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METEOROLOGICAL OFFICE

THE OBSERVATORIES' YEAR BOOK

1962

Comprising the geophysical results obtained from autographic records and eye observations at the Lerwick, Eskdalemuir, and Kew Observatories

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PREFACE

The *Observatories' Year Book* was published for the years 1922 to 1937 in continuation of Part III Section II and Part IV of the *British Meteorological and Magnetic Year Book* for the period 1908 to 1921. Further publication was resumed eventually after a long interruption because of the 1939-45 war but in an abridged form as outlined in the next paragraph.

The General Introduction to the Meteorological Tables and the parts of the Sectional Introductions which dealt with site, instruments, procedure and tabulations included in the volume for 1938 served as the standards of reference up to 1956; only important departures from these standards were mentioned explicitly in subsequent Year Books. The space devoted to the discussion of observations was reduced and the monthly tables of individual hourly values of meteorological elements were discontinued, but summaries of the daily mean values (or totals), monthly means (or totals) of the hourly values and some maximum and minimum values were given. The diary of cloud, weather and visibility, and, after 1939, the aerological and seismological tables were also discontinued but no major changes were made in the tables of atmospheric electricity and geomagnetism.

Another major review of the contents of the *Observatories' Year Book* was then carried out and a number of important changes made, commencing with the volume for 1957. The meteorological data for Kew and Eskdalemuir were omitted; a punched card system of recording such data centrally, at the Meteorological Office, Bracknell has been adopted. It was also decided to omit all mention of the seismological work at Kew. Full details of the seismological measurements are given in the *Kew Seismological Bulletin*, distribution of which was resumed in 1947 after a break of seven years, and are also communicated to the *International Seismological Summary*. There were also some changes in the geomagnetism and atmospheric electricity tables; full details of the new tables are given in the Introduction to this volume.

It may be of assistance to those who make use of the data in this volume to know the full range of the other work now carried out at the three observatories and this is detailed below. Requests for information about this other work should be addressed to the Director-General, Meteorological Office, London Road, Bracknell, Berkshire.

Lerwick Observatory

Full hourly synoptic observations of the weather. Continuous recording and hourly tabulations of pressure, wind, rainfall, sunshine, temperature, humidity, total and diffuse solar radiation on a horizontal surface, daylight illumination on a horizontal surface. Daily measurements of evaporation and atmospheric pollution.

Routine radio sonde and radar wind upper air measurements (twice and four times daily respectively). Regular measurements normally several times a day, of the total amount of ozone. Chemical sampling of the air and rain water. Sampling for radioactivity of particulate matter in the air near the surface (from 17 September 1962) and sampling for radioactivity of rain water (from 1 October 1962).

Eskdalemuir Observatory

Full hourly synoptic observations 06·21 G.M.T. Continuous recording and hourly tabulations of pressure, wind, rainfall, sunshine, temperature, humidity, total and diffuse solar radiation on a horizontal surface, daylight illumination on a horizontal surface. Daily measurements of evaporation, atmospheric pollution and soil temperatures (at depths of 30 and 122 cm). Regular measurements, several times a day, of the total amount of ozone and occasional *umkehr* measurements of the vertical distribution. Chemical sampling of the air and

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rain water. Sampling for radioactivity of particulate matter in the air near the surface, sampling for radioactivity of rain water (from 23 August 1962).

Kew Observatory

Three-hourly synoptic observations 06-21 G.M.T. Continuous recording and hourly tabulations of pressure, wind, rainfall, sunshine, temperature, humidity, total and diffuse radiation on a horizontal surface, solar radiation at normal incidence, daylight illumination on a horizontal surface, net flux of radiation. Daily measurements of evaporation, and soil temperatures (at depths of 10, 20, 30 and 122 cm). Daily and hourly tabulations of atmospheric smoke pollution. Records from a set of Galitzin seismographs (3 components) and a short period vertical seismograph.

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ERRATA IN PREVIOUS VOLUMES AND IN PRESENT VOLUME

Observatories' Year Books 1923 to 1961 inclusive

There are slight errors in the already published corrections to the declination for Lerwick for these years as mentioned for 1923-37 and listed for 1938 in the 1938 *Observatories' Year Book*, (see pages 20-21 for explanation) and as listed in subsequent *Year Books* up to 1946. Details are given in the present volume for 1962, page 8.

Observatories' Year Books 1934 to 1962 inclusive

For the reason given on page 2 of the present *Year Book* the true scale values which should have been taken for the *D* variometer in use at Lerwick for the periods here stated (the values hitherto adopted for *Observatories' Year Books* tabulations are given in brackets) are as follows:-

20 April 1934 to 30 September 1934, 0·97′/mm (0·99);
1 October 1934 to 29 March 1937, 0·97′/mm (0·95);
30 March 1937 to 31 December 1939, 1·04′/mm (1·00);
1 January 1940 to 25 September 1940, 1·04′/mm (1·03);
26 September 1940 to 23 July 1946, 0·97′/mm (0·99);
24 July 1946 to 3 November 1953, 0·97′/mm (0·95);
4 November 1953 to 31 December 1961, 0·97′/mm (0·96).

From 1 January 1962 the true value of 0·97′/mm has been used. At Eskdalemuir the periods and true values (values hitherto adopted being given in brackets) are:-

1 January 1936 to July 1939, 0·97′/mm (0·94);
After July 1939 to 31 December 1962, 0·93′/mm (0·90).

From 1 January 1963 the true value of 0·93′/mm has been used. The monthly and yearly mean values of *D* are unaffected, but the other values of *D* published in the *Observatories' Year Books* for Lerwick from April 1934 to December 1961 and for Eskdalemuir from January 1936 to December 1962, i.e. including the present volume, are in error by the proportion of their deviation from the mean monthly or yearly values; the correction is positive if the westerly declination is greater than the mean value and negative if it is less than the mean value. Tables containing quantities which involve the value of *D* are correspondingly affected.

Observatories' Year Book 1957

Page 12. In the third column of the first table the value for 1957 should be "-20" and not "-23" and for 1959 "-8" not "+14".

Observatories' Year Book 1958

Page 11. In the third column of the first table the value for 1957 should be "-20" and not "-23" and for 1959 "-8" not "+14".

Observatories' Year Book 1959

Page 12. Second line for "1959" read "1959 and 1960".

ERRATA IN PREVIOUS VOLUMES AND IN PRESENT VOLUME - (contd.)

Observatories' Year Book 1960

Page 9. Last paragraph, second line for "1959" read "1959 and 1960".

Page 10. Sixth line from the bottom, for the first "1948" read "1947" and for the second "1948" read "1946".

Fourth line from the bottom for "Since 1948" read "From 1947 onwards".

Page 21. Table 4, 10 January, for "1,1,1,3,4,8,5,5" read "1,1,3,3,4,8,5,5".

Page 29. Table 4, 1 May, for "6,6,3,4,4,3,2,4" read "6,6,4,3,4,3,2,4".

Page 29. Table 4, 28 May, for "2,2,2,1,2,2,2,4" read "2,2,2,1,2,2,4,4".

Page 43. Table 4, 22 December, under sum of *K* indices for "26" read "23".

Observatories' Year Book 1961

Page 5. UNDER NOTES ON THE RESULTS, first paragraph for "3·5′" read "4·3′", for "29" read "30" and for "10" read "13"

Page 10. Second paragraph, second line, for "(1959)" read "(1959 and 1960)".

Page 37. Table 4, 2 September, under Magnetic character of day, *C* for "1" read "0".

INTRODUCTION

DESCRIPTION OF OBSERVATORIES

Lerwick Observatory, Shetland (60°08'N, 1°11'W)

The Observatory is set on a ridge of high ground about 85 m above M.S.L. and about 2½ km to the south-west of the port of Lerwick (population about 6000). The surrounding country is desolate moorland.

General views of the Observatory, a site plan and a contour map of the surrounding country were published in the *Observatories' Year Book* for 1961. An account of the history of the Observatory is given by W.G. Harper (*Met. Mag., London* 79, 1950, p.309).

Eskdalemuir Observatory, Dumfriesshire (55°19'N, 3°12'W)

The Observatory is situated on a rising shoulder of open moorland about 245 m above M.S.L. in the upper part of the valley of the River White Esk in the Southern Uplands of Scotland. It is surrounded by open moorland with hills rising within 8 km to the north-west to nearly 700 m above M.S.L.

General views of the Observatory, a site plan and a contour map of the surrounding country were published in the *Observatories' Year Book* for 1961. The history of the Observatory is described by M.J. Blackwell in a paper marking the fiftieth anniversary of the commencement of observations (*Met. Mag., London* 87, 1958, p.129), and by J. Crichton (*Met. Mag., London* 79, 1950, p.337).

Kew Observatory, Richmond, Surrey (51°28'N, 0°19'W)

Kew Observatory lies in the centre of an area of parkland about 16 km west of the centre of London. The ground level is about 5 m above M.S.L. Outside the parkland within 1 km, the area is extremely built-up, with a number of small factories within a few kilometres to the north and east.

General views of the Observatory, a site plan and a contour map of the surrounding country were published in the *Observatories' Year Book* for 1961.

For the early history of the Observatory reference may be made to papers by G. Rigaud[1], R.H. Scott[2], C. Chree[3], O.J.R. Howarth[4], R.S. Whipple[5], F.J.W. Whipple[6] and A.J. Drummond[7].

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1. RIGAUD, G.; Dr. Demainbray and the King's Observatory at Kew. *Observatory, London*, 5, 1882, p.279.

2. SCOTT, R.H.; The history of the Kew Observatory. *Proc. roy. Soc., London*, 39, 1885, p.37.

3. CHREE, C.; Description of the Kew Observatory, Old Deer Park, Richmond, Surrey. *Rec. roy. Soc., London*, 1st. edn., 1897, p.137.

4. HOWARTH, O.J.R.; The British Association for the Advancement of Science: a retrospect 1831-1921. London, 1922.

5. WHIPPLE, R.S.; An old catalogue and what it tells us of the scientific instruments and curios collected by Queen Charlotte and King George III. *Proc. opt. Conv., London*, Pt. II. 1926.

6. WHIPPLE, F.J.W.; Some aspects of the early history of Kew Observatory. *Quart.J.R. met. Soc., London*, 63, 1937, p.127.

7. DRUMMOND, A.J.; Kew Observatory. *Weather, London*, 2, 1947, p.69.

GEOMAGNETISM

Regular recording of the earth's magnetic field commenced at Kew in 1857. By the beginning of the twentieth century however, the extension of London's electric railway and tramway system had caused so much magnetic disturbance that it was decided to establish another magnetic observatory in an area considered unlikely to be similarly affected. This led to the building of Eskdalemuir Observatory which was opened in 1908, but magnetic observations were also continued at Kew up to 1924.

Comparisons of the magnetic results obtained at Kew and Eskdalemuir showed, however, that it would be very desirable to obtain magnetic records as far north as possible in the British Isles, and this resulted in the establishment of Lerwick Observatory in 1921. Recording of the magnetic field has been continuous at Lerwick since January 1923.

The principal magnetographs at Lerwick and Eskdalemuir are standard and quick-run La Cour instruments, each set consisting of *H*, *D* and *Z* variometers. Time marks are made at five minute intervals except at the hour, and two minute breaks are made three times daily at Lerwick and twice daily at Eskdalemuir. Scale values of the *H* and *Z* variometers are measured about once a week at Lerwick and once a month at Eskdalemuir, during magnetically quiet periods, by passing a current through Helmholtz-Gaugain coils placed over the variometers, the resulting deflection being recorded on the photographic paper. The current is measured by a milliameter which is periodically calibrated or by a potentiometer using a standard resistance, and a standard cell. It is thought that the scale values adopted, about 4γ/mm for *H* and 6γ/mm for *Z* (at both observatories) are accurate to about ½ and 1 per cent respectively. The scale value for *D* is normally determined from the optics and geometry of the system, with small corrections for torsion and paper shrinkage, but is occasionally checked by a similar electrical method to that used with the *H* and *Z* variometers; the difference between the electrical and optical methods is small and the adopted scale values are accurate to about 1 per cent. Following a complete review, made in 1963-1964, of the scale values, used at both observatories since the installation of the La Cour variometers, in comparison with the optical calculations, electrical determinations and analyses of absolute values, it was decided that the values hitherto adopted were in error by amounts varying up to 4 per cent, mainly because geometrical calculations had been used alone, without account being taken of the curvature of the prism face. Details of the correct scale values to be adopted, over various periods, are given in the "*Errata in Previous Volumes and in the Present Volume*" section on page vii of the present *Year Book*. The monthly and yearly mean values of *D* are unaffected, but the other values of *D* published in the *Observatories' Year Books* for Lerwick from April 1934 to December 1961, and for Eskdalemuir from January 1936 to December 1962, i.e. including the present volume, are in error by the proportion of their deviation from the mean monthly or yearly values; the correction is positive if the westerly declination is greater than the mean value and negative if it is less than the mean value. Tables containing quantities which involve the value of *D* are correspondingly affected.

Complete sets (*H*, *D* and *Z*) of supplementary magnetographs with lower sensitivity are also operated to provide information during any breaks in the standard magnetograph records and also to provide information when rapid magnetic disturbance renders the traces of the standard magnetograph undecipherable. Details of these instruments can be found in the 1938 volume of the *Observatories' Year Book*.

The magnetograph house (*K**) at Lerwick, which contains the La Cour magnetographs, is above ground and is made of non-magnetic concrete: its internal dimensions are 4·9 m by 3 m with the semi-circular shaped roof about 3 m in the middle and 2 m at the sides, above the floor; the walls and roof are 76 cm thick. An electric heater, controlled by a thermostat, enables the temperature to be kept reasonably constant for periods of up to a few months at a time but power is insufficient to maintain the same temperature throughout the year. The thermostat is re-set by several degrees at a time, so as to reduce the number of changes to a minimum. The time for a cycle of temperature changes (that is, the time between successive operations of the thermostat contacts) is of the order of one hour and a small oscillation of the temperature of the magnetograph is evident from the records, but the amplitude is only about 1 degree Celsius. The supplementary magnetographs are housed in an unheated wooden hut (L).

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*The descriptive letters or numbers are those given in the Figures published in the 1961 *Observatories' Year Book*.

At Eskdalemuir the magnetographs are placed in an underground chamber (3) constructed throughout of non-magnetic material. Within the outer shell of stone and concrete and separated therefrom, and from each other, by corridors and vaultings are two similar rooms of approximate internal dimensions - length 7·6 m, width 6·1 m, height 3·0 m. The ceilings of the room are slightly below the undisturbed level of the surrounding ground. The roof portion of the outer containing shell is covered with a thick layer of earth which forms a mound. Electrical heating, thermostatically controlled, was introduced in 1936 but, although the diurnal range in temperature is normally negligible, there is an annual range of temperature of about 4°C.

The temperature recorded by a thermometer inserted in the quick-run *Z* variometer, taken to be representative of the magnetograph house, is read daily at 09 G.M.T. and the readings are given in Table 4 (for Lerwick) and Table 24 (for Eskdalemuir).

Baseline values of the magnetograms are computed from the absolute measurements, made twice weekly, and measured scale values using the ordinate of the variometer curve at the times of the absolute observations. The adopted values of the baselines are obtained by a graphical smoothing process. Normally one value is adopted for one day except when instrumental discontinuities have occurred, but for Lerwick the temperature compensation of the *Z* variometer is not perfect and a baseline change of up to 5γ may occur when the thermostat is altered. The adopted baseline on these occasions is changed in 1γ steps so that the total change is spread over the period of temperature changes. (Towards the end of 1962, the temperature in the magnetograph house at Lerwick was deliberately changed through a range of about 9°C so as to enable the temperature coefficient of the *Z* variometer to be determined and then reduced.)

TABULATIONS

Tables 1 and 21 give, for Lerwick and Eskdalemuir respectively, mean values of the horizontal component *(H)* of magnetic force for periods of 60 minutes ending at the exact hour G.M.T. together with hourly, daily and monthly sums and means. Tables 2 and 22 give similar information for declination *(D)* and Tables 3 and 23 for the vertical component *(Z)*. Tables 4 and 24 contain the values of the daily extremes of each component, the range during the day and the magnetic character figures *K* and *C*, together with the 09h. temperature in the magnetograph house.

Tables 1-4 are subdivided into monthly sections and the same monthly parts of each table are grouped together on facing pages. Tables 21-24 are treated similarly. The days selected by the International Association of Geomagnetism and Aeronomy (I.A.G.A.) as being typical "quiet" and "disturbed" days are marked by the letters "*q*" and "*d*" respectively.

In general the declination *(D)* is measured to the west, and is considered to increase with increasing westerly declination, in accordance with the convention adopted in previous volumes. There is, however, an important exception in Tables 16 and 38 entitled "Noteworthy Magnetic Disturbances" (see below). In these two tables a movement of *D* to the east (that is, decreasing westerly declination) is regarded as positive, in order that the data in the tables may agree in every respect with data already supplied to I.A.G.A.

The magnetic character figures *C* are determined merely by inspection of the magnetograms. The standard is related to the general level of activity during the year, and the following recommendations, made in 1910 by Chree, Van Everdingen and Schmidt are adopted as guiding principles "that no one of the characters, 0, 1 and 2 should be attributed to more than two thirds of the days of the year, and that in each quarter the number of days of character 2 should be on the average at least 6".

The magnetic character figures *K* have been derived generally in the conventional way (see for example, I.G.Y. Instruction Manual Part IV Geomagnetism - Part I section 1.7) except that, from 1957, a slightly different method of drawing the non-*K*-variation curves was adopted. At Lerwick this non-*K*-variation curve was drawn from a template, the slope of which could be adjusted to allow for post-perturbation effects; three seasonal templates (for winter, equinox and summer) were used; they were based on the mean quiet day diurnal variations over the 11-year period 1935-45. At Eskdalemuir the similar procedure was more detailed in that six two-monthly (December and January, November and February, October and March, September and April, August and May and June and July) curves of quiet day inequalities, for 1945-55, were prepared in several amplitudes, the curve giving the best fit being chosen, and allowance made by tilting the scales for non-cyclic changes and post-perturbation effects. The lower limit for $K=9$ is 1000γ for Lerwick and 750γ for Eskdalemuir.

From 1 January 1963 the non-*K*-variation curves have been drawn exactly in the manner recommended by the I.G.Y. Manual.

Tables 5 (for Lerwick) and 25 (for Eskdalemuir) give the mean monthly and annual values of the magnetic elements *H*, *D* and *Z* together with the values of the North Component (*X*), West Component (*-Y*), Inclination (*I*) and Total Force (*F*). The values for *H*, *D* and *Z* are also given for the international quiet and disturbed days.

Tables 6 and 7 (for Lerwick) and 26 and 27 (for Eskdalemuir) give monthly, seasonal and annual means and frequency distributions of the daily range for each component (*H*, *D* and *Z*). For this purpose "Winter" is defined as the four months November to February; "Equinox" as March, April, September and October, "Summer" as May to August.

The next set of tables (8-15 for Lerwick and 28-36 for Eskdalemuir) gives data on the diurnal inequalities of each magnetic element. As recommended by a resolution of the Commission for Terrestrial Magnetism and Atmospheric Electricity and approved by the Conference of Directors at Warsaw in 1935, the diurnal inequalities are all uncorrected for non-cyclic change, but the values of the non-cyclic change are also given separately in Tables 13 and 35. It was decided to rearrange the order of the magnetic elements in Lerwick Tables 14 and 15 and in Eskdalemuir Table 36, commencing with the 1960 *Observatories' Year Book*, to conform with the other magnetic tables, that is, in the standard order of *H*, *D* and *Z*.

Some information is given for Eskdalemuir but not for Lerwick. This includes the diurnal inequalities of the North (*X*) and West (*-Y*) components and the Inclination (*I*), and values of the first four harmonic components of the diurnal inequalities of the north, west and vertical components.

The inequalities of *X*, *-Y* and *I* have been computed from those of *H*, *D* and *Z* by means of the formulae:

$$\delta X = \cos D.\delta H - \frac{\pi}{180 \times 60} H\sin D.\delta D$$

$$-\delta Y = \sin D.\delta H + \frac{\pi}{180 \times 60} H\cos D.\delta D$$

$$\delta I = \frac{180 \times 60}{\pi} \cos I \left[\frac{\delta Z\cos I - \delta H\sin I}{H}\right]$$

in which δD and δI are expressed in minutes of arc, and *H*, *D* and *I* for any given month are the respective mean values for that month as published in Table 25.

The results of harmonic analysis of the mean diurnal inequalities of *X*, *-Y* and *Z* for the months, seasons and year are to be found in Table 37, in which are given the values of a_n, b_n, c_n and α_n in the two equivalent series $\Sigma\,(a_n\cos 15nt^\circ + b_n\sin 15nt^\circ)$ and $\Sigma\, c_n\sin(15nt^\circ + \alpha_n)$. In the former series *t* is reckoned in hours from midnight G.M.T., whilst the published values of α_n refer to local mean time. The harmonic coefficients have been computed from the inequalities as given in Tables 28-33 but for this purpose the non-cyclic change has been eliminated. A correction has been applied where necessary, because the hourly values are not instantaneous but are mean values; the factors by which the coefficients have to be multiplied (see *Report of the British Association*, 1883, p.98) are 1·00286 for a_1, b_1, and c_1; 1·01152 for a_2, b_2 and c_2; 1·02617 for a_3, b_3 and c_3; and 1·04720 for a_4, b_4 and c_4. The values were obtained to two decimal places and finally were rounded off to 0·1γ.

Tables 16 and 38 are entitled "Noteworthy Magnetic Disturbances". These were revised in content in 1947 and now include all the disturbances which would have been included in the previous type of tables, with however, additional disturbances with sudden commencement (ssc) and those which can be recognised as being solar flare effects (sfe). The tables are divided into three parts:

(a) Disturbances noteworthy for some reason (usually, but not always, range) and without a sudden commencement.

(b) Well marked sudden commencements whether followed by a large disturbance or not.

(c) Disturbances accompanying a solar flare or other known solar flare effect.

The time given of commencement and ending of disturbances in (a) must depend on an arbitrary judgement. The list of sudden commencements under (b) will usually be a little shorter than that given in the I.A.G.A. bulletins because a somewhat stricter meaning has been been given to the words "well marked". (An attempt, made in 1961, to time the events in the (b) table to 0·1 minute was not considered to be satisfactory, and the timing has now reverted to the nearest minute). The (c) table has been made as complete as possible by a careful scrutiny of the magnetograms at the time of any known solar flare or solar flare effect, but a small "crochet" can easily be masked by other disturbances. Doubtful cases are not included. The signs given to the movements of *H*, *D* and *Z* are positive for increasing *H*, *Z* and an increase of force towards the east (that is, a decreasing westerly declination). Particulars of the same disturbances are given in both the Lerwick and Eskdalemuir tables, even if the disturbance at one of the stations is relatively small.

NOTES ON THE RESULTS

Comparing mean values on all days of 1962 with those of 1961, at Lerwick *H* increased by 26γ, *D* (west) decreased by 6·4′ and *Z* increased by 11γ. The changes deduced in *X*, *Y*, *I* and *F* are +29γ −19γ, −1·5′ and +19γ respectively. The ranges between the extreme values recorded during 1962 were *H* 1067γ, *D* 2°8·7′ and *Z* 699γ. The range of 2°8·7′ in declination corresponded to a range of 546γ in the component of force perpendicular to the magnetic meridian.

Similarly at Eskdalemuir *H* increased by 33γ, *D* (west) decreased by 5·2′ and *Z* increased by 11γ. The changes deduced in *X*, *Y*, *I* and *F* are +38γ, −19γ, −2·0′ and +22γ respectively. The ranges between the extreme values recorded during 1962 were *H* 317γ, *D* 1°18·3′ and *Z* 317γ. The range of 1°18·3′ in declination corresponded to a range of 383γ in the component of force perpendicular to the magnetic meridian.

ABSOLUTE STANDARDS OF MAGNETIC FORCE AT LERWICK AND ESKDALEMUIR

Vertical Component

The older instruments in use before the introduction of proton precession magnetometers in 1960, and the results obtained by inter-observatory comparisons using BMZ's are described in the 1957, 1958 and 1959 *Observatories' Year Books*. (In 1963 errors were found on checking the 1957 and 1959 inter-observatory comparisons; the true values for 1957 and 1959 for entry in the third column of the first table on page 12 of the 1957 *Observatories' Year Book* and in the third column of the first table on page 11 of the 1958 *Observatories' Year Book* are −20 and −8 respectively).

During 1960 proton precession magnetometers were installed at Lerwick and at Eskdalemuir. The principle of these instruments has been described by Packard and Varian[1] and Waters and Francis[2].

They enable the free precession frequency (f) of the proton to be measured; this is related to the total magnetic field F at the proton sample by the relation

$$f = \frac{\gamma_p F}{2\pi}$$

where f is in cycles per seconds and γ_p is the gyromagnetic ratio of the proton. The value adopted for γ_p is $2{\cdot}67513 \times 10^4$ radians $\text{gauss}^{-1}\ \text{sec}^{-1}$[(5)]; this is the value as measured by Driscoll and Bender[(3,4)] and recommended provisionally at the meeting of the International Association of Geomagnetism and Aeronomy in Helsinki in 1960[(5)].

The proton sample used at Lerwick and Eskdalemuir is distilled water contained in a polythene bottle, 11·5 cm long and 6 cm diameter placed on the axis of a solenoid. (At Lerwick the centre of the bottle is 42½ cm above the top of the west pier in the old Absolute hut (H); at Eskdalemuir it is 74 cm above a pier in the East hut (2)). This solenoid serves firstly to provide a strong polarising field and then as a pick-up coil to detect the small precession signal. After amplification the signal is passed to a counter unit to enable its periodicity to be determined. This is done by measuring the time, in units of 10 microseconds, for a given number of cycles of precession. Usually 2048 cycles are counted; this gives an accuracy of 1 part in 10^5 (or $0{\cdot}5\gamma$) when measuring the total field or the vertical component in the British Isles, because the value of f for these fields is close to 2000 cycles per second and the counting time is therefore about 1 second. The timing of the cycles is by means of a 100 kc/s oscillator, the accuracy of which is checked by beating its first harmonic against the B.B.C. Light Programme carrier wave, the frequency of which is 200 kc/s. It has been proved by experiment that the magnetic fields of the amplifier and counter units at the pick-up coil are less than $0{\cdot}1\gamma$.

At Lerwick routine absolute measurements of the total field are made twice daily and in each week two or three of those made during quiet periods are selected for calculations of the vertical component assuming the Observatory H record is correct. At Eskdalemuir total field measurements are made twice weekly coinciding with the absolute observations for H and D during quiet periods. The equation used is

$$Z = \sqrt{F^2 - H^2}$$

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1 PACKARD, M. and VARIAN, R.; Free nuclear induction in the Earth's magnetic field. *Phys. Rev., Lancaster, Pa.*, 93, 1954, p.941.

2 WATERS, G.S. and FRANCIS, P.D.; A nuclear magnetometer. *J.sci. Instrum., London*, **35**, 1958, p.88.

3 DRISCOLL, R.L. and BENDER, P.L.; Proton gyromagnetic ratio, *Phys. Rev. Letters*, 1, 1958, p.413.

4 BENDER, P.L. and DRISCOLL, R.L.; A free precession determination of the proton gyromagnetic ratio. *I.R.E. Trans. on Instrumentation*, 1-7, 1958, p.176.

5 NELSON, J.H.; The gyromagnetic ratio of the proton. *J. atmos. terr. Phys., London*, **19**, 1960, p.292.

and it is easily shown that the error ΔZ in Z caused by an error ΔH in the H measurements is given by

$$\Delta Z = -\left(\frac{H}{Z}\right)\Delta H.$$

The ratio (H/Z) at Eskdalemuir and Lerwick is about ⅓. Since it is believed that the systematic errors in H do not exceed 6γ (and may well be much less) the corresponding error in Z is small (2γ or less). The 1960 comparison over a period of two months (May-June, Eskdalemuir; June-July, Lerwick) of the proton magnetometer Z values (denoted here by Z_{pm}) with the Z values obtained by using the Schulze dip inductor (Eskdalemuir, denoted here Z_{DIP}) and B.M.Z.83 (Lerwick) yield the following mean results.

$$\text{Eskdalemuir} \quad Z_{pm} - Z_{DIP} = 0\gamma,$$

$$\text{Lerwick} \quad Z_{pm} - Z_{BMZ83} = -8{\cdot}5\gamma.$$

At Lerwick the proton magnetometer, using the Schuster-Smith value of H, has been accepted as the standard instrument for measuring Z since 1 August 1961. However, as there is still some uncertainty due to the uncertainty in H baseline values, which will be removed when the proton vector magnetometer is brought into use, it was considered preferable to make no discontinuity in the Z baseline until absolute determinations are made; accordingly the accepted Z baseline was derived from the relation

$$Z = Z_{pm} + 9\gamma.$$

This, in effect, continued the B.M.Z.83 baseline. After the proton magnetometer had been use during the remainder of 1961 it was decided that it would be more accurate to use Z values derived directly from it. This, together with a movement of the proton bottle in the old Absolute hut (H), from a shelf to the west pier, caused a discontinuity, from 1 January 1962, of -7γ with the previous Z baseline.

An upper limit to the magnitude of the random errors of the proton magnetometer can be estimated from the constancy of the Z baseline measurements. Over a period of 2 months in 1960 at Lerwick comprising observations on 33 days the standard deviation of a single observed Z baseline about a mean value was $1{\cdot}7\gamma$. This of course included the variability of both the Z and H baselines of the variometers and the errors in reading two sets of ordinates from the charts; the effect of these cannot be estimated accurately but must certainly account for the greater part of the observed variability of the baseline measurements. It is probable that the random error of the proton magnetometer is due solely to the short term random error of the frequency measuring apparatus (1 part in 10^5, as mentioned earlier). The limits of error were similar in 1962.

Experimental proton vector magnetometers have been in use at both observatories during the year; the water bottle is at the centre of a rotatable Helmholtz-Gaugain coil system. Preliminary results suggest no significant change is required in the existing Z baselines.

The finally constructed proton vector magnetometers, which will be described in a later volume of the *Observatories' Year Book* will be designated as the standard absolute instruments. A complete account will then be given of the finally adopted Z baselines and of their relation to previous values.

Horizontal Component

The history of the determinations of the absolute values of the horizontal component, *H*, at Eskdalemuir and Lerwick is given on pages 8 to 10 of the 1961 *Observatories' Year Book*. No change was made in the existing methods of determination in 1962, but preliminary results with the experimental proton vector magnetometers in 1962 indicate that the existing *H* baseline is about 3γ too high at both observatories. A complete account of the history and present value of the *H* baselines will be given when the final proton vector magnetometers are in use.

Declination

It was decided in 1963 to re-examine all the available manuscript data on the determination of the azimuth of the fixed mark at Lerwick, from the first measurement in 1922 to the most recent value in 1961. (Measurements were made in 1922, 1923, 1930, 1932, 1937, 1938, 1939, 1940, 1944, 1948 and 1961, the last two being by the Ordnance Survey.) The clear conclusion was reached that the apparent drift of the mark between 1923 and 1948 mentioned in the 1938 and subsequent *Observatories' Year Books* was not real and was due to errors of observation with the instruments available at Lerwick. The most accurate observation (08°38·8′ ± 4″ east of south) is that made by the Ordnance Survey in 1961, and it is considered that this has always been the true value since declination observations began in 1922. This conclusion is consistent with the geology of the region, since both concrete pillars - that on which the declinometer stands, and that, 117 m away on which the azimuth mark is placed are firmly cemented into solid bedrock. The change from the already published corrections for the years 1923 to 1946 are that (i) the original 1923 determination was in error by 4·2′ and not 3·5′, and (ii) that this figure of 4·2′ is the amount by which westerly declination is too large between 1923 and 1946, and not the range from 3·5′ in 1923 to 4·4′ in 1946, hitherto mentioned. In addition the published values of westerly declination from 1947 to 7 November 1961 are too small by 0·2′.

The observations of the azimuth of the fixed mark at Eskdalemuir in 1948 gave results negligibly different from previous observations and no changes were required in the tabulations. Further observations of the fixed mark at Eskdalemuir were made in July 1961, by the Observatory staff, using a Tavistock theodolite, with Polaris as a reference star. The value determined was only 7″ (and the standard deviation of the observations was 6″) from the value adopted after the Ordnance Survey determination in 1948. The 1961 value was brought into use on 1 September 1961, and, with the scatter in baseline values, the effect of the change on declination measurements was negligibly small.

MAGNETIC SURVEY AT LERWICK OBSERVATORY

In July 1962 a survey of the total field *F* over an area of 120 x 90 metres containing the Lerwick Observatory huts, was made using two proton magnetometers. This followed a similar survey, with one proton magnetometer, made in the previous year. These surveys indicate that there is no marked anomaly in *F* over this area, except very near to the cloud searchlight (17) caused probably by the searchlight transformer and equipment in Hut M. Over the rest of the area the field may be taken as fairly uniform, within the limits of experimental error. The gradient was 10γ per 100 metres in a direction 142°, i.e. the northward gradient of *F* is −0·08γ/metre and eastward gradient 0·06γ/metre.

In 1937 a survey of the vertical force *Z* was made with a B.M. magnetometer covering an area within 1 to 2 km of the Observatory. This showed that the gradient of *Z* was 0·08γ/metre towards SE approximately. Admiralty charts mark a magnetic anomaly 20 km SSE of the Observatory.

AURORA

A special watch for Aurora is kept at Lerwick Observatory. Up to 2200h each evening observations of the northern horizon and general meteorological conditions are made at intervals of 15 to 20 minutes; if any aurorae are seen continuous observations are made and details of the phenomena observed are noted. If necessary a second observer is called. Elevations of significant points are measured with a simple alidade.

Any aurorae which commence after 2200h are also noted by the staff making regular synoptic observations and upper air soundings, but these staff may not be able to devote long periods solely to recording the detailed auroral changes.

A brief account of the results obtained is given in Table 17. All dates, on which the sky remained completely overcast throughout the night and on which, therefore, no opportunity arose of determining whether or not aurora occurred, have been omitted. Those nights on which aurora was actually observed are indicated by the symbol Ψ; other nights on which no aurora was observed, despite at least an occasional interval of more or less clear sky, are indicated by the symbol ··. In the latter case also, remarks on the weather are added to assist the reader in judging how far the fact of no observation of aurora may be taken as showing that, in fact, there was no aurora. Each night is described by a letter code which has the following significance:-

a = Conditions favourable for seeing aurora
b = Unfavourable for faint aurora (because of moonlight, mist, thin cloud etc.), but not such as to mask bright aurora
c = Cloudy, but aurora not seen in clear intervals
ca, cb = Cloudy, but with conditions a or b respectively, in the intervals.
Changing conditions are indicated by a hyphen; for example, a-c.

The detailed observations are available in manuscript and have also been sent to Mr. J. Paton of the Balfour Stewart Auroral Laboratory, University of Edinburgh.

Table 18 is a general auroral table giving a summary of the observations of aurorae in the British Isles. It is compiled from the detailed observations received at the Balfour Stewart Auroral Laboratory. A detailed examination of the tables for 1957 and 1958 has been made by B. McInnes and K. A. Robertson in a paper published in the *Journal of Atmospheric and Terrestrial Physics*, 19, 1960, p.115.

ATMOSPHERIC ELECTRICITY

The programme at Lerwick and Eskdalemuir is to maintain a continuous record of atmospheric electric potential gradient as it exists just above a natural open level surface. This is also done at Kew Observatory but there, in addition, regular measurements are made on fine afternoons of the air-earth current. These latter are expressed as mean values covering the period of observation which is normally about 20 minutes centred on about 1430 G.M.T.

Continuous Potential Gradient measurements

The instruments used for the recording of the potential gradient are similar in principle at all three observatories. An insulated boom projects through the wall of the building and takes up the potential of the air because of the ionisation caused by a small radio-active collector fitted to its tip. The potential of the boom is recorded by an electrostatic voltmeter. The use of valve voltmeters for these measurements is discussed below.

The collectors are of polonium deposited on a copper rod about 4 cm long by 0·5 cm diameter; these are recoated periodically by arrangement with the Government Chemist and a fresh collector is brought into use each quarter. Tests at Kew Observatory in 1959 showed that the strength of a new collector is usually between 80 and 200 micro-curies. A note about the supply of the collectors and of the techniques used in plating them is given in *Nature* 1955, 175, p.965.

The potential of the boom is of course affected by the presence of buildings, although it is assumed that this potential is always proportional to the potential gradient in the open. Standardising measurements have therefore to be made of the true potential gradient at a suitable open site. The ratio of the potential gradient in the open to the potential of the boom is called the exposure factor and is expressed in the units ($metre^{-1}$).

The methods of making the standardisation measurements of potential gradient are different at each observatory.

At Lerwick an insulated wire with a polonium collector fixed to its centre is stretched horizontally between two stout wooden posts 9 m apart. The centre of the wire is exactly 1 m above a levelled piece of ground. The potential of this wire is observed at 1 minute intervals for a period of 10-20 minutes using a Wulf electrometer. From the mean value of the observed potential and the mean reading of the electrograph an exposure factor is calculated. Observations are made in fine weather and as many as possible are made. Smoothed monthly means of the factors so obtained are used in the reduction of the records.

At Eskdalemuir absolute observations of potential gradient are made with a Wulf electrometer using a small pit about 50 yards from the main building. The electrometer is placed inside the pit and from the electrometer a thin metal rod (0·4 cm in diameter) projects vertically upwards through a hole in the metal lid covering the pit. A polonium collector is fixed to the rod at exactly one metre above the ground level. It has been shown experimentally that the potential of the rod is the same (within experimental error) as that of a stretched wire at one metre exposed to the same potential gradient.

The observer shuts himself in the pit and takes readings of the electrometer every half minute until 15-30 readings have been obtained. As at Lerwick observations are made in fine weather and at least six per month are aimed at. From the mean potential of the Wulf electrometer over the period and the corresponding mean value of the record, the exposure factor of the electrograph is obtained.

For any given month a mean exposure factor is used and this is a smoothed running mean using observations made during the preceding and following months.

The absolute measurements at Kew are made with the Wilson apparatus in the underground laboratory; these are described below.

At Lerwick the Benndorf electrograph, which had been the standard recording instrument since 1926, was replaced on 1 January 1961 by the valve voltmeter electrograph. This electrograph had been recording in a position similar to that of the Benndorf electrograph since 1959; the boom projected about 80 cm through a window, and about 420 cm above the ground. On 13 July 1961 this electrograph was moved into the newly constructed observatory buildings. In its new position the boom projects 58 cm from the north-east wall of the electrograph room at a height of 206 cm above the ground. The instrument is 160 m from the site of the absolute potential gradient measurements. A site plan, Fig.3, in the *1961 Observatories' Year Book* shows the old and new positions of the electrograph and the site of the absolute potential gradient measurements.

The valve voltmeter electrograph is constructed on the pattern described by A. W. Brewer (*Journal of Scientific Instruments*, 30, 1953, p.91). A pen record is obtained on a chart, 7·5 cm wide, which normally moves at a speed of 1·2 cm per hour, but the speed can be increased if required.

The scale value of the electrograph is 3 volts per mm on its sensitive scale, and about 15 volts per mm on its insensitive scale. The boom is automatically earthed at each hour, and then operates on the sensitive scale. When the voltage exceeds 90 volts, the electrograph automatically changes to its insensitive scale. Full scale deflection on the insensitive scale is obtained with about 540 volts, so with an exposure factor of around 2·5 the electrograph can record a range of +1350 to −1350 volts per metre in the open. Scale value measurements are made once weekly, using dry batteries and a calibrated voltmeter. The insulation is tested daily and, even in wet weather, is good. In fine weather the rate of leak is so small, that the time taken for the instrument to lose half its potential has never been measured; only after 15 minutes has a movement of the pen been detectable.

Tests of the rate of rise of potential of the electrograph and boom with the polonium collector fitted are made at intervals. The time taken for the potential to rise to half its final value is 2-3 seconds. The rate of leak is thus so very much less than the rate of charging that the difference between the potential of the boom and that of the air surrounding it is negligible.

The electrograph at Eskdalemuir consists essentially of a quadrant electrometer with a small mirror on the vane which reflects a light spot on to a sheet of bromide paper wrapped around a drum rotated by clockwork. From 1936 until 1954 the electrograph boom projected through a pipe in the north wall a few feet to the west of its present position; it now projects through a wooden door.

The boom is supported on insulators, formerly of sulphur but, since October 1957, of polythene. Tests of the insulation of the boom and electrograph are made frequently (about 3 times per week). The insulation was in general very satisfactory throughout the year.

The scale value of the record was approximately 1·8 volts per millimetre during 1962 and this, combined with an exposure factor of about 8, means that one millimetre on the record corresponded approximately to 14 volts per metre in the potential gradient over an open level surface.

The Kew electrograph, which is also a quadrant electrometer recording photographically, was moved in April 1940 from a low building known as the Clinical House to a room in the main Observatory Building; the new position is 18 m to the east of the former position. In March 1941 a metal fire escape was erected on this wall above the boom and this reduced the recorded potential by nearly 50%. This was compensated by increasing the sensitivity of the recorder by an approximately similar amount. The radioactive collector is now 90 cm from the window of the building through which the boom projects and 360 cm above ground level.

The scale value of the electrograph has been fixed at about 17 volts per metre per millimetre.

The electrograph became unreliable in May 1953 and from then until the end of 1955 the continuous records of potential gradient have not been published. Reliable recording started again on 1 January 1956.

Valve voltmeters, as now in use at Lerwick, have also been recording continuously at Kew since May 1958, and at Eskdalemuir since April 1959, in addition to the electrograph voltmeters.

Air-earth current and conductivity measurements at Kew

Measurements of the air-earth current and potential gradient are made in an underground laboratory using a modified Wilson apparatus. From these observations the conductivity can be calculated. The apparatus was devised by C. T. R. Wilson* and is described in detail by F. J. Scrase†. Briefly, it consists of an insulated brass plate, mounted with its top surface flush with the ground level, and connected to a sensitive electrometer. The test plate can be covered when necessary with an earthed cylindrical cover, and can be maintained at any desired potential (usually zero) by a small charged variable capacitor (called the compensator). The method of using the instrument at Kew differs slightly from that adopted by Wilson, who used the readings of the position of the compensator to obtain the charge on the test plate. At Kew the compensator is used merely to keep the plate at zero potential, and the charge is measured by reading the deflection of the electrometer. The potential gradient is measured by the charge induced on the plate when it is exposed to the earth's field, and the air-earth current is measured by finding the charge collected by the plate during a known period (usually five minutes).

The potential gradient F is given in volts per centimetre by the formula

$$F = 4\pi\ (9 \times 10^{11})\ Cv/A$$

where C is the capacity, in farads, of the system (when shielded), v is the potential acquired by the test plate after being exposed to the field, earthed and then shielded, and A is the area of the test plate‡. The potential gradient found in this way is, to a close approximation, equal to that found by measuring the potential at a height of 1 m in the open part of the grounds with a stretched wire apparatus.

The air-earth current is given in amperes per square centimetre by the formula

$$i = C\delta v/At$$

where δv is the potential acquired by the plate in t seconds. The value of δv used is the mean result from four observations, each lasting five minutes. The observations of the current are sandwiched between measurements of the field strength, and from the mean values of i and F the conductivity λ is deduced. This conductivity is that due to positive ions only since measurements are made only with positive fields. No observations are made in precipitation and fog.

From 1 July 1949 to the end of 1955 trouble was experienced with the Wilson test plate apparatus and the observations of air-earth current and conductivity during the period have subsequently been found to be unreliable. These observations have not therefore been published.

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*WILSON, C.T.R.; *Proc. Camb. phil. Soc., London*, **13**, 1906, pp.184 and 363.

†SCRASE, F.J.; *Geophys. Mem., London*, **7**, No.60, 1934.

‡In practice, at present, half the potential gradient observations are made by a slightly different procedure, less desirable in principle, but giving negligibly different results; the plate is shielded, earthed and then exposed to the field and its potential measured.

The observations of the potential gradient with this apparatus during this time were checked, however, on a number of occasions by simultaneous observations of the potential of a stretched wire at one metre above the ground level; the differences between the two methods of observations occasionally reached 15 per cent but the mean difference was only 4 per cent, the Wilson measurements being the greater. In view of the trouble with the apparatus it was decided that from July 1949 onwards until the end of 1955 the stretched wire observations should be the standard and that, before being used for electrograph standardisations, the Wilson observations should be corrected to allow for the differences between the two. Throughout this doubtful period the observations of potential gradient with the Wilson apparatus have been considered of sufficient value to publish, but the differences found between these observations and those made with the stretched wire apparatus must be borne in mind.

The instrument was overhauled late in 1955 and from 1 January 1956 the records and tabulations are considered reliable.

TABULATIONS

Tables 19 (for Lerwick), 39 (for Eskdalemuir) and 41 (for Kew) contain the mean values of the potential gradient for periods of 60 minutes ending at exact hours G.M.T. The entry for these hours, however, for which the mean is indeterminate because of large fluctuations, is made according to the following code:- Z+ means an indeterminate but positive value, Z- an indeterminate but negative value and Z± an hour when the gradient was indeterminate in both magnitude and sign. In addition the entry for hours when precipitation is observed or recorded is marked with an asterisk.

Mean values and sums are given for each hour and for the months and year, using only hours without precipitation and for which the entry is not Z. The number of hours used for each mean is given. Estimated values are entered in brackets and are included in the sums and means. Besides this the monthly and annual mean potential gradients are given, using only the entries for 0a days (or for "selected quiet days" at Kew Observatory). The definition of 0a days is given in the next paragraph; the definition of "selected quiet days" at Kew is as follows:- normally 10 quiet days are selected in each month, these being calendar days characterised by no negative potential gradient, no large irregular movements, no indication of inferior insulation and no large non-cyclic change. When there are not 10 calendar days in a month the number can sometimes be made up by using other spells of 24 hours. The purpose of these entries is to enable comparison to be made with previous years for which corresponding information has been published.

In Tables 20, 40 and 42 (for Lerwick, Eskdalemuir and Kew respectively) the duration of negative potential is tabulated and an electrical character figure is assigned to each day.

At Kew the following scheme is used for the latter entries:-

0 denotes a day during which, midnight to midnight, no negative potentisl was recorded.

1 denotes the existence of nagative potential at one or more times during the same period but with a total duration of less than three hours.

2 denotes negative potential extending in the aggregate to three hours or more during the same period.

Besides allocating each day a number as done at Kew, Lerwick and Eskdalemuir observatories also allocate to each day a symbol, either "a", "b" or "c". The definition of these is as follows:-

a denotes that within the 24 periods of 60 minutes, for which an estimate of the mean potential gradient has to be made, there was in no case a range of potential gradient in the open exceeding 1000 volts per metre.

b denotes that a range of 1000 volts per metre or more was reached in one hour at least, but in fewer than six individual hours.

c denotes that a range of 1000 volts per metre or more was reached in at least six individual hours.

During periods of defective record the sign of the gradient is assumed positive when no precipitation was recorded. If precipitation was recorded for less than one hour during such defective periods, an approximate value for the duration of negative potential for that hour has been assigned and the total for the day is given in brackets. If this cannot be done the entry for any day with a defective record is "-". When, because of oscillating gradients, there is uncertainty as to the times of change of sign, half the total duration of doubtful sign is accounted negative. When by reason of defective record there is some doubt as to the correctness of either the character number or letter or both, round brackets are put around the doubtful entry.

Table 43 contains the results of the measurements of the potential gradient, air-earth current and conductivity due to positive ions made with the Wilson apparatus at Kew. Each entry is the mean value for a period of twenty minutes centred about 1430 G.M.T. on the date in question. Monthly and annual means are also given.

It should be pointed out that the unit of potential gradient is volts per centimetre (not volts per metre as in the other tables); the unit of air-earth current is 10^{-18} ampere per square centimetre and the unit of conductivity is 10^{18} per ohm per centimetre.

NOTES ON THE RESULTS

While no detailed discussion of the results is attempted here it is perhaps of interest to point out that marked changes have occurred since around 1951; those occurring in the period 1951-1959 were discussed by K. H. Stewart in the *Quarterly Journal of the Royal Meteorological Society*, 86, 1960, p.399 and attributed to the deposition on the ground of radioactive debris from nuclear explosions for test purposes. The results obtained since 1959 appear to confirm this hypothesis; the changes continue to be linked with the frequency of tests.

ATMOSPHERIC POLLUTION

On 1 January 1962 the use of the Owens atmospheric pollution recorder at Kew Observatory was discontinued and the new Department of Scientific and Industrial Research (D.S.I.R.) recorder became the standard instrument for measuring the diurnal variation of atmospheric pollution. This was foreshadowed when the new recorder was described in the Introduction to the 1961 *Observatories' Year Book*. This description is repeated below for convenience; for a description of the Owens instrument reference should be made to the Report on observations in the year 1917-18, *London Meteorological Office, Advisory Committee on Atmospheric Pollution*. The new recorder was installed during February 1961 in the building known as the Clinical House, with the level of the intake about two metres above that of the adjacent ground.

The new recorder was designed at the Warren Spring Laboratory of the D.S.I.R. and operates on a similar principle to their standard daily filters. Air is drawn by a small pump through a filter and thence through an air meter. The filter material is, however, a continuous roll of glass fibre "paper", and the clamp, which defines the area of the paper through which the air is drawn, can be released automatically by a time switch. When this happens the filter paper is also wound on a suitable distance, so that when the clamp is allowed to reposition itself the air is drawn through a fresh area of the paper and a new stain is produced.

The instrument is operated from an hourly time switch so that 24 stains are produced every day. The air meter is only read once a day but it has been found that by using a constant voltage transformer to supply the power for the electric pump the rate of air flow is extremely constant. During periods of light pollution a pump sucking 5·5 cu ft an hour is used but during times of heavy pollution a different pump sucking only 2·8 cu ft an hour is used.

The stains are much larger in diameter than those produced by the Owens recorder and the optical density is measured with a photoelectric reflectometer. This result is a much more accurate and sensitive reading. It is estimated that the minimum concentration of smoke that can be reliably detected by this apparatus is about 0·005 milligrams per cubic metre whereas with the Owens instrument the limit is at least twenty times this value.

The relation between the reflectance of the glass fibre stain, the volume of air passed and the smoke concentration was not known at the beginning of this work. A reliable calibration has however been determined at Kew by comparing the results from daily and hourly measurements on the same day. Full details of this calibration are given in a paper by R. H. Collingbourne and H. E. Painter[1].

The new instrument was run side by side with the Owens recorder for 10 months in 1961 and considerable systematic differences were found between the results of the two instruments. These were only in part due to the greater sensitivity of the new instrument. In the table below is given the mean relation between the monthly mean hourly values of smoke concentration as found from the two instruments.

Relation between Monthly mean hourly values of smoke concentration
as found by the two recording instruments in 1961
unit: milligrams per cubic metre

Owens	D.S.I.R.	Owens	D.S.I.R.
·075	·027	·16	·23
·10	·045	·20	·31
·12	·085	·30	·46
·14	·175		

It is seen that the Owens instrument reads too high at low concentrations and too low at high concentrations. It undoubtedly well underestimates the peak concentrations. A fuller discussion of the comparison between the Owens instrument and the new recorder is in preparation; meanwhile the discontinuity in the records should be noted. The average diurnal

[1] COLLINGBOURNE, R.H. and PAINTER, H.E.; A smoke filter curve for glass fibre filter paper type AGF/A. *Air Wat. Poll., London*, 8, 1964, p.159.

change in atmospheric pollution will also be much more accurately measured with the new instrument.

A summary of the results obtained at Kew is given in Table 44. In this table are hourly means of the concentration of suspended matter, in milligrams per cubic metre, for each month, the seasons and the year. Winter is taken as the months January, February, November and December, Spring as March and April, Summer as May to August and Autumn as September and October.

The data from this instrument are also published in a different form in the various Reports of the Atmospheric Pollution Research Committee, (D.S.I.R., "*The Investigation of Atmospheric Pollution*", H.M.S.O. published yearly). The results of the observations made with the daily smoke filters for Kew, Eskdalemuir and Lerwick are also published in these volumes.

During 1962 the highest estimate of pollution at Kew was 3·5 mg/m^3, this value occurring from 16-17 hours on 5th December.

There were three days on which the mean hourly concentration of pollution reached 1·0 mg/m^3.

The number of hours credited with 1·0 mg/m^3 or more was forty-five, all of which occurred in December; thirty-six from 3rd-7th December, two on 19th December and seven on the 22nd December. However, due to freezing fog causing a blockage in the inlet pipe to the instrument, no hourly measurements were possible from 20 hours on 3rd December to 14 hours on 4th December and from 20 hours on 4th December to 09 hours on 5th December and it is probable that the concentration during most of these thirty-one hours exceeded 1·0 mg/m^3.

Late in 1960 there was also installed at Kew Observatory, on behalf of D.S.I.R., apparatus for the measurement of the concentration of sulphur dioxide in the atmosphere. Air which has already been passed through the daily smoke filter is bubbled through a weak solution of hydrogen peroxide causing the sulphur dioxide to be converted to sulphuric acid and to remain in solution. The acidity of the hydrogen peroxide solution is then found by titration against a 1/250 normal solution of sodium borate, using B.D.H.4·5 (a narrow range indicator); from this result, knowing the volume of air, the average sulphur dioxide concentration can be calculated. Measurements are made once daily and, since January 1961, the results have been passed at monthly intervals to D.S.I.R. and published by them alongside the smoke pollution data (see above).

A full description of this method of measuring the sulphur dioxide concentration (together with other methods of measuring atmospheric pollution) is given in the D.S.I.R. publication "*Measurement of Air Pollution*", (London, H.M.S.O. 1957).

NOTE ON THE TABLES: Where figures are in italics they are maximum and/or minimum values. All times are in G.M.T.

LERWICK

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H) — 14,000γ (0·14 C.G.S. unit) + — JANUARY 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 13,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	577	581	583	571	583	595	590	591	587	583	576	575	576	582	586	587	587	588	589	590	590	587	585	587	584	1026
2	579	584	584	588	593	591	599	581	574	563	562	571	568	572	572	575	573	571	575	579	580	579	576	579	578	868
3	580	581	580	583	585	588	591	589	584	578	574	574	576	579	583	587	586	587	585	584	580	577	576	579	582	966
4 q	580	582	580	583	585	587	588	588	585	581	576	573	576	581	581	584	588	587	585	584	585	585	585	585	583	994
5 q	585	585	584	585	587	589	590	590	588	583	581	580	582	586	590	592	591	590	589	589	588	587	587	585	587	1083
6	585	587	587	589	593	592	595	594	591	588	585	584	583	585	591	590	589	582	578	583	588	590	590	589	588	1108
7	588	588	589	592	592	593	595	597	596	594	591	590	583	587	588	584	580	578	581	580	578	571	571	583	586	1069
8	590	592	592	595	593	593	593	592	590	589	583	583	584	585	583	583	580	575	585	592	590	589	588	587	588	1106
9	585	587	587	589	590	594	593	592	591	589	587	581	572	576	575	576	576	575	578	574	570	580	585	585	583	987
10 d	583	585	591	587	541	595	603	603	616	605	565	530	553	594	651	673	758	566	623	576	534	547	508	530	*588*	1117
11 d	508	542	554	544	566	573	562	566	562	564	566	564	560	556	555	562	564	564	567	569	572	573	572	582	*561*	467
12	567	566	568	571	573	581	578	578	573	573	573	571	571	573	573	574	575	574	571	569	572	574	574	576	573	748
13	577	573	575	576	583	580	582	583	580	579	577	572	573	576	576	578	580	580	580	577	576	578	583	584	578	878
14	583	583	583	584	584	585	587	583	581	580	576	577	581	587	590	580	565	565	579	587	587	585	592	573	582	957
15	576	574	570	570	571	576	578	579	575	569	564	565	574	579	580	580	583	585	583	576	580	582	553	588	575	810
16 d	580	578	570	574	580	584	586	580	587	583	579	574	554	576	577	579	581	580	585	580	571	577	569	570	577	854
17	580	579	578	576	579	583	587	583	583	576	573	573	576	583	590	587	582	586	583	583	576	581	581	581	581	939
18	583	582	581	580	583	585	585	584	583	580	580	580	581	586	587	583	577	587	587	587	588	587	587	585	584	1008
19 d	585	589	591	590	588	592	589	596	592	583	581	578	580	562	563	567	576	608	559	565	567	569	570	567	579	907
20	567	570	573	573	574	580	580	585	583	578	574	573	576	578	578	578	579	580	576	573	579	579	582	585	577	853
21	582	576	573	583	588	593	590	588	581	579	580	580	576	560	579	580	581	581	582	581	581	581	573	578	580	926
22 q	578	579	580	581	583	584	585	587	583	580	575	570	569	574	579	578	576	578	582	582	584	582	583	582	580	914
23 q	582	581	581	582	583	585	585	583	581	581	578	576	579	583	580	577	580	583	585	584	584	585	584	584	582	966
24 q	584	583	584	584	585	586	587	587	585	583	582	579	578	583	587	585	584	584	587	587	585	586	582	584	584	1021
25	583	584	585	584	588	590	596	599	598	589	580	576	580	583	583	582	587	587	589	587	587	587	589	594	587	1087
26	585	574	580	583	589	594	592	591	586	580	576	568	569	573	584	571	571	576	574	571	581	586	579	584	580	917
27 d	589	598	583	585	584	588	599	585	580	572	560	573	573	573	574	575	576	580	578	585	581	571	581	577	580	920
28	580	581	580	583	585	589	590	583	582	573	571	571	572	579	581	579	579	580	580	585	585	584	584	584	581	940
29	581	581	585	584	584	593	590	590	584	578	576	576	580	567	564	571	580	585	584	585	585	587	584	586	582	960
30	590	577	577	580	582	593	591	586	584	581	577	574	566	574	573	578	583	587	588	588	584	573	573	580	581	939
31	580	581	584	585	586	589	590	591	589	583	580	576	574	574	576	580	584	587	587	587	588	588	587	587	584	1013
Mean	579	580	580	581	583	588	*589*	587	585	581	576	*574*	574	578	582	582	585	581	582	581	580	580	578	581	581	
Sum 17,000+	952	983	992	1014	1060	1220	1246	1204	1134	997	858	787	795	906	1029	1055	1151	1016	1054	1019	976	987	913	1000		Grand Total 432,348

MAGNETIC DECLINATION (WEST)

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

2 LERWICK (D) — 9° + — JANUARY 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 800·0+
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1	32·4	36·2	36·0	39·9	38·5	34·5	35·3	35·0	34·7	35·3	36·3	37·1	37·9	38·0	36·8	36·3	36·2	36·3	36·0	35·8	35·5	35·3	35·4	34·9	36·1	65·6
2	34·8	33·4	34·2	35·2	33·4	35·5	37·0	38·7	38·9	36·3	37·3	39·1	40·1	40·9	41·0	37·2	37·0	36·3	36·0	34·8	33·3	33·6	32·1	33·9	36·3	70·0
3	35·3	36·2	36·3	36·3	35·8	36·0	35·7	35·2	34·5	34·9	36·3	38·0	37·8	38·3	38·0	36·6	36·3	35·6	35·8	35·8	33·3	33·5	33·4	33·3	35·8	58·2
4 q	35·0	35·9	36·0	36·1	35·9	35·5	35·2	35·1	34·6	35·1	36·2	37·3	38·8	39·3	38·1	36·8	36·0	35·5	35·4	35·3	35·4	35·5	35·5	35·8	36·1	65·3
5 q	36·1	36·2	36·3	36·5	36·7	36·4	35·7	35·3	35·2	35·3	36·4	37·1	38·5	38·7	38·0	37·1	36·8	36·7	36·6	36·4	36·2	35·6	35·2	34·9	36·4	73·9
6	36·0	36·5	36·8	37·8	36·7	35·8	35·6	35·3	35·3	35·8	36·2	37·3	38·7	38·8	38·7	38·2	38·8	38·0	37·1	35·8	35·4	35·3	35·8	35·6	*36·7*	81·3
7	35·9	36·0	36·2	36·4	36·4	36·6	36·4	36·0	35·6	35·3	36·3	39·1	36·7	38·1	38·4	38·4	40·2	39·1	37·2	35·6	35·5	31·9	33·1	34·8	36·5	75·2
8	35·6	35·1	34·8	33·2	32·9	32·6	32·1	30·2	28·5	34·6	35·8	37·1	38·5	39·9	39·3	40·0	40·2	38·5	37·5	36·4	35·3	35·0	34·9	35·2	35·5	53·2
9	35·6	36·1	37·2	37·3	36·7	36·3	35·6	35·4	35·1	35·2	35·8	37·0	38·7	40·4	40·1	42·0	41·4	39·5	37·7	33·9	28·5	31·0	33·5	33·3	36·4	73·3
10 d	35·0	34·9	33·2	34·0	32·7	34·6	34·5	34·1	37·8	37·0	35·1	42·4	46·7	43·2	42·2	35·9	44·4	40·1	37·8	23·7	26·2	25·8	26·9	28·0	35·3	46·2
11 d	30·0	34·8	36·6	38·5	38·5	36·4	35·6	36·5	35·7	35·0	36·1	36·9	37·0	37·6	38·9	37·8	36·0	34·5	31·5	34·2	33·5	32·2	31·0	30·5	35·2	45·3
12	33·0	33·3	34·9	35·2	34·5	34·5	35·6	34·9	34·2	34·5	35·4	36·0	36·9	37·0	36·3	36·1	35·4	35·2	34·4	34·8	34·5	32·7	33·3	34·7	*34·9*	37·3
13	34·8	34·1	35·3	35·9	35·1	35·8	35·7	34·7	34·1	34·5	35·8	36·6	37·8	38·0	37·0	35·9	36·0	35·7	35·5	34·4	34·1	33·7	33·5	34·1	35·3	48·1
14	34·8	35·1	35·1	35·1	35·1	35·6	35·1	34·7	34·6	35·1	35·6	37·0	38·5	39·4	40·0	41·9	41·9	45·8	41·9	39·2	32·2	32·1	26·4	28·1	36·3	70·3
15	31·8	34·5	35·1	34·6	34·9	34·6	35·0	35·2	35·2	35·1	36·1	38·4	38·0	38·4	37·6	36·5	35·4	36·5	36·6	34·5	34·4	32·2	34·4	34·1	35·4	49·1
16 d	34·8	34·1	35·5	33·7	33·8	34·1	35·8	38·0	34·1	36·0	37·8	38·2	39·0	40·0	40·4	38·0	38·4	36·1	32·3	35·9	33·6	29·9	30·7	34·6	35·6	54·8
17	35·6	36·1	35·8	34·9	34·3	34·7	33·5	33·5	33·9	34·6	36·6	38·6	39·3	38·5	37·5	37·0	35·1	37·0	37·0	36·1	33·8	35·0	35·1	35·0	35·8	58·5
18	35·1	34·9	35·2	35·6	35·4	35·2	35·1	34·6	34·2	35·1	36·4	37·0	37·3	37·4	36·6	36·5	35·2	36·5	36·5	36·1	35·7	35·2	35·1	34·9	35·7	56·8
19 d	34·6	35·1	35·4	33·3	35·4	33·7	35·9	37·5	37·0	34·5	35·5	36·1	38·5	40·4	40·4	37·7	36·4	34·9	29·3	35·1	34·6	34·2	32·7	32·7	35·5	50·9
20	34·6	35·6	36·1	35·6	35·6	35·6	35·1	34·6	34·2	34·3	35·6	37·0	37·0	37·1	36·3	35·4	35·6	35·7	35·4	31·2	34·1	33·7	34·2	33·7	35·1	43·3
21	35·1	35·1	36·5	35·5	35·2	35·4	35·1	34·4	35·6	37·0	38·5	39·0	40·0	38·3	37·0	36·8	36·2	36·3	35·7	35·3	34·7	30·1	29·3	33·9	35·7	56·0
22 q	34·2	34·6	35·6	35·3	35·5	35·2	34·7	35·2	34·3	33·8	34·1	35·4	37·0	37·4	36·3	35·7	35·6	35·6	35·4	35·2	34·5	34·3	34·2	34·2	35·1	43·3
23 q	34·9	35·1	35·3	35·7	35·2	34·8	34·5	34·0	34·0	34·5	35·7	36·3	36·8	37·3	36·6	36·1	36·0	35·9	35·7	35·1	34·1	34·4	34·2	34·6	35·3	46·8
24 q	35·1	35·3	35·2	35·3	35·2	35·1	34·4	34·2	34·4	35·1	35·3	36·1	36·7	37·4	37·1	36·9	36·3	36·1	35·5	35·3	34·1	32·7	32·5	34·1	35·2	45·4
25	34·8	35·6	35·6	35·2	35·1	34·9	34·6	34·9	35·4	35·3	35·9	36·3	37·0	37·4	37·0	36·8	36·3	36·3	36·5	36·1	35·6	34·2	33·7	31·7	35·5	52·2
26	31·2	32·6	35·1	35·5	35·4	35·1	34·7	34·2	34·0	34·7	36·6	38·2	40·6	40·3	41·7	39·0	41·0	38·0	36·7	36·8	34·5	33·8	32·6	34·0	36·1	66·3
27 d	34·2	35·4	35·6	35·9	34·6	37·5	35·5	37·1	36·8	38·5	37·9	39·1	38·4	39·7	38·0	36·9	37·0	36·9	36·7	35·1	31·3	29·4	27·5	32·3	35·7	57·3
28	34·5	35·4	35·3	35·2	36·0	35·5	35·1	33·9	34·8	34·6	36·1	37·0	37·7	37·4	36·7	35·8	36·1	36·3	36·6	35·5	35·1	35·2	34·2	33·4	35·6	53·4
29	34·6	35·5	36·0	35·4	36·9	33·6	34·1	34·6	34·3	35·6	36·0	37·3	40·6	40·9	40·3	38·0	36·7	36·1	36·1	35·6	35·2	34·9	34·9	34·4	36·1	67·6
30	33·2	34·5	34·7	34·9	36·1	33·8	35·1	35·0	34·7	34·2	35·6	36·8	38·4	39·1	39·2	38·4	36·6	35·7	35·6	35·4	35·1	31·8	32·8	33·5	35·4	50·2
31	33·8	34·7	35·5	34·1	34·5	34·8	35·1	34·6	34·3	34·1	34·9	35·7	36·8	37·1	37·1	36·6	36·3	36·1	36·1	36·0	35·5	35·1	35·1	35·1	35·4	49·0
Mean	34·4	35·1	35·6	35·6	35·4	35·1	35·1	35·1	34·8	35·2	36·1	37·4	38·4	*38·8*	38·3	37·4	37·3	36·9	35·9	35·1	34·0	33·2	*33·0*	33·7	35·7	
Sum 1000·0+	66·4	87·9	102·4	103·1	98·0	89·7	88·4	86·6	80·0	90·9	119·2	160·5	191·7	201·7	188·6	158·3	156·8	142·8	114·1	86·4	54·8	29·3	23·2	43·3	35 6	Grand Total 26564·1

GEOMAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

3 LERWICK (Z) — 47,000γ (0·47 C.G.S. unit) + — JANUARY 1962

Day	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 7000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	331	327	325	325	308	316	325	326	331	333	333	333	333	333	333	332	332	331	332	331	331	332	332	325	329	890
2	311	304	310	305	307	314	314	321	322	331	337	336	340	338	339	339	345	345	343	339	339	337	337	334	329	887
3	329	329	329	329	328	328	328	328	329	331	333	334	336	336	334	332	332	332	332	332	333	335	333	332	331	954
4 *q*	328	328	328	328	328	326	326	326	328	329	329	329	332	332	332	332	330	329	328	328	328	328	328	328	329	888
5 *q*	329	329	328	328	326	324	323	323	325	325	324	325	326	326	328	328	328	326	325	324	324	325	327	328	326	824
6	326	326	326	325	318	318	317	317	318	319	319	318	319	322	327	329	332	334	336	331	328	324	324	324	*324*	777
7	325	325	326	325	324	322	322	319	317	316	317	319	322	324	327	329	332	335	337	339	340	346	344	342	328	874
8	340	338	336	334	332	330	328	326	325	325	325	325	325	327	332	334	339	348	338	332	328	326	325	325	331	943
9	323	323	324	322	322	321	323	325	323	320	319	322	326	326	333	339	343	350	346	351	362	347	339	332	332	961
10 *d*	326	321	304	256	260	275	298	308	304	308	331	351	393	422	488	532	546	509	499	441	339	342	293	247	*362*	1693
11 *d*	264	269	293	298	298	305	325	328	334	338	339	339	339	345	349	349	349	351	355	355	350	348	342	328	329	890
12	326	325	327	327	329	330	334	335	335	333	334	335	333	335	336	336	336	338	343	344	343	343	339	333	335	1029
13	321	328	328	329	329	333	333	336	338	336	336	336	336	336	336	336	335	335	337	339	340	339	337	333	334	1022
14	333	332	331	328	328	328	328	332	333	333	332	329	328	328	331	342	375	397	398	427	415	395	403	343	352	1449
15	328	327	333	330	332	332	333	334	336	343	342	337	336	337	343	344	340	335	336	343	342	342	296	281	333	982
16 *d*	322	332	333	328	331	330	326	327	327	328	332	338	350	344	343	344	349	351	346	343	349	338	339	337	337	1087
17	328	334	333	333	332	333	333	333	333	333	338	340	341	340	339	339	340	337	337	336	340	334	335	335	336	1056
18	334	334	333	333	330	328	327	327	328	327	327	331	331	331	333	334	338	332	328	327	327	328	328	331	330	927
19 *d*	332	329	323	323	325	322	324	314	318	322	324	328	334	347	357	382	439	474	403	361	350	343	334	330	347	1338
20	331	334	335	336	335	333	333	333	333	334	333	333	334	339	342	342	340	338	338	343	334	335	333	328	335	1049
21	331	333	334	333	333	331	332	329	328	326	326	328	333	346	344	340	342	340	337	335	334	333	332	328	334	1008
22 *q*	331	333	333	333	332	332	331	328	328	329	330	331	330	331	332	333	333	333	331	331	328	328	328	328	331	937
23 *q*	328	329	331	332	332	331	329	329	328	323	322	321	322	326	329	332	332	331	331	330	329	328	327	326	328	878
24 *q*	326	327	328	328	328	328	328	328	327	325	326	326	326	326	327	328	331	332	332	332	332	329	329	326	328	875
25	325	325	325	327	327	327	324	322	320	323	326	328	328	328	328	328	328	331	331	333	332	331	328	321	327	846
26	321	325	326	327	327	327	328	328	329	328	328	331	327	327	331	338	343	346	361	363	349	334	333	327	333	1004
27 *d*	314	293	314	319	322	316	309	316	321	326	333	331	329	333	334	333	333	336	339	335	339	339	327	324	326	815
28	324	323	326	326	326	324	324	328	328	331	331	329	328	329	330	333	333	333	335	333	332	332	329	327	329	894
29	327	326	323	323	321	318	322	326	328	331	332	332	328	335	338	336	332	329	329	329	329	329	329	320	328	872
30	294	310	317	320	317	317	320	323	326	329	329	333	334	334	338	338	332	329	328	328	331	339	338	331	326	835
31	327	325	322	323	323	322	322	323	327	328	328	329	333	333	329	334	327	326	323	325	327	327	327	327	327	837
Mean	324	324	325	324	*323*	323	325	326	327	328	329	331	333	336	340	343	347	*348*	346	343	339	337	332	325	332	
Sum 10,000+	35	43	84	33	10	21	69	98	127	163	215	257	332	416	542	647	766	793	714	640	504	436	295	81		Grand Total 247,321

DAILY EXTREMES OF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH HOUSE

4 LERWICK — All Times G.M.T. — JANUARY 1962

Day	GEOMAGNETIC ELEMENTS: Horizontal component: Maximum 14,000γ + (h. m.)	(γ)	Minimum 14,000γ + (γ)	(h. m.)	Range (γ)	Declination: Maximum 9° + (h. m.)	(′)	Minimum 9° + (′)	(h. m.)	Range (′)	Vertical component: Maximum 47,000γ + (h. m.)	(γ)	Minimum 47,000γ + (γ)	(h. m.)	Range (γ)	3-hr. range indices K	Sum of K indices	Magnetic character of day, C (0-2)	Temperature in magneto-graph house 200 + (°A.)
1	23 41	600	562	03 50	38	03 52	43·1	28·7	24 00	14·4	12 10	335	304	23 59	31	2,2,1,1,0,0,0,2	8	0	77·9
2	06 28	600	551	10 00	49	14 09	43·1	26·1	00 10	17·0	17 02	348	293	00 57	55	3,1,2,2,1,1,1,2	13	0	77·0
3	06 36	592	572	10 46	20	13 29	38·7	30·6	20 51	8·1	21 42	337	325	05 55	12	0,0,0,0,0,0,2,2	4	0	77·2
4 *q*	06 20	589	571	11 24	18	13 45	39·7	33·3	00 02	6·4	15 00	333	325	06 43	*8*	1,0,0,0,0,0,0,0	1	0	77·8
5 *q*	15 54	592	578	11 23	14	12 41	39·0	34·0	22 55	5·0	02 00	331	322	10 48	9	0,0,0,0,0,0,0,0	0	0	78·0
6	06 40	596	575	18 10	21	03 39	40·1	35·0	20 00	5·1	18 20	339	316	04 10	23	0,1,0,0,1,1,1,1	5	0	78·0
7	07 54	599	568	22 08	31	17 02	40·8	30·0	21 58	10·8	21 05	349	315	10 55	34	0,0,0,0,0,0,1,2	3	0	78·0
8	03 42	597	566	17 11	31	16 31	41·0	27·7	08 20	13·3	17 16	353	322	23 00	31	0,0,1,0,1,2,1,1	6	0	77·9
9	05 23	595	562	20 26	33	15 37	42·7	23·8	20 00	18·9	19 59	367	317	10 33	50	1,1,0,1,1,2,3,2	11	0	78·0
10 *d*	16 11	*873*	*434*	19 58	*439*	14 40	*57·4*	*4·3*	19 47	*53·1*	16 02	*570*	*207*	03 53	*363*	2,4,3,4,5,6,5,4	33	2	78·0
11 *d*	23 19	593	481	00 26	112	03 48	42·8	27·6	00 43	15·2	18 07	360	254	00 44	106	4,2,2,2,2,3,2,2	19	0	78·0
12	23 50	583	563	00 52	20	23 55	40·5	31·6	22 59	8·9	19 10	345	319	24 00	26	1,1,1,1,1,0,1,3	9	0	78·0
13	06 41	585	569	11 51	16	00 00	39·6	32·2	19 51	7·4	20 00	344	315	00 11	29	2,1,1,1,1,0,1,1	8	0	78·0
14	22 48	645	544	23 11	101	17 07	50·2	9·4	22 44	40·8	22 11	438	327	03 46	111	0,0,1,1,1,4,3,4	14	0	77·9
15	23 17	595	524	22 28	71	22 16	39·9	29·4	22 40	10·5	14 58	347	259	23 11	88	2,1,2,1,1,1,2,4	14	0	77·8
16 *d*	06 18	594	545	12 35	49	14 10	41·7	27·4	21 07	14·3	17 29	358	313	00 00	45	2,1,2,2,2,2,2,3	16	0	77·6
17	14 55	590	568	10 30	22	12 31	39·8	32·2	07 53	7·6	16 31	343	323	00 00	20	1,1,1,1,1,1,2,0	8	0	78·0
18	19 08	590	570	16 24	20	13 16	38·5	34·0	16 30	4·5	16 32	340	325	19 11	15	0,0,0,1,1,1,0,0	3	0	78·0
19 *d*	17 34	677	540	18 22	137	16 35	46·1	14·4	18 05	31·7	17 31	515	308	07 28	207	1,2,2,2,3,5,4,1	20	1	78·0
20	07 40	590	565	00 39	25	11 28	37·5	27·1	19 17	10·4	19 22	346	328	23 39	18	1,0,1,0,1,0,2,1	6	0	77·8
21	21 45	599	551	13 20	48	12 10	40·9	25·1	21 48	15·8	13 52	350	323	09 38	27	1,1,1,1,2,1,0,3	10	0	77·6
22 *q*	07 57	589	566	11 56	23	13 30	37·6	33·5	00 04	4·1	16 46	334	326	08 11	*8*	0,0,0,1,0,0,0,0	1	0	78·0
23 *q*	21 48	588	575	15 11	*13*	13 35	37·6	33·8	07 55	*3·8*	16 09	333	321	11 32	12	0,0,0,0,1,0,0,1	2	0	79·0
24 *q*	21 40	591	577	12 31	14	14 09	38·0	30·8	22 38	7·2	20 52	333	324	10 09	9	0,0,0,0,0,1,1,2	4	0	79·0
25	23 17	604	574	11 43	30	13 35	38·0	30·4	23 21	7·6	20 16	334	315	24 00	19	0,0,1,1,1,1,0,1	5	0	78·7
26	05 33	596	563	19 33	33	14 22	42·6	30·0	00 12	12·6	19 32	368	314	00 10	54	2,1,0,1,1,2,2,2	11	0	78·7
27 *d*	01 07	608	554	10 39	54	13 40	40·7	22·3	22 31	18·4	21 00	346	286	01 12	60	2,2,2,2,1,1,3,3	16	0	78·8
28	06 23	595	569	09 43	26	12 34	38·1	32·8	23 32	5·3	18 36	335	321	06 20	14	0,0,1,0,0,0,1,1	3	0	78·7
29	23 58	600	559	14 45	41	13 49	42·1	33·2	05 16	8·9	14 50	340	304	24 00	36	0,2,1,1,2,1,0,2	9	0	78·8
30	00 01	599	562	12 44	37	15 01	40·4	30·0	21 41	10·4	21 39	343	287	00 21	56	2,1,1,1,1,1,1,2	10	0	79·2
31	07 43	593	573	13 15	20	14 00	37·7	33·4	00 39	4·3	13 06	334	321	04 48	13	1,1,0,0,1,0,0,0	3	0	79·3
Mean	– –	608	556	– –	52	– –	41·2	28·2	– –	13·0	– –	360	308	– –	51	–	–	0·10	78·2

q denotes an international quiet day and *d* an international disturbed day.

