE	ePP	3 27 13	...	...	14500	No "Z" record.
	NE	iPKS	28 10	...	...	...	Solomon Islands.
	E	e(S)	35 29	...	...	...	8° S., 160° E.
	NE	iSS	45 6	...	...	...	(U.S.C.G.S.)
	E	iSSS	50 3	...	...	...	
	N	i	52 3	...	...	...	
	NE	L	59	...	...	...	
	E	M	4 13 1	29	+25	...	
	N	M	17 43	24	+17	...	
		F	6 20	...	...	...	
21	NE	eL	3 55	...	...	...	No "Z" record.
		F	4 25	...	...	...	Solomon Islands.
							5° S., 158° E.
							(U.R.S.S.)
22	Z	e	1 33	...	...	...	
	NE	eL	2 0	...	...	...	
	Z	eL	6	...	...	...	
		F	3 5	...	...	...	

Date	Compt.	Phase	G.M.T.	Period	Amplitude	Δ	Remarks
			h. m. s.	s.	μ	km.	
May 22/23	Z	ePKP	23 40 58	...	...	...	North of Norfolk Island.
	NE	eL	0 35	...	...	...	26° S., 169° E.
	Z	eL	41	...	...	...	(U.R.S.S.)
		F	1 40	...	...	...	
25	NE	e(PS)	3 32	...	...	...	No "Z" record.
	NE	eL	58	...	...	...	North of New Ireland.
	E	M	4 14 28	23	− 8	...	0°., 152° E.
	N	M	15 54	22	+ 8	...	(U.R.S.S.)
		F	5 25	...	...	...	
27	Z	iP	6 29 52	...	...	7130	Compression; N.E.,e.
	ZNE	iPPP	34 1	...	...	...	Widely felt in north-
	NE	iS	38 28	...	...	...	eastern India.
	Z	eS	38 33	...	...	...	Himalayas.
	NE	iS_cS	39 47	...	...	...	29° N., 84° E.
	NE	eSS	43 48	...	...	...	(Strasbourg.)
	N	iSSS	45 35	...	...	...	
	NE	L	46	...	...	...	
	Z	L	49	...	...	...	
	N	M	56 28	17	−160	...	
	E	M	56 28	17	+82	...	
	E	M	7 0 26	19	−88	...	
	Z	M	0 44	17	−95	...	
		F	10 15	...	...	...	
28	NE	eL	13 19	...	...	...	South of Formosa.
	Z	eL	23	...	...	...	22° N., 120° E.
		F	40	...	...	...	(Manila.)
28	Z	eP	19 2 2	...	...	10070	Pacific Ocean south of
	NE	eSKS	12 39	...	...	...	Mexico.
	NE	iS	13 3	...	...	...	9° N., 103° W.
	NE	eSS	18 57	...	...	...	(J.S.A.)
	ZNE	eL	26	...	...	...	
	E	M	32 13	40	+24	...	
	Z	M	34 5	30	+17	...	
	N	M	35 7	30	−24	...	
		F	21 50	...	...	...	
June 1	Z	i	11 40 41	...	...	...	Very small.
	Z	e	42 14	...	...	...	
		F	50	...	...	...	
3	ZN	eP	3 7 51	...	...	9090	Kurile Islands.
	NE	eS	18 6	...	...	...	44° N., 147° E.
	E	ePS	18 42	...	...	...	(U.R.S.S.)
	ZNE	eL	33	...	...	...	
	E	M	38 6	35	+11	...	
	N	M	45 43	24	+ 7	...	
		F	4 20	...	...	...	
3	ZNE	eP	9 27 8	...	...	8800	Compression.
	Z	ePP	30 13	...	...	...	Pacific Ocean off
	E	eS	37 8	...	...	...	Northern California.
	ZNE	eL	51	...	...	...	40° N., 127° W.
	E	M	55 57	20	− 8	...	(U.S.C.G.S.)
	Z	M	10 0 45	16	+ 9	...	
	N	M	0 51	16	+ 8	...	
		F	11 0	...	...	...	
4		e	14 0	...	...	...	Very small.
		F	20	...	...	...	
5	Z	e	13 44	...	...	...	Horizontal components disturbed by
		F	14 0	...	...	...	wind.
5	Z	e	14 50	...	...	...	Horizontal components disturbed by
		F	16 10	...	...	...	wind.
							Pelew Island.
							7° N., 135° E.
							(Manila.)
6	NE	e	16 35 25	...	...	...	
	NE	eL	38	...	...	...	
	Z	L	41	...	...	...	
		F	17 5	...	...	...	
7	ZN	eP	4 3 36	...	...	2490	East of Greenland.
	NE	eS	7 40	...	...	...	(J.S.A.)
	ZNE	L	9	...	...	...	
		F	25	...	...	...	

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 **1936**

Date	Compt.	Phase	G.M.T.	Period	Amplitude	Δ	Remarks
June			h. m. s.	s.	μ	km.	
7	ZNE	eP	4 43 11	...	...	2390	East of Greenland.
	ZNE	eS	47 7	...	...	...	73° N., 6° W.
	ZNE	L	48	...	...	...	(J.S.A.)
	E	M	53 14	18	+ 3	...	
		F	5 30	...	...	...	
9		e	0 39	...	...	...	Very small. Tibet.
		F	55	...	...	...	30° N., 90° E.
							(U.R.S.S.)
9	Z	eP	16 49 55	...	...	10310	Indian Ocean west of
	ZE	ePP	53 50	...	...	...	Sumatra.
	NE	eS	17 1 7	...	...	...	3° S., 95° E.
	N	eSS	6 53	...	...	...	(Manila.)
	NE	eL	28	...	...	...	
	Z	eL	34	...	...	...	
		F	18 25	...	...	...	
10	NE	e	3 34 41	...	...	...	
	N	e	46 11	...	...	...	
	NE	eL	50	...	...	...	
	Z	eL	57	...	...	...	
	N	M	4 4 55	19	−11	...	
		F	40	...	...	...	
10	ZE	ePKP	8 42 7	...	...	(14000)	
	Z	iPP	44 9	...	...	...	N.E., e.
	ZNE	iPKS	44 48	...	...	...	Bismarck Archipelago.
	N	ePKKP	51 55	...	...	...	5° S., 147° E.
	Z	eSP	55 0	...	...	...	(J.S.A.)
	N	eSS	9 2 7	...	...	...	Identifications of
	NE	e	16 21	...	...	...	phases uncertain;
	ZNE	L	21	...	...	...	focal depth possibly
	N	M	23 20	40	+22	...	greater than normal.
	E	M	24 2	38	−51	...	
	Z	M	34 14	22	+14	...	
	Z	L_2	10 17	...	...	...	Via Antipodes.
	Z	M	17 51	24	+12	...	
		F	11 20	...	...	...	
10	ZNE	e	17 40	...	...	...	
	ZNE	eL	46	...	...	...	
	N	M	46 58	19	− 5	...	
		F	18 10	...	...	...	
10	NE	e	19 5	...	...	...	No "Z" record.
	NE	L	7	...	...	...	West of Azores.
	N	M	8 8	19	− 5	...	39° N., 33° W.
		F	25	...	...	...	(J.S.A.)
11	ZNE	eL	10 18	...	...	...	
	N	M	18 59	20	+ 3	...	
		F	35	...	...	...	
13	Z	eP	0 38 4	...	...	2810	Mediterranean Sea.
	ZNE	eS	42 33	...	...	...	(Uccle.)
	ZNE	eL	47	...	...	...	
	N	M	48 51	22	+ 4	...	
		F	1 5	...	...	...	
14	Z	eP	2 39 12	...	...	8900	
	N	eS	49 17	...	...	...	
	ZNE	eL	3 2	...	...	...	
		F	45	...	...	...	
14	Z	eP	17 7 40	...	...	3660	Felt in Alexandria.
	ZNE	eS	13 7	...	...	...	37° N., 35° E.
	ZNE	L	16	...	...	...	(Strasbourg.)
	E	M	18 42	22	− 9	...	
	Z	M	21 9	14	− 7	...	
	N	M	21 32	17	+11	...	
		F	18 0	...	...	...	
16	Z	ePP	0 55 38	...	...	...	Loyalty Islands.
	NE	eL	1 46	...	...	...	20° S., 179° E.
	Z	eL	49	...	...	...	(U.R.S.S.)
	E	M	57 30	22	+ 3	...	
		F	2 50	...	...	...	
18		e	15 35	...	...	...	Tibet.
		F	55	...	...	...	29° N., 95° E.
							(U.R.S.S.)
19	Z	e	16 46 19	...	...	...	Kachin.
	ZNE	eL	17 15	...	...	...	25° N., 97° E.
		F	18 0	...	...	...	(U.R.S.S.)

Date	Compt.	Phase	G.M.T.	Period	Amplitude	Δ	Remarks
June			h. m. s.	s.	μ	km.	
20	ZNE	eP	6 37 19	...	...	2410	Compression.
	NE	eS	41 17	...	...	...	Atlantic Ocean north
	ZNE	eL	43	...	...	...	of Azores. (J.S.A.)
		F	7 25	...	...	...	
20	ZNE	eP	8 30 2	...	...	2670	
	NE	eS	34 20	...	...	...	
	ZNE	eL	36	...	...	...	
		F	9 5	...	...	...	
20	ZNE	iP	14 6 0	...	...	...	Pontevedra, Spain.
	ZNE	L	10 30	...	...	...	(Strasbourg.)
		F	30	...	...	...	
22	N	L	7 15	...	...	...	
	N	M	15 53	27	− 6	...	
		F	20	...	...	...	
22	ZE	eP	19 36 26	...	...	5630	Compression.
	NE	eS	43 42	...	...	...	North Atlantic Ocean.
	Z	eS	43 45	...	...	...	11° N., 43° W.
	NE	L	49	...	...	...	(Strasbourg.)
	Z	L	51	...	...	...	
	E	M	51 18	28	+ 6	...	
		F	20 40	...	...	...	
23		e	19 1	...	...	...	Very small.
		F	10	...	...	...	
27	ZNE	eP	3 23 20	...	...	2160	Compression.
	ZNE	iS	26 57	...	...	...	Atlantic Ocean.
	ZNE	L	31	...	...	...	(Strasbourg.)
	N	M	32 15	21	+ 5	...	
	E	M	33 8	15	+ 5	...	
	Z	M	33 43	13	+ 5	...	
		F	4 20	...	...	...	
27	Z	iP	21 25 44	...	...	8950	Compression. N.E., e.
	NE	iS	35 52	...	...	...	Pacific Ocean off
	ZNE	eL	55	...	...	...	Northern Japan.
		F	22 40	...	...	...	43° N., 147° E.
							(J.S.A.)
28	Z	eP	8 23 26	...	...	9930	Pacific Ocean east of
	NE	eS	34 21	...	...	...	Japan.
	NE	eL	48	...	...	...	33° N., 145° E.
	Z	eL	56	...	...	...	(U.R.S.S.)
		F	10 15	...	...	...	
28		e	18 15	...	...	...	Very small.
		F	40	...	...	...	
29	ZE	iP	14 38 52	...	...	...	Compression.
	ZNE	i	40 11	...	...	...	Turkestan.
	ZE	i	42 1	...	...	...	39° N., 71° E.
	NE	e	47 32	...	...	...	(J.S.A.)
	ZNE	eL	50	...	...	...	Long waves poorly
	N	M	15 1 8	19	− 8	...	developed.
		F	16 20		...	...	
30	Z	iP	15 18 31	...	...	8450	Compression; N.E., e.
	Z	i	19 38	...	...	...	
	Z	iPP	21 28	...	...	...	
	N	iPP	21 38	...	...	...	South of Kamchatka.
	ZN	iPPP	23 26	...	...	...	51° N., 160° E.
	NE	iS	28 14	...	...	...	(U.S.C.G.S.)
	Z	iS	28 16	...	...	...	
	NE	iSS	33 2	...	...	...	
	NE	iSSS	36 36	...	...	...	
	E	L	38	...	...	...	
	ZN	L	42	...	...	...	
	E	M	52 21	23	+130	...	
	N	M	55 56	23	+125	...	
	Z	M	16 1 39	16	+92	...	
	ZNE	L_2	17 29	...	...	...	Via Antipodes.
	Z	M	29 30	23	−22	...	
	N	M	29 38	24	+17	...	
		F	— — —	...	...	...	Overlapped by next shock.
30	ZNE	eP	19 34 34	...	...	5110	Turkestan.
	NE	eS	41 22	...	...	...	37° N., 61° E.
	E	eSS	45 41	...	...	...	(Strasbourg.)
	ZNE	eL	49	...	...	...	
	N	M	57 36	17	+31	...	
	E	M	57 45	18	+19	...	
		F	21 15	...	...	...	