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H) 14,000γ (0·14 C.G.S. unit) + FEBRUARY 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 13,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1 q	586	587	588	589	591	593	594	594	592	583	579	579	583	589	590	592	594	595	596	595	594	593	592	591	590	1159
2	587	589	581	583	590	594	598	598	593	587	584	581	579	580	583	587	588	591	593	596	593	588	583	584	588	1110
3	585	583	583	586	588	592	595	597	591	587	585	583	586	587	591	589	589	590	594	592	591	590	590	587	589	1131
4 d	594	587	590	591	592	596	598	600	598	597	605	601	601	572	603	670	768	763	744	648	592	572	573	573	*618*	1828
5	569	570	569	558	562	565	566	567	566	565	566	566	567	570	572	573	574	580	578	581	581	581	581	580	571	707
6	580	580	579	580	581	585	583	580	580	579	578	577	580	584	586	586	586	588	591	591	587	591	589	583	583	1004
7 d	580	574	581	583	586	583	583	594	589	557	573	578	582	579	574	566	567	568	582	575	578	581	582	578	578	874
8 q	579	579	579	582	582	583	584	586	583	577	574	568	571	576	579	584	584	587	588	591	591	587	587	586	582	967
9	586	583	584	585	589	592	595	593	593	586	583	576	572	575	581	583	583	584	587	588	589	587	589	589	585	1051
10 q	590	591	587	590	592	594	594	593	592	585	584	581	580	582	586	589	588	590	591	591	592	593	591	591	589	1137
11	590	589	588	587	591	595	597	594	589	584	589	586	584	591	596	600	596	599	601	594	573	544	554	559	586	1070
12 d	439	527	576	572	574	580	589	582	576	570	566	570	573	572	577	580	573	578	569	570	574	559	567	578	566	591
13	582	576	575	567	570	587	591	590	585	577	570	556	572	586	585	587	573	576	583	577	583	582	581	603	580	914
14	585	568	566	570	582	585	583	580	581	576	570	567	567	576	585	589	587	589	587	587	604	599	576	582	581	941
15	582	580	577	573	583	594	591	590	587	578	577	577	575	577	585	591	599	595	578	588	599	602	599	598	586	1075
16 d	599	605	607	601	605	607	601	595	586	577	556	543	586	593	619	689	771	624	638	618	554	562	547	510	600	1393
17	515	547	547	561	561	571	574	579	554	552	558	559	567	568	569	566	571	577	576	583	576	573	579	587	*565*	570
18	577	579	579	580	582	583	583	584	584	570	569	571	570	573	574	581	584	585	578	570	578	580	581	583	578	878
19 q	584	584	587	588	591	591	586	586	587	578	574	573	569	577	576	581	582	586	587	588	586	586	587	587	583	1001
20	586	587	589	591	592	595	598	595	589	584	577	576	578	577	581	584	587	590	592	593	591	582	579	585	587	1078
21	586	587	588	591	592	596	595	591	588	579	576	573	571	572	573	594	579	578	578	586	586	590	590	588	584	1027
22	588	589	599	605	605	605	615	608	597	587	579	574	553	567	585	574	573	581	584	587	589	590	591	589	588	1114
23	586	586	584	586	585	594	592	592	592	588	570	563	573	588	576	579	576	584	590	590	587	585	586	581	584	1013
24	583	584	586	588	592	589	598	597	590	577	575	569	576	579	582	576	583	588	576	576	579	579	586	586	583	994
25	586	586	586	586	584	589	595	591	588	581	572	568	568	570	578	582	582	592	590	595	591	586	587	584	584	1017
26 d	570	582	584	587	588	596	598	595	592	586	586	579	591	594	605	607	606	610	608	599	577	568	589	585	591	1182
27	584	580	584	585	588	595	597	595	588	561	540	539	576	561	574	584	584	573	579	566	570	582	584	583	577	852
28 q	581	583	582	582	583	583	582	582	572	568	563	559	562	567	572	576	579	583	586	590	589	592	592	591	579	899
Mean	576	580	582	583	586	590	591	590	586	578	574	*571*	575	578	583	591	*597*	594	594	589	585	582	583	582	584	
Sum 15,000+	1139	1242	1305	1327	1401	1512	1555	1528	1402	1176	1078	992	1112	1182	1337	1539	1706	1624	1624	1505	1374	1304	1312	1301		Grand Total 392,577

MAGNETIC DECLINATION (WEST)

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

2 LERWICK (D) 9° + FEBRUARY 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 700·0+
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1 q	35·6	35·7	36·2	36·2	35·7	35·5	35·0	34·6	33·9	34·3	35·6	36·6	37·1	37·6	37·2	36·6	36·5	36·7	36·7	36·6	36·3	36·0	35·7	34·9	35·9	162·8
2	34·2	31·3	33·0	34·4	35·6	35·6	35·2	34·6	34·0	34·6	35·0	35·7	37·1	38·1	38·1	37·1	37·1	37·1	37·1	37·1	36·5	36·1	34·4	33·8	35·5	152·8
3	35·3	35·7	35·9	36·2	35·2	35·3	34·6	34·4	34·7	34·7	35·3	36·9	37·8	38·5	37·7	37·1	36·7	36·6	36·6	35·9	35·7	35·4	35·1	34·3	35·9	161·6
4 d	32·3	33·9	35·2	34·5	35·3	35·4	35·0	34·4	34·7	33·9	36·7	38·6	42·3	49·8	52·7	55·1	67·0	53·2	42·2	45·4	35·8	34·4	33·8	31·8	*40·1*	263·4
5	32·0	32·0	33·3	33·8	34·4	33·6	32·8	32·8	32·8	33·8	34·4	35·2	36·3	37·1	37·0	36·5	35·7	36·2	35·4	35·2	34·7	34·5	34·5	34·6	34·5	128·6
6	35·0	35·1	35·8	36·0	35·6	34·9	34·0	33·8	33·7	33·9	34·9	35·2	36·2	37·1	37·1	36·7	36·8	36·5	36·5	35·9	35·0	34·3	34·1	26·4	35·0	140·5
7 d	28·4	39·1	37·9	33·8	33·8	34·2	35·5	35·6	36·2	34·7	33·9	35·7	38·3	38·6	39·1	35·2	34·0	30·4	27·1	33·3	31·6	32·3	33·4	33·4	34·4	125·5
8 q	34·1	34·7	35·3	35·6	35·3	35·2	34·7	34·3	34·1	33·7	35·2	35·8	36·7	37·9	37·7	37·5	37·1	36·7	36·2	35·6	34·7	34·2	32·0	33·6	35·3	147·9
9	35·0	35·5	38·6	35·7	34·7	35·2	35·5	35·2	35·2	35·8	37·1	37·6	37·5	37·5	38·4	37·5	36·7	35·8	35·6	35·4	34·9	34·6	34·1	33·5	35·9	162·6
10 q	36·2	35·5	34·5	35·3	35·3	35·2	34·9	34·6	34·2	34·1	35·6	37·1	37·9	38·5	38·2	37·1	37·0	36·6	36·2	36·1	35·0	35·3	34·9	34·6	35·8	159·9
11	35·2	35·4	38·1	35·2	34·2	33·6	34·0	34·4	34·3	34·9	37·1	38·5	40·1	38·5	39·0	40·4	39·4	39·6	40·6	32·3	24·1	11·3	25·5	25·1	34·2	120·8
12 d	25·0	14·7	28·9	33·3	31·1	32·1	32·3	33·9	34·1	33·8	34·6	37·1	38·2	39·1	39·6	38·3	36·2	36·5	31·7	25·5	19·7	29·1	25·6	28·1	*31·6*	58·5
13	32·0	32·4	33·8	32·8	33·9	32·8	33·6	33·8	34·5	35·1	37·1	38·1	38·2	39·4	39·0	39·2	38·1	35·6	37·2	33·5	35·3	35·1	33·5	27·2	35·1	141·2
14	26·5	25·7	29·5	32·4	31·0	33·3	34·2	34·2	34·1	35·6	36·2	37·1	38·5	39·7	40·5	40·6	39·5	38·3	40·7	39·6	29·2	18·7	27·9	33·1	34·0	116·1
15	36·5	36·1	34·7	35·5	36·3	35·2	34·4	34·7	35·9	35·8	37·6	40·1	39·9	39·9	37·6	37·0	39·4	36·0	29·6	38·4	37·7	36·8	35·8	35·8	36·5	176·7
16 d	35·8	36·2	36·5	35·9	35·7	35·6	34·7	34·0	32·8	38·1	37·1	43·5	44·7	43·5	42·0	49·3	48·3	36·6	33·3	29·4	24·2	27·4	29·2	34·0	36·6	177·8
17	33·3	31·6	28·9	31·3	31·8	36·0	34·9	35·3	36·8	37·1	39·0	39·9	38·1	37·6	37·1	36·2	36·0	35·7	31·3	31·1	32·0	33·3	34·2	34·9	34·7	133·4
18	34·7	34·6	34·3	34·2	34·0	33·8	33·7	33·7	32·7	32·5	33·9	35·5	36·5	37·6	37·2	37·1	35·8	35·7	32·3	31·2	35·2	33·9	32·7	35·2	34·5	128·0
19 q	35·8	35·8	35·4	35·1	34·8	34·2	34·2	34·2	33·7	34·2	36·1	37·6	38·4	40·7	39·1	37·3	36·4	35·9	35·9	35·3	35·1	34·4	34·4	34·9	35·8	158·9
20	35·5	35·5	35·4	35·2	35·1	34·8	34·2	33·7	34·6	34·9	35·4	39·1	39·9	40·4	38·6	37·8	36·8	35·9	35·5	35·0	35·2	35·0	32·8	34·2	35·9	160·5
21	34·8	35·4	35·4	35·2	35·0	34·5	35·3	35·3	34·7	35·0	36·6	38·1	39·5	41·5	39·4	40·6	37·9	32·3	34·7	35·3	33·3	32·8	33·9	32·8	35·8	159·3
22	34·5	34·9	35·2	33·8	34·7	39·8	35·7	34·8	35·4	35·7	36·2	38·3	40·3	41·3	43·2	43·1	40·1	37·1	34·7	35·5	34·6	34·4	34·3	34·2	36·7	181·8
23	34·0	34·7	35·0	35·5	35·2	34·6	33·9	33·8	32·8	33·0	34·6	36·7	38·0	40·8	39·9	37·7	36·2	36·9	36·1	35·5	34·9	32·5	28·2	28·9	35·0	139·4
24	33·4	36·2	34·8	35·0	35·0	35·9	35·9	34·8	34·2	34·8	37·1	37·9	39·9	40·7	42·9	41·0	37·3	35·7	30·1	34·6	28·4	32·8	32·8	32·7	35·6	153·9
25	33·9	35·2	35·2	34·6	34·9	35·2	34·2	33·5	31·7	31·8	32·8	35·1	37·1	38·0	38·2	37·1	36·2	36·2	36·2	36·4	29·4	33·1	32·5	28·2	34·4	126·7
26 d	26·5	32·1	35·0	35·0	36·0	35·4	34·9	34·2	33·4	32·1	34·4	38·7	42·2	43·8	43·2	44·2	41·9	38·6	39·6	34·3	30·8	29·6	33·3	34·0	36·0	163·2
27	33·3	35·5	35·8	34·2	34·4	34·2	34·0	33·8	33·2	34·2	37·9	40·7	44·7	44·7	46·7	42·9	37·9	38·1	36·5	33·6	32·3	34·2	34·5	34·4	36·7	181·7
28 q	34·1	34·1	34·0	34·1	34·1	34·1	33·8	33·6	32·3	32·3	34·2	36·2	37·3	38·6	38·1	37·8	37·0	36·3	35·7	35·2	34·9	34·9	34·9	34·9	35·1	142·5
Mean	33·3	33·7	34·7	34·6	34·6	34·8	34·5	34·3	34·1	34·4	35·8	37·6	38·9	*39·9*	39·8	39·4	38·7	36·9	35·4	34·9	32·7	*32·4*	32·8	32·6	35·5	
Sum 900·0+	32·9	44·6	71·6	69·9	68·1	75·2	65·1	60·0	54·7	64·4	101·6	152·6	188·7	216·5	214·5	203·9	185·0	132·8	91·3	78·2	16·5	6·4	18·0	13·5		Grand Total 23826·0

GEOMAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

3 LERWICK (Z) 47,000γ (0·47 C.G.S. unit) + FEBRUARY 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 7000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1 q	327	327	324	322	322	321	321	322	324	326	328	328	326	323	323	324	322	321	320	320	321	322	322	323	323	759
2	322	310	313	317	316	316	317	319	324	327	327	326	327	327	328	327	324	322	320	322	328	334	339	329	323	761
3	328	327	328	327	324	322	321	318	322	323	323	322	323	325	325	324	326	322	321	323	322	322	324	327	324	769
4 d	323	326	324	323	322	320	318	316	316	314	309	311	314	340	396	455	547	604	551	517	441	386	360	346	*378*	2079
5	347	343	336	329	338	338	338	335	334	329	332	333	333	333	334	335	335	334	334	331	329	328	328	329	334	1015
6	330	332	334	332	332	332	332	329	329	328	328	328	328	328	332	334	334	334	330	329	328	324	323	301	329	891
7 d	296	275	263	298	314	318	317	317	317	329	328	324	326	329	339	358	369	375	353	346	338	328	323	322	325	802
8 q	322	323	324	326	328	328	329	328	328	325	323	325	322	322	323	327	331	332	332	331	329	328	327	323	327	836
9	320	321	311	315	321	323	323	323	322	321	321	321	320	318	320	324	328	331	332	331	329	328	326	314	323	743
10 q	315	308	317	320	320	321	322	323	323	322	322	322	321	317	317	320	322	323	326	325	327	325	324	322	321	704
11	322	321	311	309	310	315	317	321	323	323	319	318	318	312	312	316	319	323	328	381	377	332	345	335	325	807
12 d	279	271	305	341	345	337	330	335	339	344	340	335	335	335	338	341	351	348	357	363	337	323	288	289	329	906
13	317	325	323	321	321	321	328	328	329	329	329	335	328	323	325	329	341	341	336	347	341	343	343	306	330	909
14	275	288	298	306	309	317	323	325	325	326	328	329	328	329	335	336	340	339	341	346	357	305	325	339	324	769
15	335	335	334	329	308	306	317	323	327	330	328	329	333	334	334	334	336	359	388	348	335	329	330	329	333	990
16 d	329	326	323	323	322	318	319	321	323	315	318	351	388	389	435	506	580	531	491	451	398	371	351	251	376	2030
17	211	240	262	298	308	311	322	323	332	342	337	333	329	331	338	351	347	346	350	344	345	343	334	322	*321*	699
18	330	336	339	336	336	334	334	333	333	339	330	332	333	334	335	335	338	338	346	353	340	337	337	334	336	1072
19 q	333	333	334	334	334	334	332	330	327	323	322	328	334	338	341	342	339	339	337	336	334	334	333	331	333	1002
20	332	333	333	334	334	333	330	331	330	328	327	324	328	334	339	342	338	337	334	333	334	340	340	334	333	1002
21	334	333	334	334	333	331	329	328	325	324	324	326	330	333	336	346	357	370	366	353	349	339	332	329	337	1095
22	327	326	324	324	322	311	302	309	313	317	319	325	333	329	336	354	359	351	348	343	337	334	330	330	329	903
23	328	329	329	325	322	319	324	327	327	324	326	324	323	326	344	348	352	342	339	341	341	336	328	322	331	946
24	321	323	325	328	329	328	323	325	328	329	325	327	329	332	341	353	355	355	371	361	351	341	335	330	336	1065
25	328	328	330	333	333	331	329	331	333	330	329	328	329	330	334	339	341	336	337	336	346	340	333	315	332	979
26 d	315	316	321	324	328	325	327	331	333	331	325	321	313	311	313	316	321	324	372	432	393	339	306	309	331	946
27	312	324	321	328	329	328	328	330	334	341	344	346	347	366	375	406	412	390	371	378	373	347	339	337	350	1406
28 q	336	336	336	336	336	336	336	335	336	336	336	337	337	338	337	336	334	335	335	336	336	334	334	334	336	1058
Mean	*318*	318	320	324	325	324	325	326	327	328	327	328	330	332	339	349	357	*357*	356	356	347	335	331	322	333	
Sum 8000+	894	915	956	1072	1096	1074	1088	1116	1156	1175	1147	1188	1235	1286	1485	1758	1998	2002	1966	1957	1716	1392	1259	1012		Grand Total 223,943

DAILY EXTREMES OF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH HOUSE

4 LERWICK All Times G.M.T. FEBRUARY 1962

	GEOMAGNETIC ELEMENTS: Horizontal component Maximum 14,000γ +			Minimum 14,000γ +			Range	Declination Maximum 9° +			Minimum 9° +			Range	Vertical component Maximum 47,000γ +			Minimum 47,000γ +			Range	3-hr. range indices K	Sum of K indices	Magnetic character of day, C (0-2)	Temperature in magneto-graph house 200 +
	h.	m.	γ	γ	h.	m.	γ	h.	m.	′	′	h.	m.	γ	h.	m.	γ	γ	h.	m.	γ				°A.
1 q	18	50	597	579	10	42	*18*	14	00	37·9	33·1	23	55	*4·8*	11	25	329	318	19	00	11	0,0,0,0,0,0,0,1	1	0	79·2
2	00	52	606	577	12	29	29	13	29	38·5	29·9	01	31	8·6	22	38	341	305	01	18	36	2,1,0,1,0,0,1,1	6	0	80·2
3	18	46	598	578	15	53	20	13	33	38·8	32·7	23	59	6·1	00	00	330	317	07	54	13	0,0,0,0,0,1,1,1	3	0	80·1
4 d	16	58	870	560	21	30	310	16	59	*75·4*	29·8	23	57	*45·6*	17	27	*621*	306	12	08	315	1,1,1,2,4,5,5,3	22	2	80·0
5	19	04	605	547	03	16	58	13	54	38·1	29·9	01	32	8·2	00	30	351	325	03	38	26	2,1,0,1,1,1,1,1	8	0	80·0
6	23	43	597	561	23	27	36	13	30	37·6	22·1	23	36	15·5	15	56	335	291	23	21	44	0,1,0,1,1,0,1,3	7	0	79·9
7 d	18	02	616	541	09	21	75	01	50	49·1	13·5	17	56	35·6	17	46	388	239	02	06	149	4,2,2,3,3,4,4,2	24	1	80·0
8 q	22	41	592	565	11	54	27	13	09	39·1	30·8	22	29	8·3	17	44	334	317	13	01	17	0,0,0,1,1,1,1,1	5	0	80·3
9	23	48	601	561	12	58	40	02	08	42·2	32·3	23	15	9·9	17	42	334	305	02	43	29	2,1,0,1,1,1,1,1	8	0	80·3
10 q	01	07	596	577	12	22	19	00	47	40·4	33·1	00	20	7·3	20	15	328	303	01	10	25	2,0,0,1,1,0,1,0	5	0	80·4
11	19	50	634	511	24	00	123	02	22	42·5	8·3	21	23	34·2	19	58	425	300	02	43	125	2,1,1,2,1,1,4,4	16	1	80·4
12 d	06	35	599	*365*	00	14	234	21	53	41·0	8·0	01	20	33·0	18	51	371	256	00	36	115	5,2,2,1,1,2,4,3	20	1	80·2
13	23	40	623	550	11	25	73	13	40	40·5	27·4	23	38	13·1	19	20	352	276	23	58	76	1,2,1,2,2,2,2,3	15	1	80·0
14	20	59	645	560	03	05	85	18	33	42·5	*7·9*	20	55	34·6	20	29	372	270	00	21	102	3,2,1,1,1,2,5,4	19	1	79·7
15	17	13	615	567	18	20	48	17	25	43·4	25·2	17	55	18·2	18	20	402	297	05	02	105	1,2,1,1,1,3,3,1	13	1	79·0
16 d	16	17	*887*	471	23	42	*416*	16	03	62·4	20·7	20	58	41·7	16	32	595	*164*	23	53	*431*	1,1,1,3,4,6,5,5	26	2	79·5
17	23	16	591	482	00	16	109	00	10	39·1	24·3	18	46	14·8	18	49	357	165	00	09	192	4,2,3,2,1,1,3,2	18	1	79·7
18	18	20	595	558	18	50	37	13	46	38·6	22·4	19	02	16·2	19	09	368	323	00	00	45	1,0,1,1,1,1,3,2	10	0	79·7
19 q	05	33	593	567	12	06	26	13	33	41·0	33·3	09	10	7·7	15	23	344	321	10	26	23	0,0,1,1,1,0,0,1	4	0	80·0
20	06	42	599	573	11	26	26	13	55	41·3	31·6	22	22	9·7	22	35	343	323	11	37	20	0,0,1,1,1,1,0,1	5	0	80·2
21	15	28	600	563	13	43	37	13	29	45·0	29·6	17	37	15·4	18	32	375	323	10	10	52	0,0,1,1,2,3,2,2	11	0	80·2
22	06	18	621	546	12	25	75	16	03	44·1	32·9	07	10	11·2	16	18	363	297	06	18	66	2,2,2,2,2,2,1,1	14	0	80·2
23	05	28	598	555	11	53	43	13	45	42·4	23·3	22	50	19·1	16	08	358	317	05	22	41	0,2,1,2,3,2,1,3	14	0	80·4
24	07	02	601	560	11	43	41	14	50	43·9	22·4	18	20	21·5	18	16	379	319	00	51	60	1,1,1,1,2,3,3,1	13	0	80·2
25	20	44	610	564	11	25	46	14	10	39·7	19·9	20	42	19·8	20	32	358	303	23	30	55	1,1,1,1,1,1,3,3	12	0	80·1
26 d	16	11	637	558	16	14	79	15	33	46·8	20·7	00	00	26·1	19	01	453	300	22	45	153	3,1,1,2,2,4,4,3	20	1	80·0
27	06	46	603	525	11	42	78	12	37	47·6	28·7	20	00	18·9	15	53	430	303	00	07	127	2,1,2,3,3,3,2,1	17	1	80·0
28 q	22	07	593	556	11	45	37	13	33	39·1	31·8	09	00	7·3	08	30	340	333	22	51	*7*	0,0,1,1,1,1,1,0	5	0	80·0
Mean	-	-	626	546	-	-	80	-	-	43·5	25·2	-	-	18·3	-	-	381	293	-	-	88	-	-	0·46	80·0

q denotes an international quiet day and *d* an international disturbed day.

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H) — 14,000γ (0·14 C.G.S. unit) + — MARCH 1962

Day	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 13,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	590	589	589	589	592	596	595	593	585	585	579	572	571	568	579	581	588	588	592	593	594	596	593	592	587	1089
2	591	588	585	582	583	580	581	585	580	575	571	570	582	581	574	585	580	589	590	581	593	593	592	592	583	1003
3	592	592	592	591	591	591	590	590	589	586	580	575	583	582	588	592	593	589	589	583	575	564	558	578	585	1033
4	567	575	579	580	583	585	587	586	582	578	575	568	567	575	585	588	590	592	598	597	596	593	593	599	584	1018
5 d	589	590	589	593	596	598	596	600	591	571	570	575	593	588	567	589	591	582	578	584	583	586	585	590	586	1074
6 d	589	591	585	576	568	593	602	596	577	558	548	554	526	582	568	596	586	580	578	570	575	583	582	581	*577*	844
7	589	583	578	579	583	585	580	582	585	572	563	563	565	568	575	584	590	585	586	590	590	590	591	591	581	947
8 q	589	587	587	585	588	593	593	591	582	576	572	570	572	578	583	587	590	589	590	590	591	591	592	592	586	1058
9 q	592	592	592	591	592	593	592	589	585	575	570	569	575	576	580	584	585	590	594	595	594	596	595	598	587	1094
10	596	594	596	592	590	596	596	596	593	587	572	564	572	575	575	577	592	577	588	593	592	587	553	570	584	1023
11	591	576	569	578	589	594	603	590	582	578	572	563	574	578	582	586	594	578	583	589	596	587	592	588	584	1012
12 d	585	584	588	588	588	589	591	599	597	587	580	566	569	578	599	591	604	605	580	578	558	573	580	581	585	1038
13	596	568	578	582	583	585	587	583	581	575	579	577	578	579	586	588	588	586	586	587	587	592	594	593	584	1018
14	589	588	589	591	592	592	593	593	589	585	585	587	583	581	585	583	585	589	604	596	593	597	599	597	590	1165
15	596	596	601	582	588	604	593	594	590	587	581	580	575	582	590	594	597	601	603	603	601	603	596	593	593	1230
16 q	597	597	597	597	600	600	599	597	589	582	577	571	574	579	587	585	593	597	600	602	602	599	600	596	592	1217
17	596	596	596	597	599	602	605	596	586	575	567	561	562	578	588	589	597	599	600	601	601	602	602	600	591	1195
18	599	599	599	599	602	606	611	603	594	585	575	571	572	560	566	588	583	592	597	599	590	589	596	599	591	1174
19 d	597	597	603	601	603	602	603	594	592	580	574	573	560	575	580	571	580	596	603	577	578	589	598	593	588	1119
20	591	591	593	593	596	593	596	589	584	575	571	570	570	572	578	583	588	606	582	584	597	596	586	578	586	1062
21 d	589	589	588	591	593	596	592	574	574	571	560	556	553	572	575	603	593	596	612	599	589	588	568	597	584	1018
22	592	592	592	592	595	595	596	594	587	575	565	563	567	577	585	592	594	593	597	599	598	600	600	591	589	1131
23	591	591	593	594	597	598	600	601	593	580	573	559	561	568	577	586	591	592	597	597	598	599	599	598	589	1133
24	597	586	593	586	594	597	597	593	584	566	561	561	565	575	584	589	599	602	596	600	600	600	600	600	589	1125
25	601	593	580	572	602	601	597	597	584	580	571	563	554	562	582	590	593	590	593	600	594	601	593	593	587	1086
26	596	594	593	593	595	598	600	597	591	576	542	555	563	572	580	587	591	596	600	601	602	601	604	603	589	1130
27 q	600	600	601	603	602	603	604	604	596	585	575	572	569	575	575	592	596	601	600	601	601	603	603	602	594	1263
28	603	603	601	601	602	604	605	605	600	587	575	571	572	582	582	593	597	603	601	605	594	589	596	594	*594*	1265
29	593	593	589	590	596	600	598	598	590	583	576	573	572	568	581	594	594	595	597	596	596	597	598	597	590	1164
30 q	598	597	600	594	596	598	599	596	590	582	578	575	575	578	584	590	593	597	603	605	600	594	595	594	592	1211
31	600	596	598	600	602	604	601	596	582	575	567	565	572	579	588	592	591	598	599	608	610	611	611	609	594	1254
Mean	593	591	591	590	593	596	*596*	594	587	579	571	*568*	569	576	581	588	591	593	594	594	593	593	592	593	588	
Sum 17,000+	1381	1307	1313	1282	1380	1471	1482	1401	1204	932	704	612	646	843	1008	1229	1326	1373	1416	1403	1368	1389	1344	1379		Grand Total 437,193

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

2 LERWICK (D) — 9° + — MARCH 1962

Day	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 800·0+
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1	34·6	34·5	34·5	34·5	34·4	34·2	33·9	35·5	36·7	35·7	36·4	37·6	41·7	41·9	39·3	37·0	33·8	33·8	36·2	35·9	35·6	34·4	35·0	33·3	35·9	60·4
2	31·9	31·6	31·9	31·3	31·2	32·1	32·7	31·6	32·1	32·8	34·3	36·6	39·5	41·9	39·6	38·7	35·2	34·6	32·4	34·6	35·7	35·2	35·0	34·5	34·5	27·0
3	34·4	34·2	34·2	34·5	34·1	34·0	33·9	33·9	33·7	34·2	35·2	36·9	40·0	40·0	39·6	37·1	36·1	37·4	38·1	34·7	31·4	28·9	30·2	34·5	35·1	41·2
4	28·2	29·2	34·1	34·9	33·4	34·0	33·7	33·2	32·8	34·0	37·1	39·2	40·2	40·9	39·6	36·9	34·3	34·4	35·3	35·6	35·6	33·8	34·0	32·0	34·9	36·4
5 d	32·1	33·3	34·1	33·9	33·9	34·2	33·7	33·1	33·0	34·2	37·3	40·6	42·8	43·7	40·4	38·7	40·6	33·8	38·1	34·1	35·5	33·5	30·7	31·3	35·7	56·6
6 d	34·0	33·1	33·7	30·4	34·0	35·2	32·8	35·9	32·3	34·8	38·4	40·3	41·7	41·5	42·5	43·0	37·1	30·4	27·9	21·1	26·7	30·4	32·3	34·7	34·3	24·2
7	35·2	35·2	37·1	35·6	33·6	32·7	32·8	33·0	32·3	32·3	33·6	36·2	38·9	40·0	38·4	37·8	35·4	30·1	33·9	34·6	34·5	34·3	34·2	34·1	34·8	35·8
8 q	33·3	34·4	34·4	34·6	35·0	34·0	33·5	33·1	31·7	31·4	33·1	36·2	38·2	38·4	38·0	36·6	35·4	35·2	35·4	35·2	34·8	34·7	34·6	34·4	34·8	35·6
9 q	34·2	34·2	34·0	34·1	34·0	33·6	33·3	32·6	31·5	31·8	32·8	34·9	37·4	37·9	38·0	37·1	36·2	36·0	36·0	35·6	35·5	35·1	35·1	34·7	34·8	35·6
10	34·2	34·1	33·5	29·0	29·1	29·2	29·8	31·5	32·7	35·4	35·6	37·6	40·4	43·0	43·1	41·9	41·8	37·9	35·7	37·3	33·9	28·6	23·0	27·6	34·4	25·9
11	24·9	26·8	31·1	31·1	26·9	29·9	35·7	37·0	33·0	34·2	35·2	36·0	37·8	40·3	40·8	38·6	37·8	33·6	35·9	31·7	29·3	33·2	34·1	34·1	*33·7*	9·0
12 d	34·2	36·2	32·2	32·5	33·1	31·8	34·2	33·3	33·6	33·8	34·7	38·4	41·4	43·6	46·7	45·7	36·8	32·3	38·0	31·3	29·2	34·9	33·7	34·5	35·7	56·1
13	39·5	31·8	31·8	30·6	32·3	32·7	33·0	33·3	33·3	34·5	36·6	37·5	38·7	39·7	39·6	38·8	36·7	35·7	35·5	35·0	34·6	34·5	34·2	33·7	35·1	43·6
14	33·4	33·4	33·3	33·5	33·5	33·4	33·3	33·1	32·1	33·0	33·9	37·6	39·9	41·0	41·2	38·3	36·5	35·8	32·3	32·9	32·8	35·0	35·3	34·7	35·0	39·2
15	34·4	34·1	33·2	28·8	32·5	31·8	30·4	31·1	30·5	32·1	35·0	38·1	39·8	40·1	39·3	37·6	36·2	36·2	36·2	36·4	36·1	30·4	24·8	33·5	34·1	18·6
16 q	35·0	34·0	33·9	34·5	34·5	34·2	33·6	32·7	32·1	32·9	34·9	37·3	40·0	41·2	40·5	38·9	37·1	36·2	35·7	35·7	35·6	33·6	33·3	35·0	35·5	52·4
17	34·7	34·4	34·2	34·3	34·3	34·2	33·2	31·7	31·3	33·1	35·5	38·8	41·0	42·4	41·1	39·0	36·7	35·6	35·4	35·2	35·0	35·2	35·1	34·8	35·7	56·2
18	34·7	34·7	34·7	34·6	34·4	34·1	33·2	32·0	30·8	32·1	34·1	37·6	42·3	43·3	41·9	41·6	39·0	35·6	35·6	34·3	25·6	31·8	33·6	35·0	35·3	46·6
19 d	35·0	36·6	33·4	32·5	33·1	33·2	33·9	32·1	31·2	30·7	33·7	38·5	42·5	46·6	44·4	43·7	39·7	36·2	25·3	22·5	28·2	33·3	34·0	34·7	34·8	35·0
20	35·2	34·5	34·4	34·2	34·2	36·1	33·3	30·8	29·6	31·3	33·3	38·0	42·3	44·2	43·7	42·6	38·8	38·6	33·1	33·8	34·9	33·4	23·7	29·1	35·1	43·1
21 d	29·0	33·8	34·7	34·2	33·6	33·4	32·6	34·4	32·2	32·7	36·0	37·3	40·7	44·3	41·7	40·4	39·2	39·0	30·4	28·2	30·3	31·8	32·3	30·5	34·7	32·7
22	35·2	34·5	34·2	34·2	33·9	33·9	34·2	32·9	31·5	31·7	33·8	37·6	40·4	41·3	40·4	38·6	37·1	36·0	35·2	35·0	34·8	34·7	31·1	30·7	35·1	42·9
23	34·5	34·9	34·7	34·2	33·9	33·5	33·0	31·6	30·4	30·2	33·9	36·7	40·4	41·0	40·6	38·8	36·6	35·2	34·5	34·9	35·2	35·2	34·7	35·0	35·1	43·6
24	34·9	37·1	31·7	31·3	32·3	33·1	33·1	31·8	31·1	32·3	33·7	37·0	39·5	40·8	41·5	40·1	39·1	38·7	37·4	37·0	35·8	34·2	34·7	34·9	35·5	53·1
25	34·7	33·9	37·2	32·4	33·3	30·6	33·8	34·8	34·9	35·2	36·4	39·1	41·8	42·4	42·6	41·5	39·5	38·1	36·7	35·7	35·3	35·4	33·9	34·3	*36·4*	73·5
26	34·2	35·3	35·2	30·3	31·5	32·4	32·3	31·2	30·7	31·3	33·4	36·4	39·5	40·8	40·4	38·9	37·6	37·4	37·5	37·1	36·7	35·5	35·4	34·7	35·2	45·7
27 q	34·4	34·4	34·2	33·0	33·9	33·7	33·3	32·3	32·1	31·9	33·3	37·0	40·1	41·6	40·1	39·3	38·3	37·9	36·4	36·2	35·7	35·3	35·2	35·0	35·6	54·6
28	34·7	34·4	34·2	33·9	33·6	33·5	33·1	31·6	30·6	31·2	34·2	38·0	41·0	42·1	40·7	39·0	37·3	36·4	35·4	36·3	35·2	32·3	34·4	34·4	35·3	47·5
29	32·6	25·2	26·8	26·5	29·4	30·5	34·6	37·6	34·2	32·0	33·1	36·7	40·7	40·7	40·3	39·0	37·9	37·0	35·9	35·9	35·5	35·5	35·2	35·3	34·5	28·1
30 q	34·9	35·3	33·6	32·9	33·0	33·0	32·4	31·5	30·8	30·8	33·0	35·3	37·1	37·9	37·8	36·7	36·7	36·5	36·2	36·1	36·4	36·2	35·3	34·2	34·7	33·6
31	32·2	30·4	32·6	33·3	33·3	33·0	32·6	31·1	30·4	31·1	33·3	35·9	38·3	40·2	39·9	38·3	37·1	36·4	36·0	35·7	35·8	36·0	36·1	35·2	34·8	34·2
Mean	33·7	33·5	33·6	32·8	33·0	33·1	33·2	32·9	*32·1*	32·7	34·7	37·5	40·2	*41·4*	40·8	39·4	37·3	35·7	34·9	34·1	33·8	33·7	33·0	33·7	35·0	
Sum 900·0+	144·4	139·5	142·8	115·6	123·2	125·2	128·9	121·3	95·2	114·7	174·8	260·9	346·0	384·7	363·7	320·2	257·6	208·0	183·6	155·6	147·2	146·3	124·2	144·4	35·1	Grand Total 26068·0

GEOMAGNETIC FORCE: VERTICAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

3 LERWICK (Z) 47,000γ (0·47 C.G.S. unit) + MARCH 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 7000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	335	334	333	332	330	329	329	328	329	327	328	332	330	330	334	342	347	345	336	335	334	334	335	333	333	1001
2	326	321	321	325	327	328	327	327	331	331	331	331	330	335	337	335	344	345	346	354	339	334	333	333	333	991
3	333	332	331	329	328	328	327	326	325	322	323	325	323	325	335	346	349	351	357	369	366	345	343	339	337	1077
4	342	347	345	343	339	335	333	333	331	330	331	333	329	327	327	331	336	334	331	332	333	336	336	325	334	1019
5 *d*	323	329	332	332	331	328	327	324	324	324	323	320	321	367	364	346	365	411	404	386	368	348	341	326	344	1264
6 *d*	322	319	323	314	283	257	281	297	314	322	328	330	359	364	369	377	404	400	378	373	352	337	331	330	336	1064
7	312	315	322	327	333	335	336	333	333	334	334	336	336	341	343	348	348	354	345	337	334	332	331	331	335	1030
8 *q*	331	334	336	337	336	333	331	332	333	330	328	325	324	325	331	335	336	338	337	335	331	330	328	328	332	964
9 *q*	329	330	333	334	335	335	335	335	335	329	324	318	317	321	325	330	333	333	333	333	333	330	327	327	330	914
10	327	323	304	305	315	315	319	321	323	320	323	320	324	338	348	343	353	363	357	346	348	336	319	271	328	861
11	273	300	296	285	289	288	299	307	319	323	323	324	319	321	328	333	348	373	361	356	342	337	334	331	321	709
12 *d*	325	306	305	319	327	326	325	325	326	327	328	332	340	346	365	397	411	388	397	395	361	351	345	340	*346*	1307
13	296	299	312	318	323	327	328	333	335	336	331	329	331	331	333	339	341	344	339	337	337	336	335	334	329	904
14	332	332	330	329	328	328	328	328	330	325	323	322	324	325	332	342	347	343	337	337	341	336	334	333	332	966
15	334	330	312	306	298	293	308	314	319	317	318	318	322	325	328	330	330	329	328	331	335	318	313	324	320	680
16 *q*	329	330	329	328	328	328	327	327	328	327	326	327	326	327	328	331	330	330	330	330	330	334	333	333	329	896
17	330	330	330	331	330	327	327	330	331	329	328	324	324	327	332	335	334	330	329	329	329	328	328	329	329	901
18	330	330	330	329	327	325	324	325	327	324	325	325	325	333	331	337	348	347	340	337	344	337	330	328	332	958
19 *d*	329	318	300	317	322	321	321	324	323	324	322	321	328	337	360	371	361	356	397	386	371	350	327	328	338	1114
20	331	334	334	333	333	330	328	333	332	328	327	323	326	331	337	343	345	368	408	373	342	331	325	282	337	1077
21 *d*	279	312	324	328	330	327	325	321	318	319	324	327	329	331	350	360	372	369	372	350	343	341	256	271	328	878
22	317	327	330	331	331	330	327	327	327	326	324	321	322	322	326	333	336	336	333	331	330	328	315	318	327	848
23	324	327	328	330	330	329	328	327	327	321	319	324	320	322	324	331	334	337	334	333	331	327	325	325	327	857
24	325	318	284	307	320	325	326	329	329	329	326	321	319	320	325	327	331	338	343	336	334	331	329	328	325	800
25	325	326	311	291	289	304	314	317	321	319	322	324	325	324	327	337	343	349	340	337	343	331	332	331	324	782
26	325	317	290	299	313	318	323	325	329	327	326	324	318	319	323	326	329	330	329	328	329	328	326	326	322	727
27 *q*	326	326	320	322	323	324	326	326	326	326	324	321	320	321	324	326	329	329	331	330	329	327	326	325	325	807
28	325	324	324	324	324	323	320	321	321	318	315	313	318	322	327	332	338	344	344	340	347	348	340	331	328	883
29	308	290	295	302	307	308	312	307	314	320	321	324	326	326	323	325	329	332	331	332	332	331	330	330	319	655
30 *q*	328	325	321	323	322	321	325	326	325	320	318	319	319	319	321	323	324	325	326	330	337	339	337	336	325	809
31	331	328	327	325	323	322	325	327	328	324	321	319	316	316	317	318	319	319	323	322	321	324	324	324	323	743
Mean	323	323	*320*	321	322	321	323	324	326	325	325	324	325	330	335	340	345	348	*348*	345	340	335	328	324	330	
Sum 9000+	1002	1013	912	955	974	947	1011	1055	1113	1078	1064	1052	1090	1218	1374	1529	1694	1790	1796	1680	1546	1375	1168	1050		Grand Total 245,486

DAILY EXTREMES OF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH HOUSE

4 LERWICK All Times G.M.T. MARCH 1962

	GEOMAGNETIC ELEMENTS																		3-hr. range indices *K*	Sum of *K* indices	Magnetic character of day, C (0-2)	Temperature in magneto-graph house 200 +
	Horizontal component					Declination					Vertical component											
	Maximum 14,000γ +		Minimum 14,000γ +		Range	Maximum 9° +		Minimum 9° +		Range	Maximum 47,000γ +		Minimum 47,000γ +		Range							
	h. m.	γ	γ	h. m.	γ	h. m.	′	′	h. m.	′	h. m.	γ	γ	h. m.	γ							°A.
1	16 24	601	556	13 02	45	12 19	43·6	29·5	17 05	14·1	17 13	350	325	09 18	25				0,0,2,2,2,2,1,1	10	0	79·9
2	00 01	599	568	11 45	31	12 56	43·0	28·6	18 56	14·4	19 25	359	318	01 35	41				1,1,1,1,2,2,2,0	10	0	79·7
3	13 39	605	550	22 08	55	13 15	44·8	26·7	21 39	18·1	20 03	375	316	13 13	59				1,0,1,1,3,2,3,3	14	0	79·5
4	23 15	610	562	00 47	48	13 37	41·8	26·2	00 56	15·6	01 26	352	319	23 58	33				2,1,1,1,1,1,1,2	10	0	79·2
5 *d*	13 47	610	556	14 22	54	13 50	*55·6*	27·5	22 43	28·1	18 29	420	318	12 28	102				1,0,1,2,4,3,2,2	15	0	79·5
6 *d*	06 52	626	*506*	12 38	*120*	14 09	48·1	*9·8*	19 22	*38·3*	16 22	413	252	05 25	161				2,3,3,3,4,4,4,3	26	1	79·0
7	00 18	594	559	10 40	35	13 09	43·0	27·5	17 37	15·5	17 20	357	306	00 30	51				2,2,2,1,2,2,1,0	12	0	79·3
8 *q*	06 35	596	570	11 38	*26*	13 18	38·8	30·9	09 14	7·9	03 37	339	323	12 05	16				0,1,0,0,1,1,0,0	3	0	79·0
9 *q*	19 18	599	567	11 43	32	14 52	38·5	31·1	09 08	*7·4*	19 30	336	316	12 12	20				0,0,0,1,1,1,1,1	5	0	79·3
10	21 22	601	535	22 52	66	14 35	44·8	17·1	22 38	27·7	17 52	371	253	23 14	118				2,1,2,2,2,2,2,4	17	0	79·6
11	20 14	610	556	11 13	54	14 02	42·2	21·6	00 27	20·6	17 28	379	252	00 05	127				3,2,2,2,1,3,3,2	18	0	79·4
12 *d*	16 58	*660*	543	20 10	117	15 00	50·0	16·2	19 34	33·8	16 49	*442*	299	02 01	143				2,1,2,2,2,4,4,3	20	1	79·1
13	00 05	620	564	01 31	56	00 06	49·8	29·7	03 47	20·1	17 30	346	285	00 52	61				4,2,1,1,2,1,0,1	12	0	79·2
14	18 57	614	575	13 07	39	13 39	42·2	25·1	18 57	17·1	16 05	348	320	11 20	28				0,0,1,1,2,1,3,1	9	0	79·0
15	21 39	628	568	03 47	60	11 51	41·5	17·7	22 00	23·8	21 12	339	284	21 45	55				2,2,2,2,1,1,1,3	14	0	79·0
16 *q*	22 09	607	570	11 32	37	13 24	41·6	30·9	21 08	10·7	21 20	339	325	10 25	14				1,0,1,1,1,1,1,2	8	0	78·7
17	06 27	606	556	12 01	50	13 26	43·0	30·8	08 09	12·2	14 55	336	323	12 52	*13*				0,1,1,1,2,1,0,1	7	0	79·0
18	06 33	613	544	13 45	69	13 14	45·4	20·4	20 08	25·0	20 10	353	322	06 59	31				0,1,1,1,3,2,3,2	13	0	79·3
19 *d*	18 21	617	539	12 20	78	13 10	50·1	18·2	19 09	31·9	18 44	416	293	02 23	123				2,1,1,2,3,3,3,2	17	1	79·3
20	17 23	625	554	13 00	71	13 23	45·2	21·1	22 23	24·1	18 10	415	264	24 00	151				1,1,2,2,2,3,3,3	17	0	79·7
21 *d*	18 39	639	540	22 50	99	13 42	45·4	19·9	23 03	25·5	18 24	398	*195*	22 47	*203*				3,1,2,2,2,2,3,5	20	1	79·6
22	22 43	611	559	11 17	52	13 33	41·9	25·4	22 51	16·5	16 55	339	297	22 52	42				2,0,1,1,0,1,1,3	9	0	80·0
23	07 13	602	543	11 40	59	12 50	42·4	29·6	09 31	12·8	17 20	337	318	09 40	19				1,0,1,3,1,1,0,0	7	0	79·4
24	17 07	619	558	09 39	61	14 05	43·8	29·0	02 33	14·8	18 27	346	274	02 27	72				3,2,1,1,2,2,1,1	13	0	79·6
25	21 22	624	541	12 36	83	14 38	43·0	28·4	05 07	14·6	17 35	351	283	04 40	68				2,3,2,1,2,2,1,2	15	0	79·6
26	22 33	605	551	11 00	54	12 59	41·4	29·4	03 27	12·0	17 23	331	288	02 23	43				3,2,1,1,1,1,0,0	9	0	79·7
27 *q*	06 58	608	565	12 39	43	13 33	42·5	31·2	09 07	11·3	18 20	332	317	02 45	15				1,1,1,1,2,1,0,0	7	0	79·8
28	17 17	608	566	11 10	42	13 10	43·2	30·4	08 54	12·8	20 43	353	312	11 46	41				0,0,1,1,2,1,2,2	9	0	79·5
29	01 10	609	561	13 41	48	13 03	42·0	22·8	01 43	19·2	19 28	332	278	01 18	54				3,2,2,1,2,1,1,1	13	0	79·6
30 *q*	19 58	607	572	12 40	35	14 05	38·4	30·4	09 21	8·0	21 39	340	317	02 21	23				2,1,0,1,1,1,1,1	8	0	79·4
31	23 58	614	565	11 40	49	14 40	40·7	29·7	08 50	11·0	00 14	337	315	13 26	22				2,0,1,0,0,1,1,1	6	0	79·2
Mean	– –	611	555	– –	57	– –	43·8	25·6	– –	18·2	– –	361	297	– –	64				–	–	0·13	79·4

q denotes an international quiet day and *d* an international disturbed day.

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H) — 14,000γ (0·14 C.G.S. unit) + — APRIL 1962

Day	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 13,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	609	607	605	604	600	617	618	604	593	572	575	565	568	567	577	590	597	600	598	600	595	598	597	597	594	1253
2	595	596	594	589	589	596	595	590	587	579	571	564	564	575	579	588	593	595	598	609	614	592	587	579	588	1118
3	591	594	597	600	602	600	582	590	590	579	565	561	567	575	582	601	595	597	601	597	594	601	597	594	590	1152
4	590	589	593	593	587	592	591	589	564	535	536	555	569	579	582	587	590	596	596	598	598	600	599	613	584	1021
5	585	572	565	583	594	594	594	593	590	580	574	565	569	575	579	586	593	597	605	607	607	608	610	610	589	1137
6 d	607	611	610	608	596	611	608	603	589	580	547	555	543	567	576	582	587	615	605	604	597	543	586	582	588	1112
7 d	500	547	578	575	540	562	548	529	526	523	552	551	552	561	620	668	589	596	593	610	615	572	480	514	*563*	501
8 d	528	551	550	553	560	589	586	582	572	559	550	564	560	580	590	632	754	683	629	608	581	540	580	587	586	1068
9	585	580	579	579	582	584	580	579	582	573	566	566	575	579	575	585	600	605	600	603	593	593	596	595	585	1034
10 d	593	588	585	571	590	591	593	590	578	536	521	521	532	583	600	627	593	620	668	590	566	536	480	556	575	808
11	577	520	468	534	576	589	577	567	562	542	543	546	564	585	596	628	618	624	610	593	593	583	585	582	573	762
12	575	572	564	577	582	582	582	579	571	560	556	558	565	565	565	575	604	605	606	601	596	576	564	557	577	837
13 q	564	586	584	582	584	587	586	580	575	564	561	557	557	565	577	587	593	600	600	596	596	593	589	590	581	953
14 q	593	587	587	589	589	590	590	589	582	572	561	557	563	572	583	590	593	599	605	605	607	603	604	599	588	1109
15	597	598	598	589	593	596	596	593	582	570	563	558	564	579	596	638	618	610	607	622	618	613	610	608	597	1316
16	606	614	608	600	599	598	599	595	584	569	559	557	564	574	585	593	578	608	618	615	610	605	606	609	594	1253
17	600	596	582	575	583	603	596	594	582	569	561	564	571	581	595	595	603	610	608	607	602	604	601	598	591	1180
18	596	594	594	597	606	605	605	594	575	568	561	567	583	610	575	590	609	600	618	624	597	603	604	603	595	1278
19	600	597	569	584	600	600	597	586	576	566	557	557	561	572	584	596	600	604	608	608	606	605	602	604	589	1139
20	601	594	587	578	592	598	599	590	575	561	556	555	561	576	586	602	624	601	611	608	611	610	603	604	591	1183
21	623	618	615	618	622	620	622	607	587	576	575	577	579	582	594	604	672	692	654	616	564	582	587	574	*607*	1560
22 d	538	547	550	533	585	570	567	569	541	545	547	544	555	599	600	659	665	673	642	599	579	567	575	588	581	937
23	563	564	568	550	568	587	594	573	577	568	561	554	551	569	586	583	603	606	613	611	604	598	596	596	581	943
24 q	590	589	589	588	587	586	582	576	568	560	556	554	565	562	577	587	596	623	608	611	611	605	603	601	586	1074
25	600	596	595	591	590	591	587	582	579	577	570	555	564	578	599	618	582	601	632	623	600	600	599	599	592	1208
26	595	595	595	595	599	593	579	567	551	553	561	560	557	551	565	575	597	606	608	608	608	605	598	590	584	1011
27	592	588	580	583	579	581	594	596	587	572	565	557	556	569	579	596	608	624	617	612	602	596	599	596	589	1128
28	590	587	585	585	593	591	574	579	579	571	567	569	568	576	591	612	628	604	607	608	608	603	588	579	589	1142
29 q	586	586	585	583	593	594	592	588	584	573	564	564	572	582	587	605	607	613	623	621	609	597	600	600	592	1208
30 q	593	598	593	593	593	591	588	585	581	575	572	577	585	593	603	611	614	614	618	614	603	592	594	598	595	1278
Mean	585	585	582	583	588	593	590	585	576	564	559	*559*	563	576	586	603	610	*614*	613	608	599	591	587	590	587	
Sum 16,000+	1562	1561	1452	1479	1653	1788	1701	1538	1269	927	773	754	904	1281	1583	2091	2303	2422	2406	2228	1984	1723	1619	1702		Grand Total 422,703

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

2 LERWICK (D) — 9° + — APRIL 1962

Day	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 700·0+
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1	34·9	34·7	33·8	33·8	34·8	34·1	34·8	30·9	33·1	37·3	37·2	40·9	43·5	44·0	40·3	38·8	36·3	35·3	34·9	35·4	33·9	32·8	35·0	35·1	36·1	165·6
2	34·5	34·0	33·7	34·1	33·8	32·1	31·1	30·0	29·7	30·9	33·1	35·9	37·8	39·4	38·9	37·1	36·3	37·0	36·0	33·0	24·1	28·1	27·6	23·5	33·0	91·7
3	27·4	32·1	32·4	32·8	32·2	33·6	38·9	36·3	30·3	30·5	32·4	36·5	38·9	39·6	39·0	38·0	37·0	35·0	33·2	32·4	30·3	32·6	30·5	30·9	33·9	112·8
4	35·9	36·5	33·6	31·6	31·7	33·2	33·8	34·0	31·4	34·7	38·2	37·6	37·8	39·4	38·2	37·2	36·6	36·2	35·6	33·7	33·0	34·6	34·1	32·0	35·0	140·6
5	31·1	22·5	26·3	26·3	28·3	31·2	32·1	31·2	30·1	30·7	32·7	34·3	37·0	39·2	39·2	38·3	37·0	36·5	35·8	36·1	35·9	35·4	35·1	34·4	33·2	96·7
6 d	34·4	33·8	33·8	33·4	35·8	34·8	32·4	34·9	29·7	30·3	33·9	38·4	40·3	41·5	43·3	40·9	41·2	41·1	34·3	33·5	37·5	17·8	25·2	28·5	34·6	130·7
7 d	18·9	10·1	25·7	25·6	31·6	29·3	36·4	44·7	41·0	36·1	34·0	37·0	39·6	40·4	44·3	29·7	40·9	40·2	37·0	25·9	25·7	28·0	21·4	28·4	32·2	71·9
8 d	26·9	25·6	33·2	35·5	35·3	31·6	31·4	30·6	30·6	32·2	32·9	37·5	40·6	42·4	43·6	47·9	33·1	42·4	40·2	35·1	32·5	37·2	33·7	31·7	35·2	143·7
9	33·4	34·1	30·1	30·0	30·8	31·0	30·8	31·1	31·2	31·5	33·4	35·8	39·6	40·9	39·7	38·4	38·3	37·3	35·0	35·4	33·2	34·1	35·3	36·1	34·4	126·5
10 d	34·6	33·4	29·5	29·5	32·6	28·6	30·5	29·8	30·0	31·9	40·3	41·9	41·6	44·0	47·0	39·3	41·3	42·5	23·8	32·6	29·5	26·9	38·7	26·2	34·4	126·0
11	30·6	31·6	29·5	33·9	27·4	29·3	30·3	31·2	32·1	34·5	35·1	37·5	39·2	40·4	37·5	38·3	38·3	33·3	34·7	35·3	34·4	33·6	30·3	30·1	33·7	108·4
12	30·9	32·9	31·8	29·7	30·9	30·7	30·7	30·2	30·1	30·6	32·4	34·1	37·6	39·2	40·0	37·0	36·6	35·4	36·1	35·5	33·9	28·5	30·2	29·0	33·1	94·0
13 q	35·8	32·7	30·8	31·0	31·0	29·9	29·7	29·3	29·2	30·5	32·1	34·0	37·0	39·5	39·2	37·8	35·1	32·2	32·7	34·3	34·3	33·9	33·8	34·3	33·3	100·1
14 q	36·6	33·2	31·7	30·8	31·0	31·2	31·2	31·3	31·9	33·2	34·6	36·1	38·2	40·1	40·2	39·2	38·0	37·3	36·6	36·0	33·8	33·8	32·8	32·5	34·6	131·3
15	33·4	33·4	33·4	34·4	34·6	31·9	30·0	29·3	29·5	31·2	33·4	36·1	39·0	42·5	43·3	42·5	41·5	40·3	39·5	39·4	37·4	37·0	35·5	35·0	36·0	163·5
16	35·3	35·5	32·9	31·4	31·2	31·4	30·0	29·8	29·9	32·3	35·6	38·5	41·9	42·4	41·8	40·3	40·0	36·6	35·0	35·5	35·3	29·9	32·7	33·8	35·0	139·0
17	33·2	33·2	34·4	35·5	34·8	31·7	28·5	27·9	29·1	30·6	33·3	37·5	40·7	42·1	40·4	38·5	37·0	36·8	35·8	35·2	34·8	35·0	35·1	35·1	34·8	136·2
18	34·0	33·3	33·4	36·1	35·5	32·2	34·1	34·9	34·1	35·6	39·1	41·6	41·1	42·9	41·4	39·0	38·5	36·6	36·5	36·2	30·3	35·0	36·6	35·8	*36·4*	173·8
19	34·5	35·1	42·4	33·7	29·7	27·8	27·8	29·7	29·8	30·8	33·7	37·5	39·7	40·3	39·6	38·2	36·4	35·5	35·3	35·3	35·5	35·8	35·3	35·3	34·8	134·7
20	33·2	33·9	30·1	30·3	31·4	30·2	28·4	27·6	28·5	30·4	32·2	35·1	38·8	41·1	40·2	38·8	37·0	36·9	36·1	35·2	35·2	33·5	33·2	35·2	33·9	112·5
21	36·3	35·2	34·6	32·3	30·8	30·5	29·0	28·3	27·4	29·0	33·2	37·2	40·9	41·6	40·1	39·0	40·0	40·2	36·1	25·9	21·5	27·8	29·3	20·9	32·8	87·1
22 d	27·4	27·4	31·4	40·0	31·0	35·4	38·2	35·1	35·3	35·4	36·3	38·0	40·0	40·6	39·2	38·6	35·8	36·3	33·4	30·1	24·6	28·2	29·5	29·5	34·0	116·7
23	27·1	29·0	30·6	32·5	32·2	30·0	31·2	33·9	34·8	36·2	37·7	39·3	40·6	40·3	39·0	37·7	36·1	34·5	35·0	34·5	34·2	34·5	34·9	34·3	34·6	130·1
24 q	33·8	33·8	32·5	31·2	30·2	29·3	33·7	33·5	34·0	31·1	33·2	34·3	37·7	38·2	38·7	38·5	37·5	36·9	37·0	36·8	36·2	35·3	35·0	34·8	34·7	133·2
25	34·9	34·1	34·1	31·4	30·8	30·4	30·3	31·2	32·5	33·9	36·3	36·8	37·1	39·2	41·1	42·9	41·6	39·5	40·9	34·4	31·2	35·4	34·9	34·1	35·4	149·0
26	33·6	33·8	33·5	32·0	31·6	32·0	34·1	33·9	32·2	36·1	36·3	38·0	41·2	40·3	39·2	37·8	37·0	35·6	34·3	34·4	34·4	31·2	27·5	27·8	34·5	127·8
27	30·5	31·7	29·5	28·0	25·5	28·8	30·3	29·2	29·4	30·3	33·1	36·2	39·5	39·9	40·1	38·0	37·0	35·9	35·2	34·1	27·4	31·0	30·5	30·5	32·6	81·6
28	31·0	28·8	27·4	23·5	21·7	22·7	25·4	27·8	29·3	31·9	33·9	36·1	37·7	39·8	39·7	36·1	36·3	35·5	35·8	35·6	34·0	30·1	29·8	29·3	*31·6*	59·2
29 q	30·3	32·0	32·5	33·2	29·6	27·4	26·6	27·5	29·0	30·5	32·2	35·7	38·7	40·4	39·5	37·2	38·0	37·7	37·1	37·0	34·9	33·4	33·2	32·8	33·6	106·4
30 q	35·3	33·2	31·7	30·6	30·3	29·6	29·0	29·3	30·3	32·4	35·9	38·6	39·9	39·8	40·0	39·3	38·3	36·1	36·9	31·2	31·2	32·9	33·4	31·5	34·0	116·7
Mean	32·3	31·7	32·0	31·8	31·3	*30·7*	31·4	31·5	31·2	32·4	34·6	37·1	39·4	*40·7*	40·5	38·7	37·8	37·1	35·5	34·2	32·3	32·1	32·3	31·6	34·2	
Sum 900·0+	69·7	50·6	60·3	54·1	38·1	21·9	40·7	44·4	35·5	72·6	137·7	214·0	283·2	321·4	313·7	260·3	234·0	212·6	165·8	125·0	70·1	63·3	70·1	48·4	34·0	Grand Total 24607·5

GEOMAGNETIC FORCE: VERTICAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

3 LERWICK (Z) — 47,000γ (0·47 C.G.S. unit) + — APRIL 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 7000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	323	324	324	324	318	301	301	308	313	319	319	326	331	345	351	341	339	338	338	333	335	331	331	331	327	844
2	333	332	332	332	329	325	325	325	323	322	325	326	325	325	328	331	337	338	340	339	338	322	309	211	324	772
3	253	303	318	323	322	322	313	306	313	317	321	322	323	324	329	331	347	347	359	355	346	313	310	309	322	726
4	307	307	324	328	328	320	319	321	328	336	325	323	324	324	330	333	337	336	337	337	336	330	326	267	324	783
5	253	258	278	287	302	312	317	322	321	320	323	325	321	323	330	332	336	335	331	328	325	324	323	324	315	550
6 d	325	325	326	324	322	293	302	304	309	313	319	314	324	325	337	351	346	344	394	383	349	309	310	290	327	838
7 d	206	196	264	271	240	256	259	247	265	292	318	332	378	397	387	426	368	362	362	354	295	296	213	136	297	120
8 d	121	181	131	244	273	289	310	325	331	336	331	328	334	343	356	373	422	424	445	433	370	295	309	288	316	592
9	261	263	308	325	331	336	334	333	332	331	328	326	327	335	352	361	352	362	360	358	351	338	327	318	331	949
10 d	314	328	329	328	318	324	331	333	333	344	341	345	328	330	368	426	415	400	425	383	354	290	161	227	336	1075
11	258	215	209	209	246	295	318	331	336	336	346	343	351	354	361	367	391	389	364	359	349	324	302	296	319	649
12	307	312	276	285	317	327	332	333	334	338	339	337	333	337	341	343	344	351	350	351	350	343	311	281	328	872
13 q	260	306	327	333	334	333	334	336	335	338	339	338	333	334	334	339	346	352	353	348	344	344	341	339	334	1020
14 q	316	316	327	332	332	332	330	331	332	334	334	333	328	327	327	329	333	332	333	334	334	334	333	333	330	926
15	333	333	333	329	316	317	322	326	327	329	330	327	322	319	319	322	349	376	371	345	339	339	339	338	333	1000
16	336	322	304	313	322	327	328	329	330	331	333	333	329	334	342	351	360	363	360	352	347	336	323	322	334	1027
17	333	335	335	303	284	295	316	322	324	327	327	324	323	324	329	339	341	338	340	340	340	334	331	333	327	837
18	335	338	337	329	304	306	306	309	313	316	320	315	317	323	346	343	355	359	345	340	361	341	335	327	330	920
19	328	329	308	305	314	325	327	325	324	323	322	320	321	323	329	331	334	335	334	331	329	329	329	327	325	802
20	314	302	307	326	329	333	335	335	334	329	326	322	319	323	328	329	340	348	341	337	334	332	334	330	329	887
21	318	323	328	330	330	328	325	328	330	326	319	311	307	311	317	324	323	382	439	393	323	322	323	287	331	947
22 d	181	199	222	233	249	283	266	283	306	310	325	345	362	371	393	396	450	444	419	388	358	317	268	270	318	638
23	266	263	271	258	271	275	298	309	311	322	335	345	347	347	355	364	364	364	353	346	347	340	335	335	322	721
24 q	333	335	339	341	342	343	345	345	341	335	334	334	328	340	341	335	331	336	352	346	340	336	335	334	338	1121
25	332	334	334	336	337	336	335	332	328	322	324	328	322	324	330	342	359	361	359	378	376	348	335	335	339	1147
26	333	333	330	331	333	334	328	323	330	328	329	334	336	341	341	340	336	337	338	338	340	336	329	312	333	990
27	306	317	326	329	328	319	310	314	317	323	329	329	328	330	337	348	347	346	348	354	360	343	335	330	331	953
28	325	323	323	324	323	325	329	316	316	317	320	321	321	325	333	346	358	359	347	342	343	337	330	327	330	930
29 q	328	330	334	329	334	336	335	332	334	335	334	329	329	336	351	353	353	347	341	348	355	354	347	336	339	1140
30 q	329	329	335	335	335	334	329	327	325	326	324	324	324	327	330	339	349	360	353	356	347	346	339	337	336	1059
Mean	296	300	305	310	312	316	319	320	323	326	328	329	330	334	342	349	355	359	361	354	344	329	316	304	328	
Sum 8000+	867	1011	1139	1296	1363	1481	1559	1610	1695	1775	1839	1859	1895	2021	2252	2485	2662	2765	2831	2629	2315	1883	1473	1130		Grand Total 235,835

DAILY EXTREMES OF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH HOUSE

4 LERWICK — All Times G.M.T. — APRIL 1962

Day	Horizontal component: Maximum 14,000γ + (h. m.)	(γ)	Minimum 14,000γ + (γ)	(h. m.)	Range (γ)	Declination: Maximum 9° + (h. m.)	(′)	Minimum 9° + (′)	(h. m.)	Range (′)	Vertical component: Maximum 47,000γ + (h. m.)	(γ)	Minimum 47,000γ + (γ)	(h. m.)	Range (γ)	3-hr. range indices K	Sum of K indices	Magnetic character of day, C (0-2)	Temperature in magneto-graph house 200 + (°A.)
1	05 36	624	556	11 59	68	13 23	46·6	28·6	07 52	18·0	14 13	356	296	05 42	60	1,2,2,2,2,2,2,2	15	0	79·5
2	20 31	630	549	23 15	81	13 32	40·0	16·7	24 00	23·3	20 23	352	152	23 43	200	1,1,1,1,1,2,4,5	16	0	79·2
3	17 43	615	558	11 38	57	14 10	41·1	14·0	00 04	27·1	18 30	362	208	00 00	154	4,2,3,2,2,2,2,3	20	0	79·6
4	23 04	636	522	09 51	114	13 39	40·2	29·4	23 38	10·8	09 56	339	248	24 00	91	2,2,2,3,1,2,2,3	17	0	79·4
5	23 10	612	552	01 53	60	14 06	40·3	17·6	01 43	22·7	16 52	337	244	00 08	93	3,2,1,1,1,1,1,1	11	0	79·2
6 d	20 14	625	487	21 09	138	14 51	45·6	5·3	21 51	40·3	18 56	406	272	24 00	134	1,3,2,3,3,3,4,5	24	1	79·5
7 d	15 17	746	368	22 53	378	14 48	51·3	-11·5	01 04	62·8	15 01	474	95	23 49	379	5,4,3,4,4,5,5,5	35	2	79·7
8 d	16 15	836	465	00 24	371	15 59	52·4	7·5	00 35	44·9	16 10	485	94	00 08	391	5,3,2,2,3,5,5,4	29	1	79·4
9	17 00	617	557	11 38	60	13 13	41·6	28·6	00 35	13·0	18 00	370	232	00 50	138	4,1,2,1,2,2,2,2	16	0	79·6
10 d	18 21	719	421	22 48	298	14 17	52·1	0·2	18 28	51·9	18 19	495	123	22 22	372	2,3,1,3,4,3,5,5	26	1	79·2
11	15 23	641	391	02 19	250	13 40	42·4	24·2	21 42	18·2	17 22	407	183	02 17	224	5,4,2,2,3,3,3,3	25	1	79·3
12	16 54	617	528	23 54	89	14 35	40·8	25·3	21 39	15·5	17 29	354	260	02 51	94	3,3,0,1,2,3,2,3	17	0	79·6
13 q	16 58	604	536	00 00	68	13 53	39·9	28·8	08 08	11·1	18 05	355	248	00 28	107	4,0,0,1,1,1,1,2	10	0	79·6
14 q	21 57	614	555	11 13	59	14 00	40·6	30·6	03 31	10·0	10 21	336	309	01 00	27	2,0,1,1,1,1,1,1	8	0	79·7
15	15 52	657	557	11 22	100	14 24	44·0	28·3	06 56	15·7	17 48	381	312	05 09	69	1,2,1,0,2,3,3,2	14	0	79·8
16	18 33	625	555	10 29	70	12 57	43·0	26·7	21 12	16·3	18 10	369	294	02 26	75	3,2,1,1,1,2,2,3	15	0	80·0
17	17 50	620	555	11 01	65	13 34	42·8	27·4	07 35	15·4	16 27	344	278	04 33	66	3,3,2,1,2,2,1,1	15	0	80·0
18	19 04	638	552	10 33	86	13 28	44·8	27·4	20 20	17·4	20 30	369	298	04 50	71	0,2,2,2,3,3,3,2	17	1	80·0
19	23 57	614	541	02 19	73	02 22	51·3	26·1	06 27	25·2	02 07	342	275	02 42	67	3,2,2,1,1,1,0,1	11	0	80·3
20	16 35	646	552	10 55	94	13 38	41·8	27·0	07 31	14·8	16 58	354	294	02 00	60	2,2,1,1,1,3,1,2	13	0	80·5
21	16 51	734	507	20 40	227	17 11	42·9	10·6	23 47	32·3	18 25	450	215	24 00	235	3,1,2,2,1,4,5,4	22	1	80·5
22 d	16 56	696	483	00 15	213	03 38	48·2	12·4	00 23	35·8	16 19	468	164	00 32	304	4,4,3,3,3,4,4,4	29	1	80·3
23	16 44	615	530	03 30	85	13 15	41·0	24·1	00 24	16·9	17 00	370	241	03 48	129	3,3,2,3,2,2,1,1	17	0	80·9
24 q	17 34	633	552	11 48	81	12 43	39·8	28·1	07 32	11·7	18 40	355	325	12 15	30	1,1,1,1,2,3,2,0	11	0	80·8
25	15 31	643	544	11 19	99	17 55	44·8	28·3	20 10	16·5	19 39	387	317	10 11	70	1,0,1,2,3,3,3,1	14	0	80·2
26	19 30	613	536	13 33	77	12 48	42·7	24·9	22 45	17·8	13 32	344	304	24 00	40	1,2,2,2,3,2,1,2	15	0	80·8
27	17 23	629	554	12 31	75	14 19	41·4	23·6	20 17	17·8	20 12	370	302	00 30	68	2,2,1,1,2,2,3,1	14	0	81·0
28	16 18	632	561	12 02	71	13 50	40·2	20·9	04 26	19·3	17 30	363	314	07 38	49	2,1,2,1,1,2,2,2	13	0	81·0
29 q	19 12	632	556	10 58	76	14 22	41·3	26·4	06 37	14·9	14 58	356	324	00 00	32	2,2,1,1,2,1,2,1	12	0	81·0
30 q	17 54	629	571	10 04	58	14 48	40·6	27·4	19 33	13·2	17 36	365	322	11 25	43	2,0,1,1,1,1,3,1	10	0	81·0
Mean	- -	646	525	- -	121	- -	43·5	21·2	- -	22·4	- -	381	251	- -	129	-	-	0·30	80·0

q denotes an international quiet day and *d* an international disturbed day.

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H) — 14,000γ (0·14 C.G.S. unit) + — MAY 1962

Day	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 13,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	593	574	595	593	599	599	595	589	584	577	576	581	586	591	595	603	608	613	616	615	617	598	590	600	595	1287
2	595	593	594	598	593	590	577	574	576	575	573	581	586	595	595	596	615	623	626	623	614	598	587	575	594	1252
3	589	595	588	583	587	584	574	568	566	566	571	577	572	584	590	590	601	613	618	612	610	610	604	604	590	1156
4 q	597	598	595	596	596	595	586	578	575	570	567	569	573	581	592	599	605	609	611	611	609	610	605	603	593	1230
5	604	603	600	599	597	594	585	577	570	568	565	564	570	583	599	607	613	620	626	630	632	630	618	615	599	1369
6 d	624	624	619	613	613	609	601	594	587	575	573	586	578	621	686	820	811	804	671	618	574	569	532	537	*627*	2039
7	535	548	530	559	572	577	572	568	564	560	554	558	560	568	582	589	595	597	600	604	598	597	587	579	*573*	753
8	584	595	583	588	592	590	584	576	570	568	565	567	571	582	581	589	594	607	609	601	601	603	600	596	587	1096
9	585	591	589	585	585	584	581	574	567	564	566	565	565	574	583	589	598	608	613	610	610	610	607	607	588	1110
10	607	600	598	586	599	600	594	587	571	560	563	569	570	574	580	603	595	605	609	608	605	604	602	600	591	1189
11	599	600	599	599	604	602	595	584	574	559	556	560	576	569	588	645	655	664	649	597	600	598	597	598	599	1367
12	596	596	597	596	594	594	593	590	584	575	569	568	569	577	590	604	609	612	612	609	607	607	606	607	594	1261
13 d	604	605	606	604	597	602	608	595	580	571	560	567	563	582	605	606	610	622	628	615	629	604	587	583	597	1333
14 d	564	579	580	571	595	598	592	582	574	569	576	578	579	611	602	616	620	622	622	612	611	597	600	595	594	1245
15 d	592	589	576	558	593	602	600	577	580	581	576	570	580	587	624	598	616	648	662	632	606	600	600	601	598	1348
16	600	598	600	599	594	567	589	589	584	562	552	560	569	582	594	600	606	612	619	619	612	609	609	604	593	1229
17	597	599	599	601	601	597	592	585	578	564	554	551	560	573	579	592	604	609	608	612	606	606	608	604	591	1179
18 q	603	602	600	598	598	597	593	588	580	565	555	561	566	574	589	589	603	611	615	613	614	612	610	611	594	1247
19	609	608	604	603	606	602	586	574	554	555	558	569	574	591	609	624	615	624	619	622	622	613	610	604	598	1355
20	604	599	605	604	601	595	584	577	567	551	544	549	562	584	622	624	612	613	609	608	608	605	607	607	593	1241
21	605	605	602	601	600	600	592	584	574	558	552	553	568	591	590	609	615	616	615	614	610	609	609	605	595	1277
22	603	603	600	603	604	599	594	587	573	565	564	569	578	588	594	594	612	620	618	619	614	611	609	607	597	1328
23 q	608	608	604	602	602	604	604	600	591	582	572	564	572	579	594	615	624	623	621	619	612	610	607	606	601	1423
24 q	607	607	605	604	605	603	598	590	580	572	569	572	576	584	594	597	602	617	622	621	619	615	612	610	599	1380
25 q	610	608	608	610	612	613	610	601	590	579	575	576	580	585	590	600	612	621	625	624	621	617	616	615	604	1498
26	612	612	612	610	609	606	600	593	581	567	558	561	575	578	587	605	621	630	635	630	621	622	615	603	602	1443
27	607	602	607	611	616	597	595	596	587	578	575	581	583	596	630	637	629	652	650	638	623	604	609	600	608	1603
28	597	597	596	594	592	590	584	574	565	554	550	555	570	586	612	614	633	644	644	638	623	607	595	600	596	1314
29	598	595	590	584	594	600	594	586	569	571	576	570	563	571	574	590	605	619	628	621	612	604	601	598	592	1213
30	595	597	597	594	594	590	585	580	572	567	569	574	581	586	588	594	605	609	612	613	611	608	607	612	593	1240
31 d	611	611	609	608	604	601	583	602	597	585	562	544	622	641	671	695	646	643	637	609	604	600	601	553	610	1639
Mean	598	598	596	595	598	596	591	585	576	568	*564*	567	574	586	600	614	619	*627*	624	617	611	606	601	598	596	
Sum 17,000+	1534	1541	1487	1454	1548	1480	1320	1119	864	613	495	569	797	1168	1609	2033	2189	2430	2349	2117	1955	1787	1647	1539		Grand Total 443,644

MAGNETIC DECLINATION (WEST)

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

2 LERWICK (D) — 9° + — MAY 1962

Day	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 700·0+
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1	33·4	36·8	27·8	27·2	28·1	29·6	30·6	30·5	31·0	33·3	36·4	39·2	41·2	41·9	40·4	39·3	38·3	38·2	38·0	36·3	28·3	22·5	22·8	26·0	33·2	97·1
2	28·5	29·3	25·6	23·3	22·4	24·1	28·2	34·4	34·2	35·9	38·0	41·1	43·1	42·9	42·4	40·9	41·2	38·2	38·0	35·1	34·0	29·3	21·5	22·0	33·1	93·6
3	28·3	27·8	28·7	31·5	30·8	27·4	26·8	28·8	32·5	34·8	38·3	40·7	41·9	41·4	40·9	39·2	38·0	37·3	36·3	34·1	32·0	32·3	33·2	34·3	34·1	117·3
4 q	33·8	33·9	33·3	32·5	31·1	29·3	28·4	29·3	30·6	34·1	37·3	40·2	41·7	41·7	40·6	39·1	38·4	38·0	37·0	36·5	36·1	35·1	34·4	34·8	*35·3*	147·2
5	34·2	34·1	33·4	32·2	30·8	29·3	28·0	28·3	29·2	31·2	33·5	36·3	38·5	40·0	40·6	39·2	38·7	38·7	39·6	40·0	39·2	37·8	36·3	31·4	35·0	140·5
6 d	33·7	33·3	34·3	32·0	29·6	28·0	27·4	26·1	27·3	30·2	36·1	41·1	44·6	46·1	46·7	48·4	45·0	44·3	41·9	33·0	33·2	34·9	21·5	27·4	35·3	146·1
7	29·6	33·7	31·7	30·3	29·0	29·5	28·8	27·8	28·5	30·5	31·7	34·2	38·1	38·2	37·3	37·4	36·9	35·4	34·9	34·8	33·2	31·4	31·7	29·0	*32·7*	83·6
8	28·8	32·2	30·6	30·5	31·0	29·8	29·6	30·8	31·9	32·8	34·1	36·3	38·0	39·2	39·1	39·0	37·1	36·3	35·0	34·9	35·1	34·8	28·3	27·6	33·5	102·8
9	29·0	29·8	30·6	29·7	30·7	30·9	29·7	29·7	30·3	30·6	32·9	35·3	38·2	39·1	39·2	39·9	40·0	39·7	38·2	37·0	36·3	35·2	34·2	33·8	34·2	120·0
10	33·5	34·9	33·5	34·1	31·9	29·6	29·3	29·5	31·1	33·2	34·6	37·5	39·7	40·3	39·7	39·0	37·2	35·9	35·4	34·9	35·1	35·4	35·4	34·7	34·8	135·4
11	34·1	34·1	33·6	32·2	30·9	28·3	27·4	28·0	29·0	31·2	33·5	37·1	41·9	44·1	42·9	42·7	42·3	39·7	39·1	36·4	35·1	34·3	29·0	33·0	35·0	139·9
12	33·8	33·6	33·5	32·9	31·4	30·3	28·8	26·9	27·2	29·9	32·7	35·3	37·8	38·8	38·0	36·6	35·3	34·8	34·1	34·9	35·2	35·3	35·1	35·7	33·7	107·9
13 d	34·8	33·8	32·9	32·7	30·9	30·3	27·5	25·9	27·1	29·2	34·4	39·3	42·3	42·9	42·4	40·4	38·4	36·0	35·1	34·8	36·0	28·0	31·6	27·0	33·9	113·7
14 d	21·3	19·6	24·4	33·6	33·2	30·2	28·4	27·9	30·6	33·8	36·5	40·3	42·4	42·4	40·3	38·2	37·4	37·1	36·8	35·2	30·5	29·4	31·9	31·7	33·0	93·1
15 d	30·1	28·4	33·9	36·3	33·4	30·7	28·4	29·6	31·1	32·2	35·9	36·9	38·7	39·3	39·4	37·2	37·5	37·2	34·0	33·5	36·1	36·9	36·0	35·1	34·5	127·8
16	34·5	34·1	32·6	31·7	31·7	34·8	33·7	32·7	31·6	32·4	36·3	39·0	40·2	40·4	38·5	36·5	36·0	34·8	34·0	33·7	33·8	34·6	34·0	32·3	34·7	133·9
17	32·7	32·5	31·8	30·7	29·4	28·6	28·3	29·3	29·9	30·6	32·7	35·6	37·8	39·2	39·0	38·0	36·6	35·1	34·8	35·0	34·8	34·8	34·1	33·9	33·5	105·2
18 q	34·6	33·9	33·7	33·0	30·9	28·3	26·6	26·1	26·4	28·8	31·5	34·8	37·0	38·5	38·4	36·9	36·0	35·1	34·6	34·9	35·4	35·6	35·5	35·3	33·4	101·8
19	34·9	34·1	33·4	31·5	30·8	28·7	25·9	25·0	28·8	35·7	39·2	43·0	43·8	43·5	40·9	40·3	36·6	35·4	35·5	35·5	36·1	33·2	34·9	34·6	35·1	141·3
20	33·8	32·2	32·3	32·7	30·3	29·3	28·1	28·8	30·6	34·8	37·4	39·6	42·3	43·1	41·8	40·1	36·3	34·1	35·3	36·1	36·1	35·9	35·8	35·6	35·1	142·4
21	34·6	34·3	33·0	31·3	29·5	27·9	26·7	26·2	27·3	29·6	34·5	39·0	42·7	42·9	41·3	39·0	37·0	35·2	34·1	34·1	34·7	35·4	36·0	35·7	34·3	122·0
22	35·6	35·3	34·6	32·5	30·3	27·5	26·2	26·2	27·7	31·0	35·0	40·3	42·4	42·3	40·6	38·9	37·1	36·0	34·4	34·1	34·5	34·7	35·1	34·7	34·5	127·0
23 q	34·6	33·9	33·2	31·7	30·6	29·1	29·4	28·4	28·4	30·5	33·5	37·8	41·2	42·0	41·1	40·3	38·7	37·0	35·7	35·0	34·9	34·8	34·4	34·5	34·6	130·7
24 q	34·0	33·9	34·2	33·8	30·3	29·3	28·2	28·8	28·9	30·7	33·3	35·7	36·8	38·1	39·3	39·4	38·3	37·2	36·1	35·5	35·6	35·6	35·2	34·6	34·3	122·8
25 q	34·2	33·4	32·8	31·7	30·4	28·8	27·8	27·7	28·8	30·4	33·2	36·9	39·1	40·0	40·1	39·2	37·7	36·5	35·2	35·5	35·9	35·4	34·9	34·3	34·2	119·9
26	34·1	33·7	33·2	31·8	30·6	28·1	27·8	27·3	27·3	29·3	32·7	36·1	38·5	39·8	39·3	38·0	36·9	37·0	36·8	35·2	36·2	36·8	35·9	35·1	34·1	117·5
27	29·3	28·7	30·1	31·0	28·3	22·8	24·9	25·4	28·1	33·6	37·9	41·3	44·8	45·2	45·0	42·4	40·5	40·6	39·1	39·0	36·3	34·9	27·4	28·3	34·4	124·9
28	29·8	29·8	29·6	28·8	28·6	27·5	26·5	27·0	28·7	32·7	36·5	38·7	41·0	41·5	39·8	39·0	37·2	36·6	34·1	34·2	32·5	27·9	30·3	35·6	33·1	93·9
29	35·5	33·5	33·8	31·8	30·0	26·7	26·2	27·4	31·7	35·6	36·5	38·2	39·2	38·7	36·6	34·7	34·3	34·8	35·2	35·5	35·3	35·7	35·6	34·9	34·1	117·4
30	33·0	32·9	32·2	31·4	30·0	28·8	28·0	28·3	29·9	32·4	36·1	39·0	39·9	39·0	38·0	36·9	35·7	34·5	34·0	34·3	34·5	34·1	34·1	34·2	33·8	111·2
31 d	33·5	32·9	31·7	30·1	28·5	27·5	33·4	31·8	30·0	31·9	32·5	36·1	41·6	46·5	49·8	44·9	44·5	35·4	34·7	37·0	37·7	32·4	24·4	26·7	34·8	135·5
Mean	32·4	32·4	31·9	31·5	30·2	28·7	*28·2*	28·4	29·5	32·0	35·0	38·1	40·5	*41·3*	40·6	39·4	38·1	36·8	36·0	35·3	34·8	33·7	32·3	32·4	34·2	
Sum 800·0+	205·6	204·4	190·0	176·5	135·4	91·0	75·0	79·9	115·7	192·9	284·7	381·9	456·4	479·0	459·4	421·0	381·1	342·1	317·0	296·0	279·7	244·4	200·5	203·8	34·4	Grand Total 25413·4

GEOMAGNETIC FORCE: VERTICAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

3 LERWICK (Z) — 47,000γ (0·47 C.G.S. unit) + — MAY 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 7000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	331	277	293	318	323	323	324	325	324	323	323	324	323	324	332	337	345	347	347	345	343	333	321	321	326	826
2	322	322	311	304	303	306	313	310	309	311	312	312	312	319	328	330	334	361	354	352	348	337	304	299	321	713
3	295	299	317	324	316	322	328	324	322	321	323	323	327	325	327	335	335	335	337	342	342	334	333	326	325	812
4 q	329	335	336	336	339	336	335	328	323	321	321	321	321	321	325	327	331	332	333	328	328	328	329	330	329	893
5	331	333	335	336	337	338	337	327	317	316	318	318	318	322	322	324	327	328	327	323	322	323	324	331	326	834
6 d	328	329	331	334	331	331	330	323	316	313	312	314	326	340	396	480	497	484	432	453	389	354	298	287	359	1628
7	292	291	280	304	337	347	348	347	343	337	335	332	335	335	338	341	343	347	345	343	346	346	340	331	333	983
8	331	309	323	335	338	335	336	336	336	329	325	325	327	327	332	334	336	346	353	353	345	340	320	308	332	979
9	321	328	330	333	335	334	336	339	335	330	328	328	322	322	323	325	328	330	337	339	336	336	336	334	331	945
10	331	327	317	322	318	323	328	330	329	326	324	322	321	322	321	328	337	340	341	341	340	335	334	334	329	891
11	334	333	333	335	333	334	334	331	329	327	323	318	316	323	320	326	351	379	411	405	366	350	338	329	341	1178
12	333	335	338	339	340	340	340	341	340	334	333	331	330	330	329	330	333	339	341	339	337	337	336	334	336	1059
13 d	335	335	335	335	332	320	316	325	325	322	322	322	332	336	332	339	332	331	336	341	332	331	275	282	326	823
14 d	257	236	249	258	282	314	320	330	332	333	333	334	334	337	346	340	334	336	341	345	340	338	329	292	316	590
15 d	304	316	316	283	295	315	326	332	327	322	118	317	316	328	333	352	348	354	355	367	360	347	340	338	330	909
16	338	338	338	339	335	326	299	300	302	311	323	322	321	322	327	333	333	327	327	335	341	340	335	329	327	841
17	332	335	339	340	339	339	337	333	325	322	327	331	331	334	341	344	342	340	339	334	334	334	332	329	335	1033
18 q	331	334	338	337	337	335	335	335	334	328	323	318	318	329	336	342	343	341	339	334	333	330	330	330	333	990
19	331	335	338	339	338	338	338	334	330	313	314	310	317	327	341	355	364	355	345	337	338	338	330	333	335	1038
20	334	335	337	334	338	334	337	335	332	324	319	315	315	315	319	333	353	358	349	339	334	332	330	329	333	980
21	329	330	334	339	340	339	340	335	333	327	323	315	313	322	333	336	340	340	340	338	335	333	330	330	332	974
22	329	323	329	326	336	339	335	333	329	323	316	311	313	317	327	333	334	337	340	339	336	332	329	328	329	894
23 q	329	330	334	337	334	330	327	328	326	321	319	320	320	315	322	329	336	340	341	337	336	333	330	328	329	902
24 q	327	329	330	330	329	328	329	329	328	325	324	319	315	315	318	324	331	334	334	334	333	333	332	329	327	859
25 q	328	330	332	332	332	337	341	340	332	318	316	316	315	316	317	323	327	329	334	335	334	333	332	328	328	877
26	328	329	329	329	328	330	330	330	328	322	317	311	307	311	314	317	321	325	328	335	339	332	328	322	325	790
27	309	321	324	326	326	330	315	310	310	305	301	298	308	313	324	354	383	372	368	353	353	324	297	306	326	830
28	312	323	328	329	329	330	334	336	333	326	322	326	334	341	357	365	374	382	381	364	353	333	332	334	341	1178
29	334	335	327	312	305	312	321	321	325	322	326	326	333	333	332	332	333	330	332	334	336	336	335	328	327	860
30	333	334	335	334	333	334	333	333	327	317	316	316	311	317	322	329	333	330	328	328	327	328	329	329	327	856
31 d	332	333	334	334	333	327	312	292	298	303	311	337	364	442	458	448	417	407	382	371	357	352	298	281	351	1423
Mean	323	323	325	326	328	330	329	328	326	322	321	320	322	328	335	343	348	349	348	347	342	336	325	322	331	
Sum 9000+	1030	999	1070	1113	1171	1226	1214	1172	1099	972	947	932	995	1180	1392	1645	1775	1836	1797	1763	1593	1412	1086	969		Grand Total 246,388

DAILY EXTREMES OF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH HOUSE

4 LERWICK — All Times G.M.T. — MAY 1962

Day	Horizontal component: Maximum 14,000γ + (h. m.)	Maximum (γ)	Minimum 14,000γ + (γ)	Minimum (h. m.)	Range (γ)	Declination: Maximum 9° + (h. m.)	Maximum (′)	Minimum 9° + (′)	Minimum (h. m.)	Range (′)	Vertical component: Maximum 47,000γ + (h. m.)	Maximum (γ)	Minimum 47,000γ + (γ)	Minimum (h. m.)	Range (γ)	3-hr. range indices K	Sum of K indices	Magnetic character of day, C (0-2)	Temperature in magneto-graph house 200 + (°A.)
1	20 33	631	564	01 05	67	01 13	45·6	18·9	21 46	26·7	17 50	349	253	02 32	96	4,2,1,1,1,1,3,3	16	0	81·0
2	16 25	634	568	23 43	66	13 55	43·6	18·1	22 51	25·5	17 36	366	288	23 50	78	2,2,2,2,2,3,2,3	18	0	81·0
3	18 13	625	564	08 30	61	12 17	42·6	25·9	00 01	16·7	19 54	348	286	00 51	62	3,2,2,2,1,1,3,2	16	0	81·0
4 q	21 51	619	566	10 23	53	13 00	41·9	28·2	06 34	13·7	04 16	338	320	12 48	18	1,0,1,0,0,0,0,1	3	0	81·0
5	21 15	638	560	11 28	78	14 00	40·9	27·5	06 31	13·4	06 43	337	316	09 41	21	0,1,1,1,1,1,1,3	9	0	81·0
6 d	17 08	967	496	22 25	471	15 07	58·0	14·0	22 51	44·0	16 53	521	270	23 04	251	1,1,2,3,5,6,5,4	27	2	81·6
7	19 34	607	515	02 08	92	13 36	38·9	27·1	07 30	11·8	06 42	350	272	02 35	78	3,3,1,1,2,1,2,2	15	0	81·0
8	18 33	610	562	10 31	48	15 38	39·8	24·1	22 32	15·7	18 38	354	300	01 38	54	2,2,1,1,2,1,1,3	13	0	81·3
9	18 51	615	561	09 38	54	17 12	40·2	28·0	00 01	12·2	19 30	340	315	00 00	25	1,2,1,1,1,1,1,1	9	0	81·1
10	15 28	617	557	09 48	60	13 47	41·1	28·4	06 58	12·7	15 58	342	312	03 53	30	2,2,1,2,1,3,0,1	12	0	81·3
11	17 19	673	554	13 23	119	13 38	44·8	24·2	22 03	20·6	18 22	421	312	12 10	109	1,1,1,1,3,3,4,3	17	0	81·4
12	17 41	614	564	11 41	50	13 30	39·0	26·4	07 54	12·6	07 20	343	328	15 45	15	1,1,2,1,0,1,0,1	7	0	84·8
13 d	18 22	639	552	12 49	87	13 23	43·4	20·8	24 00	22·6	19 17	344	258	22 26	86	1,2,2,2,3,2,2,3	17	0	85·1
14 d	13 29	639	546	03 41	93	13 30	43·4	13·4	01 49	30·0	14 12	352	224	01 38	128	3,3,2,3,3,2,3,3	22	1	85·1
15 d	17 57	687	542	03 15	145	18 10	41·4	26·4	06 59	15·0	19 48	372	271	03 47	101	3,3,2,1,3,4,4,1	21	1	85·0
16	18 40	628	539	10 30	89	12 55	41·4	29·5	08 16	11·9	20 37	344	296	06 20	48	1,3,2,2,2,1,2,1	14	0	85·0
17	19 20	616	548	10 38	68	14 07	39·9	27·0	05 48	12·9	15 31	346	321	09 30	25	1,0,1,1,1,1,1,1	7	0	84·8
18 q	18 38	618	552	10 45	66	14 21	39·0	25·4	07 57	13·6	17 00	345	316	11 50	29	0,1,1,1,2,1,0,1	7	0	85·0
19	15 21	658	544	08 41	114	11 58	44·7	23·8	07 22	20·9	16 05	371	304	11 50	67	0,1,2,3,2,3,1,2	14	0	84·9
20	15 52	629	540	10 32	89	13 16	43·5	27·3	06 33	16·2	17 40	359	312	13 53	47	1,1,1,1,3,2,1,1	11	0	85·0
21	17 45	619	548	11 05	71	12 40	43·5	25·7	07 14	17·8	03 55	341	310	12 18	31	1,0,0,2,2,1,1,1	8	0	85·0
22	17 09	626	559	10 06	67	13 04	42·9	25·7	07 04	17·2	19 03	342	307	11 55	35	1,2,0,2,2,2,0,1	10	0	85·1
23 q	16 52	627	559	11 16	68	13 02	42·4	27·3	07 08	15·1	18 30	341	312	13 48	29	0,1,1,1,1,1,1,1	7	0	85·0
24 q	18 47	624	567	10 33	57	15 06	40·0	27·7	06 30	12·3	04 08	338	312	12 20	26	1,1,0,1,1,1,0,0	5	0	84·7
25 q	18 57	627	574	10 35	53	14 00	40·2	27·4	07 45	12·8	07 05	342	314	10 53	28	0,0,0,0,1,1,0,1	3	0	84·5
26	18 43	639	554	10 40	85	13 23	40·6	26·6	08 03	14·0	20 49	340	305	12 26	35	0,1,1,1,1,1,1,2	8	0	84·5
27	17 41	672	569	10 11	103	13 25	46·2	20·2	05 29	26·0	16 52	390	286	22 04	104	2,3,2,2,3,3,2,3	20	0	84·8
28	18 43	655	547	09 58	108	13 09	42·4	25·7	21 41	16·7	16 54	387	310	00 00	77	1,1,1,1,2,2,3,3	14	0	84·7
29	18 11	633	557	12 44	76	12 13	40·1	25·0	06 49	15·1	22 03	338	299	04 42	39	1,2,2,1,1,2,2,2	13	0	84·8
30	18 57	619	564	09 41	55	12 57	40·1	26·3	06 55	13·8	02 26	337	310	12 34	27	0,1,1,1,2,0,1,1	7	0	84·4
31 d	15 27	709	529	11 47	180	14 40	52·6	9·7	22 04	42·9	15 09	485	268	23 23	217	1,2,3,3,4,4,3,4	24	1	84·0
Mean	– –	646	552	– –	93	– –	42·7	24·2	– –	18·5	– –	362	297	– –	65	–	–	0·16	83·5

q denotes an international quiet day and *d* an international disturbed day.