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 **1936**

Date	Compt.	Phase	G.M.T.	Period	Amplitude	Δ	Remarks
July			h. m. s.	s.	μ	km.	
2/3		e	23 50	...	...	...	Very small.
		F	0 5	...	...	...	
3	Z	e(PP)	3 20 52	...	...	...	Compression.
	Z	e(PKS)	21 27	...	...	...	Solomon Islands.
	NE	eL	59	...	...	...	11° S., 162° E.
	Z	L	4 7	...	...	...	(U.R.S.S.)
	N	M	15 28	22	+ 6	...	
		F	5 30	...	...	...	
5	Z	eP	19 9 31	...	...	12000	Felt in Mindanao, Sulu
	ZNE	iPP	13 58	...	...	...	and Palau.
	NE	iSKS	20 27	...	...	...	3·3° N., 126·3° E.
	Z	iPS	23 28	...	...	...	(Manila.)
	NE	i	23 47	...	...	...	
	NE	eSS	30 28	...	...	...	
	E	e	39 12	...	...	...	
	NE	L	43	...	...	...	
	Z	L	49	...	...	...	
	E	M	53 31	26	−29	...	
	Z	M	57 10	27	−43	...	
	N	M	57 16	28	−36	...	
		F	21 40	...	...	...	
6		e	2 54	...	...	...	Very small. Repetition
		F	3 15	...	...	...	of preceding shock.
10	ZNE	eP	3 10 25	...	...	2110	North Atlantic Ocean.
	NE	eS	13 58	...	...	...	
	ZNE	eL	15	...	...	...	
		F	30	...	...	...	
12	Z	ePKP	3 2 1	...	...	...	
	ZNE	eL	4 3	...	...	...	
		F	5 15	...	...	...	
13	ZE	iP	11 25 46	...	...	11000	Compression.
	ZNE	ePP	29 50	...	...	...	
	NE	e	36 23	...	...	...	Pacific Ocean off
	NE	iSKS	36 29	...	...	...	Northern Chile.
	Z	iSKKS	36 47	...	...	...	24° S., 71° W.
	Z	i	38 50	...	...	...	(U.S.C.G.S.)
	ZNE	iPS	38 57	...	...	...	
	E	iSS	44 35	...	...	...	
	N	i	47 31	...	...	...	
	NE	L	51	...	...	...	
	N	M	57 31	31	+210	...	
	Z	L	59	...	...	...	
	E	M	12 3 38	24	+150	...	
	Z	M	6 55	19	+150	...	
		F	16 0	...	...	...	
14		e	23 25	...	...	...	Very small.
		F	35	...	...	...	
15		e	2 40	...	...	...	Japan.
		F	3 5	...	...	...	37° N., 141° E.
							(Tokyo.)
16	ZNE	eL	7 45	...	...	...	Western United States.
	Z	M	48 47	15	− 4	...	46° N., 118° W.
		F	8 10	...	...	...	(J.S.A.)
21	Z	e	0 19 20	...	...	...	Formosa.
	NE	e	33	...	...	...	24·4° N., 120·8° E.
	NE	eL	40	...	...	...	(Taihoku.)
	Z	eL	45	...	...	...	
		F	1 5	...	...	...	
22	Z	ePKP	6 38 32	...	...	...	
	ZNE	eL	7 40	...	...	...	
		F	8 35	...	...	...	
23	ZNE	ePKP	6 40 6	...	...	...	
	ZNE	eL	7 41	...	...	...	
		F	9 0	...	...	...	
26	ZE	iP	7 50 27	...	...	10780	Compression.
	ZNE	ePP	54 38	...	...	...	
	NE	eS	8 1 59	...	...	...	Pacific Ocean off
	ZE	iPS	2 16	...	...	...	Northern Chile.
	ZNE	iPPS	3 57	...	...	...	24° S., 71° W.
	NE	eSS	8 40	...	...	...	(U.S.C.G.S.)
	E	eSSS	12 10	...	...	...	
	NE	e	17 37	...	...	...	
	NE	L	20	...	...	...	
July 26 cont.	Z	eL	23	...	...	...	
	E	M	31 25	20	+19	...	
	N	M	31 33	19	−14	...	
	Z	M	31 39	19	−23	...	
		F	10 40	...	...	...	
28	ZNE	ePP	5 39 5	...	...	13700	New Guinea.
	Z	ePPP	41 36	...	...	...	(Manila.)
	NE	ePS	48 58	...	...	...	
	ZNE	eL	6 22	...	...	...	
	N	M	26 56	22	+ 6	...	
	ZNE	eL$_2$	7 13	...	...	...	Via Antipodes.
		F	45	...	...	...	
28	ZNE	ePP	8 13 17	...	...	13700	New Guinea.
	Z	ePPP	15 52	...	...	...	(Manila.)
	NE	ePS	23 10	...	...	...	
	ZNE	eL	55	...	...	...	
	ZNE	eL$_2$	9 46	...	...	...	Via Antipodes.
		F	10 25	...	...	...	
30	NE	ePKP	14 22 37	...	...	...	Very small.
	NE	eL	15 5	...	...	...	
	Z	eL	15	...	...	...	
		F	16 20	...	...	...	
31	NE	eL	18 19	...	...	...	Pacific Ocean off
	Z	eL	23	...	...	...	Southern California.
	N	M	23 7	21	+ 5	...	23° N., 111° W.
		F	19 5	...	...	...	(J.S.A.)
Aug. 1	NE	eSS	6 51 12	...	...	...	Destructive in Kansu,
	NE	eL	7 1	...	...	...	China.
	Z	eL	5	...	...	...	35° N., 105° E.
	N	M	5 40	17	− 9	...	(U.R.S.S.)
		F	8 0	...	...	...	
1	NE	eL	8 43	...	...	...	Pacific Ocean off
	Z	eL	47	...	...	...	Southern California.
		F	9 30	...	...	...	23° N., 111° W.
							(J.S.A.)
4	Z	e	14 26	...	...	...	Felt in Batanes Is-
	NE	eSS	40 1	...	...	...	lands and in north-
	ZNE	eL	15 0	...	...	...	ern Luzon.
	N	M	8 54	16	− 7	...	19·2° N., 120·5° E.
	Z	M	9 15	16	+ 8	...	(Manila.)
		F	50	...	...	...	
5		e	4 7	...	...	...	Very small.
		F	20	...	...	...	
8	ZNE	eP	4 18 18	...	...	2850	Rhodes. (Strasbourg.)
	NE	eS	22 50	...	...	...	
	ZNE	e	23 4	...	...	...	
	ZNE	eL	25	...	...	...	
	N	M	25 33	30	+15	...	
	E	M	30 16	14	+11	...	
	Z	M	30 21	13	+ 9	...	
		F	5 5	...	...	...	
9	NE	eL	16 55	...	...	...	South China Sea.
	Z	eL	17 00	...	...	...	19° N., 119° E.
	N	M	5 47	18	+ 2	...	(Manila.)
		F	30	...	...	...	
10		e(S)	6 42 6	...	...	...	
		F	55	...	...	...	
12		e	22 34 19	...	...	...	Kalymnos.
		F	45	...	...	...	37° N., 27° E.
							(U.R.S.S.)
13		e	16 57	...	...	...	Very small.
		F	17 5	...	...	...	
13	ZNE	eP	20 16 44	...	...	11200	Felt in northern and
	NE	ePP	20 56	...	...	...	eastern Mindanao
	Z	ePP	21 7	...	...	...	and in southern
	NE	eSKS	26 58	...	...	...	Leyte.
	NE	eS	28 33	...	...	...	8° N., 127° E.
	NE	ePS	30 24	...	...	...	(Manila.)
	ZE	ePPS	31 8	...	...	...	
	ZE	eSS	35 56	...	...	...	
	NE	L	53	...	...	...	

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 **1936**

Date	Compt.	Phase	G.M.T.	Period	Amplitude	Δ	Remarks
Aug.			h. m. s.	s.	μ	km.	
13 cont.	Z	L	58	...	...	...	
	N	M	21 10 54	18	−24	...	
	E	M	10 55	17	−28	...	
	Z	M	10 59	17	+34	...	
		F	23 0	...	...	...	
14/15	NE	e	23 7	...	...	...	No " Z " record.
	NE	eL	25	...	...	...	Felt in southern and
	N	M	42 2	17	− 4	...	eastern Mindanao.
		F	0 20	...	...	...	(Manila.)
17	NE	e	14 26	...	...	...	No " Z " record.
	NE	eL	15 5	...	...	...	Solomon Islands.
	N	M	25 52	19	+ 5	...	7° S., 156° E.
		F	16 30	...	...	...	(U.R.S.S.)
18	NE	eL	7 46	...	...	...	No " Z " record.
	E	M	57 24	17	− 5	...	Pacific Ocean off
		F	8 20	...	...	...	Central America.
							17° N., 105° W.
							(J.S.A.)
20	NE	eL	2 29	...	...	...	No " Z " record.
		F	50	...	...	...	
20/21		e	23 57	...	...	...	Very small.
		F	0 15	...	...	...	
21		e	13 3	...	...	...	Very small.
		F	15	...	...	...	Turkestan.
							41° N., 75° E.
							(U.R.S.S.)
22	Z	iP	7 4 37	...	...	9950	Dilatation. N.E., e.
	ZNE	iPP	8 14	...	...	...	Destructive in
	NE	eSKS	15 4	...	...	...	Formosa.
	NE	eSKKS	15 11	...	...	...	22·4° N., 121·5° E.
	N	iS	15 33	...	...	...	(Manila.)
	Z	iSP	16 32	...	...	...	
	N	iSS	21 48	...	...	...	
	E	iSS	22 28	...	...	...	
	NE	eSSS	26 44	...	...	...	
	NE	eL	30	...	...	...	
	Z	eL	39	...	...	...	
	E	M	48 50	19	+150	...	
	N	M	50 8	19	−180	...	
	Z	M	50 10	19	+185	...	
		F	10 30	...	...	...	
22	NE	eL	11 53	...	...	...	Repetition of preced-
	Z	eL	12 0	...	...	...	ing shock.
		F	25	...	...	...	
23/24	ZNE	iP	21 25 6	...	...	9650	Compression.
	ZE	i	25 28	...	...	...	Destructive in north-
	ZE	ePP	28 54	...	...	...	ern Sumatra.
	ZE	e	32 18	...	...	...	6° N., 95° E.
	ZE	eSKS	35 28	...	...	...	(J.S.A.)
	ZNE	iS	35 48	...	...	...	Focal depth probably
	E	ePS	36 38	...	...	...	about 100 Km.
	E	ePPS	37 5	...	...	...	greater than normal.
	Z	iPPS	37 15	...	...	...	
	NE	iSS	41 3	...	...	...	
	ZE	i	41 27	...	...	...	
	E	e	42 27	...	...	...	
	N	i	48 20	...	...	...	
	ZNE	eL	50	...	...	...	
	N	M	22 2 30	27	+80	...	
	Z	M	10 39	9	−14	...	
	E	M	12 52	19	−39	...	
	ZNE	eL_2	23 30	...	...	...	Via Antipodes.
		F	0 35	...	...	...	
24/25	Z	ePKP	22 42 28	...	...	...	New Zealand.
	Z	ePP	47 2	...	...	...	40° S., 171° E.
	ZNE	eL	23 39	...	...	...	(U.R.S.S.)
	N	M	55 36	18	+ 9	...	
	Z	M	55 38	18	+ 7	...	
		F	1 5	...	...	...	
25	ZNE	ePKP	19 2 53	...	...	...	South of Tonga
	ZNE	eL	20 3	...	...	...	Islands.
		F	21 15	...	...	...	25° S., 174° W.
							(U.R.S.S.)

Date	Compt.	Phase	G.M.T.	Period	Amplitude	Δ	Remarks
Aug.			h. m. s.	s.	μ	km.	
26	Z	eP	11 47 2	...	...	...	Very small.
	ZNE	eL	12 22	...	...	...	Kurile Islands.
		F	55	...	...	...	44° N., 152° E.
							(U.R.S.S.)
26		e	21 54	...	...	...	
	ZNE	eL	22 7	...	...	...	
		F	25	...	...	...	
28	Z	ePKP	6 58 6	...	...	(14000)	Diffracted wave.
	Z	ePP	7 0 27	...	...	...	South West Islands.
	ZNE	ePKS	1 29	...	...	...	8° S., 127° E.
	ZNE	eL	50	...	...	...	(U.R.S.S.)
		F	8 55	...	...	...	
28	ZNE	e	22 20 18	...	...	...	Mediterranean region.
	N	e	21 17	...	...	...	
	E	e	21 22	...	...	...	
	ZN	e	21 32	...	...	...	
	Z	e	21 58	...	...	...	
	ZNE	L	22 2	...	...	...	
		F	28	...	...	...	
29	ZNE	eL	13 6	...	...	...	Hindu Kush.
		F	30	...	...	...	37° N., 72° E.
							(U.R.S.S.)
29		e	22 41	...	...	...	Very small.
		F	23 25	...	...	...	Arabian Sea.
							12° N., 59° E.
							(U.R.S.S.)
30	ZNE	eL	17 56	...	...	...	Very small.
		F	18 20	...	...	...	
30		e	21 50	...	...	...	Very small.
		F	22 10	...	...	...	
Sept. 2		e	13 37	...	...	...	Azerbaijan.
		F	50	...	...	...	41° N., 47° E.
							(U.R.S.S.)
3	ZNE	eL	5 48	...	...	...	Pacific Ocean off
		F	6 10	...	...	...	Central America.
							15° N., 94° W
							(J.S.A.)
3	ZNE	eL	13 43	...	...	...	
		F	14 35	...	...	...	
3		e	20 51	...	...	...	
		F	21 5	...	...	...	
4	Z	eP	8 22 45	...	...	10020	Pacific Ocean south-
	Z	ePP	26 27	...	...	...	east of Japan.
	EZ	eS	33 44	...	...	...	31° N., 143° E.
	Z	eSP	34 51	...	...	...	(U.R.S S.)
	ZNE	eL	56	...	...	...	
	Z	M	9 12 31	15	+ 5	...	
	N	M	13 2	18	− 8	...	
		F	11 10	...	...	...	
5	Z	e(PKP)	4 36 7	...	...	...	
	ZNE	eL	5 5	...	...	...	
		F	25	...	...	...	
5		e	22 47	...	...	...	Very small.
		F	23 15	...	...	...	New Guinea.
							3° S., 131° E.
							(U.R.S.S.)
6	ZNE	eL	4 57	...	...	...	Rumania.
	N	M	57 16	19	+ 3	...	45° N., 21° E.
		F	5 10	...	...	...	(Strasbourg.)
6	Z	ePKP	17 59 35	...	...	...	East of Norfolk Island.
	ZNE	eL	18 55	...	...	...	29° S., 179° W.
	E	M	19 11 21	18	+ 4	...	(U.R.S.S.)
	Z	M	11 33	18	− 4	...	
		F	20 15	...	...	...	
7		e	13 17	...	...	...	Very small.
		F	25	...	...	...	Solomon Islands.
							11° S., 162° E.
							(U.R.S.S.)