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H) 14,000γ (0·14 C.G.S. unit) + JUNE 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 14,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	569	576	584	579	582	573	571	561	551	562	558	569	585	592	587	595	601	604	617	624	621	615	598	589	586	63
2	586	588	592	593	586	575	569	568	564	563	573	578	583	587	587	594	601	613	626	619	618	608	608	596	591	175
3	593	594	597	594	594	593	588	583	575	564	562	566	577	589	616	628	633	629	632	626	623	621	624	600	600	401
4	586	594	593	600	598	597	586	569	560	542	539	546	572	597	604	612	598	616	626	635	642	610	611	605	593	238
5	593	597	590	589	599	590	582	576	565	568	560	562	573	586	588	599	608	629	651	654	627	613	596	595	595	290
6	586	550	579	592	597	588	565	557	568	568	561	571	575	569	575	601	621	626	631	619	619	621	613	605	590	157
7	606	608	606	605	606	607	613	583	584	574	575	577	573	593	608	611	604	627	641	626	612	597	594	592	601	422
8 q	592	592	593	595	597	594	591	587	579	572	570	578	581	589	597	601	607	614	614	617	617	620	615	615	597	327
9 d	617	616	600	611	591	590	611	598	587	568	584	589	593	583	611	593	603	622	647	640	627	613	600	554	602	448
10 d	541	584	598	572	588	579	567	575	577	547	531	568	564	577	598	609	611	608	605	611	615	611	609	612	*586*	57
11	607	604	604	600	592	597	604	602	589	584	583	577	593	608	608	604	610	611	617	615	614	613	606	595	602	437
12	588	591	596	599	602	602	599	586	580	587	591	575	572	598	600	626	624	622	635	622	613	606	603	604	601	421
13	602	601	598	601	603	601	593	585	575	575	585	585	593	593	596	596	607	615	618	619	617	611	609	608	599	386
14	607	606	606	606	596	588	602	603	588	572	569	572	589	601	602	613	631	643	643	625	618	614	601	588	603	483
15	583	578	584	583	589	611	606	601	587	583	586	585	584	608	621	638	637	614	625	636	613	608	601	602	603	463
16	593	580	587	594	599	600	598	587	572	562	560	567	590	598	607	611	614	627	621	618	618	611	605	603	597	322
17 q	599	599	603	606	607	605	598	588	576	560	550	556	571	580	593	608	611	621	612	613	615	614	613	610	596	308
18 q	610	610	601	609	614	614	607	596	581	568	557	560	574	591	607	620	622	621	621	623	620	616	612	611	603	465
19 q	611	611	611	611	609	610	605	599	585	567	558	564	570	560	591	618	639	628	626	623	617	615	613	609	602	450
20 q	613	613	614	616	619	618	612	601	590	585	582	579	584	588	592	601	616	626	635	632	625	622	617	614	608	594
21	613	613	613	618	619	619	619	612	602	587	573	562	552	589	621	614	585	620	661	642	630	625	614	606	*609*	609
22	597	594	596	604	588	571	593	593	581	565	559	563	564	577	591	597	609	614	628	638	627	618	612	610	595	289
23 d	601	602	587	598	600	608	608	595	566	563	570	560	573	575	594	615	639	653	657	660	631	614	593	589	602	451
24	588	593	592	595	597	598	595	593	590	577	565	563	565	565	575	597	613	626	624	633	629	620	608	596	596	297
25	594	593	602	606	601	589	583	599	592	581	570	571	578	582	588	606	614	628	636	618	619	614	608	604	599	376
26	600	597	598	597	597	596	594	591	589	584	579	581	589	590	588	611	627	611	626	630	630	617	611	617	602	450
27 d	599	600	615	592	576	578	583	543	540	550	551	578	603	592	600	614	612	621	659	642	632	628	607	603	597	318
28 d	596	597	591	586	577	584	559	575	571	557	575	565	588	606	571	602	604	628	630	631	626	618	614	596	594	247
29	592	586	571	564	598	591	577	573	564	568	572	575	578	589	618	627	631	614	626	615	617	613	604	611	595	274
30	613	604	596	587	571	564	578	579	572	573	568	561	574	592	601	624	621	655	618	613	609	606	603	603	595	285
Mean	596	596	597	597	596	594	592	585	577	569	*567*	570	579	588	598	609	615	623	*630*	627	621	614	607	601	598	
Sum 17,000+	875	871	897	902	892	830	756	558	300	76	16	103	360	644	935	1285	1453	1686	1908	1819	1641	1432	1222	1042		Grand Total 430,503

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (D) 9° + JUNE 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 700·0+
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1	32·1	33·6	31·8	33·1	30·2	29·3	27·7	27·7	29·1	30·6	33·3	36·7	39·0	40·7	39·0	37·4	36·4	35·7	35·2	33·5	29·3	32·3	31·5	32·3	33·2	97·5
2	32·2	32·3	32·0	29·6	27·7	27·5	28·1	28·8	29·3	31·1	32·6	35·3	38·0	38·8	39·1	38·0	37·8	38·5	38·1	35·1	35·0	34·5	32·1	33·0	33·5	104·5
3	31·7	31·2	30·8	30·2	29·0	27·9	28·0	27·8	28·6	30·2	33·6	36·3	38·9	39·3	39·7	39·8	37·0	36·7	37·4	37·5	36·9	34·4	26·7	25·8	33·1	95·4
4	29·9	29·2	21·7	25·7	27·6	26·4	25·3	27·7	30·7	33·2	36·6	41·9	44·9	43·9	44·1	42·4	39·0	36·9	35·4	35·9	30·3	31·8	27·1	26·4	33·1	94·0
5	33·1	32·9	30·8	28·1	25·4	26·1	27·7	28·1	29·9	32·6	35·9	37·9	39·0	40·1	39·1	38·8	38·2	37·4	36·6	30·0	34·4	32·9	31·3	25·8	33·0	92·1
6	24·2	26·1	26·3	26·0	27·6	29·2	27·8	30·6	31·1	32·7	34·9	36·9	39·3	40·6	39·8	39·1	38·7	37·5	36·5	33·3	34·7	31·7	30·7	32·9	*32·8*	88·2
7	33·6	33·7	33·2	31·6	30·3	27·4	26·6	26·8	32·0	33·4	33·8	36·9	39·3	40·1	38·9	38·1	37·4	36·8	35·5	35·7	35·5	36·1	34·5	33·7	34·2	120·9
8 q	32·8	32·2	31·5	30·6	30·3	29·7	29·7	30·4	31·1	32·3	34·2	36·0	38·2	39·2	39·1	38·2	37·7	37·0	36·2	36·6	36·2	36·3	36·3	36·9	34·5	128·7
9 d	35·1	34·1	34·1	32·1	39·7	38·5	32·0	28·5	29·3	34·2	36·9	39·9	42·7	43·7	42·8	41·0	40·6	39·0	38·2	36·6	34·1	35·0	35·0	34·2	*36·6*	177·3
10 d	32·3	28·9	29·1	36·7	35·5	32·8	27·9	25·6	25·7	27·5	34·2	36·9	40·2	42·2	42·0	40·2	38·4	36·1	34·7	34·6	34·7	34·0	34·0	33·2	34·1	117·4
11	33·6	34·0	32·1	31·1	31·5	30·3	29·2	28·4	29·5	30·4	32·7	35·6	38·6	40·8	40·7	39·5	38·5	37·6	37·0	36·4	35·7	35·0	34·5	33·7	34·4	126·4
12	31·9	33·7	33·3	31·9	29·7	27·9	28·6	30·4	31·6	32·2	33·7	37·2	40·4	41·5	38·8	35·7	38·2	37·6	38·9	38·3	36·3	36·7	36·1	34·0	34·8	134·6
13	33·8	33·8	32·3	30·2	28·3	28·3	28·8	29·1	27·7	29·1	31·4	34·0	35·9	36·7	37·5	38·3	38·2	37·1	36·5	36·2	36·4	35·7	34·7	34·6	33·5	104·6
14	33·5	33·7	34·4	31·6	32·5	33·5	28·5	27·4	29·5	32·7	35·6	39·9	43·5	44·7	43·1	40·8	38·3	36·6	35·3	34·8	37·5	37·5	37·5	29·7	35·5	152·1
15	33·0	32·4	33·4	28·0	30·8	29·0	25·7	25·3	26·3	28·9	31·7	38·0	41·9	44·1	42·1	40·2	40·0	37·5	36·9	31·1	36·0	36·9	36·5	35·6	34·2	121·3
16	36·4	38·8	29·8	28·2	26·9	26·0	26·8	27·2	28·8	30·8	33·6	37·6	41·3	42·3	41·9	39·9	37·6	35·1	33·4	33·4	34·5	35·0	34·9	35·1	34·0	115·3
17 q	34·4	33·4	32·8	31·1	29·6	28·3	28·3	29·6	30·6	31·4	35·0	39·3	43·8	45·7	43·3	40·6	38·0	35·7	35·2	35·3	35·4	35·8	36·0	36·9	35·2	145·5
18 q	37·5	34·1	30·8	27·9	26·7	25·6	27·4	29·1	30·9	32·5	36·0	40·8	42·0	40·9	40·4	39·2	37·0	35·8	35·8	36·3	36·0	36·0	35·6	34·8	34·5	129·1
19 q	34·4	34·3	33·9	32·3	31·6	30·6	28·9	27·4	28·2	29·8	33·4	37·5	41·8	44·5	43·7	40·7	39·0	36·0	36·0	36·7	36·6	36·4	35·8	35·1	35·2	144·6
20 q	35·2	34·4	32·8	32·0	30·6	27·7	26·6	25·7	27·9	29·3	32·2	37·0	39·9	40·7	41·4	40·0	38·7	36·9	34·2	34·8	35·1	35·9	34·8	34·1	34·1	117·9
21	33·9	33·1	33·3	30·1	27·9	27·2	26·2	25·4	25·9	27·1	30·5	36·2	41·5	45·6	46·8	45·6	41·2	39·9	41·7	37·8	34·9	36·6	34·9	34·8	34·9	138·1
22	30·6	28·3	25·1	26·9	26·8	32·7	32·6	29·5	29·2	30·1	32·7	35·6	38·3	40·3	41·7	41·4	38·7	36·6	36·6	35·6	34·8	36·4	34·8	35·9	33·8	111·2
23 d	34·6	32·7	32·5	30·8	29·7	28·4	24·4	23·2	25·7	30·6	33·5	38·3	41·4	43·1	43·8	42·7	42·0	42·0	37·5	28·3	31·8	31·5	31·9	33·3	33·9	113·7
24	35·8	32·9	31·3	29·6	28·6	28·5	28·7	28·1	28·0	29·5	32·3	35·8	39·6	41·2	40·6	38·3	37·0	37·3	34·1	34·9	35·4	35·2	35·4	37·3	34·0	115·4
25	35·9	35·1	30·0	29·1	28·3	27·6	30·5	29·7	28·3	29·5	33·1	35·8	37·2	38·5	40·1	40·0	38·0	37·0	37·0	34·3	33·3	34·2	34·2	33·7	33·8	110·4
26	32·9	32·2	31·4	30·5	30·1	29·2	29·4	29·3	30·0	31·5	33·8	38·4	41·1	41·0	41·1	39·9	40·3	38·9	38·8	37·5	34·9	35·9	33·9	33·8	34·8	135·8
27 d	36·2	33·5	28·1	29·1	29·6	30·5	28·3	32·1	33·5	33·9	36·7	40·6	44·7	47·2	42·5	39·1	39·0	39·5	39·2	35·0	34·1	33·9	32·5	33·6	35·5	152·4
28 d	31·5	29·0	31·1	29·6	30·3	25·3	28·5	31·9	29·6	33·2	34·7	39·1	41·9	44·0	42·8	41·2	40·5	39·8	38·5	35·8	35·4	37·2	29·3	30·3	34·6	130·5
29	30·9	29·8	32·1	32·5	27·1	23·9	24·5	24·6	27·6	30·5	33·4	37·4	39·3	42·7	40·9	40·2	37·8	37·0	37·0	35·9	35·2	32·1	32·2	34·2	33·3	98·8
30	31·9	29·9	29·0	31·3	31·1	27·4	29·3	27·3	27·1	28·5	33·3	27·5	41·7	43·0	43·9	43·0	41·6	36·3	36·1	37·0	37·0	36·2	33·8	30·9	33·9	114·1
Mean	33·2	32·4	31·0	30·3	29·7	28·8	*28·1*	28·1	29·1	31·0	33·8	37·2	40·5	*41·9*	41·4	40·0	38·7	37·4	36·7	35·1	34·9	35·0	33·6	33·2	34·2	
Sum 800·0+	194·9	173·3	130·8	107·5	91·0	62·7	42·0	42·7	72·7	129·3	215·3	316·3	415·3	457·1	440·7	399·3	360·8	321·8	299·5	254·2	247·4	249·1	208·5	195·6		Grand Total 24627·8

GEOMAGNETIC FORCE: VERTICAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

3 LERWICK (Z) — 47,000γ (0·47 C.G.S. unit) + — JUNE 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 7000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	312	315	329	337	337	336	343	340	341	335	336	333	340	346	346	347	347	341	335	340	349	341	334	328	*337*	1088
2	322	323	334	340	340	338	331	328	325	319	315	317	319	323	329	332	337	335	336	348	347	340	321	324	330	923
3	332	335	336	336	336	336	335	334	326	321	314	311	313	316	324	337	354	355	347	341	336	335	323	309	331	942
4	282	214	253	287	316	331	336	332	328	329	323	319	321	342	365	382	382	369	367	346	325	320	316	286	324	771
5	289	307	312	314	320	329	331	329	330	327	325	322	323	330	337	341	347	342	347	357	354	348	337	295	329	893
6	282	235	233	275	295	295	305	312	316	318	320	323	328	333	335	336	342	343	349	356	343	324	318	323	314	539
7	323	325	326	332	334	332	325	333	328	331	331	331	329	331	337	352	358	354	355	355	349	338	337	336	337	1082
8 *q*	335	336	336	336	336	333	334	333	332	325	321	316	316	314	318	326	331	335	338	337	336	336	335	326	330	921
9 *d*	327	329	320	319	306	263	279	303	315	321	316	315	321	330	327	353	348	342	355	387	370	356	333	248	324	783
10 *d*	199	263	290	271	236	257	286	305	320	336	343	331	344	335	330	339	342	342	345	344	345	343	339	332	*313*	517
11	333	334	338	338	329	326	328	331	336	335	335	332	333	338	345	345	344	341	343	346	345	344	339	322	337	1080
12	326	326	328	331	334	334	331	332	333	328	335	335	331	326	340	347	346	345	346	352	354	347	339	338	337	1084
13	338	338	334	329	327	329	332	331	332	328	323	322	321	324	333	334	334	335	335	336	339	340	340	339	332	973
14	340	339	332	335	333	322	320	326	327	326	321	316	320	332	343	343	343	342	347	357	347	341	331	322	334	1005
15	329	315	304	306	311	310	322	320	321	321	321	322	326	324	334	357	377	387	373	363	351	344	339	339	334	1016
16	337	303	314	328	336	339	335	333	334	330	329	328	328	331	333	343	344	345	350	350	343	342	338	338	335	1031
17 *q*	340	342	343	346	345	345	346	345	337	327	320	321	322	323	327	332	339	342	344	338	333	335	335	336	336	1063
18 *q*	334	326	331	334	334	335	337	336	334	328	325	316	313	315	317	325	331	335	338	337	335	335	334	334	330	919
19 *q*	335	336	338	340	336	330	329	329	330	331	326	321	325	327	325	329	343	359	359	351	342	338	334	334	335	1047
20 *q*	333	336	339	341	338	335	335	340	337	333	332	323	319	317	327	337	342	346	346	345	344	336	336	334	335	1051
21	333	333	330	329	333	333	332	325	324	322	316	315	315	304	314	340	348	339	335	357	348	339	330	312	329	906
22	282	274	298	317	321	310	305	329	338	338	334	328	326	327	333	334	333	343	346	348	351	341	334	321	325	811
23 *d*	294	300	293	292	294	286	306	322	330	323	322	322	317	324	332	335	355	375	393	363	338	340	334	322	325	812
24	305	311	328	334	338	340	338	336	333	338	337	330	321	320	320	330	337	342	348	348	346	344	328	299	331	951
25	295	292	313	326	329	327	316	316	329	335	335	327	330	336	335	333	335	335	341	353	347	346	341	339	330	911
26	337	336	334	334	334	334	333	330	328	328	325	316	316	323	324	328	333	341	334	339	350	350	347	337	333	991
27 *d*	313	278	298	316	309	298	304	322	317	327	332	333	351	364	349	340	341	346	364	384	370	340	345	330	332	971
28 *d*	320	321	321	328	325	322	314	306	318	327	329	334	328	335	356	348	346	339	345	353	353	341	303	305	330	917
29	315	317	317	278	296	320	333	335	334	330	330	334	338	347	350	356	362	359	350	352	333	329	331	314	332	960
30	303	317	327	330	305	287	297	316	323	330	335	334	334	335	342	340	359	365	364	346	338	334	334	332	330	927
Mean	315	*312*	318	322	322	320	323	327	329	328	327	324	326	329	334	341	346	347	349	*351*	345	340	333	322	330	
Sum 9000+	445	356	529	659	663	612	698	809	856	847	806	727	768	872	1027	1221	1380	1419	1475	1529	1361	1187	985	654		Grand Total 237,885

DAILY EXTREMES OF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH HOUSE

4 LERWICK — All Times — JUNE 1962

	GEOMAGNETIC ELEMENTS: Horizontal component, Maximum 14,000γ +		Horizontal component, Minimum 14,000γ +		Horizontal component, Range	Declination, Maximum 9° +		Declination, Minimum 9° +		Declination, Range	Vertical component, Maximum 47,000γ +		Vertical component, Minimum 47,000γ +		Vertical component, Range	3-hr. range indices K	Sum of K indices	Magnetic character of day, C (0-2)	Temperature in magneto-graph house 200 +
	h. m.	γ	γ	h. m.	γ	h. m.	′	′	h. m.	′	h. m.	γ	γ	h. m.	γ				°A.
1	18 51	631	544	08 24	87	13 38	41·7	25·1	06 29	16·6	20 56	352	301	00 00	51	2,1,1,2,2,1,2,2	13	0	83·8
2	18 48	631	561	08 05	70	14 33	39·5	26·9	04 41	12·6	20 00	352	314	10 12	38	1,2,1,2,2,1,2,2	13	0	84·2
3	16 26	643	558	09 57	85	15 39	40·4	23·6	23 25	16·8	17 01	359	303	24 00	56	1,0,1,1,2,2,1,3	11	0	84·5
4	20 13	655	531	10 57	124	12 11	46·1	19·7	22 55	26·4	15 56	393	200	01 35	193	4,3,2,2,3,3,3,3	23	1	85·0
5	19 13	672	550	10 14	122	13 23	40·9	20·7	24 00	20·2	19 12	361	286	23 50	75	2,1,1,1,2,2,3,3	15	0	85·0
6	18 06	639	534	01 19	105	13 54	41·0	19·3	00 10	21·7	18 59	360	214	01 59	146	4,3,3,1,2,2,2,3	20	0	85·4
7	18 46	650	563	09 42	87	13 28	40·8	22·4	07 16	18·4	16 21	361	320	06 42	41	1,1,3,2,2,2,3,1	15	0	85·4
8 *q*	21 14	623	568	10 46	55	13 06	39·4	28·7	07 07	*10·7*	18 27	339	312	13 57	27	0,1,1,1,1,1,1,1	7	0	86·0
9 *d*	19 02	662	*480*	23 43	*182*	13 23	44·9	24·1	07 33	20·8	19 43	*401*	151	24 00	*250*	2,3,3,3,4,3,3,5	26	1	85·7
10 *d*	20 20	621	508	00 11	113	00 05	45·5	23·4	07 50	22·1	12 43	347	*147*	00 05	200	5,3,3,3,3,2,2,1	22	1	85·8
11	19 00	623	572	11 18	*51*	13 52	41·6	27·3	07 17	14·3	20 03	347	320	23 50	27	1,1,1,1,2,1,1,2	10	0	85·4
12	18 52	640	558	12 10	82	13 07	42·6	26·9	05 32	15·7	19 51	356	319	13 28	37	2,1,1,2,3,2,2,1	14	0	85·7
13	20 04	628	572	09 51	56	15 46	38·9	27·0	08 31	11·9	21 08	341	320	12 52	*21*	1,1,1,2,2,1,1,1	10	0	85·6
14	18 06	650	567	10 02	83	13 40	45·2	26·3	07 19	18·9	19 17	360	314	11 24	46	1,2,1,1,2,2,2,3	14	0	85·5
15	14 55	656	569	01 47	87	13 32	45·2	23·6	07 52	21·6	17 27	393	298	03 12	95	2,3,1,2,3,3,3,1	18	0	85·5
16	17 18	634	556	10 28	78	01 17	43·8	25·3	05 56	18·5	19 12	352	289	01 43	63	3,1,1,1,2,1,1,1	11	0	85·5
17 *q*	17 29	625	549	10 33	76	13 28	46·1	27·9	05 35	18·2	18 12	345	318	11 11	27	1,0,1,1,1,1,1,1	7	0	85·5
18 *q*	19 22	625	553	10 53	72	12 33	42·3	25·2	05 17	17·1	18 11	340	311	12 34	29	2,1,1,1,2,1,0,0	8	0	85·2
19 *q*	16 41	643	550	13 06	93	13 57	45·5	26·9	07 37	18·6	17 30	362	319	12 00	43	1,1,1,1,2,2,2,1	11	0	85·4
20 *q*	18 31	639	575	11 16	64	14 34	41·8	24·7	07 34	17·1	18 21	347	316	13 11	31	1,1,1,1,2,1,1,0	8	0	85·5
21	18 07	676	533	12 09	143	15 04	47·4	24·9	07 09	22·5	20 10	365	288	23 59	77	1,1,1,3,3,4,3,2	18	1	85·8
22	19 58	646	550	10 40	96	14 18	42·3	24·4	02 12	17·9	20 19	353	267	01 18	86	3,3,3,1,2,1,2,3	18	0	85·7
23 *d*	19 30	*696*	554	11 07	142	14 07	45·7	*18·7*	19 27	*27·0*	18 22	400	281	05 08	119	2,2,3,2,2,3,4,2	20	1	85·6
24	19 33	640	559	11 29	81	13 41	41·9	27·0	07 45	14·9	18 40	352	288	23 57	64	2,1,2,2,1,2,2,3	15	0	85·5
25	18 16	640	566	12 06	74	14 49	40·6	27·1	04 59	13·5	19 37	356	287	01 26	69	2,2,2,1,2,1,2,1	13	0	85·4
26	20 16	643	573	10 52	70	14 09	41·7	26·5	07 20	15·2	21 12	356	310	11 53	46	0,1,2,1,2,3,2,2	13	0	85·5
27 *d*	18 26	677	527	07 55	150	13 49	*48·9*	26·8	02 34	22·1	19 10	399	277	01 20	122	3,3,3,3,3,2,3,3	23	1	85·2
28 *d*	22 25	669	546	09 05	123	13 19	45·6	20·5	22 22	25·1	14 24	363	278	22 29	85	2,2,3,3,4,2,2,4	22	1	85·2
29	14 44	645	534	03 15	111	13 38	44·0	21·8	06 23	22·2	16 42	365	266	03 36	99	3,3,2,2,3,3,2,2	20	1	85·2
30	17 09	686	546	11 06	140	14 34	44·6	22·0	05 45	22·6	16 50	373	281	05 18	92	3,3,3,2,2,4,2,2	21	1	85·2
Mean	- -	647	550	- -	97	- -	43·2	24·5	- -	18·7	- -	362	283	- -	79	-	-	0·30	85·3

q denotes an international quiet day and *d* an international disturbed day.

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H) 14,000γ (0·14 C.G.S. unit) + JULY 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 13,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	600	597	596	595	589	589	586	578	566	557	556	564	571	587	603	603	617	620	618	621	625	617	613	602	595	1270
2	610	607	602	605	601	599	588	578	578	569	567	575	584	595	609	611	621	638	645	638	633	610	593	579	601	1435
3	582	585	597	597	596	592	583	568	562	566	574	587	593	592	593	607	638	628	621	623	623	618	618	613	598	1356
4 d	607	600	596	586	606	604	593	587	585	578	575	565	596	596	590	625	617	624	624	632	646	642	588	596	602	1458
5 d	593	605	603	582	548	584	574	587	575	572	574	560	569	582	603	620	617	638	634	636	641	624	615	613	598	1349
6	612	598	580	586	590	593	592	595	584	577	560	568	587	587	607	611	620	640	642	633	618	614	611	608	601	1413
7	607	603	608	611	608	604	600	595	589	579	577	588	587	590	589	607	624	640	654	632	626	619	608	602	606	1547
8	601	601	597	581	599	609	596	579	588	585	573	554	559	579	596	611	616	624	628	618	623	618	613	594	598	1342
9 q	603	599	593	592	603	608	604	596	587	582	568	560	563	575	593	607	618	614	618	615	607	608	608	608	597	1329
10	608	603	604	607	607	600	599	595	586	578	573	573	579	596	580	603	628	648	628	628	632	625	616	621	605	1517
11	618	612	611	608	614	613	606	604	600	593	585	579	588	589	590	612	636	628	636	637	626	615	607	605	609	1612
12	603	604	607	606	603	596	593	597	589	585	590	589	594	601	614	608	607	621	627	628	626	618	613	612	605	1531
13	610	612	585	592	602	602	599	595	586	577	568	568	565	577	598	629	666	645	646	649	628	609	603	590	604	1501
14	582	539	575	603	604	596	581	587	593	579	567	554	565	579	604	606	612	606	618	617	613	614	614	602	592	1210
15	595	590	600	603	608	607	600	592	583	577	578	581	597	611	610	621	627	632	622	627	628	619	609	604	605	1521
16 q	601	599	607	604	603	603	594	584	574	567	568	572	584	595	603	607	611	614	615	616	616	613	609	607	599	1366
17 q	606	607	609	611	611	607	595	583	571	561	560	566	575	585	596	600	605	614	617	619	621	621	618	611	599	1369
18 q	613	609	600	603	609	608	606	605	594	576	567	568	575	582	592	598	613	631	632	630	622	621	618	615	604	1487
19	613	611	614	616	617	605	604	600	581	563	577	564	586	599	607	631	636	637	633	640	625	620	613	611	608	1603
20	509	610	601	596	584	576	589	569	546	552	554	544	566	589	609	605	616	637	623	620	620	612	608	607	593	1242
21	609	595	593	597	596	596	597	590	577	566	566	567	581	595	598	597	625	655	646	631	625	608	589	596	600	1395
22	592	603	598	598	597	595	587	573	574	573	568	567	567	572	582	602	600	620	627	616	613	615	605	601	594	1245
23	600	597	595	599	599	591	576	583	583	559	559	563	573	582	599	602	603	620	636	634	617	602	596	599	594	1267
24	591	588	587	596	599	598	592	589	586	581	579	576	579	594	605	613	632	677	649	634	608	573	559	552	597	1337
25	509	440	561	576	565	587	572	569	583	588	589	599	603	607	612	612	605	611	611	613	612	614	614	624	587	1076
26 d	631	635	640	629	607	529	544	532	553	559	532	565	575	601	567	586	614	635	678	624	605	614	592	588	593	1235
27 d	463	495	520	547	569	576	584	578	572	571	571	577	586	596	637	699	659	627	605	598	602	609	602	586	585	1029
28 d	536	559	538	553	528	546	568	567	576	567	563	562	573	579	595	614	635	613	613	607	613	600	595	589	579	889
29	583	535	571	592	599	592	587	574	573	563	557	552	562	582	604	614	610	612	604	606	605	610	601	599	587	1087
30 q	598	597	586	581	599	587	577	578	577	569	564	568	572	579	589	593	588	591	599	601	601	601	598	599	587	1092
31	596	595	593	596	596	599	601	597	588	575	565	563	569	589	605	618	622	622	644	638	638	635	613	610	603	1467
Mean	593	588	593	595	595	593	589	584	579	572	569	569	578	589	599	612	621	628	629	625	621	614	605	601	598	
Sum 17,000+	1381	1230	1367	1448	1456	1391	1267	1104	959	744	624	638	923	1262	1579	1972	2238	2462	2493	2361	2238	2038	1759	1643		Grand Total 444,577

MAGNETIC DECLINATION (WEST)

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

2 LERWICK (D) 9° + JULY 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 700·0+
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1	33·4	31·9	30·7	30·5	30·8	29·7	27·7	27·0	26·8	29·2	32·5	36·7	39·3	40·7	40·2	39·4	36·8	33·2	35·1	35·8	36·2	35·4	33·2	33·6	33·6	105·8
2	34·0	33·7	30·6	28·6	27·1	26·4	25·4	26·7	27·6	30·1	34·0	36·4	38·7	40·2	40·2	37·7	36·2	36·2	34·0	35·5	32·7	30·9	30·6	24·9	32·4	78·5
3	24·6	26·8	28·4	28·5	29·0	27·3	26·6	27·0	27·7	31·1	34·0	37·0	41·1	43·6	43·3	39·8	39·9	40·3	37·5	36·6	35·6	35·2	34·1	33·1	33·7	108·1
4 d	33·7	32·8	32·7	33·1	28·3	24·0	24·3	23·7	26·4	30·1	32·9	36·4	40·6	43·3	46·1	44·9	41·7	38·8	36·5	37·1	29·8	20·5	28·4	34·3	33·3	100·4
5 d	28·7	31·4	31·8	32·1	38·7	36·7	31·4	27·8	31·7	32·7	33·1	35·7	37·4	36·5	36·9	39·1	39·9	40·3	39·5	37·4	28·9	33·1	32·1	32·6	34·4	125·5
6	32·7	35·8	36·1	35·7	31·4	28·2	29·9	27·4	28·2	30·9	32·9	35·0	34·0	40·3	40·5	39·9	39·3	37·7	33·1	34·5	36·0	35·8	33·1	32·1	34·2	120·5
7	30·9	30·2	29·2	29·5	29·4	28·6	27·7	27·3	28·0	30·1	32·1	33·8	36·8	38·7	38·9	39·1	39·0	38·3	38·0	37·8	37·7	36·8	34·7	30·0	33·4	102·6
8	31·3	29·0	27·3	33·8	34·4	30·3	27·9	29·1	29·7	29·2	30·9	35·6	39·2	39·7	41·9	41·8	39·5	38·3	36·9	35·8	35·1	32·3	30·5	28·0	33·6	107·5
9 q	29·9	32·3	33·0	33·7	31·1	30·0	28·3	27·3	26·3	28·0	30·8	34·4	37·0	38·4	38·6	38·7	38·2	36·8	36·8	36·0	34·9	34·6	34·1	34·0	33·5	103·2
10	33·1	31·4	30·5	29·3	28·7	27·6	27·4	26·7	27·9	28·5	30·0	32·6	35·1	36·6	36·9	36·9	36·9	38·3	37·7	38·2	37·1	35·8	35·8	35·2	33·1	94·2
11	31·6	31·1	31·3	31·5	31·5	30·9	29·7	31·3	32·9	33·0	33·9	35·8	39·0	39·3	40·2	38·8	38·0	37·2	38·4	37·3	37·2	31·7	32·8	31·5	34·4	125·9
12	32·6	31·4	30·5	29·9	29·7	30·1	30·0	30·0	30·1	32·1	32·8	36·2	38·4	38·2	38·3	38·4	37·3	36·7	36·8	36·7	35·2	35·1	35·5	34·9	34·0	116·9
13	35·6	31·3	36·0	33·4	28·8	25·6	26·3	26·3	26·5	29·1	30·6	34·4	38·4	40·8	39·2	39·9	40·2	39·4	36·8	35·1	33·9	29·5	27·3	28·9	33·1	93·3
14	29·5	33·9	31·2	27·7	30·2	31·1	30·6	30·3	27·7	29·6	31·7	34·9	38·1	40·6	41·1	40·0	37·3	33·9	35·4	35·8	35·3	31·8	30·7	31·7	33·3	100·1
15	35·8	31·3	25·2	27·2	27·0	26·6	26·8	26·7	26·8	28·2	30·6	33·7	37·4	39·7	40·0	39·6	37·4	36·6	36·0	36·0	32·6	34·0	34·3	31·7	32·5	81·2
16 q	29·7	30·9	32·5	33·7	34·6	30·2	28·0	27·2	28·3	30·6	34·0	37·2	41·5	42·7	42·9	40·2	37·6	35·8	35·5	35·3	35·5	35·4	34·7	33·9	34·5	127·9
17 q	33·5	32·6	32·1	31·0	29·2	27·5	27·2	27·0	26·7	28·7	31·6	35·7	40·2	40·4	38·6	36·9	35·0	33·6	33·5	34·5	35·5	35·4	35·5	33·9	33·2	95·8
18 q	34·6	32·8	30·6	30·0	29·7	28·9	28·3	28·3	29·5	30·8	33·5	37·4	40·1	41·1	40·5	39·9	38·0	36·6	36·2	35·6	35·1	36·5	36·0	35·4	34·4	125·4
19	34·0	32·8	31·3	28·7	26·9	23·5	24·0	23·9	23·9	29·4	31·6	35·7	41·8	43·4	42·3	41·3	40·3	40·5	39·6	38·9	32·5	30·5	32·5	33·6	33·5	102·9
20	32·4	27·7	20·9	19·8	26·2	31·1	28·7	23·9	29·5	32·1	31·4	34·7	38·2	42·3	43·2	41·6	39·5	36·0	36·5	36·8	35·8	34·1	33·5	33·1	32·9	89·0
21	28·4	23·4	23·9	22·4	25·5	27·4	27·0	27·7	29·0	30·7	33·3	35·3	38·9	40·2	40·2	39·3	39·6	37·9	31·3	37·4	36·5	35·0	37·7	32·6	32·5	80·6
22	31·1	30·2	27·3	29·4	30·6	30·2	27·4	30·8	32·6	32·1	33·3	36·0	37·4	38·0	37·6	38·0	36·9	34·7	34·2	34·2	34·9	33·1	32·1	32·9	33·1	95·0
23	32·0	31·6	30·1	30·1	30·0	32·1	36·5	31·3	28·7	29·7	34·0	35·3	36·9	37·9	36·4	34·5	34·5	35·9	35·5	33·8	30·0	31·1	32·1	31·1	33·0	91·1
24	29·5	23·2	26·7	26·7	27·7	28·5	28·0	28·7	28·7	29·7	31·5	34·4	37·9	39·4	40·5	41·1	41·3	42·0	38·7	36·5	34·2	30·6	27·7	21·4	32·3	74·6
25	19·3	19·4	16·6	24·3	36·5	35·8	35·2	36·8	33·7	33·6	34·4	34·5	35·7	35·8	34·4	33·7	33·8	34·4	34·8	34·6	34·5	34·6	34·5	34·4	32·3	75·3
26 d	33·1	31·6	30·6	27·7	28·2	25·9	34·8	32·5	28·7	29·2	30·2	41·1	40·9	41·3	41·1	40·3	39·5	39·0	28·7	36·8	35·7	31·3	35·2	30·5	33·9	113·9
27 d	35·8	38·1	24·9	25·8	27·5	26·8	26·8	26·8	27·9	30·5	31·8	33·8	36·3	37·4	38·2	26·3	36·5	34·4	35·8	36·8	35·3	27·3	26·3	29·9	31·5	57·0
28 d	28·7	30·2	31·5	32·0	30·2	31·0	31·8	29·4	29·1	31·0	33·1	35·4	37·1	38·6	38·8	39·0	30·8	36·7	35·1	35·7	34·2	32·0	32·7	27·5	33·0	91·6
29	25·8	31·4	31·0	27·2	28·4	28·3	27·2	26·6	26·1	26·4	29·3	33·5	37·7	39·1	39·0	38·7	35·9	34·7	33·6	34·1	33·9	30·6	32·5	32·5	31·8	63·5
30 q	32·4	30·8	32·3	32·5	27·9	27·0	27·2	29·0	28·9	30·5	32·3	35·9	39·5	40·3	39·9	37·8	35·4	33·7	33·0	33·3	33·5	33·4	32·5	33·9	33·0	92·9
31	32·4	31·8	31·5	30·8	30·4	28·6	28·3	28·5	30·0	31·6	33·0	35·7	37·2	38·1	37·4	36·6	37·3	38·8	39·6	38·0	33·7	26·9	34·8	33·7	33·5	104·7
Mean	31·3	30·7	29·6	29·6	29·9	28·9	28·6	28·2	28·6	30·3	32·3	35·5	38·3	39·8	39·8	38·7	37·7	37·0	35·8	36·1	34·5	32·6	32·8	31·8	33·3	
Sum 800·0+	170·1	152·8	118·3	116·6	125·6	95·9	86·4	73·0	85·6	138·5	201·2	300·2	387·8	432·6	433·3	399·2	369·5	346·7	310·1	317·9	269·0	210·3	217·5	186·8	33·7	Grand Total 24744·9

GEOMAGNETIC FORCE: VERTICAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

3 LERWICK (Z) — 47,000γ (0·47 C.G.S. unit) + — JULY 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	328	327	332	335	334	335	337	337	334	334	331	331
2	302	304	312	328	333	334	337	335	329	323	322	316
3	315	311	318	328	337	342	346	345	334	327	316	310
4 *d*	326	321	309	304	299	314	328	332	328	325	330	334
5 *d*	267	300	324	320	270	265	299	321	332	339	334	336
6	328	321	311	270	269	295	311	319	328	328	335	334
7	334	334	333	334	336	336	340	340	339	334	330	327
8	320	322	315	310	292	306	327	334	334	333	335	338
9 *q*	314	322	322	314	313	309	317	327	333	335	334	330
10	328	333	334	335	335	335	333	334	334	339	339	338
11	323	326	328	329	326	328	329	328	326	327	333	332
12	335	338	338	334	333	329	328	329	328	321	322	316
13	333	320	318	309	310	321	324	327	329	331	328	326
14	304	269	273	295	311	321	324	317	324	333	334	332
15	323	309	320	316	328	329	328	328	329	324	320	318
16 *q*	316	315	315	322	323	328	334	336	336	330	332	329
17 *q*	338	339	339	334	334	335	341	338	326	322	315	311
18 *q*	332	330	334	338	337	335	333	335	336	329	321	316
19	334	337	337	339	340	342	334	328	326	323	310	310
20	323	275	288	288	286	291	295	319	323	317	318	320
21	295	295	285	293	313	325	330	331	331	323	316	310
22	280	281	310	322	328	328	333	331	329	329	330	329
23	311	320	327	331	333	331	322	318	322	329	328	324
24	314	302	300	316	326	331	336	336	333	328	326	323
25	175	157	168	238	257	266	300	296	313	325	343	347
26 *d*	329	326	322	327	331	317	243	237	233	274	311	311
27 *d*	218	150	190	248	290	315	323	339	345	343	342	336
28 *d*	263	290	298	278	269	282	310	321	325	329	332	330
29	299	281	264	301	324	330	330	335	336	339	336	331
30 *q*	333	335	329	305	313	325	323	324	323	323	322	322
31	332	338	339	341	340	339	338	339	341	341	340	335
Mean	309	*304*	307	312	315	320	324	326	327	328	328	326
Sum 9000+	572	428	532	682	770	919	1033	1116	1139	1157	1165	1102

Hour G.M.T.	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 7000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	335	335	341	343	352	358	358	340	334	334	333	325	337	1083
2	317	323	328	332	340	345	360	362	354	340	314	310	329	900
3	311	317	326	335	343	350	346	337	339	339	332	330	331	934
4 *d*	331	344	353	363	376	364	354	348	324	265	273	252	325	797
5 *d*	332	341	346	352	357	351	360	353	352	328	328	335	327	842
6	332	334	334	339	345	348	364	363	352	341	338	339	328	878
7	328	329	323	322	333	346	360	363	358	351	327	299	336	1056
8	332	333	333	333	334	340	346	352	352	347	317	299	329	884
9 *q*	321	316	321	329	334	334	335	339	346	339	336	335	327	855
10	333	333	333	330	338	347	364	364	355	347	343	334	339	1138
11	334	339	345	346	346	355	352	351	358	346	334	332	336	1073
12	312	321	330	340	341	334	335	339	343	342	338	338	332	964
13	330	329	327	323	338	365	374	371	365	346	326	302	332	972
14	330	336	344	365	373	375	353	341	341	340	329	332	329	896
15	317	319	320	324	329	338	340	335	336	329	329	321	325	809
16 *q*	332	339	339	336	338	341	339	338	334	335	335	336	332	958
17 *q*	316	326	334	339	340	338	336	336	334	334	332	335	332	972
18 *q*	317	321	333	347	353	353	350	345	341	334	332	332	335	1034
19	311	315	323	329	336	339	344	340	356	338	333	327	331	951
20	323	324	333	345	347	358	365	348	329	325	328	329	321	697
21	306	312	327	334	331	344	370	355	352	341	311	291	322	721
22	330	322	323	329	341	350	355	353	344	336	308	301	326	822
23	327	331	335	335	337	335	341	352	357	351	343	330	332	970
24	318	319	331	342	360	371	403	388	375	350	303	265	333	996
25	352	342	348	356	355	349	347	343	341	339	337	333	*305*	327
26 *d*	328	333	350	347	349	364	347	341	353	326	283	299	316	581
27 *d*	335	358	368	438	419	395	364	347	341	331	316	300	323	751
28 *d*	337	350	356	364	383	358	347	342	337	328	300	293	322	722
29	327	323	334	348	353	352	348	341	338	336	332	332	328	870
30 *q*	325	331	339	343	346	343	337	336	335	335	336	333	330	916
31	329	329	333	335	340	347	357	388	385	405	359	348	*347*	1318
Mean	326	330	336	343	349	351	*353*	350	347	338	325	318	329	
Sum 9000+	1108	1224	1410	1643	1807	1887	1951	1841	1771	1478	1085	867		Grand Total 244,687

DAILY EXTREMES OF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH HOUSE

4 LERWICK — All Times G.M.T. — JULY 1962

	GEOMAGNETIC ELEMENTS: Horizontal component, Maximum 14,000γ +		Horizontal component, Minimum 14,000γ +		Horizontal component, Range	Declination, Maximum 9° +		Declination, Minimum 9° +		Declination, Range	Vertical component, Maximum 47,000γ +		Vertical component, Minimum 47,000γ +		Vertical component, Range	3-hr. range indices *K*	Sum of *K* indices	Magnetic character of day, C (0-2)	Temperature in magneto-graph house 200 +
	h. m.	γ	γ	h. m.	γ	h. m.	′	′	h. m.	′	h. m.	γ	γ	h. m.	γ				°A.
1	17 46	628	547	11 14	81	13 47	42·3	24·5	07 49	17·8	17 21	363	318	24 00	45	2,2,2,2,3,2,2,2	17	1	85·2
2	18 03	654	561	09 47	93	13 51	41·0	23·9	22 47	17·1	19 23	365	293	00 31	72	2,1,1,2,1,2,2,3	14	0	85·3
3	16 51	652	560	08 23	92	14 05	44·7	22·9	00 10	21·8	17 32	352	308	12 18	44	2,1,1,3,2,3,2,1	15	0	85·3
4 *d*	20 55	665	558	11 41	107	14 13	*48·1*	13·5	20 54	34·6	16 13	381	236	23 45	145	2,3,2,2,3,2,4,4	22	1	85·4
5 *d*	17 51	656	524	04 12	132	17 53	41·6	24·8	20 39	16·8	18 51	365	240	00 04	125	4,4,3,2,2,3,3,2	23	1	85·3
6	17 58	655	546	10 40	109	14 03	41·6	24·8	08 05	16·8	18 51	371	262	04 01	109	3,2,2,2,2,2,2,2	17	1	85·2
7	18 04	665	568	10 03	97	15 31	40·0	26·6	23 37	13·4	18 55	370	281	23 05	89	1,1,1,2,2,3,3,3	16	0	85·3
8	17 10	641	543	11 35	98	14 38	42·8	24·4	23 41	18·4	20 06	357	285	04 15	72	2,3,2,3,2,2,2,3	19	1	85·6
9 *q*	16 33	624	556	11 50	68	15 22	39·2	25·6	08 16	13·6	20 40	341	304	05 15	37	2,2,2,2,1,1,1,2	13	0	85·7
10	17 29	675	563	14 08	112	17 37	40·0	25·3	07 41	14·7	19 11	368	326	00 20	42	1,1,1,1,3,3,2,2	14	0	85·6
11	17 02	653	570	11 03	83	14 45	41·9	28·3	06 36	13·6	20 22	360	320	00 02	40	1,1,2,1,3,3,2,2	15	0	85·6
12	18 31	636	579	09 48	57	15 46	40·2	28·1	05 04	12·1	16 23	347	311	12 14	36	1,2,2,1,2,2,1,1	12	0	85·8
13	16 39	674	557	12 42	117	17 01	42·4	20·3	21 56	22·1	18 24	375	293	23 25	82	3,2,1,1,2,3,3,3	18	1	86·0
14	22 15	625	526	01 46	99	14 05	42·2	24·7	21 51	17·5	17 10	384	244	01 45	140	3,3,2,2,3,2,2,3	20	1	85·8
15	16 50	641	573	10 03	68	14 40	40·4	23·6	01 58	16·8	18 13	345	268	01 44	77	3,2,1,2,1,2,2,2	15	0	85·9
16 *q*	20 42	617	564	09 27	53	14 15	43·4	26·7	07 09	16·7	13 43	345	311	02 02	34	2,2,1,1,1,1,0,0	8	0	85·9
17 *q*	21 00	625	557	10 03	68	13 02	41·1	26·6	08 50	14·5	16 03	344	311	11 15	*33*	1,1,1,1,2,1,1,1	9	0	85·7
18 *q*	19 03	642	563	11 17	79	13 49	41·6	27·7	06 07	13·9	16 28	357	315	11 34	42	2,1,1,1,2,2,2,0	11	0	85·8
19	19 26	649	553	11 33	96	13 21	44·4	21·9	05 59	22·5	20 44	362	306	12 00	56	1,2,2,2,3,1,3,2	16	1	85·5
20	17 43	648	536	08 24	112	14 43	44·7	16·0	03 15	28·7	18 21	370	269	01 27	101	4,4,3,2,3,2,3,1	22	1	85·7
21	17 29	672	548	11 13	124	14 01	41·5	19·9	03 20	21·6	18 01	379	281	03 00	98	3,3,2,2,2,3,3,3	21	1	86·0
22	18 14	637	559	11 25	78	15 15	38·9	26·5	06 21	12·4	18 50	359	269	01 05	90	3,2,2,2,1,2,2,3	17	0	86·0
23	18 57	659	553	09 44	106	13 11	38·6	27·9	07 52	*10·7*	20 00	370	305	00 03	65	2,2,3,1,1,2,3,2	16	0	85·9
24	17 34	718	520	23 56	198	17 49	47·1	9·8	23 59	*37·3*	18 25	420	214	24 00	206	3,2,1,1,2,4,3,5	21	1	86·1
25	23 54	629	392	01 26	237	07 05	39·6	*9·7*	00 02	29·9	16 21	359	130	02 04	229	5,4,3,3,1,2,0,2	20	2	85·9
26 *d*	18 23	721	454	05 55	267	13 49	47·6	19·5	18 43	28·1	18 08	378	216	07 15	162	2,5,4,4,4,3,4,4	30	2	85·9
27 *d*	15 58	*749*	*326*	00 46	*423*	00 34	45·7	16·3	15 40	29·4	15 35	*461*	*124*	01 18	*337*	6,4,3,2,4,5,2,3	29	2	86·0
28 *d*	16 17	649	503	00 51	146	15 37	41·8	23·6	00 16	18·2	16 18	391	250	00 18	141	3,3,3,2,2,3,2,3	21	1	85·9
29	16 41	627	516	01 32	111	13 45	40·0	23·8	08 20	16·2	16 30	361	242	02 06	119	3,3,2,1,2,3,1,2	17	1	86·0
30 *q*	23 46	605	561	10 23	*44*	13 45	40·7	25·7	05 20	15·0	16 04	349	299	03 38	50	2,2,2,1,1,2,1,2	13	0	86·1
31	18 46	658	561	11 40	97	18 11	42·3	20·6	18 23	21·7	21 20	454	325	00 00	129	1,0,1,1,1,2,3,4	13	1	86·0
Mean	- -	653	535	- -	118	- -	42·2	22·7	- -	19·5	- -	371	273	- -	98	-	-	0·65	85·7

q denotes an international quiet day and *d* an international disturbed day.

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H) — 14,000γ (0·14 C.G.S. unit) + — AUGUST 1962

Day	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 13,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1 d	602	559	518	592	557	580	588	577	566	516	515	553	570	597	610	624	616	617	612	627	613	597	573	570	581	949
2	582	592	601	602	578	582	590	583	571	568	568	572	578	583	592	603	625	620	608	626	606	606	605	608	594	1249
3	603	599	596	595	581	589	603	601	590	581	580	574	567	592	584	594	599	610	623	630	610	610	599	602	596	1312
4	600	600	597	597	598	595	589	583	574	569	568	571	572	572	590	602	605	611	615	611	610	610	608	603	594	1250
5	602	595	580	592	602	606	596	584	583	578	567	554	559	579	583	601	601	606	613	612	609	607	608	609	593	1226
6	610	616	607	606	609	602	592	605	587	573	560	574	568	563	605	631	610	606	608	624	620	606	591	583	598	1356
7	563	577	598	599	586	603	602	588	574	569	567	564	585	577	598	629	635	681	682	627	614	631	603	600	602	1452
8 d	590	577	571	593	603	589	584	576	531	539	561	568	558	592	595	598	629	632	631	624	612	609	598	574	589	1134
9	588	538	567	601	604	594	564	567	566	562	557	571	567	563	592	602	627	626	625	608	613	595	595	601	587	1093
10	594	587	597	576	580	598	600	574	557	563	562	570	587	604	613	617	637	630	606	603	603	600	599	597	594	1254
11 q	594	593	591	591	595	592	588	581	570	562	564	573	584	595	600	603	602	601	600	602	601	599	599	598	591	1178
12 q	600	602	601	600	595	593	587	582	572	562	564	580	583	600	598	599	601	607	611	612	608	606	605	605	595	1273
13 q	606	605	605	608	607	603	598	591	581	573	569	567	572	583	594	602	609	614	622	619	622	621	620	633	601	1424
14	611	607	599	587	594	597	596	591	586	582	580	591	593	593	605	606	613	622	630	631	617	613	611	606	603	1461
15	607	607	591	609	602	567	554	563	553	556	557	562	570	585	605	612	623	613	620	620	624	614	592	571	591	1177
16	490	471	442	587	598	591	585	573	582	570	561	565	578	592	608	608	614	610	624	625	616	599	574	518	574	781
17 d	565	592	581	577	600	597	592	576	569	565	566	567	559	591	615	619	624	626	640	635	617	619	611	586	595	1289
18	593	577	584	588	590	569	529	559	570	567	564	564	577	590	597	604	638	648	629	614	605	611	609	595	590	1171
19	544	592	601	585	566	582	575	568	568	561	554	566	578	603	605	599	620	612	616	612	613	606	595	589	588	1110
20 q	594	599	593	597	599	600	598	594	584	574	568	569	572	584	603	612	616	613	607	606	606	606	607	607	596	1308
21	601	594	598	598	600	598	594	587	578	568	564	568	573	581	591	591	602	611	621	620	623	621	613	589	595	1284
22 d	441	451	500	563	592	599	596	552	558	574	562	559	570	592	592	608	610	614	614	627	626	584	597	579	573	760
23	562	575	583	575	599	596	582	576	572	570	568	579	601	597	593	622	638	613	632	616	605	606	602	603	594	1265
24	599	601	577	566	589	601	592	558	563	569	568	572	596	613	622	620	638	642	621	609	605	616	602	592	597	1331
25	537	574	591	579	573	586	588	581	571	575	581	577	584	595	599	603	621	627	622	612	613	597	595	582	590	1163
26	593	592	593	591	595	588	574	582	573	571	571	573	579	579	587	598	606	606	609	608	606	606	605	603	591	1188
27	602	599	602	601	600	592	591	594	593	585	581	575	578	588	598	605	610	608	606	606	606	605	607	607	597	1339
28 q	603	602	598	597	601	602	602	598	586	579	577	589	600	610	600	604	605	606	607	608	608	610	610	609	600	1411
29	608	609	607	603	597	586	586	602	598	582	574	578	592	602	594	600	613	604	612	632	621	563	559	603	597	1325
30	605	599	599	594	603	592	582	581	577	574	573	574	576	577	600	606	606	602	613	610	603	603	604	607	594	1260
31 d	591	555	579	518	583	573	575	567	542	544	553	567	588	585	585	591	595	596	599	603	616	601	595	595	579	896
Mean	583	582	582	589	593	592	586	581	572	567	565	571	578	589	599	607	616	617	619	617	612	606	600	594	592	
Sum 17,000+	1080	1036	1047	1267	1376	1342	1172	994	745	581	524	686	914	1257	1553	1813	2088	2134	2178	2119	1971	1777	1591	1424		Grand Total 440,669

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

2 LERWICK (D) — 9° + — AUGUST 1962

Day	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 700·0+
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1 d	33·5	39·8	27·2	28·2	34·9	28·7	34·1	32·5	32·4	27·1	34·7	39·0	41·7	41·7	41·0	39·5	37·3	36·4	34·4	28·9	31·9	30·9	31·4	28·3	34·0	115·5
2	32·9	28·2	28·3	27·6	27·1	29·6	28·1	27·5	27·6	29·1	31·5	35·3	37·6	39·5	39·8	36·5	33·5	35·2	34·4	33·1	32·4	32·3	33·1	32·8	32·2	73·0
3	31·8	35·1	32·3	31·1	32·1	32·8	31·8	27·9	27·9	29·2	32·6	35·7	37·1	36·8	37·8	36·7	35·2	33·8	34·5	34·8	33·2	26·2	31·7	31·5	32·9	89·6
4	31·3	31·3	30·7	32·4	31·8	31·7	29·9	28·4	29·0	29·8	31·3	33·7	39·2	40·8	39·9	38·0	36·1	33·5	34·2	33·7	33·3	33·3	31·6	30·8	33·2	95·7
5	30·8	31·7	32·0	32·8	30·3	27·0	26·2	27·4	29·2	29·5	31·8	35·9	42·0	41·3	39·6	37·8	36·2	33·3	30·8	33·3	34·4	34·2	33·8	33·4	33·1	94·7
6	34·0	28·8	27·3	25·8	27·0	28·0	33·5	32·1	28·8	31·7	34·7	38·1	44·2	43·5	42·5	42·6	38·7	37·4	35·7	35·7	32·4	29·7	30·8	27·9	33·8	110·9
7	38·3	32·1	27·5	29·1	32·2	32·8	29·2	26·2	27·1	29·9	32·4	35·4	38·3	39·8	37·6	38·8	37·3	37·8	34·5	34·5	34·2	26·2	35·5	30·8	33·2	97·5
8 d	31·0	31·2	23·2	26·2	27·8	27·6	27·9	31·6	30·1	33·5	35·2	39·5	41·9	41·4	42·1	42·1	38·4	33·8	35·1	32·9	29·5	31·3	33·2	27·4	33·1	93·9
9	31·4	40·5	30·3	27·9	25·8	25·2	25·2	25·7	24·7	27·4	28·6	32·2	35·6	36·7	36·8	36·1	31·7	31·8	33·4	32·4	32·2	36·2	32·1	34·0	31·4	53·9
10	36·2	31·6	29·9	32·3	33·4	30·3	28·0	28·4	32·1	34·1	33·8	35·6	35·2	36·5	37·0	35·5	29·4	32·4	32·6	33·9	34·1	33·5	34·1	33·7	33·1	93·6
11 q	33·3	33·4	32·9	31·4	28·7	26·9	26·7	27·0	28·7	30·2	32·9	36·0	37·6	36·2	34·2	32·4	31·8	31·5	31·9	32·5	33·7	33·5	33·4	33·2	32·1	70·0
12 q	32·8	32·5	31·9	31·8	31·0	29·7	30·1	30·2	31·8	33·9	36·8	40·4	41·8	41·2	38·7	36·5	34·1	32·6	33·0	33·7	33·8	33·5	33·0	33·4	34·1	118·2
13 q	33·7	32·4	31·6	30·2	28·8	27·1	25·9	26·2	27·5	30·3	33·4	38·0	40·2	39·9	37·6	34·7	33·4	33·3	34·2	35·4	36·9	35·6	34·7	29·9	33·0	90·9
14	29·2	30·7	29·1	27·8	27·9	25·6	24·2	24·1	25·2	29·1	33·2	37·6	41·0	41·0	39·1	37·2	37·2	36·9	36·1	37·7	36·1	34·7	30·7	34·7	32·8	86·1
15	30·3	26·5	33·6	27·4	26·0	36·0	41·5	31·0	30·5	33·3	34·1	38·3	40·9	41·0	40·1	38·3	38·2	35·3	36·2	35·7	31·2	21·1	27·3	29·4	33·5	103·2
16	25·5	13·9	21·5	24·5	25·8	23·7	27·3	29·9	30·0	32·4	34·7	37·0	39·5	39·4	38·9	37·7	36·6	36·8	36·8	33·0	29·6	33·0	28·9	19·9	30·7	36·3
17 d	19·4	22·1	29·1	33·5	27·7	26·0	26·7	29·3	31·0	32·9	34·3	39·2	41·5	41·7	41·5	36·4	35·7	37·6	35·0	27·0	33·7	32·0	29·1	29·4	32·2	71·8
18	30·6	35·2	33·1	28·4	27·8	28·4	36·3	36·6	29·9	29·5	32·3	36·4	38·6	40·5	40·3	39·1	35·1	31·0	33·7	34·2	34·8	29·9	31·3	30·5	33·5	103·5
19	40·0	33·8	31·7	29·6	33·7	33·1	30·2	30·5	30·8	30·4	32·6	36·3	40·2	44·5	44·6	38·7	36·3	34·9	31·3	30·0	30·6	31·0	34·1	34·3	34·3	123·2
20 q	33·9	32·9	31·9	31·0	29·7	28·1	27·5	27·5	28·6	30·2	32·4	36·3	39·9	41·2	40·0	38·5	36·2	32·9	31·5	32·8	33·1	33·0	33·2	30·2	33·0	92·5
21	29·6	30·0	32·2	31·2	30·3	28·2	27·1	26·4	27·1	29·3	32·3	37·0	40·6	41·5	40·2	37·6	35·6	34·7	35·2	35·8	36·2	36·1	32·3	28·4	33·1	94·9
22 d	12·9	27·5	31·3	25·5	30·2	25·8	22·1	26·4	30·0	30·1	33·3	37·2	41·5	43·7	41·9	39·0	36·6	36·5	36·5	35·1	19·0	18·7	28·9	34·7	31·0	44·4
23	34·0	29·1	27·4	28·5	27·1	26·3	26·0	27·5	28·5	30·2	32·3	35·7	40·2	41·5	39·9	35·9	34·4	35·9	27·4	34·0	34·4	33·2	33·3	32·6	32·3	75·3
24	31·8	32·7	29·6	34·4	29·9	25·6	26·1	30·7	32·4	33·1	32·3	34·4	37·9	31·8	35·7	38·6	34·9	32·4	32·3	33·3	33·7	30·8	26·9	29·0	32·1	70·3
25	34·9	35·9	27·7	28·1	30·2	27·3	29·6	30·2	30·3	31·8	34·2	36·2	37·6	36·9	34·7	32·9	33·9	28·9	33·5	34·6	35·2	29·5	28·8	29·8	32·2	72·7
26	29·4	30·1	30·6	30·6	29·1	28·1	27·4	27·7	29·1	30·8	34·1	36·8	37·1	36·8	34·5	33·1	32·6	31·8	33·7	33·4	33·2	33·1	32·1	31·8	32·0	67·0
27	34·2	34·9	32·3	31·5	30·0	29·3	29·0	28·8	29·0	30·5	34·3	37·8	39·7	39·1	37·2	35·7	34·4	33·4	33·7	33·9	32·9	32·8	31·8	32·0	33·3	98·2
28 q	31·5	31·8	31·0	33·0	30·3	28·7	27·9	28·6	30·5	32·3	34·5	37·5	39·7	41·0	38·7	35·4	33·1	31·8	32·4	33·3	33·6	33·5	33·2	32·5	33·2	95·8
29	31·7	31·7	30·8	31·3	28·9	31·3	30·0	30·4	29·2	33·3	37·6	38·6	40·0	42·3	40·9	38·3	36·1	34·3	34·7	29·2	18·6	19·7	24·6	23·6	32·0	67·1
30	30·0	33·1	32·3	30·9	27·2	25·9	28·9	28·4	28·3	30·8	33·6	37·4	38·7	39·9	30·8	33·5	33·0	32·2	24·7	29·9	33·3	33·3	33·0	32·8	31·7	61·9
31 d	37·1	42·1	35·6	28·4	36·3	32·8	36·5	33·4	36·0	37·3	41·8	42·8	42·7	42·2	38·3	35·7	33·1	31·5	31·6	32·9	29·4	31·0	31·8	30·5	35·5	150·8
Mean	31·5	31·7	30·2	29·7	29·7	28·6	29·1	29·0	29·5	31·1	33·7	37·0	39·7	40·0	38·8	37·1	35·0	33·9	33·4	33·3	32·3	31·1	31·6	30·7	32·8	
Sum 800·0+	177·0	182·6	135·9	122·4	119·0	87·6	100·9	98·5	113·3	163·0	243·6	347·3	429·7	441·3	401·9	348·8	286·1	251·6	235·0	230·6	200·6	162·8	179·7	153·2		Grand Total 24412·4

GEOMAGNETIC FORCE: VERTICAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

3 LERWICK (Z) — 47,000γ (0·47 C.G.S. unit) + — AUGUST 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 7000+
Hour G.M.T.	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1 d	331	261	167	245	205	213	247	282	305	348	360	340	342	358	376	397	412	407	390	376	342	335	297	227	315	563
2	250	296	321	329	331	334	333	334	335	337	333	329	335	341	346	350	357	360	365	348	348	348	343	334	335	1037
3	331	320	325	329	332	318	318	330	334	337	340	338	338	346	348	346	346	348	345	346	352	345	330	327	336	1069
4	331	335	335	335	332	332	331	332	334	333	330	329	332	335	336	342	358	360	357	352	348	342	338	337	339	1126
5	331	332	335	329	331	334	340	340	335	336	337	331	334	340	342	343	351	353	358	352	346	341	339	335	339	1145
6	331	306	305	318	326	325	311	299	310	318	321	316	323	333	342	360	384	372	361	348	347	340	319	300	330	915
7	234	246	300	312	318	312	322	338	340	337	331	330	333	348	360	362	394	423	432	406	388	340	304	309	338	1119
8 d	319	240	192	269	293	321	331	324	342	341	331	334	337	352	377	400	424	418	405	389	377	348	306	294	336	1064
9	310	256	174	264	315	324	333	335	337	342	348	348	354	354	354	353	360	360	354	360	352	322	328	325	328	862
10	288	294	316	318	306	304	317	328	336	333	334	334	337	346	342	350	363	372	374	358	350	346	342	341	335	1029
11 q	341	340	338	336	339	342	342	342	342	336	330	328	327	330	330	335	340	344	342	341	340	340	341	342	338	1108
12 q	341	340	340	340	339	337	336	336	336	334	328	318	324	331	342	346	348	351	346	342	342	341	340	340	338	1118
13 q	337	340	342	342	342	340	340	339	336	333	329	329	330	331	336	338	340	339	336	335	334	337	336	299	335	1040
14	322	336	339	339	330	331	334	337	335	330	325	323	330	330	328	331	333	334	336	346	354	351	333	309	333	996
15	311	310	306	301	323	299	271	287	316	330	338	331	326	330	339	351	360	383	366	356	355	332	331	296	327	848
16	205	128	174	280	333	334	332	347	346	340	336	331	327	328	336	336	342	348	346	370	366	341	286	216	309	428
17 d	239	296	317	301	319	336	335	335	334	332	330	330	339	334	350	377	387	372	375	371	352	323	262	278	330	924
18	322	302	278	303	318	321	313	288	310	325	328	321	320	333	350	355	380	402	390	376	361	343	310	315	332	964
19	243	263	273	307	306	300	325	333	337	339	342	335	329	334	353	366	366	361	360	359	348	343	330	294	327	846
20 q	306	321	330	335	341	346	346	346	347	344	342	336	334	337	344	348	348	357	359	349	345	342	337	332	341	1172
21	325	328	332	338	342	345	348	348	346	339	331	324	319	322	325	331	333	335	336	337	337	341	340	307	334	1009
22 d	234	128	178	239	311	320	330	335	326	327	324	321	322	331	346	349	355	351	349	345	364	328	313	314	310	440
23	287	272	311	298	318	333	342	342	345	343	339	335	336	352	353	364	374	371	368	354	352	345	345	317	337	1096
24	324	306	316	291	290	309	326	330	332	329	332	336	339	374	372	369	379	386	382	363	350	330	312	290	336	1067
25	270	241	289	318	324	325	332	338	342	344	342	344	341	343	345	350	355	368	362	354	344	327	324	314	331	936
26	300	318	331	336	336	338	342	337	332	330	331	333	337	345	342	341	344	346	343	344	343	342	341	340	336	1072
27	335	320	327	336	338	339	340	340	336	331	327	327	330	334	342	342	342	343	342	340	340	340	338	336	336	1065
28 q	338	342	343	342	343	342	341	338	337	332	331	329	328	337	346	346	352	350	344	338	337	337	338	338	340	1149
29	340	339	340	339	341	334	318	308	313	319	326	325	325	331	345	353	357	369	356	353	325	291	294	323	332	964
30	335	329	328	340	335	334	336	328	325	323	325	328	337	352	388	382	384	387	377	354	347	341	340	335	345	1290
31 d	317	230	182	196	173	332	259	288	329	335	334	328	340	361	365	360	353	352	352	346	335	331	335	334	307	358
Mean	304	291	293	310	317	321	325	328	333	334	333	330	332	340	348	354	362	365	361	355	349	337	325	313	332	
Sum 9000+	428	15	84	605	830	945	1071	1164	1310	1357	1335	1241	1305	1553	1800	1973	2221	2322	2208	2008	1821	1453	1072	698		Grand Total 246,819

DAILY EXTREMES OF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH HOUSE

4 LERWICK — All Times G.M.T. — AUGUST 1962

Day	Horizontal component: Maximum 14,000γ + (h. m.)	(γ)	Horizontal component: Minimum 14,000γ + (γ)	(h. m.)	Range (γ)	Declination: Maximum 9° + (h. m.)	(′)	Declination: Minimum 9° + (′)	(h. m.)	Range (′)	Vertical component: Maximum 47,000γ + (h. m.)	(γ)	Vertical component: Minimum 47,000γ + (γ)	(h. m.)	Range (γ)	3-hr. range indices K	Sum of K indices	Magnetic character of day, C (0-2)	Temperature in magnetograph house 200 + (°A.)
1 d	19 35	653	458	02 02	195	01 39	50·8	19·5	19 30	31·3	16 22	418	135	02 35	283	5,4,4,4,3,3,3,4	30	2	86·0
2	19 29	644	562	09 26	82	14 32	40·6	25·7	04 18	14·9	18 37	368	213	00 00	155	4,2,1,2,2,2,3,2	18	1	86·0
3	19 02	639	554	12 00	85	13 59	39·0	20·4	21 15	18·6	21 08	360	313	05 38	47	2,2,2,2,3,3,3,3	20	1	86·0
4	18 10	633	561	11 02	72	13 50	41·0	27·0	07 28	14·0	16 53	363	327	04 12	36	1,2,1,1,2,2,2,2	13	0	86·1
5	18 01	621	543	11 14	78	13 06	43·0	25·1	06 49	17·9	18 38	363	324	12 36	39	2,2,2,2,2,2,2,1	15	1	86·1
6	15 32	655	538	13 09	117	12 43	47·3	23·7	03 06	23·6	16 28	389	288	24 00	101	3,3,3,2,3,3,3,3	23	1	86·1
7	18 08	715	519	00 18	196	00 39	41·9	8·6	21 45	33·3	18 22	450	198	00 42	252	4,3,2,2,3,4,4,4	26	1	86·1
8 d	18 05	651	518	08 27	133	16 15	44·1	14·3	22 51	29·8	17 04	437	154	02 08	283	5,4,3,3,3,3,3,4	28	1	86·0
9	17 10	644	491	01 59	153	01 56	49·3	22·1	08 46	27·2	16 36	364	143	02 10	221	5,4,3,2,3,3,2,3	25	1	86·0
10	16 45	652	551	08 27	101	00 28	39·1	27·0	05 57	12·1	17 57	382	282	00 47	100	2,2,2,2,2,3,2,1	16	1	85·7
11 q	19 55	606	560	10 02	46	12 35	37·8	26·2	05 55	11·6	17 41	345	325	12 17	20	1,1,0,2,2,2,1,1	10	0	86·0
12 q	19 08	617	557	10 11	60	12 17	42·8	28·9	05 34	13·9	17 37	352	317	11 30	35	1,1,1,2,2,1,1,1	10	0	85·8
13 q	23 27	643	562	11 37	81	13 02	40·6	25·2	06 58	15·4	03 38	343	287	23 41	56	1,1,1,1,2,1,1,3	11	0	85·5
14	19 07	653	576	10 36	77	12 17	42·5	23·5	07 20	19·0	20 54	361	288	23 44	73	3,1,1,2,2,1,3,3	16	1	85·6
15	17 01	638	501	24 00	137	06 51	44·9	15·4	21 37	29·5	17 39	391	236	24 00	155	3,4,4,2,3,3,3,4	26	1	85·8
16	18 59	656	330	02 04	326	14 04	40·9	-0·7	01 54	41·6	19 40	383	96	01 54	287	5,4,3,1,2,2,3,5	25	2	86·0
17 d	16 08	656	519	00 18	137	14 10	44·2	15·7	01 05	28·5	16 24	393	221	00 24	172	4,3,2,2,3,3,3,4	24	1	85·8
18	16 57	674	524	06 45	150	07 16	43·9	25·9	04 55	18·0	17 43	415	268	02 16	147	3,3,3,2,3,4,3,3	24	1	86·1
19	16 31	635	520	00 33	115	00 17	49·7	28·4	19 56	21·3	16 51	370	184	00 35	186	4,3,2,2,2,2,2,3	20	1	86·2
20 q	16 38	623	565	10 47	58	13 50	42·0	26·9	06 57	15·1	18 08	361	297	00 00	64	2,0,1,1,2,2,1,2	11	0	86·1
21	20 51	630	560	10 40	70	13 15	42·2	19·1	24 00	23·1	22 09	349	268	24 00	81	2,1,1,2,1,2,1,4	14	0	86·1
22 d	19 30	642	311	00 48	331	13 29	44·7	4·6	21 02	40·1	20 26	378	77	01 12	301	6,4,4,2,2,2,4,4	28	2	86·3
23	16 26	659	538	03 02	121	13 10	44·2	22·3	18 41	21·9	16 02	380	252	01 17	128	3,3,2,2,3,3,3,2	21	1	86·1
24	17 32	667	544	07 25	123	15 19	41·4	22·2	22 27	19·2	17 56	396	277	03 37	119	3,3,3,2,3,3,3,3	23	1	86·1
25	17 44	643	494	00 39	149	00 58	43·4	22·7	21 38	20·7	17 25	372	209	01 01	163	4,2,2,2,2,3,2,3	20	1	86·2
26	19 11	615	562	09 23	53	11 55	38·2	26·1	06 47	12·1	13 37	349	290	00 30	59	3,1,2,2,2,1,1,1	13	0	86·0
27	21 59	613	574	11 27	39	12 22	40·2	27·4	07 57	12·8	17 36	344	319	01 27	25	2,1,2,1,1,1,1,1	10	0	85·9
28 q	15 38	614	574	10 16	40	13 23	41·2	27·4	06 10	13·8	16 56	353	326	11 48	27	1,1,0,2,2,2,1,1	10	0	86·1
29	19 54	656	539	22 32	117	13 49	44·7	12·2	20 05	32·5	17 19	374	278	22 30	96	1,2,3,2,3,3,4,4	22	1	86·0
30	16 00	631	556	12 36	75	13 54	41·1	12·9	18 39	28·2	14 53	400	319	08 59	81	3,2,2,1,3,3,4,2	20	1	86·0
31 d	20 37	631	481	03 53	150	01 50	50·3	20·2	03 08	30·1	14 02	370	160	04 17	210	5,4,4,3,3,2,3,2	26	1	86·0
Mean	- -	642	524	- -	118	- -	43·1	20·8	- -	22·3	- -	377	247	- -	129	-	-	0·81	86·0

q denotes an international quiet and *d* an international disturbed day.

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H) — 14,000γ (0·14 C.G.S. unit) + — SEPTEMBER 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 13,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ.	γ	γ	γ	γ	γ	γ	γ	γ	
1	595	587	595	601	608	608	561	542	543	557	563	571	588	581	593	583	629	660	635	622	614	584	592	593	592	1205
2 d	596	593	589	504	548	591	571	552	551	549	554	546	583	595	635	611	601	607	616	604	596	583	592	589	581	956
3 d	594	578	520	574	561	562	584	573	553	536	518	543	566	605	610	608	620	626	648	620	597	583	455	411	569	645
4 d	564	583	566	484	541	565	540	550	544	540	529	551	563	580	616	622	679	622	609	622	613	592	571	591	577	837
5	584	586	588	577	587	587	592	579	549	542	547	561	579	591	596	624	654	638	619	600	597	591	591	600	590	1159
6	598	578	585	586	588	572	549	578	587	576	559	559	570	577	581	610	613	621	618	599	567	566	570	581	583	988
7	589	596	588	581	602	599	599	584	556	556	553	559	577	572	576	581	580	594	598	604	596	599	599	595	585	1033
8	598	590	552	560	579	593	599	584	541	557	566	571	576	583	582	582	583	602	602	600	600	601	602	598	583	1001
9	604	595	598	599	594	589	590	592	587	580	579	580	580	576	594	602	608	600	602	609	602	590	570	575	591	1195
10	577	583	581	548	567	590	595	588	574	568	570	582	579	587	589	596	598	598	607	607	607	602	605	602	587	1100
11	600	597	604	598	597	596	595	589	580	561	552	572	577	582	587	590	593	598	602	609	619	615	619	611	593	1243
12 d	614	609	599	603	609	610	590	488	565	555	551	556	593	599	583	583	661	641	618	552	566	622	584	583	589	1134
13	558	589	589	585	582	582	558	554	571	578	570	568	576	593	598	611	628	623	609	602	584	593	593	598	587	1092
14	598	570	579	580	572	580	585	564	571	577	573	567	577	588	595	600	603	604	605	605	599	597	600	600	587	1089
15	590	588	591	580	563	602	584	566	587	580	568	568	576	582	590	595	600	621	609	605	595	594	595	604	589	1133
16	600	597	595	588	588	593	592	588	582	575	572	579	577	579	587	597	602	604	600	613	647	610	584	591	593	1240
17 q	596	593	598	600	597	593	592	595	592	584	576	574	578	583	587	596	608	600	610	601	601	605	604	602	594	1265
18 q	606	601	598	597	598	597	596	593	590	580	576	570	574	580	585	593	602	600	601	606	607	619	606	602	595	1277
19 d	602	606	604	602	594	571	597	574	574	585	571	555	565	573	592	622	630	623	670	622	596	583	564	514	591	1189
20	375	478	571	581	592	599	599	589	584	574	573	566	578	586	583	592	599	603	603	601	601	598	599	598	576	822
21	605	600	603	599	596	595	595	599	594	585	576	572	580	593	589	609	610	597	597	607	600	607	600	599	596	1307
22	596	597	590	578	585	594	596	592	580	577	561	570	581	594	586	603	620	619	612	601	603	603	605	603	594	1246
23	600	587	578	568	579	580	590	592	585	589	577	563	570	579	585	593	597	597	604	604	608	607	606	601	589	1139
24 q	605	596	589	593	596	595	593	594	592	586	579	577	578	584	587	592	600	601	602	603	599	590	596	599	593	1226
25 q	599	598	597	596	597	598	597	594	588	582	578	574	571	582	595	599	593	595	601	613	616	616	618	621	597	1318
26	601	518	496	476	565	595	592	587	578	579	576	574	583	601	596	612	664	603	587	594	592	594	592	597	581	952
27	583	578	583	596	592	594	592	589	581	577	571	573	583	594	585	593	586	587	599	600	601	602	609	599	589	1147
28 q	599	595	584	593	601	600	598	590	582	567	566	566	573	597	590	587	594	588	603	610	608	604	590	573	590	1158
29	586	587	593	592	599	595	591	581	582	572	566	576	572	581	588	595	605	605	599	584	548	445	490	532	573	764
30	553	557	530	558	577	592	587	587	579	574	576	577	576	579	597	584	591	596	599	603	603	600	601	599	582	975
Mean	585	584	581	576	585	591	587	578	574	570	565	567	577	586	592	599	612	609	609	604	599	593	587	585	587	
Sum 16,000+	1565	1510	1433	1277	1554	1717	1599	1327	1222	1098	946	1020	1299	1576	1757	1965	2351	2273	2284	2122	1982	1795	1602	1561		Grand Total 422,835

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

2 LERWICK (D) — 9° + — SEPTEMBER 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 600·0+
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1	32·7	34·8	34·0	29·9	27·9	28·4	35·0	33·9	32·8	39·8	39·8	38·1•	40·9	39·9	39·6	34·9	35·6	26·8	28·5	26·9	32·1	26·6	29·5	34·9	33·5	203·3
2 d	31·8	30·3	30·4	33·0	37·1	30·7	29·0	32·4	32·3	33·9	35·8	39·0	40·6	34·9	39·2	34·8	36·4	33·5	30·0	30·7	18·3	29·1	31·7	31·9	32·8	186·8
3 d	33·0	33·8	41·0	30·9	28·6	30·1	27·3	28·1	27·7	31·4	31·5	36·8	40·0	42·2	37·9	30·5	37·5	37·3	35·4	20·7	32·1	20·7	11·1	15·2	30·9	140·8
4 d	20·0	24·8	29·6	32·7	40·8	31·1	29·6	27·2	30·3	31·6	30·9	36·0	37·8	39·0	33·9	35·8	29·5	31·2	33·8	28·5	30·0	27·7	27·5	30·7	31·3	150·0
5	31·5	31·6	32·0	34·8	29·6	32·1	30·3	29·1	29·3	30·6	34·2	36·0	38·9	42·6	42·8	36·2	36·1	32·7	33·0	30·2	31·2	29·9	33·4	32·6	33·4	200·7
6	33·7	28·7	25·2	27·4	34·7	34·1	38·9	36·3	31·7	30·9	32·6	34·1	37·9	39·6	38·3	36·6	33·9	32·0	28·5	26·7	25·9	23·9	26·4	27·2	31·9	165·2
7	33·8	29·2	30·3	32·7	29·7	30·5	26·3	29·9	32·6	33·1	36·8	35·5	38·7	39·4	35·5	34·2	33·2	32·5	32·0	31·4	29·8	32·1	32·9	30·2	32·6	182·3
8	29·3	29·1	26·8	22·9	23·9	26·9	27·2	30·2	36·5	37·6	36·8	35·4	37·3	37·2	36·8	34·7	33·2	32·9	32·4	33·0	33·1	32·5	32·1	31·8	32·1	169·6
9	32·1	28·9	26·2	26·2	30·2	31·4	29·0	27·9	28·9	30·5	32·7	35·7	38·6	40·2	39·7	38·7	38·9	36·8	33·4	23·7	28·1	29·5	27·2	25·1	31·7	159·6
10	26·2	25·7	20·9	26·3	28·5	29·3	28·5	27·6	27·2	30·4	32·1	35·3	37·0	37·6	36·4	36·0	35·4	34·3	33·5	33·5	33·4	32·8	31·9	30·9	31·3	150·7
11	30·8	30·9	29·6	27·9	28·6	28·2	27·7	28·1	30·0	31·7	35·0	34·7	35·9	36·9	36·8	35·5	34·3	33·6	33·1	32·9	32·8	31·5	30·1	28·6	31·9	165·2
12 d	31·3	31·3	29·8	30·1	29·6	29·0	30·6	18·9	36·3	36·7	34·3	38·3	37·3	40·1	39·2	37·3	36·8	33·4	21·8	35·8	20·9	31·0	22·4	25·1	31·6	157·3
13	31·0	27·6	23·2	25·1	27·6	29·2	31·0	34·3	30·5	30·5	33·5	36·3	37·3	39·9	37·8	36·0	35·3	26·6	23·2	23·8	29·6	29·9	31·1	31·4	30·9	141·7
14	30·8	35·0	30·5	29·3	28·1	28·6	30·3	31·6	30·4	31·6	33·9	35·4	37·7	38·3	36·9	35·4	34·8	33·8	32·5	30·1	31·1	33·6	30·5	30·0	32·5	180·2
15	32·4	33·1	28·6	29·0	31·4	27·5	30·2	29·7	29·2	30·9	32·9	33·4	35·5	36·5	36·9	36·5	35·4	34·5	34·3	29·2	30·9	33·8	31·3	31·0	32·3	174·1
16	31·2	28·6	27·6	28·1	30·4	29·7	29·5	29·5	30·1	31·0	32·6	36·8	37·6	39·6	39·3	36·7	35·0	33·5	33·7	30·2	25·2	24·2	26·5	30·5	31·5	157·1
17 q	33·3	31·1	31·1	30·1	29·9	29·7	29·8	28·8	28·7	30·3	32·2	34·5	37·8	38·8	37·9	36·8	35·0	34·4	33·4	31·6	32·0	32·6	32·0	29·4	32·5	181·2
18 q	30·5	30·0	30·6	31·5	30·6	29·8	29·1	28·6	28·5	29·7	31·7	34·1	36·8	37·9	37·7	36·6	35·4	34·0	33·1	33·2	33·1	30·4	30·2	28·2	32·1	171·3
19 d	28·9	31·0	29·9	29·0	29·2	34·1	33·5	33·0	30·5	27·2	31·1	35·9	39·8	40·6	41·9	41·3	35·9	33·2	33·0	18·4	26·3	29·9	31·2	40·1	32·7	184·9
20	36·0	21·3	27·1	27·1	29·6	29·6	29·0	27·6	28·1	30·2	33·6	37·3	38·8	40·9	38·8	35·5	33·9	32·9	33·1	33·6	32·5	32·4	32·3	31·5	32·2	172·7
21	31·2	30·5	30·6	29·7	28·0	25·9	28·8	30·4	30·8	31·0	32·5	34·4	37·6	39·9	40·3	35·1	32·0	38·4	35·9	35·5	32·9	29·2	32·1	32·5	32·7	185·2
22	35·5	30·5	24·8	27·9	29·5	28·5	28·5	28·2	29·1	32·1	33·5	33·6	36·3	38·9	30·0	34·9	35·5	28·6	31·1	29·7	31·5	29·5	31·0	31·6	31·3	150·3
23	31·0	34·0	31·0	32·2	30·4	30·0	31·1	31·9	30·1	31·6	32·6	33·6	35·5	34·9	35·1	34·8	33·9	31·5	31·1	32·5	32·1	33·1	32·2	32·8	32·5	179·0
24 q	32·5	31·7	29·3	29·6	28·6	30·4	30·8	30·8	31·0	31·5	32·1	33·6	34·8	35·7	35·9	35·4	35·0	35·1	33·5	33·2	29·5	30·2	32·0	31·6	32·2	173·8
25 q	31·5	31·6	30·9	30·4	30·5	30·4	29·9	29·4	29·3	29·7	32·0	34·6	36·0	36·4	35·9	33·8	32·1	36·8	35·8	35·7	34·4	33·1	32·5	32·6	32·7	185·3
26	22·9	24·1	3·9	0·0	21·5	29·4	30·2	30·5	30·3	30·5	32·9	34·9	36·3	37·1	38·1	36·3	14·5	32·8	36·0	31·4	18·4	28·1	30·4	30·7	27·5	61·2
27	31·1	34·8	34·4	30·9	30·7	31·5	33·0	32·1	31·3	31·9	32·0	34·0	34·6	36·9	36·0	34·9	32·5	32·0	32·2	31·9	32·7	31·0	29·4	31·3	32·6	183·1
28 q	30·9	30·8	33·6	32·5	30·3	30·2	30·2	29·2	29·6	30·2	32·2	34·4	35·8	37·9	36·4	35·5	33·2	32·1	33·8	34·8	34·0	33·6	27·6	25·2	32·3	174·0
29	25·2	24·2	24·1	28·0	30·7	35·9	38·7	38·0	35·8	38·5	37·8	39·3	39·3	36·7	35·8	34·7	36·8	37·3	36·1	29·5	23·8	34·4	5·6	14·7	31·7	160·9
30	18·4	19·9	25·0	17·0	24·8	32·5	31·9	36·3	34·8	35·1	35·8	36·7	35·1	34·9	35·7	35·4	35·4	33·8	33·4	32·9	32·8	32·8	31·0	30·9	31·3	152·3
Mean	30·3	29·6	28·4	28·1	29·7	30·2	30·5	30·3	30·8	32·1	33·6	35·6	37·5	38·4	37·4	35·7	34·1	33·3	32·3	30·4	29·7	30·3	28·8	29·7	31·9	
Sum a 800·0+	110·5	88·9	52·0	42·2	91·0	104·7	114·9	109·5	123·7	161·7	207·4	267·7	323·5	351·4	322·5	270·8	222·4	198·3	170·6	111·2	90·5	109·1	65·1	90·2	31·4	Grand Total 22999·8

GEOMAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

3 LERWICK (Z) — 47,000γ (0·47 C.G.S. unit) + — SEPTEMBER 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 7000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	317	309	302	328	331	329	331	319	329	326	324	328	330	340	360	401	413	449	410	381	329	306	332	317	343	1241
2 d	327	336	340	271	225	261	292	309	316	332	341	348	347	427	406	440	413	395	404	378	329	297	290	296	338	1120
3 d	321	305	248	222	261	295	321	335	343	348	356	362	336	344	379	399	387	391	435	367	334	289	174	32	316	584
4 d	184	277	295	240	192	240	288	314	328	339	363	378	359	340	347	363	366	375	360	344	308	303	308	317	*314*	528
5	322	325	329	308	294	308	316	329	339	343	334	336	343	346	350	389	423	438	416	392	353	337	336	309	346	1315
6	245	273	286	281	264	282	300	284	309	326	338	360	363	358	358	379	378	398	397	366	322	304	300	320	325	791
7	298	323	324	269	287	310	330	338	341	340	343	330	330	342	342	343	345	344	344	345	350	345	339	332	331	934
8	326	323	270	221	265	307	323	330	332	322	328	333	339	341	349	353	354	350	350	345	343	343	343	338	326	828
9	319	305	308	317	325	325	334	334	334	334	333	339	348	350	353	364	374	386	374	362	339	340	286	295	337	1078
10	311	309	290	280	265	296	317	334	340	341	341	341	341	341	344	345	345	347	347	344	345	349	347	348	329	908
11	347	340	329	336	340	340	340	338	340	344	344	336	340	338	341	341	342	341	340	337	335	341	326	332	339	1128
12 d	336	341	341	340	336	335	336	341	299	312	325	326	329	344	362	364	397	439	418	321	279	356	273	221	336	1071
13	220	286	332	341	345	345	342	332	337	344	348	351	349	357	368	379	390	416	386	352	312	344	347	341	344	1264
14	326	320	295	315	329	323	330	337	339	337	338	340	338	340	342	347	350	354	358	353	351	341	317	325	335	1045
15	335	319	325	327	288	305	322	329	329	335	337	337	336	340	344	343	342	343	361	375	375	347	328	319	335	1041
16	311	325	337	342	342	342	347	343	339	340	339	335	338	340	345	352	353	353	352	346	312	290	312	328	336	1063
17 q	327	329	336	337	342	346	345	342	340	340	336	335	340	345	344	342	347	347	348	356	351	345	334	314	340	1168
18 q	311	324	334	339	342	344	345	344	342	339	335	335	332	334	335	341	345	351	348	347	346	340	342	337	339	1132
19 d	335	335	335	340	335	301	266	288	325	352	351	351	348	347	359	375	397	424	425	347	334	340	223	177	334	1010
20	137	146	269	310	338	347	352	357	357	355	354	357	352	351	352	351	351	354	353	352	353	353	350	349	329	900
21	341	338	334	338	338	338	341	340	345	347	347	342	341	342	351	378	405	384	369	361	365	353	349	348	351	1435
22	318	298	274	286	308	325	335	340	343	344	348	349	346	348	375	364	372	387	368	368	306	312	326	329	336	1069
23	329	320	298	295	299	313	328	337	346	348	352	351	344	347	348	347	348	352	351	348	345	340	337	328	335	1051
24 q	330	333	323	323	329	335	337	341	342	346	347	347	346	342	344	344	345	345	348	351	358	365	356	352	343	1229
25 q	349	349	348	347	345	342	342	344	345	347	343	343	341	341	346	361	371	363	353	346	343	345	341	324	347	1319
26	306	231	121	119	231	280	309	323	337	344	345	347	352	352	359	370	433	407	375	376	373	341	337	333	321	701
27	334	314	323	336	340	341	338	341	347	352	352	353	358	358	357	368	380	372	359	355	352	349	337	336	*348*	1352
28 q	340	345	342	332	339	345	346	347	344	342	341	341	342	348	359	362	368	382	363	353	352	348	326	303	346	1310
29	301	315	323	332	333	326	318	321	326	337	342	352	352	363	375	378	384	394	442	430	381	246	231	251	340	1153
30	271	289	240	249	233	215	242	275	304	330	341	357	371	377	375	381	364	358	356	352	352	349	349	343	320	673
Mean	306	309	305	*301*	305	315	324	329	335	339	342	345	344	349	356	365	373	*378*	374	358	341	332	317	307	335	
Sum 9000+	174	282	151	21	141	441	713	886	1037	1186	1266	1340	1331	1483	1669	1964	2182	2339	2210	1750	1227	958	496	194		Grand Total 241,441

DAILY EXTREMES OF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH HOUSE

4 LERWICK — All Times G.M.T. — SEPTEMBER 1962

Day	Horizontal component: Maximum 14,000γ + (h. m.)	Maximum (γ)	Minimum 14,000γ + (γ)	Minimum (h. m.)	Range (γ)	Declination: Maximum 9° + (h. m.)	Maximum (′)	Minimum 9° + (′)	Minimum (h. m.)	Range (′)	Vertical component: Maximum 47,000γ + (h. m.)	Maximum (γ)	Minimum 47,000γ + (γ)	Minimum (h. m.)	Range (γ)	3-hr. range indices K	Sum of K indices	Magnetic character of day, C (0-2)	Temperature in magneto-graph house 200 + (°A.)
1	17 53	706	510	08 48	196	12 34	44·4	13·3	17 51	31·1	17 33	487	286	21 21	201	3,1,3,3,3,4,4,4	25	1	86·0
2 d	14 43	672	466	03 55	206	04 09	46·5	12·6	20 31	33·9	13 34	458	206	04 24	252	2,4,3,3,4,3,4,3	26	1	86·1
3 d	18 55	679	*103*	23 01	*576*	02 51	44·8	-4·4	23 34	49·2	18 54	470	*-44*	23 27	*514*	4,4,3,3,3,3,5,7	32	2	86·1
4 d	16 29	746	461	03 55	285	04 29	46·1	12·4	00 01	33·7	16 24	389	116	00 08	273	5,4,3,3,3,5,3,3	29	1	86·1
5	16 45	681	535	08 50	146	13 42	43·5	26·5	19 50	17·0	16 59	453	257	24 00	196	1,3,3,3,2,4,4,3	23	1	86·0
6	18 53	639	530	06 37	109	07 15	46·5	15·7	18 48	30·8	18 46	415	233	00 27	182	3,3,3,3,2,3,4,4	25	1	86·1
7	19 30	609	540	08 19	69	00 03	43·2	24·3	06 41	18·9	20 20	353	249	03 37	104	3,3,3,2,3,1,2,2	19	1	85·5
8	18 01	614	528	02 45	86	08 43	38·9	18·7	03 59	20·2	16 13	357	213	02 55	144	4,4,3,3,2,2,2,1	21	1	85·3
9	16 57	622	547	22 25	75	13 58	40·8	19·5	22 39	21·3	17 42	392	265	22 30	127	3,2,1,1,2,2,3,3	17	0	83·6
10	20 11	611	530	03 40	81	12 04	39·3	19·7	02 57	19·6	23 23	350	253	04 37	97	2,3,2,2,2,1,0,1	13	0	83·7
11	22 06	628	545	10 15	83	13 33	37·5	26·3	07 55	11·2	00 10	349	319	22 46	*30*	2,1,2,2,1,1,2,2	13	0	83·5
12 d	16 49	709	433	07 18	276	19 39	*65·0*	-2·0	20 03	*67·0*	17 07	455	134	22 53	321	2,1,5,3,3,4,6,6	30	2	83·6
13	17 51	641	535	00 49	106	13 29	42·1	8·0	19 40	34·1	17 19	459	203	00 22	256	5,3,3,2,3,4,4,2	26	1	83·5
14	19 20	614	541	07 40	73	01 42	40·3	26·0	04 17	14·3	17 57	363	282	02 08	81	3,2,3,2,1,1,2,2	16	0	83·5
15	17 50	641	542	04 21	99	22 01	39·3	22·3	19 59	17·0	19 54	392	277	04 30	115	3,3,3,2,1,3,3,3	21	1	83·8
16	20 46	655	568	10 26	87	13 27	40·5	18·7	20 04	21·8	18 17	357	283	20 57	74	2,2,1,1,2,2,3,3	16	0	84·0
17 q	18 29	616	569	11 44	47	13 50	40·2	27·1	08 21	13·1	19 27	361	309	23 55	52	2,1,1,1,1,1,2,2	11	0	83·9
18 q	21 46	626	566	11 17	60	14 19	38·6	25·7	21 42	12·9	17 22	352	309	00 00	43	2,1,1,1,1,1,1,2	10	0	84·0
19 d	18 54	*890*	416	24 00	474	12 52	44·6	-6·8	19 01	51·4	18 54	*528*	140	23 59	388	2,3,4,3,3,4,6,5	30	2	83·8
20	05 56	610	293	00 50	317	00 20	46·6	6·2	01 04	40·4	11 45	361	85	01 13	276	6,3,2,2,2,1,1,1	18	1	83·6
21	21 21	623	568	14 17	55	14 38	43·0	22·4	21 18	20·6	16 18	410	329	02 09	81	1,2,2,1,3,3,2,3	17	1	84·0
22	17 31	636	540	10 54	96	00 14	40·9	21·5	00 10	19·4	17 17	406	260	03 07	146	4,3,2,3,3,3,4,3	25	1	84·0
23	22 53	625	551	11 17	74	22 59	39·0	25·8	05 01	13·2	10 54	356	290	03 34	66	3,2,2,2,1,1,1,2	14	0	83·9
24 q	00 25	608	574	12 26	*34*	14 01	36·4	25·5	20 56	*10·9*	21 20	369	318	02 18	51	2,2,1,1,1,1,3,2	13	0	83·8
25 q	23 49	629	567	12 32	62	17 32	39·1	25·7	24 00	13·4	16 11	374	298	23 58	76	0,0,1,1,1,3,2,3	11	0	84·0
26	16 23	682	384	03 13	298	01 23	42·0	*-11·6*	03 17	53·6	16 24	459	68	03 19	391	5,5,3,1,3,5,4,2	28	2	83·0
27	22 19	617	563	11 34	54	13 20	37·3	26·4	22 10	*10·9*	16 37	383	308	01 52	75	2,1,1,2,2,2,1,2	13	0	83·0
28 q	19 07	615	562	23 43	53	13 39	39·4	16·1	23 10	23·3	17 19	390	295	22 48	95	2,1,0,1,2,2,2,3	13	0	83·1
29	18 11	617	307	21 58	310	21 34	46·1	0·1	22 08	46·0	18 55	461	168	21 47	293	2,3,2,2,2,3,4,6	24	1	82·9
30	14 45	616	492	02 06	124	07 27	37·4	13·1	03 05	24·3	15 07	387	204	05 08	183	4,4,4,2,2,2,1,2	21	1	82·9
Mean	- -	649	495	- -	154	- -	42·3	15·8	- -	26·5	- -	403	230	- -	173	-	-	0·73	84·0

q denotes an international quiet day and *d* an international disturbed day.

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H) — 14,000γ (0·14 C.G.S. unit) + — OCTOBER 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 13,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1 d	594	605	593	596	580	592	573	554	536	554	562	579	587	579	598	570	602	622	575	580	503	515	504	589	573	742
2	594	557	529	566	593	583	570	553	570	566	556	571	584	592	606	595	606	604	588	587	591	593	594	598	581	946
3	585	581	587	591	587	586	598	586	559	559	547	556	567	584	580	591	599	591	593	598	598	598	606	600	584	1027
4 q	591	579	584	586	599	596	596	586	589	574	563	565	565	572	582	584	595	587	588	588	581	581	578	588	583	997
5	592	592	594	596	599	601	605	601	599	584	572	570	572	579	587	597	593	609	602	600	562	580	595	590	590	1171
6	601	553	576	570	590	601	591	582	584	574	565	562	570	576	577	579	594	597	595	598	599	600	603	599	585	1036
7	587	591	591	595	591	595	601	597	588	575	572	573	578	582	587	593	593	592	593	599	613	611	622	576	591	1195
8 d	537	275	487	599	603	598	592	593	586	569	561	562	577	581	595	593	597	610	599	598	602	596	609	570	570	689
9 d	399	515	579	590	584	589	591	568	547	562	571	587	580	598	581	591	606	599	598	594	601	606	593	586	576	815
10	510	580	582	594	588	595	599	593	584	575	567	570	571	588	599	604	598	604	603	616	585	595	606	596	588	1102
11	590	576	580	575	552	562	597	588	579	571	567	576	590	578	602	603	613	591	598	599	604	595	590	588	586	1064
12 q	588	571	598	599	604	598	597	592	583	562	567	576	583	587	594	596	594	598	601	604	602	601	601	599	591	1195
13	595	596	598	600	600	600	602	598	590	577	556	558	573	592	593	577	594	595	596	597	599	595	590	575	589	1146
14	569	603	594	592	586	559	550	550	574	568	540	558	571	597	590	590	602	609	630	600	584	573	583	598	582	970
15 q	593	594	596	599	590	588	591	594	590	579	578	576	577	579	590	589	595	602	602	598	598	598	602	607	592	1205
16	595	594	595	594	593	597	598	594	589	582	582	535	566	575	587	586	591	598	600	588	596	595	588	599	588	1117
17 q	559	577	598	597	592	594	594	593	581	567	568	568	573	584	590	593	596	599	602	602	599	599	600	596	588	1121
18	590	579	595	580	597	599	602	603	600	590	578	575	578	588	594	603	602	593	590	594	596	599	604	605	593	1234
19	601	600	600	602	603	606	606	603	569	528	559	571	560	559	592	618	591	597	600	599	605	615	585	601	590	1170
20	606	597	594	594	595	595	597	596	590	582	576	573	574	586	582	597	597	600	607	615	611	619	589	596	595	1268
21	590	584	584	590	592	600	600	600	592	584	582	576	571	581	596	582	596	589	589	579	588	597	600	591	589	1133
22	593	593	589	603	604	606	607	603	601	583	552	550	586	578	573	589	595	599	602	599	590	568	565	600	589	1128
23	600	587	560	604	596	597	604	599	598	589	577	553	575	578	585	577	593	589	585	589	589	583	581	593	587	1081
24	594	591	595	593	590	604	604	600	596	590	575	574	569	590	596	589	593	595	618	572	573	574	576	576	589	1127
25 d	549	557	590	598	601	577	599	598	587	564	570	565	567	563	583	597	596	583	614	609	548	580	580	574	581	949
26 d	566	523	560	583	589	599	605	593	556	551	562	563	599	594	636	612	579	587	616	568	552	528	524	588	576	833
27	578	568	556	573	574	565	561	579	582	576	572	576	555	600	605	594	578	591	584	590	598	588	597	580	580	920
28	577	573	577	563	572	598	600	590	578	565	564	565	575	586	588	593	592	598	591	605	597	588	587	590	584	1012
29	593	587	587	576	594	601	604	590	591	579	569	579	575	584	586	593	600	598	597	599	600	602	598	599	591	1181
30	594	594	591	593	589	601	603	594	580	568	564	562	568	573	582	578	589	601	600	593	587	585	596	590	586	1075
31 q	590	597	599	597	601	591	601	600	592	585	572	567	575	590	585	586	586	598	594	591	594	597	588	593	590	1169
Mean	577	570	582	590	591	593	595	589	582	572	567	568	575	583	591	592	595	598	598	595	589	589	588	591	586	
Sum 17,000+	900	669	1038	1288	1328	1373	1438	1270	1040	732	566	591	811	1073	1321	1339	1455	1525	1550	1448	1245	1254	1234	1330		Grand Total 435,818

MAGNETIC DECLINATION (WEST)

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

2 LERWICK (D) — 9° + — OCTOBER 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 700·0+
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1 d	24·7	20·0	23·0	25·3	31·0	34·9	36·5	35·0	37·6	36·1	33·2	33·0	33·1	37·2	38·0	32·6	32·0	20·4	26·1	29·1	16·1	15·8	28·8	25·5	29·4	5·0
2	27·8	30·7	35·1	28·0	28·6	33·0	38·8	34·7	32·0	33·2	32·7	34·7	37·0	34·6	35·5	35·4	25·9	22·2	27·9	31·8	32·4	31·7	30·5	29·6	31·8	63·8
3	30·2	30·0	31·0	31·2	33·2	35·1	33·0	34·4	34·4	36·3	36·4	37·8	36·5	37·2	32·3	33·5	32·1	32·1	30·6	30·1	32·1	31·1	27·9	28·9	32·8	87·4
4 q	25·6	24·9	24·2	29·1	34·1	33·1	34·6	35·6	35·2	35·5	36·7	36·8	37·0	36·4	36·0	34·5	32·1	28·2	27·7	30·6	27·7	29·6	29·9	27·2	31·8	62·3
5	31·0	31·5	31·6	31·9	31·7	32·0	31·9	29·6	29·2	29·4	29·6	31·8	34·1	37·2	37·8	37·0	33·9	33·0	32·2	30·6	13·5	26·2	30·4	29·1	31·1	46·2
6	29·1	28·6	32·6	24·4	35·4	35·1	33·6	25·8	24·7	26·8	30·3	33·2	37·3	38·3	38·3	36·0	33·3	32·6	32·1	32·0	31·5	31·4	25·7	27·5	31·5	55·6
7	29·7	29·9	31·9	33·2	30·2	30·9	30·7	30·1	30·3	30·0	31·2	33·6	36·9	37·0	36·6	34·7	33·7	30·9	30·6	32·9	33·7	33·1	16·2	20·2	31·2	48·2
8 d	20·9	23·5	0·2	26·0	27·4	27·0	27·3	27·4	26·6	30·8	33·9	38·6	41·4	41·1	43·6	41·5	40·4	35·3	23·1	29·7	26·4	31·3	29·1	20·9	29·7	13·4
9 d	25·7	20·3	27·4	25·8	26·0	30·6	28·7	30·3	31·6	32·6	33·1	37·9	37·2	36·0	35·9	34·3	29·7	31·5	32·7	29·4	27·1	23·3	31·3	27·5	30·2	25·9
10	30·3	32·9	30·3	30·3	30·5	31·8	30·8	30·6	30·6	30·1	33·9	36·9	37·9	36·1	37·9	37·0	27·6	26·2	24·5	21·6	29·8	32·2	25·2	28·5	31·0	43·5
11	23·0	30·4	31·0	30·2	32·2	42·9	33·6	32·7	31·4	31·0	33·4	35·4	40·2	39·3	36·3	35·5	35·4	30·8	30·1	30·1	16·3	24·1	25·8	27·7	31·6	58·8
12 q	31·9	29·4	32·0	29·2	28·7	30·3	30·7	30·7	31·0	30·6	32·4	33·4	36·5	37·9	37·0	36·0	34·6	33·4	33·2	32·4	32·7	31·7	31·0	31·6	32·4	78·3
13	31·6	31·4	31·2	31·2	31·0	30·3	30·3	29·0	28·4	30·6	33·7	38·9	39·0	39·0	43·0	38·0	37·0	35·5	33·2	31·2	29·4	27·9	23·6	25·0	32·5	79·4
14	29·0	17·5	26·0	27·4	28·1	31·2	38·2	39·2	30·6	32·5	33·5	34·1	36·5	40·9	36·2	34·2	36·1	34·9	21·7	19·8	26·5	30·1	25·2	30·6	30·8	40·0
15 q	28·8	31·7	31·7	29·4	29·1	30·7	30·5	30·4	30·5	31·9	32·6	34·6	37·6	38·8	38·2	35·9	32·3	31·9	33·7	32·6	32·4	31·7	32·4	27·1	32·4	76·5
16	25·8	29·9	30·5	30·4	32·2	31·7	31·0	30·1	30·1	30·5	35·3	33·8	40·0	41·7	37·9	37·7	34·5	33·9	34·0	21·5	28·3	27·4	25·4	21·2	31·5	54·8
17 q	28·7	32·2	32·5	30·7	29·5	30·9	30·3	29·5	30·0	29·5	31·9	35·1	36·4	36·5	35·1	33·5	32·4	32·2	32·2	31·7	31·6	32·0	32·1	32·2	32·0	68·7
18	33·2	33·5	27·0	20·3	26·1	27·4	28·2	28·1	28·0	29·9	31·9	34·5	38·0	38·1	36·5	35·1	34·1	28·4	22·7	30·0	31·1	30·6	30·5	30·5	30·6	33·7
19	31·5	31·6	31·6	31·6	31·2	31·1	30·2	29·2	28·5	32·1	35·9	38·4	41·4	33·7	39·5	36·5	31·2	34·3	33·6	32·7	22·3	21·5	26·1	25·7	31·7	61·4
20	28·0	31·4	31·4	30·7	30·4	30·7	30·6	30·3	29·5	30·9	32·6	35·2	37·2	38·4	35·6	31·0	35·2	34·1	30·7	27·1	28·4	27·1	30·4	26·1	31·4	53·0
21	23·6	29·7	32·8	31·3	31·5	31·5	32·2	30·6	29·7	29·8	31·7	34·2	35·8	35·3	36·0	34·3	34·0	24·8	28·2	27·6	28·6	30·9	28·2	29·6	30·9	41·9
22	29·4	32·3	33·0	33·4	36·1	37·5	35·9	33·8	31·5	31·7	33·6	36·7	40·4	42·6	49·0	41·6	35·2	31·6	32·3	30·5	26·7	24·1	22·9	27·9	33·7	109·7
23	29·1	28·7	46·7	29·5	30·9	30·7	31·4	31·2	30·1	31·1	33·9	33·8	35·6	38·4	36·6	35·7	30·3	24·4	30·4	32·7	28·1	20·9	28·5	31·9	31·7	60·6
24	31·9	30·3	29·1	36·7	31·0	32·5	31·2	30·1	30·5	31·7	34·2	38·0	40·9	37·0	36·7	27·5	33·9	21·9	12·5	28·8	17·0	26·3	26·2	23·9	30·0	19·8
25 d	23·9	34·3	33·6	30·6	29·9	35·4	38·2	38·5	33·6	33·9	33·6	35·5	34·0	36·0	37·1	29·1	22·3	31·1	12·7	25·8	20·9	21·5	19·5	25·9	29·9	16·9
26 d	32·9	35·0	31·2	30·0	30·3	29·8	30·5	32·6	34·4	35·0	35·3	36·3	34·8	36·6	32·1	35·7	28·6	27·4	21·5	17·8	17·5	21·5	27·2	28·5	30·1	22·5
27	31·5	32·2	37·4	32·0	32·2	31·2	44·0	37·5	31·9	30·1	31·6	37·1	35·5	35·1	35·7	28·7	34·1	30·7	25·9	29·7	25·6	29·1	31·1	33·0	32·6	82·9
28	28·1	35·3	32·5	35·0	34·2	30·6	31·0	30·8	31·8	32·0	31·6	32·3	34·2	36·3	32·9	34·6	30·3	29·0	27·4	22·3	26·4	26·8	27·1	28·9	30·9	41·4
29	29·7	32·1	32·7	33·8	31·0	30·6	32·0	33·6	30·6	30·6	30·7	34·4	35·2	34·8	34·9	34·4	32·0	20·7	30·2	31·7	28·4	27·3	30·1	32·2	31·4	53·7
30	29·5	30·1	30·0	30·1	31·5	30·8	30·0	30·8	30·2	32·2	32·3	34·3	33·2	35·1	35·7	35·1	30·6	30·3	25·4	27·7	27·8	31·0	28·4	29·1	30·9	41·2
31 q	31·8	32·3	31·0	29·7	31·0	32·2	34·5	34·7	33·1	32·6	34·5	37·0	36·8	39·0	38·1	37·0	34·6	32·3	24·4	28·0	30·5	25·5	25·8	27·7	32·3	74·1
Mean	28·6	29·8	30·4	29·9	30·9	32·1	32·6	31·8	30·9	31·7	33·1	35·4	37·0	37·5	37·2	34·9	32·6	29·9	27·9	28·7	26·7	27·6	27·5	27·8	31·3	
Sum 800·0+	87·9	123·6	142·2	128·4	156·2	193·5	210·4	186·9	157·6	181·0	227·2	297·3	347·6	361·6	352·0	283·6	209·4	126·0	63·5	89·5	26·8	54·7	52·5	61·2		Grand Total 23320·6

GEOMAGNETIC FORCE: VERTICAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

3 LERWICK (Z) 47,000γ (0·47 C.G.S. unit) + OCTOBER 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 7000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1 d	314	298	309	319	322	305	321	325	328	329	373	401	425	381	384	401	426	427	413	382	259	211	165	246	336	1064
2	316	303	245	253	306	316	324	342	348	348	358	364	376	393	411	397	410	406	384	370	353	350	348	336	348	1357
3	339	340	345	347	344	333	337	346	358	363	367	366	361	370	388	370	373	372	366	361	355	352	340	319	355	1512
4 q	312	305	289	281	271	302	321	333	338	348	352	352	352	347	350	356	361	383	386	381	379	370	329	329	339	1127
5	341	347	348	349	350	350	345	350	350	352	352	348	344	344	350	348	364	359	381	425	326	332	348	341	352	1444
6	333	306	227	225	222	248	283	329	347	351	351	347	347	356	377	373	357	355	355	352	352	350	336	311	325	790
7	330	337	338	326	318	325	335	343	346	350	352	350	345	343	348	352	356	366	367	358	349	335	280	274	338	1123
8 d	262	131	144	289	323	337	338	343	344	343	341	342	340	338	341	350	356	381	432	406	378	300	283	267	*321*	710
9 d	172	161	227	297	306	311	314	331	338	338	340	346	370	399	392	390	384	366	359	364	355	344	334	304	327	842
10	257	280	306	326	336	343	344	345	346	348	351	358	381	370	361	370	384	377	377	344	347	346	338	336	345	1271
11	318	312	294	275	283	270	290	323	341	350	354	354	364	376	370	363	366	376	367	358	352	323	323	322	344	1024
12 q	321	300	313	341	345	346	345	345	347	350	350	349	350	354	359	364	364	357	352	350	350	352	353	354	346	1310
13	357	358	358	355	353	352	348	349	350	350	354	352	367	381	387	387	373	364	366	370	369	369	357	348	*361*	1674
14	282	256	297	325	329	320	305	312	329	343	358	361	357	366	395	390	376	374	410	357	315	236	282	300	332	975
15 q	322	336	341	339	341	342	348	348	347	350	352	352	350	352	361	372	373	366	360	358	354	352	339	318	349	1375
16	315	330	344	350	352	354	352	352	349	347	347	377	376	379	386	369	364	363	373	388	363	347	340	308	355	1525
17 q	323	312	336	352	353	352	355	356	358	363	358	357	356	356	356	357	356	355	354	354	354	352	347	348	351	1420
18	326	292	209	244	282	317	334	342	346	349	349	346	346	350	351	355	361	382	382	369	368	361	350	346	336	1057
19	347	348	349	348	349	349	349	351	357	369	361	357	368	393	370	423	403	367	358	365	358	300	322	327	358	1588
20	329	335	343	347	349	351	351	354	355	357	358	357	352	351	364	370	363	357	358	349	344	333	326	306	348	1359
21	322	336	313	326	335	335	342	347	353	357	356	357	360	358	363	369	364	384	385	388	381	364	353	340	354	1488
22	342	344	341	317	300	298	307	320	335	349	361	360	356	370	379	386	390	380	373	372	383	337	262	323	345	1285
23	336	332	259	250	296	323	335	340	344	348	353	364	366	373	382	405	412	399	386	371	370	363	351	343	350	1401
24	344	330	325	308	313	320	328	336	343	347	351	353	365	381	385	405	378	383	354	352	324	234	230	255	335	1046
25 d	258	268	312	332	328	332	318	326	342	357	356	368	398	403	381	394	413	405	378	335	322	229	291	314	340	1160
26 d	304	245	256	298	334	340	340	344	355	356	364	383	420	425	476	473	455	424	365	362	335	293	270	308	355	1525
27	327	320	309	305	326	323	328	314	345	356	364	372	388	397	418	437	391	372	382	370	355	350	339	295	353	1483
28	298	325	322	326	319	330	342	349	356	366	368	371	371	373	378	376	375	370	370	358	337	336	300	332	348	1348
29	338	340	314	319	323	339	343	346	348	353	355	352	358	362	366	362	368	377	366	359	359	356	350	329	349	1382
30	311	326	342	345	337	328	334	344	356	359	358	372	379	371	375	383	382	374	368	364	361	347	342	345	354	1503
31 q	339	332	328	334	336	340	337	339	341	344	350	357	362	363	369	375	375	364	374	369	358	351	338	338	351	1413
Mean	314	306	*303*	315	322	327	332	339	347	351	355	359	366	370	377	*381*	380	377	374	367	351	328	318	318	345	
Sum 9000+	735	485	383	748	981	1131	1293	1524	1740	1890	2014	2145	2350	2475	2673	2822	2773	2687	2601	2361	1865	1175	866	862		Grand Total 256,579

DAILY EXTREMES OF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH HOUSE

4 LERWICK All Times G.M.T. OCTOBER 1962

	GEOMAGNETIC ELEMENTS																3-hr. range indices K	Sum of K indices	Magnetic character of day, C (0-2)	Temperature in magneto-graph house 200 +
	Horizontal component					Declination					Vertical component									
	Maximum 14,000γ +		Minimum 14,000γ +		Range	Maximum 9° +		Minimum 9° +		Range	Maximum 47,000γ +		Minimum 47,000γ +		Range					
	h. m.	γ	γ	h. m.	γ	h. m.	′	′	h. m.	′	h. m.	γ	γ	h. m.	γ					°A.
1 d	16 15	647	448	20 55	199	08 43	42·3	2·1	20 10	40·2	16 44	467	95	22 40	372	3,3,3,4,4,4,5,5	31	2	82·7
2	17 00	635	512	02 35	123	06 52	42·1	13·6	16 55	28·5	14 33	422	226	03 14	196	4,4,3,3,3,4,3,2	26	1	82·6
3	22 55	617	540	10 40	77	13 11	38·6	24·3	22 53	14·3	14 23	394	313	24 00	81	1,2,2,2,2,2,2,2	15	0	82·6
4 q	04 16	606	561	10 20	45	12 12	37·5	22·1	02 57	15·4	17 47	394	259	04 13	135	2,3,2,2,1,2,2,3	17	0	82·7
5	20 08	657	504	20 33	153	19 29	38·8	5·2	20 37	33·6	19 43	444	271	20 51	173	1,1,1,1,1,2,5,3	15	1	83·0
6	22 15	617	533	01 40	84	12 43	39·8	21·7	01 15	18·1	14 58	387	197	02 50	190	5,3,4,1,2,2,0,3	20	1	83·0
7	22 19	655	528	24 00	127	12 29	38·2	7·2	22 15	31·0	18 18	370	238	24 00	132	2,2,2,1,1,1,2,4	15	1	83·0
8 d	21 11	638	2	01 40	*636*	14 35	45·3	*-14·5*	02 19	*59·8*	18 14	445	*-53*	01 59	*498*	7,4,2,3,3,4,4,4	31	2	83·2
9 d	16 09	629	328	00 23	301	11 51	43·0	10·9	01 02	32·1	13 14	405	135	00 38	270	6,3,3,3,3,3,3,4	28	2	83·1
10	18 59	641	451	00 18	190	12 13	43·5	2·1	18 53	41·4	12 47	396	241	00 37	155	5,2,2,2,3,3,4,3	24	1	83·0
11	16 34	630	535	04 20	95	05 42	45·6	7·0	20 40	38·6	13 45	383	261	06 01	122	3,3,4,3,3,3,4,3	26	1	82·5
12 q	04 50	608	545	09 59	63	13 09	38·5	27·3	04 23	*11·2*	16 07	367	294	01 41	73	2,2,1,3,1,1,0,1	11	0	82·2
13	06 13	607	532	23 59	75	14 38	46·3	20·2	22 33	26·1	14 59	399	312	24 00	87	1,1,1,2,3,2,2,3	15	0	82·0
14	18 47	654	527	07 04	127	13 44	44·4	3·9	18 40	40·5	18 23	440	214	21 23	226	4,3,3,3,3,2,5,4	27	2	82·1
15 q	23 19	615	564	09 18	51	13 04	39·6	25·1	23 36	14·5	16 41	377	304	00 00	73	3,2,1,3,1,2,1,2	15	0	81·8
16	23 07	621	519	11 27	102	13 32	45·4	13·7	19 14	31·7	19 20	404	300	23 21	104	3,2,1,3,3,1,4,3	20	1	82·1
17 q	19 58	605	547	00 36	58	14 40	37·0	23·5	00 00	13·5	09 33	365	306	01 20	59	3,2,1,1,1,0,1,2	11	0	82·3
18	15 55	614	559	01 36	55	01 53	45·6	14·2	02 59	31·4	17 45	398	199	02 38	199	4,4,2,1,1,3,3,1	19	1	82·5
19	15 37	669	509	09 16	160	15 18	48·7	10·1	20 30	38·6	15 40	473	286	21 38	187	0,0,3,4,3,4,4,3	21	1	82·5
20	21 13	635	568	12 03	67	13 36	39·9	20·5	19 19	19·4	15 27	374	303	23 38	71	2,1,1,1,2,3,3,3	16	1	82·5
21	22 49	608	567	12 44	*41*	12 16	37·2	17·5	17 46	19·7	17 58	396	306	02 33	90	3,2,2,1,1,3,3,3	18	1	82·5
22	03 55	620	459	21 59	161	14 13	51·7	11·8	22 13	39·9	20 21	397	182	21 57	215	2,2,3,3,3,3,3,5	24	1	82·5
23	03 41	618	535	02 29	83	02 16	52·6	18·2	21 07	34·4	16 34	428	221	02 53	207	4,4,2,3,3,3,3,3	25	1	82·7
24	18 13	648	518	21 40	130	12 29	45·3	-3·2	17 59	48·5	15 25	417	178	21 36	239	3,2,2,2,3,5,5,4	26	1	84·1
25 d	19 05	650	478	20 59	172	05 51	41·3	-7·6	21 05	48·9	16 47	433	177	21 08	256	4,3,3,2,3,4,5,5	29	2	84·2
26 d	18 16	*721*	504	01 56	217	13 33	40·3	0·6	18 13	39·7	15 49	*509*	218	01 59	291	4,3,3,3,4,4,5,4	30	2	84·0
27	14 31	634	523	12 32	111	06 47	*53·0*	19·6	15 01	33·4	15 03	472	282	23 59	190	3,3,4,2,4,4,2,3	25	1	83·1
28	19 34	639	538	03 57	101	03 49	39·4	13·2	19 30	26·2	14 04	384	281	00 01	103	3,3,2,2,3,3,3,3	22	1	83·2
29	23 44	614	565	10 26	49	23 49	40·3	17·3	17 27	23·0	17 19	383	292	24 00	91	2,2,2,2,2,3,3,4	20	1	83·0
30	18 30	619	546	11 59	73	13 57	37·0	15·9	18 28	21·1	15 54	387	289	00 03	98	3,2,2,2,2,2,3,3	19	0	82·5
31 q	06 53	611	561	11 55	50	13 17	40·1	15·6	21 52	24·5	18 42	384	327	02 39	*57*	2,2,2,2,2,1,3,3	17	0	82·8
Mean	- -	632	503	- -	128	- -	42·5	12·2	- -	30·3	- -	409	240	- -	169	-	-	0·94	82·8

q denotes an international quiet day and *d* an international disturbed day.

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H) — 14,000γ (0·14 C.G.S. unit) + — NOVEMBER 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 13,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	594	594	601	598	598	600	603	604	599	583	576	576	582	590	589	595	596	596	590	588	600	596	580	586	592	1210
2	589	593	592	596	599	602	603	605	606	599	585	578	586	582	600	590	604	608	605	598	601	603	541	568	593	1233
3	572	588	587	593	594	598	598	596	590	584	575	563	570	578	582	586	581	597	599	595	593	599	581	590	587	1089
4	585	601	597	598	597	597	607	607	592	582	568	565	569	589	599	607	595	587	593	596	585	575	593	599	591	1183
5	599	599	598	599	597	596	586	579	587	584	573	569	573	582	587	593	595	599	600	600	601	598	596	601	591	1191
6 d	599	598	594	604	600	604	614	608	598	590	587	588	592	596	602	590	603	602	610	603	582	623	581	586	598	1354
7	588	578	565	596	603	590	601	601	597	590	571	565	578	583	590	597	600	601	600	603	601	600	593	611	592	1202
8	601	597	597	598	597	598	604	606	600	590	584	579	582	584	591	600	600	603	604	604	603	596	598	597	596	1313
9	598	597	596	595	597	599	602	601	599	593	589	587	589	593	598	601	605	605	607	607	605	604	604	602	599	1373
10 q	600	597	594	597	600	605	607	605	601	594	590	588	590	596	600	601	604	604	605	605	605	605	609	599	600	1401
11	600	601	604	607	609	609	608	601	598	593	586	581	583	590	600	592	597	591	596	597	594	600	594	599	597	1330
12 q	595	589	596	597	596	598	597	595	591	586	582	582	586	594	598	601	602	603	601	603	605	604	604	599	596	1304
13 q	596	597	598	599	600	601	603	603	600	593	591	588	591	596	600	603	607	607	606	605	603	600	600	599	599	1386
14	599	592	596	596	600	603	605	605	600	596	591	589	592	597	605	607	597	604	600	623	634	592	600	600	601	1423
15 d	600	597	596	598	596	587	613	610	610	599	595	584	539	570	587	590	588	588	591	591	591	593	551	555	588	1119
16 d	599	564	528	575	586	591	581	580	580	581	571	554	571	586	586	580	581	584	584	584	599	592	596	581	*580*	914
17	576	594	594	582	588	594	593	592	591	588	584	580	584	587	583	588	597	601	602	601	600	598	597	595	591	1189
18 q	595	595	597	599	601	602	601	599	595	592	591	591	592	597	599	599	601	602	601	601	601	606	599	600	598	1356
19	598	598	599	600	602	604	605	605	602	595	591	586	588	594	599	599	601	603	600	596	604	592	592	598	598	1351
20 q	600	600	602	607	609	610	609	601	604	603	599	596	593	598	602	607	611	615	614	613	610	609	607	605	*605*	1524
21	609	603	604	619	620	620	597	595	597	593	593	588	580	585	591	585	591	594	573	575	581	588	601	571	594	1253
22 d	587	579	558	590	576	585	575	566	565	566	564	579	570	573	590	602	605	586	592	581	590	610	576	563	580	928
23	565	589	573	565	579	591	599	598	582	574	570	576	583	586	596	597	596	607	603	603	608	596	594	588	588	1118
24	581	590	594	594	592	600	601	598	577	579	592	583	578	579	585	591	594	599	579	591	595	603	596	582	590	1153
25	588	586	573	580	597	604	598	579	589	584	562	579	571	578	590	596	597	599	598	602	600	601	598	598	589	1147
26	595	595	596	598	601	603	606	603	600	599	597	596	595	590	595	597	603	605	603	602	599	600	600	599	599	1377
27	599	604	601	599	607	614	609	598	595	591	583	583	587	589	595	601	602	590	596	600	600	594	599	603	597	1339
28	606	593	593	598	603	604	605	610	603	596	590	580	590	594	594	596	595	587	594	601	601	596	594	595	597	1318
29	594	598	598	599	601	604	606	610	609	600	586	581	593	594	596	602	605	609	601	624	587	598	605	606	600	1406
30 d	604	590	605	591	607	577	576	564	575	573	552	578	578	579	583	599	595	591	597	592	582	601	574	592	586	1055
Mean	594	593	591	596	598	600	*600*	597	594	589	582	*580*	582	588	594	596	598	599	598	599	599	599	592	592	594	
Sum 17,000+	811	796	726	867	952	990	1012	924	832	670	468	412	455	629	812	892	948	967	944	984	956	972	753	767		Grand Total 427,539

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

2 LERWICK (D) — 9° + — NOVEMBER 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 600·0+
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1	30·6	33·6	32·0	30·2	29·0	29·7	30·0	30·2	30·3	30·2	31·8	32·1	34·3	34·9	34·4	33·4	33·6	33·8	28·4	28·5	31·5	29·3	18·7	21·7	30·5	132·2
2	27·7	30·1	32·6	33·8	31·6	31·0	30·6	30·3	29·8	31·0	32·3	35·5	38·1	36·3	37·1	35·5	34·3	33·8	34·6	32·0	23·5	15·7	15·3	11·3	30·2	123·8
3	26·2	29·5	31·6	31·0	31·1	31·1	31·1	31·6	30·9	30·2	33·3	32·3	35·5	36·4	35·9	35·9	31·9	33·6	33·1	30·9	19·3	26·1	21·0	35·4	31·0	144·9
4	31·0	30·1	29·6	30·1	31·9	32·7	30·6	31·3	30·0	31·1	31·5	34·1	34·2	35·6	37·1	33·7	37·5	36·2	32·4	32·7	27·5	12·0	29·6	31·2	31·4	153·7
5	31·6	31·5	31·2	31·0	30·3	30·1	31·4	31·8	31·4	31·7	31·6	32·7	33·6	34·2	34·0	33·2	32·7	32·3	32·2	32·1	31·4	31·2	29·4	29·3	31·7	161·9
6 d	31·2	31·7	32·7	32·1	28·0	32·2	30·6	29·7	30·0	29·9	31·5	33·4	35·1	35·0	35·7	35·6	34·5	34·3	3·6	19·5	25·9	13·1	19·8	27·6	28·9	92·7
7	32·7	33·0	39·9	27·6	28·3	30·6	30·9	30·8	30·5	32·2	33·3	36·7	36·1	34·5	36·1	33·8	33·8	32·7	32·4	32·2	31·3	30·7	29·3	30·2	*32·5*	179·6
8	30·9	30·5	31·0	30·6	30·4	30·3	30·0	30·0	30·7	31·2	33·0	34·1	34·3	34·8	35·3	33·8	30·3	33·7	33·3	32·8	30·0	28·1	28·6	30·6	31·6	158·3
9	30·0	31·2	31·7	31·4	30·8	31·0	30·8	30·5	30·4	31·0	32·2	34·1	34·9	34·9	34·1	33·3	33·0	32·6	32·2	32·2	32·1	26·4	27·1	28·6	31·5	156·5
10 q	31·1	30·9	31·6	30·6	31·0	30·9	30·6	30·5	30·2	30·3	31·6	33·0	33·8	33·9	33·1	32·6	32·2	31·9	31·9	31·7	30·9	30·3	27·4	29·3	31·3	151·3
11	30·4	31·9	32·0	31·7	32·0	32·1	31·1	32·0	31·9	31·2	31·7	33·3	35·2	36·5	36·1	34·6	34·3	33·9	32·9	30·9	27·4	26·5	25·5	28·3	31·8	163·4
12 q	29·2	32·1	30·3	30·4	30·6	30·6	30·5	30·1	29·3	29·3	30·6	32·5	33·9	34·3	33·2	32·7	32·4	32·1	31·7	31·0	31·0	31·0	27·8	27·2	31·0	143·8
13 q	27·1	29·6	31·2	31·2	31·7	31·5	31·0	30·9	30·6	31·0	32·0	33·2	34·1	34·2	33·8	33·3	33·3	32·7	32·2	31·7	32·0	30·5	29·9	29·2	31·6	157·9
14	29·3	29·5	30·6	31·2	31·4	31·6	31·4	31·2	31·0	30·7	32·0	33·0	33·7	34·2	34·9	35·7	35·9	34·4	35·5	29·3	20·1	26·6	30·7	30·9	31·5	154·8
15 d	30·6	30·7	30·9	31·2	31·0	31·2	31·2	31·4	33·5	30·3	31·4	35·2	38·0	45·8	42·2	39·0	36·6	34·3	32·7	28·1	28·8	14·3	10·4	24·7	31·4	153·5
16 d	13·8	20·6	21·5	32·3	29·5	29·5	31·0	33·2	33·2	29·7	31·0	31·2	31·4	33·1	35·7	23·5	27·2	17·0	25·4	24·4	25·4	28·5	30·3	27·4	*27·7*	65·8
17	31·2	29·3	28·1	32·8	32·3	30·5	30·6	31·1	31·4	31·0	32·2	32·7	35·1	34·6	31·3	32·6	29·1	32·2	32·0	31·3	30·9	30·5	30·3	30·3	31·4	153·4
18 q	30·3	30·4	30·5	30·6	30·7	30·7	30·6	30·5	30·5	30·6	31·4	32·0	32·6	33·0	32·6	32·1	31·6	31·7	31·2	30·3	29·5	29·3	31·1	30·7	31·0	144·5
19	31·1	31·2	31·1	31·0	31·0	31·1	31·0	30·7	30·2	30·4	31·5	32·7	34·1	34·3	34·2	33·3	32·2	32·5	32·3	30·4	19·4	22·5	25·6	30·3	30·6	134·1
20 q	32·2	32·2	31·7	31·7	31·8	31·1	30·5	30·7	30·1	30·7	32·5	34·0	34·1	34·1	33·5	33·0	32·7	33·2	32·7	32·4	32·1	32·0	30·8	29·3	32·0	169·1
21	31·0	29·9	32·1	33·8	30·7	31·6	36·5	44·3	38·8	37·2	37·0	37·4	38·8	36·4	38·8	36·0	24·4	23·6	21·5	22·7	24·0	27·5	29·6	33·2	32·4	176·8
22 d	23·7	23·7	23·7	25·2	30·6	37·2	43·8	38·3	35·8	39·0	34·5	35·3	33·9	36·1	37·0	29·1	23·8	28·9	20·5	26·2	21·7	24·9	22·1	31·2	30·3	126·2
23	36·5	36·1	28·4	33·5	33·8	34·2	30·2	31·6	30·3	32·0	31·5	30·3	33·2	34·5	30·9	33·7	33·6	30·1	32·8	32·2	23·2	27·8	24·1	26·9	31·3	151·4
24	32·2	32·6	31·6	30·9	31·9	32·0	31·2	33·8	33·2	37·8	34·5	36·2	34·0	35·4	35·5	31·4	32·7	31·2	27·3	29·2	27·3	29·8	26·6	26·1	31·9	164·4
25	29·9	27·6	30·6	32·4	32·8	32·7	32·7	34·9	33·9	32·9	30·3	33·9	32·6	30·8	31·7	31·0	27·4	25·9	30·7	30·6	27·6	25·6	28·9	30·9	30·8	138·3
26	33·8	31·9	31·0	31·4	31·2	31·3	31·7	31·2	31·0	31·1	31·5	33·6	33·5	33·2	32·1	31·2	31·5	31·8	31·3	30·6	30·2	29·9	29·6	30·7	31·5	156·3
27	32·7	30·7	29·7	30·6	31·1	31·2	32·2	31·4	31·8	32·5	33·9	34·3	33·9	32·7	31·8	32·1	26·3	30·2	31·6	31·0	20·9	27·7	29·9	30·4	30·9	140·6
28	28·7	28·4	31·2	32·7	31·5	31·7	31·7	32·2	31·4	31·3	32·6	33·0	34·3	35·7	35·4	33·7	32·7	30·0	31·2	30·4	30·3	28·4	27·3	29·1	31·5	154·9
29	30·4	31·3	31·2	31·6	31·6	31·4	31·8	31·5	31·7	32·1	34·6	36·3	39·4	37·4	35·6	33·9	32·3	32·8	34·5	28·1	29·8	29·9	29·4	30·4	32·5	179·0
30 d	29·3	31·9	27·7	25·8	27·8	34·8	40·3	36·1	37·5	33·2	36·6	37·5	36·5	37·9	34·5	32·7	31·5	30·7	30·6	29·5	25·7	21·4	25·6	25·4	31·7	160·5
Mean	29·9	30·5	30·6	31·0	30·9	31·6	31·9	32·1	31·7	31·8	32·5	33·9	34·7	*35·2*	34·8	33·2	31·8	31·5	30·2	29·8	27·4	*26·3*	26·4	28·6	31·2	
Sum 700·0+	196·4	213·7	219·0	230·4	227·4	247·6	257·6	263·8	251·3	252·8	275·4	315·6	342·2	354·7	343·6	295·4	255·3	244·1	204·7	194·9	120·7	87·5	91·7	157·8	31·4	Grand Total 22443·6

GEOMAGNETIC FORCE: VERTICAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

3 LERWICK (Z) — 47,000γ (0·47 C.G.S. unit) + — NOVEMBER 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 8000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	341	337	327	332	336	340	343	344	346	351	351	350	350	353	360	365	365	367	375	374	360	360	356	333	351	416
2	336	337	343	334	345	351	353	355	354	351	352	351	351	363	358	368	362	357	366	381	363	309	271	267	*345*	278
3	271	316	340	346	350	351	353	353	357	357	357	366	368	369	375	387	387	374	367	374	379	347	334	299	353	477
4	273	308	329	337	341	338	340	346	353	357	363	363	368	370	381	441	410	395	385	384	386	376	358	351	*361*	653
5	351	350	351	351	351	351	351	344	340	347	351	355	353	355	355	351	352	351	352	354	355	362	365	359	352	457
6 *d*	353	347	337	334	339	338	337	341	348	351	353	353	352	352	354	358	356	369	396	346	357	308	291	324	346	294
7	334	312	283	317	328	336	339	345	350	351	357	360	368	376	373	360	353	351	350	350	352	357	361	326	345	289
8	322	337	343	345	346	343	343	344	347	350	350	351	352	353	361	363	363	353	351	351	355	358	357	357	350	395
9	351	351	345	348	350	348	347	347	348	349	351	351	353	354	354	351	349	348	347	346	346	350	339	322	348	345
10 *q*	324	337	340	343	347	346	345	344	346	350	350	351	351	352	353	351	351	350	347	347	349	350	346	351	347	321
11	351	351	351	350	348	346	341	341	344	350	354	357	361	364	363	387	382	379	372	373	368	353	356	350	358	592
12 *q*	351	348	346	350	356	353	351	352	353	355	355	356	357	357	357	358	357	356	355	354	351	351	350	351	353	480
13 *q*	350	351	354	355	354	353	353	351	351	351	351	351	351	353	355	357	357	356	355	355	355	355	354	354	353	482
14	351	355	354	356	355	353	352	351	351	351	351	351	350	350	351	355	364	364	369	379	339	351	347	348	354	498
15 *d*	344	346	348	348	348	351	327	335	339	346	344	345	377	421	394	383	376	372	381	421	396	334	335	317	359	628
16 *d*	235	315	318	331	348	340	343	352	347	353	357	365	361	359	371	404	395	399	387	378	350	344	348	334	351	434
17	308	333	340	342	345	354	357	359	360	360	360	356	357	361	372	371	367	361	361	361	361	361	361	361	355	529
18 *q*	356	355	353	352	353	354	355	356	357	358	356	353	353	352	354	355	355	356	356	356	358	352	353	355	355	513
19	351	350	349	348	348	348	348	349	353	353	353	351	349	349	350	351	352	353	356	361	361	347	342	343	351	415
20 *q*	345	348	346	345	344	343	344	346	346	346	346	348	347	348	347	346	346	345	345	346	346	347	346	347	346	303
21	347	347	342	326	326	329	337	326	331	336	342	351	365	377	379	384	420	398	392	390	374	371	347	284	355	521
22 *d*	294	313	304	302	314	318	321	334	355	360	368	383	398	418	435	434	403	385	373	374	351	294	312	330	353	473
23	300	283	316	318	330	330	346	354	364	368	369	381	381	383	388	380	385	371	363	368	370	364	370	373	356	555
24	351	343	352	353	353	348	349	348	353	349	349	360	377	381	390	383	369	361	380	372	368	343	337	337	359	606
25	328	320	324	310	331	338	346	348	347	352	367	372	378	388	379	373	377	372	362	361	360	355	354	353	354	495
26	342	326	338	344	348	349	347	348	348	347	348	349	354	360	363	363	358	355	355	355	355	355	353	353	351	413
27	349	339	344	345	337	334	339	346	348	348	348	349	353	356	362	362	369	373	363	356	360	354	349	345	351	428
28	330	337	341	343	345	348	347	344	348	344	348	350	352	357	361	364	368	375	368	358	355	356	355	348	352	442
29	345	337	345	349	350	351	348	346	344	343	344	345	345	348	358	361	358	358	375	357	361	364	355	350	352	437
30 *d*	351	340	257	281	275	291	304	337	349	361	382	377	383	395	413	387	377	377	366	364	374	346	334	329	348	350
Mean	*331*	336	335	338	341	342	343	346	349	351	354	357	361	366	369	*372*	369	366	366	365	361	349	345	338	352	
Sum 9000+	935	1069	1060	1135	1241	1273	1306	1386	1477	1545	1627	1701	1815	1974	2066	2153	2083	1981	1970	1946	1815	1474	1336	1151		Grand Total 253,519

DAILY EXTREMES OF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH HOUSE

4 LERWICK — All Times G.M.T. — NOVEMBER 1962

Day	Horizontal component: Maximum 14,000γ + (h. m.)	(γ)	Minimum 14,000γ + (γ)	(h. m.)	Range (γ)	Declination: Maximum 9° + (h. m.)	(′)	Minimum 9° + (′)	(h. m.)	Range (′)	Vertical component: Maximum 47,000γ + (h. m.)	(γ)	Minimum 47,000γ + (γ)	(h. m.)	Range (γ)	3-hr. range indices K	Sum of K indices	Magnetic character of day, C (0-2)	Temperature in magnetograph house 200 + (°A.)
1	07 35	609	565	22 22	44	01 41	37·0	15·4	22 32	21·6	18 57	386	323	02 44	63	2,1,1,1,1,1,3,3	13	0	82·8
2	20 59	639	512	22 30	127	13 10	40·5	6·0	23 14	34·5	19 31	385	242	22 54	143	3,2,1,2,2,2,4,4	20	1	82·3
3	21 43	615	541	00 00	74	23 32	42·4	9·3	20 17	33·1	15 42	392	258	24 00	134	4,1,2,2,1,2,4,4	20	1	83·0
4	15 27	623	541	21 08	82	15 05	41·9	−4·7	21 16	46·6	15 36	*490*	258	00 00	*222*	4,2,2,2,3,4,3,5	25	1	83·0
5	23 37	606	566	11 02	40	13 50	35·1	27·5	23 30	7·6	22 13	368	339	08 27	29	1,1,2,2,1,0,0,1	8	0	83·0
6 *d*	21 18	673	569	22 14	104	14 36	38·0	*−5·5*	21 14	43·5	18 14	429	270	22 03	159	2,3,2,1,2,3,5,5	23	1	83·0
7	23 20	623	551	02 10	72	02 14	43·1	25·8	03 58	17·3	13 06	385	272	02 32	113	3,3,1,2,2,1,1,3	16	1	83·2
8	18 03	609	574	11 57	35	14 34	37·2	22·5	21 02	14·7	15 30	369	316	00 18	53	2,1,1,1,2,3,3,3	16	1	83·2
9	22 40	626	585	23 22	41	12 58	35·3	19·7	21 41	15·6	22 02	358	312	23 00	46	1,1,0,0,0,0,0,3	5	0	83·4
10 *q*	22 30	619	586	11 13	33	13 13	34·5	25·6	22 55	8·9	14 17	353	315	00 00	38	2,1,1,0,0,0,1,2	7	0	83·3
11	21 03	619	567	12 28	52	15 17	39·5	21·7	20 59	17·8	15 46	402	340	06 16	62	1,2,2,1,2,3,3,2	16	1	83·0
12 *q*	22 25	619	581	10 35	38	13 30	35·1	24·9	22 22	10·2	15 23	359	343	02 15	16	1,1,1,1,0,0,1,2	7	0	82·7
13 *q*	16 37	609	586	11 37	*23*	13 36	34·4	25·2	00 07	9·2	16 00	357	348	00 10	*9*	2,0,0,0,0,1,1,1	5	0	82·6
14	20 03	719	600	21 06	119	16 07	37·5	2·5	20 03	35·0	19 55	416	329	20 32	87	1,0,0,0,1,1,4,3	10	1	82·4
15 *d*	21 05	630	500	22 46	130	13 28	*53·5*	2·8	22 44	*50·7*	13 34	453	264	24 00	189	0,2,3,2,4,2,4,4	21	1	82·3
16 *d*	00 18	654	*490*	02 33	*164*	14 37	41·1	−1·5	00 15	42·6	15 27	417	*195*	00 20	*222*	5,2,2,2,3,4,4,2	24	1	81·3
17	16 46	603	561	00 11	42	12 43	35·8	25·6	02 44	10·2	15 10	374	301	00 24	73	2,2,1,1,2,2,0,1	11	0	78·5
18 *q*	21 32	621	589	10 30	32	13 17	33·3	26·5	21 27	*6·8*	20 43	359	346	21 32	13	0,0,0,0,0,0,1,2	3	0	78·0
19	20 50	621	584	11 19	37	14 14	34·6	9·7	20 43	24·9	20 20	366	340	22 48	26	0,0,0,0,0,0,4,3	7	0	78·0
20 *q*	18 02	617	591	12 35	26	11 55	34·7	27·4	22 56	7·3	23 11	350	341	06 22	*9*	1,0,1,0,1,1,0,1	5	0	77·5
21	03 56	628	542	23 32	86	07 27	47·3	3·7	16 56	43·6	16 51	447	245	23 54	202	2,1,3,2,2,5,3,4	22	1	78·2
22 *d*	21 15	680	531	02 41	149	06 45	48·7	2·6	21 10	46·1	14 20	441	249	00 00	192	4,3,3,3,3,4,4,5	29	1	78·0
23	22 38	619	548	00 54	71	00 46	42·4	20·9	22 55	21·5	14 51	395	272	01 02	123	4,3,2,2,2,2,3,3	21	1	77·8
24	21 31	619	558	11 54	61	09 21	40·9	21·5	18 45	19·4	18 51	397	324	23 58	73	2,1,2,3,2,2,3,3	18	1	78·3
25	05 23	610	547	10 14	63	07 54	37·0	20·7	17 16	16·3	13 21	394	306	03 15	88	3,3,2,3,2,3,2,3	21	0	78·3
26	06 27	608	584	13 27	24	00 48	36·8	28·6	19 55	8·2	14 43	364	320	01 18	44	2,1,1,1,1,1,1,1	9	0	79·0
27	23 59	619	579	17 39	40	11 18	35·8	16·9	20 21	18·9	17 44	375	331	24 00	44	2,1,1,1,1,3,3,2	14	0	79·2
28	00 00	619	576	11 25	43	14 06	37·0	26·3	01 05	10·7	17 43	377	326	00 08	51	2,1,1,1,1,2,1,2	11	0	79·1
29	19 20	*737*	575	19 43	162	12 32	40·7	18·1	19 17	22·6	19 16	411	316	19 30	95	1,0,1,2,2,1,5,2	14	1	79·0
30 *d*	21 26	630	537	10 24	93	01 58	44·5	12·4	21 20	32·1	14 18	426	249	02 20	177	4,3,3,3,3,2,2,4	24	1	78·9
Mean	– –	631	561	– –	70	– –	39·2	15·9	– –	23·3	– –	393	300	– –	93	–	–	0·53	80·7

q denotes an international quiet day and *d* an international disturbed day.

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H) — 14,000γ (0·14 C.G.S. unit) + — DECEMBER 1962

Day	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 13,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	588	589	585	591	597	598	599	600	596	587	586	587	591	597	602	590	594	602	597	606	592	595	596	597	594	1262
2 q	597	597	598	600	601	602	603	604	602	593	590	592	594	595	594	593	599	603	601	598	597	596	597	599	598	1345
3	598	598	598	599	599	602	605	603	600	596	595	596	599	604	602	604	602	604	604	598	607	611	609	608	602	1441
4	605	604	604	611	623	624	624	618	608	583	583	579	577	590	567	583	605	603	578	587	591	597	598	592	597	1334
5	583	592	590	593	595	598	598	597	599	598	593	591	593	594	593	589	596	600	602	599	599	597	595	594	595	1278
6 q	593	598	598	598	599	604	601	602	599	599	600	600	600	600	599	602	605	606	604	604	603	602	598	598	601	1412
7 q	599	599	598	602	602	602	605	607	608	605	602	602	603	605	606	606	605	606	609	604	599	601	603	605	603	1483
8	604	604	605	607	610	612	610	606	598	590	590	591	594	594	587	591	590	587	584	582	583	590	587	587	595	1283
9	587	591	594	595	597	604	616	608	603	602	599	598	602	604	607	609	609	611	611	610	610	608	602	602	603	1479
10	602	603	603	606	606	608	610	610	608	604	602	605	608	609	611	612	610	602	594	587	595	594	589	559	602	1437
11 d	574	586	589	595	589	608	604	594	599	586	588	588	592	596	575	591	604	623	666	612	583	587	558	560	594	1247
12	582	580	580	581	595	600	598	596	594	590	587	586	589	594	598	601	604	601	605	578	586	599	594	576	591	1194
13	585	582	594	587	592	603	606	605	603	588	583	590	592	585	594	599	599	602	601	601	603	594	584	578	594	1250
14	580	581	582	588	594	600	600	595	597	596	590	578	583	597	599	596	598	594	598	616	624	602	599	595	595	1282
15	583	584	587	595	587	598	601	594	601	597	594	596	598	600	600	603	603	603	599	598	597	596	595	598	596	1307
16	591	590	592	594	598	600	603	603	607	602	598	601	601	600	602	607	605	604	601	598	609	600	600	597	600	1403
17 d	615	600	605	604	607	608	611	612	606	592	594	598	595	598	598	587	601	678	575	644	560	258	499	367	575	812
18 d	426	363	253	564	592	598	594	590	595	595	595	581	573	591	590	615	590	595	602	577	455	505	576	572	*549*	187
19 d	522	539	579	565	572	584	587	566	562	591	580	576	584	594	601	588	605	603	610	630	566	576	591	587	582	958
20 d	582	577	574	558	570	598	602	598	583	571	558	587	587	594	591	601	593	629	603	593	602	562	589	562	586	1064
21	565	547	571	594	583	595	589	584	590	588	583	590	582	587	589	591	594	594	591	602	560	591	591	592	585	1043
22	587	592	591	591	589	594	597	596	586	587	582	576	587	594	592	594	594	596	602	593	591	594	598	605	592	1208
23 q	594	591	591	591	594	603	601	601	599	590	590	591	591	592	595	598	598	599	599	598	598	598	598	596	596	1296
24	599	597	596	596	598	602	604	605	600	599	597	593	595	598	595	591	598	600	598	594	597	602	600	601	598	1355
25 q	600	600	601	599	602	607	610	606	606	602	598	595	596	602	604	604	604	602	602	600	598	602	602	614	602	1456
26	604	604	604	606	612	616	616	616	614	609	597	600	597	579	576	581	590	587	587	580	572	576	568	576	594	1267
27	595	595	594	593	594	597	599	599	599	598	594	591	592	597	599	597	599	598	594	588	591	612	596	599	596	1310
28	600	599	599	601	602	606	609	608	605	601	598	598	600	595	601	609	605	608	608	605	607	605	599	595	603	1463
29	600	602	604	606	609	610	613	612	608	602	597	600	604	602	602	601	604	606	604	603	602	602	606	607	604	1506
30	606	606	605	607	609	612	612	612	612	609	604	604	605	609	612	613	613	613	612	610	602	600	602	605	*608*	1594
31	605	609	609	610	612	612	613	617	617	601	570	570	590	606	604	588	602	596	598	603	606	604	603	604	602	1449
Mean	585	584	583	594	598	603	605	602	600	595	591	591	593	597	596	598	601	*605*	601	600	590	*583*	591	585	595	
Sum 18,000+	151	99	73	427	529	705	740	664	604	451	317	330	394	502	485	534	618	755	639	598	285	56	322	127		Grand Total 442,405

601 at 0-1h. 1 January 1963.

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

2 LERWICK (D) — 9° + — DECEMBER 1962

Day	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 500·0+
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1	29·3	29·1	32·4	31·7	30·4	30·6	30·3	30·3	30·1	30·7	31·6	33·0	33·6	33·5	31·7	31·6	30·6	31·6	29·0	23·9	27·4	28·9	30·1	30·6	30·5	232·0
2 q	30·7	30·7	31·2	31·2	31·6	31·6	31·5	30·7	30·5	30·5	31·5	33·7	33·9	33·3	31·8	31·0	31·9	31·6	31·5	30·0	27·4	28·8	29·6	30·1	31·1	246·3
3	30·6	30·8	31·2	31·4	31·2	30·9	30·7	30·8	30·6	30·6	31·7	32·8	33·6	34·6	34·6	34·5	34·1	33·5	26·7	29·5	31·2	31·5	31·1	31·1	31·6	259·3
4	30·9	31·0	31·2	32·2	32·3	32·2	31·8	31·6	32·0	35·6	37·9	40·0	41·3	39·9	39·3	41·9	33·1	30·1	32·2	34·1	31·5	29·9	29·9	26·7	*33·7*	308·6
5	28·3	24·4	26·7	30·6	31·2	31·0	30·6	31·0	31·0	31·5	32·1	32·7	33·6	33·5	34·6	33·6	33·2	32·2	32·2	31·8	30·7	30·3	29·7	28·9	31·1	245·4
6 q	30·3	29·1	30·7	30·8	30·8	30·6	30·7	30·6	30·6	30·9	31·5	32·4	33·7	34·2	33·6	32·3	32·5	32·2	31·2	29·8	31·2	31·0	30·3	30·4	31·3	251·4
7 q	30·5	29·6	30·3	30·3	30·6	30·9	31·6	30·9	31·0	31·8	32·8	34·5	33·9	34·8	33·5	33·2	33·3	32·5	33·6	34·1	30·7	30·9	29·7	30·6	31·9	265·6
8	31·2	31·6	31·3	31·6	30·9	31·2	31·4	31·1	32·6	33·8	35·9	36·7	36·7	35·8	35·3	34·1	34·7	32·8	31·4	30·7	28·3	28·3	26·2	29·5	32·2	273·1
9	29·5	28·9	30·2	30·3	31·1	34·0	31·2	31·3	30·9	32·2	32·4	32·0	32·6	33·3	33·0	32·4	31·9	31·7	31·5	31·2	31·0	31·2	30·4	28·9	31·4	253·1
10	30·7	31·2	30·9	31·2	31·1	31·1	31·0	30·9	30·9	31·5	32·8	33·9	34·3	33·8	33·1	32·3	33·7	34·1	31·9	30·2	30·0	25·2	20·1	27·2	31·0	243·1
11 d	25·4	27·3	27·3	28·1	27·4	27·9	30·6	30·4	31·3	30·7	31·2	34·1	37·0	39·4	38·8	40·6	39·8	33·8	31·6	14·6	25·9	27·4	22·3	17·2	30·0	220·1
12	23·8	26·5	25·3	30·7	31·3	31·0	30·7	30·3	30·3	30·6	31·3	31·9	32·1	32·1	31·6	30·8	31·0	31·1	30·9	24·4	24·1	26·9	22·6	20·7	28·8	192·0
13	22·5	24·6	24·4	23·2	24·2	27·2	28·4	29·7	29·8	30·9	31·7	35·7	35·8	35·1	36·5	36·2	32·7	31·3	31·4	30·9	30·7	27·8	19·9	26·5	29·5	207·1
14	28·8	27·7	27·9	26·3	27·4	29·1	30·8	31·2	31·2	31·0	34·5	34·7	36·1	36·1	38·2	34·1	34·9	32·6	30·6	23·4	22·5	25·4	27·7	27·4	30·4	229·6
15	26·4	27·5	30·7	27·8	29·2	28·3	31·9	30·5	30·6	32·5	31·9	32·6	32·4	32·3	32·3	32·2	32·6	33·3	33·2	31·4	30·3	26·1	26·4	28·6	30·5	231·0
16	30·0	31·3	31·8	31·9	30·9	30·8	31·6	31·5	32·0	32·2	32·9	34·1	35·1	34·3	32·9	31·7	32·2	31·8	31·8	29·7	26·8	30·3	30·6	29·5	31·6	257·7
17 d	29·1	29·6	30·7	31·4	31·4	31·8	32·1	32·2	32·5	33·9	34·1	35·0	34·6	34·9	36·6	33·9	36·0	10·2	26·2	33·4	16·4	3·6	0·7	10·8	27·5	161·1
18 d	6·3	14·3	12·7	18·0	30·2	31·3	33·3	33·0	31·6	30·9	31·4	32·2	32·9	33·4	30·3	21·6	25·2	25·7	20·7	16·4	10·2	17·2	19·9	29·8	*24·5*	88·5
19 d	20·2	13·6	17·7	26·4	29·3	32·0	32·9	38·8	37·0	34·9	34·2	30·6	32·2	30·3	30·3	23·7	17·5	20·7	9·7	9·2	26·4	25·4	28·6	24·4	26·1	126·0
20 d	25·1	25·7	31·3	30·4	41·2	31·9	31·6	33·4	34·9	35·1	36·1	32·4	33·4	34·3	26·0	26·1	30·1	12·8	16·9	19·8	32·2	33·7	24·0	19·9	29·1	198·3
21	30·9	30·5	30·5	29·8	30·9	33·4	36·7	36·6	33·4	31·6	31·2	31·0	32·2	29·8	30·4	30·3	28·3	22·3	21·5	25·9	27·4	24·5	28·1	30·3	29·9	217·5
22	29·5	31·2	35·2	33·7	31·8	30·3	30·3	30·7	30·6	30·1	31·6	31·0	32·9	33·8	32·8	30·6	29·5	30·9	26·4	27·4	27·2	27·6	30·3	31·3	30·7	236·7
23 q	29·7	30·4	31·3	31·2	30·8	30·6	31·6	31·6	31·1	30·5	31·8	31·4	31·9	32·5	32·1	31·5	31·1	31·1	30·7	30·6	30·4	30·4	30·6	30·6	31·1	245·5
24	30·7	31·4	30·8	30·8	30·6	30·4	30·5	30·7	31·7	32·2	33·1	32·3	33·2	32·2	33·5	32·0	31·2	31·2	30·5	27·7	25·9	27·6	30·0	30·9	30·9	241·1
25 q	33·2	32·9	30·8	30·3	29·3	30·0	30·2	30·4	30·4	30·6	31·1	32·6	32·9	33·4	32·1	31·3	31·2	31·3	31·7	31·6	30·6	29·9	29·0	28·0	31·0	244·8
26	27·9	31·2	31·6	32·0	32·0	32·5	32·5	31·5	30·8	31·8	33·4	34·4	36·0	33·9	41·5	35·2	31·3	27·6	27·0	27·9	22·1	25·2	23·3	21·3	30·6	233·9
27	27·9	30·5	30·5	30·6	31·3	31·5	31·0	30·8	30·1	30·3	31·0	31·1	31·8	32·5	32·3	31·3	31·2	31·9	31·6	29·1	27·0	25·0	27·6	29·9	30·3	227·8
28	30·7	30·6	30·7	30·8	31·4	31·3	30·8	30·1	29·6	29·6	30·7	32·0	32·9	32·9	32·9	32·6	32·6	32·6	31·8	29·9	22·3	21·6	24·0	24·8	30·0	219·2
29	29·4	31·0	30·9	31·3	31·2	31·9	31·9	31·0	29·9	30·3	30·8	31·6	33·7	33·1	33·1	30·1	30·3	32·1	31·0	30·8	30·2	29·5	27·6	29·3	30·9	242·0
30	30·3	30·7	31·1	31·7	31·8	31·8	31·6	30·8	30·3	30·6	31·0	32·0	33·4	33·4	31·9	31·0	31·5	31·8	31·7	31·6	30·2	28·6	27·7	30·8	31·1	247·3
31	27·7	28·4	28·9	29·2	29·4	29·2	29·9	29·8	29·9	30·3	33·7	36·9	37·6	35·5	37·8	38·3	39·1	34·5	32·8	30·9	30·2	29·4	28·9	29·6	32·0	267·9
Mean	28·0	28·5	29·3	29·9	30·8	30·9	31·3	31·4	31·3	31·6	32·5	33·3	*34·1*	33·9	33·7	32·3	31·9	29·8	29·1	27·8	27·4	27·1	*26·3*	27·3	30·4	
Sum 800·0+	67·5	83·3	108·2	126·9	154·2	158·3	171·7	174·2	169·2	179·7	208·9	231·3	257·3	251·9	244·4	202·0	188·3	122·9	100·9	61·9	48·4	39·1	16·9	45·6	31·3	Grand Total 22613·0

29·1 at 0-1h. 1 January 1963.

GEOMAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

3 LERWICK (Z) 47,000γ (0·47 C.G.S. unit) + DECEMBER 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 7000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	343	345	345	343	352	352	352	352	353	352	350	350	349	348	352	364	364	358	364	356	356	350	347	347	352	1444
2 *q*	348	348	349	349	349	349	348	348	349	349	349	349	347	348	350	356	352	353	355	356	354	353	351	348	350	1407
3	348	347	347	347	345	345	347	348	349	349	347	342	342	344	347	349	349	352	357	354	349	347	347	346	348	1344
4	346	344	345	342	337	337	339	343	349	350	343	349	352	363	391	426	501	508	420	383	380	379	375	367	374	1969
5	344	314	338	347	351	351	352	353	351	351	352	353	351	353	358	359	356	353	354	357	359	362	363	359	352	1441
6 *q*	355	348	351	351	351	350	351	351	352	351	350	350	350	351	351	352	350	351	352	354	353	354	357	358	352	1444
7 *q*	358	355	353	348	346	346	346	347	346	346	346	346	346	349	349	349	350	351	351	356	365	365	363	361	352	1438
8	358	355	352	350	346	344	345	346	347	348	350	350	354	358	369	371	372	381	387	393	392	381	379	374	363	1702
9	363	363	356	352	345	337	334	343	347	348	348	353	354	356	357	356	354	352	351	349	349	350	354	355	351	1426
10	356	354	355	354	354	351	349	347	347	346	347	348	352	355	357	357	358	364	375	383	377	374	349	341	356	1550
11 *d*	321	340	349	358	364	345	343	346	347	354	362	364	364	370	402	426	476	528	519	364	362	375	335	311	*376*	2025
12	334	344	343	349	359	361	362	359	358	359	359	361	363	364	365	365	364	364	369	393	401	398	375	367	364	1736
13	355	352	322	345	354	349	351	359	358	357	357	341	362	373	380	382	379	373	367	364	361	367	330	342	357	1580
14	335	324	324	323	337	348	353	356	354	350	349	355	349	355	367	374	375	385	381	364	337	341	348	348	351	1432
15	348	337	353	364	359	343	344	357	358	356	357	354	354	354	358	359	360	361	368	375	378	370	357	355	357	1579
16	355	355	355	356	357	356	355	355	354	353	353	349	349	350	354	355	357	359	361	361	357	356	355	354	355	1521
17 *d*	336	343	343	345	345	348	348	348	349	353	350	349	348	349	356	360	398	490	490	452	405	348	212	182	356	1555
18 *d*	69	57	2	169	268	320	337	346	349	349	354	360	361	369	432	441	427	434	430	387	300	324	343	348	*316*	576
19 *d*	219	213	238	270	292	320	332	351	367	361	372	382	388	391	380	399	405	386	351	327	352	354	305	305	336	1060
20 *d*	306	298	305	274	257	287	324	337	343	355	363	367	369	370	393	385	398	386	378	406	347	280	314	327	340	1169
21	288	264	300	305	330	336	347	348	351	355	357	365	373	380	386	375	382	378	385	348	343	354	361	361	349	1372
22	355	343	341	338	348	350	354	355	361	363	365	370	366	366	369	367	367	366	361	361	362	356	353	337	357	1574
23 *q*	348	355	355	355	354	352	353	354	355	357	358	361	361	362	361	361	359	357	356	356	357	357	357	357	357	1558
24	355	356	356	356	355	354	352	353	355	353	356	359	361	361	364	367	362	361	362	362	361	355	355	355	358	1586
25 *q*	350	344	349	353	351	348	348	349	350	351	354	355	352	353	355	356	355	355	354	355	356	355	355	343	352	1446
26	346	348	350	349	348	344	343	342	342	343	349	350	356	384	412	423	447	429	406	381	378	349	312	292	363	1723
27	342	355	360	360	359	356	355	355	355	355	355	355	355	357	361	361	361	361	361	369	367	344	343	348	356	1550
28	354	355	356	356	355	354	354	354	354	351	353	354	354	360	360	358	354	353	352	353	353	346	345	344	353	1482
29	340	344	346	347	345	344	340	342	344	345	346	345	343	350	352	357	358	357	357	357	357	353	347	345	348	1361
30	345	348	351	350	351	351	351	351	351	351	350	345	343	345	350	352	355	354	354	354	359	363	358	345	351	1427
31	326	342	345	349	349	350	350	349	346	352	358	351	349	352	364	395	405	401	391	381	368	362	361	357	361	1653
Mean	331	*329*	330	337	342	345	347	350	351	352	353	354	355	359	368	373	379	*383*	378	368	361	355	345	341	354	
Sum 10,000+	246	190	234	454	613	678	759	844	891	913	959	982	1017	1140	1402	1565	1750	1861	1719	1411	1195	1022	706	579		Grand Total 263,130

357 at 0-1h. 1 January 1963.

DAILY EXTREMES OF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH HOUSE

4 LERWICK All Times G.M.T. DECEMBER 1962

	GEOMAGNETIC ELEMENTS																3-hr. range indices K	Sum of K indices	Magnetic character of day, C (0-2)	Temperature in magneto-graph house 200 +
	Horizontal component					Declination					Vertical component									
	Maximum 14,000γ +		Minimum 14,000γ +		Range	Maximum 9° +		Minimum 9° +		Range	Maximum 47,000γ +		Minimum 47,000γ +		Range				
	h. m.	γ	γ	h. m.	γ	h. m.	′	′	h. m.	′	h. m.	γ	γ	h. m.	γ				°A.
1	19 10	630	581	09 57	49	02 58	35·6	18·2	19 04	17·4	16 03	369	336	03 15	33	2,2,0,1,1,1,3,1	11	0	79·0
2 *q*	17 24	607	587	15 02	20	12 23	34·1	24·4	20 00	9·7	20 10	357	347	11 50	*10*	0,0,1,0,1,1,2,2	7	0	82·2
3	18 40	620	591	18 20	29	13 48	35·7	20·1	18 33	15·6	18 28	366	341	11 53	25	0,1,0,0,1,1,3,0	6	0	83·0
4	17 19	638	554	14 46	84	15 34	45·2	24·1	23 59	21·1	17 11	543	337	03 48	206	0,2,2,2,3,4,4,2	19	1	82·8
5	00 08	605	560	00 40	45	14 29	36·0	21·3	01 22	14·7	00 02	368	307	01 14	61	3,1,1,1,1,1,0,0	8	0	83·2
6 *q*	16 29	608	589	00 11	19	13 20	34·8	27·4	19 32	7·4	23 51	360	345	01 10	15	1,0,1,1,1,0,2,1	7	0	83·1
7 *q*	17 59	611	595	20 13	*16*	11 46	35·5	27·8	20 54	7·7	21 01	369	343	12 03	26	1,1,1,0,0,0,2,1	6	0	83·1
8	05 38	614	569	22 10	45	11 25	37·1	23·7	22 22	13·4	20 00	395	344	06 14	51	1,0,1,1,2,1,2,3	11	0	83·0
9	06 10	620	579	00 00	41	05 16	36·1	27·4	22 56	8·7	00 00	369	326	05 53	43	2,2,2,1,0,0,0,1	8	0	83·0
10	15 55	615	548	23 27	67	17 47	36·0	15·4	22 33	20·6	19 05	386	315	23 54	71	1,0,0,0,1,1,2,3	8	0	83·0
11 *d*	19 06	744	436	19 54	308	19 51	*65·2*	-12·7	19 16	77·9	17 52	534	214	19 50	320	3,2,2,1,3,4,6,4	25	2	82·3
12	21 39	616	563	24 00	53	18 27	34·8	16·5	23 07	18·3	20 49	411	331	00 12	80	3,2,0,1,0,1,3,3	13	1	82·3
13	21 58	644	558	22 40	86	15 33	38·1	13·6	22 28	24·5	01 28	364	310	22 10	54	3,2,1,2,2,2,2,4	18	1	79·0
14	20 10	636	571	00 04	65	14 24	39·1	15·1	20 05	24·0	17 42	397	315	01 42	82	2,2,1,2,2,2,3,3	17	1	81·8
15	05 43	608	576	01 04	32	18 58	34·9	19·2	21 58	15·7	20 44	382	332	01 28	50	2,2,2,1,0,1,2,3	13	0	81·8
16	20 44	615	588	01 25	27	12 06	35·3	24·5	20 00	10·8	19 58	367	348	13 11	19	0,1,1,1,1,1,2,2	9	0	82·1
17 *d*	17 01	*962*	-59	21 43	*1021*	17 05	48·1	-47·5	22 10	*95·6*	17 02	*558*	115	24 00	443	2,1,1,1,1,6,7,8	27	2	82·0
18 *d*	15 44	660	*-100*	02 14	760	02 38	37·8	*-53·3*	02 10	91·1	15 46	486	*-78*	02 46	*564*	7,6,2,2,4,5,6,5	37	2	81·7
19 *d*	19 20	662	448	00 28	214	08 28	44·1	-6·1	19 14	50·2	16 00	422	155	01 06	267	5,4,3,3,3,4,5,4	31	2	82·1
20 *d*	17 24	678	499	21 47	179	21 43	48·3	-5·5	17 19	53·8	17 16	436	237	21 41	199	3,3,2,3,3,5,4,5	28	2	81·7
21	18 57	682	524	20 48	158	20 38	41·2	-2·8	18 56	44·0	18 53	395	255	01 26	140	3,3,3,2,3,4,5,3	26	2	82·0
22	22 50	619	569	11 03	50	03 08	38·0	22·5	18 29	15·5	11 42	374	334	03 29	40	2,2,1,1,1,2,3,2	14	1	82·5
23 *q*	05 42	605	587	11 06	18	13 41	33·0	28·9	00 19	*4·1*	13 32	362	337	00 00	25	2,1,1,1,0,0,0,1	6	0	81·9
24	07 02	607	583	15 09	24	14 34	34·9	24·1	20 13	10·8	14 55	369	349	09 15	20	1,0,1,1,1,1,2,2	9	0	82·1
25 *q*	23 37	628	591	11 42	37	00 49	35·9	25·6	24 00	10·3	15 03	357	335	23 41	22	2,1,0,1,1,1,0,2	8	0	82·5
26	06 43	623	519	23 04	104	14 26	44·5	15·1	23 20	29·4	16 39	464	255	22 59	209	2,1,1,2,4,3,3,4	20	1	82·5
27	21 35	641	582	19 47	59	14 16	33·6	19·4	21 31	14·2	19 58	375	330	00 00	45	2,0,1,1,1,1,3,3	12	0	81·7
28	15 09	617	591	13 48	26	13 01	33·8	17·3	20 27	16·5	14 00	362	340	22 45	22	1,0,0,0,1,1,3,3	9	0	81·9
29	21 50	616	595	10 44	21	12 15	33·8	25·8	22 47	8·0	15 56	364	339	05 44	25	1,1,1,1,1,2,1,2	10	0	77·3
30	23 45	628	593	23 35	35	23 47	37·6	26·1	22 43	11·5	21 00	364	308	24 00	56	0,0,1,0,1,0,1,3	6	0	76·8
31	08 10	620	558	10 54	62	19 48	42·6	25·9	00 39	16·7	16 04	411	308	00 00	103	2,0,1,3,2,2,2,1	13	1	76·3
Mean	- -	641	520	- -	121	- -	38·7	13·6	- -	25·1	- -	401	294	- -	107	-	-	0·61	81·6

q denotes an international quiet day and *d* an international disturbed day.

MEAN MONTHLY AND ANNUAL VALUES OF GEOMAGNETIC ELEMENTS

For all, *a*, quiet, *q*, and disturbed, *d*, days for *H*, *D* and *Z* and for all days for *X*, *-Y*, *I* and *F*

5 LERWICK 1962

	Horizontal (*H*) component			Declination (*D*) (west)			Vertical (*Z*) component			North component (*X*) all days	West component (*-Y*) all days	Inclination (*I*) (north) all days	Total force (*F*) all days
	a	*q*	*d*	*a*	*q*	*d*	*a*	*q*	*d*				
	14,000γ +			9° +			47,000γ +						
	γ	γ	γ	′	′	′	γ	γ	γ	γ	γ	° ′	γ
January	581	583	577	35·7	35·6	35·5	332	328	340	14377	2430	72 52·7	49527
February	584	585	591	35·5	35·6	35·7	333	328	348	14380	2430	72 52·5	49529
March	588	590	584	35·0	35·1	35·0	330	328	339	14384	2429	72 52·2	49527
April	587	589	579	34·2	34·1	34·1	327	336	319	14384	2425	72 52·2	49524
May	596	598	605	34·2	34·4	34·3	331	329	336	14393	2427	72 51·7	49531
June	598	601	596	34·2	34·7	34·9	330	333	325	14395	2427	72 51·5	49530
July	598	597	591	33·3	33·7	33·2	329	331	322	14395	2423	72 51·5	49529
August	592	597	584	32·8	33·1	32·8	332	338	320	14390	2420	72 51·9	49530
September	587	594	581	31·9	32·4	31·8	335	343	328	14386	2416	72 52·3	49532
October	586	589	575	31·3	32·2	29·9	345	347	336	14385	2413	72 52·6	49541
November	594	600	586	31·2	31·4	30·0	352	351	351	14393	2414	72 52·2	49550
December	595	600	577	30·4	31·3	27·5	354	352	345	14394	2410	72 52·2	49552
Year	591	594	585	33·3	33·6	32·9	336	337	334	14388	2422	72 52·1	49534

DAILY RANGE AND MEAN MONTHLY VALUES

6 LERWICK 1962

	Mean daily range						Mean daily range expressed as percentage of yearly mean					
	1962			Mean 1932-53			1962			Mean 1932-53		
	H	*D*	*Z*	*H*	*D*	*Z*	*H*	*D*	*Z*	*H*	*D*	*Z*
	γ	γ	γ	γ	γ	γ	%	%	%	%	%	%
January	52	55	51	100	102	104	51	61	49	63	90	78
February	80	78	88	124	113	123	79	86	85	78	100	92
March	57	77	64	216	149	176	56	85	62	135	132	132
April	121	95	129	204	120	163	120	105	124	128	106	122
May	93	78	65	195	111	141	92	87	63	122	98	106
June	97	79	79	150	94	109	96	88	76	94	83	82
July	118	83	98	158	96	110	117	92	94	99	85	83
August	118	95	129	178	111	135	117	105	124	111	98	101
September	154	112	173	209	133	170	152	124	166	131	118	128
October	128	128	169	188	129	164	127	142	163	118	114	123
November	70	99	93	107	101	112	69	109	89	67	89	84
December	121	106	107	89	93	96	120	118	103	56	82	72
Winter	81	84	85	105	103	109	80	93	82	66	91	82
Equinox	115	103	134	204	134	168	114	114	129	128	119	126
Summer	107	84	93	170	103	123	106	92	89	106	91	92
Year	101	90	104	160	113	133	-	-	-	-	-	-

"Winter" comprises the four months January, February, November, December; "Equinox" the months March, April, September, October; and "Summer" May to August.