Galitzin Seismographs, three components

546 KEW OBSERVATORY Lat. 51° 28′ 6″ N. Long. 0° 18′ 47″ W. Height above M.S.L. 5 metres **1936**

Date	Compt.	Phase	G.M.T.	Period	Amplitude	Δ	Remarks
Sept.			h. m. s.	s.	μ	km.	
8	ZNE	eL	17 5	...	...	...	
		F	20	...	...	...	
12	NE	eL	18 43	...	...	...	Widely felt in Formosa.
	Z	eL	48	...	...	...	24° N., 121° E.
	E	M	51 41	18	+ 5	...	(Taihoku.)
		F	19 20	...	...	...	
13		e	4 10	...	...	...	Very small.
		F	15	...	...	...	
15		e	14 10	...	...	...	Very small.
		F	15	...	...	...	
16	Z	e	9 42 17	...	...	...	
	NE	e	10 6 25	...	...	...	
	NE	e	8 3	...	...	...	
	ZNE	eL	40	...	...	...	
		F	11 35	...	...	...	
17		e	8 25	...	...	...	Very small.
		F	45	...	...	...	
17		e	18 38	...	...	...	
		F	19 15	...	...	...	
18	Z	eP	18 52 2	...	...	9430	Pacific Ocean south-
	NE	eSKS	19 2 8	...	...	...	east of Japan.
	E	iS	2 34	...	...	...	31° N., 144° E.
	Z	iPS	3 48	...	...	...	(U.R.S.S.)
	NE	eL	22	...	...	...	
	Z	eL	25	...	...	...	
	N	M	41 50	16	+ 7	...	
		F	20 55	...	...	...	
19	Z	iP	1 14 57	...	...	9970	Compression.
	ZNE	ePP	19 8	...	...	...	
	E	e	24 54	...	...	...	
	E	eSKS	25 28	...	...	...	
	NE	iS	25 54	...	...	...	Sumatra.
	N	i	26 5	...	...	...	4° N., 97° E.
	E	i	26 40	...	...	...	, (Batavia.)
	NE	iPS	27 7	...	...	...	
	Z	iSP	27 11	...	...	...	
	Z	iSPP	27 49	...	...	...	
	N	eSS	32 4	...	...	...	
	ZNE	eL	38	...	...	...	
	N	M	53 46	27	−76	...	
	E	M	2 9 38	17	+54	...	
	Z	M	17 13	20	−54	...	
		F	5 30	...	...	...	
19	NE	e(SKS)	6 53 12	...	...	...	Repetition of preced-
	ZNE	eL	7 18	...	...	...	ing shock.
	N	M	22 13	25	− 6	...	
		F	8 20	...	...	...	
19		e	15 25	...	...	...	Very small.
		F	45	...	...	...	
21	ZE	iP	11 46 51	...	...	2890	Dilatation. N., e.
	ZE	iS	51 26	...	...	...	Black Sea.
	ZNE	L	53	...	...	...	43° N., 33° E.
	N	M	55 38	23	− 8	...	(U.R.S.S.)
		F	12 30	...	...	...	
21	Z	iP	12 32 33	...	...	2890	Dilatation. N.E., e.
	ZE	iS	37 8	...	...	...	Repetition of preced-
	ZNE	L	40	...	...	...	ing shock.
	N	M	43 8	18	+ 3	...	
		F	13 30	...	...	...	
21	ZNE	eL	16 19	...	...	...	
		F	— — —	...	...	...	Overlapped by next shock.
21	Z	i(PKP)	16 49 1	...	...	...	
	ZNE	eL	17 38	...	...	...	
		F	— — —	...	...	...	Overlapped by next shock.
21	ZNE	eL	18 20	...	...	...	
		F	19 0	...	...	...	
21	ZNE	eL	20 38	...	...	...	
		F	21 0	...	...	...	

Date	Compt.	Phase	G.M.T.	Period	Amplitude	Δ	Remarks
Sept.			h. m. s.	s.	μ	km.	
22	Z	eP	12 2 17	...	...	2890	Further repetition from the shock of 21 d 11 h.
	ZE	eS	6 52	...	...	...	
	ZNE	eL	9	...	...	...	
		F	25	...	...	...	
23		e	6 57	...	...	...	Very small.
		F	7 10	...	...	...	
25	E	eL	13 23	...	...	...	Pacific Ocean west of
	ZN	eL	28	...	...	...	Oregon.
	E	M	28 55	33	− 11	...	43° N., 131° W.
		F	14 50	...	...	...	(J.S.A.)
Oct. 3		e	15 54	...	...	...	Felt around Trieste.
		F	16 5	...	...	...	47° N., 14·5° E. (Strasbourg.)
3	Z	iPP	22 9 20	...	...	12000	Compression. E., e.
	NE	eSKS	15 13	...	...	...	East Indies.
	E	ePS	18 29	...	...	...	5° N., 130° E.
	ZE	iPPS	19 29	...	...	...	(U.R.S.S.)
	NE	eSS	24 30	...	...	...	
	NE	e	33 31	...	...	...	
	NE	e	44 11	...	...	...	
	NE	L	46	...	...	...	
	N	M	47 0	27	+13	...	
	Z	L	55	...	...	...	
	E	M	59 41	18	−13	...	
	Z	M	59 45	19	+15	...	
	N	M	23 0 50	20	+22	...	
		F	40	...	...	...	
4	ZNE	eL	7 55	...	...	...	
		F	8 5	...	...	...	
5	Z	iPKP	0 13 30	...	...	...	Compression.
	ZN	ePP	18 37	...	...	...	
	Z	i	23 45	...	...	...	
	Z	iPPP	26 15	...	...	...	By path > 180°.
	NE	eSS	37 48	...	...	...	Probably deep focus.
	NE	e	38 46	...	...	...	South-east of Ker-
	N	e	42 19	...	...	...	madec Islands.
	E	eSSS	44 19	...	...	...	33° S., 175° W.
	N	e	46 12	...	...	...	(Wellington.)
	E	iSSS	53 1	...	...	...	By path > 180°.
	ZNE	eL	1 9	...	...	...	
	E	M	18 45	24	+ 9	...	
	Z	M	18 50	24	+ 5	...	
	N	M	25 58	19	− 9	...	
		F	2 25	...	...	...	
5	ZNE	eL	7 3	...	...	...	
		F	30	...	...	...	
5	Z	iP	9 58 54	...	...	12000	Compression.
	Z	iPP	10 3 32	...	...	...	N.E., e.
	Z	i	3 56	...	...	...	Molucca Islands.
	NE	e	8 1	...	...	...	1° N., 127° E.
	NE	eSKKS	10 30	...	...	...	(U.S.C.G.S.)
	ZNE	iPS	12 51	...	...	...	
	ZNE	iPPS	13 56	...	...	...	
	NE	eSS	19 59	...	...	...	
	N	eSSS	23 51	...	...	...	
	ZNE	eL	26	...	...	...	
	E	M	47 16	26	−48	...	
	N	M	51 34	26	+55	...	
	Z	M	52 57	21	+48	...	
		F	12 40	...	...	...	
10		e	4 2	...	...	...	Very small.
		F	30	...	...	...	Near Pelew Island. 9° N., 131° E. (U.R.S.S.)
11		e	3 5	...	...	...	Possibly not seismic.
		F	40	...	...	...	
13	NE	eL	7 30	...	...	...	Celebes Sea.
	Z	eL	41	...	...	...	1° N., 123° E.
		F	55	...	...	...	(U.R.S.S.)
14/15	ZNE	ePKP	22 35 30	...	...	...	
	NE	eL	23 31	...	...	...	
	Z	eL	36	...	...	...	
		F	0 15	...	...	...	

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 **1936**

Date	Compt.	Phase	G.M.T.	Period	Amplitude	Δ	Remarks
Oct.			h. m. s.	s.	μ	km.	
15	ZNE	eL	22 3	...	...	...	Confused by micro-
	E	M	9 55	23	+ 5	...	seisms.
		F	40	...	...	...	
16	NE	eL	12 57	...	...	...	New Ireland.
	Z	eL	13 4	...	...	...	4° S., 154° E.
	N	M	6 20	31	+ 9	...	(U.R.S.S.)
		F	30	...	...	...	
18*	ZNE	eP	3 12 44	...	...	1150	Destructive in North-
	E	iPQ	13 0	...	...	...	ern Italy.
	E	iP*(1)	13 9	...	...	...	46° 15′ N., 12° 30′ E.
	N	iP*(1)	13 13	...	...	...	(Strasbourg.)
	Z	iP*(2)	13 25	...	...	...	
	E	iPg	13 50	...	...	...	
	ZNE	iPs	14 20	...	...	...	
	ZNE	iS	14 39	...	...	...	
	ZE	iSQ	15 5	...	...	...	
	ZN	iS*(1)	15 19	...	...	...	
	NE	iS*(2)	15 41	...	...	...	
	NE	iSg	15 51	...	...	...	
	NE	i	15 56	...	...	...	
	E	i	16 9	...	...	...	
	ZNE	L	3 16 26	...	...	...	
	E	M	16 44	8	+40	...	
	Z	M	16 50	7	+47	...	
		F	30	...	...	...	
18		e	17 2	...	...	...	Repetition from pre-
		F	30	...	...	...	ceding shock.
19	ZNE	eL	6 51	...	...	...	
		F	7 5	...	...	...	
19		e	7 11	...	...	...	Very small. Further
		F	15	...	...	...	repetition from the
							shock of 18 d 3 h.
19	Z	iPP	12 24 0	...	...	13000	Compression. Hori-
	Z	iSP	33 35	...	...	...	zontal components
	ZNE	eL	13 2	...	...	...	disturbed by wind.
	N	M	16 43	24	− 14	...	
	Z	M	16 48	23	+11	...	
	E	M	17 40	23	+15	...	
		F	14 30	...	...	...	
21	Z	eL	14 40	...	...	...	No " N-S " record.
		F	15 5	...	...	...	
22	ZNE	e(S)	4 15 51	...	...	...	
	ZNE	eL	24	...	...	...	
		F	55	...	...	...	
22/23	Z	iP	23 53 41	...	...	2030	Dilatation. N., e.
	ZNE	eS	57 7	...	...	...	Northern Iceland.
	ZNE	L	58	...	...	...	66° N., 22° W.
	N	M	59 46	14	− 7	...	(Strasbourg.)
	E	M	59 58	12	−10	...	
	Z	M	0 0 16	11	− 5	...	
	ZN	i	1 1	...	...	...	
		F	— — —	...	...	...	Overlapped by next shock.
23	Z	iP	0 4 28	...	...	2030	Dilatation. N., e.
	ZNE	eS	7 54	...	...	...	Repetition from pre-
	ZNE	L	9	...	...	...	ceding shock.
	N	M	9 33	15	−12	...	
	E	M	10 56	12	−15	...	
	Z	M	11 3	14	− 9	...	
	ZN	i	11 48	...	...	...	
		F	1 5	...	...	...	
23	Z	iP	6 35 6	...	...	7250	Compression. N.E., e.
	Z	i	35 18	...	...	...	
	Z	iPP	37 33	...	...	...	N.E. e.
	E	iS	43 48	...	...	...	
	N	iS	43 52	...	...	...	
	ZNE	iPS	44 5	...	...	...	Alaska.
	Z	i	44 29	...	...	...	62° N., 149° W.
	NE	iS_cS	45 11	...	...	...	(U.S.C.G.S.)
	NE	eSS	47 59	...	...	...	
	N	e	51 41	...	...	...	
	NE	eL	55	...	...	...	
	Z	eL	57	...	...	...	
	E	M	7 4 14	18	−47	...	
	N	M	5 24	19	+89	...	