FREQUENCY DISTRIBUTION OF DAILY RANGE

7 LERWICK 1962

	Number of cases, 1962			Percentage distribution					
				H		*D*		*Z*	
Range	*H*	*D*	*Z*	1962	1932-53	1962	1932-53	1962	1932-53
γ				%	%	%	%	%	%
0 - 9	0	0	7	0·0	0·0	0·0	0·0	1·9	0·3
10 - 19	11	5	22	3·0	1·4	1·4	0·4	6·0	6·8
20 - 29	23	7	41	6·3	4·9	1·9	2·3	11·2	10·5
30 - 39	27	25	27	7·4	6·3	6·9	4·0	7·4	9·3
40 - 49	32	29	30	8·8	7·5	7·9	7·3	8·2	7·2
50 - 59	37	44	27	10·1	9·3	12·1	10·0	7·4	6·2
60 - 69	32	50	22	8·8	9·1	13·7	12·3	6·0	5·1
70 - 79	39	44	23	10·7	8·6	12·1	10·5	6·3	4·4
80 - 89	33	28	16	9·0	7·4	7·7	9·2	4·4	3·9
90 - 99	18	26	16	4·9	5·8	7·1	7·0	4·4	3·4
100 - 109	17	13	16	4·7	4·3	3·6	5·6	4·4	3·3
110 - 119	15	13	8	4·1	3·5	3·6	4·0	2·2	2·9
120 - 129	13	10	13	3·6	2·9	2·7	3·6	3·6	2·6
130 - 139	8	12	5	2·2	2·2	3·3	3·1	1·4	2·6
140 - 149	8	15	11	2·2	2·4	4·1	2·9	3·0	2·3
150 - 159	6	3	7	1·6	1·6	0·8	1·8	1·9	2·0
160 - 169	4	5	3	1·1	1·5	1·4	1·9	0·8	1·8
170 - 179	2	9	3	0·6	1·1	2·5	1·4	0·8	1·4
180 - 189	2	6	5	0·6	1·1	1·6	1·5	1·4	1·4
190 - 199	6	5	9	1·6	1·0	1·4	1·1	2·5	1·5
200 +	32	16	54	8·8	18·3	4·4	10·0	14·8	21·1
Days omitted	0	0	0	-	-	-	-	-	-

ALL DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

8 LERWICK 1962

HORIZONTAL COMPONENT

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	-2·0	-1·0	-0·7	-0·1	+1·5	+6·6	+7·5	+6·1	+3·9	-0·6	-5·0	-7·4	-7·1	-3·5	+0·5	+1·3	+4·4	+0·1	+1·3	+0·1	-1·2	-0·9	-3·3	-0·5
Feb.	-7·8	-4·1	-1·9	-1·1	+1·5	+5·6	+7·1	+6·1	+1·6	-6·5	-10·0	-13·1	-8·8	-6·3	-0·7	+6·5	+12·4	+9·6	+9·5	+5·3	+0·6	-1·9	-1·6	-2·0
Mar.	+5·3	+2·9	+3·0	+2·1	+5·3	+8·2	+8·6	+6·0	-0·5	-9·1	-16·5	-19·5	-18·4	-12·0	-6·8	+0·4	+3·6	+5·1	+6·5	+6·0	+4·8	+5·6	+4·1	+5·3
Apr.	-1·7	-1·7	-5·3	-4·5	+1·3	+5·8	+2·9	-2·5	-11·4	-22·9	-28·0	-28·6	-23·6	-11·1	-0·9	+15·9	+23·0	+27·0	+26·4	+20·5	+12·5	+3·7	+0·2	+3·0
May	+1·6	+1·8	+0·1	-1·0	+2·0	-0·3	-5·3	-11·8	-20·0	-28·1	-31·9	-29·6	-22·2	-10·2	+4·0	+17·7	+22·7	+30·4	+27·9	+20·4	+15·2	+9·7	+5·2	+1·7
June	-2·1	-2·3	-1·3	-1·2	-1·5	-3·7	-6·0	-12·6	-21·2	-28·8	-30·7	-27·8	-19·2	-9·9	-0·1	+11·6	+17·2	+24·9	+32·4	+29·4	+23·5	+16·4	+9·5	+3·5
July	-4·7	-9·4	-5·1	-2·4	-2·2	-4·2	-8·3	-13·5	-18·3	-25·1	-29·1	-28·5	-19·4	-8·4	+1·7	+14·5	+23·0	+30·3	+31·2	+27·0	+23·0	+16·6	+7·5	+3·8
Aug.	-9·1	-10·5	-10·1	-3·0	+0·5	-0·6	-6·1	-11·8	-19·9	-25·2	-27·0	-21·7	-14·4	-3·4	+6·2	+14·6	+23·4	+24·9	+26·3	+24·4	+19·7	+13·4	+7·4	+2·0
Sept.	-1·8	-3·5	-6·2	-11·4	-2·2	+3·4	-0·7	-9·7	-13·2	-17·3	-22·4	-20·0	-10·7	-1·3	+4·6	+11·5	+24·4	+21·9	+22·2	+16·8	+12·1	+6·0	-0·6	-1·9
Oct.	-8·4	-15·7	-3·9	+4·1	+5·4	+7·0	+9·0	+3·6	-3·9	-13·7	-19·2	-18·3	-11·3	-2·7	+5·2	+5·8	+9·5	+11·9	+12·6	+9·3	+2·7	+3·1	+2·4	+5·5
Nov.	-0·1	-0·6	-2·9	+1·8	+4·6	+5·8	+6·6	+3·7	+0·6	-4·8	-11·5	-13·4	-12·0	-6·2	-0·1	+2·6	+4·5	+5·0	+4·3	+5·7	+4·7	+5·3	-2·0	-1·6
Dec.	-9·1	-10·8	-11·7	-0·2	+3·1	+8·7	+9·9	+7·5	+5·4	+0·6	-3·7	-3·4	-1·2	+2·2	+1·6	+3·3	+6·0	+10·3	+6·7	+5·3	-4·9	-12·1	-3·6	-9·9
Year	-3·3	-4·6	-3·8	-1·4	+1·6	+3·5	+2·1	-2·4	-8·1	-15·1	-19·6	-19·3	-14·0	-6·1	+1·3	+8·8	+14·5	+16·8	+17·3	+14·2	+9·4	+5·4	+2·1	+0·7
Winter	-4·7	-4·1	-4·3	+0·1	+2·7	+6·7	+7·7	+5·9	+2·9	-2·8	-7·5	-9·3	-7·3	-3·5	+0·3	+3·4	+6·8	+6·3	+5·5	+4·1	-0·2	-2·4	-2·6	-3·5
Equinox	-1·7	-4·5	-3·1	-2·4	+2·5	+6·1	+4·9	-0·7	-7·3	-15·7	-21·5	-21·6	-16·0	-6·8	+0·5	+8·4	+15·1	+16·5	+16·9	+13·1	+8·0	+4·6	+1·5	+3·0
Summer	-3·6	-5·1	-4·1	-1·9	-0·3	-2·2	-6·4	-12·4	-19·9	-26·8	-29·7	-26·9	-18·8	-8·0	+2·9	+14·6	+21·6	+27·6	+29·5	+25·3	+20·3	+14·0	+7·4	+2·7

DECLINATION

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	-1·31	-0·61	-0·14	-0·13	-0·28	-0·55	-0·60	-0·65	-0·86	-0·52	+0·40	+1·73	+2·74	+3·05	+2·64	+1·66	+1·61	+1·16	+0·24	-0·66	-1·67	-2·50	-2·70	-2·05
Feb.	-2·13	-1·72	-0·75	-0·82	-0·89	-0·62	-0·99	-1·17	-1·35	-1·02	+0·32	+2·13	+3·43	+4·41	+4·35	+3·97	+3·29	+1·44	-0·06	-0·52	-2·72	-3·09	-2·66	-2·83
Mar.	-1·34	-1·51	-1·40	-2·27	-2·03	-1·97	-1·84	-2·09	-2·94	-2·30	-0·37	+2·41	+5·16	+6·40	+5·72	+4·33	+2·30	+0·70	-0·08	-0·99	-1·26	-1·28	-2·00	-1·35
Apr.	-1·86	-2·48	-2·17	-2·38	-2·91	-3·44	-2·82	-2·70	-3·00	-1·75	+0·41	+2·95	+5·26	+6·54	+6·28	+4·50	+3·62	+2·92	+1·35	-0·01	-1·84	-2·06	-1·84	-2·57
May	-1·72	-1·75	-2·22	-2·66	-3·99	-5·42	-5·92	-5·78	-4·62	-2·13	+0·83	+3·98	+6·37	+7·10	+6·47	+5·23	+3·95	+2·68	+1·87	+1·19	+0·67	-0·46	-1·89	-1·78
June	-1·05	-1·76	-3·18	-3·95	-4·51	-5·44	-6·14	-6·11	-5·12	-3·22	-0·37	+3·01	+6·30	+7·70	+7·15	+5·78	+4·48	+3·19	+2·44	+0·94	+0·70	+0·77	-0·59	-1·02
July	-1·97	-2·52	-3·64	-3·68	-3·40	-4·36	-4·67	-5·10	-4·69	-2·99	-0·96	+2·24	+5·06	+6·50	+6·52	+5·42	+4·47	+3·73	+2·55	+2·81	+1·22	-0·67	-0·44	-1·43
Aug.	-1·29	-1·12	-2·62	-3·06	-3·16	-4·19	-3·75	-3·83	-3·35	-1·76	+0·85	+4·20	+6·86	+7·22	+5·96	+4·25	+2·23	+1·10	+0·58	+0·44	-0·53	-1·76	-1·21	-2·06
Sept.	-1·60	-2·31	-3·55	-3·87	-2·24	-1·79	-1·44	-1·62	-1·16	+0·12	+1·63	+3·65	+5·50	+6·44	+5·47	+3·75	+2·14	+1·33	+0·41	-1·57	-2·27	-1·64	-3·11	-2·27
Oct.	-2·70	-1·56	-0·95	-1·40	-0·49	+0·70	+1·25	+0·49	-0·45	+0·30	+1·80	+4·05	+5·68	+6·12	+5·82	+3·60	+1·22	-1·48	-3·49	-2·66	-4·67	-3·78	-3·84	-3·56
Nov.	-1·29	-0·71	-0·55	-0·16	-0·26	+0·42	+0·75	+0·96	+0·53	+0·59	+1·34	+2·68	+3·57	+3·99	+3·61	+2·01	+0·67	+0·30	-1·01	-1·34	-3·82	-4·92	-4·78	-2·58
Dec.	-2·42	-1·90	-1·09	-0·50	+0·39	+0·52	+0·95	+1·04	+0·87	+1·20	+2·16	+2·87	+3·72	+3·53	+3·30	+1·93	+1·48	-0·62	-1·33	-2·60	-3·02	-3·32	-4·05	-3·11
Year	-1·72	-1·66	-1·85	-2·07	-1·98	-2·18	-2·10	-2·21	-2·18	-1·12	+0·67	+2·99	+4·97	+5·75	+5·27	+3·87	+2·62	+1·37	+0·29	-0·41	-1·60	-2·06	-2·43	-2·22
Winter	-1·79	-1·23	-0·[illegible]	-0·40	-0·26	-0·06	+0·03	+0·05	-0·20	+0·06	+1·05	+2·35	+3·37	+3·75	+3·47	+2·39	+1·76	+0·57	-0·54	-1·28	-2·81	-3·46	-3·55	-2·64
Equinox	-1·87	-1·97	-2·02	-2·48	-1·92	-1·63	-1·21	-1·48	-1·89	-0·91	+0·87	+3·27	+5·40	+6·37	+5·82	+4·05	+2·32	+0·87	-0·45	-1·31	-2·51	-2·19	-2·70	-2·44
Summer	-1·51	-1·79	-2·91	-3·34	-3·77	-4·85	-5·12	-5·21	-4·45	-2·53	+0·09	+3·36	+6·15	+7·13	+6·53	+5·17	+3·78	+2·67	+1·86	+1·35	+0·51	-0·53	-1·03	-1·57

VERTICAL COMPONENT

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	-8·7	-8·5	-7·1	-8·8	-9·5	-9·1	-7·7	-6·7	-5·7	-4·6	-2·9	-1·6	+0·9	+3·6	+7·7	+11·1	+14·8	+15·8	+13·2	+10·8	+6·4	+4·1	-0·3	-7·2
Feb.	-15·6	-14·9	-13·3	-9·3	-8·3	-9·2	-8·6	-7·7	-6·2	-5·6	-6·5	-5·2	-3·4	-1·7	+5·5	+15·2	+23·9	+23·9	+22·7	+22·3	+13·8	+2·1	-2·5	-11·4
Mar.	-7·4	-6·9	-10·3	-8·8	-8·3	-9·0	-7·1	-5·5	-3·8	-4·8	-5·4	-5·6	-4·5	-0·3	+4·6	+9·7	+15·0	+18·2	+18·3	+14·6	+10·2	+4·8	-2·0	-5·7
Apr.	-32·0	-27·1	-22·9	-17·7	-15·4	-11·5	-9·0	-7·2	-4·3	-1·8	+0·5	+1·0	+2·3	+6·4	+14·2	+22·0	+27·8	+31·3	+33·5	+26·7	+16·3	+1·9	-11·8	-23·2
May	-7·6	-8·7	-6·4	-4·9	-3·1	-1·3	-1·6	-3·1	-5·4	-9·4	-10·3	-10·8	-8·7	-2·8	+4·0	+12·3	+16·4	+18·3	+17·2	+16·0	+10·5	+4·8	-5·8	-9·6
June	-15·6	-18·5	-12·8	-8·4	-8·3	-10·0	-7·1	-3·4	-1·9	-2·2	-3·5	-6·2	-4·8	-1·3	+3·8	+10·3	+15·6	+16·9	+18·8	+20·6	+15·0	+9·2	+2·4	-8·6
July	-20·1	-24·8	-21·3	-16·6	-13·7	-8·9	-5·3	-2·6	-1·7	-1·3	-1·0	-3·0	-2·8	+0·9	+7·0	+14·4	+19·7	+22·3	+24·4	+20·8	+18·7	+9·1	-3·6	-10·6
Aug.	-27·6	-41·0	-38·7	-22·0	-14·6	-11·0	-6·8	-3·9	+0·9	+2·3	+1·7	-1·4	+0·7	+8·6	+16·7	+22·2	+30·3	+33·4	+29·8	+23·3	+17·4	+5·4	-6·8	-18·9
Sept.	-29·6	-25·9	-30·3	-34·7	-30·6	-20·6	-11·6	-5·8	-0·7	+4·1	+6·9	+9·4	+9·0	+14·1	+20·3	+30·1	+37·4	+42·7	+38·3	+23·0	+5·6	-3·5	-18·8	-28·8
Oct.	-30·9	-38·9	-42·1	-30·4	-22·9	-18·0	-12·9	-5·4	+1·7	+6·4	+10·4	+14·7	+21·2	+25·3	+31·7	+36·5	+34·9	+32·2	+29·3	+21·6	+5·7	-16·7	-26·6	-26·8
Nov.	-20·9	-16·5	-16·8	-14·3	-10·7	-9·7	-8·6	-5·9	-2·9	-0·6	+2·1	+4·5	+8·4	+13·7	+16·8	+19·7	+17·3	+13·9	+13·6	+12·8	+8·4	-3·0	-7·6	-13·7
Dec.	-23·2	-25·0	-23·5	-16·5	-11·3	-9·1	-6·6	-3·9	-2·3	-1·7	-0·2	+0·7	+1·7	+5·7	+14·2	+19·4	+25·3	+29·0	+24·3	+14·4	+7·5	+1·8	-8·3	-12·4
Year	-19·9	-21·4	-20·5	-16·0	-13·1	-10·6	-7·7	-5·1	-2·7	-1·6	-0·7	-0·3	+1·7	+6·0	+12·2	+18·6	+23·2	+24·8	+23·6	+18·9	+11·3	+1·7	-7·6	-14·7
Winter	-17·1	-16·2	-15·2	-12·2	-9·9	-9·3	-7·9	-6·1	-4·3	-3·1	-1·9	-0·4	+1·9	+5·3	+11·1	+16·3	+20·3	+20·7	+18·5	+15·1	+9·0	+1·3	-4·7	-11·2
Equinox	-25·0	-24·9	-26·4	-22·9	-19·3	-14·8	-10·1	-6·0	-1·8	+1·0	+3·1	+4·9	+7·0	+11·4	+17·7	+24·6	+28·8	+31·1	+29·9	+21·5	+9·5	-3·4	-14·8	-21·1
Summer	-17·7	-23·3	-19·8	-13·0	-9·9	-7·8	-5·2	-3·3	-2·0	-2·7	-3·4	-5·3	-3·9	+1·4	+7·9	+14·8	+20·5	+22·7	+22·5	+20·2	+15·4	+7·1	-3·4	-11·9

"Winter" comprises the four months, January, February, November, December; "Equinox" the months March, April, September, October; and "Summer" May to August.

INTERNATIONAL QUIET DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

9 LERWICK 1962

HORIZONTAL COMPONENT

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	−1·3	−1·6	−0·9	−0·2	+1·5	+3·0	+3·9	+3·8	+1·3	−1·6	−4·7	−7·6	−6·3	−1·8	+0·3	0·0	+0·7	+1·2	+2·5	+2·0	+2·1	+1·8	+1·1	+0·8
Feb.	−0·7	+0·1	−0·1	+1·5	+3·1	+4·2	+3·3	+3·5	+0·5	−6·5	−9·9	−12·7	−11·7	−6·5	−4·1	−0·3	+0·7	+3·6	+4·9	+6·3	+5·7	+5·5	+5·1	+4·5
Mar.	+4·9	+4·2	+5·1	+3·6	+5·2	+7·1	+7·0	+5·0	−1·9	−10·4	−15·9	−19·0	−17·3	−13·2	−8·5	−2·8	+1·0	+4·5	+7·0	+8·2	+7·3	+6·2	+6·7	+6·0
Apr.	−3·3	+0·7	−1·0	−1·5	+0·7	+1·1	−0·9	−4·9	−10·6	−19·7	−25·7	−26·7	−20·1	−13·7	−3·2	+7·5	+12·1	+21·3	+22·3	+20·9	+16·6	+9·5	+9·5	+9·1
May	+6·9	+6·4	+4·3	+3·8	+4·4	+4·3	0·0	−6·8	−14·9	−24·6	−30·5	−29·8	−24·7	−17·6	−6·3	+1·8	+11·0	+18·1	+20·6	+19·4	+16·9	+14·6	+11·9	+10·8
June	+3·8	+3·8	+3·2	+6·2	+8·0	+7·0	+1·4	−7·0	−19·0	−30·8	−37·8	−33·8	−25·2	−19·6	−5·2	+8·4	+17·8	+20·8	+20·4	+20·4	+17·6	+16·2	+12·8	+10·6
July	+7·2	+5·1	+2·0	+1·2	+8·0	+5·5	−1·8	−7·8	−16·4	−26·1	−31·6	−30·2	−23·2	−13·9	−2·4	+4·0	+10·0	+15·7	+19·2	+19·2	+16·4	+15·7	+13·2	+11·0
Aug.	+2·8	+3·6	+0·9	+2·0	+2·8	+1·4	−2·0	−7·4	−18·1	−26·6	−28·2	−21·0	−14·4	−2·2	+2·3	+7·4	+10·0	+11·6	+12·8	+12·8	+12·3	+11·8	+11·6	+13·8
Sept.	+7·3	+2·9	−0·5	+2·1	+4·1	+2·9	+1·5	−0·5	−4·9	−13·9	−18·7	−21·5	−18·9	−8·5	−4·9	−0·3	+5·7	+3·1	+9·7	+12·9	+12·5	+13·1	+9·1	+5·7
Oct.	−4·8	−5·5	+6·0	+6·5	+8·1	+4·4	+6·7	+3·9	−2·0	−15·7	−19·4	−18·7	−14·4	−6·7	−0·8	+0·5	+4·1	+7·8	+8·3	+7·5	+5·8	+6·1	+4·8	+7·5
Nov.	−2·5	−4·2	−2·3	0·0	+1·4	+3·5	+3·6	+0·8	−1·5	−6·2	−9·1	−10·8	−9·3	−3·6	+0·1	+2·4	+5·2	+6·5	+5·6	+5·6	+5·1	+5·0	+4·1	+0·6
Dec.	−3·4	−2·9	−2·7	−2·0	−0·3	+3·7	+4·0	+4·1	+2·9	−2·2	−3·9	−3·9	−3·2	−1·1	−0·3	+0·6	+2·3	+3·3	+3·0	+0·9	−0·9	−0·2	−0·3	+2·5
Year	+1·4	+1·1	+1·2	+1·9	+3·9	+4·0	+2·2	−1·1	−7·1	−15·4	−19·6	−19·6	−15·7	−9·0	−2·7	+2·4	+6·7	+9·8	+11·4	+11·3	+9·8	+8·8	+7·5	+6·9
Winter	−2·0	−2·1	−1·5	−0·2	+1·4	+3·6	+3·7	+3·1	+0·8	−4·1	−6·9	−8·7	−7·6	−3·3	−1·0	+0·7	+2·2	+3·7	+4·0	+3·7	+3·0	+3·0	+2·5	+2·1
Equinox	+1·0	+0·6	+2·4	+2·7	+4·5	+3·9	+3·6	+0·9	−4·9	−14·9	−19·9	−21·5	−17·7	−10·5	−4·3	+1·2	+5·7	+9·2	+11·8	+12·4	+10·5	+8·7	+7·5	+7·1
Summer	+5·2	+4·7	+2·6	+3·3	+5·8	+4·5	−0·6	−7·3	−17·1	−27·0	−32·0	−28·7	−21·9	−13·3	−2·9	+5·4	+12·2	+16·5	+18·3	+17·9	+15·8	+14·6	+12·4	+11·5

DECLINATION

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	−0·56	−0·21	+0·06	+0·16	+0·08	−0·23	−0·72	−0·86	−1·12	−0·87	−0·08	+0·82	+1·94	+2·39	+1·60	+0·90	+0·52	+0·33	+0·10	−0·16	−0·76	−1·13	−1·30	−0·90
Feb.	−0·44	−0·44	−0·52	−0·34	−0·56	−0·76	−1·08	−1·34	−1·96	−1·88	−0·26	+1·06	+1·88	+3·06	+2·46	+1·66	+1·20	+0·84	+0·54	+0·16	−0·40	−0·64	−1·22	−1·02
Mar.	−0·74	−0·64	−1·07	−1·28	−1·02	−1·40	−1·88	−2·66	−3·45	−3·34	−1·68	+1·04	+3·46	+4·30	+3·79	+2·62	+1·64	+1·26	+0·84	+0·66	+0·51	−0·12	−0·40	−0·44
Apr.	+0·29	−1·08	−2·23	−2·70	−3·64	−4·59	−4·02	−3·88	−3·19	−2·52	−0·47	+1·68	+4·23	+5·54	+5·45	+4·34	+3·32	+1·97	+2·00	+1·00	+0·01	−0·20	−0·43	−0·88
May	−0·12	−0·55	−0·91	−1·82	−3·69	−5·39	−6·28	−6·29	−5·73	−3·46	−0·59	+2·73	+4·80	+5·71	+5·55	+4·62	+3·47	+2·41	+1·36	+1·13	+1·23	+0·94	+0·53	+0·35
June	+0·15	−1·04	−2·35	−3·94	−4·95	−6·34	−6·53	−6·28	−4·97	−3·66	−0·55	+3·40	+6·43	+7·48	+6·87	+5·02	+3·37	+1·56	+0·77	+1·22	+1·15	+1·36	+0·99	+0·84
July	−1·69	−1·83	−1·61	−1·53	−3·21	−4·99	−5·91	−5·95	−5·77	−3·99	−1·27	+2·41	+5·95	+6·87	+6·39	+4·99	+3·13	+1·59	+1·29	+1·23	+1·19	+1·35	+0·85	+0·51
Aug.	−0·02	−0·46	−1·21	−1·58	−3·36	−4·96	−5·44	−5·16	−3·65	−1·68	+0·94	+4·58	+6·78	+6·84	+4·77	+2·44	+0·66	−0·64	−0·46	+0·48	+1·15	+0·76	+0·44	−1·22
Sept.	−0·64	−1·34	−1·28	−1·56	−2·40	−2·28	−2·42	−3·02	−2·96	−2·10	−0·34	+1·86	+3·86	+4·96	+4·38	+3·24	+1·76	+2·10	+1·54	+1·32	+0·22	−0·40	−1·52	−2·98
Oct.	−2·80	−2·07	−1·88	−2·55	−1·69	−0·72	−0·05	+0·01	−0·20	−0·15	+1·46	+3·21	+4·70	+5·55	+4·72	+3·21	+1·03	−0·56	−1·93	−1·11	−1·18	−2·07	−1·92	−3·01
Nov.	−1·41	−0·35	−0·32	−0·49	−0·23	−0·43	−0·75	−0·85	−1·24	−1·01	+0·23	+1·55	+2·31	+2·51	+1·86	+1·35	+1·05	+0·93	+0·55	+0·03	−0·28	−0·77	−1·99	−2·25
Dec.	−0·40	−0·74	−0·42	−0·52	−0·66	−0·54	−0·16	−0·44	−0·56	−0·42	+0·46	+1·64	+1·98	+2·36	+1·34	+0·58	+0·72	+0·46	+0·46	−0·06	−1·22	−1·08	−1·44	−1·34
Year	−0·70	−0·90	−1·15	−1·51	−2·11	−2·72	−2·94	−3·06	−2·90	−2·09	−0·18	+2·17	+4·03	+4·80	+4·10	+2·91	+1·82	+1·02	+0·59	+0·49	+0·13	−0·17	−0·62	−1·03
Winter	−0·70	−0·43	−0·30	−0·30	−0·34	−0·49	−0·68	−0·87	−1·22	−1·05	+0·09	+1·27	+2·03	+2·58	+1·81	+1·12	+0·87	+0·64	+0·41	−0·01	−0·67	−0·91	−1·49	−1·38
Equinox	−0·97	−1·28	−1·61	−2·02	−2·19	−2·25	−2·09	−2·39	−2·45	−2·03	−0·26	+1·95	+4·06	+5·09	+4·59	+3·35	+1·94	+1·19	+0·61	+0·47	−0·11	−0·70	−1·07	−1·83
Summer	−0·42	−0·97	−1·52	−2·22	−3·80	−5·42	−6·04	−5·92	−5·03	−3·20	−0·37	+3·28	+5·99	+6·73	+5·89	+4·27	+2·66	+1·23	+0·74	+1·01	+1·18	+1·10	+0·70	+0·12

VERTICAL COMPONENT

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	0·0	+0·9	+1·2	+1·5	+0·8	−0·1	−1·0	−1·5	−1·2	−2·1	−2·2	−1·9	−1·2	−0·1	+1·2	+2·3	+2·4	+1·9	+1·0	+0·7	−0·2	−0·7	−0·6	−1·1
Feb.	−1·4	−2·6	−1·0	−0·4	0·0	+0·1	0·0	−0·4	−0·4	−1·6	−1·8	0·0	0·0	−0·4	+0·2	+1·8	+1·6	+2·1	+2·0	+1·6	+1·4	+0·6	0·0	−1·4
Mar.	+0·4	+0·7	−0·4	+0·5	+0·6	−0·1	+0·6	+0·9	+1·2	−1·9	−4·2	−6·3	−7·0	−5·7	−2·4	+0·7	+2·2	+2·7	+3·2	+3·3	+3·8	+3·7	+2·0	+1·5
Apr.	−22·4	−12·3	−3·2	−1·5	−0·2	+0·1	−1·0	−1·3	−2·2	−1·9	−2·6	−3·9	−7·2	−2·7	+1·0	+3·5	+6·8	+9·9	+10·8	+10·9	+8·4	+7·3	+3·4	+0·3
May	−0·6	+2·3	+4·6	+5·1	+4·9	+3·8	+4·1	+2·7	−0·8	−6·7	−8·8	−10·5	−11·6	−10·1	−5·8	−0·3	+4·3	+5·8	+6·9	+4·3	+3·4	+2·1	+1·2	−0·3
June	+2·0	+1·9	+4·0	+6·1	+4·5	+2·2	+2·9	+3·3	+0·6	−4·5	−8·6	−13·9	−14·4	−14·1	−10·6	−3·5	+3·9	+10·0	+11·7	+8·3	+4·6	+2·7	+1·4	−0·5
July	−4·5	−3·0	−3·3	−8·5	−7·1	−4·8	−1·5	+0·9	−0·3	−3·4	−6·3	−9·5	−8·9	−4·6	+2·1	+7·7	+11·1	+10·6	+8·3	+7·7	+6·9	+4·2	+3·1	+3·1
Aug.	−5·6	−1·7	+0·4	+0·8	+2·6	+3·1	+2·8	+2·0	+1·4	−2·5	−6·2	−10·2	−9·6	−5·1	+1·4	+4·4	+7·4	+9·9	+7·2	+2·8	+1·4	+1·1	+0·2	−8·0
Sept.	−11·6	−7·0	−6·3	−7·4	−3·6	−0·6	0·0	+0·6	−0·3	−0·2	−2·6	−2·8	−2·8	−1·0	+2·7	+7·0	+12·2	+14·6	+9·0	+7·6	+7·1	+5·6	−3·2	−17·0
Oct.	−23·6	−30·1	−25·6	−17·8	−17·8	−10·7	−5·8	−2·8	−0·8	+3·9	+5·4	+6·4	+7·0	+7·3	+12·0	+17·8	+18·8	+17·9	+18·2	+15·4	+12·0	+8·3	−5·8	−9·6
Nov.	−5·6	−3·1	−3·0	−1·8	0·0	−1·1	−1·2	−1·0	−0·2	+1·1	+0·8	+1·0	+1·0	+1·5	+2·4	+2·6	+2·4	+1·7	+0·8	+0·8	+1·0	+0·1	−1·0	+0·8
Dec.	−0·7	−2·4	−1·1	−1·2	−2·2	−3·5	−3·2	−2·6	−2·1	−1·6	−1·1	−0·2	−1·3	+0·2	+0·7	+2·4	+0·8	+0·9	+1·2	+3·0	+4·5	+4·4	+4·1	+1·0
Year	−6·1	−4·7	−2·8	−2·1	−1·5	−1·0	−0·3	+0·1	−0·4	−1·8	−3·2	−4·3	−4·7	−2·9	+0·4	+3·9	+6·2	+7·3	+6·7	+5·5	+4·5	+3·3	+0·4	−2·6
Winter	−1·9	−1·8	−1·0	−0·5	−0·3	−1·1	−1·3	−1·4	−1·0	−1·1	−1·1	−0·3	−0·4	+0·3	+1·1	+2·3	+1·8	+1·7	+1·3	+1·5	+1·7	+1·1	+0·6	−0·2
Equinox	−14·3	−12·2	−8·9	−6·5	−5·3	−2·8	−1·5	−0·7	−0·5	0·0	−1·0	−1·7	−2·5	−0·5	+3·3	+7·3	+10·0	+11·3	+10·3	+9·3	+7·8	+6·2	−0·9	−6·2
Summer	−2·2	−0·1	+1·4	+0·9	+1·2	+1·1	+2·1	+2·2	+0·2	−4·3	−7·5	−11·0	−11·1	−8·5	−3·2	+2·1	+6·7	+9·1	+8·5	+5·8	+4·1	+2·5	+1·5	−1·4

"Winter" comprises the four months, January, February, November, December; "Equinox" the months March, April, September, October; and "Summer" May to August.

INTERNATIONAL DISTURBED DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

10 LERWICK 1962

HORIZONTAL COMPONENT

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	-8·2	+1·2	+0·6	-1·2	-5·4	+9·1	+10·6	+8·8	+10·2	+4·2	-7·0	-13·4	-13·2	-5·0	+6·8	+14·0	+33·8	+2·3	+5·2	-2·2	-12·2	-9·8	-17·2	-12·0
Feb.	-34·1	-15·6	-3·0	-3·7	-1·6	+1·8	+3·3	+2·6	-2·2	-13·1	-13·4	-16·4	-3·9	-8·6	+5·0	+31·9	+66·4	+38·0	+37·7	+11·4	-15·6	-22·1	-19·0	-25·8
Mar.	+5·7	+6·1	+6·5	+5·7	+5·4	+11·5	+12·7	+8·5	+2·1	-10·7	-17·7	-19·3	-23·9	-5·1	-6·3	+5·9	+6·6	+7·7	+6·1	-2·5	-7·5	-0·3	-1·5	+4·3
Apr.	-25·4	-9·7	-4·0	-10·5	-4·4	+6·1	+1·8	-3·9	-17·4	-29·9	-35·2	-31·5	-30·2	-0·5	+18·6	+55·1	+59·0	+58·9	+48·8	+23·7	+9·0	-26·9	-38·4	-13·1
May	-6·1	-3·4	-7·0	-14·3	-4·6	-2·6	-8·3	-15·0	-21·4	-28·9	-35·6	-36·0	-20·7	+3·4	+32·6	+61·9	+55·6	+62·8	+38·9	+12·2	-0·2	-11·1	-21·0	-31·2
June	-5·2	+3·8	+2·2	-4·2	-9·6	-8·3	-10·4	-18·8	-27·8	-39·0	-33·8	-24·0	-11·8	-9·4	-1·2	+10·6	+17·8	+30·3	+43·6	+40·8	+30·2	+20·8	+8·6	-5·2
July	-25·4	-12·5	-11·9	-12·0	-19·7	-23·5	-18·8	-21·1	-19·1	-22·0	-28·3	-25·5	-11·6	-0·5	+7·1	+37·4	+37·1	+36·1	+39·4	+28·1	+30·1	+26·4	+7·1	+3·1
Aug.	-25·7	-36·8	-33·8	-14·9	+3·4	+4·0	+3·5	-14·0	-30·4	-35·9	-32·2	-20·8	-14·5	+7·8	+15·8	+24·5	+31·2	+33·4	+35·7	+39·6	+33·2	+18·5	+11·2	-2·8
Sept.	+12·6	+12·5	-5·8	-27·9	-10·7	-1·6	-4·9	-33·9	-24·0	-28·3	-36·8	-31·1	-7·4	+9·1	+25·8	+27·9	+56·9	+42·4	+50·9	+22·7	+12·2	+11·3	-28·2	-43·7
Oct.	-46·3	-80·2	-13·4	+17·9	+16·2	+15·8	+16·7	+6·0	-12·8	-15·3	-10·0	-4·0	+6·7	+7·8	+23·4	+17·3	+20·8	+25·0	+25·1	+14·6	-14·0	-10·3	-13·2	+6·2
Nov.	+11·4	-0·8	-10·3	+5·2	+6·6	+2·4	+5·4	-0·8	-0·9	-4·6	-12·6	-9·8	-16·4	-5·6	+3·1	+5·8	+8·0	+3·8	+8·4	+3·8	+2·3	+17·4	-10·8	-11·0
Dec.	-33·5	-44·2	-57·2	-0·1	+8·8	+22·0	+22·3	+14·8	+11·8	+9·7	+5·8	+8·8	+8·9	+17·4	+13·8	+19·1	+21·4	+48·4	+33·9	+34·0	-24·0	-79·7	-14·6	-47·6
Year	-15·0	-15·0	-11·4	-5·0	-1·3	+3·1	+2·8	-5·6	-11·0	-17·8	-21·4	-18·6	-11·5	+0·9	+12·0	+25·9	+34·5	+32·4	+31·1	+18·9	+3·6	-5·5	-11·4	-14·9
Winter	-16·1	-14·9	-17·5	+0·1	+2·1	+8·8	+10·4	+6·3	+4·7	-0·9	-6·8	-7·7	-6·1	-0·5	+7·2	+17·7	+32·4	+23·1	+21·3	+11·7	-12·4	-23·5	-15·4	-24·1
Equinox	-13·3	-17·8	-4·2	-3·7	+1·6	+7·9	+6·6	-5·8	-13·0	-21·1	-24·9	-21·5	-13·7	+2·8	+15·4	+26·5	+35·8	+33·5	+32·7	+14·6	-0·1	-6·5	-20·3	-11·6
Summer	-15·6	-12·2	-12·6	-11·3	-7·6	-7·6	-8·5	-17·2	-24·7	-31·5	-32·5	-26·6	-14·7	+0·3	+13·6	+33·6	+35·4	+40·7	+39·4	+30·2	+23·3	+13·7	+1·5	-9·0

DECLINATION

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	-1·74	-0·59	-0·20	-0·37	-0·45	-0·20	+0·01	+1·19	+0·82	+0·75	+1·02	+3·09	+4·46	+4·73	+4·52	+1·81	+2·99	+1·04	-1·93	-2·65	-3·62	-5·15	-5·70	-3·83
Feb.	-6·13	-4·54	-1·04	-1·23	-1·36	-1·20	-1·25	-1·32	-1·50	-1·21	-0·40	+2·98	+5·41	+7·22	+7·58	+8·69	+9·74	+3·32	-0·95	-2·16	-7·32	-5·17	-4·68	-3·48
Mar.	-2·18	-0·44	-1·41	-2·34	-1·50	-1·48	-1·60	-1·28	-2·57	-1·80	+0·98	+3·98	+6·78	+8·90	+8·11	+7·26	+3·64	-0·70	-3·10	-7·60	-5·05	-2·26	-2·44	-1·90
Apr.	-5·64	-8·01	-3·36	-1·27	-0·82	-2·13	-0·30	+0·95	-0·76	-0·89	+1·40	+4·49	+6·34	+7·71	+9·40	+5·21	+4·38	+6·43	-0·34	-2·63	-4·12	-6·45	-4·38	-5·21
May	-3·62	-4·70	-2·87	-1·36	-3·18	-4·96	-5·28	-6·04	-5·09	-2·84	+0·78	+4·44	+7·62	+9·14	+9·41	+7·52	+6·26	+3·70	+2·20	+0·40	+0·39	-1·98	-5·22	-4·72
June	-0·99	-3·28	-3·95	-3·27	-1·97	-3·82	-6·71	-6·67	-6·17	-3·04	+0·27	+4·03	+7·25	+9·12	+7·85	+5·91	+5·17	+4·36	+2·69	-0·87	-0·91	-0·60	-2·39	-2·01
July	-1·23	-0·42	-2·94	-3·09	-2·66	-4·36	-3·41	-5·20	-4·48	-2·53	-1·02	+3·24	+5·23	+6·18	+6·98	+4·69	+4·44	+4·60	+1·89	+3·52	+1·54	-4·39	-2·30	-4·28
Aug.	-5·95	+1·60	-2·10	-4·11	-1·82	-5·10	-3·89	-3·34	-1·98	-1·85	+1·74	+5·28	+7·79	+8·40	+7·10	+4·53	+2·08	+1·96	+1·37	-1·54	-3·56	-3·05	-2·14	-1·42
Sept.	-2·83	-1·59	+0·30	-0·69	+1·23	-0·83	-1·83	-3·91	-0·42	+0·33	+0·89	+5·37	+7·27	+7·53	+6·58	+4·11	+3·39	+1·89	-1·03	-5·01	-6·32	-4·15	-7·05	-3·23
Oct.	-4·25	-3·24	-6·79	-2·32	-0·94	+1·67	+2·38	+2·90	+2·89	+3·82	+3·95	+6·40	+6·23	+7·52	+7·47	+4·78	+0·74	-0·73	-6·64	-3·50	-8·27	-7·18	-2·69	-4·20
Nov.	-4·27	-2·27	-2·69	-0·67	-0·61	+3·00	+5·39	+3·75	+4·01	+2·43	+3·01	+4·53	+4·99	+7·59	+7·03	+1·99	+0·73	-0·94	-7·43	-4·45	-4·49	-9·55	-8·35	-2·73
Dec.	-6·23	-5·35	-3·51	-0·59	+4·45	+3·53	+4·65	+6·11	+6·01	+5·65	+5·95	+5·41	+6·57	+7·01	+4·95	+1·73	+2·27	-6·81	-6·43	-8·77	-5·23	-5·99	-8·35	-7·03
Year	-3·75	-2·74	-2·55	-1·78	-0·80	-1·32	-0·99	-1·07	-0·77	-0·10	+1·55	+4·44	+6·33	+7·59	+7·25	+4·85	+3·82	+1·51	-1·64	-2·94	-3·91	-4·66	-4·64	-3·67
Winter	-4·59	-3·19	-1·86	-0·71	+0·51	+1·28	+2·20	+2·43	+2·33	+1·91	+2·39	+4·00	+5·36	+6·64	+6·02	+3·55	+3·93	-0·85	-4·19	-4·51	-5·17	-6·47	-6·77	-4·27
Equinox	-3·73	-3·32	-2·81	-1·65	-0·51	-0·69	-0·34	-0·33	-0·21	+0·37	+1·81	+5·06	+6·65	+7·91	+7·89	+5·34	+3·04	+1·72	-2·78	-4·69	-5·94	-5·01	-4·14	-3·63
Summer	-2·95	-1·70	-2·97	-2·96	-2·41	-4·56	-4·82	-5·31	-4·43	+2·57	+0·44	+4·25	+6·97	+8·21	+7·83	+5·66	+4·49	+3·65	+2·04	+0·38	-0·63	-2·51	-3·01	-3·11

VERTICAL COMPONENT

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	-28·6	-31·4	-26·8	-35·4	-32·9	-30·6	-23·8	-21·6	-19·4	-15·8	-8·4	-2·8	+8·8	+18·0	+34·0	+47·8	+63·1	+64·0	+48·2	+26·8	+5·2	+1·8	-13·2	-27·0
Feb.	-39·6	-45·3	-40·8	-26·2	-21·8	-24·5	-25·8	-24·0	-22·4	-21·5	-24·0	-19·6	-12·8	-7·3	+16·2	+47·2	+85·6	+88·3	+76·8	+73·8	+33·4	+1·3	-22·4	-44·6
Mar.	-22·9	-21·8	-21·7	-16·6	-20·0	-26·7	-22·8	-20·4	-17·5	-15·4	-13·5	-12·6	-3·1	+10·4	+23·1	+31·6	+44·0	+46·3	+51·0	+39·4	+20·5	+6·8	-18·5	-19·6
Apr.	-89·4	-73·1	-64·4	-38·9	-38·5	-29·8	-25·3	-20·5	-10·0	+0·1	+8·0	+13·9	+26·4	+34·3	+49·4	+75·5	+81·3	+76·0	+90·1	+69·3	+26·4	-17·5	-66·6	-76·7
May	-25·3	-26·6	-23·5	-27·6	-21·8	-15·1	-15·6	-16·0	-16·9	-17·8	-17·3	-11·6	-2·1	+20·2	+36·5	+55·4	+49·2	+45·9	+32·8	+39·0	+19·1	+8·0	-28·5	-40·4
June	-34·4	-26·8	-20·6	-19·8	-31·0	-39·8	-27·2	-13·4	-5·0	+1·8	+3·4	+2·0	+7·2	+12·6	+13·8	+18·0	+21·4	+23·8	+35·4	+41·2	+30·2	+19·0	+5·8	-17·6
July	-41·9	-45·0	-33·9	-27·0	-30·6	-23·9	-21·8	-12·4	-9·9	-0·4	+7·3	+7·0	+10·1	+22·8	+32·1	+50·4	+54·4	+43·9	+32·0	+23·8	+18·9	-6·8	-22·5	-26·6
Aug.	-31·6	-88·5	-112·4	-69·6	-59·4	-36·9	-19·2	-6·8	+7·6	+17·1	+16·2	+11·0	+16·4	+27·7	+43·2	+57·0	+66·6	+60·5	+54·6	+45·8	+34·4	+13·5	-17·0	-30·2
Sept.	-27·0	-8·8	-15·8	-45·0	-57·8	-41·3	-27·0	-10·2	-5·4	+9·0	+19·6	+25·4	+16·2	+32·8	+43·0	+60·6	+64·4	+77·1	+80·8	+23·8	-10·8	-10·6	-74·0	-119·0
Oct.	-73·9	-115·2	-86·3	-28·8	-13·2	-10·9	-9·6	-2·0	+5·5	+8·8	+18·9	+32·2	+54·7	+53·4	+58·9	+65·8	+71·0	+64·7	+53·6	+34·0	-5·9	-60·4	-67·3	-48·0
Nov.	-36·1	-19·3	-38·7	-32·3	-26·7	-23·8	-25·1	-11·7	-3·9	+2·7	+9·3	+13·1	+22·7	+37·5	+41·9	+41·7	+29·9	+29·0	+29·1	+25·1	+14·1	-26·3	-27·5	-24·7
Dec.	-94·7	-94·6	-97·5	-61·7	-39·7	-20·8	-8·1	+0·7	+6·1	+9·6	+15·3	+19·5	+21·1	+25·0	+47·7	+58·9	+75·9	+100·0	+88·7	+42·3	+8·3	-8·6	-43·1	-50·3
Year	-45·5	-49·7	-48·5	-35·7	-32·8	-27·0	-20·9	-13·2	-7·6	-1·8	+2·9	+6·5	+13·8	+23·9	+36·7	+50·8	+58·9	+60·0	+56·1	+40·4	+16·1	-6·7	-32·9	-43·7
Winter	-49·7	-47·7	-50·9	-38·9	-30·3	-24·9	-20·7	-14·1	-9·9	-6·3	-1·9	+2·5	+9·9	+18·3	+34·9	+48·9	+63·6	+70·3	+60·7	+42·0	+15·3	-7·9	-26·5	-36·7
Equinox	-53·3	-54·7	-47·1	-32·3	-32·4	-27·2	-21·2	-13·3	-6·9	+0·6	+8·3	+14·7	+23·5	+32·7	+43·6	+58·4	+65·2	+66·0	+68·9	+41·6	+7·5	-20·4	-56·6	-65·8
Summer	-33·3	-46·7	-47·6	-36·0	-35·7	-28·9	-20·9	-12·1	-6·1	+0·2	+2·4	+2·1	+7·9	+20·8	+31·4	+45·2	+47·7	+43·5	+38·7	+37·5	+25·7	+8·4	-15·5	-28·7

"Winter" comprises the four months January, February, November, December; "Equinox" the months March, April, September, October; and "Summer" May to August.

RANGE OF MEAN DIURNAL INEQUALITIES FOR THE MONTHS SEASONS AND YEAR OF 1962

The ranges are derived from the diurnal inequalities printed in Tables 8-10

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	All days			Quiet days			Disturbed days		
	H	*D*	*Z*	*H*	*D*	*Z*	*H*	*D*	*Z*
	γ	′	γ	γ	′	γ	γ	′	γ
Jan.	14·9	5·75	25·3	11·5	3·69	4·6	51·0	10·43	99·4
Feb.	25·5	7·50	39·5	19·0	5·02	4·7	100·5	17·06	133·6
Mar.	28·1	9·34	28·6	27·2	7·75	10·8	36·6	16·50	77·7
Apr.	55·6	9·98	65·5	49·0	10·13	33·3	97·4	17·41	179·5
May	62·3	13·02	29·1	51·1	12·00	18·5	98·8	15·45	95·8
June	63·1	13·84	39·1	58·6	14·01	26·1	82·6	15·83	81·0
July	60·3	11·62	49·2	50·8	12·82	20·6	67·7	12·18	99·4
Aug.	53·3	11·41	74·4	42·0	12·28	20·1	76·4	14·35	179·0
Sept.	46·8	10·31	77·4	34·6	7·98	31·6	100·6	14·58	199·8
Oct.	31·8	10·79	78·6	27·7	8·56	46·9	105·3	15·79	186·2
Nov.	20·0	8·91	40·6	17·3	4·76	8·2	33·8	17·14	80·6
Dec.	22·4	7·77	54·0	8·0	3·80	8·0	128·1	15·78	197·5
Year	36·9	8·18	46·2	31·0	7·86	13·4	55·9	12·25	109·7
Winter	17·0	7·30	37·8	12·7	4·07	4·2	56·5	13·41	121·2
Equinox	38·5	9·07	57·5	33·9	7·54	25·6	60·7	13·85	134·7
Summer	59·2	12·34	46·0	50·3	12·77	20·2	73·2	13·52	95·5

AVERAGE DEPARTURE

Arithmetical average of diurnal inequalities in Tables 8-10 taken regardless of sign

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	All days			Quiet days			Disturbed days		
	H	*D*	*Z*	*H*	*D*	*Z*	*H*	*D*	*Z*
	γ	′	γ	γ	′	γ	γ	′	γ
Jan.	2·8	1·27	7·4	2·2	0·74	1·2	8·9	2·20	26·5
Feb.	5·5	1·95	10·8	4·4	1·07	0·9	16·5	3·75	35·2
Mar.	6·9	2·25	7·9	7·4	1·68	2·3	7·9	3·30	22·8
Apr.	11·9	2·82	15·3	10·9	2·49	5·2	23·4	3·86	45·9
May	13·4	3·36	8·3	12·9	2·90	4·6	22·3	4·32	25·5
June	14·0	3·54	9·4	14·9	3·38	5·8	17·4	3·89	19·6
July	14·9	3·38	11·4	12·8	3·15	5·5	21·0	3·53	25·2
Aug.	13·6	2·81	16·1	10·0	2·49	4·1	21·8	3·49	39·3
Sept.	10·2	2·54	20·1	7·7	2·10	5·5	23·7	3·24	37·7
Oct.	8·1	2·59	22·6	7·3	1·99	12·5	18·3	4·23	43·5
Nov.	4·6	1·79	10·9	4·1	1·03	1·5	7·0	4·04	24·7
Dec.	5·9	2·00	12·0	2·3	0·83	1·9	25·1	5·36	43·3
Year	8·1	2·32	11·8	7·5	1·84	3·2	13·8	3·11	30·5
Winter	4·4	1·57	10·0	3·1	0·90	1·1	12·2	3·55	30·5
Equinox	8·4	2·41	15·9	7·8	1·94	5·5	14·8	3·32	35·9
Summer	13·8	3·22	11·0	12·6	2·91	4·1	19·3	3·66	26·0

NON-CYCLIC CHANGE

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	All days			Quiet days			Disturbed days		
	H	*D*	*Z*	*H*	*D*	*Z*	*H*	*D*	*Z*
	γ	′	γ	γ	′	γ	γ	′	γ
Jan.	+0·1	+0·10	−0·2	+2·2	+0·34	−1·4	−8·9	−0·71	+6·3
Feb.	+0·1	−0·02	+0·3	+4·5	0·00	−0·3	−4·0	+2·82	−12·3
Mar.	+0·6	+0·01	−0·4	+1·7	−0·05	+0·9	−0·4	+1·90	+0·3
Apr.	−0·5	−0·09	+0·3	+11·6	+0·80	+13·6	−6·1	−0·93	−17·9
May	−1·1	−0·10	−1·2	+3·1	+0·17	+0·6	−27·8	−1·79	−14·1
June	−1·3	+0·09	+1·1	+7·3	+0·40	−2·9	−7·5	−1·54	−0·6
July	+0·1	+0·05	+0·3	+4·0	+1·86	+7·9	−7·8	−2·57	−6·3
Aug.	−0·4	−0·06	−0·5	+8·5	−1·56	0·0	+11·1	+4·33	−2·2
Sept.	+0·1	−0·13	+0·1	−0·6	−2·83	−8·3	−41·3	+1·07	−59·0
Oct.	−0·1	+0·04	+0·4	+5·3	+1·37	+15·6	+1·4	+2·66	+5·2
Nov.	−0·1	−0·06	−0·1	+2·5	0·00	+5·5	−12·9	+0·27	−8·1
Dec.	+0·4	+0·06	+0·7	+3·8	−0·59	+1·7	−7·6	−1·94	−9·2
Year	−0·2	−0·01	+0·1	+4·5	−0·01	+2·7	−9·3	+0·30	−9·7
Winter	+0·1	+0·02	+0·2	+3·3	−0·06	+1·4	−8·3	+0·11	−5·8
Equinox	0·0	−0·04	+0·1	+4·5	−0·18	+5·5	−11·6	+1·17	−17·9
Summer	−0·7	−0·01	−0·1	+5·7	+0·22	+1·4	−8·0	−0·39	−5·8

AVERAGE RANGE OF DIURNAL INEQUALITY 1932-53 WITH 1962 AS PERCENTAGE OF THIS

14 LERWICK 1962

		All days			International quiet days			International disturbed days		
		H	*D*	*Z*	*H*	*D*	*Z*	*H*	*D*	*Z*
		γ	′	γ	γ	′	γ	γ	′	γ
Year	1932-53	49·4	9·36	53·3	37·4	8·68	10·3	131·6	14·22	131·1
	1962(%)	75	87	87	83	91	130	42	86	84
Winter	1932-53	24·4	7·87	41·1	15·1	4·65	7·7	85·0	13·84	116·6
	1962(%)	70	93	92	84	88	55	66	97	104
Equinox	1932-53	59·2	10·94	68·8	42·3	9·54	12·9	193·4	18·89	168·9
	1962(%)	65	83	84	80	79	198	31	73	80
Summer	1932-53	72·6	12·72	53·0	57·5	12·77	17·0	156·9	15·61	134·0
	1962(%)	82	97	87	87	100	119	47	87	71

"Winter" comprises the four months January, February, November, December; "Equinox" the months March, April, September, October; and "Summer" May to August.

RATIO OF RANGE OF INEQUALITY AT LERWICK TO THAT AT ESKDALEMUIR 1962

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Type of day	Element	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
q	*H*	0·86	0·98	1·22	1·18	1·20	1·23	1·22	1·08	1·06	0·88	0·93	0·91
d	*H*	1·44	2·42	0·90	1·59	1·91	1·44	1·16	1·17	1·52	2·84	0·69	3·04
q	*D*	0·97	1·00	1·00	1·05	1·12	1·15	1·09	1·15	1·01	1·12	1·08	1·15
d	*D*	1·20	1·35	1·24	1·25	1·05	1·16	1·10	1·17	1·15	1·18	1·21	1·15
q	*Z*	0·84	0·73	0·69	1·42	0·82	0·99	0·93	0·92	1·92	2·26	0·78	1·19
d	*Z*	1·85	1·20	1·89	2·32	1·68	1·75	2·12	2·40	2·36	2·27	2·14	2·14

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(a) Disturbances without sudden commencement All times G.M.T.

Serial Number	From		To		Range (γ)			Notes
	Date	Hour	Date	Hour	H	D	Z	
1a	6 Apr.	02	12 Apr.	04	468	271	400	
2a	26 July	02	30 July	16	423	133	337	
3a	30 Aug.	23	4 Sept.	24	643	232	531	
4a	11 Sept.	05	13 Sept.	22	276	284	325	
5a	17 Dec.	09	23 Dec.	01	1062	431	636	

(b) Disturbances with sudden commencement (ssc) All times G.M.T.

Serial Number	Date	Time of sudden commencement	End of disturbance Date	Hour	With initial reversed stroke H	D	Z	Magnitude of main stroke (γ) H	D	Z	Range of following disturbance (γ) H	D	Z
		h. m.						γ	γ	γ			
*1b	10 Jan.	02.14	12 Jan.	01	No	No	-	+9	-12	0	439	225	363
*2b	19 Jan.	01.13	-	-	No	No	No	+7	-6	-4		small	
3b	22 Feb.	02.20	-	-	Yes	Yes	Yes	+18	-19	-12		small	
4b	26 Feb.	12.33	-	-	No	Yes	No	+22	-21	-6		small	
5b	20 Apr.	23.57	-	-	No	No	Yes	+43	-15	-18		small	
6b	25 Apr.	13.29	-	-	Yes	Yes	Yes	+24	-8	-9		small	
7b	7 Oct.	20.27	12 Oct.	18	Yes	No	Yes	+29	-4	-15	633	255	498
8b	4 Dec.	03.35	-	-	No	Yes	No	+13	-21	-6		small	

* ssc not well defined at Lerwick

In the case of an ssc*, that is, an ssc preceded, on at least one component, by one or more small oscillations, timing of the sudden commencement has been made from the main stroke.

(c) Disturbances due to solar flare (sfe) All times G.M.T.

Serial Number	Date	Commencement	Max.	End	Movement (γ) H	D	Z	K	K'	Notes
		h. m.	h. m.	h. m.						
1c	25 Mar.	12.31	12.36	13.45	-25	0	+5	2	1	S.E.A.
2c	27 Apr.	14.12	14.18	14.35	-25	-8	+11	2	1	S.E.A.

S.E.A. = Sudden enhancement of atmospherics

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JANUARY

Night commencing			
1	ca-c	..	Partly cloudy soon becoming cloudy
2	ca-a-ca	..	Variable then fine then variable
3	ca-a-ca	..	Variable then fine then variable
5	a	..	Mainly fair
6	ca-c	..	Partly cloudy then cloudy
7	ca-a-ca	..	Variable then fine then variable
8	c-ca	..	Mainly cloudy
9	ca-a	..	Variable
10	ca-a-ca	Φ	Variable then cloudy. A bright glow to N. at 22h.50m., with rays observed at 23h.10m., persisted until 23h.50m., when it was obscured by cloud
11	c-ca-a	..	Cloudy then variable
13	cb-a	..	Variable. Moonlight early part of night
14	c	..	Mainly cloudy
16	ca	..	Partly cloudy
17	b-ca	..	Variable. Moonlight early night
18	ca-cb	..	Variable. Moonlight
19	c-b-ca	..	Cloudy then fine, then partly cloudy. Moonlight
20	cb-c-ca	..	Partly cloudy, then cloudy, then partly cloudy. Moonlight
21	cb	..	Variable. Moonlight
22	cb	..	Variable. Moonlight
23	a-ca	..	Fine to variable. Cloudy later on
24	ca-a-b	..	Variable then fine. Moonlight
25	c-cb	..	Cloudy then partly cloudy. Moonlight
26	ca-a	Φ	Variable or fine. Faint glow to N. at 20h.
27	a-ca	..	Mainly fine then partly cloudy
28	a-c	..	Variable then cloudy
29	c	..	Mainly cloudy
31	ca	..	Variable

FEBRUARY

Night commencing			
1	a-ca	..	Variable
2	c-a-ca	..	Cloudy then variable
3	ca	..	Variable
4	ca-a	Φ	Variable. A glow at 20h.40m. was obscured by cloud at 20h.54m. At 21h.55m. a diffuse surface was seen through cloud gaps
5	ca-c	..	Variable then cloudy
7	ca-c	..	Variable then cloudy
9	c-ca	..	Cloudy then partly cloudy
10	ca	..	Mainly cloudy
11	c-ca	Φ	Cloudy then variable. At 02h.50m. a glow was seen to N.
12	ca-cb	..	Mainly cloudy then variable. Moonlight
13	cb-ca	..	Variable or cloudy. Moonlight
14	c	..	Mainly cloudy
15	c-ca	..	Cloudy then partly cloudy
16	cb	..	Cloudy or partly cloudy. Moonlight
18	c-cb	..	Mainly cloudy then partly cloudy. Moonlight
19	c-b-cb	..	Cloudy to fine then partly cloudy. Moonlight
20	ca-cb-ca	..	Partly cloudy to variable then partly cloudy. Moonlight
21	ca-c	..	Variable then cloudy
22	a-ca	..	Mainly fine
23	ca-c	..	Mainly cloudy
24	c-ca	..	Mainly cloudy
25	ca-c	..	Cloudy or variable
26	ca-c	..	Partly cloudy soon overcast
27	ca	..	Mainly cloudy
28	ca	..	Variable

MARCH

Night commencing			
1	c-ca	..	Cloudy then variable
2	c-ca	..	Variable
3	ca-c	..	Variable then cloudy
4	a	Φ	Mainly fine. A diffuse surface was seen at 00h.30m. and 04h.50m.
5	a	Φ	Mainly fine. A faint glow at 21h.30m. with a ray for a few seconds at 21h.31m. persisted until 01h. From 03h. until dawn faint rays above a diffuse surface were seen at various times

MARCH (contd.)

Night commencing			
7	c-a	..	Cloudy becoming fair later
10	a	Φ	Fine. A moderately bright arc at 22h.50m. became active with rays at 23h. and persisted until 23h.38m. when it gradually died to a glow at 23h.50m., and remained so until a brighter arc developed at 02h.15m. with rays becoming more active at 02h.30m., gradually fading to a faint glow at 02h.45m.
11	cb-b	..	Mainly fair. Moonlight
12	cb	..	Variable. Moonlight
13	cb	..	Partly cloudy. Moonlight
14	ca-b	..	Fair to fine with moonlight
15	c	..	Mainly cloudy
16	c	..	Mainly cloudy
17	c	..	Mainly cloudy
18	c-cb	..	Variable to cloudy. Moonlight
19	c-cb	..	Cloudy or partly cloudy
21	c	..	Mainly cloudy to cloudy
22	cb-c	..	Partly cloudy to cloudy. Moonlight
23	ca	..	Mainly cloudy to partly cloudy
26	c-ca-a	..	Cloudy to fair then fine
27	ca-a	..	Fair
28	a	Φ	Fine. A faint glow persisted from 23h.30m. to dawn
30	c	..	Mainly cloudy
31	a-c	..	Mainly fine becoming cloudy

APRIL

Night commencing			
1	a-ca	Φ	Variable. Faint glow seen at 20h.45m. behind cloud
3	ca	..	Variable
4	ca-a	..	Variable then fine
5	c-ca	..	Cloudy then variable
6	a	Φ	Fine. From 20h.44m. to 21h.13m. a rayed arc was observed with rays to zenith at 20h.45m. and 21h.13m. Between 21h.15m. and 23h.30m. a faint homogeneous arc or diffuse surface was present, fading to a glow at 23h.30m. At 00h.05m. the display was renewed with a bright curtain of rays. Between 00h.15m. and 01h.15m. a homogeneous band on diffuse surface gradually faded away
7	a	Φ	Fine. A quiet homogeneous arc persisted between 21h.30m. and 23h.30m.
8	a-ca	..	Variable
9	c-ca	..	Mainly cloudy becoming fair
10	a-c	Φ	Fair becoming cloudy. A diffuse glow was seen behind cloud at 21h.15m.
11	c-cb	..	Cloudy to partly cloudy. Moonlight
12	b	..	Fair. Moonlight
13	b	..	Fair becoming fine. Moonlight
14	b-ca	..	Fine becoming partly cloudy. Moonlight
15	a-ca-b	..	Fine to cloudy to fair. Moonlight
16	b	..	Fine. Moonlight
17	cb-b-c	..	Fair becoming cloudy. Moonlight
18	b-ca	..	Fair then variable. Moonlight
21	ca	..	Partly cloudy
25	c-ca	..	Cloudy then partly cloudy
26	ca-c-ca	..	Mainly cloudy then partly cloudy
27	a	..	Fine
28	a	..	Fine
29	ca	..	Partly cloudy

AUGUST

Night commencing			
1	c-a	..	Mainly cloudy becoming fine
2	c	..	Mainly cloudy
4	c	..	Mainly cloudy
5	ac	..	Partly cloudy
6	a-c	..	Fine becoming cloudy
7	a-ca	..	Fine becoming partly cloudy
8	a-ca	..	Partly cloudy
9	c	..	Mainly cloudy
10	a-ca	..	Fine becoming cloudy
11	ca-c	..	Partly cloudy
12	c-ca	..	Cloudy becoming partly cloudy
13	a	..	Variable cloud

AUGUST (contd.)

Night commencing			
14	ca	..	Partly cloudy
15	ca-a-ca	Φ	Partly cloudy then fine, then partly cloudy. Homogeneous arc at 00h.20m., with rays between 01h.02-05m., was obliterated by dawn at 01h.50m.
16	c	..	Mainly cloudy
17	c	..	Mainly cloudy
18	a-c	..	Fair becoming mainly cloudy
21	c	..	Mainly cloudy
22	cb	Φ	Partly cloudy or cloudy. Rays were seen at 22h.30m. and a glow at 22h.40m.
23	c	..	Cloudy becoming mainly cloudy
25	ca	..	Very variable cloud
27	a-c	..	Partly cloudy becoming mainly cloudy
28	c	..	Partly cloudy or cloudy
29	c-a	..	Cloudy becoming partly cloudy
30	a-ca	..	Fair or fine becoming mainly cloudy

SEPTEMBER

Night commencing			
2	ca-a-c	..	Mainly cloudy to fair then cloudy
3	c	..	Mainly cloudy then cloudy
5	a-c	..	Mainly fine
6	c	..	Cloudy becoming partly cloudy
7	c	..	Partly cloudy, then cloudy, then partly cloudy
8	c	..	Partly cloudy then cloudy
9	cb-c	Φ	Partly cloudy and moonlight then cloudy. A glow persisted between 21h.30m. and 00h.55m.
10	cb	..	Partly cloudy and moonlight
11	cb-b	..	Partly cloudy becoming fine with moonlight
12	cb	..	Very variable cloud and moonlight
13	cb	..	Partly cloudy and moonlight
15	a-c	..	Very variable but mainly fair
16	c	..	Mainly cloudy
17	c	..	Variable cloud
18	c	..	Mainly cloudy
21	c	..	Mainly cloudy
22	a-c	..	Mainly fine becoming cloudy
23	c-cb	..	Cloudy becoming partly cloudy and moonlight
24	a	Φ	Fine. An arc with occasional rays was seen at 20h.50m. and a glow at 21h.30m. and 21h.50m.
25	c-a-c	..	Mainly cloudy with brief fine interval about 23h.
27	c-a	..	Cloudy becoming fine
29	a-c	Φ	Fine to partly cloudy to cloudy. A glow to north was seen between 19h.42m. and 00h.15m.
30	a-ca	..	Mainly fair or fine becoming partly cloudy

OCTOBER

Night commencing			
1	a	Φ	Fine. A quiet homogeneous arc persisted between 19h.40m. and 21h.50m. A glow at 22h.50m. became a pulsating surface with rays at 22h.55m. A glow was again seen between 23h.10m. and 23h.20m. with a pulsating surface at 23h.14m.
2	c	..	Partly cloudy with brief fine interval at midnight
3	c	..	Variable cloud
5	a-ca	..	Fair to fine to fair
6	c-a-ca	..	Cloudy becoming variable
7	a-c	Φ	Fine becoming cloudy. A faint glow was seen at 21h.53m.
8	c-a-c	..	Cloudy with brief fine interval at 01h.
10	ca	..	Partly cloudy
11	c	..	Mainly cloudy
12	c	..	Mainly cloudy
13	cb	..	Variable cloud and moonlight
15	c	..	Partly cloudy becoming foggy
18	cb	..	Very variable cloud
19	c	..	Partly cloudy becoming cloudy
20	c	..	Mainly cloudy

Night commencing			
			OCTOBER
21	c-b-c	..	Cloudy becoming fair and moonlight then cloudy
23	c	..	Very variable cloud
25	c-ca	Φ	Partly cloudy. A faint glow was seen between 22h.40m. and 23h.30m.
26	ca-c	Φ	Partly cloudy becoming cloudy. A faint glow was observed intermittently between 18h.48m. and 20h.45m.
27	c	..	Variable cloud
28	ca	..	Very variable cloud
29	c-ca	..	Cloudy becoming fair or fine
30	ca	..	Very variable cloud
31	ca	Φ	Very variable cloud. A faint glow was seen intermittently between 22h.35m. and 01h.20m.
			NOVEMBER
3	ca	Φ	Variable cloud. A faint glow at 21h.50m.
4	ca	..	Partly cloudy
6	c-ca	..	Cloudy then variable
7	c-ca	..	Cloudy until 05h. then partly cloudy
9	c-cb	..	Mainly cloudy with occasional fair intervals
10	c	..	Mainly cloudy
11	b-cb	..	Mainly fine becoming partly cloudy
12	c-b	Φ	Variable cloud. Very faint glow was seen at 00h.
13	c-a	..	Mainly cloudy becoming partly cloudy
14	cb	..	Very variable cloud and moonlight
15	b	Φ	Variable cloud and moonlight A faint glow at 19h.30m. became a bright flaming rayed band at 20h.45-47m. A glow, with rays at 21h.07 and 08m., was seen between 21h.05m. and 21h.12m. An active rayed arc of varying brightness was present between 23h.35m. and 00h.05m.
			NOVEMBER (contd.)
16	b	Φ	Variable cloud and moonlight. At 19h.45m. a rayed band appeared suddenly but had disappeared by 20h.05m.
17	a-b	..	Fair
18	ca-b	..	Very variable cloud
19	ca-c	..	Partly cloudy becoming cloudy
20	ca-b	..	Very variable cloud - moonlight later
21	a-b	Φ	Mainly fine. A faint glow between 17h.30m. and 01h.45m. brightened to a double homogeneous arc until 01h.50m. Between 02h.15m. and 03h.05m. a homogeneous arc persisted, with occasional bundles of bright rays. A quiet glow or arc was seen between 03h.15m. and 04h.45m.
22	ca-c	..	Partly cloudy becoming cloudy
23	c	..	Cloudy with brief clear interval at 05h.
24	a-c	..	Mainly fine becoming cloudy
25	c-ca	..	Cloudy becoming variable
26	ca	..	Very variable
27	c-ca	..	Cloudy becoming variable
29	a	Φ	Mainly fine. A faint glow or arc with occasional rays persisted between 18h.54m. and 19h.55m. An arc was again seen at 01h.52m. and 02h.
30	ca	..	Very variable
			DECEMBER
1	c	..	Cloudy or variable
2	c	..	Variable cloud
3	c	..	Partly cloudy becoming cloudy
5	cb-ca	..	Fine to fair becoming cloudy
6	c	..	Mainly cloudy becoming variable
8	c	..	Partly cloudy
9	cb-c	..	Variable cloud and moonlight
10	c	..	Cloudy
			DECEMBER (contd.)
11	c-cb	..	Cloudy becoming variable and moonlight
12	cb	..	Variable cloud and moonlight
13	c	..	Mainly cloudy
14	cb	..	Variable cloud and moonlight
15	c-cb	..	Cloudy becoming variable and moonlight
16	c-b	..	Variable becoming fine and moonlight
17	c	Φ	Variable cloud. A faint glow was observed between 17h.30m. and 18h.34m.
18	ca-cb	Φ	Variable cloud with fine spells. A faint glow at 18h.55m. developed into a homogeneous arc at 19h.08m. reverting to a glow by 19h.15m. At 19h.30m. and 20h.04m. rays of varying intensity were seen. The glow persisted until 00h.15m.
19	a-c	Φ	Fine becoming cloudy. A glow at 19h.10m. became an arc of varying intensity at 20h.25m. until suddenly fading at 21h.15m. to appear again, as suddenly, at 21h.17m. with faint ray, fading to a glow by 21h.27m. until 00h.30m.
20	c	..	Cloudy becoming variable
21	a-c	Φ	Fine becoming variable. A rayed arc at 18h.50m. became a very faint glow by 18h.58m. brightening to a homogeneous band at 20h.10m. Flaming rays were seen at 20h.28m. The glow, with a bright ray at 20h.39m., persisted until 21h.25m.
22	a	..	Fair or fine
25	c-a	..	Cloudy becoming fine
26	c	..	Very variable cloud
27	ca	..	Very variable cloud
28	ca	Φ	Very variable cloud. A faint glow was seen at 21h.40m.
29	a-ca	..	Fine becoming variable
30	ca	..	Very variable
31	a	..	Fair becoming fine

In the interests of brevity there have been omitted from Table 17 all dates on which the sky throughout the night remained completely overcast and on which therefore, no opportunity arose of determining whether or not aurora occurred. The nights on which aurora was actually seen are indicated by the symbol Φ. The nights on which aurora was not seen despite at least an occasional interval of more or less clear sky, are indicated by the symbol ..; in the latter case also, remarks on the weather are added to assist the reader in judging how far the fact of no observation of aurora may be taken as indicating that there was not actual aurora.

The letters a, b, c, have the following significance:-

a = Conditions favourable for seeing aurora
b = Unfavourable for faint aurora (because of moonlight, mist, thin cloud etc.), but not such as to mask bright aurora
c = Cloudy, but aurora not seen in clear intervals
ca,cb = Cloudy, but with conditions a or b respectively, in the intervals
Changing conditions are indicated by a hypen; for example, a-c.

E

18 BRITISH ISLES

1962

Date	Φ_1	Forms	Time	Φ_2
JANUARY				
1-2	61	G	0050	
9-10	59	HA	1750-0600	65
10-11	59	HA,RA	1750-0300	64
14-15	59	HA,R	1950-0250	
26-27	62	G	2000-2020	
27-28	62	G	2150	
FEBRUARY				
2-3	62	G	2250-0050	
4-5	55	G,DS	1930-0600	
6-7	63	DS	2300-2400	
11-12	63	G	0250	66
12-13	62	G	0350	
13-14	62	G	0150-0500	
16-17	57	HA	1830-2400	
21-22	58	G	2400	
25-26	61	G	2350-0100	
26-27	62	G	2130	
27-28	60	G	2050	
MARCH				
3-4	62	G	2150-2300	
4-5	63	G	2300	
5-6	60	HA,RA	1950-0450	
6-7	60	G	2025	
10-11	59	HA,RA	1950-0400	66
12-13	58	RA	1915-2320	
15-16	62	R	2150-2350	
28-29	63	G	2350-0245	
APRIL				
1-2	61	G	2045-2130	
2-3	60	G	2100-0150	
3-4	60	G	2135-0300	
4-5	61	RA	2250-2350	
5-6	60	G	0350	
6-7	58	HA,RA,F	2050-0140	63
7-8	57	HA,RA	2000-0250	66
8-9	58	HA,R	1945-0300	
9-10	60	G	2250-2300	
10-11	59	G	2045-2300	
11-12	60	G	2105	
12-13	60	G	2215-2350	
15-16	62	G	2150	
21-22	61	G	2150	
22-23	59	G	2130	
25-26	60	G	0140	
26-27	61	G	2250-0050	
28-29	62	G	0150	
30-1	58	G,R	2045-0005	

Date	Φ_1	Forms	Time	Φ_2
MAY				
2-3	60	G	2250-0100	
6-7	56	G	2110-2305	
13-14	60	G	2320	
14-15	62	G	2350-0120	
31-1	58	G	0050	
JUNE				
3-4	58	G	0050	
4-5	59	G	2350-0100	
5-6	59	G	2350	
JULY				
25-26	58	G	2100-0200	
26-27	57	G	0250	
31-1	58	RA	0123-0152	
AUGUST				
8-9	58	G	2130-0100	
9-10	60	G	2340-0140	
15-16	59	HA,RA	0020-0150	66
16-17	61	RA	2400	
18-19	61	HA,RA	2150-2350	
21-22	59	HA,RA	0040-0118	
22-23	59	G	2150	
23-24	61	G	2150-0250	
24-25	58	RA	2115-0150	
29-30	59	DS	2300-0300	66
30-31	61	HA	0050-0150	
31-1	62	G	2150-0250	
SEPTEMBER				
1-2	60	HA	2150-0250	
2-3	63	G	0200	
3-4	62	RA	2350	65
6-7	61	G	2050-2300	
7-8	62	G	2050	
9-10	61	G	2130-0300	65
12-13	59	RA	2010-0020	
15-16	61	G	0350	
18-19	63	G	2300-2400	
23-24	61	G	0150-0300	
24-25	63	G	2050-2150	
26-27	63	G	0100	
28-29	59	G	2250-2400	
29-30	59	HA	1942-0350	
30-1	60	G	2050-0100	

Date	Φ_1	Forms	Time	Φ_2
OCTOBER				
1-2	59	HA,R,PS	1920-2400	61
4-5	61	G	2250-0200	
5-6	56	HA,HB,R	1955-0350	62
6-7	61	G	2050-2250	
7-8	57	HA,RA,F	2050-0250	63
8-9	62	HA,F	2300-0500	64
9-10	63	R	2400-0400	65
19-20	59	G	1835-2330	
22-23	59	HA	2150-2250	65
23-24	61	G	2250-0250	
25-26	57	G,R	2035-0200	
26-27	55	HA,RA	1810-2245	62
27-28	60	G	2050-0100	
28-29	60	G	1805-0025	
30-31	60	G	2040-0010	
31-1	60	G	2040-2300	
NOVEMBER				
1-2	60	G	2020-0250	
2-3	59	HA,RA,RB	1950-0050	66
3-4	60	G	1950-0100	
4-5	58	HA,R	2043-2140	
5-6	61	G	2350-0100	
12-13	63	G	0001	
15-16	59	RA,RB	1850-0350	65
16-17	63	RB	1945-2015	
21-22	59	HA,HB,RA,RB	1730-0550	65
23-24	63	G	2230-2400	
24-25	61	G	0250	
25-26	60	G	1750-2200	
27-28	60	G	2357 and 0440	
29-30	57	HA,RA	1854-0500	
30-1	60	G	1930-2150	
DECEMBER				
4-5	59	RA	2350-0100	
7-8	62	G	2150-2200	
11-12	59	G	1710-2300	
14-15	60	G	0003	
17-18	55	HA,HB,RA,RB,F	1750-0200	61
18-19	55	HA,RA	1740-0500	64
19-20	56	HA,R	1910-0030	66
20-21	56	G	1615-0500	66
21-22	60	HA,RA,F	1850-2125	65
22-23	61	G	1750-2200	
26-27	58	HA	1750-2345	
27-28	60	G	2050-2250	
28-29	63	G	2140	
30-31	61	R	2350-0050	

The above table was compiled in the Balfour Stewart Auroral Laboratory of the University of Edinburgh from all data available for the longitude of the British Isles, using mainly observations made at British Meteorological Office stations and by British voluntary observers, but including also some of the data from the Faroes, from Ireland and from France. Acknowledgements are made to the Directors of the Meteorological Services of Denmark (for the Faroes data), Ireland and France.

In the table, Φ_1 is the lowest geomagnetic latitude from which aurora was seen in the longitudes considered. On any night, if more than a horizon glow was seen from the British Isles, the other forms reported are listed and the period of time (G.M.T.) during which the display was observed from the British Isles is stated. The standard abbreviations are used for the forms and types of activity: G = horizon glow; HA = homogeneous arc; RA = rayed arc; HB = homogeneous band; RB = rayed band; R = rays; S = surface; P = pulsating; F = flaming. If the forms could not be determined because of cloud or twilight, but auroral light was positively identified, the abbreviation L is used. Under Φ_2 is given the lowest geomagnetic latitude of overhead occurrence in the longitudes considered. In the absence of direct visual observations, Φ_2 is deduced from elevation measurements made in other latitudes, assuming a height of 100 Km. for the lower edges of arcs and bands.

Because of varying observing conditions, these data are in some cases incomplete; aurora may have been overhead in latitudes lower than those listed, and other forms may have occurred. Fuller details may be obtained from the Laboratory on request.

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

19 LERWICK — Factor 2·45 — JANUARY 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
	volts per metre																									
1	155	110	185*	Z-*	200	330*	275*	145	95	110	100	85	90	95	85	75	90	100	100	120	95	75	70	65	103	(20)
2	70	75*	75*	70*	65*	70*	60	60	55*	60*	60*	65	70	65*	90	80	70*	80*	65	90*	105	100	95*	80*	77	(10)
3	75	70	60	60	55	55*	55	60	70	75	65*	70*	75*	-165*	120*	120	110*	75	80	90	95	75	75*	65*	74	(15)
4	55	45	45	50	50	50	55	55	60*	50	60	45	55	40	20	55	60	50*	45*	-50*	20*	35*	40*	20*	49	(16)
5	15*	20*	-35*	-120*	-365*	-200*	-55*	40*	35*	30*	10*	45*	50*	60	55*	65*	75*	75*	80	65	155	100	Z±*	Z±*	92	(5)
6	60*	65	55*	65	Z±*	Z±*	55	55	55	60	60	65	60	55	65	65	60	65	90	90	105	95	100	105	72	(20)
7	125	130*	35*	-440*	-605*	-220*	35*	75*	80	120	90	95	115	Z±*	Z±*	Z±*	130*	Z±*	Z±*	Z±*	110	110	100	80	103	(10)
8	75	70	90	Z±*	Z±*	80*	Z±*	Z±*	65	70	75	90	95	100	130	200	220	200	170	210	100*	Z-*	Z-*	55*	124	(15)
9	75*	20*	55*	45	Z±*	60	55	60*	75*	75	75*	Z±*	220*	Z±*	Z±*	220*	Z±*	125*	100	100	100	95	90	75	80	(10)
10	75	75	80	90	110	55*	Z±*	Z±*	120*	100*	105	110	110	110*	Z±*	175	Z±*	Z±*	220*	Z-*	95*	120	125	145	110	(12)
11	135	110	120	-35*	Z±*	Z±*	-275*	-495*	-330*	165*	220	285	255	170	155	90	55*	125*	-110*	0*	45*	110*	90*	75	161	(10)
12	70	90	310	385	75	35*	Z±*	100*	240*	Z±*	155	100	70	75	75	65	60	60	100	145	35	Z±*	Z±*	Z±*	117	(16)
13	Z±*	Z±*	-75*	55*	-55*	105*	95	Z±*	55	105	105	110	110	105	90	80	65	110	75	75	70	65	65	55	84	(17)
14	-110*	50	55	45	55	65	55	55	55	55	55	60	65	65	55	60*	25*	55*	55*	55*	0*	110*	40*	35*	56	(14)
15	10*	-200*	-110*	-35*	40*	40	45	55	45*	45*	-75*	90*	90	100	155	220	130*	220*	-165*	Z-*	Z±*	Z±*	Z-*	Z-*	101	(7)
16	-365*	-660*	-330*	-110*	-185*	-10*	20*	80*	80*	80	65	100	125	115	115	115	100	110	100	100	100	100	100	90	101	(15)
17	75	100	115	120	130	145	145	155	185*	Z-*	200*	200*	145*	90*	100	65	75	90	90	75	75	20*	45*	55	101	(16)
18	55	55*	65*	165*	Z+*	80*	75	75	80	75*	100*	Z-*	Z+	90*	120*	Z±*	Z-*	120*	105*	105*	95	95	75	70	78	(8)
19	65	55	50	40	25	35*	50*	45*	45*	Z±*	-275*	0*	Z-*	Z-*	Z-*	-330*	0*	-20*	-75*	55*	90*	90	75	60	57	(8)
20	55	55	55	60	35*	50*	65*	20*	90*	220*	55*	75	95	Z±*	55*	Z±*	Z-*	Z+*	100*	125	Z+	Z±*	90*	145*	74	(7)
21	165*	35	40	35	35	40	35	45	70	70	90	95*	-10*	Z±*	Z-*	220	310	310	0*	120	120	155	160	130	112	(18)
22	110	105	105	105*	200*	95*	200*	Z±*	Z±*	Z±*	Z-*	165*	110*	145*	110*	Z±*	Z±*	120	100*	110*	150	Z-*	110*	145*	118	(5)
23	Z±*	Z+*	Z±*	Z±*	Z±*	130*	110*	105*	Z±*	Z±*	Z±*	Z-*	65*	95	220*	165*	90	105*	90	100	80*	80	70	60	84	(7)
24	55*	50	45	40	45	50	45	45	75	95	95	65	65*	-*	-*	90	110	100	65*	95*	80	90	65	60	69	(18)
25	50	55	65	70	75	90	110	110	110*	185	130	165	185	145	165	185	175	185	200	185*	Z-*	Z-*	Z-*	-145*	130	(18)
26	130*	120*	75*	-55*	90	70	Z±*	Z±*	Z+*	Z+*	110	90	145	Z-*	175*	175*	Z±*	Z±*	Z-*	Z±*	220	130*	165*	Z+*	121	(6)
27	75*	35	275	110	155	65	55	65	90	90	110	90	65	65	Z±*	70*	75	75	70	65	65	55	55	55	85	(21)
28	-90*	45	45	45	45	40	40	45	45	45	60	70	65	65	65	60	70	60	60	70	70	65	60	55	56	(23)
29	50	60	55	45	60	100*	110*	55*	100*	-35*	-20*	30*	45*	45*	35*	220	220	220	275	365	330	385	440	440	226	(14)
30	75*	Z-*	-130*	-110*	45*	10*	35	55	55	50	55	105	100	130	130	75*	-330*	-530*	Z-*	-275*	-110*	-165*	40*	55*	79	(9)
31	140*	90*	65*	65*	65	65	65	65	65	-45*	60*	-15*	-120*	-220*	-165*	55*	Z±*	Z±*	125*	0*	Z+*	100*	Z±*	Z±*	65	(5)
Mean	81	67	95	82	79	65	64	72	68	83	97	98	103	92	100	121	119	125	109	120	114	108	110	99	95	(395)
	(16)	(19)	(17)	(16)	(16)	(12)	(17)	(16)	(14)	(16)	(18)	(19)	(19)	(16)	(15)	(18)	(15)	(15)	(16)	(16)	(19)	(18)	(15)	(17)		
Mean for 0a days																									No 0a days	

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

19 LERWICK — Factor 2·55 — FEBRUARY 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
	volts per metre																									
1	Z±*	Z-*	175*	385	Z±*	Z±*	Z±*	Z±*	Z-*	Z±*	45*	75*	Z+*	90*	Z±*	Z±*	130*	Z+*	Z+*	100	Z+	165	90*	60	177	(4)
2	110	105	95	45	40	35*	40*	55	100	75	80	100	110	110	110	70*	75*	0*	-55*	55*	0*	55*	90	100	88	(15)
3	130*	70*	65	65	65	65	65*	65*	65*	70*	100	100	90*	100*	-110*	Z±*	Z+*	130	Z±*	Z±*	Z±*	145	Z±*	Z±*	92	(8)
4	Z±*	Z±*	Z±*	Z+	Z±*	Z+*	Z+*	125	185	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	Z+*	275	220	Z±*	75	35*	75*	Z±*	176	(5)
5	Z±*	Z+*	295*	Z±*	Z±*	Z±*	200*	Z±*	155	Z±*	Z-*	Z±*	365	Z±*	110*	Z+*	165	75	90	75	75*	65	75*	75	130	(7)
6	45	55*	10*	45*	35*	60*	65*	20*	130*	145*	110*	90*	-365*	-440*	-130*	-35*	-165*	55*	95*	95*	105*	-35*	100	75	73	(3)
7	70	-10*	-110*	145*	110*	75	65*	105*	125*	90*	Z±*	155*	45*	-65*	-35*	90*	90*	90*	70*	80	65*	90*	70*	75*	75	(3)
8	60*	55	50*	55	50*	50	55*	60*	70	65	55*	60*	70	70	65	55	50	65	75	75	75	-35*	-165*	95*	64	(14)
9	Z-*	-715*	-110*	135*	80*	60*	65*	65*	75*	100*	125*	115	170	125	150	150	150	130	145	150	130	80*	100*	80*	141	(10)
10	65*	65*	75	55*	0*	80*	Z±*	110*	100*	35*	Z±*	110*	110*	130*	Z±*	75*	Z±*	Z±*	Z±*	Z±*	330*	Z±*	Z±*	Z+*	75	(1)
11	130*	Z±*	Z-*	Z±*	Z±*	Z-*	70	95*	90	Z±*	65*	Z±*	Z+*	-495*	-495*	-660*	-440*	75*	110*	145*	165*	-55*	-165*	-275*	80	(2)
12	-70*	-240*	55*	Z±*	110*	Z±*	Z±*	145*	Z±*	105*	75	75	70	75	80	75*	95	90*	90	75*	75*	Z±*	Z±*	385*	84	(8)
13	100*	75	165	Z±*	200*	145*	120*	165	130*	Z±*	Z±*	Z±*	Z±*	Z±*	365*	255*	Z+*	Z±*	Z+*	550*	Z+*	Z+*	75*	Z+*	135	(3)
14	Z+*	Z±*	Z+	Z±*	Z±*	Z±*	Z±*	45*	Z±*	Z+	Z±*	110*	90*	105	90*	90	90*	90*	90*	80*	105*	165	145*	365*	120	(3)
15	Z±*	110*	Z+*	Z+*	330*	-530*	-440*	0*	95*	75*	75*	75*	65*	-825*	-275*	-405*	-405*	-330*	-220*	20*	55*	90*	275*	Z±*	-	(0)
16	Z±*	Z±*	Z±*	Z±*	Z±*	Z-*	Z±*	Z±*	165*	Z±*	Z±*	Z±*	Z-*	200*	Z±*	75*	110*	120*	130*	90*	Z-*	Z-	Z±*	Z±*	-	(0)
17	Z±*	75*	75*	40*	90*	110	Z±*	65*	75	165*	90*	165*	Z±*	90	80	80	70	70	75	80	70	55*	50*	60*	80	(10)
18	130*	-35*	-130*	100*	90*	35*	45*	50*	55*	70*	55	65*	75*	65*	65*	70*	95*	90*	110*	130*	100	100*	95*	100	85	(3)
19	90	70*	65*	65*	60*	60*	55*	65*	65*	70	65*	80*	90	70*	55*	55*	55*	60*	75*	75*	70*	65	65	55	73	(6)
20	50	55	50	45	45	45	45	45	45	50	55	55	50	55	90	50	45	50	45	50	50	55	45	45	51	(24)
21	50	60	55	55	55	60	65	70	90	110	130	95	80	110	145	165	185	220	220	180	200	130	100	130	115	(24)
22	80	90	90	100	65	55	55	40	35	55	55	60	70	80	100	75	55	45	55	55	40	45	35	45	62	(24)
23	45	55	45	45	55	50	45	55	90	65	80	75	65	65	65	65	55	45	65	65	55	50	35	30	57	(24)
24	35	20	30	35	20	30	30	30	35	30	35	45	55	45	40	35	45	45	40	40	35	20*	20*	40	36	(22)
25	40	35	20	30	35	35	35	35	45	40	45	55	65	70	70	90	90	80	75	70*	65*	55*	165*	Z±*	52	(19)
26	70	55*	65	35*	60	100	110	90	80	80	75	75	65	55	45	45	65	75	65	65	60*	60*	55	45*	70	(19)
27	45*	45	45	40	35*	35	35	50*	45*	45	55*	60*	55*	65*	75*	65	75	75	55*	75*	65	90	75*	75*	56	(11)
28	45	45	45*	-120*	45*	Z±*	Z+*	35*	45	50	50	55	55	50	45	50	55	60*	55	50	50	55	35*	45	50	(16)
Mean	61	58	67	82	55	59	54	71	76	61	70	75	99	79	83	78	86	99	94	82	79	93	66	67	76	(288)
	(12)	(11)	(12)	(11)	(10)	(12)	(9)	(10)	(13)	(12)	(12)	(12)	(14)	(14)	(13)	(13)	(14)	(14)	(14)	(13)	(12)	(11)	(8)	(12)		
Mean for 0a days																									[72	(5)]

The potential gradient is reckoned as positive when the potential increases upwards. The symbol Z indicates either that the trace fluctuates rapidly so that estimation of a mean value is impracticable, or that the trace is limited by the range of the instrument (see Introduction); and the suffix +, - or ± indicates that the mean value is plainly positive, plainly negative, or indeterminate in sign. The occurrence of precipitation of any sort is indicated by an asterisk. Round brackets round any hourly mean indicates that the record during that hour is somehow imperfect.

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

19 LERWICK — Factor 2·65 — MARCH 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
	volts per metre																									
1	0	0*	40*	50	50*	55	0*	Z-*	60	60	70*	35*	55*	50*	55*	60	55*	70	25*	50*	Z±*	Z±*	300*	205*	51	(7)
2	265*	Z±*	155*	95*	Z±*	Z+*	Z+*	190*	110*	Z+*	120	Z±*	85*	90	180*	Z+*	Z-*	Z±*	Z±*	Z±*	205*	Z±*	Z+*	95*	105	(2)
3	Z±*	840*	120*	Z±*	Z±*	Z±*	Z±*	60*	Z±*	Z+	120*	Z±*	Z±*	Z±*	Z±*	215	Z±*	Z+	180*	240*	95*	130*	85*	Z±*	215	(1)
4	Z+*	Z+*	70*	Z-*	Z±*	Z±*	Z+*	Z±*	60*	190	145	70*	170	Z-*	205*	190	240	265	205	205*	60*	115	95	95	171	(10)
5	70	80	80	85	120	Z±*	125	170	170	145*	540*	Z-*	Z±*	Z±*	70*	515*	155*	600*	-95*	265	145	120	85	85	123	(13)
6	90	95	145*	110	80	80	90	90	265*	145*	100	120	110	115	180	205	205	190	205	180	215	145*	205*	25*	137	(18)
7	170*	Z-*	Z±*	Z-	-60*	Z±*	Z-*	70*	145*	Z±*	0*	120	90	125	110	155	240	310	300	205	205	215	110	95*	182	(12)
8	-95*	125*	60*	205	325	310	300	300	210	215	230	265	265	275	310	310	300	325	300	265	250	240	170	180*	268	(20)
9	240*	120*	-170*	-720*	80*	-100*	-65*	25*	-35*	-85*	-180*	60*	-145*	-35*	25*	-720*	-600*	-660*	-600*	-180	-10*	-25*	-115*	25*	-180	(1)
10	35*	60*	70*	35*	30*	50*	55	65	70	85*	120	80	85*	110	110*	90	90	90	85	80	70	65	60	50	79	(15)
11	50	50	50	50	40*	50	40	50	35*	60	70*	110*	70*	90	Z-*	Z+*	80*	Z-*	Z±*	0*	120*	120*	130*	60*	54	(9)
12	55*	60	60	80*	0	70	65	80	85	90	90	70	60*	70	180	Z±*	180*	Z±*	110*	85	80	Z±*	Z±*	50*	78	(14)
13	Z-*	Z±*	Z+*	Z+*	85*	Z+*	Z-*	80	145*	265	90	90*	110*	170	240*	110*	145	Z±*	155*	Z+*	100*	-70*	Z-*	95*	150	(5)
14	40*	50*	50	Z+*	Z-*	180	70	Z-*	120	Z±*	130*	Z±*	35*	145	120*	85*	540*	265	Z-*	120*	Z-*	80*	Z-*	Z-*	138	(6)
15	Z±*	60	60	55	55	55	65	70	100	145	600*	Z+*	Z+*	Z+*	Z+*	240*	180*	95*	85	80	80*	60	55	55*	73	(13)
16	60*	50	55	55	40	40	50	50*	100*	100	90	85	80	85	95	70	85	85	95	120	160	130	130	80	85	(21)
17	65	65	85	65	55	70	70	65	80	65	50	35	40	55	65	55	80	65	40	50	85	95	85	60	64	(24)
18	40	35	50	70	80	80	50	-10	-65	35	40	30	55	10	10*	35*	25	10	0	85	215	145	205	125	60	(22)
19	70	60	40	35	35	25	40	50	55	55	40	35	25	50	35	0*	50*	40*	50*	40	35*	10*	-110*	110*	44	(16)
20	55	-240*	55*	65	70	65	65	75*	95	100	95	90	95	85	85	75	65	70	65	70	70	65	50	55	74	(21)
21	35	35	25	10*	-275*	-180*	40*	50	25*	-25*	50*	55	35	55	60*	-25*	60*	120*	85*	70	65	65	65	60	51	(12)
22	50	35	35	35	35	50	35*	40	50	50	55	70	60	120*	120*	115	145*	480*	Z-*	170*	95*	115	85	120*	59	(15)
23	180*	65*	55	40	50	95*	Z±*	50	60*	95*	85	60	55	40*	40*	65	65	95	95	80	70	65	60	60	66	(16)
24	55	50	50	50	70*	50*	55	60	60	70	65*	-35	35*	-35*	Z±*	95*	80	-35*	55*	0*	-180*	-205*	Z-*	Z±*	50	(10)
25	65*	65	70	70	70	65	85	100	95*	110*	125	140*	145	215	325	290	230	-60*	Z-*	Z-*	-35*	-70*	155*	-155*	143	(13)
26	-540*	-1020*	-600*	30*	-155*	120*	85	110*	120*	100*	115*	170	160	140	120	95*	110*	110*	120*	100*	95*	95*	85*	Z+*	135	(5)
27	50	60	35	20	Z±*	Z±*	50*	60	95	100	85	95	80	60	35*	95*	25*	25*	30*	25	40	85	110	100*	67	(15)
28	Z+*	50	25	20	85	90	Z±*	65	65*	70*	70	80	85	85	95	95	95	90	85	85	85	85	80	65	76	(20)
29	60	55	50	35	30	30	35*	Z±*	Z±*	Z±*	Z±*	0*	-145*	25*	-240*	-395*	Z-*	-1080*	-1080*	-1080*	-660*	Z±*	Z±*	Z±*	43	(6)
30	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	Z+*	50*	70*	130*	Z±*	Z±*	70*	65*	40	55	145*	145*	85	-50*	Z±*	60	(3)
31	Z±*	190*	Z+*	Z±*	Z±*	Z±*	Z±*	145*	Z+*	180*	Z±*	145*	Z+*	Z±*	Z±*	150	130	130	130	120	110	95	85	85*	119	(8)
Mean	53 (13)	57 (16)	51 (17)	62 (18)	75 (15)	83 (16)	82 (16)	80 (18)	85 (14)	107 (15)	96 (17)	84 (17)	97 (16)	107 (19)	145 (11)	143 (15)	138 (15)	140 (15)	125 (14)	96 (18)	124 (15)	109 (17)	96 (16)	73 (10)	95	(373)
																								Mean for 0a days	[64	(1)]

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

19 LERWICK — Factor 2·75 — APRIL 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
	volts per metre																									
1	35*	85*	-25*	0*	Z+*	70	50*	70*	65	65	70	80	95	90	120*	Z[illegible]	100*	110	95	120*	205*	Z±*	Z±*	Z-	82	(9)
2	275*	Z±*	115*	155	110*	110*	Z+*	85	70	70	70	70	70	80	85	95	85	80*	90*	85	50	230*	70*	70*	82	(13)
3	60*	Z+*	85*	180*	70	65	70	70	60	65	70*	85*	85*	110	90*	90*	95	85	Z±*	130*	Z+*	70	60	55*	75	(11)
4	40*	40	35	35	30*	50	50*	60*	65*	70*	80	85*	110	90	110	95	115*	35*	Z+*	110*	95	110*	Z+*	180*	74	(10)
5	60	55	50	40*	40	30	35	50	55	60	60	65	70	80	80	85	90	110	95	Z-*	35*	Z±*	Z±*	-120*	65	(18)
6	40	35	60*	Z+*	60*	60	80	Z+	70*	70*	100*	145*	130*	180*	80	85	70	80	Z-*	110	70	50	40	50	65	(13)
7	40	50	35	50	50	60	60	95	90	65	60	65	85	85	60*	50*	85*	70	70	70	50	60	50	35	62	(21)
8	40	35	50	30	35	35	35	55	70	70	85	35*	Z+*	145*	120*	85	85*	60	240*	-480*	-240*	Z+*	Z±*	70*	53	(13)
9	60*	60*	70	85*	55*	60*	Z-*	Z+*	60*	95*	60	60	65	65	70	65	55	55	35	40	40	50	50*	-25*	56	(13)
10	-420*	-300*	50*	250*	Z±*	-35*	70	85*	Z-*	95*	85	65*	80*	Z±*	95*	155	80	Z±*	Z±*	Z±*	35	100	95*	30*	87	(6)
11	190*	Z-*	Z±*	Z±*	-420*	40*	60*	60	50*	50*	60	70	80	70	70*	-205*	265*	-95*	-35*	-25*	Z+*	85*	Z±*	95*	68	(5)
12	110*	310*	60*	70	70*	60*	80*	150*	Z+*	Z±*	Z+	110*	95*	95*	110*	240*	144*	205*	Z+*	60*	110*	65	60	55	63	(4)
13	50	50	50*	60*	50	50	50	50	50	60	60	80	80	95	95	95	90	80	80	70*	80*	60	60	60	67	(20)
14	55	40	50	40	40	35	50	70	70	85	85	90	110	130	115	115	100	90	85	80	95	70	70	80	77	(24)
15	65	60	60	50	50	50	55	70	80	90	100	140	150	155	170	145	135	110	85	65	70	65	60	60	89	(24)
16	70	60	40	35	25	35	65	100	100	85	90	110	110	120	120	140	140	115	80	90	95	90	65	65	85	(24)
17	60	55	65	60	60	65	70	85	85	85	85	90	110	125	120	100	110	95	90	70	85	85	60	40	81	(24)
18	50	30	10	30	20	25	25	50	40	25	50	35	35	60	70	70	80	70	55	60	60	60	60	60	47	(24)
19	55	55	60	50	50	55	65	60	60	50	35	30	10*	10*	25	30*	-10*	-25*	10	25	30*	55*	35*	60*	46	(15)
20	-35*	-190*	85*	155*	205*	180*	205*	155*	205	215	240	205	250	360	370	395	385	290	265	300	-215*	Z±*	Z±*	180*	290	(12)
21	Z±*	135*	150	145	175	155	170	200	250	300	325	335	350	310	210	140	110	95	95	110	120	100	60	40	179	(22)
22	90	100	65	85*	170*	60*	-70*	Z-*	Z-*	Z-*	50*	10*	155*	10*	-110*	-10*	-10*	40*	10*	35*	40*	95*	85	50	78	(5)
23	110	70*	130*	160	155	145	130	145	275	215	215	240	215	205	240	205	240	265	220	205	265	290	385	420	225*	(22)
24	420	480	395	325	250	230	205	125	180	180	180	215	155	130	60	20	70	95	55	275	360	240	385	230	219	(24)
25	215	250	240	95	70	90	115	140	110	95	80	130	100	115	115	-170*	95*	Z-*	Z-*	Z-*	Z-*	-840*	-720*	-35*	131	(15)
26	60*	40*	65	60	70	65*	85*	85*	85	90	90	100	80	95	120	110	90	90	80	80	70	60	55	50	81	(19)
27	50	55	35	55	55	25	35	35	25	40	50	60	70	70	70	70	80	85	65	95	90	95	80	70	61	(24)
28	65	70	70	80	80	85	70	90	90	85	80	70	80	85	90	90	95	85	85	85	80	70	65	60	79	(24)
29	60	60	50	50	50	65	65	60	60	65	65	70	70	70	60	50	55	100	65	60	60	55	50	35	60	(24)
30	25	35	60	50	60	80	60	85	50*	65*	35	50	60	60*	140*	110*	145*	70*	110*	85	65	50*	50*	70	59	(14)
Mean	85 (19)	85 (19)	83 (20)	81 (20)	73 (20)	71 (22)	75 (21)	85 (21)	99 (22)	98 (22)	96 (26)	107 (23)	113 (23)	122 (23)	118 (21)	115 (21)	113 (20)	106 (21)	90 (19)	105 (19)	98 (19)	91 (19)	97 (18)	85 (18)	96	(496)
																								Mean for 0a days	[86	(10)]

Daily, monthly and annual means are computed excluding hours with precipitation and, of course, all indeterminate entries. The number of hours or days used in computing each mean is shown in round brackets. Entries in square brackets are means for 0a days (see Introduction) and the figure in round brackets is the number of days used in computing this mean.

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

19 LERWICK — Factor 2·82 — MAY 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
	volts per metre																								
1	70	60	60	55*	55*	85*	65*	55*	50*	60	70	60	60	100*	145*	170*	170	115	110	110	115	95	95	70	88 (15)
2	60	50	40	50	40	50	55	60	55	60	60	60	70	80	100	140	70	70*	85*	70	70	70	55*	55	65 (21)
3	55	60	55	40*	40*	50*	60*	60	65	60	70	80	85	85	85	125	95	55	55	50*	40*	55*	25*	35*	73 (15)
4	50	35	50	50	50*	60*	55	60	65	90	85	80	85	90	110	90	90	90	95	85	95	80	35	70	74 (22)
5	70*	35*	35*	35*	80*	50*	85	-35*	65*	60	60	60	80	90	85	70	70	80	70	65	60	60	50	50	68 (16)
6	50	50	50	50	70	110	70	60	60	65	80	65	85	120	100	100	85	70	90	100	110	95	85	70	79 (24)
7	85	95	95	70	65	50	55	55	60	60	70	80	65	55	55	55	95	95	95	95	90*	90*	80	120	75 (22)
8	145	190	120	20	90	145	100	170	145	215	110	100	60	-	35	35	-35*	65*	170	90*	240*	745	Z+	Z+	153 (17)
9	Z+	Z+	95	Z+	505	600	505	455	720	720	600	410	410	370	230	230	335	385	335	445	385	445	350	375	424 (21)
10	205	265	300	155	155	130	60	50	70	90	85	95	140	140	100	70	70	70	65	50	60	50	40	40	106 (24)
11	40	20	30	40	55	50	55	55	40	55	50	50*	35*	50*	55	35	25	25*	25*	55*	50*	55*	35*	35*	43 (14)
12	40*	30*	35*	35*	40*	25*	35*	65*	35*	40	35	35	35	40	40	40	55	45*	50	55	40*	55*	50	50	44 (12)
13	35	40	50	35	35	40	50	50	50	50	35	25*	35*	-10*	-5*	-30*	-95*	-240*	-80*	-25*	-30*	25*	20*	20*	43 (11)
14	20*	25*	85*	60*	30*	40	35	25	50*	40*	110*	80*	90*	70*	65*	50*	50*	40*	55	60	60	60	50	40	47 (9)
15	40	25	35	Z-*	40*	50	50*	Z±*	50*	55	50	55*	55	60	60	60	60	60	55	60	60	70	100	110	59 (18)
16	85*	25*	25*	Z-*	-395*	Z-*	Z-*	Z-*	Z-*	-755*	-35*	205*	205*	275	275	265	275	215*	25*	-120*	Z-*	Z-*	95*	65*	272 (4)
17	60*	155*	115*	65*	70*	85*	Z-*	50*	110*	25*	25*	80	60*	Z-*	-265*	Z-	Z-	60	80	70	65	60	35*	25*	69 (6)
18	35*	30*	-10*	50*	50*	170*	75	70	65	60	60*	55*	Z-*	65	65	85*	85*	90	95	100	90	85	85	95	80 (13)
19	85	65	60	65	65	80	85	85	100	110	130	130	145	215	240	220	220	185	125	60	30	55	40	40	110 (24)
20	25	35	55	50	50	80	70	60	60	55	40	50	55	80	70	70	85	65	60	65	60	60	50	50	58 (24)
21	70	85	85	60	60	80	85	70	55	80	160	130	110	55*	-130*	-480*	-480*	70*	-120*	90*	-240*	Z-*	-480*	-935*	87 (13)
22	-420*	-120*	-70*	50*	-120*	-25*	-130*	40*	5*	-5*	-170*	-205*	-240*	-215*	-275*	-110*	40*	35*	-35*	-180*	-60*	-110*	-335*	-215*	- (0)
23	60*	-205*	-95*	10*	60*	-60*	0*	50*	Z-*	40*	-120*	0*	85	25*	-60*	50*	35*	60*	-60*	-50*	55*	65*	60*	35*	85 (1)
24	50*	55*	20*	30*	25*	-70*	-30*	0*	-60*	10*	10*	25*	25*	10*	25*	50*	60*	55*	65	70	0*	70	65	70	68 (5)
25	55	55	55	55	55	55	55*	65*	60	65	60	60	60	60	65	80	70	70	60	55	55	60	55	60	60 (22)
26	55	55	55	50	50	55	60	50	60	80	85	95	85	80	90	95	90	90	85	65	70	70	65	60	71 (24)
27	60	60	55	65	60	65	55	50	50	50	40	50	60	65	65	80	85	85	70	90	70*	70*	50*	85*	63 (20)
28	85*	155*	145*	95*	95*	50*	70*	85	85*	90*	70*	70*	80*	100*	115	125	120	110	110	110	100	95	95	85	105 (11)
29	85	85	65*	35*	35*	55*	60*	70	70	60*	55*	60*	55*	60*	65*	70*	70*	110*	85*	80	70	70	60	50	71 (9)
30	40	40	40	50	50	60	70*	Z±*	Z±*	Z-*	80*	Z-*	95*	100	-85*	Z+	140*	Z+*	Z±*	Z±*	Z±*	95	85	70	63 (10)
31	65	65	65*	65*	70*	80	80*	85*	65	60*	65	65	65	65	65*	85*	85	80*	80*	85	70	70	65	50	69 (14)
Mean	69 (20)	72 (20)	73 (19)	58 (15)	94 (15)	101 (18)	91 (17)	86 (19)	101 (19)	104 (21)	97 (21)	94 (19)	95 (20)	112 (19)	102 (20)	104 (19)	113 (20)	104 (17)	95 (21)	93 (22)	90 (18)	122 (21)	80 (20)	80 (21)	93 (461)
Mean for 0a days																									[81 (6)]

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

19 LERWICK — Factor 2·81 — JUNE 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
	volts per metre																								
1	10*	65	65	65	60	65	65	40*	-25*	-240*	-145*	125*	80	85	90	65	90	100	80	85	80	70	55	55	76 (19)
2	50	40	35	35	40	55	70	55	40	35	35*	25*	40*	145	130	110	85	70	65*	80*	90	85	70	70	69 (19)
3	65	55	60	50	50	65	65*	85*	70	70	90	100	120	125	110	120	125	130	120	125	130	125	85	80	94 (22)
4	65	50	85	85	85	90	85	85	90	125	160	190	215	335	310	240	185	120	120	85	60	95	170	170	138 (24)
5	130	130	95	65	120	125	125	115	95	100	115	130	120	90	70	95	155	115	120	130	140	95	110	175	115 (24)
6	325	300	205	150	95	95	120	110	130	150	170	300	310	230	130	70	50	5	10	40	70	60	90	95	138 (24)
7	80	70	65	30	70*	120	80	80	95	120	140	125	125	140	130	140	160	170	155	80*	155*	240	275	240	132 (21)
8	265	370	410	240*	265	120	110	85	70	85	85	80	90	80	80	85	95	90	70	85	80	70	70	50*	129 (22)
9	35*	40*	55	85*	90*	170*	130*	85*	130*	215*	40*	70*	90	60*	60*	35*	90*	40	50*	35*	-35*	-35*	-25*	-85*	62 (3)
10	-40*	10*	50*	50*	50*	60*	70	70*	-85*	80	80	65	80	80	85	90	85	85	80	70	70	65	65	55	75 (16)
11	40	-10	50	40*	55	60	65	90	70*	90*	95	85	85	70	80	70	80	80	70	60	50	40	60	50*	64 (20)
12	65*	60*	35*	130	100	110	60	90	110	60	60	110	175	250	445*	505*	575*	695*	600*	385*	160*	170	140	145	122 (14)
13	100	90	100	90	80	100	95	95	95	110	95	95	145	140	150	185	205	215	215	205	180*	0*	125*	290*	130 (20)
14	350	335	180*	Z-*	-35*	-180*	215*	250*	360*	395*	370	335	360	350	240	85	35	-35*	-170*	50*	25*	110	95	60*	242 (11)
15	85	80	70	70	80	70	80	80	60	35	30	60	90	85	80	70	115	145	140	85	85	120	70	60	81 (24)
16	60	50	145	185	55	50	55	60	70	65	60	70	65	60	55	70	70	80	80	35*	60	50	30	-95*	70 (22)
17	-95*	50*	10*	25*	90*	140*	90*	95*	85*	50	55	40	35	65	55	55	70	70	70	65	65	90	55	35	58 (15)
18	145	265	170	145	210	290	215	215	190	175	200	210*	205*	85*	155*	110*	300*	275*	335*	420*	600	790	890	910	361 (15)
19	695	730	575	445	430	480	410	335	310	350	360	395	385	385	370	360	395	610	505	600	170*	180	170	205*	431 (22)
20	185*	115*	80*	85*	100*	170*	155*	265*	155	155	140	40*	-60*	55*	55*	95	95	85	70	60	25*	55*	40	55*	99 (9)
21	65*	70	65	85	80	110	90	125*	180*	275*	180*	190	130	120	115	100	110	125	180	215	335	310	325*	-120*	143 (17)
22	Z+*	Z-*	325	190	150	-275*	130*	130	95	90	85	80	85	85	95	85*	55*	35*	130*	145	125	130*	160	120	131 (15)
23	95*	110*	145	125	70*	35*	85*	85*	90	85	70	80	85	90	100	100	100	100	95	85	100	150	160	100	103 (18)
24	Z-*	Z-*	300*	Z-*	-600*	-1030*	-265*	-300*	-240*	145*	230*	230*	-10*	-120*	-205*	10*	85*	35*	100*	-10*	100	100*	100	85*	100 (2)
25	90*	85	70	50*	90	110	100	-230*	110	100	110	85	10*	-10*	-5*	50*	-10*	160*	180*	160*	145	150	120	95	105 (13)
26	85	85	85	85	90	85	90	Z-*	100	100*	90	70*	70*	95	85	80	70*	90	90	85	85	85	85	80	87 (19)
27	60	40	40*	50	-60*	5*	65*	65*	65*	130*	100*	60*	90*	55*	95*	95*	90	90	95	100	95	70*	60*	65*	78 (8)
28	50*	65*	70*	80	80	85	70	90*	85*	85*	90*	70*	95	95	115	95	70	80	80	65	90	90	80	65	83 (16)
29	55	55	55	50	50	55	60	60	55	60	60	70	80	85	85	85	80	85	85	70	35	95*	115*	170*	65 (21)
30	190*	95*	35*	115*	150*	130*	130*	35*	190*	120*	95*	120	110	65	115	100	90	95*	85*	80	95	85	85	70	92 (11)
Mean	156 (17)	148 (20)	140 (21)	111 (20)	113 (20)	117 (20)	106 (20)	112 (15)	107 (19)	105 (20)	124 (22)	133 (22)	137 (23)	140 (24)	125 (23)	112 (23)	115 (23)	121 (23)	121 (21)	120 (21)	121 (23)	145 (23)	133 (25)	146 (18)	125 (506)
Mean of 0a days																									[97 (5)]

The potential gradient is reckoned as positive when the potential increases upwards. The symbol Z indicates either that the trace fluctuates rapidly so that estimation of a mean value is impracticable, or that the trace is limited by the range of the instrument (see Introduction); and the suffix +, - or ± indicates that the mean value is plainly positive, plainly negative, or indeterminate in sign. The occurrence of precipitation of any sort is indicated by an asterisk. Round brackets round any hourly mean indicates that the record during that hour is somehow imperfect.

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

19 LERWICK — Factor 2·77 — JULY 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
	volts per metre																									
1	145*	205*	85*	85	60	85	130	120*	85*	70*	145*	145*	215*	145*	110	115	115	110	100	90	85*	70	85	80	95	(13)
2	85	60*	35*	60*	70*	60	50	70	60*	60	50	60	60*	85*	70	60	50	50*	35*	0*	60*	55*	60*	60*	61	(10)
3	35*	55	60	50*	25*	35*	50*	60*	60*	65	65	70	70	70*	85	70	60*	70	70*	50*	50*	50*	60*	60*	68	(9)
4	40*	40*	60	50*	85*	70*	65*	95	30*	65*	70*	50*	70*	70*	60*	60*	80*	70	60*	30*	25*	20*	25*	35*	75	(3)
5	65*	60*	60*	65	80*	60*	80*	90*	60*	50*	60	60*	65*	60	65	65	60	55	60	70	65	60	80	70	64	(13)
6	65	60	40*	50*	55	65	70	50*	40*	70*	50*	70*	40*	35*	55	85	110	85	80	70	85	65*	60*	40*	74	(12)
7	50	50	40	35	50*	35*	35*	35*	35*	35*	70	85	50	70	80	70	80	20	30	65	70	65	55	55	58	(18)
8	50	40	50	35	50	40	50	50	50	55	70	80	90	90	85	85	95	95	110	110	120	110	85	65	73	(24)
9	60	55	55	55	50	60	50	30	50	60	50	85	60	80	65	80	95	85	70	60	70	60	50	60	62	(24)
10	35	25	10	20	20	20	40	70	115	145	170	170	155	155	155	130	110	50	70	85	95	85	70	70	86	(24)
11	65	70	65	65	65	70	85	90	110	65	110	155	145	140	145	180	180	130	145	290	300	240	215	190	138	(24)
12	170	190	180	205	215	290	180	130	110	130	110	95	115	125	100	95	65	55	50	25	25	30	40	35	115	(24)
13	50	70	50*	25*	60*	95	60	80	80*	85*	50*	70*	85	90	90	85	85*	95*	85	85*	85*	85*	85*	60*	79	(10)
14	70*	60*	60*	60*	55*	70*	85*	70*	65*	40*	35*	30*	40	80	70	90	85	90	90	90	85	95	90*	90*	81	(10)
15	80*	80*	85*	110*	130*	130*	130*	60*	60	85	95	70	95	95	70	80	85	85	35*	95*	95*	70*	90*	50*	82	(10)
16	60	60	65	40*	50*	35*	40*	55	65	90	90	110	110	95	95	95	100	100	95	85	85	90	70*	55	84	(19)
17	55*	55*	40	35	40	50	40	60	60	65	60	65	60	55	80	80	85	80	70	90	85	85*	85*	65	63	(20)
18	60	55	55	40	50	55	70	80	80	80	60	70	65	65	65	85	85	95	100	110	100	100	110	100	76	(24)
19	100	80	70	65	65	80	85	85	85	85	55	30*	-10*	170*	215*	Z±*	385*	670*	850*	625*	420*	540*	410*	180*	78	(11)
20	155*	130*	80*	140	120*	130	70*	-85*	110*	190	250	275	170	250	200	215	250	360	395	540	515	360	290	335	286	(17)
21	540	575	600	480	505	600	865	720	515	360	265	325	360	35*	-145*	Z±*	310	360	240*	325*	-120*	-180*	-170*	-85*	492	(15)
22	85*	145	130	140	80*	-600*	85*	110	70*	130*	110	70	90	85	95	70	60*	60	80*	50*	70*	35*	-480*	0*	100	(11)
23	90*	85*	85*	80*	40*	95	100	90	110*	155	160*	155*	125	85	70	85	110	85	70	60	70	70	65	60	87	(16)
24	55	55	55	50	55	60	80	95	50	50*	60	90	85	65	80	70	65	60	70	65	70	70	65	60	67	(23)
25	60	55	40	40	55	85	90	90	100	130	130	100	95	60	55	70	110	115	110	100	100	90	80	65	84	(24)
26	65	55	55	60	70	80	80	80	85	70	85*	85	95	95	90	70	80	80	100	110	90	70	70	65	78	(23)
27	60	60	60	65	70	85	85	90	110	120	115	110	110	115	115	65	35	55	35	60	35	85	120	145	84	(24)
28	90	55	55	70	65	60	100	120	130	145	155	190	160	130	120	115	95	90	100	95	120	140*	130*	170*	108	(21)
29	130*	230*	110*	120	80	155*	180*	230*	190	95	60	95	185	155	35	70	90	90	95	110	70*	80	65	85	100	(17)
30	60	65	35	30*	20*	120*	190	265	250*	275*	215*	410*	325*	445*	360*	300*	335*	190*	290*	385	480	490	550*	180	239	(9)
31	190*	205*	205*	50*	60*	265*	150*	120*	240	120*	-445*	-145*	-410*	-215*	10*	130*	180	130*	145	160	130	140	130	110*	161	(7)
Mean	94 (19)	94 (20)	89 (20)	93 (20)	92 (17)	108 (20)	125 (20)	122 (21)	123 (18)	113 (20)	103 (22)	117 (21)	114 (23)	102 (22)	90 (26)	92 (26)	109 (25)	101 (26)	99 (23)	127 (23)	133 (21)	123 (20)	99 (17)	97 (19)	106	(509)
																								Mean for 0a days	[75	(11)]

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

19 LERWICK — Factor 2·72 to 0900Z on 31st then 2·0 to 2400Z — AUGUST 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
	volts per metre																									
1	110*	95*	90	65*	85*	110	85	70	65*	60*	55*	50	70*	70	80	60	80	90	80	80	70	70	80	80	78	(16)
2	65	65	65	70	70	85	90	90	95	90	100	95	90	95	90	85	90	125	130	115	100	120	140	115	95	(24)
3	120	115	130	Z±*	Z-*	70	265	250	160	190	275	275	310	205	265	395	395*	275*	275*	360*	170*	55*	-20*	-125*	216	(14)
4	Z±*	Z-*	0*	Z±*	Z±*	170*	175	100*	Z±*	Z±*	Z±*	180*	Z±*	Z±*	35*	215*	230	130*	130*	120*	175*	145*	120	145	167	(4)
5	145	125*	100*	90*	120*	150	160*	160	150	130	115	110	95	85	85*	85*	70*	85*	90	110	100	95	100	85	115	(15)
6	80	70	70	65*	65*	10*	25*	80*	70*	25*	30*	50	40*	40*	30*	40	55	60	65	65	65*	60	55	50	60	(12)
7	55	55	35	50	50	70	65	65	50*	65*	85*	85	50	50	65	40	55	70	65	70	70	60	70	65	60	(21)
8	50	40	20*	50	55	70	85	100	90	90	85	85	95	90	95	90	60	60	80	80	80	70	60	60	75	(23)
9	60	55	50	55	60	80	95	130	150	145	170	200	190	190	230	220	170*	-540*	Z-*	-840*	-720*	-215*	215*	95	128	(17)
10	55	70	95	85	70	85	125	110	130	130	110	95	95	95	85	55	85*	65*	85	80	85	85	70	65	89	(22)
11	50	55	80	95	130	125	85*	85*	120*	145*	180*	-170*	190*	145*	Z±*	190*	190	155	180	215	150	60*	110*	115	128	(12)
12	95	90	0*	55*	90*	120*	120	90	65*	50*	55*	25*	30*	40*	40*	50*	60*	55*	80*	85	70*	85*	60	65	86	(7)
13	70	60	60	50	50*	110*	70	80	80	70	Z-*	70*	70	70	80	70	65	70	70	80	70	70	60	55	69	(20)
14	55	55	60	60	70	60	95	85	80	80	70	60	65	70	70	95	120	125	115	100	80	95	120	140	84	(24)
15	180	110	120	150	170	180	145	120	130	130	110	85	85	70	90	85	85	90	100	130	120	120	100	95	117	(24)
16	50	60	70	80	85	140	155	140	120	115	100	80*	40*	35*	50	-85*	55*	130*	160	155	130*	120*	130*	100*	106	(14)
17	95*	70	120	125	130	205	275	190	120	100	100	125	110	155	155	95	120	115	115	110	130	100	90	125	130	(23)
18	120	80	80	90	155	150	120	100	80	65	20	35	25	35	10	35	10	80	90	100	85	20	95	155	76	(24)
19	205	95	120	145	120	155	240	275	290	205	205	205	190	205	230	215	205	215	265	240	155	170*	265	190*	202	(22)
20	175*	265*	215*	240*	205*	145*	180*	110*	110*	230*	130*	145*	170*	310*	310*	Z-*	350	265	385*	360*	215*	95*	360*	310*	307	(2)
21	530*	805	900*	Z±*	Z±*	360*	600	540	900	Z+	Z+	720	420	180	170	215	120	145	140	95	110*	Z-*	190*	155*	388	(13)
22	120*	150	150	130	115*	150	190	145*	130*	130	150	155	145	140	145	120	110	110	95*	95*	130*	130*	145	125*	141	(15)
23	110	120	110	95	95	110	155*	115*	100*	110	115	125	145	120*	25*	-120*	Z-*	-646*	-290*	395*	25*	205*	155	130	118	(12)
24	100	110	90	85	-35*	50*	95*	160	110	85	85	130	85*	25*	110	85*	40*	30*	-25*	70*	120*	120*	85*	80*	107	(10)
25	70*	70*	40*	60*	240*	-120*	0*	170	95*	35*	25*	-25*	170*	0*	85*	85*	85*	85*	80*	110	115	95	90	85	111	(6)
26	70	60*	60*	70	110	130	95*	95	110	140	145	160	130	175	215	205	Z-*	Z-*	-215*	-70*	190*	Z+*	Z±*	Z±*	135	(13)
27	Z±*	-145*	-180*	-25*	-120*	155*	150*	100	70*	35*	60*	65*	80*	95	110	95	95	110	110*	205	115	115	100	100*	114	(10)
28	80*	80*	80*	85	80	85	80	70*	80*	90	70	65	90*	50*	80*	70*	70*	80*	85	60	90	85	65	65	77	(13)
29	-95*	60	60	35*	30*	-60*	85*	130*	80*	90	95	90	90	80	80	85	85	85*	-155*	-395*	-660*	-720*	-720*	-660*	81	(10)
30	-110*	-180*	-80*	215*	Z-*	85	85*	65*	85*	85*	85*	30	65*	50	80	85*	95	95	95	95	95	90	70	55	66	(13)
31	50	50	50	50	50	40	50	50	50	55	40	45	65	60	70	70	75	65	55*	55	65	60*	70	70	57	(22)
Mean	89 (20)	111 (22)	77 (21)	85 (19)	94 (16)	111 (21)	156 (20)	144 (22)	167 (17)	112 (20)	114 (19)	134 (23)	130 (19)	108 (21)	117 (22)	119 (20)	115 (20)	114 (18)	112 (18)	111 (22)	99 (18)	84 (16)	99 (22)	91 (21)	112	(477)
																								Mean for 0a days	107	(8)

Daily, monthly and annual means are computed excluding hours with precipitation and, of course, all indeterminate entries. The number of hours or days used in computing each mean is shown in round brackets. Entries in square brackets are means for 0a days (see Introduction) and the figure in round brackets is the number of days used in computing this mean.

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

19 LERWICK — Factor 1·95 — SEPTEMBER 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
	Hour G.M.T.																								
	volts per metre																								
1	65	55	45*	75*	50*	170*	200	190	190*	170	160	145	130	110	75	105*	105	105	145	100	105	110*	170*	135*	124 (15)
2	-45*	25*	145*	70*	-45*	135*	-225*	115*	225	160	110	110	110	105	90	105	100	110	95	110	115	150	145	155	125 (16)
3	115	65	40*	40*	65*	95	120	45*	40*	65*	10*	-100*	-100*	10*	45*	55	85	150	155	135	145	110	95*	65*	112 (11)
4	60*	45*	60*	70	50	60*	155*	200*	205*	125*	0*	-515*	-235*	-160*	-10*	-115*	-160*	25*	-10*	-80*	-115*	-810*	-205*	10*	60 (2)
5	40*	100*	110*	-360*	-90*	10*	80*	110*	115*	100*	95	110	110	90	80	95	90	90	90	100	110	-25*	95	75	95 (13)
6	65	65	60	-10*	60*	65	35*	Z+*	65*	70*	Z-*	Z·*	Z-*	-135*	Z-*	-45*	Z-*	Z±*	65*	Z-*	-90*	Z-*	-145*	-80*	64 (4)
7	65*	80*	75	65*	70	70	70	80*	80	45*	65	70*	45	55*	70*	100	100*	110	100	85	0*	20*	35*	35*	79 (11)
8	70*	70	65	65	70	65*	80	85*	70*	65*	0*	75*	95	-45*	70*	90*	90	95	100	90	90*	90	70	55*	82 (12)
9	-20*	65*	135*	Z±*	Z±*	Z±*	Z+*	135*	Z±*	Z±*	Z±*	-205*	90*	115*	115*	80*	70*	105	110	105	105	90	85	75	96 (7)
10	65	75*	-110*	55*	65	70	70	65*	70*	70	75	75	70	85*	85	100	95	90	75	80	75	70	65	60	75 (18)
11	55	55	45	55	55	55	60	70	75	70	80	65	80*	Z±*	Z±*	80	80	75	70	95	85	80	85	75	70 (21)
12	65	70	70	70	80	90	100	100*	105*	100	90	80*	90	100	95	75*	75*	75*	85	85	85	85	70	70	83 (18)
13	60	60	60	55	60	70*	65*	75*	80	80*	90	85	85	80*	90*	105	75*	85	85*	80	110	100	75*	65*	80 (14)
14	65	60	60	65	65	65	80	90	110	110	100	105	115	135	315	315	290	270	280*	340*	0*	-225*	-540*	-315*	134 (18)
15	45*	-450*	205*	100*	235*	235	270	280*	380*	160*	225	110	110	115	115	110	100	115	115	120	125	115	100	85	135 (16)
16	85*	95	125*	80	70*	80*	70*	65*	65*	90*	85*	70*	70*	20*	85*	60*	55*	80*	70*	-20*	-70*	65*	Z-*	65*	87 (2)
17	110*	65*	-225*	25*	-70*	-110*	70*	Z±*	Z-*	295*	110	85*	80	65*	65*	70	55	65*	70*	50*	-90*	-20*	90	70*	81 (5)
18	70	70	60	65	60	70	70	85	85	70	70	70	75	95	110	75	80*	95	95	80	70	65	70	75	76 (23)
19	70	65	55	50	65	60*	90*	80	55	70	65	55	65	65	70	70	70	80	70	75	70	70	65	55	66 (22)
20	50	50	35	35	45	45	55	45	55	55	60	55	65	65	100	65	40	55*	70*	75*	110*	180*	190*	160*	54 (17)
21	145*	160*	115*	115	100	80	80*	70*	65*	100*	75*	100	100	75	70	80	70*	70	45*	80*	65	85	90	80	85 (13)
22	55	50	45	215*	80	100	100	60	-55*	-160*	-135*	-360*	Z±*	Z±*	135	125	115	110	100	95	100	90	80	70	89 (17)
23	65	55	60	60	70	90	115*	55*	30*	-80*	-80*	-225*	0*	65*	-35*	110*	80	105*	155	160	115	80*	115*	65*	91 (10)
24	90*	115*	110	85*	90*	90	90	100	100	90	90	85	95	100	95	85	80	80	80	95	80	70	70	70	88 (20)
25	60	30	70	85	110	55*	25*	45	70*	100*	205*	290	360	450	360	335	315*	340*	360	360	450	470	425	325	270 (17)
26	270	250	270	245	225	250	225	215	235	205	205	225	225	235	200	25*	-205*	Z-*	Z-*	-45*	215*	270	250	225	235 (18)
27	205	115	140	325*	135*	135*	90*	225*	595*	290*	250*	360*	55*	-90*	90*	70*	0*	340*	135*	340*	135*	360*	340	295	219 (5)
28	235	190	215	215	235	245	225	225*	225*	145*	180*	245*	235*	225*	250*	315*	290*	190*	170*	180*	250*	290*	270	470*	229 (8)
29	135*	-360*	Z-*	-110*	295*	335*	Z-*	Z+*	100*	200*	210	45*	Z+*	115	70	75	110	135	155	205	190	155	160	180	147 (12)
30	200	225	200	155	205	185	155*	45*	-205*	-270*	225*	70	-135*	270*	135*	70	155	130	160	295	385	380	340	340	198 (17)
Mean	102 (18)	89 (19)	94 (18)	93 (16)	95 (18)	112 (17)	121 (15)	98 (10)	110 (10)	106 (11)	112 (17)	110 (16)	99 (19)	133 (14)	129 (16)	111 (19)	102 (17)	111 (19)	122 (19)	127 (20)	136 (19)	141 (18)	148 (20)	136 (17)	115 (402)
Mean for 0a days																									[63 (3)]

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

19 LERWICK — Factor 1·92 — OCTOBER 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
	Hour G.M.T.																								
	volts per metre																								
1	300	245*	305*	280	295	285	160*	205*	20*	10*	150*	195	115*	50*	130*	270	280	275	280	250	135	90	110	105	225 (14)
2	140	95	120	120	120	120	120	115	130	90	80	70	55	55	70	70	70	110	135	165	130	110	100	95	103 (24)
3	85	60	60	40	25*	30*	30	50	60	60	60	50	60	60	85	90	100	110	195	125	110	125	130	95	84 (22)
4	90	105	140	110	130	90	95	120	135	150	95	110	125	110	140	190	225	270	465*	585	520	305*	250*	195*	177 (20)
5	210*	Z±*	-20*	30*	75*	70	90	70*	35*	40	40	50	55	55	55	70	75	90	160	170	190	195	175	110	99 (17)
6	105	90	85	70	85	50	50	65	55*	75*	75	70	60	70	80	85	90	70	70*	45*	90*	55	35	40	70 (19)
7	35	50	40	60	85	90	85	105	130	140	135	135	115	135	135	120	125	170	165	195	145	130	110	105	114 (24)
8	70	90	105	185	245	280	280	265	230	275	285	290	235	270	285	355	350	320	230	195	230	130	100	70	224 (24)
9	80	90	105	125	105	85	130	250	150	145	175	90	40	35	-45*	150*	90*	50*	75*	30*	70*	0	25	25	97 (17)
10	15	30	10*	30*	25	25	60	85	105	105	90	90	105	125	125	130	135	135	150	145	135	110	95	80	95 (22)
11	70	65	60	60	65	60	55	65	70	70	75	75	75	70	70	75	80	80	75	70	75	55	60	50*	68 (23)
12	30*	10*	50*	35*	45*	50	40	50	40*	50*	60*	80	65	55	70	80*	70*	95	70	75	60	70*	85*	70	65 (12)
13	55	40	20*	35*	60*	40*	50*	110*	Z±*	265*	95	95	80	85	80	50*	40*	55	60	65	75	65	65	60	70 (14)
14	50	50	40	35	40	45	50	55	65	70	75	70	65	65	65	70	70	65*	10*	-135*	-40*	0*	10*	-25*	58 (17)
15	-30*	0*	25*	70*	70*	90*	95*	160*	80*	90*	80*	60*	60*	55*	65*	65	70	75	80	75	70	55	50	50*	67 (8)
16	70*	170*	175*	200	225*	140*	90*	185*	170	145	110	120	120	135	105	120	90*	200*	185*	170*	170*	55*	40*	70*	136 (9)
17	105*	95*	10*	-185*	55*	90*	110	130	115	100*	100*	95	95	100	95	90	105	100	95*	70*	0*	60*	-10*	80*	103 (10)
18	10*	50*	-160*	-105*	70*	50*	65	70	50*	55*	70	65	50*	55	65	70	70	70	75	70	75	70	65	60	68 (15)
19	50*	40*	40*	50*	30*	50*	50	50	50*	65*	55*	65*	80*	70*	70*	90*	115*	110	110	110*	110*	130*	130*	120*	80 (4)
20	95*	110*	110*	100*	55*	70*	50*	70	65	70	70	60	65	55	55	60	65	70	70	75	85	75	70	65	67 (17)
21	55	55	50	50	50	50	55	65	70	90	75	90	70	50	10*	60*	35	50*	50*	85	65	90	105	105	68 (20)
22	95	90	70	50	70	90	110	65	95	95	80	50	70	55	55	90	90	100	150	145	105	80	70	75	85 (24)
23	70	50	55	65	65	65	55*	60	50	10*	-105*	Z±*	25*	65*	70*	70	40*	75	70	65	60	30*	50	40	61 (15)
24	40	35	30	30	30	45	40*	40*	70	70	50*	50*	50*	60*	55*	65	95	100*	100	90	80*	60	45	50*	57 (14)
25	70*	90*	-55*	-55*	55*	140	110	110	80*	70*	65	80*	-15*	-25*	-385*	-385*	-385*	-80*	-110*	185*	70	105*	55*	50	91 (6)
26	45*	40*	40*	Z-*	65*	0*	70*	Z±*	25*	Z+*	Z+*	80*	95*	95	160*	Z±*	265*	135*	115	90	110*	Z±*	Z±*	60	90 (4)
27	120*	65	65	70*	65*	-95*	-10*	-15*	Z+*	Z±*	150*	Z±*	95*	Z±*	200	Z±*	Z+	-160*	Z±*	Z±*	80*	Z±*	Z-*	185*	110 (3)
28	120*	Z+*	Z+*	265	70*	55*	65*	45*	50*	-90*	Z-*	40*	95	Z±*	130	90	175*	95*	145*	130*	Z+*	90	Z+*	30*	134 (5)
29	135*	60*	50*	55*	65*	105*	175*	50	45	45	50	50	90	110	130	125	-15*	105*	-200*	Z-*	40*	120	Z+*	95	83 (11)
30	90	90	75	70	110	Z+*	90*	80*	95*	85	90	90	55*	Z-*	145*	105*	160*	Z-*	Z±*	Z±*	Z±*	Z+*	65*	65	85 (9)
31	150	Z±*	Z±*	Z-*	65	80*	110	Z±*	255*	30*	70	65*	90*	100	100*	100*	145*	Z-*	90*	90	80*	130*	80*	Z-*	97 (6)
Mean	89 (18)	68 (17)	73 (15)	107 (17)	99 (16)	96 (17)	89 (19)	95 (20)	103 (17)	103 (17)	93 (21)	95 (22)	87 (20)	88 (22)	105 (20)	113 (21)	118 (18)	125 (19)	127 (18)	141 (20)	130 (18)	90 (19)	81 (18)	73 (20)	100 (449)
Mean for 0a days																									[146 (4)]

The potential gradient is reckoned as positive when the potential increases upwards. The symbol Z indicates either that the trace fluctuates rapidly so that estimation of a mean value is impracticable, or that the trace is limited by the range of the instrument (see Introduction); and the suffix +, - or ± indicates that the mean value is plainly positive, plainly negative, or indeterminate in sign. The occurrence of precipitation of any sort is indicated by an asterisk. Round brackets round any hourly mean indicates that the record during that hour is somehow imperfect.

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

19 LERWICK — Factor 1·92 — NOVEMBER 1962

	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
	Hour G.M.T.												volts per metre													
1	Z+*	60*	55	50	50	45	50	75*	65	95	90	90	100	170	170*	Z-*	-40*	65*	70*	-70*	-80*	Z-*	Z-*	-120*	78	(11)
2	145*	50*	120*	95*	210*	210	225	250	250	225	240	175	185	255	290	240	250	200	225	Z±*	Z±*	200*	160*	130*	230	(14)
3	-185*	135*	Z±*	175*	215*	175*	230	215	225	Z±*	Z±*	215	230	230	200	150	Z±*	345*	265	215	375	230	Z±*	145*	232	(12)
4	375	200	175	175	230	170	110	70	70	105	130	150	150	200	265	305	210	130	120	175	240	255	250	210	186	(24)
5	240	225	200	150	240	255	255	50*	110	110	-55*	-95*	-280*	40*	185*	305*	385	400	345	295	265	225	225	210	243	(17)
6	145	130	130	130	130	90	80	80	105	110	115	110	110	105	110	90	70	105	90	70	80	70	65	70	100	(24)
7	70	60	75	105	120	125	140	95	30	80	65*	70*	115*	170*	170*	50*	185*	120*	100	50*	175	170	265	255	124	(15)
8	240	240	Z±*	Z±*	240*	115	150	150	150	155	215	170*	185*	190	200	175	150	160	130*	175	110*	95*	50*	60*	176	(14)
9	110	25	70*	145*	55*	35*	60*	40*	60*	35*	35	75	105	90	45	30	50	55	95	105	80	50	50	45	65	(16)
10	30	30	30	45	35	60	70	80	75	85	90	110	110	130	125	110	110	100	110	110	115	100	95	90	85	(24)
11	95	85	90	90	90	90	105	100	100	110	105	95	100	95	95	95	110	125	105	95	70	70	50	65	93	(24)
12	60	55	55	50	50	55	50	50	55	55	70	70	70	70	70	85	80	70	70	70	65	60	65	50	63	(24)
13	45	40	40	35	25	30	40	45	35	35	35	35	-400*	-360*	-15*	Z-*	Z-*	15*	50*	Z-*	25*	50*	0*	Z-*	37	(12)
14	-280*	-160*	Z±*	-135*	40	40	50*	-40*	40*	120*	50	60	70	70	65	70	70	70	85*	90	90	Z+*	120*	40	63	(13)
15	Z+*	Z±*	Z±*	Z±*	50*	320*	70*	Z+*	95*	0*	Z±*	Z+*	Z±*	110	Z±*	Z+*	55*	95	90	105*	90	65	35	50	76	(7)
16	50	50	65*	50*	15*	70*	50*	60*	50	50	50	65*	55*	70*	70	70*	80	80	90	80	90	70	75	55	67	(14)
17	65	60	55	65	65	70	65	70	70	70*	90*	95*	90*	210*	Z±*	120*	150*	120*	110	110	110	105	115	130	84	(15)
18	80	90	80	90	70*	105*	Z+*	Z-*	95	95	Z+*	Z+*	Z-*	240*	145*	130*	105*	200*	Z+*	185*	110	100	240*	85	92	(9)
19	70	70	Z+*	Z±*	Z+*	130*	75	80	105*	95*	95*	120*	120*	110*	110*	135*	110	120	110	95	90	75	70	85	87	(12)
20	65*	Z+*	Z+*	-80*	-15*	105*	95*	70*	0*	105*	110*	110*	50*	115*	95	10*	135*	115	110	150	Z+*	90	90	115	109	(7)
21	120	95	55	50	55	65	110	70	Z+*	Z±*	70	Z+	Z±*	Z±*	Z±*	160	120	110	110	135	110	75	80	70	92	(18)
22	65	70	60	60	65	70	70	55	65	95*	75	80	80	95	90	90	100	105	105	105	105	105	105	90	83	(23)
23	80	90	80	70	90*	Z+*	-175*	0*	-295*	60*	70*	40*	30*	-40*	10*	55*	80	70	60*	20*	25*	40*	35	25*	72	(7)
24	25*	90*	45*	45*	45*	45	40	50	50	50	50	60*	65*	50*	60*	70	70	70	70	75	60	50	50	45	56	(15)
25	40	35	30	30	35	35	35	40	50	50*	50*	40*	55*	120*	80*	105*	95	80	70	70	80*	70*	55*	70	51	(14)
26	45	30	50	50*	50	60	70	70	65	60	80	90	70	90	70	95	90	80	85	70	70	65	60	65*	69	(22)
27	30*	50	50*	40*	10*	10*	25*	55*	55	60	70*	40	80*	70*	70*	55*	75*	80	60*	10*	20*	45*	35*	35*	57	(5)
28	35*	35	35	35	35	30	50*	40*	40*	-80*	-70*	-15*	-105*	25*	50*	65*	95*	105*	135*	90*	55*	70*	70*	55*	34	(5)
29	50*	35*	50*	50*	Z-*	80*	70*	105*	60*	40*	70*	80*	175*	Z±*	70	65	65	70	65	55	50	50	50	40	58	(10)
30	30	35	35	30	35	35	35	40	40	40	55	55	68	70	65	80	50	55	55	50	60	50*	60	40*	49	(22)
Mean	103	82	74	74	79	85	100	89	86	89	91	97	111	131	120	119	117	111	118	114	119	104	95	93	100	(449)
	(20)	(22)	(18)	(17)	(17)	(20)	(20)	(18)	(21)	(17)	(17)	(15)	(13)	(15)	(16)	(16)	(20)	(23)	(22)	(21)	(21)	(20)	(20)	(20)		
																								Mean for 0a days	[97	(7)]

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

19 LERWICK — Factor 1·95 — DECEMBER 1962

	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
	Hour G.M.T.												volts per metre													
1	60*	55*	70	65*	65*	55*	60	65	65	50	65	65	60	55*	50*	65	75	80	70	75	90	100	90	80	72	(17)
2	70	65	95	80	105	105	110	90	65	90	100	90	100	100	110	145	180	135	215	200	160	110	60	60	110	(24)
3	55	45	35	35	35	55	65	70	90	115	130	245	160	180	250	125	95	90	100	110	100	85	65	55	100	(24)
4	40	50	65*	180*	145*	20*	170*	125*	105*	145*	100*	100*	120*	120*	120*	95*	100	155	125	105	85	135	145	130	107	(10)
5	110	75	100	115	225	210	110	100	80	75	90	105	155	190	135	155	170	170	160	135	115	110	125	115	131	(24)
6	120	110	95	75	80	75	70	60	50	25	15	25*	25*	35*	70	65	110	110	105	50*	45*	40	70	95*	75	(18)
7	95	80	65	70	65	75	95	140	170	180	190	225	335	315	290	235	190	170	200	205	100*	90*	145	125	166	(22)
8	100	65	80	80	105	125	-80*	-170*	-10*	45*	-40*	-110*	65*	110*	90*	90	70*	Z+*	Z±*	Z±*	Z±*	Z+*	Z±*	Z±*	92	(7)
9	Z±*	Z±*	Z±*	Z±*	90	75	65	65	65	65*	-170*	Z±*	270*	Z-*	Z-*	90*	25*	80*	Z+*	90	65*	55*	50*	55*	75	(6)
10	45*	0*	Z±*	Z-*	45*	Z+*	Z+*	Z±*	45*	35	35*	70*	40*	60	60	55	65	60*	40*	65*	40*	-55*	-205*	-225*	56	(6)
11	-475*	-280*	-515*	Z-*	-290*	15*	40*	85*	110*	115*	105*	105*	105*	100*	135*	Z+*	235*	225*	155*	80	100	70	70	155*	80	(4)
12	Z-*	Z-*	135*	Z+*	155*	Z±*	Z±*	Z±*	Z-*	Z-*	Z+*	Z+*	Z±*	Z±*	Z+*	Z+*	Z+*	Z±*	Z±*	115*	110*	125*	215*	Z±*	-	(0)
13	245*	125*	135	115	135*	90	85	70	60	60	60	65	65	65	Z-*	80*	70	70	Z-*	-190*	25*	Z±*	70*	65	77	(14)
14	55	Z±*	Z-*	15*	-430*	Z-*	Z±*	70*	145*	Z-*	90*	95*	Z-*	-110*	-80*	110	Z±*	145*	110	Z±*	75*	95	70*	65*	93	(4)
15	80	70	75	70	65	70	65	70	70	65	60	50	25	20*	35*	170*	115*	155*	115*	110	60	135*	45*	65	67	(16)
16	50*	60*	Z-	50	55	90	65*	100	Z-*	90*	Z-*	Z±*	Z±*	Z-*	Z±*	Z±*	Z±*	Z±*	Z+*	Z±*	Z±*	Z±*	155*	10	61	(5)
17	55	45	50	50	65	65	65	65	65	60	65	65	75	75	70	65	65	50	75	80	65	55	55	75	63	(24)
18	180	45*	35*	25*	45*	65*	55*	85*	-65*	65	10*	85*	-155*	85*	Z±*	90*	155*	Z-*	90*	65	65	75*	80	75	88	(6)
19	70	45*	45	Z±*	65*	60	200	55	70	85	90	105	75	90	80	80	65	70	50	80	60	50	55	55	76	(21)
20	65	70	85*	105*	125*	160	100*	-25*	-290*	Z-*	Z-*	-360*	-385*	Z-*	Z-*	Z-*	405*	115*	Z+*	-110*	-205*	-90*	60*	55*	98	(3)
21	Z-*	55*	60	115	70*	65*	60	60	60	90	70	Z+*	Z±*	155*	125	100	75	85	155	90	105*	80*	70	60	85	(15)
22	50	45	45	35	35	70	45	60	65	65	80	80	85	85	90	115	115	115	155	160	175	200	205	180	98	(24)
23	160	150	145	160	150	165	155	140	155	205	205	205	155*	115*	110*	170*	205*	215*	200*	115*	135*	0*	115*	45*	166	(12)
24	125	180	70	65*	35*	65*	105*	110*	65*	60*	65*	125*	115*	115*	115*	90*	80	120	160*	125*	-145*	35*	65*	25*	115	(5)
25	70*	55*	60*	25*	50*	25*	40*	25*	0*	50*	55*	65*	65	25*	65*	Z-	55	65	65	65	60	60	Z-*	50	61	(8)
26	25*	20*	45	55	65	65	80*	65	60	75	Z+*	80	70	70	Z+	Z±*	95	170	Z+	Z±*	Z+*	Z±*	Z±*	Z+*	76	(12)
27	Z±*	Z±*	Z±*	Z-	Z±*	Z+*	Z+*	125*	Z+*	Z+*	Z+	Z+*	Z+*	Z+*	180*	Z±*	Z-*	145*	225*	Z-*	295	185*	Z±*	115*	295	(1)
28	180	90*	70*	70	70	75	250	125	Z-*	Z±*	155	145*	225	160	155	160	160	450	Z-*	450*	Z+*	630	145	Z±*	201	(15)
29	200*	100	215*	Z±*	115*	70	80*	80*	100	115	125	115	95	70	45*	Z-*	Z±*	160*	70	75	65*	Z±*	Z-*	70	93	(10)
30	90	75	70	70	75	75	70	80*	110	80	75	90*	110*	Z-*	100*	110*	125*	100*	Z±*	115*	110	110	120	125	90	(14)
31	130	205	Z-*	Z±*	80*	90	90	90	100	115	145	110	110	95	125	120	135	135	200	280	250	225	215	160	149	(21)
Mean	96	89	75	78	86	93	98	83	83	87	101	115	113	120	130	112	106	128	124	116	119	138	107	87	103	(392)
	(19)	(16)	(17)	(16)	(15)	(20)	(17)	(18)	(18)	(19)	(17)	(14)	(15)	(13)	(12)	(15)	(18)	(18)	(15)	(17)	(15)	(15)	(16)	(17)		
																								Mean for 0a days	[110	(3)]
Annual Mean	91	87	84	84	88	94	99	97	101	98	101	107	109	111	112	111	113	115	111	114	115	114	104	95	102	(5197)
	(211)	(221)	(215)	(205)	(195)	(215)	(211)	(208)	(202)	(210)	(229)	(223)	(224)	(222)	(215)	(226)	(225)	(228)	(220)	(232)	(218)	(217)	(215)	(210)		
																								Annual mean for 0a days	[91]	

Daily, monthly and annual means are computed excluding hours with precipitation and, of course, all indeterminate entries. The number of hours or days used in computing each mean is shown in round brackets. Entries in square brackets are means for 0a days (see Introduction) and the figure in round brackets is the number of days used in computing this mean.

20 LERWICK 1962

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE	
	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient
		hr.		hr.		hr.		hr.		hr.		hr.
1	1b	0·2	1c	1·8	1c	2·6	1c	2·3	0a	0·0	1b	2·2
2	1a	0·1	1a	1·9	1c	2·6	1b	0·6	0a	0·0	1a	0·4
3	1a	0·2	1c	2·1	2c	5·0	1b	0·6	1a	0·2	0a	0·0
4	1a	1·4	1c	2·8	1c	2·2	1b	0·7	0a	0·0	1a	0·1
5	2b	5·6	1c	1·8	1c	2·2	1b	2·1	1a	0·6	0a	0·0
6	1b	0·3	2a	5·4	1a	0·4	1b	0·5	0a	0·0	1a	0·8
7	2c	4·5	1b	1·9	2c	4·4	1a	0·2	1a	0·3	1a	0·1
8	1c	2·7	1a	1·5	1b	0·5	1c	2·4	1b	2·2	0a	0·0
9	1c	1·7	1b	2·7	2b	16·9	1b	0·7	0b	0·0	2a	3·2
10	1c	2·4	1c	2·9	1a	0·1	2c	3·3	1a	0·2	1a	1·4
11	2c	5·8	2c	9·0	1c	1·8	2c	6·6	1a	0·6	1a	0·9
12	2c	3·0	2c	3·5	1b	1·5	1c	1·7	1a	0·1	1a	0·1
13	1b	2·7	1c	1·4	1c	2·6	1a	0·1	2b	4·4	1a	0·4
14	1b	1·1	1a	2·0	2c	3·5	0a	0·0	1a	0·2	2b	4·0
15	2c	8·4	2a	10·1	1c	0·3	0a	0·0	1b	0·6	0a	0·0
16	2b	5·6	2a	3·4	1a	0·1	0a	0·0	2c	9·6	1a	0·8
17	1b	0·7	1b	1·0	0a	0·0	0a	0·0	2c	4·9	1a	0·8
18	1b	0·5	1a	1·3	2a	3·1	0a	0·0	1b	1·5	1b	0·5
19	2c	8·5	0a	0·0	1a	2·1	1a	3·0	0a	0·0	1a	0·2
20	1c	2·3	0a	0·0	1b	0·5	2b	3·7	1a	0·2	1b	1·1
21	1b	2·2	0a	0·0	1b	2·8	1b	0·2	2b	6·8	1b	0·7
22	2c	3·1	0a	0·0	1b	0·2	2b	9·0	2b	16·7	1b	1·4
23	1c	1·6	0a	0·0	1b	0·4	0a	0·0	2b	6·4	1a	0·2
24	1b	0·1	1a	0·1	2b	4·8	1a	0·6	2a	4·3	2c	8·9
25	2b	3·6	1b	0·3	2b	3·9	2c	6·4	1a	0·1	1b	2·4
26	1c	1·7	1b	0·3	2c	4·1	1a	0·2	0a	0·0	1b	0·6
27	1b	0·2	1a	0·4	1b	1·1	0a	0·0	1a	0·3	1a	1·7
28	1a	0·3	1b	1·1	1b	0·7	0a	0·0	1a	0·1	1a	0·2
29	1b	1·8			2c	12·0	0a	0·0	1a	0·6	0a	0·0
30	2b	10·1			2c	7·6	0a	0·0	2c	3·2	1a	1·0
31	2c	5·2			1c	1·4			1b	0·2		
Total	-	87·6	-	58·7	-	91·4	-	44·9	-	64·3	-	34·1
No. of days used	-	31	-	28	-	31	-	30	-	31	-	30
Mean	-	2·8	-	2·1	-	2·9	-	1·5	-	2·1	-	1·1

	JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient
		hr.		hr.		hr.		hr.		hr.		hr.
1	1a	0·3	0a	0·0	1b	0·7	1a	1·1	2b	4·4	1a	0·2
2	1b	1·7	0a	0·0	1b	2·8	1a	0·1	1b	1·5	1a	0·1
3	1a	0·4	1b	2·9	1a	2·5	1a	0·2	1c	1·9	0a	0·0
4	1a	0·6	2c	6·5	2a	11·4	0a	0·0	0a	0·0	1a	0·3
5	0a	0·0	0a	0·0	1a	2·3	1b	1·2	1b	2·9	0a	0·0
6	1a	0·7	1a	1·0	2c	7·7	1a	0·3	0a	0·0	1a	1·2
7	1a	0·9	0a	0·0	1b	2·1	0a	0·0	1b	1·2	1a	0·5
8	0a	0·0	1a	0·4	1a	1·1	0a	0·0	1b	1·3	2c	4·9
9	0a	0·0	2b	4·6	2c	5·3	1a	2·6	1a	0·4	1c	2·0
10	0a	0·0	1a	0·3	1a	0·6	1a	0·4	0a	0·0	2c	4·5
11	1a	0·1	1b	2·5	1b	1·4	0a	0·0	0a	0·0	2b	5·5
12	1a	1·3	1a	0·6	1a	0·1	1a	0·4	0a	0·0	1c	2·9
13	1a	1·7	1b	0·3	1a	0·1	1b	0·7	2c	6·1	1b	1·5
14	1a	0·2	1b	0·1	2b	3·1	2a	3·8	2b	4·1	2c	6·9
15	1a	0·1	0a	0·0	1b	1·5	1a	1·7	1c	2·7	1b	1·0
16	0a	0·0	1a	1·1	1b	2·5	1a	0·5	1a	0·6	2c	3·3
17	0a	0·0	0a	0·0	2c	3·7	1b	1·7	1b	0·4	1a	0·1
18	0a	0·0	1a	1·0	0a	0·0	1a	2·2	1c	1·5	1b	1·9
19	1b	1·3	0a	0·0	0a	0·0	1a	0·1	1b	0·5	1b	0·2
20	1a	0·7	1b	1·1	0a	0·0	1a	0·1	1b	2·7	2c	10·1
21	2b	4·4	1b	1·6	1a	0·1	1a	0·8	1c	0·9	1b	0·4
22	1b	2·4	1a	0·2	2b	3·8	1a	0·1	0a	0·0	0a	0·0
23	0a	0·0	2b	5·2	2a	4·2	1b	2·0	2b	4·4	1a	0·6
24	0a	0·0	1b	1·1	1a	0·1	1a	0·4	1a	0·2	1a	1·7
25	0a	0·0	1b	2·3	1a	0·6	2b	5·3	1a	0·1	1b	1·1
26	1a	0·1	2c	5·0	2b	3·7	1c	2·2	0a	0·0	1c	2·1
27	0a	0·0	2b	4·9	1b	2·5	2c	4·3	1a	1·9	1c	2·1
28	1a	0·1	1a	0·4	1a	0·3	1c	2·4	2a	3·3	1b	1·5
29	1a	0·5	2c	6·7	2c	3·9	1b	2·6	1b	1·2	1b	1·7
30	1a	0·5	1b	1·7	2b	3·0	1c	1·5	1a	0·1	1b	0·6
31	2b	4·4	0a	0·0			1c	2·5			1b	1·5
Total	-	22·4	-	51·5	-	71·1	-	41·2	-	44·3	-	60·4
No. of days used	-	31	-	31	-	30	-	31	-	30	-	31
Mean	-	0·7	-	1·7	-	2·4	-	1·3	-	1·5	-	1·9

Annual values: Character 0 1 2
No. of days used 64 227 74

Duration: Total 671·9
No. of days 365
Mean 1·84

ESKDALEMUIR

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

21 ESKDALEMUIR (H) — 16,000γ (0·16 C.G.S. unit) + — JANUARY 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 18,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	803	811	812	804	818	821	818	820	816	811	802	800	802	809	813	813	814	816	818	818	818	816	813	817	813	1503
2	814	814	814	820	824	818	827	811	808	799	790	800	796	801	798	806	802	801	806	811	812	809	811	810	808	1402
3	813	813	814	816	818	820	822	820	814	804	801	800	802	807	815	818	817	817	814	813	809	806	806	809	812	1488
4 q	812	812	814	815	817	817	819	818	816	814	806	802	808	812	813	817	818	817	816	815	814	816	815	816	814	1539
5 q	815	815	815	817	819	821	821	821	817	812	811	812	813	818	821	823	822	821	820	820	820	818	817	816	818	1625
6	817	818	819	824	825	824	825	824	821	820	818	818	817	817	822	820	819	813	808	813	820	821	821	819	819	1663
7	818	819	821	824	824	827	827	829	829	828	824	822	818	821	821	821	818	813	816	815	806	798	801	806	819	1646
8	812	813	812	817	817	819	820	821	821	818	811	811	811	813	809	811	809	806	819	824	823	821	820	818	816	1576
9	817	820	821	821	824	827	826	825	824	822	820	812	801	808	806	806	806	804	808	802	798	806	813	814	814	1531
10 d	814	819	829	845	786	830	829	836	853	839	782	744	749	768	748	748	747	752	767	738	768	771	775	793	*789*	930
11 d	776	792	788	790	802	802	790	796	790	789	790	788	786	782	781	787	790	792	796	795	799	801	798	807	792	1007
12	797	796	799	801	802	810	808	808	802	803	803	797	797	800	801	801	803	803	799	800	801	802	803	806	802	1242
13	808	803	805	807	810	809	813	813	808	810	808	802	802	805	806	809	809	810	809	807	807	809	813	813	808	1395
14	812	812	813	814	815	817	817	813	811	810	806	810	812	817	820	801	782	785	793	794	799	798	799	805	806	1355
15	808	805	801	801	801	806	808	809	805	797	792	796	805	807	806	806	811	815	813	807	812	809	804	780	804	1304
16 d	808	806	802	805	809	813	817	813	815	813	809	797	777	804	806	808	806	806	814	808	799	809	798	802	806	1344
17	808	808	808	806	807	812	815	813	811	801	796	794	798	808	818	816	811	815	811	811	807	813	813	811	809	1411
18	812	812	811	811	813	816	817	817	813	811	811	808	810	816	817	813	807	818	818	819	820	818	818	817	814	1543
19 d	817	823	825	821	821	823	821	828	824	813	812	807	807	788	785	774	767	771	788	794	796	798	799	796	804	1298
20	799	801	804	804	806	810	810	817	813	807	804	802	803	806	806	806	808	809	808	805	809	809	811	813	807	1370
21	811	808	808	815	820	825	821	820	816	815	815	812	803	786	808	809	811	811	813	813	809	806	802	809	811	1466
22 q	808	809	812	813	814	817	817	819	815	809	802	796	796	804	809	810	808	810	814	816	817	817	815	814	811	1461
23 q	815	814	815	816	817	818	818	817	817	816	816	812	814	817	814	812	814	818	820	819	818	818	817	817	816	1589
24 q	817	817	818	819	821	822	823	821	819	815	812	809	808	813	818	820	817	818	820	820	819	820	819	817	818	1622
25	818	818	818	818	822	825	831	834	832	822	810	806	809	814	816	817	820	820	823	819	820	821	821	825	*820*	1679
26	817	806	811	817	822	827	825	825	817	810	802	794	801	804	815	803	802	808	799	801	815	820	812	817	811	1470
27 d	824	828	816	819	820	827	832	820	813	805	788	804	803	804	805	807	808	810	809	818	811	804	813	810	812	1498
28	812	813	813	815	819	823	822	814	814	805	803	803	805	808	811	810	809	810	811	817	817	816	817	815	813	1502
29	814	815	818	818	822	824	823	824	815	808	808	808	809	793	792	804	814	817	818	818	818	820	818	818	814	1536
30	822	809	810	813	816	823	821	818	815	813	805	801	793	803	800	808	816	818	820	820	815	804	806	812	812	1481
31	812	813	818	817	819	821	823	825	821	814	809	805	801	801	805	811	818	820	820	821	822	821	820	819	816	1576
Mean	811	812	812	814	815	819	*819*	819	816	811	805	802	*802*	805	807	807	807	807	810	809	810	810	810	811	811	
Sum 24,000+	1150	1162	1184	1243	1270	1394	1406	1389	1305	1153	966	872	856	954	1005	1015	1003	1044	1108	1091	1118	1115	1108	1141		Grand Total 603,052

MAGNETIC DECLINATION (WEST)

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

22 ESKDALEMUIR (D) — 10° + — JANUARY 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 400·0+
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1	16·9	18·9	18·4	22·4	19·6	17·6	18·2	17·6	17·7	17·7	18·8	19·8	20·6	20·8	19·6	18·8	18·6	18·6	18·6	18·5	18·2	18·0	18·1	17·0	18·7	49·0
2	17·6	16·4	17·6	17·9	16·9	18·3	18·8	20·3	20·4	18·0	19·6	20·8	22·0	22·6	22·4	20·0	19·4	18·8	18·6	17·7	16·6	16·7	15·7	17·0	18·8	50·1
3	17·9	18·7	18·7	18·7	18·7	18·5	18·1	17·6	16·8	16·7	18·1	20·0	20·4	20·8	20·4	19·1	18·6	17·9	18·1	18·0	16·7	16·8	16·7	16·6	18·3	38·6
4 q	17·8	18·4	18·6	18·7	18·5	18·1	17·9	17·6	17·1	17·1	18·2	19·5	20·9	21·6	20·3	19·2	18·4	17·9	17·9	17·9	18·0	18·0	18·0	18·2	18·5	43·8
5 q	18·4	18·6	18·8	19·0	19·1	18·8	17·9	17·7	17·3	17·3	18·5	19·1	20·5	21·2	20·5	19·5	19·1	18·7	18·7	18·3	18·1	17·9	17·7	17·7	18·7	48·4
6	18·2	18·8	19·1	20·0	18·7	18·2	18·0	17·8	17·7	17·6	18·3	19·6	20·8	21·1	20·8	20·3	20·5	19·8	19·1	18·1	17·8	17·7	17·8	17·8	18·9	53·6
7	18·1	18·3	18·6	18·7	18·7	18·7	18·7	18·2	17·6	17·3	18·0	19·3	19·7	20·8	21·4	21·2	21·6	20·9	18·9	18·3	17·9	15·8	16·1	17·2	18·7	50·0
8	18·1	17·8	17·7	17·0	17·6	18·2	18·7	18·0	17·1	16·9	17·9	18·9	20·3	21·8	21·4	21·4	21·3	21·2	19·9	18·7	17·9	17·6	17·6	17·8	18·8	50·8
9	18·1	18·6	19·5	19·6	19·1	18·7	18·4	18·0	17·6	17·6	18·2	18·9	21·2	22·6	21·9	22·9	22·6	21·3	19·9	17·9	14·3	15·5	16·5	16·4	*19·0*	55·3
10 d	17·6	17·5	16·3	15·6	15·7	17·6	17·5	17·3	19·8	18·4	17·7	24·9	27·9	26·0	23·3	19·7	25·0	23·3	21·2	7·6	11·7	11·5	11·2	12·3	18·2	36·6
11 d	15·5	17·1	18·8	21·1	20·3	18·2	18·2	18·8	18·5	17·7	18·6	19·5	19·8	20·6	20·9	20·5	19·1	17·9	16·0	17·8	17·0	15·9	15·1	14·3	18·2	37·2
12	16·4	16·6	18·0	18·3	18·0	17·8	18·4	17·8	17·3	17·3	18·0	18·5	19·6	20·0	19·3	18·9	18·3	18·2	17·5	17·9	17·4	16·3	16·4	17·2	*17·9*	29·4
13	17·1	17·3	18·2	18·7	18·2	18·6	18·5	17·7	17·2	17·3	18·2	18·8	20·3	20·5	19·7	18·7	18·7	18·5	18·2	17·6	17·5	17·1	16·6	17·1	18·2	36·3
14	17·7	17·8	17·8	18·0	18·1	18·4	17·8	17·5	17·4	17·6	18·0	19·6	21·2	22·0	22·3	22·5	23·2	26·4	23·9	21·1	16·2	15·4	11·2	12·3	18·9	53·4
15	15·7	17·8	18·3	17·6	18·0	17·4	17·7	17·7	17·6	17·6	18·5	20·5	20·8	21·2	20·3	19·2	18·2	18·7	18·9	17·3	17·4	15·9	18·0	15·8	18·2	36·1
16 d	17·4	17·1	18·7	17·2	16·9	17·2	18·4	20·1	16·5	18·0	19·6	20·6	21·9	22·7	22·5	19·9	20·4	18·7	16·1	18·2	16·8	14·0	14·8	18·0	18·4	41·7
17	18·0	18·7	18·3	17·7	17·3	17·6	16·6	16·6	16·3	17·1	18·7	21·0	22·0	21·7	20·2	19·2	18·0	19·2	19·2	18·6	16·8	17·5	17·5	17·6	18·4	41·4
18	17·8	17·7	17·9	18·2	18·1	17·9	17·7	17·2	16·6	17·4	18·2	18·9	19·6	20·0	19·3	18·8	18·2	19·1	18·7	18·4	18·2	17·8	17·7	17·7	18·2	37·1
19 d	17·7	18·0	17·9	16·7	18·2	16·8	18·5	19·2	18·6	17·2	17·4	17·9	21·2	22·5	22·5	20·5	18·5	17·5	14·9	18·0	17·6	17·0	15·8	16·1	18·2	36·2
20	17·6	18·4	19·0	18·5	18·6	18·5	17·9	17·5	16·9	17·1	17·8	19·1	19·7	20·2	19·2	18·2	18·5	18·5	18·0	15·6	17·1	16·9	17·1	16·7	18·0	32·6
21	17·6	18·1	19·5	18·6	18·2	18·1	17·8	17·0	18·1	18·7	20·0	21·2	22·3	21·1	20·0	19·1	18·9	18·8	18·4	18·0	17·5	14·2	14·3	17·0	18·4	42·5
22 q	17·4	17·7	18·2	18·2	18·3	17·9	17·7	17·6	16·7	16·4	16·6	17·8	19·8	20·7	19·7	18·6	18·7	18·7	18·4	18·0	17·5	17·2	17·1	17·2	18·0	32·1
23 q	17·7	18·0	18·4	18·7	18·2	17·8	17·5	16·9	16·8	17·4	17·9	18·4	19·6	20·1	19·1	18·5	18·7	18·7	18·6	18·1	17·4	17·3	17·2	17·6	18·1	34·6
24 q	17·8	18·2	18·3	18·3	18·2	18·0	17·5	17·2	17·2	17·5	17·9	18·7	19·6	20·6	20·3	19·4	19·0	18·8	18·3	18·2	17·1	16·1	15·9	17·0	18·1	35·1
25	17·6	18·2	18·3	18·0	18·1	18·0	17·6	17·5	17·6	17·8	18·5	18·9	19·9	20·3	19·6	19·3	19·2	18·8	18·9	18·6	18·2	17·4	16·8	15·2	18·3	38·3
26	15·0	16·3	18·1	18·5	18·2	18·1	17·7	17·2	16·4	16·9	18·4	20·3	22·5	22·4	23·4	21·0	22·3	20·5	19·6	19·6	17·6	16·9	16·1	17·2	18·8	50·2
27 d	16·8	17·1	18·3	18·5	17·9	19·9	17·7	18·6	18·7	20·4	20·0	20·9	20·6	21·7	20·1	19·6	19·5	19·1	19·2	18·1	15·6	14·1	13·1	15·7	18·4	41·2
28	17·2	18·0	18·1	18·2	18·7	18·2	17·5	16·8	17·1	17·4	18·4	19·5	20·3	20·3	19·5	18·7	19·0	18·9	19·1	18·3	18·0	18·0	18·3	16·7	18·3	40·2
29	17·5	18·2	18·4	18·3	19·2	16·7	17·0	17·2	17·0	20·0	20·1	20·1	21·0	22·9	22·3	20·4	19·3	18·6	18·5	18·2	18·0	17·7	17·6	16·9	18·8	51·1
30	15·0	17·2	17·5	18·0	18·6	17·1	18·1	17·9	17·3	16·8	17·8	19·4	20·9	21·6	21·4	20·9	19·2	18·5	18·3	18·1	17·8	15·8	16·4	16·7	18·2	36·3
31	16·6	17·4	18·1	17·1	17·5	17·7	17·8	17·4	16·9	16·9	17·6	18·5	19·6	20·2	20·4	19·7	19·0	18·7	18·6	18·5	18·1	17·8	17·8	17·9	18·2	35·8
Mean	17·3	17·8	18·3	18·4	18·2	18·0	17·9	17·8	17·5	17·6	18·4	19·6	20·9	*21·4*	20·8	19·8	19·7	19·3	18·7	17·9	17·2	16·5	*16·3*	16·6	18·4	
Sum 500·0+	35·8	52·9	67·4	70·0	65·4	58·6	55·8	51·5	41·8	45·1	69·5	108·9	146·5	162·6	144·0	113·7	109·0	99·2	78·2	53·2	32·0	11·8	6·2	15·9	18.3	Grand Total 13695·0

GEOMAGNETIC FORCE: VERTICAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEMUIR (Z) — 45,000γ (0·45 C.G.S. unit) + — JANUARY 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 9000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	391	388	387	386	380	383	387	387	389	394	390	389	391	392	395	395	395	394	393	394	394	394	392	390	390	370
2	384	379	381	378	379	382	382	384	386	396	397	397	397	396	401	400	402	402	401	400	400	398	397	395	392	414
3	392	390	390	390	389	390	390	391	392	394	394	395	400	399	396	395	395	394	394	394	395	395	395	395	393	444
4 q	392	391	389	389	389	389	389	390	392	394	391	390	392	394	395	394	393	393	392	392	392	392	392	392	392	398
5 q	392	391	391	390	389	389	389	389	389	389	385	385	385	387	390	389	389	389	389	389	389	389	390	390	389	333
6	389	389	388	386	384	384	384	384	384	384	384	382	383	386	390	390	390	391	393	392	391	389	389	389	387	295
7	389	389	389	386	385	385	384	384	384	383	382	383	384	385	389	390	390	391	392	394	396	402	401	397	389	334
8	394	392	390	389	388	388	387	388	388	389	389	387	386	389	394	395	395	397	395	392	390	389	389	388	390	368
9	389	388	387	385	384	385	385	385	385	384	383	384	387	388	393	395	396	399	398	401	407	403	397	395	391	383
10 d	391	389	388	363	361	362	373	376	371	375	388	395	408	426	458	493	531	477	477	478	426	418	398	376	412	898
11 d	371	374	382	382	382	385	391	392	395	398	399	397	398	401	405	407	407	408	408	407	405	404	402	397	396	497
12	395	395	395	395	395	395	396	396	396	395	395	395	398	400	402	402	401	401	401	401	401	401	400	396	398	547
13	391	394	394	394	395	395	395	395	396	396	395	395	395	396	397	398	397	397	397	399	399	398	396	395	396	499
14	394	393	392	392	391	391	391	394	395	394	391	385	385	389	394	398	411	418	423	433	433	428	430	408	402	653
15	397	394	394	394	394	394	394	395	396	400	398	393	391	394	401	401	400	397	398	401	400	400	385	379	395	490
16 d	388	392	392	391	393	393	391	391	391	391	391	394	398	399	401	402	404	405	404	402	405	401	401	398	397	518
17	395	395	395	395	394	395	395	396	397	399	401	401	401	402	401	400	400	398	398	399	400	397	396	395	398	545
18	395	395	394	393	392	391	391	392	392	391	392	394	394	394	395	395	395	393	391	392	393	393	393	393	393	433
19 d	393	391	388	387	385	385	386	382	384	386	388	389	389	396	405	418	440	450	430	414	408	404	401	398	400	597
20	396	395	395	395	395	395	395	395	395	397	396	395	396	399	402	401	398	398	398	400	396	396	396	395	397	519
21	395	394	393	392	391	390	390	390	389	388	388	389	390	400	400	399	398	397	395	395	395	397	396	392	393	443
22 q	395	395	394	393	392	392	392	391	391	394	396	394	392	394	398	396	395	395	394	394	392	392	392	392	394	445
23 q	392	392	392	392	392	392	391	391	389	390	388	386	388	391	395	394	394	394	393	393	392	392	392	391	391	396
24 q	392	392	392	392	392	392	391	391	389	389	389	390	389	391	394	391	392	392	392	392	392	392	392	391	391	391
25	389	389	389	389	389	389	388	385	384	386	390	390	390	392	394	397	391	391	391	391	391	391	391	389	390	356
26	389	391	391	391	390	390	391	390	392	392	394	393	391	392	397	400	400	402	409	410	403	397	396	392	395	483
27 d	388	379	384	388	389	385	383	385	388	389	394	395	394	394	397	397	396	397	398	397	398	400	394	392	392	401
28	390	390	391	391	391	391	391	392	390	391	389	389	389	392	395	395	395	395	396	395	394	394	392	391	392	409
29	391	390	390	389	389	388	389	390	391	394	394	391	389	395	397	395	395	395	394	394	394	392	392	389	392	407
30	381	384	387	388	386	387	388	387	390	394	394	395	395	397	399	399	397	395	395	394	394	399	398	395	392	418
31	393	390	389	390	390	390	390	391	392	393	392	393	395	394	395	394	391	391	391	392	392	391	391	391	392	401
Mean	391	390	390	389	388	389	389	389	390	391	391	391	392	395	399	401	402	401	401	401	399	398	396	393	394	
Sum 2,000+	113	90	93	55	35	42	59	69	82	129	137	130	160	244	365	415	473	436	420	421	357	328	266	166		Grand Total 293,085

DAILY EXTREMES OF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH CHAMBER

24 ESKDALEMUIR — All Times G.M.T. — JANUARY 1962

Day	Horizontal component: Maximum 16,000γ + (h. m.)	Maximum (γ)	Minimum 16,000γ + (γ)	Minimum (h. m.)	Range (γ)	Declination: Maximum 10° + (h. m.)	Maximum (′)	Minimum 10° + (′)	Minimum (h. m.)	Range (′)	Vertical component: Maximum 45,000γ + (h. m.)	Maximum (γ)	Minimum 45,000γ + (γ)	Minimum (h. m.)	Range (γ)	3-hr. range indices K	Sum of K indices	Magnetic character of day, C (0-2)	Temperature in magneto-graph chamber 200 + (°A.)
1	23 41	835	797	03 33	38	03 50	24·4	12·5	23 59	11·9	14 58	395	378	04 14	17	2,3,1,1,2,1,1,2	13	1	83·6
2	00 38	833	781	10 03	52	14 10	24·1	11·7	00 06	12·4	16 54	402	378	00 55	24	3,1,2,2,1,2,1,1	13	1	83·5
3	06 33	823	797	10 46	26	13 26	21·2	15·0	20 51	6·2	12 48	401	389	04 30	12	0,0,0,0,1,1,1,1	4	0	83·6
4 q	06 48	821	801	10 52	20	13 30	21·8	16·3	00 02	5·5	14 59	395	389	04 49	6	0,0,0,1,0,1,0,0	2	0	83·5
5 q	15 53	824	809	10 10	15	13 42	21·3	16·9	22 58	4·4	00 30	392	384	12 59	8	0,0,0,0,0,0,0,1	1	0	83·5
6	03 59	828	805	18 10	23	03 33	21·8	17·4	09 24	4·4	18 21	394	380	11 56	14	0,1,0,1,0,2,2,0	6	0	83·5
7	07 55	832	793	21 54	39	16 45	21·8	14·3	21 56	7·5	21 56	404	381	11 30	23	0,0,0,1,0,2,2,2	7	1	83·4
8	19 40	825	794	17 10	31	13 35	22·2	16·6	09 43	5·6	17 17	400	385	12 36	15	1,0,0,1,1,2,1,0	6	1	83·5
9	05 18	829	786	19 51	43	15 37	23·3	11·1	19 59	12·2	20 09	408	382	11 29	26	1,1,0,2,1,1,3,2	11	1	83·4
10 d	08 12	868	686	19 26	182	16 15	33·0	−2·6	19 32	35·6	16 21	542	352	03 52	190	3,5,3,5,4,4,5,4	33	2	83·5
11 d	23 24	819	762	00 28	57	03 49	23·3	13·0	00 02	10·3	17 55	411	367	00 44	44	3,3,2,1,2,2,2,2	17	1	83·5
12	23 50	826	793	00 30	33	23 53	20·5	15·3	22 58	5·2	15 10	402	390	23 59	12	1,1,1,1,0,0,1,2	7	0	83·5
13	00 01	817	799	12 27	18	13 07	21·0	16·1	19 50	4·9	20 01	401	390	00 13	11	1,1,1,1,1,0,1,1	7	0	83·5
14	22 52	859	768	22 06	91	17 07	29·1	1·7	22 44	27·4	22 17	436	383	12 02	53	0,0,0,1,1,3,3,4	12	1	83·4
15	23 05	831	781	22 30	50	13 13	22·9	14·1	22 40	8·8	14 56	402	377	23 29	25	2,1,2,2,2,2,2,3	16	1	83·5
16 d	21 19	822	766	12 19	56	13 54	23·9	12·3	21 54	11·6	17 26	407	385	00 01	22	2,1,2,2,3,2,2,3	17	1	83·5
17	14 54	821	792	10 29	29	12 31	22·4	15·5	07 54	6·9	14 06	402	394	00 09	8	1,1,1,1,2,1,1,0	8	1	83·5
18	19 07	821	800	16 22	21	13 15	21·1	16·3	08 23	4·8	16 31	396	391	10 51	5	0,0,0,1,1,2,0,0	4	0	83·5
19 d	07 03	838	743	16 41	95	16 36	25·1	3·4	18 05	21·7	17 39	462	380	07 14	82	2,2,2,1,3,4,4,0	18	1	83·4
20	07 41	821	797	19 04	24	13 22	20·4	12·9	19 15	7·5	14 31	402	393	07 42	9	1,1,1,1,0,0,2,1	7	0	83·5
21	05 43	827	776	13 10	51	12 02	22·8	11·0	21 53	11·8	13 51	402	386	10 40	16	1,1,1,1,3,1,0,2	10	1	83·5
22 q	07 51	821	793	11 54	28	13 32	21·0	16·1	09 52	4·9	14 33	398	390	07 58	8	0,0,1,0,1,0,0,0	2	0	83·5
23 q	21 48	821	809	15 10	12	13 32	20·4	16·3	07 55	4·1	14 28	395	385	11 10	10	0,0,0,0,1,0,0,0	1	0	83·4
24 q	21 40	823	806	12 37	17	14 09	21·1	15·1	22 38	6·0	14 20	394	388	08 59	6	0,0,0,0,0,1,0,1	2	0	83·7
25	08 06	840	804	11 44	36	13 36	20·6	14·0	23 22	6·6	14 35	395	382	08 34	13	0,0,2,2,0,2,1,2	9	1	83·5
26	05 33	829	791	18 22	38	14 22	24·2	14·0	00 14	10·2	18 45	411	388	00 10	23	3,1,1,2,2,2,3,2	16	1	83·6
27 d	01 01	852	783	10 37	69	13 35	22·9	9·2	22 30	13·7	20 59	401	378	01 19	23	3,2,2,2,1,1,2,3	16	1	83·4
28	06 20	827	801	09 42	26	12 32	20·6	16·1	00 03	4·5	18 38	397	388	10 30	9	0,0,1,0,0,0,1,1	3	0	83·5
29	23 57	843	789	14 31	54	13 48	23·9	15·9	23 44	8·0	14 02	397	383	23 59	14	1,2,1,1,2,2,0,3	12	1	83·5
30	00 01	840	789	12 43	51	14 01	22·2	14·1	00 24	8·1	15 01	401	378	00 19	23	3,1,1,1,2,2,1,2	13	1	83·5
31	07 42	826	799	13 09	27	14 06	20·7	16·1	00 20	4·6	14 51	395	389	02 23	6	1,0,0,0,0,0,0,0	1	0	83·5
Mean	- -	830	787	- -	44	- -	22·7	13·1	- -	9·6	- -	408	383	- -	24	-	-	0·61	83·5

q denotes an international quiet day and *d* an international disturbed day.