Date	Compt.	Phase	G.M.T.	Period	Amplitude	Δ	Remarks
Oct.			h. m. s.	s.	μ	km.	
23	Z	M	5 29	18	−96	...	
cont.	ZNE	eL_2	9 1	...	...	...	Via Antipodes.
		F	10 30	...	...	...	
23	ZNE	eL	17 0	...	...	...	
		F	15	...	...	...	
23	ZNE	eL	20 55	...	...	...	
		F	21 30	...	...	...	
24	ZNE	eL	14 18	...	...	...	Mediterranean Sea
		F	30	...	...	...	south of Greece.
							35·9° N., 22·4° E.
							(Athens.)
							Confused by wind and
							microseisms.
26	ZNE	eL	20 31	...	...	...	Confused by wind and
		F	55	...	...	...	microseisms.
							Strait of Malacca.
							2° N., 102° E.
							(U.S.S.R.)
26	ZN	iP	23 10 18	...	...	2290	Dilatation. Azimuth
	ZN	iPP	10 36	...	...	...	about North.
	N	e	13 56	...	...	...	Felt in Jan Mayen.
	E	eS	14 6	...	...	...	72° N., 6° W.
	ZNE	L	15	...	...	...	(Strasbourg.)
	E	M	17 25	15	+28	...	
	Z	M	20 46	13	+24	...	
	N	M	21 14	13	+28	...	
		F	55	...	...	...	
29	NE	eS	6 15 12	...	...	...	Felt in Panama.
	N	eL	27	...	...	...	(Little Rock.)
	ZE	eL	31	...	...	...	
	E	M	33 13	22	+ 5	...	
		F	7 5	...	...	...	
29	Z	iPP	18 57 30	...	...	12100	Dilatation. N.E., e.
	NE	eS	19 5 26	...	...	...	Felt in Guam.
	ZE	ePPS	8 17	...	...	...	12° N., 146° E.
	NE	eSS	13 19	...	...	...	(U.S.C.G.S.)
	E	eSSS	17 6	...	...	...	
	N	e	18 47	...	...	...	
	NE	eL	27	...	...	...	
	Z	eL	31	...	...	...	
	E	M	36 0	33	+22	...	
	N	M	41 50	25	−25	...	
	Z	M	51 4	16	+ 9	...	
		F	21 20	...	...	...	
31	Z	e	16 29	...	...	...	Very small.
		F	40	...	...	...	
Nov.							
1	NE	eL	17 1	...	...	...	
	Z	eL	5	...	...	...	
		F	35	...	...	...	
2	ZN	iP	15 9 54	...	...	8750	Compression. E., e.
	ZN	i	9 59	...	...	...	Kurile Islands.
	N	ePP	12 56	...	...	...	50° N., 156° E.
	ZN	eS	19 52	...	...	...	(Strasbourg.)
	ZNE	i	20 11	...	...	...	
	N	ePS	20 46	...	...	...	
	E	eSS	25 6	...	...	...	
	ZN	eL	31	...	...	...	
	ZN	eL	36	...	...	...	
	N	M	49 2	20	−45	...	
	E	M	50 14	19	+38	...	
	Z	M	52 19	18	−41	...	
		F	18 0	...	...	...	
2/3	ZNE	iP	20 58 30	...	...	9250	Compression. Ampli-
	Z	i	58 52	...	...	...	tudes of iP as read
	Z	i	21 0 27	...	...	...	in mm :—
	ZN	iPP	1 45	...	...	...	Z N E.
	NE	iS	8 53	...	...	...	+6·5 −1·9 −1·0
	ZNE	iS_cS	9 11	...	...	...	Azimuth about 30° E
	NE	i	10 9	...	...	...	of N. Destructive in
	E	iSS	14 39	...	...	...	Northern Japan.
	ZN	i	15 26	...	...	...	38° N., 142° E.
	E	iSSS	17 41	...	...	...	(U.S.C.G.S.)
	Z	e	19 31	...	...	...	
	NE	eL	21	...	...	...	

* The notation for the additional pulses in the records of a near shock is that of H. Jeffreys, London, Mon. Not. R. Astr. Soc., Geophys. Supp., 3, No. 3, 1933.

Galitzin Seismographs, three components

546 KEW OBSERVATORY Lat. 51° 28′ 6″ N. Long. 0° 18′ 47″ W. Height above M.S.L. 5 metres **1936**

Date	Compt.	Phase	G.M.T.	Period	Amplitude	Δ	Remarks
			h. m. s.	s.	μ	km.	
Nov. 2/3 cont.	Z	eL	24	...	...	...	
	E	M	28 35	37	+280	...	
	N	M	30 30	31	+160	...	
	Z	M	37 59	22	−101	...	
		F	0 55	...	...	...	
3		e	5 18	...	...	...	Sea of Okhotsk. 59° N., 155° E. (U.R.S.S.)
		F	6 0	...	...	...	
11	ZNE	eL	17 41	...	...	...	Pamir. 38° N., 73° E. (U.R.S.S.)
		F	55	...	...	...	
13	ZN	iP	12 42 54	...	...	8130	Compression. Amplitudes of iP as read in mm :— Z. N. E. +1·8 −0·9 (0·0) Azimuth northerly. Bering Sea. 56° N., 165° E. (Strasbourg.)
	ZN	i	44 24	...	...	...	
	Z	iPP	45 38	...	...	...	
	N	iPP	45 48	...	...	...	
	NE	iS	52 20	...	...	...	
	ZN	i	52 30	...	...	...	
	NE	eSS	56 54	...	...	...	
	N	i	57 23	...	...	...	
	NE	eL	13 0	...	...	...	
	E	M	4 4	33	+185	...	
	Z	eL	5	...	...	...	
	N	M	15 20	20	−100	...	
	E	M	15 20	20	+100	...	
	Z	M	24 18	14	+78	...	
		F	16 20	...	...	...	
17		e	5 39	...	...	...	Very small.
		F	45	...	...	...	
18	ZNE	eSS	16 0 8	...	...	...	Confused by wind and microseisms. Asia Minor. 41° N., 35° E. (Strasbourg.)
	ZNE	eL	7	...	...	...	
	E	M	7 39	18	+ 7	...	
		F	25	...	...	...	
19	ZE	iP	21 22 26	...	...	8710	Compression. Amplitudes of iP as read in mm :— Z N E +1·8 (0·0) −0·9 Azimuth about west. Central America. 14° N., 91° W. (U.S.C.G.S.)
	ZE	iPP	25 19	...	...	...	
	E	iS	32 22	...	...	...	
	E	i	34 18	...	...	...	
	NE	SS	37 39	...	...	...	
	NE	eSSS	41 17	...	...	...	
	N	L	44	...	...	...	
	ZE	L	48	...	...	...	
	E	M	57 31	21	+40	...	
	Z	M	57 35	21	+39	...	
	N	M	57 46	20	+21	...	
		F	23 55	...	...	...	
21		e	22 30	...	...	...	Very small.
		F	55	...	...	...	
22	ZE	iP	18 31 24	...	...	8700	Compression.
	N	ePS	42 11	...	...	...	
	E	e	43 17	...	...	...	
	N	eSSS	50 20	...	...	...	Central America 14° N., 90° W. (U.S.C.G.S.)
	ZNE	eL	51	...	...	...	
	E	M	19 4 55	20	−10	...	
	N	M	6 32	22	−10	...	
	Z	M	7 47	18	−12	...	
		F	45	...	...	...	
26	NE	e(S)	2 33 57	...	...	...	Pacific Ocean off Costa Rica. 9° N., 85° W. (U.R.S.S.)
	ZNE	eL	45	...	...	...	
	N	M	47 39	23	+ 6	...	
		F	3 30	...	...	...	