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

21 ESKDALEMUIR (H) — 16,000γ (0·16 C.G.S. unit) + — FEBRUARY 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 19,000+
Hour G.M.T.	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1 q	818	818	820	822	824	825	827	825	821	817	809	810	816	822	825	827	829	830	830	829	827	826	825	823	*823*	745
2	820	823	813	816	823	827	831	824	824	817	812	811	811	809	814	815	821	824	825	826	820	818	812	814	819	650
3	817	815	814	818	820	824	827	830	822	817	816	816	817	818	822	820	820	822	825	821	822	823	821	819	820	686
4 d	824	823	824	824	826	829	830	832	831	834	843	840	827	789	796	816	802	765	789	778	792	793	796	802	813	505
5	796	799	800	792	791	793	794	796	796	795	794	794	799	804	807	806	805	812	810	812	813	812	812	812	802	244
6	810	810	810	812	813	816	815	813	811	808	806	808	810	818	818	817	818	820	824	822	819	824	820	820	815	562
7 d	815	823	820	817	817	813	816	828	820	786	804	809	809	806	800	786	792	788	809	809	811	813	813	810	809	414
8 q	811	811	813	815	815	817	818	819	817	810	807	802	808	813	817	820	818	820	822	824	826	819	819	819	816	580
9	819	817	824	820	822	827	829	827	828	821	816	811	808	813	817	815	816	815	818	820	821	818	820	820	819	662
10 q	825	824	819	822	825	826	828	827	825	819	816	811	812	816	820	823	820	822	825	825	826	825	824	824	822	729
11	822	822	829	824	825	827	830	827	822	816	824	818	817	828	832	833	829	832	832	799	785	768	777	790	817	608
12 d	779	786	793	792	799	808	817	809	801	793	794	800	801	800	804	805	797	806	796	798	809	802	808	807	800	204
13	808	804	809	801	808	817	821	821	818	807	801	787	806	819	819	817	801	806	813	809	815	813	814	843	812	477
14	824	804	799	802	814	817	813	812	813	811	804	802	806	811	818	821	818	821	821	820	828	830	804	809	813	522
15	815	813	811	812	826	827	824	823	820	810	811	811	809	812	818	822	827	828	806	825	836	836	831	831	820	684
16 d	836	837	838	835	840	841	834	828	819	817	781	762	785	786	783	793	767	769	768	747	758	778	782	806	*800*	190
17	796	799	792	796	798	807	806	810	789	785	794	799	803	803	800	793	801	805	804	813	805	803	811	818	801	230
18	808	810	811	813	815	816	817	816	817	803	804	805	805	805	807	813	813	813	799	802	810	811	811	810	810	434
19 q	813	816	818	820	822	822	819	819	819	813	810	805	801	807	804	810	813	817	818	819	817	817	819	819	815	557
20	818	819	821	823	825	827	831	826	822	814	808	809	808	804	809	813	818	822	824	825	821	812	810	817	818	626
21	819	819	821	824	825	829	829	825	825	816	812	806	804	805	802	821	805	801	806	817	816	821	821	818	816	587
22	820	821	832	839	840	848	849	844	836	824	813	801	783	801	810	797	800	810	813	818	820	821	821	820	820	681
23	818	817	817	822	819	827	825	828	829	825	806	801	812	821	799	805	805	814	820	820	819	817	817	813	817	596
24	815	817	820	820	824	824	832	831	825	817	813	801	806	806	805	798	808	811	798	804	811	813	817	817	814	533
25	818	818	818	818	818	824	828	823	822	817	808	801	800	801	805	811	810	824	821	825	818	819	818	817	816	582
26 d	803	813	817	819	822	830	829	826	824	816	821	817	829	831	843	839	840	834	808	786	794	806	823	818	820	688
27	812	813	819	816	820	828	830	826	820	793	778	770	794	779	790	785	791	797	804	788	801	815	816	813	804	298
28 q	812	813	812	812	813	813	815	815	808	806	800	793	797	801	806	809	812	816	818	821	822	825	825	824	812	488
Mean	814	814	815	816	819	823	*824*	823	819	811	807	*804*	807	808	810	812	811	812	812	811	813	813	814	816	814	
Sum 22,000+	791	804	834	846	929	1029	1064	1030	924	707	605	500	583	628	690	730	696	744	746	702	762	778	787	853		Grand Total 546,762

MAGNETIC DECLINATION (WEST)

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

22 ESKDALEMUIR (D) — 10° + — FEBRUARY 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 300·0+
Hour G.M.T.	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1 q	18·1	18·3	18·5	18·6	18·3	18·1	17·6	17·1	16·0	16·2	17·8	19·0	19·7	20·1	19·6	18·8	18·8	19·0	18·9	18·9	18·7	18·4	18·2	17·6	18·3	140·3
2	17·1	14·6	16·1	17·4	18·4	18·3	17·9	17·3	16·3	16·2	17·3	18·0	19·2	20·4	20·6	19·7	19·6	19·5	19·1	19·3	18·7	18·2	17·1	16·8	18·0	133·1
3	17·9	18·2	18·7	18·9	18·0	18·2	17·4	16·9	16·9	16·7	17·5	18·7	20·0	20·6	20·0	19·2	19·0	18·9	18·9	18·2	18·0	17·8	17·6	17·2	18·3	139·4
4 d	15·6	17·0	18·1	17·6	18·2	18·2	17·8	17·2	17·2	16·9	18·9	20·5	23·6	29·2	32·3	32·8	41·9	31·7	20·8	24·1	18·3	16·9	16·4	15·7	*21·5*	216·9
5	16·0	15·6	16·8	16·9	17·4	16·7	16·2	15·9	15·9	16·5	17·3	18·2	19·5	20·0	19·9	19·1	18·5	18·8	18·2	17·9	17·4	17·0	17·1	17·4	17·5	120·2
6	17·6	18·0	18·5	18·7	18·2	17·5	16·8	16·5	16·3	16·8	17·7	18·2	18·9	19·8	19·7	19·1	18·9	18·9	18·8	18·4	17·5	17·1	16·8	12·2	17·8	126·9
7 d	12·8	19·9	18·5	17·3	17·1	17·9	19·3	17·7	17·9	17·2	17·2	18·6	20·6	21·1	21·1	18·5	17·9	15·5	13·7	17·1	15·5	15·5	15·9	16·1	17·5	119·9
8 q	16·9	17·4	18·0	17·9	18·0	18·0	17·5	16·9	16·4	16·2	17·1	17·9	19·2	19·9	19·7	19·2	19·0	18·7	18·4	18·0	17·2	16·7	15·3	16·4	17·7	125·9
9	17·2	17·5	20·2	18·1	17·5	17·8	17·7	17·4	17·5	17·7	18·7	19·3	19·3	19·7	20·6	19·6	19·0	18·4	18·0	18·0	17·4	17·2	16·7	16·4	18·2	136·9
10 q	17·8	16·9	17·2	17·8	17·8	17·7	17·4	17·0	16·5	16·3	17·4	18·8	19·5	20·2	19·9	19·2	19·0	19·0	18·5	18·4	17·8	17·8	17·4	17·1	18·0	132·4
11	17·5	17·8	19·5	18·0	17·3	16·6	16·8	17·1	16·9	17·2	19·1	20·0	21·8	20·2	20·6	21·4	20·9	21·2	21·4	17·0	7·9	0·4	10·6	11·2	17·0	108·4
12 d	10·7	4·3	12·7	16·3	15·6	15·9	15·9	17·0	16·7	16·1	17·6	19·9	20·7	21·4	21·9	20·5	19·0	19·1	16·4	12·5	8·0	13·1	11·6	12·4	*15·6*	75·3
13	15·0	15·8	16·4	16·7	18·2	15·8	16·4	16·3	16·8	16·8	18·9	20·2	20·8	21·6	20·9	21·0	20·3	18·8	19·3	16·8	18·1	17·8	16·6	11·4	17·8	126·7
14	11·0	11·2	13·6	16·6	14·7	16·5	17·0	16·9	16·7	17·2	18·2	19·1	20·6	21·9	22·3	22·2	21·2	20·1	21·9	21·1	14·1	6·7	12·9	16·4	17·1	110·1
15	18·6	18·6	17·6	18·4	18·5	17·2	16·9	17·1	17·5	17·8	19·3	21·7	21·5	21·7	20·3	19·4	21·1	19·1	14·6	20·3	19·6	18·9	18·3	18·2	18·8	152·2
16 d	18·2	18·5	18·5	18·2	18·2	18·0	17·1	16·4	15·6	18·9	19·5	27·4	26·1	24·7	24·1	28·5	26·2	18·0	15·0	10·5	8·8	12·7	13·7	17·8	18·8	150·6
17	15·1	14·6	13·1	15·0	15·7	18·2	17·5	17·2	18·9	20·0	21·3	21·7	20·4	20·0	19·7	19·0	18·5	18·3	15·5	14·9	15·3	16·2	17·0	17·1	17·5	120·2
18	17·4	17·5	17·3	17·2	17·1	16·9	16·4	16·1	15·5	15·2	16·5	18·1	19·3	20·3	19·9	19·5	18·4	18·2	15·6	15·7	17·7	16·5	15·9	17·6	17·3	115·8
19 q	18·0	18·1	18·0	17·8	17·6	17·1	17·1	16·7	15·9	15·6	17·5	19·4	21·2	22·9	21·8	20·0	18·8	18·5	18·2	17·7	17·4	17·2	17·3	17·4	18·2	137·2
20	17·8	17·9	17·9	17·9	17·8	17·5	16·9	16·2	16·4	16·5	17·7	20·4	22·0	22·5	20·8	20·1	19·0	18·2	17·8	17·3	17·3	17·4	15·9	16·8	18·2	136·0
21	17·4	17·8	17·8	17·8	17·7	17·1	17·6	17·5	16·4	16·8	18·2	19·7	21·3	23·3	21·6	22·1	19·5	16·0	17·6	17·7	16·1	15·8	16·7	15·6	18·1	135·1
22	16·8	17·4	17·8	16·7	17·5	21·0	16·9	16·7	17·0	17·0	17·5	19·9	21·8	23·0	24·4	24·1	22·0	19·5	17·6	18·0	17·1	16·9	16·9	16·8	18·8	150·3
23	16·7	17·1	17·4	18·1	17·9	17·2	16·7	16·6	15·5	15·0	16·3	18·1	19·7	22·2	21·2	20·3	18·7	19·2	18·2	17·6	17·4	15·6	12·8	13·1	17·4	118·6
24	15·7	17·0	17·4	17·6	17·6	18·3	18·0	17·2	16·4	16·8	18·5	19·7	22·1	22·5	24·1	22·9	20·1	18·3	14·3	17·2	13·1	16·2	15·6	15·6	18·0	132·2
25	16·7	17·5	17·8	17·4	17·6	17·9	16·9	16·4	14·6	14·2	14·8	17·1	19·5	20·4	20·7	19·5	18·8	18·9	18·4	18·6	13·9	16·7	15·5	11·6	17·1	111·4
26 d	11·5	15·2	17·5	17·7	18·7	18·1	17·4	17·0	15·8	14·9	16·8	20·3	23·8	25·1	25·0	24·9	23·0	20·2	19·8	16·4	14·4	13·9	15·9	15·9	18·3	139·2
27	15·8	18·2	18·0	17·2	17·1	17·1	17·0	16·4	15·6	17·3	20·8	22·8	26·2	26·1	27·2	23·9	20·3	20·0	18·8	16·4	15·8	17·0	17·1	17·0	19·1	159·1
28 q	16·9	16·9	16·7	16·8	16·8	16·8	16·7	16·3	14·9	14·9	16·6	18·2	20·0	21·2	20·7	20·3	19·4	18·7	18·2	17·8	17·5	17·6	17·3	17·4	17·7	124·6
Mean	16·2	16·6	17·3	17·5	17·5	17·6	17·2	16·8	16·4	16·6	17·9	19·7	21·0	*21·9*	21·8	21·2	20·6	19·2	17·9	17·6	15·9	*15·7*	15·9	15·8	18·0	
Sum 400·0+	53·8	64·8	85·6	90·6	90·5	91·6	80·8	71·0	60·0	64·9	102·0	150·9	188·3	212·0	210·6	194·8	176·8	138·7	101·9	91·8	46·0	39·2	46·1	42·2		Grand Total 12094·9

GEOMAGNETIC FORCE: VERTICAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEMUIR (Z) — 45,000γ (0·45 C.G.S. unit) + — FEBRUARY 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 9000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1 q	389	389	389	389	388	388	388	389	389	389	389	389	388	389	389	389	388	387	386	386	388	388	389	389	388	321
2	388	385	384	385	384	384	385	388	390	390	390	389	385	384	388	389	387	386	388	389	392	395	397	395	388	317
3	392	389	390	389	389	388	388	388	389	391	390	389	389	389	393	391	389	389	389	390	390	389	391	391	390	352
4 d	391	390	389	389	389	388	389	389	391	384	376	375	377	389	409	432	462	504	503	474	448	427	417	410	412	892
5	407	403	401	397	399	399	400	398	397	396	400	400	397	395	398	400	397	396	395	395	395	395	395	395	398	550
6	395	395	394	394	393	394	393	392	393	392	393	392	394	394	395	396	395	394	397	397	397	391	390	385	394	445
7 d	384	368	361	375	382	385	384	384	385	393	393	391	391	395	398	410	414	417	409	403	399	395	393	394	392	403
8 q	393	392	393	393	393	392	391	391	391	389	387	385	386	385	388	391	394	394	394	392	391	391	391	390	391	377
9	389	389	384	385	388	388	388	386	385	386	384	385	385	385	387	391	392	394	394	393	392	391	391	390	388	322
10 q	386	384	386	387	388	388	388	388	388	388	387	388	388	385	386	389	389	390	389	389	389	388	388	389	*388*	305
11	388	388	383	383	384	385	385	387	389	389	385	384	385	384	383	385	387	387	390	408	424	421	414	407	392	405
12 d	373	379	389	398	402	399	395	397	400	400	395	392	395	395	398	402	407	407	409	411	405	395	384	384	396	511
13	389	392	391	391	387	390	391	391	392	391	389	391	389	388	389	393	397	400	398	401	399	400	400	389	393	428
14	375	376	379	382	384	386	388	389	389	389	389	389	386	389	395	397	400	399	397	400	407	392	393	397	390	367
15	395	395	394	390	382	382	385	388	389	390	388	388	388	389	389	392	395	404	416	400	394	391	391	390	392	405
16 d	389	386	384	384	382	382	384	384	385	382	384	394	411	421	444	468	516	497	484	481	455	435	418	382	*418*	1032
17	359	365	370	380	384	384	389	388	389	394	392	392	395	395	398	407	405	406	407	405	405	405	401	395	392	410
18	399	399	399	398	395	395	395	395	395	397	397	396	396	396	396	399	395	395	401	404	404	404	405	402	398	557
19 q	401	401	401	401	401	400	400	397	396	389	385	387	391	396	398	400	397	396	396	395	395	395	395	395	396	508
20	395	395	394	394	393	391	390	390	391	391	390	386	391	397	401	401	397	395	395	394	394	397	400	396	394	458
21	395	395	394	394	392	391	389	388	386	385	384	384	388	389	394	401	405	413	410	403	402	398	395	395	395	470
22	392	391	389	388	386	378	375	376	377	378	380	384	386	387	392	402	404	402	402	398	395	395	393	393	389	343
23	392	392	392	389	389	386	388	388	388	386	384	379	379	384	395	401	402	398	397	396	396	396	394	391	391	382
24	389	389	390	390	389	389	386	386	387	385	384	385	386	389	396	404	406	407	413	407	404	398	395	394	394	448
25	392	391	391	393	392	391	389	390	390	389	387	385	385	389	394	398	400	395	395	395	398	395	394	390	392	408
26 d	390	388	387	389	389	388	389	389	389	388	378	370	368	368	373	376	382	388	405	431	426	401	386	384	388	322
27	385	386	386	389	389	388	388	388	389	390	389	387	391	402	407	424	433	423	415	419	415	404	400	397	399	584
28 q	396	395	395	396	396	395	395	395	394	390	386	386	388	389	392	394	395	395	395	395	395	394	392	391	393	434
Mean	390	389	389	390	390	389	389	389	390	389	388	*387*	389	391	395	401	405	406	*406*	405	403	399	396	393	394	
Sum 10,000+	908	887	879	912	909	894	895	899	913	901	855	842	878	937	1065	1222	1330	1358	1369	1351	1294	1166	1092	1000		Grand Total 264,756

DAILY EXTREMES OF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH CHAMBER

24 ESKDALEMUIR — All Times G.M.T. — FEBRUARY 1962

	GEOMAGNETIC ELEMENTS																3-hr. range indices K	Sum of K indices	Magnetic character of day, C (0-2)	Temperature in magneto-graph chamber 200 +
	Horizontal component					Declination					Vertical component									
	Maximum 16,000γ +		Minimum 16,000γ +		Range	Maximum 10° +		Minimum 10° +		Range	Maximum 45,000γ +		Minimum 45,000γ +		Range					
	h. m.	γ	γ	h. m.	γ	h. m.	′	′	h. m.	′	h. m.	γ	γ	h. m.	γ				°A.
1 q	17 14	832	809	10 44	23	13 58	20·2	15·8	09 06	4·4	08 31	390	386	18 59	*4*	0,0,0,0,0,1,0,1	2	0	83·4
2	00 54	840	808	13 33	32	13 56	21·0	13·6	10 29	7·4	22 42	399	383	13 18	16	2,0,0,0,1,0,1,2	6	0	83·5
3	07 07	831	809	15 49	*22*	13 33	20·9	17·0	09 07	*3·9*	00 01	395	388	07 10	7	1,1,1,1,1,2,1,0	8	0	83·5
4 d	10 03	856	735	17 23	121	16 46	*45·9*	13·8	23 58	*32·1*	18 38	513	371	12 58	142	1,1,1,3,4,5,4,3	22	2	83·5
5	19 04	820	782	03 19	38	13 53	21·2	13·8	00 04	7·4	00 19	408	394	23 38	14	2,2,0,1,2,2,2,1	12	1	83·5
6	23 16	834	802	10 37	32	14 31	20·4	8·5	23 38	11·9	15 21	397	384	23 19	13	0,1,1,1,1,0,2,3	9	1	83·3
7 d	01 59	853	767	17 40	86	01 51	25·7	4·8	17 53	20·9	17 50	420	354	02 08	66	4,2,3,3,4,4,3,1	24	1	83·4
8 q	20 52	825	798	11 12	27	13 02	21·2	14·9	22 39	6·3	18 06	394	384	13 08	10	0,1,1,1,2,1,0,1	7	0	83·4
9	23 47	833	797	12 57	36	02 07	22·5	15·7	23 13	6·8	17 40	394	*321*	02 40	73	2,0,1,1,2,1,1,2	10	0	83·5
10 q	00 54	833	808	12 22	25	14 07	21·3	15·8	09 14	5·5	17 31	391	382	01 06	9	2,0,0,0,1,1,1,0	5	0	83·5
11	15 28	840	758	20 57	82	18 47	23·0	*-1·2*	21 20	24·2	21 14	430	380	02 33	50	2,1,0,2,2,2,4,4	17	1	83·5
12 d	21 50	860	755	00 59	105	13 57	22·9	0·5	20 08	22·4	18 55	414	361	00 22	53	4,2,2,2,2,3,4,4	23	1	83·5
13	23 43	871	779	11 21	92	13 36	22·3	9·5	23 34	12·8	19 13	404	377	23 59	27	2,3,1,2,2,3,2,4	19	1	83·7
14	20 58	*875*	788	23 11	87	18 34	23·0	0·8	20 57	22·2	20 28	411	373	00 56	38	3,2,1,1,1,2,4,4	18	1	83·6
15	21 00	852	785	17 43	67	16 55	23·0	11·4	17 56	11·6	18 20	420	378	04 51	42	2,2,2,2,1,4,4,2	19	1	83·5
16 d	05 19	849	*715*	19 46	*134*	16 03	35·1	5·2	19 52	29·9	16 33	*536*	350	23 59	*186*	2,2,2,4,3,4,4,4	25	2	83·5
17	00 01	833	781	08 52	52	11 17	22·5	11·0	18 44	11·5	18 46	411	350	00 02	61	3,2,3,3,2,2,3,2	20	1	83·5
18	23 21	821	778	18 54	43	13 44	21·1	9·3	19 01	11·8	19 11	409	389	10 50	20	1,0,1,2,2,1,3,1	11	1	83·6
19 q	05 34	824	796	12 06	28	13 34	23·2	15·2	09 13	8·0	15 33	401	385	10 45	16	1,0,1,1,1,0,0,0	4	0	83·5
20	06 39	832	801	13 06	31	13 15	23·3	15·2	22 20	8·1	15 39	401	385	11 45	16	0,0,1,1,1,0,1,2	6	0	83·4
21	07 59	832	793	12 40	39	13 29	25·8	14·4	17 37	11·4	17 37	417	383	11 31	34	1,0,1,1,3,3,2,1	12	1	83·6
22	05 59	859	774	12 24	85	14 29	25·2	15·1	07 10	10·1	16 09	407	372	06 09	35	3,2,2,3,3,2,1,0	16	1	83·6
23	08 28	832	779	14 45	53	13 42	23·8	9·8	22 50	14·0	16 07	406	377	11 15	29	0,2,2,2,3,3,1,2	15	1	83·5
24	06 28	836	779	18 14	57	14 51	25·3	9·8	20 17	15·5	18 16	415	383	11 08	32	1,1,1,2,2,2,3,2	14	1	83·5
25	20 45	838	797	11 25	41	14 03	21·8	7·6	23 58	14·2	20 32	401	384	12 11	17	0,0,2,1,2,2,3,3	13	1	83·5
26 d	15 32	863	760	16 13	103	15 33	27·7	7·8	00 01	19·9	19 37	439	364	13 11	75	3,1,1,2,3,5,4,3	22	1	83·4
27	05 27	838	758	11 33	80	14 16	27·9	13·4	19 58	14·5	16 24	435	385	11 46	50	2,2,2,3,3,3,3,1	19	1	83·5
28 q	22 03	822	789	11 43	33	13 34	21·7	14·4	09 31	7·3	00 25	396	384	10 59	12	0,0,1,1,1,0,0,0	3	1	83·5
Mean	- -	841	781	- -	59	- -	24·2	10·8	- -	13·4	- -	416	375	- -	41	-	-	0·75	83·5

q denotes an international quiet day and *d* an international disturbed day.

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

21 ESKDALEMUIR (H) — 16,000γ (0·16 C.G.S. unit) + — MARCH 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 19,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	822	821	820	822	824	826	827	828	824	827	819	809	808	807	814	813	818	823	827	828	830	830	831	826	822	724
2	825	823	819	817	817	816	820	823	819	815	810	811	819	811	809	820	810	822	820	815	831	830	828	827	819	657
3	828	828	828	828	827	828	827	828	830	831	824	816	824	821	823	822	820	817	813	808	806	801	794	815	820	687
4	801	807	813	815	819	823	823	824	823	821	817	809	816	823	828	828	824	826	832	831	830	827	828	835	822	723
5 d	825	826	825	830	833	835	833	837	829	850	813	822	833	804	804	826	809	796	801	809	819	820	821	826	822	726
6 d	828	829	824	817	823	844	839	833	813	796	788	796	753	811	796	813	801	805	807	802	810	816	817	817	*812*	478
7	829	820	817	815	817	820	814	820	820	809	798	796	801	798	809	815	822	814	822	824	824	824	824	824	816	576
8 q	824	822	822	821	826	830	830	827	817	813	807	808	813	820	822	824	826	824	824	824	825	825	826	826	822	726
9 q	826	826	826	826	828	828	828	825	820	814	811	811	813	813	817	819	822	826	829	829	830	832	832	833	823	764
10	831	832	836	826	824	829	830	833	833	829	809	801	804	800	805	812	817	805	823	826	824	820	801	825	820	675
11	824	807	814	820	828	830	842	830	819	814	804	799	813	813	815	818	816	802	814	821	830	821	824	822	818	640
12 d	823	828	822	820	822	825	830	836	832	829	817	797	800	804	813	796	807	829	800	803	790	809	815	817	815	564
13	845	809	815	816	818	820	823	820	817	813	820	818	817	818	820	818	819	818	823	826	826	827	826	827	821	699
14	824	822	825	826	827	827	829	831	828	828	828	828	823	820	820	815	818	822	833	831	828	833	835	833	826	834
15	830	831	840	819	830	841	828	832	828	827	822	821	810	820	824	828	830	835	836	834	834	840	828	827	829	895
16 q	832	832	831	831	836	835	836	835	829	823	815	811	815	818	823	822	828	832	835	835	836	834	832	831	829	887
17	832	831	830	832	834	838	840	835	826	814	804	801	805	816	823	828	834	835	835	836	836	837	836	833	828	871
18	834	833	834	834	837	842	847	839	833	823	811	806	803	788	805	824	815	825	829	831	822	824	831	833	825	803
19 d	832	840	839	833	837	837	839	832	829	817	812	809	796	794	801	800	815	824	813	800	802	820	832	826	820	679
20	825	825	827	829	829	831	828	827	825	815	811	810	807	809	812	817	822	820	798	819	832	828	823	828	821	697
21 d	824	822	823	826	828	831	827	818	815	811	794	790	788	803	797	824	813	821	833	828	816	821	839	824	817	616
22	824	827	827	827	829	831	833	831	826	817	805	804	807	815	822	825	826	827	832	833	831	835	833	822	825	789
23	827	829	829	831	832	835	838	841	832	822	811	792	798	805	815	821	826	827	832	832	835	835	835	834	826	814
24	833	835	832	823	830	834	835	834	825	807	801	803	808	815	822	830	836	835	829	837	837	837	836	836	827	850
25	839	832	831	826	845	836	836	840	828	822	808	795	787	801	818	823	826	821	829	835	829	832	827	829	825	795
26	832	837	839	829	829	834	836	835	828	813	798	797	805	811	818	823	829	833	837	839	839	838	839	838	827	856
27 q	836	836	839	838	839	840	842	843	837	824	817	812	809	813	815	828	833	839	837	839	839	840	840	840	832	975
28	839	839	838	840	841	844	847	849	844	833	820	813	815	821	820	829	828	833	834	839	826	821	832	832	832	977
29	833	827	829	825	834	838	841	845	831	823	815	812	810	809	824	830	829	829	831	831	832	833	835	833	828	879
30 q	833	835	835	829	832	834	835	836	832	825	822	817	816	818	823	828	831	835	838	839	833	829	831	830	830	916
31	835	831	835	836	839	841	837	833	824	818	812	811	819	826	830	832	831	835	835	844	847	847	848	845	*833*	991
Mean	829	827	828	826	829	832	*833*	832	826	820	811	*807*	808	811	816	821	822	824	825	827	827	828	828	829	824	
Sum 25,000+	695	642	664	607	714	803	820	800	616	423	143	25	35	145	287	451	481	535	581	628	629	666	679	694		Grand Total 612,763

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

22 ESKDALEMUIR (D) — 10° + — MARCH 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 400·0+
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1	17·3	17·2	17·1	17·1	17·1	16·9	16·8	18·2	18·4	17·3	18·1	19·6	23·0	23·3	21·6	20·3	17·5	17·2	18·6	18·4	18·2	17·4	17·4	16·1	18·3	40·1
2	14·8	14·7	15·0	14·8	14·7	15·2	15·5	14·8	15·2	15·4	16·8	18·7	22·0	23·3	21·8	20·9	17·9	17·6	15·8	17·8	18·2	17·8	17·5	17·3	17·2	13·5
3	17·3	17·2	17·1	17·2	16·9	16·9	16·9	16·8	16·0	15·9	17·0	18·4	21·5	21·9	21·7	19·7	18·6	19·1	19·4	17·5	15·1	13·0	14·1	16·2	17·6	21·4
4	12·9	13·9	17·2	17·8	16·4	16·9	16·6	15·8	15·5	16·4	19·1	20·9	22·2	23·0	21·8	19·4	17·3	17·3	17·9	17·8	17·9	16·9	17·0	15·1	17·6	23·0
5 d	15·5	16·8	17·3	17·2	17·0	17·0	16·4	15·7	15·1	16·5	19·3	21·8	24·3	26·0	22·4	21·1	21·6	17·2	20·1	17·5	18·2	16·5	14·8	15·2	18·4	40·5
6 d	16·9	16·2	16·2	14·6	18·5	18·1	15·4	16·9	15·0	16·8	19·9	22·1	23·1	24·5	24·3	24·1	19·4	14·7	12·6	9·4	13·0	14·1	15·6	17·2	17·4	18·6
7	17·3	17·5	19·2	18·0	16·5	16·2	16·4	16·3	15·0	14·7	16·2	19·2	21·5	22·5	21·5	20·9	18·6	14·7	17·4	17·3	17·1	17·0	17·0	16·8	17·7	24·8
8 q	16·3	17·3	17·4	17·8	18·0	16·9	16·2	15·5	14·3	14·0	15·6	17·7	20·8	20·9	20·5	19·2	18·1	17·8	18·0	17·8	17·4	17·3	17·1	17·0	17·5	18·9
9 q	16·9	17·0	17·0	17·0	16·9	16·8	16·4	15·6	14·0	13·8	14·9	17·2	19·7	20·5	20·6	19·6	18·9	18·7	18·7	18·1	18·0	17·8	17·7	17·2	17·5	19·0
10	16·9	16·7	15·4	12·8	13·3	13·3	13·7	15·0	15·6	16·0	17·5	19·3	22·5	24·4	24·5	23·5	22·9	20·0	18·4	19·2	17·1	12·9	9·4	11·0	17·1	11·3
11	10·3	12·4	15·2	14·0	11·3	14·7	17·6	18·1	15·1	15·7	17·2	18·3	20·4	22·6	22·3	20·9	19·9	17·2	18·5	15·9	13·6	16·4	16·8	16·7	*16·7*	1·1
12 d	16·9	17·6	15·1	15·5	16·3	15·2	17·3	16·3	15·9	15·9	16·8	20·2	23·3	24·9	27·1	25·7	20·3	14·9	19·3	14·6	13·5	16·9	17·0	16·9	18·1	33·4
13	18·5	14·8	15·0	14·4	15·4	15·8	15·9	16·0	16·0	17·5	18·7	19·6	21·0	21·5	21·6	21·1	19·1	18·5	18·1	17·6	17·3	17·3	17·1	16·4	17·7	24·2
14	16·0	16·1	16·0	16·2	16·2	16·2	16·3	16·1	15·3	15·3	16·3	19·6	21·0	22·5	22·8	20·7	19·0	18·4	15·8	15·8	16·1	17·8	17·8	17·2	17·5	20·5
15	17·3	16·7	15·0	13·4	15·4	13·9	13·9	14·3	13·7	14·7	16·9	19·5	21·2	22·4	21·9	20·1	18·8	18·7	18·7	18·7	18·3	13·7	11·4	17·1	16·9	5·7
16 q	17·6	17·1	16·9	17·4	17·4	17·2	16·6	15·5	14·6	14·7	16·9	19·4	22·1	23·0	22·5	20·9	19·3	18·5	18·2	18·0	18·0	16·5	16·5	17·6	18·0	32·4
17	17·4	17·1	17·2	17·2	17·2	17·0	16·0	14·8	14·2	15·0	17·4	20·5	23·1	24·5	23·2	21·4	19·3	17·9	17·9	17·7	17·6	17·5	17·3	17·2	18·1	35·6
18	17·2	17·2	17·1	17·1	17·0	16·7	15·9	14·4	13·3	13·9	15·9	19·6	24·0	25·1	24·2	23·5	21·0	18·7	18·3	17·1	12·2	15·5	16·4	17·4	17·9	28·7
19 d	17·3	18·0	15·7	15·6	16·0	16·2	16·7	15·1	13·6	13·0	15·9	20·0	24·3	27·4	26·0	25·3	21·9	18·8	10·1	8·5	12·8	16·4	16·6	17·6	17·5	18·8
20	17·7	17·4	17·3	17·3	17·4	18·6	15·9	13·9	12·7	13·6	15·5	20·0	23·5	25·4	25·3	24·0	21·0	19·5	16·2	17·3	17·5	16·2	9·8	12·5	17·7	25·5
21 d	12·5	16·5	17·5	17·2	16·7	16·5	16·0	16·8	14·1	14·3	17·5	19·9	23·2	26·5	24·5	23·2	21·4	20·7	13·6	12·5	13·7	14·7	14·2	14·0	17·4	17·7
22	17·6	17·4	17·2	17·1	17·0	16·9	17·2	15·6	14·0	13·8	15·4	19·4	22·6	23·7	23·2	21·6	19·7	18·6	17·9	17·5	17·3	17·3	14·2	14·7	17·8	26·9
23	17·2	17·8	17·4	17·1	16·9	16·5	16·3	15·0	12·9	12·7	15·6	18·6	22·6	23·4	23·3	21·8	19·5	18·1	17·3	17·4	17·7	17·6	17·2	17·4	17·8	27·3
24	17·2	18·6	14·1	14·8	15·7	16·1	15·9	14·7	13·7	14·5	15·8	18·9	21·1	23·0	23·3	22·1	20·9	20·3	19·7	19·0	18·2	17·0	17·2	17·3	17·9	29·1
25	17·2	16·5	19·4	16·3	15·3	14·2	16·9	17·2	16·4	16·1	17·2	20·1	23·2	23·9	24·7	23·5	21·6	20·4	19·1	17·9	17·5	17·2	16·5	16·9	*18·5*	45·2
26	16·7	17·6	16·5	13·7	14·7	15·6	15·5	14·3	13·2	13·2	15·0	18·3	21·3	22·6	22·5	21·4	20·1	19·7	19·5	19·1	18·5	17·9	17·7	17·3	17·6	21·9
27 q	16·7	17·0	16·3	15·9	16·5	16·4	16·4	15·1	14·2	13·8	15·4	18·5	21·7	23·6	22·5	21·9	20·8	20·1	18·7	18·3	18·0	17·8	17·7	17·5	17·9	30·8
28	17·1	16·9	16·8	16·5	16·3	16·3	16·1	14·9	13·4	12·8	15·0	18·9	22·7	23·6	22·7	21·3	19·6	18·5	18·1	18·2	17·5	15·6	17·2	16·8	17·6	22·8
29	15·1	9·8	11·1	11·5	13·3	14·0	17·0	18·7	15·6	14·3	15·7	18·8	22·4	22·3	21·9	20·7	19·7	19·2	18·3	18·2	17·9	17·9	17·5	17·5	17·0	8·4
30 q	17·2	17·4	15·9	15·8	16·0	16·1	15·9	14·7	13·7	13·4	15·2	17·5	19·6	20·4	20·1	19·0	18·8	18·7	18·3	17·9	18·2	18·2	17·8	17·0	17·2	12·8
31	15·0	14·2	15·7	16·1	16·0	15·8	15·5	14·1	12·9	13·2	15·2	17·9	20·5	22·2	22·1	20·9	19·6	18·6	18·3	18·1	18·2	18·2	18·1	17·5	17·2	13·9
Mean	16·4	16·4	16·4	15·9	16·1	16·1	16·2	15·7	*14·6*	14·8	16·6	19·3	22·1	*23·4*	22·9	21·6	19·7	18·3	17·6	17·0	16·8	16·6	16·1	16·4	17·6	
Sum 400·0+	107·8	108·6	107·3	94·4	99·3	100·1	101·1	86·2	52·6	58·2	114·9	198·4	285·4	324·8	308·4	269·7	212·1	168·3	146·8	126·1	119·8	114·3	99·6	109·6	17.6	Grand Total 13113·8

GEOMAGNETIC FORCE: VERTICAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEMUIR (Z) 45,000γ (0·45 C.G.S. unit) + MARCH 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 9000+
Hour G.M.T.	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	392	392	391	391	390	389	389	389	386	384	382	382	377	378	385	392	400	398	394	394	392	392	392	392	389	343
2	389	388	387	388	389	389	388	388	389	388	387	382	382	385	387	389	397	398	400	401	395	393	391	391	390	361
3	390	389	389	388	388	388	388	388	387	383	381	376	372	377	388	398	403	401	404	411	412	406	403	398	392	408
4	401	401	398	395	395	393	393	390	388	384	381	379	377	377	381	388	393	391	390	390	393	394	394	391	390	357
5 d	389	389	390	389	388	388	388	387	385	384	383	377	377	398	395	396	405	425	424	418	411	405	403	397	395	491
6 d	391	389	388	387	367	359	368	373	381	381	384	384	392	394	398	410	421	424	417	415	407	400	396	394	393	420
7	388	387	387	389	390	391	391	391	391	390	388	388	388	389	395	400	401	405	398	388	388	388	387	388	391	386
8 q	388	388	388	388	386	385	389	391	393	388	383	379	378	382	386	392	394	394	393	392	388	390	390	391	388	316
9 q	392	392	392	392	392	391	391	391	390	387	382	378	378	382	384	388	391	391	389	390	389	389	389	389	388	319
10	389	389	382	382	383	383	383	384	383	379	378	378	382	388	394	395	405	407	405	400	400	400	399	384	390	352
11	379	384	382	377	377	374	373	375	381	381	378	379	378	380	387	393	402	415	408	405	401	396	394	394	387	293
12 d	392	384	383	388	389	389	387	388	385	384	380	381	387	394	405	420	433	428	424	428	417	406	402	400	399	574
13	382	382	385	388	389	389	389	390	390	389	387	382	382	384	389	394	399	400	395	395	395	394	394	394	390	357
14	392	393	391	390	389	389	388	389	391	387	381	377	379	381	387	395	399	397	397	396	395	394	391	390	390	358
15	390	390	384	381	376	373	377	381	382	379	377	375	377	379	384	388	389	389	389	390	392	389	387	385	383	203
16 q	387	388	388	388	387	387	387	388	387	382	379	377	375	378	382	387	388	388	388	389	389	391	390	389	386	259
17	388	388	388	388	388	387	388	390	389	388	383	377	374	377	384	388	391	390	388	388	388	388	388	389	386	275
18	389	389	388	388	387	386	384	387	387	382	381	377	377	380	380	389	395	398	396	396	400	396	393	391	388	316
19 d	390	385	377	382	383	383	384	388	385	384	381	378	378	384	394	401	402	407	425	425	418	406	395	394	393	429
20	388	388	388	387	386	389	389	393	391	387	385	379	380	382	388	394	398	413	427	413	401	397	397	383	393	423
21 d	377	383	388	389	390	386	389	386	384	381	382	382	378	381	394	407	414	412	418	409	406	404	375	375	391	390
22	385	389	392	391	391	390	388	389	388	384	381	377	377	378	385	391	395	395	394	392	391	391	391	389	388	314
23	389	390	391	391	391	389	388	389	389	384	380	381	379	381	385	390	394	394	394	394	391	390	390	389	388	323
24	388	384	374	381	384	386	387	388	387	385	381	377	377	378	384	388	390	394	395	393	392	391	388	389	386	261
25	388	389	383	376	372	375	377	380	382	382	382	381	382	382	386	393	399	400	395	395	396	394	394	392	386	275
26	390	387	375	377	382	383	385	388	387	384	380	372	370	375	381	388	388	388	388	388	388	388	388	388	384	208
27 q	388	388	387	386	387	384	384	386	386	385	381	375	371	376	382	388	389	389	388	388	388	388	388	387	385	239
28	387	388	388	388	385	384	382	383	383	378	372	367	368	374	381	388	395	398	396	394	397	400	394	392	386	262
29	385	378	378	379	378	378	377	375	379	382	380	375	375	380	382	387	389	391	391	391	390	389	389	389	383	187
30 q	388	388	387	388	388	387	388	388	388	381	375	372	371	374	379	383	387	388	389	390	393	394	394	394	386	254
31	392	390	388	388	387	386	388	388	385	378	374	369	366	370	376	379	381	384	386	387	385	385	385	385	383	182
Mean	389	388	386	387	386	385	385	387	386	384	381	378	377	381	387	393	398	400	399	398	396	395	392	390	389	
Sum 11,000+	1043	1029	977	980	954	930	947	981	979	895	809	713	704	818	988	1179	1327	1392	1385	1345	1288	1228	1151	1093		Grand Total 289,135

DAILY EXTREMES OF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH CHAMBER

24 ESKDALEMUIR All Times G.M.T. MARCH 1962

Day	Horizontal component: Maximum 16,000γ + (h. m.)	Horizontal component: Maximum 16,000γ + (γ)	Horizontal component: Minimum 16,000γ + (γ)	Horizontal component: Minimum 16,000γ + (h. m.)	Horizontal component: Range (γ)	Declination: Maximum 10° + (h. m.)	Declination: Maximum 10° + (′)	Declination: Minimum 10° + (′)	Declination: Minimum 10° + (h. m.)	Declination: Range (′)	Vertical component: Maximum 45,000γ + (h. m.)	Vertical component: Maximum 45,000γ + (γ)	Vertical component: Minimum 45,000γ + (γ)	Vertical component: Minimum 45,000γ + (h. m.)	Vertical component: Range (γ)	3-hr. range indices K	Sum of K indices	Magnetic character of day, C (0-2)	Temperature in magneto-graph chamber 200 + (°A.)
1	08 58	833	793	12 51	40	12 19	24·5	14·2	17 05	10·3	17 12	400	376	12 32	24	0,0,2,2,3,2,1,1	11	1	83·4
2	21 44	834	802	16 37	32	12 56	24·1	13·6	18 56	10·5	19 09	405	379	11 56	26	2,1,2,1,3,2,2,1	14	1	83·5
3	13 30	844	786	22 08	58	13 38	25·9	11·6	21 39	14·3	20 02	415	371	12 40	44	1,0,1,1,3,2,3,3	14	1	83·6
4	23 19	843	794	00 28	49	13 36	23·7	12·3	00 56	11·4	01 22	404	376	13 12	28	2,1,1,1,2,2,1,2	12	0	83·5
5 d	12 20	848	777	13 48	71	13 50	32·9	12·5	22 42	20·4	17 21	429	376	12 22	53	1,0,2,3,4,3,3,2	18	1	83·5
6 d	06 54	868	734	12 37	134	14 09	28·9	1·8	19 20	27·1	17 01	428	358	05 28	70	2,3,3,3,4,3,4,2	24	2	83·4
7	00 12	835	792	13 46	43	13 09	25·4	12·9	17 36	12·5	17 11	406	385	01 12	21	2,1,2,2,3,2,0,0	12	1	83·4
8 q	05 28	832	805	10 39	27	13 39	21·2	13·7	09 13	7·5	17 02	395	378	12 09	17	0,1,1,0,0,0,0,0	2	0	83·5
9 q	22 35	836	809	12 53	27	14 44	21·3	13·4	09 25	7·9	03 10	392	377	12 09	15	0,0,0,0,1,1,1,1	4	0	83·5
10	23 56	847	790	22 07	57	14 34	25·4	5·6	22 37	19·8	18 10	411	377	24 00	34	2,1,2,2,2,3,2,4	18	1	83·5
11	06 15	847	789	17 27	58	14 02	24·0	7·8	00 30	16·2	17 28	417	372	05 31	45	3,3,2,2,2,3,3,1	19	1	83·4
12 d	24 00	876	776	20 09	100	14 59	28·6	5·9	19 34	22·7	16 52	443	378	10 50	65	2,1,2,3,2,4,4,4	22	1	83·5
13	00 06	882	802	01 53	80	00 09	24·2	13·4	03 47	10·8	17 20	400	378	00 52	22	4,1,0,2,2,1,1,1	12	1	83·5
14	18 53	843	810	15 28	33	14 23	23·2	10·5	18 57	12·7	16 18	400	377	11 42	23	1,0,0,1,1,2,3,1	9	1	83·4
15	21 42	864	805	12 39	59	11 52	23·0	6·2	21 58	16·8	21 12	394	371	05 25	23	2,3,2,2,2,2,1,3	17	1	83·5
16 q	06 42	840	809	11 22	31	13 24	23·6	13·7	08 32	9·9	21 15	393	374	12 20	19	1,1,1,2,2,1,1,2	11	0	83·5
17	05 50	842	796	12 34	46	13 15	25·1	13·8	08 54	11·3	16 50	391	372	12 43	19	1,1,1,1,2,2,0,0	8	0	83·3
18	06 53	850	777	13 38	73	13 15	26·8	8·4	20 07	18·4	20 19	402	377	12 03	25	0,1,2,1,3,2,3,2	14	1	83·4
19 d	01 46	852	777	12 19	75	13 10	30·1	5·7	19 09	24·4	18 51	434	376	02 20	58	2,2,1,2,3,3,3,2	18	1	83·3
20	17 22	845	785	18 07	60	14 13	26·3	8·2	22 29	18·1	18 09	429	377	11 51	52	1,1,2,2,3,4,3,3	19	1	83·4
21 d	18 39	870	782	11 31	88	13 30	27·3	7·6	23 04	19·7	18 30	424	358	22 48	66	3,2,2,2,3,3,3,3	21	1	83·3
22	22 36	852	800	11 18	52	13 29	24·2	9·9	22 52	14·3	16 31	395	376	12 06	19	1,0,0,1,0,1,1,3	7	0	83·2
23	07 13	843	776	11 40	67	13 55	24·1	12·1	08 57	12·0	16 58	396	378	10 58	18	1,0,1,3,1,1,0,0	7	0	83·3
24	17 03	854	798	11 18	56	14 05	25·5	11·9	02 32	13·6	18 13	398	371	02 24	27	3,1,1,2,2,3,2,1	15	1	83·4
25	04 40	854	772	12 36	82	14 37	25·1	11·8	05 07	13·3	17 30	401	369	04 41	32	2,3,2,2,3,2,1,3	18	1	83·4
26	01 51	852	793	10 50	59	14 27	22·9	12·5	09 02	10·4	00 00	391	370	12 13	21	2,1,0,1,1,1,0,1	7	0	83·3
27 q	06 59	848	804	12 40	44	13 33	24·6	13·1	08 53	11·5	16 40	391	371	12 22	20	1,1,1,1,2,2,1,0	9	0	83·3
28	07 17	850	801	12 13	49	13 06	24·3	12·5	09 22	11·8	21 15	401	366	11 33	35	0,0,1,1,2,2,2,2	10	0	83·3
29	07 20	852	804	13 28	48	13 02	23·5	8·4	01 23	15·1	17 36	392	374	12 03	18	3,2,2,2,2,1,1,0	13	1	83·2
30 q	02 19	840	813	12 41	27	14 04	21·0	12·9	09 23	8·1	21 39	395	371	12 20	24	1,0,0,1,1,0,1,1	5	0	83·4
31	23 58	853	809	11 30	44	13 40	22·5	12·1	08 46	10·4	00 13	394	366	12 33	28	2,1,2,1,1,2,2,2	13	0	83·5
Mean	- -	849	792	- -	57	- -	24·9	10·7	- -	14·3	- -	405	373	- -	32	-	-	0·65	83·4

q denotes an international quiet day and *d* an international disturbed day.

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

21 ESKDALEMUIR (H) 16,000γ (0·16 C.G.S. unit) + APRIL 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 19,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	847	844	841	841	841	857	860	844	832	815	814	801	804	796	813	823	829	829	830	833	830	835	833	834	830	926
2	832	831	830	827	829	834	835	833	832	823	811	807	806	816	819	824	828	829	832	837	844	829	827	854	828	869
3	827	830	832	835	839	837	829	835	826	815	804	800	805	812	819	835	823	829	826	825	829	840	835	835	826	822
4	832	831	830	830	826	833	829	830	801	775	789	796	808	817	817	822	825	830	830	832	834	836	834	865	823	752
5	835	817	810	825	828	832	834	833	828	815	807	801	809	815	816	820	827	832	839	842	842	843	845	846	827	841
6 d	843	848	848	848	842	855	848	846	826	817	785	796	785	802	808	811	824	842	813	830	837	807	822	824	825	807
7 d	803	828	816	825	811	809	810	804	788	770	788	768	756	770	814	840	822	822	824	834	833	820	798	839	*808*	392
8 d	824	796	810	819	821	825	816	813	804	793	784	793	782	804	811	831	899	833	811	801	810	808	818	828	814	534
9	841	816	808	812	815	819	814	818	819	812	804	801	808	809	800	816	835	830	832	832	826	831	836	836	820	670
10 d	832	824	823	813	832	827	831	828	816	769	763	752	784	816	796	817	801	831	853	811	805	810	813	815	811	462
11	825	813	785	830	817	821	812	802	804	784	775	777	792	807	820	836	822	835	835	822	825	828	829	822	813	518
12	811	816	824	815	815	819	816	815	806	794	790	792	798	798	812	809	835	833	837	832	830	816	816	813	814	542
13 q	824	820	819	817	821	824	822	819	816	803	796	795	798	805	813	822	826	829	831	830	830	829	826	829	819	644
14 q	839	827	823	824	825	828	828	827	820	809	798	795	803	814	825	830	832	837	841	841	841	838	839	835	826	819
15	835	836	836	832	836	833	835	834	825	813	804	800	808	827	841	868	840	831	836	858	853	848	848	845	834	1022
16	843	854	848	837	835	837	838	832	823	809	796	792	803	811	818	826	828	837	846	847	843	845	844	845	831	937
17	837	834	827	828	836	840	831	830	820	807	798	802	815	823	835	832	839	844	841	839	837	839	838	835	829	907
18	832	830	832	841	851	845	846	839	819	810	801	813	826	841	809	827	833	832	848	852	829	840	841	841	832	978
19	837	835	832	828	837	835	838	828	822	809	798	797	804	814	827	836	837	839	843	843	841	841	838	841	829	900
20	840	839	822	816	830	834	835	828	814	801	793	796	805	818	829	840	850	835	845	841	847	843	840	841	829	885
21	865	857	855	856	859	860	859	840	824	814	817	823	825	829	837	846	898	882	826	817	818	817	822	824	*840*	1170
22 d	829	815	806	812	829	819	831	821	792	795	784	769	777	811	804	847	838	849	842	818	815	815	836	829	816	583
23	814	815	818	814	820	838	833	822	828	808	796	786	789	801	813	814	829	837	846	842	834	833	831	831	821	692
24 q	826	826	823	825	824	823	819	814	808	802	795	792	803	797	817	829	836	856	838	849	847	842	840	838	824	769
25	838	833	833	829	829	830	826	825	824	821	805	793	805	816	832	842	816	836	860	845	834	838	838	837	829	885
26	832	834	834	833	837	832	825	814	793	802	804	795	794	789	803	817	837	842	842	842	842	838	835	831	823	747
27	831	825	817	821	816	824	837	836	828	810	801	794	794	806	813	826	841	853	846	840	833	834	836	833	825	795
28	829	826	823	821	826	825	813	823	824	814	808	808	806	812	823	839	848	834	845	844	842	842	831	821	826	827
29 q	825	826	825	825	829	830	831	827	825	815	803	804	808	814	815	835	840	848	856	848	838	831	836	836	828	870
30 q	834	836	831	831	831	829	828	826	823	817	816	823	829	833	842	844	842	842	849	842	836	828	833	833	832	978
Mean	832	829	825	827	830	832	830	826	817	805	798	*795*	801	811	818	830	836	838	*838*	836	833	831	832	835	824	
Sum 23,000+	1962	1862	1761	1810	1887	1954	1909	1786	1510	1141	927	861	1029	1323	1541	1904	2080	2138	2143	2069	2005	1944	1958	2036		Grand Total 593,540

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

22 ESKDALEMUIR (D) 10° + APRIL 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 300·0+
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1	17·4	17·2	16·4	16·4	17·4	16·0	16·2	14·1	15·3	18·6	18·6	22·5	25·1	26·0	23·3	21·6	18·9	17·6	16·9	17·3	16·6	16·0	17·7	17·6	*18·4*	140·7
2	17·3	17·0	16·6	16·9	16·7	15·4	14·5	13·0	12·3	13·3	15·4	18·1	20·3	22·0	21·8	19·9	18·6	19·1	18·4	15·5	9·4	12·2	12·2	8·0	16·0	83·9
3	12·0	15·6	15·8	15·9	15·6	17·2	20·5	17·3	12·7	12·7	14·6	18·4	21·4	22·1	21·7	20·7	19·4	17·7	16·0	15·3	14·0	14·9	14·3	17·4	16·8	103·2
4	17·9	18·5	16·6	15·1	15·4	16·2	16·2	16·3	14·2	17·0	19·7	19·3	20·4	22·0	21·1	20·0	19·2	18·7	18·0	16·5	16·0	17·1	16·8	13·4	17·6	121·6
5	13·6	9·4	12·2	11·6	13·3	14·9	15·3	14·2	13·0	13·0	14·5	16·3	19·4	21·7	22·2	21·4	20·2	19·2	18·4	18·4	18·1	18·0	17·6	17·0	16·4	92·9
6 d	17·1	16·5	16·6	16·0	19·1	16·6	15·1	16·2	12·5	12·6	15·7	19·8	21·5	23·2	24·9	23·3	22·9	22·5	16·8	16·2	18·1	5·7	10·7	12·8	17·2	112·4
7 d	7·6	2·0	10·6	11·6	15·2	12·7	18·4	24·2	21·5	17·6	16·6	19·8	23·3	24·1	26·2	14·7	21·9	21·4	19·0	11·8	9·2	12·1	8·0	12·8	15·9	82·3
8 d	11·2	11·4	17·5	18·7	17·8	14·4	14·4	13·6	13·4	14·7	15·4	19·9	22·4	25·0	25·8	28·4	13·0	20·3	19·3	16·1	15·5	19·3	16·7	14·1	17·4	118·3
9	15·9	15·7	14·1	14·2	14·8	15·1	14·5	14·5	14·3	14·7	16·4	18·9	21·8	23·0	22·2	21·1	20·3	19·1	17·7	17·7	16·1	16·7	17·5	17·7	17·3	114·0
10 d	16·6	15·9	13·5	14·3	15·4	12·7	14·2	13·0	12·6	14·9	22·4	23·8	23·2	25·6	27·9	22·4	22·5	22·7	8·3	12·4	12·6	11·3	18·8	11·8	17·0	108·8
11	13·6	14·6	16·8	17·2	12·3	13·2	13·7	13·9	14·3	16·1	18·1	20·5	21·9	23·0	20·4	20·7	20·2	16·0	16·9	17·6	16·6	16·4	13·5	13·6	16·7	101·1
12	14·4	15·6	14·5	13·5	14·4	14·3	14·1	13·4	12·7	13·2	15·0	17·2	20·1	21·3	22·3	19·8	19·4	18·0	18·0	17·5	16·6	12·8	13·4	13·9	16·1	85·4
13 q	18·0	15·4	14·5	14·5	14·5	13·5	13·4	12·6	12·1	12·8	15·1	17·3	19·7	22·0	22·0	20·5	18·2	15·9	15·8	16·7	16·9	16·8	16·6	17·0	16·3	91·8
14 q	18·0	15·8	14·8	14·4	14·4	14·5	14·5	14·4	14·4	15·2	16·6	18·4	20·9	22·6	22·8	21·9	20·6	19·6	18·6	18·1	16·7	16·7	15·9	15·6	17·3	115·4
15	16·2	16·2	15·9	17·5	17·3	15·8	13·3	12·4	12·1	13·3	15·4	18·6	21·7	24·8	25·3	24·0	22·3	21·7	21·3	20·3	18·7	18·6	18·0	17·4	18·3	138·1
16	17·4	17·0	14·8	14·2	14·4	14·5	13·3	12·9	12·3	13·9	17·0	20·2	23·5	24·5	23·8	22·1	21·7	18·7	17·1	17·3	17·0	13·6	15·4	16·1	17·2	112·7
17	15·8	15·9	18·0	17·9	17·6	14·2	12·2	11·4	11·7	12·9	15·4	20·0	22·6	23·8	22·5	20·3	19·0	18·4	18·6	17·2	17·2	17·5	17·3	17·2	17·3	114·6
18	16·4	15·9	16·2	18·2	17·0	14·7	15·4	15·9	15·4	16·7	19·9	22·3	22·6	24·3	23·1	20·8	20·2	18·6	17·7	17·2	14·0	17·2	18·3	17·3	18·1	135·3
19	16·6	17·2	22·8	16·9	13·4	12·1	11·2	12·0	11·6	12·4	15·2	18·8	21·5	22·5	22·0	20·4	18·8	18·0	17·4	17·2	17·5	17·6	17·4	17·4	17·0	107·9
20	15·9	15·7	13·6	14·5	15·3	13·9	11·9	15·2	15·2	12·4	14·8	17·4	20·8	23·4	22·7	21·2	19·3	19·0	18·1	17·1	17·2	16·0	15·8	17·4	16·8	103·8
21	17·9	17·1	17·0	15·1	14·4	13·9	12·2	11·0	9·8	11·0	15·1	19·2	22·4	23·4	22·4	21·1	21·1	19·4	15·0	8·5	5·3	11·7	13·2	8·0	15·2	65·2
22 d	11·8	11·8	15·7	23·0	14·6	17·8	19·3	15·8	16·9	16·0	17·9	21·0	22·4	23·6	22·4	20·5	18·0	16·9	14·3	12·5	8·9	11·5	12·6	12·9	16·6	98·1
23	10·9	13·0	14·6	16·8	15·8	13·4	13·6	15·4	16·0	17·1	18·9	20·8	22·0	22·3	21·4	19·6	18·4	17·0	16·5	15·9	16·0	16·4	16·6	16·5	16·9	104·9
24 q	16·0	16·2	15·2	14·4	13·9	13·0	12·3	11·9	12·2	12·9	14·8	16·4	20·2	21·3	21·6	21·1	19·9	18·8	18·8	18·3	17·6	17·2	16·8	16·7	16·6	97·5
25	16·8	16·1	16·0	14·7	14·4	13·6	13·5	13·8	14·4	15·1	17·4	18·6	19·6	21·8	23·7	24·3	23·2	21·9	21·4	16·1	14·2	17·2	16·5	16·4	17·5	120·7
26	15·7	15·8	15·9	14·9	14·8	14·5	16·3	15·4	15·1	17·6	17·6	19·7	22·7	22·7	21·9	20·7	19·5	17·9	16·6	16·6	16·6	14·2	11·6	12·0	16·9	106·3
27	13·4	14·2	13·5	12·4	11·0	12·8	12·3	11·5	11·8	12·8	15·5	18·1	21·3	22·3	22·4	20·6	19·0	17·6	17·0	16·1	12·0	14·5	14·0	14·0	15·4	70·1
28	13·7	12·7	11·6	9·4	8·0	8·0	10·0	11·0	11·6	13·1	15·1	17·8	19·4	21·7	21·5	18·7	18·5	17·6	17·4	17·2	16·1	13·8	13·8	13·3	*14·6*	51·0
29 q	14·3	15·2	15·5	16·0	13·6	11·8	10·6	10·8	11·5	12·4	14·3	17·3	20·5	22·2	21·6	19·5	19·6	19·2	18·6	17·9	16·3	15·9	15·9	15·6	16·1	86·1
30 q	17·7	15·4	14·7	13·9	13·6	12·8	12·1	12·2	12·7	14·9	18·7	21·5	22·2	22·1	21·7	20·9	19·6	17·9	18·0	14·0	13·9	15·3	15·6	14·8	16·5	96·2
Mean	15·2	14·9	15·4	15·3	14·9	14·1	14·1	14·0	*13·5*	14·4	16·6	19·3	21·6	*23·0*	22·8	21·1	19·8	18·9	17·4	16·2	15·0	15·1	15·3	14·9	16·8	
Sum 400·0+	57·1	46·0	61·5	60·1	45·4	23·5	24·5	19·3	5·6	30·9	97·1	177·9	246·8	290·3	284·6	232·2	193·4	166·4	121·9	86·5	50·9	54·2	58·5	45·7		Grand Total 12080·3

GEOMAGNETIC FORCE: VERTICAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEMUIR (Z) — 45,000γ (0·45 C.G.S. unit) + — APRIL 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 9000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	383	383	383	383	381	374	372	376	377	382	381	379	382	388	394	397	400	400	398	394	395	393	391	391	387	277
2	391	391	390	389	388	388	388	388	385	383	381	376	372	377	384	388	393	394	394	398	400	393	388	358	387	277
3	359	374	381	383	384	384	381	379	382	381	378	374	374	379	388	393	400	400	407	405	402	389	386	384	385	247
4	382	379	386	388	388	384	385	386	390	389	382	378	378	378	385	390	392	392	393	394	394	393	392	375	386	273
5	363	364	368	371	375	378	383	388	389	388	388	385	378	379	387	389	393	392	391	389	388	388	388	388	383	190
6 d	388	388	388	385	381	369	374	374	377	377	377	371	371	375	384	394	395	398	420	419	407	398	394	386	387	290
7 d	362	346	364	366	352	357	352	344	349	358	372	378	394	407	416	448	414	410	408	410	391	388	365	328	*378*	79
8 d	317	336	358	354	364	369	377	384	387	388	387	382	381	387	397	411	457	460	456	447	422	389	390	385	391	385
9	371	369	384	390	393	394	394	392	389	387	384	384	382	390	401	408	406	412	410	407	407	400	394	389	393	437
10 d	386	392	394	394	388	391	394	395	392	392	389	389	383	387	408	434	430	431	450	435	420	397	345	363	*399*	579
11	371	358	346	342	358	376	384	390	388	385	390	392	394	398	404	420	430	431	419	412	407	398	388	384	390	365
12	387	388	377	378	388	392	395	398	397	394	391	389	388	388	392	394	400	405	407	407	406	406	395	385	394	447
13 q	369	382	392	395	395	394	394	394	391	388	388	386	382	383	389	395	401	406	407	404	400	400	399	397	393	431
14 q	388	387	391	393	394	392	392	394	390	389	387	382	381	383	388	391	394	394	395	395	395	394	394	394	391	377
15	393	392	392	391	385	385	388	388	387	384	382	378	374	374	377	388	401	411	410	401	398	398	397	395	390	369
16	395	388	379	382	387	387	388	392	390	387	384	381	378	383	391	397	402	406	410	405	402	400	393	390	392	397
17	392	394	393	379	372	377	387	389	390	387	382	374	372	378	387	393	396	398	399	398	397	395	394	394	388	317
18	394	395	394	391	381	380	379	379	378	375	372	374	378	388	397	400	405	406	404	402	408	400	397	394	390	371
19	393	394	381	381	384	390	392	390	386	384	380	377	377	378	386	390	394	394	394	394	392	391	392	391	388	305
20	388	382	383	388	391	392	394	394	388	385	380	377	372	377	383	389	396	398	395	394	393	392	393	391	388	315
21	385	386	387	388	387	387	388	391	389	385	375	366	361	366	374	382	391	424	449	446	413	400	397	387	392	404
22 d	346	343	349	348	359	369	360	366	372	376	377	383	394	405	420	434	454	460	452	437	427	401	378	377	391	387
23	375	371	371	371	370	371	379	382	382	384	388	391	390	392	401	405	410	412	407	405	401	398	397	395	389	348
24 q	395	395	398	400	400	401	400	398	394	388	382	379	377	387	390	389	391	397	402	400	397	395	394	394	393	443
25	394	394	394	395	396	395	394	390	386	378	374	378	377	380	386	396	399	403	407	416	415	404	397	395	393	443
26	395	394	394	394	394	394	388	382	385	383	382	384	385	391	394	397	399	401	401	400	398	398	396	389	392	418
27	385	388	392	394	395	390	384	383	382	383	385	382	378	387	394	400	403	406	406	408	410	402	398	395	393	430
28	394	393	392	394	395	395	392	383	380	377	378	377	377	382	389	401	408	409	402	400	400	399	396	394	392	407
29 d	394	393	394	393	397	400	400	397	394	393	389	383	381	388	397	401	402	403	403	405	408	407	404	399	397	525
30 d	394	392	394	395	395	394	391	388	387	384	379	377	377	383	389	395	402	409	408	411	406	404	400	399	394	453
Mean	381	381	383	383	384	385	386	386	385	384	382	380	*380*	385	392	400	405	409	*410*	408	403	397	391	386	390	
Sum 11,000+	429	431	489	495	517	549	569	574	553	514	464	406	388	538	772	1009	1158	1262	1304	1238	1099	910	732	586		Grand Total 280,986

DAILY EXTREMES OF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH CHAMBER

24 ESKDALEMUIR — All Times G.M.T. — APRIL 1962

	GEOMAGNETIC ELEMENTS															3-hr. range indices K	Sum of K indices	Magnetic character of day, C (0-2)	Temperature in magneto-graph chamber 200 +
	Horizontal component					Declination					Vertical component								
	Maximum 16,000γ +		Minimum 16,000γ +		Range	Maximum 10° +		Minimum 10° +		Range	Maximum 45,000γ +		Minimum 45,000γ +		Range				
	h. m.	γ	γ	h. m.	γ	h. m.	′	′	h. m.	′	h. m.	γ	γ	h. m.	γ				°A.
1	06 24	867	790	13 36	77	13 24	27·8	12·3	07 50	15·5	17 41	400	370	06 31	30	1,2,3,3,2,2,2,2	17	1	83·4
2	23 42	891	800	12 29	91	13 36	22·3	3·7	23 34	18·6	20 22	404	341	23 45	63	1,1,0,1,1,2,3,4	13	1	83·5
3	21 18	850	797	11 26	53	14 12	23·5	2·8	00 02	20·7	18 19	410	348	00 01	62	3,2,3,2,2,3,2,3	20	1	83·5
4	23 09	888	765	09 51	123	13 30	22·3	12·4	23 36	9·9	20 02	394	364	23 59	30	2,2,2,3,2,2,2,3	18	1	83·4
5	00 01	862	795	11 05	67	14 05	23·1	6·8	01 41	16·3	16 50	394	361	01 17	33	3,2,0,2,2,1,1,1	12	1	83·5
6 d	04 54	865	770	12 41	95	14 53	27·1	−1·8	21 46	28·9	18 53	430	368	05 23	62	1,3,3,3,3,3,4,5	25	1	83·5
7 d	20 03	929	*725*	12 17	204	14 47	27·4	*−8·5*	19 58	*35·9*	15 15	459	339	01 27	120	5,4,3,4,4,5,5,5	35	2	83·4
8 d	16 36	*972*	765	01 30	*207*	15 59	30·7	1·6	16 23	29·1	16 26	*472*	*311*	00 01	*161*	4,3,2,2,3,5,4,3	26	2	83·4
9	00 43	867	750	11 36	117	12 33	23·4	13·2	08 37	10·2	17 54	414	362	00 55	52	4,1,2,2,3,2,2,2	18	1	83·5
10 d	18 36	927	732	09 58	195	14 16	*31·4*	−4·1	18 27	35·5	18 24	471	338	22 30	133	2,3,2,3,4,3,5,4	26	2	83·5
11	17 36	860	765	11 25	95	13 40	24·3	10·8	04 34	13·5	17 01	435	339	03 11	96	4,3,2,2,3,3,3,3	23	1	83·5
12	17 46	849	785	10 41	64	14 33	23·2	10·9	20 39	12·3	18 09	408	371	02 56	37	2,1,0,1,2,3,2,3	14	1	83·5
13 q	23 58	840	794	11 52	*46*	13 51	22·4	11·9	08 06	10·5	17 58	408	365	00 30	43	3,0,1,0,1,2,1,2	10	0	83·5
14 q	22 00	845	793	11 11	52	13 59	23·3	14·2	03 31	*9·1*	18 30	395	381	12 29	*14*	2,0,0,0,0,1,1,1	5	0	83·4
15	15 43	880	798	11 15	82	13 41	26·1	11·6	08 38	14·5	17 50	412	372	13 00	40	0,1,1,0,2,4,3,3	14	1	83·5
16	02 13	871	789	11 20	82	13 07	24·9	11·6	08 30	13·3	18 10	411	378	12 43	33	3,2,1,1,1,2,2,2	14	1	83·5
17	17 51	854	793	11 01	61	13 33	24·5	11·0	08 10	13·5	18 07	400	371	04 40	29	3,2,1,2,2,2,2,1	15	1	83·5
18	19 04	869	792	10 34	77	13 26	26·1	12·4	20 20	13·7	20 22	411	371	11 00	40	0,2,2,2,4,3,3,2	18	1	83·5
19	23 55	852	792	11 07	60	02 19	29·8	10·2	06 28	19·6	16 31	395	374	02 38	21	4,2,2,0,0,1,0,2	11	0	83·5
20	15 59	877	790	10 56	87	13 35	24·0	10·1	07 46	13·9	16 52	400	371	12 39	29	3,2,1,1,1,3,2,4	17	1	83·5
21	16 49	944	795	20 46	149	13 30	23·8	2·3	20 41	21·5	19 03	458	361	12 02	97	3,1,2,3,2,4,4,4	23	1	83·5
22 d	00 01	872	767	08 21	105	03 27	28·6	5·8	00 01	22·8	17 24	462	341	00 47	121	4,4,3,3,3,4,3,3	27	2	83·5
23	18 36	849	775	12 01	74	13 13	22·8	9·0	00 24	13·8	16 55	413	361	03 47	52	3,3,2,2,2,2,2,1	17	1	83·6
24 q	17 33	865	789	13 23	76	12 47	22·6	11·6	07 35	11·0	18 19	402	376	12 13	26	0,0,0,0,3,3,2,0	8	0	83·7
25	17 56	885	778	11 17	107	15 33	26·1	11·8	20 08	14·3	19 53	421	372	10 30	49	1,0,1,3,3,4,3,1	16	1	83·7
26	18 07	853	779	13 34	74	13 02	24·2	10·0	22 52	14·2	17 45	402	381	10 30	21	2,2,2,2,3,2,2,2	17	1	83·8
27	17 17	859	786	14 17	73	14 18	23·5	10·0	04 18	13·5	20 13	412	378	12 28	34	2,2,1,2,3,3,3,1	17	1	83·8
28	16 06	854	801	12 01	53	13 50	22·4	7·2	05 46	15·2	16 52	411	376	12 07	35	1,2,3,2,2,3,2,3	18	1	83·8
29 q	19 12	863	795	10 52	68	14 22	22·7	10·2	07 42	12·5	20 18	408	378	12 03	30	1,1,1,2,2,1,2,1	11	1	83·8
30 q	17 55	861	813	10 05	48	13 06	22·5	11·7	06 31	10·8	19 40	412	376	11 56	36	2,0,0,0,1,2,2,2	9	0	83·9
Mean	- -	874	782	- -	92	- -	24·9	8·1	- -	16·8	- -	417	363	- -	54	-	-	0·97	83·6

q denotes an international quiet day and *d* an international disturbed day.