Date	Compt.	Phase	G.M.T.	Period	Amplitude	Δ	Remarks
			h. m. s.	s.	μ	km.	
Nov. 28	ZNE	eL	12 2	...	...	...	
		F	15	...	...	...	
29/30	NE	eL	23 36	...	...	...	South of Formosa. 21° N., 121° E. (U.R.S.S.)
	Z	eL	44	...	...	...	
		F	0 5	...	...	...	
Dec. 1	NE	eL	0 45	...	...	...	Confused by microseisms.
	Z	eL	55	...	...	...	
		F	1 20	...	...	...	
8/9	...	...	— — —	...	...	...	No records 8d 9 h 30m to 9d 10 h 30m.
13	ZNE	eL	22 25	...	...	...	Confused by wind and microseisms. Marianne Islands. 15° N., 146° E. (U.R.S.S.)
		F	23 0	...	...	...	
20	ZNE	eL	3 23	...	...	...	Confused by wind and microseisms. Destructive in Salvador. 14° N., 89° W. (J.S.A.)
	E	M	36 11	17	+ 7	...	
		F	55	...	...	...	
21	N	e	19 31 38	...	...	...	Large microseisms. Pacific Ocean off North America. 53° N., 133° W. (U.S.C.G.S.)
	ZNE	eL	35	...	...	...	
	N	M	44 35	16	+ 9	...	
		F	20 25	...	...	...	
25	ZNE	eL	20 45	...	...	...	Pacific Ocean off Central America. 18° N., 105° W. (J.S.A.)
	E	M	54 9	17	+ 5	...	
	Z	M	54 21	17	+ 5	...	
		F	21 10	...	...	...	
26/27	Z	iPKP	23 12 27	...	...	(17000)	Dilatation. N.E., e. Possibly more than one shock. New Zealand. 47° S., 171° E. (U.R.S.S.)
	Z	iPP	16 46	...	...	...	
	Z	i	22 44	...	...	...	
	Z	iPPS	30 22	...	...	...	
	N	e	31 47	...	...	...	
	NE	eSS	37 3	...	...	...	
	NE	ePSS	37 49	...	...	...	
	E	eSSS	43 21	...	...	...	
	ZN	e	44 55	...	...	...	
	E	e	51 47	...	...	...	
	ZNE	eL	0 2	...	...	...	
	N	M	25 39	22	+12	...	
	Z	M	28 52	20	+ 8	...	
	E	M	1 5 37	25	−16	...	
		F	55	...	...	...	
28	ZNE	eL	0 38	...	...	...	Felt in Tunis. (Strasbourg).
		F	55	...	...	...	
29	ZNE	ePKP	15 6 51	...	...	14000	Diffracted wave.
	Z	ePP	9 0	...	...	...	
	ZNE	ePKS	10 10	...	...	...	Diffracted wave.
	Z	i	11 3	...	...	...	
	Z	iPPP	24 16	...	...	...	By path greater than 180°.
	N	eSS	26 21	...	...	...	
	Z	i	37 31	...	...	...	New Guinea. 7° S., 147° E. (Manila.)
	ZNE	eL	40	...	...	...	
	N	M	52 46	29	−27	...	
	E	M	53 24	26	−26	...	
	Z	M	16 11 53	20	−14	...	
		F	17 45	...	...	...	

MICROSEISMS OF VERTICAL COMPONENT: AMPLITUDE (μ = ·001 mm.) AND PERIOD (seconds). 1936
Derived from readings for the periods 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	T	A	T	A	T	A	T
Day	μ	s	μ	s	μ	s	μ	s
1	2·6	7·5	2·9	8·3	2·9	8·0	3·1	7·7
2	3·0	7·0	2·4	6·3	2·3	6·0	2·4	6·0
3	2·4	6·3	2·1	5·8	2·8	6·5	2·6	6·0
4	2·7	6·5	2·4	6·3	2·2	5·6	1·7	5·7
5	1·6	5·6	1·1	5·4	2·3	5·2	3·8	5·7
6	3·5	5·4	3·0	5·0	2·6	5·7	4·2	5·7
7	2·4	6·3	1·8	6·0	1·6	6·0	1·5	6·3
8	1·7	7·3	2·2	7·0	2·0	5·7	2·2	5·4
9	2·0	6·3	3·0	6·7	4·6	6·3	4·0	6·7
10	4·6	6·0	5·3	7·0	7·7	6·5	8·1	7·0
11	5·9	7·0	4·4	5·7	4·7	6·3	3·8	7·0
12	2·8	6·0	2·9	6·3	2·5	5·2	1·9	6·7
13	1·7	5·4	1·8	6·3	1·5	7·0	2·4	7·0
14	1·9	7·0	2·1	7·3	2·4	7·3	2·1	6·5
15	1·9	6·7	1·2	7·0	1·1	6·3	1·1	6·5
16	1·0	7·0	0·9	7·0	0·7	4·6	0·6	4·6
17	0·9	4·2	1·2	4·0	1·3	4·5	1·2	4·3
18	0·6	4·5	0·7	4·8	0·9	3·7	0·8	4·3
19	0·6	4·7	0·7	4·7	0·8	5·0	0·8	5·2
20	0·9	5·4	1·2	5·0	2·3	4·7	1·9	5·3
21	2·0	5·0	1·8	5·4	2·2	5·6	2·0	5·0
22	1·6	5·0	1·5	5·4	1·1	5·0	0·9	5·2
23	0·9	5·8	0·9	4·8	0·8	5·7	1·3	5·0
24	1·2	5·8	1·1	5·6	1·2	4·8	1·2	4·7
25	1·1	4·8	0·9	5·4	0·8	5·4	1·1	6·3
26	0·9	6·3	1·1	5·7	1·1	6·3	0·8	5·4
27	1·5	4·8	2·0	5·4	2·0	7·3	3·0	6·0
28	4·5	7·0	4·9	7·0	4·0	7·3	3·3	7·5
29	3·2	7·5	2·3	7·0	1·8	6·7	1·7	5·8
30	1·7	6·7	2·1	6·3	2·2	6·3	1·7	5·7
31	1·4	6·0	1·2	6·5	1·1	6·0	1·3	5·6
Mean	2·1	6·0	2·0	6·0	2·2	5·9	2·2	5·9
Mean for Days	A = 2·1μ ; T = 5·9s							

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

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

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

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

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

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

1936

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

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

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