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

21 ESKDALEMUIR (H) — 16,000γ (0·16 C.G.S. unit) + — MAY 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 19,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	838	844	832	828	834	835	832	828	827	822	819	825	832	836	835	840	841	844	848	848	848	834	829	836	835	1035
2	833	832	832	838	831	827	818	825	828	827	821	830	835	840	837	838	851	848	856	851	842	834	833	822	835	1029
3	835	836	829	827	831	822	810	810	810	806	810	817	813	831	835	831	840	849	850	842	845	845	840	844	829	908
4 q	834	836	833	834	835	834	826	822	817	814	810	810	817	827	837	844	846	849	848	849	848	847	843	842	833	1002
5	842	841	839	837	837	833	827	825	823	816	811	808	816	829	844	850	857	861	867	870	872	869	858	853	841	1185
6 d	865	864	858	853	854	850	842	840	834	823	814	822	809	837	867	887	877	868	844	799	799	810	801	793	838	1110
7	794	811	803	806	809	813	809	805	801	797	793	795	795	805	821	828	832	832	836	838	830	834	826	817	*814*	530
8	822	838	821	825	831	833	823	817	812	808	805	805	809	821	821	828	832	838	838	834	838	839	841	835	826	814
9	823	826	827	824	825	825	819	813	808	804	806	807	813	818	824	833	840	848	848	847	848	847	845	844	828	862
10	845	842	840	833	840	839	836	829	818	811	810	813	814	818	826	841	833	841	844	843	840	842	844	838	833	980
11	836	837	837	838	845	842	835	828	819	810	806	809	820	818	840	878	873	870	845	816	835	837	840	837	835	1051
12	834	834	834	833	833	834	831	827	824	821	816	813	816	823	833	842	846	848	845	845	844	846	846	846	834	1014
13 d	844	844	845	845	840	848	844	833	824	817	806	808	796	822	850	844	852	858	859	849	865	840	847	834	838	1114
14 d	822	830	829	829	837	836	826	818	814	813	822	817	820	840	837	850	855	852	850	842	844	834	841	842	833	1000
15 d	832	828	825	823	837	838	833	814	819	826	822	816	823	824	850	828	844	872	881	845	836	838	838	838	835	1030
16	838	837	837	835	835	817	837	833	827	808	795	806	814	823	831	834	842	849	854	849	843	847	845	842	832	978
17	836	836	836	838	840	836	831	827	821	810	796	794	799	809	812	826	838	844	843	848	844	844	845	842	829	895
18 q	841	840	838	837	838	837	831	825	818	812	806	809	806	810	823	824	838	846	850	850	851	850	849	850	832	979
19	848	847	844	841	845	840	826	812	794	809	806	815	821	831	844	850	843	853	856	856	855	851	847	842	837	1076
20	844	838	843	844	839	836	824	816	808	795	792	798	811	831	849	861	839	843	844	845	845	844	846	846	833	981
21	844	844	839	838	838	838	831	825	813	801	796	801	813	829	830	848	851	850	849	848	845	846	847	844	834	1008
22	842	844	839	841	841	839	834	824	814	806	806	814	818	825	831	834	849	853	850	851	849	849	848	846	835	1047
23 q	848	846	842	840	842	844	845	842	834	826	815	803	810	823	834	850	855	856	855	853	848	848	846	846	840	1151
24 q	846	846	845	845	845	844	843	833	825	817	810	813	817	824	833	834	841	855	859	856	855	853	851	850	839	1140
25 q	849	847	847	848	852	852	848	840	836	831	828	823	825	826	830	840	849	857	860	859	857	855	855	854	845	1268
26	852	851	851	849	851	847	842	833	825	812	804	807	820	821	829	846	857	866	869	862	857	861	856	851	842	1219
27	825	840	844	850	859	842	843	837	827	825	827	830	828	837	858	860	844	873	868	866	853	849	848	838	*845*	1271
28	834	832	832	832	832	828	818	814	809	797	796	796	808	817	837	839	851	860	861	861	850	843	833	837	830	917
29	836	833	835	833	840	836	832	829	812	814	813	806	798	809	815	826	838	851	858	855	847	841	841	839	831	937
30	834	835	835	834	834	830	823	820	815	814	817	824	832	832	834	836	842	848	849	850	849	848	848	855	835	1038
31 d	854	853	851	850	848	848	842	851	844	813	787	774	828	832	844	863	852	845	852	839	837	833	850	810	837	1100
Mean	838	839	837	836	839	836	831	826	819	813	*809*	810	815	825	835	843	847	853	*853*	847	846	844	843	839	834	
Sum 25,000+	970	1012	942	928	998	923	761	595	400	205	65	108	276	568	891	1133	1248	1427	1436	1266	1219	1158	1127	1013		Grand Total 620,669

MAGNETIC DECLINATION (WEST)

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

22 ESKDALEMUIR (D) — 10° + — MAY 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 300·0+
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1	16·1	17·4	11·5	11·6	12·0	12·2	13·0	13·2	14·0	15·5	18·5	21·1	23·0	23·4	22·2	20·7	19·9	19·7	19·1	17·7	12·1	8·2	8·3	10·7	15·9	81·1
2	12·3	12·3	9·6	7·6	7·4	7·9	10·9	15·3	15·4	16·6	19·1	21·8	23·5	23·7	23·3	21·8	22·2	19·8	18·9	16·5	15·5	12·4	6·6	7·7	*15·3*	68·1
3	12·4	11·6	12·7	15·0	13·7	10·6	10·0	11·2	14·1	16·8	20·4	22·5	23·5	23·4	22·8	21·1	20·0	19·1	18·0	16·0	14·7	15·2	15·5	16·1	16·5	96·4
4 q	16·0	16·3	16·1	15·3	14·3	12·6	11·7	12·4	13·2	15·5	19·1	21·9	24·0	23·8	22·7	21·3	20·1	19·5	18·7	18·2	17·6	17·0	16·6	16·8	*17·5*	120·7
5	16·6	16·3	15·9	15·3	14·4	13·6	10·9	10·8	10·8	12·9	15·5	18·3	21·2	22·6	22·6	21·5	20·7	20·4	20·6	20·9	20·3	19·1	17·8	14·6	17·2	113·6
6 d	15·9	15·6	16·3	14·8	13·1	11·7	10·7	9·7	9·9	11·4	17·0	22·7	26·0	27·7	27·5	25·6	22·8	20·2	18·8	13·5	14·6	16·7	8·3	12·0	16·8	102·5
7	13·9	16·8	15·6	13·9	13·2	13·0	12·1	11·2	11·6	13·0	14·1	16·8	20·1	20·7	20·0	19·8	19·0	18·0	17·2	16·6	15·3	14·4	14·2	12·6	15·5	73·1
8	12·7	13·8	13·9	14·1	14·4	13·2	12·8	13·6	13·8	14·3	15·9	18·7	20·4	21·7	21·5	21·0	19·5	18·6	17·4	17·0	17·1	16·4	11·9	11·4	16·0	85·1
9	12·8	13·4	13·9	13·3	14·1	13·8	12·9	12·6	12·6	13·0	14·7	17·6	20·0	21·4	21·6	21·6	21·6	21·4	20·0	18·9	18·0	17·2	16·6	16·0	16·6	99·0
10	15·5	16·4	15·1	16·9	14·4	12·6	12·4	12·0	13·2	14·9	16·4	19·1	21·4	22·2	21·6	20·7	19·2	18·2	17·4	16·9	17·0	17·2	17·0	16·5	16·8	104·2
11	16·1	16·2	15·9	15·2	14·0	11·4	10·4	10·6	11·5	12·9	15·4	19·7	23·7	24·9	23·9	23·6	22·7	20·1	19·1	18·1	17·1	16·8	13·0	19·7	17·2	112·0
12	15·8	16·0	15·9	15·5	14·6	13·7	12·6	11·0	10·3	12·3	14·8	17·6	19·9	20·7	20·4	19·3	17·4	16·4	15·9	16·7	17·0	17·2	17·0	17·4	16·1	85·4
13 d	16·8	16·0	15·3	15·3	14·2	12·8	10·2	9·1	9·2	11·3	15·8	21·1	24·0	24·8	23·7	21·9	19·9	17·8	16·6	16·6	17·0	11·3	13·2	11·4	16·1	85·3
14 d	7·3	6·4	10·0	16·9	15·4	12·4	10·6	10·3	12·5	14·6	17·8	21·6	23·8	24·1	21·9	20·0	18·8	18·4	17·9	17·1	13·1	12·7	14·4	14·1	15·5	72·1
15 d	13·1	12·6	17·2	18·3	15·8	13·0	11·1	12·2	12·9	13·5	16·3	18·2	20·0	21·1	19·5	19·4	19·6	18·8	14·2	14·2	17·8	18·3	18·0	17·2	16·3	92·3
16	16·7	16·5	15·6	14·7	14·8	16·7	14·4	13·9	13·1	14·4	18·1	20·7	22·2	22·2	20·6	19·1	18·3	17·2	15·9	15·6	16·1	16·7	16·0	14·8	16·8	104·3
17	15·3	15·2	15·0	14·3	13·4	12·2	11·6	11·5	11·6	11·8	14·2	17·2	19·9	21·2	21·1	20·2	18·7	17·4	16·9	16·9	16·6	16·6	16·2	16·0	15·9	81·0
18 q	16·5	16·1	16·2	15·9	14·5	12·5	10·7	9·4	9·4	10·4	13·3	17·2	19·7	20·7	20·7	19·6	18·6	17·3	16·2	16·6	17·2	17·3	17·3	17·2	15·9	80·5
19	16·9	16·3	15·9	14·8	14·4	12·0	9·8	8·7	12·4	16·8	20·4	24·1	24·8	24·4	22·6	21·5	18·7	17·5	16·8	16·6	17·2	15·2	16·7	16·6	17·1	111·1
20	15·9	15·1	15·2	15·5	13·4	12·1	11·0	11·6	12·3	15·1	18·0	20·4	23·3	23·7	22·5	21·4	18·4	16·8	17·3	17·8	17·8	17·4	17·3	17·2	16·9	106·5
21	16·3	16·5	15·7	14·8	13·4	12·1	10·4	9·6	10·3	12·5	17·2	21·3	24·5	25·8	23·8	21·7	19·4	17·0	15·9	15·7	16·5	17·0	17·2	17·2	16·7	101·8
22	17·1	17·0	17·1	15·5	13·9	11·7	9·9	9·8	10·6	13·5	17·3	21·6	24·1	24·0	22·9	21·0	19·2	17·9	16·3	16·1	16·3	16·4	16·6	16·5	16·8	102·3
23 q	16·5	16·1	15·7	15·1	14·3	12·8	12·3	11·4	11·1	12·6	15·3	19·1	22·4	22·8	22·5	21·7	20·3	18·4	17·1	16·6	16·7	16·6	16·4	16·5	16·7	100·3
24 q	16·1	16·0	16·6	16·4	14·0	12·8	11·7	11·8	11·7	12·6	15·1	17·4	19·0	20·2	21·0	20·8	20·2	19·1	17·8	17·1	17·1	17·1	16·9	16·5	16·5	95·0
25 q	16·0	15·5	15·2	14·8	13·8	12·7	11·6	10·9	11·1	11·8	14·3	18·2	21·0	21·7	21·9	21·4	19·8	18·4	17·4	17·4	17·6	17·4	16·6	16·3	16·4	92·8
26	16·2	15·9	15·6	14·7	13·5	11·4	10·8	10·0	10·3	11·6	13·9	17·9	20·5	21·6	21·6	20·2	18·8	18·4	17·9	16·8	17·6	18·1	17·3	16·6	16·1	87·2
27	12·4	12·3	13·4	13·9	11·6	7·0	8·1	8·2	10·9	14·8	18·4	21·8	24·7	25·7	26·0	23·8	21·7	21·5	19·5	18·9	17·1	16·0	11·5	12·1	16·3	91·3
28	13·0	13·1	13·1	12·5	11·9	10·2	9·8	10·4	12·1	14·7	18·2	20·2	22·6	22·9	22·0	20·5	19·4	18·0	15·4	15·2	14·1	11·2	14·1	17·6	15·5	72·2
29	17·4	16·0	16·5	15·0	12·8	10·1	9·6	10·6	14·4	17·3	18·2	20·6	21·6	20·8	19·4	17·8	16·6	16·4	16·4	16·6	16·7	17·2	17·5	16·5	16·3	92·0
30	15·7	15·7	15·3	14·6	13·5	12·1	11·2	11·1	12·2	15·1	18·8	21·2	21·9	21·2	20·0	19·0	17·7	16·5	16·0	16·5	16·6	16·4	16·5	16·6	16·3	91·4
31 d	15·9	15·6	14·8	13·8	12·6	11·2	14·5	12·9	12·1	14·0	16·6	20·5	26·8	30·2	30·3	25·4	24·4	17·2	15·5	17·3	18·0	15·1	9·7	11·1	17·3	115·5
Mean	15·1	15·0	14·9	14·7	13·6	12·1	11·3	*11·2*	11·9	13·8	16·7	19·9	22·4	*23·1*	22·4	21·1	19·8	18·4	17·4	16·9	16·6	15·9	14·9	15·1	16·4	
Sum 300·0+	167·2	166·0	161·8	155·3	120·8	74·1	49·7	47·0	70·6	127·5	218·1	318·1	393·5	415·3	394·1	354·4	313·6	271·4	238·1	222·6	213·4	191·8	162·2	169·5	16.6	Grand Total 12216·1

GEOMAGNETIC FORCE: VERTICAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEMUIR (Z) — 45,000γ (0·45 C.G.S. unit) + — MAY 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 9000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	395	372	379	386	390	390	389	388	385	381	378	375	376	380	386	392	398	402	403	403	405	403	398	394	389	348
2	392	392	388	385	382	382	381	375	374	372	371	368	368	374	383	387	391	407	407	407	407	406	399	392	387	290
3	384	383	387	387	385	388	388	385	382	381	379	375	376	381	383	389	391	395	398	400	400	396	395	392	387	300
4 q	393	394	394	394	395	395	392	388	384	382	380	378	378	378	382	387	391	391	393	392	392	392	392	392	389	329
5	392	393	394	394	395	396	393	385	380	378	378	375	374	379	382	385	386	388	388	387	385	385	388	393	386	273
6 d	389	389	389	390	389	388	387	382	374	372	370	369	377	393	423	467	492	502	471	466	438	418	404	393	*410*	832
7	389	385	378	385	397	401	401	401	400	394	388	383	385	388	393	397	402	405	405	404	404	403	401	400	395	489
8	400	390	393	397	398	397	399	394	387	382	378	377	379	385	389	392	395	402	407	405	402	400	393	388	393	429
9	391	394	394	395	397	395	394	392	387	384	382	379	375	377	382	385	388	391	397	397	395	394	395	394	390	354
10	394	391	388	388	388	389	389	391	388	383	379	376	376	377	377	388	394	398	400	399	397	395	394	394	389	333
11	394	394	395	396	396	397	394	392	387	376	369	364	365	371	376	389	407	419	432	428	413	405	400	393	394	452
12	393	394	395	397	398	399	402	404	400	392	387	381	382	387	389	395	400	400	402	400	397	395	394	394	395	477
13 d	394	394	394	394	395	390	391	391	388	384	379	377	384	388	391	394	392	394	400	400	398	401	380	377	390	370
14 d	372	364	364	365	372	385	388	391	387	385	381	379	384	395	401	400	399	400	402	403	405	403	399	382	388	306
15 d	384	387	385	372	377	384	389	388	385	379	374	369	373	385	394	402	401	410	421	423	412	402	399	398	391	393
16	398	397	395	397	397	393	381	382	382	377	379	377	379	384	390	396	399	400	400	403	404	399	398	395	392	402
17	396	397	397	398	399	399	397	394	388	384	378	381	385	392	397	400	401	402	402	398	397	395	395	394	394	466
18 q	394	394	395	396	397	399	400	400	397	388	374	370	375	385	391	397	398	400	400	396	394	393	393	393	392	419
19	392	392	394	395	397	397	397	391	387	374	368	369	372	382	391	405	411	410	401	399	399	398	395	395	392	411
20	397	397	397	395	395	394	394	392	391	380	371	364	364	370	377	394	405	407	404	398	397	395	394	394	390	366
21	394	394	395	397	399	400	397	394	393	388	381	372	372	381	388	397	400	400	399	395	393	393	394	394	392	410
22	393	391	391	394	397	398	398	398	391	384	377	371	370	377	385	391	396	399	400	398	395	393	392	391	390	370
23 q	392	393	395	397	395	394	389	388	388	385	381	377	376	375	384	394	399	402	400	398	395	394	393	392	391	376
24 q	392	394	394	394	394	391	389	388	385	381	378	375	377	381	385	387	391	395	398	395	394	393	392	391	389	334
25 q	391	392	392	393	394	394	395	392	382	377	375	373	374	378	379	382	388	394	395	393	391	390	389	389	387	292
26	388	389	389	392	392	393	389	388	387	376	364	362	364	371	374	382	386	386	388	393	394	390	389	387	*384*	213
27	384	387	388	389	390	391	380	375	374	369	359	358	362	371	385	403	418	417	419	411	411	401	387	386	388	315
28	387	389	391	393	394	394	395	393	387	378	375	375	382	392	401	405	415	424	426	420	415	406	398	394	397	529
29	394	394	391	387	385	387	388	385	382	382	385	383	386	388	391	397	400	400	400	399	398	397	395	393	391	387
30	394	394	394	394	395	397	395	392	382	371	371	371	371	378	385	391	395	394	394	394	393	392	391	391	388	319
31 d	389	389	391	393	393	389	380	377	375	373	372	373	389	423	437	453	447	445	440	427	416	412	394	385	403	662
Mean	391	390	391	391	393	393	392	389	386	380	376	*373*	376	383	389	397	403	406	*406*	404	401	398	394	392	391	
Sum 11,000+	1131	1099	1106	1129	1167	1186	1141	1076	959	792	661	576	650	866	1071	1323	1476	1579	1592	1531	1436	1339	1220	1140		Grand Total 291,246

DAILY EXTREMES OF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH CHAMBER

24 ESKDALEMUIR — All Times G.M.T. — MAY 1962

	Horizontal component: Maximum 16,000γ +		Minimum 16,000γ +		Range	Declination: Maximum 10° +		Minimum 10° +		Range	Vertical component: Maximum 45,000γ +		Minimum 45,000γ +		Range	3-hr. range indices K	Sum of K indices	Magnetic character of day, C (0-2)	Temperature in magneto-graph chamber 200 +
	h. m.	γ	γ	h. m.	γ	h. m.	′	′	h. m.	′	h. m.	γ	γ	h. m.	γ				°A.
1	01 20	857	817	10 23	*40*	13 03	23·8	6·0	21 46	17·8	20 48	407	368	01 35	39	3,1,1,0,1,1,3,3	13	1	84·0
2	16 24	878	811	06 30	67	13 49	24·2	3·9	22 53	20·3	17 50	410	366	12 11	44	2,2,3,2,2,3,2,3	19	1	84·0
3	18 10	861	802	09 44	59	12 19	24·2	9·7	06 45	14·5	20 00	403	374	11 56	29	3,2,1,2,2,2,2,1	15	1	84·1
4 q	21 52	855	810	11 01	45	12 42	24·2	11·5	06 32	12·7	05 02	397	377	12 20	*20*	1,0,1,0,0,0,0,1	3	0	84·2
5	21 16	881	806	11 30	75	13 59	23·2	10·7	07 32	12·5	05 30	397	372	12 12	25	0,0,1,1,1,1,2,3	9	0	84·0
6 d	15 03	*930*	*774*	22 32	*156*	15 10	*33·2*	3·6	22 50	29·6	17 23	*532*	365	11 02	*167*	1,2,1,3,4,5,4,4	24	1	84·2
7	19 33	841	786	00 40	55	13 36	21·6	10·4	07 27	11·2	18 00	406	376	02 40	30	3,2,1,2,2,2,1,2	15	1	84·2
8	21 45	850	802	11 21	48	13 42	22·1	9·2	22 27	12·9	18 35	407	375	11 30	32	3,2,1,0,1,2,1,3	13	1	84·2
9	18 11	851	801	10 29	50	17 11	21·8	11·9	00 01	*9·9*	19 00	398	375	13 00	23	1,0,0,1,1,1,0,0	4	0	84·1
10	15 28	854	805	10 57	49	13 39	22·7	11·5	06 56	11·2	18 30	400	375	11 59	25	2,2,1,1,2,3,0,1	12	0	84·2
11	15 40	893	803	13 13	90	13 38	25·5	9·3	06 41	16·2	18 28	435	362	11 54	73	0,2,1,0,3,3,4,3	16	1	84·1
12	23 30	850	810	11 24	*40*	13 14	20·8	10·1	08 24	10·7	07 20	405	379	11 59	26	1,0,1,1,1,0,0,1	5	0	84·2
13 d	22 07	901	786	12 49	115	13 29	25·4	6·5	21 51	18·9	21 50	403	374	23 59	29	1,2,2,2,4,3,3,4	21	1	84·2
14 d	23 00	868	799	11 56	69	13 30	25·5	2·7	01 44	22·8	21 03	407	358	03 47	49	3,3,2,3,3,2,3,3	22	1	84·1
15 d	18 01	912	805	07 29	107	13 45	22·2	9·7	06 58	12·5	19 10	427	368	03 45	59	3,3,3,2,2,4,4,1	22	1	84·3
16	18 36	864	782	10 30	82	12 56	23·5	11·7	08 17	11·8	20 33	405	375	11 52	30	1,2,1,3,2,2,2,2	15	1	84·5
17	19 18	853	792	10 33	61	14 03	22·5	10·7	07 20	11·8	16 24	403	377	10 50	26	0,0,1,1,2,2,2,2	10	1	84·5
18 q	20 09	853	801	12 08	52	14 23	21·2	9·0	07 59	12·2	17 10	401	369	11 30	32	1,1,0,1,2,2,0,0	7	0	84·3
19	15 22	891	789	08 28	102	11 54	26·3	7·6	07 20	18·7	16 20	413	366	10 45	47	1,1,3,3,2,4,1,2	17	1	84·4
20	15 06	868	787	10 11	81	12 48	24·1	10·4	06 31	13·7	17 30	410	360	12 03	50	1,2,1,1,3,3,0,1	12	1	84·3
21	16 24	853	794	10 40	59	13 33	26·1	9·2	07 52	16·9	16 13	401	369	12 05	32	1,0,0,1,2,1,1,1	7	0	84·3
22	17 06	861	802	10 07	59	13 03	24·9	9·5	07 51	15·4	18 40	401	369	11 56	32	2,0,0,2,2,2,0,0	8	0	84·4
23 q	17 27	859	801	11 24	58	13 01	23·2	10·5	07 10	12·7	17 35	402	374	12 54	28	0,1,0,2,2,1,1,0	7	0	84·4
24 q	18 30	860	808	11 05	52	15 00	21·5	11·4	06 30	10·1	18 05	399	374	11 30	25	1,1,0,1,1,2,0,0	6	0	84·3
25 q	22 07	861	821	11 53	*40*	14 40	22·0	10·7	07 46	11·3	18 50	397	372	12 02	25	0,0,0,1,1,2,0,1	5	0	84·5
26	18 32	874	801	10 41	73	13 24	22·3	9·6	07 40	12·7	19 50	395	359	11 22	36	0,0,0,1,2,2,2,2	9	0	84·3
27	17 40	889	818	09 57	71	14 03	27·0	5·0	05 29	22·0	18 05	423	*357*	11 01	66	2,3,2,2,3,4,2,3	21	1	84·3
28	18 44	877	790	11 27	87	13 09	23·6	9·2	05 45	14·4	18 30	428	372	11 00	56	0,1,1,2,2,3,3,2	14	1	84·3
29	18 29	866	791	12 36	75	12 15	22·0	8·9	06 49	13·1	16 54	401	379	09 05	22	1,2,2,2,2,2,2,1	14	1	84·4
30	23 17	858	810	08 45	48	12 58	22·1	9·3	06 56	12·8	05 22	398	369	11 40	29	0,0,2,1,2,1,1,2	9	0	84·3
31 d	22 10	917	*774*	11 39	143	14 01	32·3	*1·5*	23 03	*30·8*	15 20	456	370	10 59	86	0,1,3,1,3,4,2,5	19	1	84·2
Mean	- -	871	799	- -	71	- -	24·0	8·7	- -	15·3	- -	412	370	- -	42	-	-	0·58	84·3

q denotes an international quiet day and *d* an international disturbed day.

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

21 ESKDALEMUIR (H) — 16,000γ (0·16 C.G.S. unit) + — JUNE 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 19,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	819	831	829	824	825	817	811	806	794	805	805	816	826	824	825	834	837	842	852	854	849	847	838	832	827	842
2	831	831	831	831	827	820	816	815	811	812	821	822	825	827	829	835	839	852	858	846	848	843	847	834	831	951
3	831	833	834	833	833	832	825	821	817	808	814	821	826	836	854	861	861	858	865	861	857	853	858	840	839	1132
4	841	856	831	836	833	832	820	806	800	785	781	786	809	824	825	823	824	840	851	869	876	844	847	847	829	886
5	834	835	831	829	834	828	820	819	803	806	798	798	808	815	819	834	841	861	875	873	853	842	833	845	831	934
6	841	826	836	831	838	833	805	800	811	810	802	809	811	807	816	842	852	860	860	850	852	856	847	842	831	937
7	845	849	846	843	847	851	859	824	825	814	814	815	822	837	840	840	839	861	868	855	852	839	835	832	840	1152
8 q	832	832	834	835	840	840	834	829	824	821	819	821	822	834	842	846	848	851	849	853	855	857	855	855	839	1128
9 d	857	857	849	854	856	859	861	846	833	819	834	836	836	819	845	822	838	853	867	851	857	846	846	845	845	1286
10 d	822	831	841	840	857	833	815	812	814	787	776	807	795	814	839	842	842	839	837	845	850	848	848	848	828	882
11	844	843	840	838	836	839	845	844	829	826	825	821	831	836	837	838	844	848	850	849	849	849	846	840	839	1147
12	833	834	838	839	840	842	840	827	823	829	826	816	813	840	835	858	856	856	868	855	846	846	845	844	840	1149
13	842	842	839	844	841	839	833	827	825	831	835	832	836	836	834	836	846	852	854	856	853	849	848	848	841	1178
14	846	846	848	845	840	839	844	841	830	818	819	828	834	837	835	850	865	871	868	852	854	854	846	833	843	1243
15	833	831	841	831	842	854	846	846	836	831	831	827	825	848	858	857	853	838	852	864	850	846	844	844	843	1228
16	838	842	828	834	836	839	837	827	814	805	805	809	829	836	846	847	849	858	850	850	852	848	845	842	836	1066
17 q	837	837	841	843	846	845	838	829	815	808	806	804	814	825	840	849	850	857	849	852	857	853	851	850	837	1096
18 q	852	852	842	848	853	853	844	832	820	808	802	810	827	842	852	860	860	859	859	861	857	854	851	852	844	1250
19 q	852	851	852	851	855	856	851	844	827	806	802	802	806	806	837	858	870	853	855	858	855	854	853	849	842	1203
20 q	853	853	852	855	861	860	852	838	831	829	824	821	823	830	834	841	851	860	870	866	860	860	855	853	847	1332
21	854	854	857	861	861	861	861	857	845	829	814	801	799	833	857	842	827	862	893	868	861	861	856	857	849	1371
22	849	842	834	844	832	832	841	836	822	806	799	802	805	817	827	836	845	849	862	869	859	856	852	857	836	1073
23 d	849	846	837	844	851	852	844	836	810	810	810	804	814	812	829	846	861	868	868	881	856	845	834	834	839	1141
24	838	834	831	833	834	835	835	834	829	810	798	801	812	814	824	833	846	860	857	865	865	856	853	853	835	1050
25	845	842	840	842	841	835	834	839	829	819	808	812	812	821	828	844	850	861	863	848	855	848	846	844	838	1106
26	837	836	836	836	838	837	836	834	833	826	822	829	831	829	829	846	860	846	866	864	861	853	846	859	841	1190
27 d	857	853	852	836	829	832	826	793	792	795	793	810	819	814	840	849	844	855	863	854	858	855	840	847	834	1006
28 d	837	836	832	829	829	830	813	827	821	799	813	806	830	832	802	833	838	860	861	859	858	857	862	837	833	1001
29	838	829	829	837	840	831	819	813	806	813	814	813	818	823	853	858	857	847	858	845	857	849	845	858	835	1050
30	854	841	835	834	832	819	822	821	810	809	806	798	810	830	838	858	846	870	845	851	849	846	841	842	834	1007
Mean	841	841	839	839	841	839	834	827	819	813	811	813	819	827	836	844	848	855	860	857	855	851	847	845	838	
Sum 24,000+	1241	1225	1166	1180	1227	1175	1027	823	579	374	316	377	568	798	1069	1318	1439	1647	1793	1724	1661	1514	1413	1363		Grand Total 603,017

MAGNETIC DECLINATION (WEST)

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

22 ESKDALEMUIR (D) — 10° + — JUNE 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 300·0+
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1	15·4	16·3	14·8	15·8	13·8	12·1	10·4	10·4	11·7	13·8	16·1	19·4	21·8	23·2	21·5	19·8	18·6	17·5	16·9	15·0	11·9	13·7	14·0	14·7	15·8	78·6
2	14·8	14·8	14·8	13·2	11·7	10·9	10·7	11·2	12·1	13·5	15·6	17·8	19·8	20·6	20·6	19·6	19·5	19·5	18·8	16·2	16·4	16·1	14·4	15·0	15·7	77·6
3	14·4	14·4	14·2	13·7	12·5	11·3	11·3	11·2	11·8	13·0	15·4	18·0	20·7	21·4	21·9	21·3	18·6	18·1	18·4	18·4	17·8	15·8	10·8	10·6	15·6	75·0
4	12·7	11·6	7·8	10·2	11·4	10·1	9·2	10·6	12·4	14·4	18·0	23·1	25·6	25·3	25·7	24·1	21·2	19·1	17·0	16·1	11·5	14·1	10·7	10·0	15·5	71·9
5	14·4	15·2	14·0	12·1	9·9	9·8	11·1	11·2	12·4	15·2	17·9	19·6	21·2	21·8	21·1	20·8	20·0	18·9	17·8	12·6	15·3	14·4	14·0	10·3	15·5	71·0
6	8·7	10·1	9·4	10·8	11·2	11·2	11·3	14·0	13·2	14·4	17·2	19·2	21·5	22·8	22·2	21·9	20·8	19·2	17·5	15·8	16·4	13·9	13·7	15·0	15·5	71·4
7	15·8	16·0	15·5	14·4	13·3	11·0	10·0	10·1	13·5	14·7	15·2	18·0	20·0	21·2	20·8	20·1	19·0	18·3	16·7	16·6	16·6	17·2	16·3	15·9	16·1	86·2
8 q	15·4	15·0	14·6	14·1	13·7	13·0	13·0	13·5	13·9	14·4	16·9	18·9	20·2	20·9	20·7	20·0	19·1	18·4	17·9	17·8	17·4	17·6	17·6	17·9	16·7	101·9
9 d	16·5	16·1	15·8	14·4	20·7	18·7	13·8	11·1	11·7	15·7	17·5	20·2	23·3	23·0	23·2	22·7	22·5	20·5	19·1	16·6	15·3	16·0	16·1	16·9	17·8	127·4
10 d	16·3	12·9	12·9	18·4	15·9	13·3	10·8	8·3	9·1	11·0	18·1	19·8	22·8	24·1	23·3	21·7	20·2	18·2	16·8	16·6	16·6	15·8	15·9	15·1	16·4	93·9
11	15·6	15·8	14·6	14·7	15·2	13·4	11·7	11·2	11·7	12·5	13·9	16·2	19·5	21·5	21·9	20·8	19·9	19·1	18·3	17·8	17·2	16·6	15·9	15·5	16·3	90·5
12	15·1	16·0	15·8	14·7	12·9	11·5	11·2	12·5	13·5	14·0	15·7	18·6	21·2	21·8	20·7	18·4	19·3	18·6	18·5	18·4	17·3	17·7	17·1	15·8	16·5	96·3
13	15·8	15·8	14·7	13·6	12·1	11·6	11·7	11·7	10·7	11·5	14·0	15·7	17·3	18·4	19·5	20·1	19·8	18·6	17·4	17·2	17·3	17·0	16·5	16·4	15·6	74·4
14	15·6	15·7	16·0	14·3	15·1	15·4	11·2	10·8	12·1	14·0	17·5	20·5	23·7	24·9	24·1	21·7	19·4	17·5	15·8	15·6	18·1	18·0	17·8	12·4	17·0	107·2
15	15·4	14·8	16·0	13·0	14·2	11·7	9·4	8·4	9·1	10·7	14·3	19·5	22·4	24·8	23·9	22·1	21·6	19·4	18·0	13·7	17·1	17·6	17·4	17·0	16·3	91·5
16	17·6	19·0	13·7	12·7	11·5	10·6	10·5	10·2	11·2	12·6	15·7	19·6	23·3	24·6	23·9	22·2	19·6	17·1	14·9	14·8	15·6	16·1	16·4	16·6	16·3	90·0
17 q	16·4	15·8	15·6	14·5	13·3	11·9	11·6	12·2	12·7	12·9	16·1	21·4	26·1	26·8	24·7	22·3	19·5	17·1	16·7	16·5	16·5	17·0	17·2	18·0	17·2	112·8
18 q	18·3	15·9	14·4	12·4	11·1	9·9	10·3	11·1	12·4	13·8	17·8	22·2	23·9	22·4	22·1	20·4	17·9	17·0	17·0	17·2	17·2	17·3	17·1	16·5	16·5	95·6
19 q	16·4	16·3	16·0	15·3	14·7	13·2	11·6	10·4	10·3	11·7	14·6	19·5	23·7	25·5	25·2	22·5	20·8	17·9	17·1	17·2	17·3	17·2	17·0	16·6	17·0	108·0
20 q	16·8	16·5	15·5	15·0	13·7	11·0	10·1	9·3	10·9	11·7	14·6	18·2	20·9	21·6	22·5	21·6	20·5	18·3	16·1	16·0	16·1	16·6	16·1	15·8	16·1	85·4
21	15·7	15·0	15·2	12·7	11·6	10·7	9·1	8·0	7·6	9·0	12·4	17·3	22·0	25·4	26·6	25·9	22·6	21·1	21·4	18·0	15·8	17·0	16·1	16·0	16·3	92·2
22	12·7	10·7	9·4	11·0	11·0	15·8	14·6	12·2	11·4	12·5	15·2	17·8	20·2	22·3	23·4	22·9	20·3	18·7	18·0	16·5	15·5	17·1	16·2	17·1	15·9	82·5
23 d	15·5	14·5	14·2	13·3	13·1	11·5	8·7	7·3	9·1	13·0	15·2	19·1	22·3	24·3	24·8	24·0	23·2	21·9	17·9	9·8	12·9	13·2	13·8	15·4	15·7	78·0
24	17·1	14·8	14·0	13·2	12·5	12·3	12·4	11·7	11·2	11·5	14·0	17·5	21·2	23·1	22·1	20·5	19·6	18·9	15·8	15·9	16·4	16·4	16·8	17·9	16·1	86·8
25	17·0	16·2	12·8	12·6	11·6	11·8	13·5	11·7	11·3	12·4	15·3	18·1	20·2	21·2	22·0	22·0	19·6	18·7	17·3	16·0	15·4	16·1	16·0	15·8	16·0	84·6
26	15·3	14·5	14·2	13·6	13·0	12·1	12·0	12·3	12·2	13·5	16·7	19·5	21·9	22·5	22·3	21·3	21·3	20·0	19·8	18·0	16·2	16·8	15·9	16·1	16·7	101·0
27 d	17·9	15·3	11·4	13·3	13·5	13·4	10·7	14·7	15·2	15·4	18·6	21·6	26·4	27·0	22·2	19·8	19·8	20·3	18·3	16·0	16·2	15·1	14·6	15·4	17·2	112·1
28 d	13·8	12·6	14·2	13·5	13·6	9·0	12·5	13·5	13·1	15·3	18·1	20·1	22·7	24·6	23·4	23·0	22·2	20·8	18·9	16·8	16·5	17·3	11·4	12·8	16·7	99·7
29	13·5	13·5	15·8	14·4	10·4	7·6	8·3	8·8	11·1	14·0	16·0	19·7	21·2	24·1	22·4	21·6	19·5	18·8	18·5	17·1	16·6	14·4	14·5	15·4	15·7	77·2
30	13·8	13·0	12·6	14·7	14·3	11·7	12·3	10·7	10·0	12·1	16·3	19·7	23·3	24·3	24·7	23·8	22·0	17·8	17·7	17·6	17·5	16·6	15·4	13·6	16·5	95·5
Mean	15·3	14·8	14·0	13·7	13·1	11·9	11·2	11·0	11·6	13·1	16·0	19·2	22·0	23·2	22·8	21·6	20·3	18·8	17·7	16·3	16·1	16·2	15·4	15·3	16·3	
Sum 300·0+	159·7	144·1	119·9	109·6	92·5	57·5	35·0	30·3	48·6	94·2	179·9	275·8	360·3	395·4	383·4	348·9	307·9	265·3	230·3	187·8	183·9	185·7	162·7	157·5		Grand Total 11716·2

GEOMAGNETIC FORCE: VERTICAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEMUIR (Z) — 45,000γ (0·45 C.G.S. unit) + — JUNE 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 9000+
Hour G.M.T.	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	388	388	392	394	395	394	394	391	390	388	381	377	382	391	394	396	400	401	400	402	408	404	399	396	394	445
2	392	391	394	396	397	393	387	382	379	378	372	375	375	378	382	388	394	395	400	406	406	401	393	392	389	346
3	394	394	395	395	395	394	392	392	389	384	375	369	372	377	388	398	408	408	404	399	396	397	395	389	392	399
4	378	353	361	372	382	391	392	388	383	379	376	372	375	387	400	415	417	417	418	408	402	395	392	379	389	332
5	377	382	384	387	388	392	392	388	386	379	377	381	385	392	397	399	404	403	408	417	411	406	402	391	393	428
6	383	364	355	369	377	375	375	375	377	378	380	379	381	384	402	406	413	414	416	418	410	396	391	392	388	310
7	389	389	391	394	394	392	388	389	388	387	384	382	385	386	394	404	409	413	416	415	410	402	399	398	*396*	498
8 *q*	397	397	397	397	396	395	394	391	388	383	375	377	378	378	383	387	392	396	398	396	395	394	393	392	390	369
9 *d*	391	392	388	388	377	360	362	371	374	375	371	372	374	375	382	392	394	400	411	424	421	411	400	371	387	276
10 *d*	349	369	377	367	353	357	366	376	384	387	387	382	388	389	388	394	400	401	401	400	400	399	396	394	*383*	204
11	394	394	393	398	394	393	391	391	393	389	385	379	381	391	400	399	400	400	400	402	400	400	398	393	394	458
12	391	389	391	393	395	394	394	392	388	389	387	382	379	379	388	398	402	401	400	405	406	402	398	396	393	439
13	395	395	394	393	393	394	394	392	388	381	379	379	379	382	388	389	392	395	397	397	397	396	395	394	391	378
14	394	394	392	394	393	388	387	389	384	384	379	371	372	384	395	402	405	407	411	410	402	398	396	394	393	425
15	392	387	382	384	384	385	389	387	387	386	382	381	379	382	396	410	418	423	418	417	405	400	397	396	394	467
16	395	382	387	391	395	397	399	400	398	389	382	384	383	382	388	400	402	407	409	407	402	399	397	396	395	471
17 *q*	396	397	398	399	400	400	397	397	397	387	375	371	374	379	383	389	395	400	401	397	394	394	394	394	392	408
18 *q*	394	391	394	394	395	398	396	392	389	381	372	365	370	373	375	383	390	392	394	394	394	392	391	391	387	300
19 *q*	392	393	394	394	394	390	385	385	386	381	375	374	374	379	384	393	401	409	408	402	397	394	393	393	390	370
20 *q*	392	393	394	395	395	395	394	394	394	393	392	382	376	379	382	388	395	399	400	401	399	394	393	392	392	411
21	392	391	391	391	392	393	391	387	386	381	376	370	368	368	377	389	396	397	400	408	408	398	393	385	389	328
22	377	373	381	385	388	378	376	381	381	382	385	384	381	383	389	392	397	402	405	406	405	399	394	389	388	313
23 *d*	380	381	378	377	377	372	381	385	384	381	378	375	371	382	389	395	409	419	430	425	412	406	400	394	391	381
24	384	387	392	394	397	398	398	394	394	397	393	386	375	374	377	390	399	404	408	408	404	401	392	381	393	427
25	377	377	384	390	392	391	387	389	396	395	387	380	382	392	396	400	403	407	410	409	405	402	398	396	394	445
26	397	395	395	395	397	396	392	391	389	385	378	370	371	378	384	391	396	397	396	400	407	405	404	396	392	405
27 *d*	385	372	378	384	382	376	377	379	379	379	381	385	395	401	399	405	405	408	420	425	419	411	408	400	394	453
28 *d*	394	393	392	391	388	389	382	377	381	385	383	381	382	390	394	395	403	406	408	411	410	405	391	387	392	418
29	388	388	385	371	378	382	385	387	387	388	385	384	385	390	400	405	410	409	407	406	398	396	396	389	392	399
30	382	387	391	391	380	374	375	379	382	388	388	383	384	387	389	394	405	416	415	406	400	397	397	397	391	387
Mean	388	386	387	389	389	387	387	387	387	385	381	*378*	379	383	389	396	402	405	407	*407*	404	400	396	392	391	
Sum 11,000+	629	578	620	663	663	626	612	611	601	539	420	332	356	492	683	886	1054	1146	1209	1221	1123	994	885	747		Grand Total 281,690

DAILY EXTREMES OF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH CHAMBER

24 ESKDALEMUIR — All Times G.M.T. — JUNE 1962

Day	Horizontal component: Maximum 16,000γ + (h. m.)	Maximum (γ)	Minimum 16,000γ + (γ)	Minimum (h. m.)	Range (γ)	Declination: Maximum 10° + (h. m.)	Maximum (′)	Minimum 10° + (′)	Minimum (h. m.)	Range (′)	Vertical component: Maximum 45,000γ + (h. m.)	Maximum (γ)	Minimum 45,000γ + (γ)	Minimum (h. m.)	Range (γ)	3-hr. range indices *K*	Sum of *K* indices	Magnetic character of day, C (0-2)	Temperature in magneto-graph chamber 200 + (°A.)
1	18 50	868	786	08 24	82	13 37	24·1	8·2	06 28	15·9	20 54	410	375	11 41	35	2,1,2,2,3,2,2,2	16	1	84·3
2	18 12	862	808	08 05	54	14 21	21·2	10·2	06 46	11·0	20 05	409	371	10 43	38	1,2,1,2,2,2,2,2	14	1	84·3
3	15 40	874	806	09 48	68	14 21	22·4	8·6	23 24	13·8	16 59	411	367	11 30	44	1,0,1,2,2,3,2,3	14	1	84·3
4	00 59	895	774	10 56	121	12 59	26·5	5·6	22 56	20·9	18 18	422	348	01 35	74	4,2,2,2,3,3,3,3	22	1	84·4
5	19 16	897	789	10 13	108	13 23	22·4	6·2	23 59	16·2	19 30	419	375	10 30	44	2,1,2,2,2,3,3,3	18	1	84·4
6	21 12	873	790	07 01	83	13 53	23·2	4·7	00 12	18·5	19 15	420	354	02 21	66	3,2,3,1,2,3,3,3	20	1	84·4
7	18 46	881	803	09 41	78	13 51	22·0	6·1	07 18	15·9	18 37	418	381	11 18	37	2,2,3,3,3,3,3,1	20	1	84·4
8 *q*	21 09	863	816	12 12	47	13 12	21·2	12·2	06 05	*9·0*	18 05	399	374	11 56	25	0,1,1,1,1,1,2,1	8	0	84·5
9 *d*	24 00	907	804	13 37	103	13 04	26·1	7·5	07 33	18·6	19 59	*435*	339	23 59	*96*	2,3,3,3,4,3,3,4	25	2	84·5
10 *d*	00 00	907	*762*	10 09	*145*	13 40	25·6	7·2	07 29	18·4	18 37	402	*336*	00 04	66	4,3,3,3,3,3,3,1	23	1	84·5
11	18 59	857	818	11 29	*39*	14 20	22·7	9·8	07 18	12·9	19 29	403	378	11 55	25	1,1,2,1,2,2,2,2	13	1	84·5
12	15 40	873	801	12 10	72	13 53	22·7	10·3	05 32	12·4	20 30	407	377	13 30	30	2,1,2,3,3,3,2,1	17	1	84·5
13	20 03	866	817	08 02	49	15 44	20·8	10·0	08 26	10·8	18 24	399	378	10 12	*21*	1,1,2,2,2,1,2,1	12	0	84·5
14	18 06	879	813	09 36	66	13 40	25·5	9·8	07 19	15·7	19 10	412	369	11 42	43	1,2,1,2,2,2,3,3	16	1	84·5
15	19 31	889	811	12 30	78	13 31	25·5	6·7	07 52	18·8	17 20	425	378	12 54	47	2,3,2,2,3,4,3,1	20	1	84·5
16	17 18	870	800	09 58	70	13 41	25·1	9·7	07 34	15·4	19 01	410	377	01 40	33	3,1,1,1,2,2,1,1	12	1	84·7
17 *q*	17 29	861	801	11 19	60	13 24	27·1	11·2	06 38	15·9	18 10	403	369	11 10	34	0,0,0,1,1,2,1,0	5	0	84·6
18 *q*	19 22	864	801	10 30	63	12 33	24·3	9·4	05 42	14·9	05 41	399	364	11 45	35	2,1,0,1,1,1,0,0	6	0	84·6
19 *q*	15 57	876	790	13 08	86	14 01	26·1	9·9	07 53	16·2	17 50	410	372	12 20	38	0,1,2,1,3,3,2,1	13	1	84·6
20 *q*	18 30	873	816	11 00	57	14 33	23·0	8·1	07 34	14·9	19 30	402	373	12 19	29	1,1,1,1,2,1,1,1	9	1	84·6
21	18 06	*919*	775	11 57	144	15 03	27·6	7·4	08 02	20·2	20 09	412	364	12 56	48	1,1,1,4,3,4,4,2	20	1	84·8
22	19 37	880	790	10 41	90	14 19	24·3	8·5	02 21	15·8	19 21	407	370	01 12	37	2,3,3,2,2,2,2,2	18	1	84·7
23 *d*	19 35	917	793	11 07	124	14 05	26·4	*3·9*	19 28	*22·5*	19 24	434	369	12 03	65	3,2,2,2,3,3,4,2	21	1	84·8
24	19 30	874	794	10 37	80	13 40	24·3	10·6	08 50	13·7	18 58	410	372	13 00	38	2,1,2,1,2,3,2,2	15	1	84·8
25	18 10	874	802	12 05	72	14 48	22·5	10·3	08 13	12·2	18 58	411	374	01 20	37	2,2,2,2,2,2,2,1	15	1	84·9
26	20 11	877	816	10 46	61	14 10	22·8	9·8	07 20	13·0	20 41	409	366	11 53	43	0,0,2,2,2,3,3,3	15	1	84·8
27 *d*	18 13	891	783	10 18	108	13 12	*28·4*	10·0	06 20	18·4	19 12	430	371	01 20	59	3,2,3,2,3,3,3,3	22	1	85·0
28 *d*	22 29	916	782	14 12	134	13 20	25·9	6·3	22 22	19·6	19 41	413	375	07 30	38	2,3,3,3,4,3,3,4	25	1	84·9
29	14 46	877	797	11 57	80	13 39	25·6	5·8	05 39	19·8	16 40	411	368	03 35	43	3,3,2,2,3,3,3,3	22	1	84·9
30	17 10	911	782	11 06	129	14 03	25·3	8·3	08 21	17·0	17 49	418	372	06 15	46	2,3,3,3,2,4,2,2	21	1	85·2
Mean	- -	882	797	- -	85	- -	24·3	8·4	- -	15·9	- -	412	369	- -	44	-	-	0·90	84·6

q denotes an international quiet day and *d* an international disturbed day.

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

21 ESKDALEMUIR (H) — 16,000γ (0·16 C.G.S. unit) + — JULY 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 19,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	842	836	835	835	834	832	821	814	802	794	797	806	810	823	836	842	843	848	853	857	861	855	852	848	832	976
2	856	853	842	842	842	838	828	816	821	812	810	818	828	836	846	849	854	868	866	861	861	846	838	822	840	1153
3	824	830	834	836	836	828	817	805	805	816	826	833	836	836	838	847	871	862	856	862	857	853	855	852	838	1115
4 d	848	846	844	842	853	850	833	831	825	816	809	806	832	826	826	852	841	857	858	866	887	885	836	848	842	1217
5 d	838	840	844	830	833	844	818	829	817	810	813	801	810	815	839	848	846	869	862	868	870	863	851	851	838	1109
6	855	852	845	850	842	836	838	829	818	813	790	801	821	819	842	844	849	866	861	863	855	853	848	848	839	1138
7	847	843	846	849	849	846	842	839	833	818	817	828	827	825	833	849	856	867	877	860	859	853	853	846	844	1262
8	842	841	840	838	849	851	837	822	830	827	815	795	800	816	838	851	853	860	862	851	854	853	861	844	839	1130
9 q	840	840	839	840	848	853	846	837	829	821	806	800	805	818	833	844	852	851	853	852	845	846	847	846	837	1091
10	850	842	842	844	846	843	842	837	828	817	810	810	817	829	822	845	860	871	855	858	864	861	857	861	842	1211
11	858	854	851	848	853	852	848	851	846	816	825	818	819	821	826	852	870	860	870	867	858	853	849	845	846	1310
12	844	844	846	846	845	840	834	837	833	830	834	835	840	841	850	849	847	860	864	865	863	857	855	853	846	1312
13	853	850	837	839	843	840	841	836	830	822	818	817	809	821	844	873	887	865	866	868	853	847	848	840	844	1247
14	832	821	829	844	842	838	827	834	834	814	806	802	809	817	834	837	836	837	854	854	849	850	855	844	833	999
15	848	847	838	838	846	848	841	833	825	823	827	830	844	851	851	861	864	861	858	861	863	857	848	848	846	1311
16 q	843	844	849	845	848	844	830	819	811	812	810	813	827	831	842	851	853	851	851	854	855	852	850	848	839	1133
17 q	846	847	848	850	850	846	834	825	816	810	810	814	822	829	837	839	844	852	853	855	859	857	857	851	840	1151
18 q	855	849	840	843	848	848	848	843	834	824	823	823	825	829	834	838	849	861	866	865	860	862	859	857	845	1283
19	854	852	855	857	857	845	846	842	822	803	816	813	833	844	849	870	870	873	867	873	858	859	853	854	849	1365
20	860	865	847	840	835	833	837	810	801	804	805	797	813	830	841	837	850	861	851	855	860	852	847	848	837	1079
21	854	841	841	837	836	837	837	829	820	811	809	817	825	833	832	837	864	877	869	864	854	849	844	841	840	1158
22	844	844	835	837	838	837	826	820	821	815	813	811	811	820	828	838	835	851	855	850	851	853	855	844	835	1032
23	840	836	834	837	840	837	831	830	828	805	805	804	814	816	830	838	843	858	869	860	847	839	839	844	834	1024
24	837	836	830	833	837	837	833	382	832	828	825	822	825	832	835	841	851	887	844	849	833	817	820	816	835	1032
25	809	797	831	831	832	843	824	831	829	828	824	826	834	836	836	835	832	842	844	850	850	853	856	867	835	1040
26 d	875	877	886	865	848	790	836	803	825	812	776	808	815	829	802	824	841	856	896	847	835	855	841	829	836	1071
27 d	817	831	821	804	816	822	817	809	804	809	811	816	828	812	845	853	843	847	841	838	841	845	848	837	827	855
28 d	809	822	809	827	803	806	816	809	820	808	803	809	813	811	825	835	847	845	846	847	849	845	843	838	824	785
29	826	812	833	831	833	833	825	814	813	805	799	796	812	829	840	847	840	845	841	845	843	848	842	839	829	891
30 q	839	840	836	837	837	829	820	824	822	812	809	813	816	816	824	829	827	830	838	839	840	840	838	841	829	896
31	836	835	835	836	838	842	839	831	821	809	801	803	813	832	845	856	857	856	867	855	856	848	856	853	838	1120
Mean	843	841	840	840	841	838	833	827	822	814	811	812	820	827	836	845	851	857	859	857	855	852	848	845	838	
Sum 25,000+	1121	1067	1042	1031	1057	968	812	621	495	244	142	185	433	623	903	1211	1375	1594	1613	1559	1490	1406	1301	1203		Grand Total 623,496

MAGNETIC DECLINATION (WEST)

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

22 ESKDALEMUIR (D) — 10° + — JULY 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 300·0+
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1	15·0	14·4	14·0	14·0	14·1	12·5	10·7	9·9	10·0	12·6	14·9	19·0	21·7	22·4	22·0	20·5	18·7	15·7	16·4	16·5	16·8	16·2	14·6	15·2	15·7	77·8
2	14·8	15·1	13·4	12·4	10·9	10·2	9·2	9·9	10·4	12·1	15·3	17·7	19·9	21·6	21·5	19·1	18·2	17·6	15·3	16·3	14·2	12·6	12·7	9·3	14·6	49·7
3	10·1	11·2	12·2	12·2	12·2	10·9	10·3	10·7	11·5	13·0	15·8	19·1	22·9	25·2	24·4	21·7	21·6	21·0	18·4	17·4	16·9	16·6	15·9	15·3	16·1	86·5
4 d	15·4	15·1	14·9	16·3	11·8	8·3	8·1	7·4	9·8	12·5	14·7	18·7	22·6	25·4	26·4	25·5	23·0	20·0	18·3	17·8	12·6	4·6	11·5	14·4	15·6	75·1
5 d	11·7	13·9	14·5	15·8	19·9	16·4	12·8	11·8	14·0	14·8	15·3	17·5	19·1	19·0	19·4	21·2	21·8	21·7	20·2	18·4	11·8	14·8	14·6	15·0	16·5	95·4
6	15·2	17·8	17·5	17·8	14·0	11·7	12·6	10·3	10·5	12·9	14·7	17·3	20·2	22·0	22·6	21·6	20·7	19·4	15·4	16·1	16·9	16·6	15·0	14·6	16·4	93·4
7	13·8	13·4	12·9	13·2	12·8	11·8	10·8	10·8	11·0	12·4	14·6	16·0	18·8	20·5	19·9	19·8	20·5	19·8	18·3	18·2	18·7	17·8	15·6	12·6	15·6	74·0
8	13·9	12·3	11·4	17·2	15·4	12·4	11·4	12·5	12·5	11·6	13·7	17·3	20·0	21·4	23·1	23·1	21·0	19·8	18·4	17·3	16·5	14·5	13·5	11·4	15·9	81·6
9 q	13·0	14·5	15·2	15·9	14·0	12·5	10·9	9·8	9·3	10·7	13·6	17·1	19·4	20·5	20·8	20·7	19·7	18·4	18·3	17·6	16·6	16·4	16·0	15·7	15·7	76·6
10	14·8	14·1	13·6	13·0	12·5	11·2	10·7	10·2	10·8	11·1	12·3	14·5	17·4	19·0	19·5	19·3	18·9	19·2	18·8	18·9	18·1	17·3	17·1	16·3	15·4	68·6
11	14·0	13·9	14·3	14·6	13·6	13·3	12·2	13·4	14·0	13·7	14·8	17·3	20·1	21·0	21·4	20·2	19·2	18·4	18·9	17·3	14·6	13·9	14·9	14·0	16·0	83·0
12	14·8	14·2	13·8	13·2	12·8	12·8	13·0	12·2	11·9	13·4	14·6	17·2	19·2	20·4	20·2	19·8	18·4	17·5	17·4	17·6	16·8	16·4	16·8	16·4	15·9	80·8
13	16·6	13·5	17·7	15·5	12·0	9·4	10·0	9·9	9·5	11·1	12·9	16·4	19·8	22·2	20·8	20·9	21·3	19·9	17·9	15·5	14·7	12·5	11·5	11·8	15·1	63·3
14	13·2	17·3	14·6	11·8	13·5	13·6	13·0	12·8	10 9	12·0	13·9	16·6	19·9	22·7	22·5	21·6	18·9	16·3	16·8	17·0	16·6	14·3	13·6	14·3	15·7	77·7
15	17·2	14·4	9·4	11·6	11·1	10·3	10·3	10·2	10·1	11·6	13·6	16·1	19·2	20·7	20·9	20·5	18·9	18·1	17·6	17·1	14·2	15·5	15·9	13·9	14·9	58·4
16 q	12·7	14·0	14·6	15·8	16·0	12·6	11·1	10·6	11·4	14·1	17·1	19·5	23·3	24·3	23·9	21·5	19·1	17·1	16·9	16·9	16·9	16·7	16·4	15·9	16·6	98·4
17 q	15·6	15·0	14·8	14·2	12·8	10·9	9·9	9·1	8·8	11·2	14·2	18·1	21·8	22·5	21·3	19·5	17·9	15·8	15·2	15·8	16·8	16·8	17·0	15·8	15·5	70·8
18 q	16·2	15·0	13·6	13·7	13·2	12·3	11·6	11·8	12·5	13·0	15·5	19·4	21·7	22·4	22·0	21·3	19·8	18·1	17·4	16·3	16·3	17·6	17·4	16·9	16·5	95·0
19	15·8	15·2	14·1	12·6	11·1	8·1	7·6	7·3	7·2	11·4	13·9	16·5	21·8	23·5	22·7	21·6	20·9	21·2	20·1	19·1	14·5	13·0	14·6	15·2	15·4	69·0
20	14·5	9·9	6·4	6·6	10·9	13·4	10·4	7·9	12·2	13·4	13·4	16·6	20·7	24·0	24·4	22·7	21·0	18·1	18·0	18·0	16·0	15·6	15·2	14·8	15·2	64·1
21	10·8	8·4	8·8	7·9	10·4	11·2	10·2	10·8	11·3	12·4	14·8	17·6	20·5	21·6	21·5	20·9	20·9	19·3	15·0	18·1	16·8	16·0	18·3	14·3	14·9	57·8
22	13·3	12·3	11·3	12·6	13·7	12·8	11·6	14·0	14·5	14·1	15·5	17·6	18·8	19·6	19·2	19·8	18·8	17·2	16·4	16·0	16·3	14·7	14·2	14·4	15·4	68·7
23	14·0	13·9	13·0	13·1	12·9	14·8	17·2	12·8	10·8	12·3	15·7	17·3	19·1	19·8	18·7	17·3	16·7	18·1	17·3	14·7	12·0	13·1	14·4	14·2	15·1	63·2
24	12·8	8·6	10·5	11·0	11·6	11·7	11·4	11·5	11·7	11·9	13·2	15·4	18·3	20·4	22·3	22·4	21·7	21·3	17·4	16·2	14·4	13·4	9·9	8·5	14·5	47·5
25	6·5	9·8	4·9	12·4	17·8	15·6	16·1	17·0	14·3	14·4	15·4	16·2	17·7	17·1	16·1	16·0	15·8	15·6	15·9	15·9	15·6	16·0	16·1	16·1	14·8	54·3
26 d	15·2	13·8	13·1	10·8	11·4	12·1	15·1	13·7	12·6	12·9	15·5	22·6	21·8	23·2	22·3	21·3	20·2	19·9	10·9	16·8	16·8	13·3	15·1	13·1	16·0	83·5
27 d	19·1	18·3	9·9	12·0	11·5	11·2	10·1	10·7	11·7	13·9	15·6	17·4	19·3	20·6	21·8	12·4	17·9	16·6	17·1	17·8	16·4	11·2	10·2	12·4	14·8	55·1
28 d	13·4	14·5	16·1	14·6	14·3	14·5	13·8	12·3	12·3	13·9	16·3	18·5	20·8	21·6	21·4	20·5	14·9	17·7	16·4	16·6	15·3	13·7	13·4	10·6	15·7	77·4
29	10·0	15·8	13·5	11·1	11·8	11·6	10·6	10·1	9·4	9·6	12·5	16·0	20·0	21·6	21·7	20·8	17·8	16·2	15·4	16·0	15·6	13·0	14·6	14·5	14·5	49·2
30 q	14·6	13·8	15·0	14·6	11·0	10·1	10·5	11·4	11·2	12·9	14·8	18·0	20·4	21·7	21·6	19·7	17·5	16·1	15·3	15·1	15·3	15·1	14·5	15·4	15·2	65·6
31	14·4	14·1	13·9	13·9	13·7	11·9	11·6	11·8	12·5	13·6	14·8	17·2	19·1	20·0	19·1	18·5	19·1	19·8	19·9	18·2	14·7	10·0	16·4	15·6	15·6	73·8
Mean	13·9	13·8	13·0	13·3	13·1	12·0	11·5	11·1	11·3	12·6	14·6	17·5	20·2	21·5	21·5	20·4	19·4	18·4	17·1	17·0	15·7	14·5	14·7	14·1	15·5	
Sum 300·0+	132·4	127·5	102·9	111·4	104·7	72·1	54·8	44·6	50·6	90·5	152·9	241·7	325·3	367·9	365·4	331·7	300·8	270·9	231·0	226·5	185·7	149·2	156·9	137·9	15·9	Grand Total 11535·3

GEOMAGNETIC FORCE: VERTICAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEMUIR (Z) — 45,000γ (0·45 C.G.S. unit) + — JULY 1962

Day	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 9000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	394	390	394	395	395	394	394	394	391	388	382	377	378	381	389	392	401	408	404	401	399	397	395	393	393	426
2	384	382	384	390	393	394	393	393	392	382	378	375	374	381	386	390	399	401	413	417	413	406	394	394	392	408
3	392	389	390	392	395	398	397	394	388	382	373	371	371	374	378	389	398	401	399	398	398	397	394	394	390	352
4 d	392	389	385	378	378	382	389	388	389	388	387	382	382	390	395	403	414	412	408	405	400	382	376	369	390	363
5 d	371	382	389	389	361	362	373	412	415	393	388	385	385	389	396	404	405	405	410	409	412	399	394	395	393	423
6	394	389	375	369	367	372	377	385	388	389	389	389	388	389	391	398	400	405	414	415	407	401	400	398	391	389
7	396	396	396	397	397	395	395	392	390	387	387	384	386	387	378	382	391	402	414	415	408	405	396	386	394	462
8	389	391	391	384	376	381	389	393	392	391	389	382	381	387	390	394	397	401	405	407	408	405	394	385	392	402
9 q	387	389	389	385	385	384	388	389	392	394	392	384	375	375	383	392	398	399	398	399	399	397	394	394	390	361
10	393	394	394	396	397	395	395	397	395	395	394	393	388	389	388	390	397	406	408	410	408	403	398	394	397	517
11	390	390	391	393	392	392	388	386	385	385	384	382	383	393	394	397	402	408	407	410	410	405	398	395	394	460
12	395	396	396	395	395	395	394	393	392	385	379	371	370	378	387	389	395	395	397	397	399	398	395	395	391	381
13	393	389	387	383	384	387	388	390	391	388	382	375	379	382	388	392	405	415	422	424	418	409	398	387	394	456
14	385	371	371	378	385	389	388	387	390	389	387	381	375	381	393	404	412	416	410	404	403	402	397	396	391	394
15	389	375	377	386	391	393	392	390	388	384	382	380	382	385	383	385	392	401	402	400	401	396	394	393	389	341
16 q	391	387	385	388	388	391	391	393	394	390	391	388	385	391	393	394	394	395	398	397	395	395	395	395	392	404
17 q	397	397	397	398	399	400	399	395	388	377	371	373	375	382	389	395	397	397	395	394	394	394	394	395	391	392
18 q	394	394	393	397	395	395	394	395	391	388	382	377	374	378	388	395	403	407	404	401	399	394	393	393	393	424
19	394	395	394	395	397	400	398	392	381	377	375	373	369	377	389	394	400	396	396	398	406	400	395	394	391	385
20	392	375	378	377	371	369	371	379	378	379	379	375	375	383	391	397	401	410	412	404	395	393	393	394	386	271
21	384	382	377	378	383	388	389	390	385	378	377	369	369	377	388	390	395	407	417	408	408	400	388	382	388	309
22	377	375	383	387	389	390	392	389	384	382	383	381	379	381	385	392	398	405	409	406	400	397	387	382	389	333
23	384	388	391	394	394	394	389	388	388	384	381	378	379	389	399	400	400	399	400	412	415	409	402	396	394	453
24	388	385	381	388	392	394	395	394	391	385	382	378	378	381	393	400	411	423	437	434	429	417	399	384	397	539
25	357	336	337	358	359	364	377	375	384	391	395	404	403	402	411	417	416	412	410	406	402	398	395	392	388	301
26 d	389	388	387	389	391	387	347	342	338	344	358	368	381	392	401	400	409	418	422	414	411	401	381	385	385	243
27 d	360	323	337	356	372	383	388	394	397	395	390	388	387	397	407	443	443	430	415	406	404	401	394	388	392	398
28 d	374	376	377	371	365	369	381	387	385	382	381	376	382	390	401	408	421	411	408	405	402	398	388	385	388	323
29	384	377	368	381	389	392	394	395	395	396	388	382	377	379	391	401	407	407	405	400	400	400	398	397	392	403
30 q	395	395	392	382	388	389	388	387	384	381	378	381	381	387	399	402	402	402	401	400	400	400	399	397	392	410
31	397	399	400	400	400	397	399	402	404	401	398	391	387	388	395	397	399	400	406	421	425	430	409	405	402	650
Mean	387	383	383	385	386	388	388	390	389	385	383	380	380	385	392	398	403	406	408	407	405	401	394	391	392	
Sum 11,000+	1001	884	886	949	963	1015	1032	1080	1045	950	882	793	778	935	1139	1326	1502	1594	1646	1617	1568	1429	1227	1132		Grand Total 291,373

DAILY EXTREMES OF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH CHAMBER

24 ESKDALEMUIR — All Times G.M.T. — JULY 1962

Day	Horizontal component: Maximum 16,000γ + (h. m.)	(γ)	Minimum 16,000γ + (γ)	(h. m.)	Range (γ)	Declination: Maximum 10° + (h. m.)	(′)	Minimum 10° + (′)	(h. m.)	Range (′)	Vertical component: Maximum 45,000γ + (h. m.)	(γ)	Minimum 45,000γ + (γ)	(h. m.)	Range (γ)	3-hr. range indices K	Sum of K indices	Magnetic character of day, C (0-2)	Temperature in magneto-graph chamber 200 + (°A.)
1	20 31	868	789	09 26	79	13 48	24·0	8·3	07 48	15·7	17 16	410	375	11 57	35	2,1,2,2,3,3,2,2	17	1	85·2
2	18 04	881	806	09 46	75	13 51	22·3	8·5	23 57	13·8	19 10	418	371	12 10	47	2,0,2,2,2,2,3,3	16	1	85·2
3	16 42	888	802	07 56	86	14 06	25·8	8·4	00 09	17·4	17 57	402	369	12 10	33	3,1,2,3,3,3,3,2	20	1	85·3
4 d	20 59	932	798	11 40	134	14 13	28·0	0·9	21 10	27·1	16 27	415	364	23 50	51	2,3,3,2,3,3,4,4	24	2	85·3
5 d	17 47	888	790	11 24	98	04 11	23·4	8·9	20 40	14·5	20 15	413	358	04 54	55	2,3,3,3,3,3,3,2	22	1	85·4
6	17 56	883	778	10 39	105	14 13	23·7	8·0	08 06	15·7	18 50	418	364	04 07	54	3,3,2,3,3,3,2,1	20	1	85·4
7	18 17	889	806	10 01	83	16 16	21·4	10·3	07 36	11·1	18 52	419	377	14 40	42	1,1,0,2,2,3,3,3	15	1	85·4
8	17 07	880	787	11 34	93	14 38	24·1	9·2	23 41	14·9	20 03	410	374	04 11	36	2,3,2,3,3,3,3,3	22	1	85·3
9 q	16 32	862	794	11 50	68	15 21	21·1	8·6	08 16	12·5	18 00	400	374	12 50	26	2,2,1,1,1,2,2,2	13	1	85·1
10	17 30	902	798	14 05	104	17 29	20·5	9·1	07 40	11·4	19 20	411	387	12 35	24	2,1,1,1,3,4,2,2	16	1	84·9
11	18 22	886	806	12 30	80	14 45	22·3	11·0	06 36	11·3	19 58	412	381	12 17	31	2,2,3,2,3,3,3,2	20	1	84·9
12	15 48	875	823	09 46	52	15 39	21·4	10·9	07 53	10·5	20 20	400	368	12 08	32	1,2,2,2,3,3,2,1	16	1	84·7
13	15 53	893	798	12 41	95	13 31	22·6	7·2	21 56	15·4	19 16	425	371	11 41	54	3,1,2,2,2,3,3,3	19	1	84·8
14	22 16	868	797	11 13	71	14 05	23·4	9·4	21 50	14·0	17 07	418	365	01 47	53	3,2,3,2,2,3,1,2	18	1	84·8
15	16 49	881	817	08 59	64	14 34	21·4	8·5	02 35	12·9	17 56	404	372	01 40	32	2,1,1,1,2,2,2,2	13	1	84·6
16 q	15 55	859	805	08 53	54	13 09	24·9	10·0	07 08	14·9	18 20	399	384	12 10	15	2,1,0,0,1,1,1,0	6	0	84·6
17 q	21 00	862	807	09 59	55	13 01	22·9	8·4	08 17	14·5	05 41	401	370	10 45	31	0,0,0,1,1,1,1,1	5	0	84·6
18 q	19 01	879	818	12 01	61	13 55	22·9	11·0	06 07	11·9	17 40	409	372	12 55	37	2,1,1,1,2,2,2,1	12	0	84·6
19	19 27	885	795	09 29	90	13 22	24·8	5·8	08 23	19·0	20 43	408	368	12 40	40	1,2,1,3,3,2,3,2	17	1	84·6
20	00 52	887	789	08 18	98	14 44	25·7	3·2	03 10	22·5	18 01	417	366	06 02	51	3,1,3,2,3,3,3,2	20	1	84·5
21	17 30	899	793	11 13	106	14 10	22·7	5·8	03 22	16·9	18 13	421	366	12 15	55	2,1,1,3,3,4,3,2	19	1	84·5
22	00 56	866	803	12 28	63	15 15	20·5	10·4	06 21	10·1	18 06	410	371	01 10	39	3,1,2,2,1,3,2,2	16	0	84·5
23	18 58	892	800	09 43	92	13 30	20·6	10·1	08 57	10·5	20 00	418	377	11 50	41	1,1,2,1,2,2,3,2	14	1	84·7
24	17 34	943	796	23 07	147	17 34	24·5	1·4	23 59	23·1	18 24	442	372	23 59	70	2,1,2,1,2,5,4,3	20	1	84·6
25	23 53	875	777	01 28	98	06 58	20·1	0·4	00 03	19·7	16 02	419	325	01 57	94	4,4,3,2,2,2,2,3	22	1	84·6
26 d	18 23	936	741	10 43	195	13 46	28·8	4·7	18 42	24·1	18 39	424	335	08 54	89	3,5,5,4,5,4,5,4	35	2	84·6
27 d	15 57	912	786	03 23	126	00 33	27·4	5·7	03 08	21·7	15 44	456	322	01 04	134	3,3,2,3,4,5,3,3	26	1	84·6
28 d	20 57	866	782	10 25	84	13 01	22·8	8·1	23 53	14·7	16 20	425	361	04 59	64	3,3,3,3,3,3,3,3	24	1	84·6
29	16 40	860	789	11 41	71	13 59	22·1	7·8	08 20	14·3	16 56	410	362	02 04	48	3,1,2,2,2,3,2,2	17	1	84·9
30 q	23 43	851	807	09 48	44	13 46	22·2	9·1	05 19	13·1	16 01	404	377	10 11	27	1,2,2,1,2,2,1,2	13	0	84·6
31	20 33	888	795	10 06	93	18 11	22·2	5·4	21 25	16·8	21 21	444	384	12 49	60	1,1,1,2,2,3,4,4	18	1	84·7
Mean	- -	885	796	- -	89	- -	23·2	7·6	- -	15·7	- -	415	367	- -	48	-	-	0·90	84·8

q denotes an international quiet and *d* an international disturbed day.

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

21 ESKDALEMUIR (H) — 16,000γ (0·16 C.G.S. unit) + — AUGUST 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 19,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1 *d*	856	863	860	845	846	841	848	833	809	745	760	798	803	817	825	834	824	831	837	851	853	837	833	845	829	894
2	836	830	836	839	823	831	831	824	809	804	807	812	815	818	826	833	853	844	837	857	839	843	844	848	831	939
3	844	846	837	839	828	841	844	841	835	819	813	809	803	823	822	833	835	850	862	863	843	849	841	843	836	1063
4	840	841	838	841	841	840	830	824	815	813	813	816	816	813	827	838	836	845	848	849	847	848	847	843	834	1009
5	841	837	831	837	845	845	836	830	827	816	807	801	809	818	825	839	837	844	844	852	848	847	848	850	834	1014
6	854	860	852	844	850	844	844	853	833	823	813	827	814	815	839	848	832	835	845	863	854	847	840	833	840	1162
7	849	833	835	839	836	851	839	828	819	807	811	810	820	813	831	856	843	873	860	846	841	867	855	840	838	1102
8 *d*	837	862	838	836	843	829	826	825	774	783	808	810	804	818	815	819	830	848	847	849	845	852	852	829	*828*	879
9	839	839	848	836	838	833	805	812	811	811	796	809	804	802	826	838	854	856	856	844	851	850	839	852	831	949
10	851	834	839	827	836	843	840	816	805	805	805	816	828	841	849	849	859	852	839	843	843	841	841	839	835	1041
11 *q*	837	837	836	833	835	833	830	822	813	809	816	824	834	839	842	841	841	839	839	841	841	841	840	840	833	1003
12 *q*	841	843	842	843	839	835	831	824	812	806	819	833	835	843	837	837	839	844	851	852	849	848	848	846	837	1097
13 *q*	850	847	847	848	847	843	839	833	826	818	814	812	822	832	837	845	850	854	862	860	866	863	867	881	844	1263
14	851	847	841	832	840	839	837	829	827	826	825	835	836	841	851	853	857	860	865	862	851	852	852	861	*845*	1270
15	848	848	850	848	844	835	823	812	793	801	800	810	824	834	845	845	852	835	853	854	856	852	835	843	835	1040
16	812	813	786	826	832	832	817	804	817	812	807	811	828	841	847	849	852	848	862	847	845	845	841	823	829	897
17 *d*	834	831	835	841	839	835	828	817	812	809	809	809	802	837	845	844	845	858	862	865	854	864	871	822	836	1068
18	831	837	836	834	830	813	796	820	819	805	799	805	821	824	822	833	848	850	848	844	842	849	853	839	829	898
19	844	843	845	830	828	829	817	810	809	804	797	813	826	840	832	832	848	847	851	851	851	844	845	844	833	980
20 *q*	838	839	833	837	838	838	837	832	823	812	805	808	811	822	837	848	852	847	845	847	848	847	848	847	835	1039
21	845	833	839	837	839	837	833	828	820	815	813	817	824	829	833	833	845	854	862	861	866	860	860	843	839	1126
22 *d*	806	840	828	822	835	840	837	798	808	818	809	807	816	825	825	841	847	852	853	864	852	831	845	837	831	936
23	840	837	831	839	840	838	822	814	811	813	815	826	843	832	830	848	857	844	861	852	846	848	847	851	837	1085
24	843	848	825	837	841	841	832	805	815	817	810	818	829	830	851	844	855	853	846	845	846	857	852	836	837	1076
25	828	839	832	824	825	828	832	822	811	816	821	817	826	835	836	837	847	851	852	848	855	848	839	823	833	992
26	844	833	835	833	837	830	819	828	820	821	821	820	823	822	832	838	843	844	848	847	847	847	847	843	834	1022
27	848	847	845	842	841	831	831	833	836	833	828	824	828	833	837	845	850	847	847	847	847	848	848	848	840	1164
28 *q*	843	845	839	842	843	844	842	836	828	826	829	837	845	850	843	847	844	845	848	852	852	852	852	852	843	1236
29	850	852	849	848	840	837	836	846	843	830	822	826	838	847	835	835	845	837	849	863	860	818	816	837	840	1159
30	844	845	843	835	844	829	828	824	820	816	817	817	812	812	817	837	828	829	844	849	844	843	846	849	832	972
31 *d*	857	856	870	819	869	831	833	805	781	788	806	816	820	816	820	827	831	834	837	841	854	843	834	834	830	922
Mean	841	842	839	837	839	836	830	823	815	810	*810*	816	821	828	833	840	845	847	850	*852*	849	848	846	843	835	
Sum 25,000+	1081	1105	1001	933	1012	916	743	528	281	121	115	293	459	662	839	1046	1179	1250	1360	1409	1336	1281	1226	1121		Grand Total 621,297

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

22 ESKDALEMUIR (D) — 10° + — AUGUST 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 300·0+
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1 *d*	15·6	20·2	13·2	12·4	15·5	11·5	14·3	13·9	13·8	11·6	18·3	20·5	22·6	23·2	23·3	21·7	19·1	22·7	16·2	11·8	12·9	12·7	13·0	11·2	16·3	91·2
2	14·1	12·1	12·2	11·7	11·7	12·5	10·4	9·9	10·2	11·8	14·3	17·5	19·5	21·6	21·4	19·0	16·5	17·1	16·9	14·5	14·4	14·4	15·0	14·5	14·7	53·2
3	14·2	15·6	14·5	13·8	15·5	17·2	14·3	11·2	11·0	12·4	15·3	18·1	19·4	19·9	20·0	19·4	17·6	16·5	16·3	15·7	14·5	10·0	13·9	13·9	15·4	70·2
4	14·1	14·1	13·7	15·4	14·2	13·8	11·9	11·0	11·9	12·4	14·2	16·9	21·0	22·6	21·7	20·9	18·8	15·8	16·2	15·4	15·3	15·3	14·3	13·6	15·6	74·5
5	13·6	14·0	15·0	15·3	13·6	11·0	10·8	11·2	11·2	11·6	14·4	17·7	23·3	22·4	20·8	19·6	18·4	15·8	13·8	15·2	16·0	15·9	15·6	15·3	15·5	71·5
6	15·6	11·4	10·6	9·9	10·8	11·6	15·9	13·0	10·9	13·7	17·0	19·5	24·1	23·4	23·7	23·9	20·2	19·1	17·5	16·6	14·7	12·5	12·9	11·7	15·8	80·2
7	17·9	14·6	11·7	13·0	15·6	14·8	11·4	9·9	10·1	11·7	14·5	17·8	21·1	21·8	20·3	20·7	19·0	17·8	14·8	15·3	15·7	10·5	16·0	13·6	15·4	69·6
8 *d*	14·1	12·7	7·1	10·7	11·2	11·2	11·1	13·0	12·7	15·6	16·6	21·2	23·3	23·3	23·4	23·5	20·4	17·1	16·8	15·0	13·0	13·0	8·0	10·9	15·2	64·9
9	14·5	21·5	11·6	10·9	10·1	9·3	9·3	9·5	8·1	10·2	12·1	15·4	18·1	19·5	20·2	19·0	15·1	14·8	14·8	14·6	14·2	16·6	14·6	15·3	14·1	39·3
10	16·7	14·2	13·0	15·7	15·9	13·1	11·0	11·2	14·9	15·8	15·6	18·0	18·0	18·9	18·9	18·0	13·4	14·7	14·6	15·9	15·9	15·7	15·8	15·6	15·4	70·5
11 *q*	15·3	15·4	15·2	14·3	12·4	10·9	10·1	10·0	10·7	12·6	15·0	18·5	19·7	18·9	17·1	15·1	14·5	14·0	14·5	15·0	15·8	15·8	15·7	15·5	14·7	52·0
12 *q*	15·3	15·1	14·7	14·4	14·0	12·6	12·8	12·9	13·9	15·6	18·9	22·2	23·3	22·4	20·6	18·4	16·0	14·8	14·8	15·4	15·7	15·3	15·4	15·5	16·3	90·0
13 *q*	15·6	14·8	14·4	13·4	12·3	10·7	9·5	9·5	10·6	13·0	16·3	20·4	21·7	21·6	19·7	17·3	16·0	15·5	15·6	17·1	18·2	17·1	16·2	12·1	15·4	68·6
14	12·7	13·8	12·6	11·9	12·1	9·8	8·1	7·9	9·1	12·1	15·6	19·9	23·1	22·7	20·8	19·3	19·0	18·1	17·3	17·9	17·3	16·8	13·3	14·4	15·2	65·6
15	12·5	14·5	14·9	10·4	10·1	16·1	20·6	12·3	13·4	15·8	17·2	20·2	22·4	22·9	21·9	20·4	19·7	17·0	17·3	17·0	14·1	7·0	11·1	12·5	15·9	81·3
16	10·0	5·6	9·4	9·2	10·6	8·3	10·6	13·0	12·2	13·6	16·0	18·4	20·7	21·2	21·1	19·3	18·1	18·3	18·0	14·6	12·8	14·7	12·5	6·9	*14·0*	35·1
17 *d*	6·3	8·0	13·4	15·5	11·2	10·1	10·3	12·3	13·5	15·2	16·6	21·3	23·3	23·8	23·5	20·5	18·1	18·9	15·5	10·9	15·1	13·6	11·0	11·6	15·0	59·5
18	13·5	16·9	15·1	12·4	11·8	11·8	18·8	17·8	12·4	12·6	15·2	18·3	21·4	22·8	22·6	20·9	17·7	15·0	15·5	15·8	16·3	12·6	12·9	13·5	16·0	83·6
19	20·8	15·3	13·8	13·0	17·1	15·2	13·4	13·3	12·7	13·4	15·0	18·9	22·6	26·2	26·0	21·1	18·8	16·8	13·7	13·0	13·0	13·6	15·5	15·5	16·6	97·7
20 *q*	16·0	14·8	14·6	13·7	12·9	12·1	11·2	11·0	11·1	12·6	15·4	19·0	21·8	22·9	21·9	20·0	17·5	14·8	14·1	15·0	15·3	15·0	15·0	12·7	15·4	70·4
21	12·4	13·3	14·6	14·0	13·7	11·8	10·9	10·0	10·4	12·0	14·6	18·5	21·8	22·9	22·0	19·5	17·6	16·4	16·6	17·2	17·4	17·1	14·2	11·2	15·4	70·1
22 *d*	8·0	12·3	13·4	9·9	13·6	9·8	6·5	9·8	11·8	11·9	15·1	18·5	22·8	24·5	23·4	20·8	18·6	17·6	17·7	16·4	5·2	4·8	12·2	17·2	14·2	41·8
23	17·0	12·3	11·5	12·4	10·4	9·7	9·8	10·9	11·8	13·3	15·0	18·1	22·4	23·0	21·9	18·9	17·4	17·1	10·9	15·7	15·9	15·3	15·3	14·2	15·0	60·2
24	13·7	13·1	13·0	16·1	12·5	9·1	9·6	12·6	14·7	14·7	15·3	17·8	21·2	16·5	18·2	19·5	17·2	14·5	14·3	15·1	15·6	13·5	10·6	11·9	14·6	50·3
25	17·1	17·0	11·3	12·3	13·9	10·8	12·4	12·5	12·6	14·4	16·9	18·8	20·6	20·0	17·8	15·8	15·9	12·4	15·2	15·9	15·6	12·5	11·9	13·2	14·9	56·8
26	12·5	13·3	13·3	13·7	12·5	11·6	10·9	10·7	11·1	13·1	16·2	18·5	19·4	19·0	17·0	15·3	14·7	14·2	15·3	15·3	15·3	15·1	14·5	14·2	14·4	46·7
27	15·8	16·1	14·2	13·9	12·8	12·6	12·4	12·0	11·9	13·6	16·8	19·7	21·6	21·3	20·1	18·1	16·4	15·3	15·4	15·7	15·1	15·2	14·4	14·3	15·6	74·7
28 *q*	14·0	14·3	13·7	15·3	13·6	12·3	11·6	11·6	12·6	14·3	17·1	19·7	21·7	22·6	19·9	17·2	15·4	14·5	14·7	15·4	15·4	15·4	15·2	14·8	15·5	72·3
29	14·1	14·1	13·6	13·9	12·7	13·7	11·9	11·2	10·9	14·3	18·4	19·4	21·4	23·6	22·4	19·8	18·1	16·6	16·3	12·2	3·9	4·6	8·9	9·0	14·4	45·0
30	12·9	15·2	14·4	13·5	10·7	9·7	11·5	9·5	10·1	12·7	15·5	19·9	21·5	22·5	16·1	16·9	15·7	14·9	9·4	12·4	14·9	15·0	14·9	14·8	14·4	44·6
31 *d*	18·3	21·5	14·4	14·5	16·8	14·2	17·1	14·7	17·8	18·9	22·9	23·8	24·2	23·2	20·3	17·4	15·6	14·3	13·9	14·4	12·0	13·2	14·1	13·3	*17·1*	110·8
Mean	14·3	14·4	13·2	13·1	13·0	11·9	11·9	*11·6*	11·9	13·4	16·0	19·1	21·6	*22·0*	20·9	19·3	17·3	16·2	15·3	15·1	14·4	13·5	13·7	13·3	15·3	
Sum 300·0+	144·2	147·1	108·1	106·5	101·8	68·9	70·4	59·3	70·1	116·5	197·3	292·4	369·0	381·1	348·0	297·2	236·5	202·4	173·9	167·4	146·5	119·8	123·9	113·9	15·5	Grand Total 11362·2

GEOMAGNETIC FORCE: VERTICAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEMUIR (Z) — 45,000γ (0·45 C.G.S. unit) + — AUGUST 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 9000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1 d	399	375	332	359	339	340	346	361	372	388	388	385	391	406	418	429	435	435	428	427	411	405	394	370	389	333
2	367	381	390	394	395	394	392	391	390	393	389	386	390	390	399	406	410	411	410	408	399	404	402	399	395	490
3	397	391	393	394	393	389	391	398	395	398	398	391	386	388	399	402	403	405	404	407	409	404	397	395	397	527
4	397	397	397	396	395	393	392	391	391	387	388	384	384	384	392	400	408	410	410	406	404	400	399	399	396	504
5	397	397	396	394	395	398	398	397	394	393	387	382	382	394	398	402	407	410	412	406	402	400	399	398	397	538
6	396	388	387	389	391	389	384	382	382	380	375	372	373	382	395	411	423	417	413	410	408	402	394	387	393	430
7	361	361	381	387	387	388	392	397	394	393	385	381	387	394	404	412	430	447	457	440	428	411	388	389	400	594
8 d	392	369	346	368	377	390	392	388	392	389	385	382	378	390	405	418	436	438	435	428	418	408	395	387	396	506
9	389	370	341	368	388	392	396	393	395	393	398	398	397	399	404	407	414	413	413	411	407	394	394	394	395	468
10	377	381	387	388	384	385	389	392	393	391	385	384	388	399	405	410	417	423	419	408	405	402	401	400	396	513
11 q	399	398	397	398	398	403	403	403	395	387	383	382	382	387	393	398	402	405	401	399	398	398	398	399	396	506
12 q	398	398	398	398	398	398	397	397	394	383	375	375	374	384	397	404	405	405	403	401	400	400	399	398	395	479
13 q	397	397	398	398	399	401	401	400	395	389	384	384	381	384	393	398	400	399	397	393	393	395	396	386	394	458
14	389	393	396	397	392	394	397	399	397	388	381	379	384	386	387	391	392	395	397	402	404	404	399	385	393	428
15	385	385	378	379	387	376	361	368	381	381	381	375	374	382	392	404	410	420	411	407	408	403	400	391	389	339
16	365	331	333	373	394	395	394	401	400	395	388	385	382	387	397	399	401	401	401	415	412	406	391	372	388	318
17 d	373	387	388	381	389	394	392	392	392	389	387	384	387	390	402	418	424	418	423	420	409	397	375	381	395	492
18	392	383	375	384	389	389	382	372	381	381	381	372	376	385	397	402	420	435	428	420	410	407	392	392	394	445
19	365	371	382	385	382	382	389	392	393	393	388	382	381	387	404	412	416	415	414	410	406	404	400	385	393	438
20 q	387	392	396	398	401	404	405	405	406	401	395	391	392	398	403	407	410	414	411	403	400	400	398	398	401	615
21	394	396	397	400	402	404	405	403	400	391	381	377	377	379	383	389	394	396	397	395	395	398	399	394	394	446
22 d	371	324	336	358	383	388	393	392	389	388	377	369	369	381	394	402	406	406	403	404	415	405	394	388	385	235
23	378	378	389	382	392	397	398	396	397	392	387	382	384	395	402	411	418	417	417	409	405	403	401	392	397	522
24	392	386	389	377	378	384	389	391	390	388	388	385	389	408	412	413	421	430	424	415	407	400	394	384	397	534
25	375	361	378	388	389	392	395	397	397	394	393	392	392	395	400	408	411	417	414	409	405	398	395	391	395	486
26	384	389	394	395	397	399	399	397	389	383	382	384	385	391	395	400	404	404	401	401	400	400	400	400	395	473
27	396	389	391	394	396	397	398	398	393	388	382	377	377	385	397	401	402	402	398	397	398	398	398	398	394	450
28 q	398	398	398	396	397	399	400	398	395	390	387	385	388	391	398	401	403	403	400	398	397	396	396	397	396	509
29	398	397	397	395	397	394	390	387	384	382	382	382	382	386	395	405	408	412	405	408	402	393	393	400	395	474
30	401	395	394	397	398	398	397	391	387	387	385	383	391	399	420	418	423	422	420	410	404	402	400	399	*401*	621
31 d	392	364	337	335	317	335	349	369	381	381	376	380	388	397	405	411	411	409	407	403	401	398	400	400	*381*	146
Mean	387	381	*380*	385	388	390	391	391	391	389	385	382	384	390	399	406	412	*414*	412	409	405	401	396	392	394	
Sum 11,000+	1001	822	791	945	1019	1081	1106	1138	1134	1056	941	850	891	1103	1385	1589	1764	1834	1773	1670	1560	1435	1281	1148		Grand Total 293,317

DAILY EXTREMES OF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH CHAMBER

24 ESKDALEMUIR — All Times G.M.T. — AUGUST 1962

	GEOMAGNETIC ELEMENTS															3-hr. range indices K	Sum of K indices	Magnetic character of day, C (0-2)	Temperature in magneto-graph chamber 200 +
	Horizontal component					Declination					Vertical component								
	Maximum 16,000γ +		Minimum 16,000γ +		Range	Maximum 10° +		Minimum 10° +		Range	Maximum 45,000γ +		Minimum 45,000γ +		Range				
	h. m.	γ	γ	h. m.	γ	h. m.	′	′	h. m.	′	h. m.	γ	γ	h. m.	γ				°A.
1 d	01 41	884	*720*	09 29	*164*	01 39	*27·9*	5·5	03 07	22·4	17 12	438	322	02 38	*116*	4,4,3,4,3,3,3,3	27	1	84·6
2	19 33	876	797	10 09	79	14 32	22·4	9·0	07 53	13·4	17 52	414	358	00 01	56	4,2,1,2,3,3,3,2	20	1	84·6
3	17 22	880	796	12 00	84	13 58	21·2	7·2	21 17	14·0	21 06	411	385	12 30	26	2,2,1,2,3,3,3,3	19	1	84·6
4	18 09	871	805	10 58	66	13 49	23·2	9·9	07 28	13·3	17 30	412	382	11 50	30	1,2,2,2,3,3,3,1	17	1	84·6
5	19 41	856	786	11 05	70	12 31	24·0	9·8	06 49	14·2	18 30	414	377	12 10	37	2,3,2,3,2,3,2,1	18	1	84·6
6	19 32	879	789	13 09	90	12 43	26·8	8·1	02 49	18·7	16 23	426	370	12 10	56	3,3,3,3,3,4,3,3	25	1	84·6
7	21 54	911	796	11 18	115	13 39	23·2	0·2	21 46	23·0	18 22	*463*	351	00 46	112	3,3,2,3,3,4,4,4	26	1	84·6
8 d	01 51	891	759	08 30	132	12 55	25·5	0·7	22 52	24·8	16 55	444	336	02 11	108	4,3,4,3,4,4,4,4	30	1	84·6
9	17 09	871	785	10 19	86	01 54	26·7	6·2	08 47	20·5	17 00	416	330	02 11	86	4,3,3,3,3,3,3,3	25	1	84·6
10	16 41	873	794	10 07	79	14 02	19·6	10·3	06 34	*9·3*	17 50	424	375	00 50	49	3,3,3,2,3,3,1,1	19	1	84·5
11 q	14 48	848	808	08 56	40	12 30	19·8	9·7	06 54	10·1	17 33	405	381	11 56	24	1,1,0,0,1,1,1,0	5	0	84·6
12 q	19 08	856	803	09 28	53	12 18	24·1	11·8	05 36	12·3	17 50	406	372	12 15	34	0,0,0,1,2,1,1,1	6	0	84·7
13 q	23 28	897	807	11 34	90	13 02	22·3	8·6	06 59	13·7	06 05	402	380	12 41	22	1,1,1,1,1,1,2,3	11	0	84·7
14	18 47	888	820	12 38	68	12 17	24·5	7·2	06 52	17·3	21 05	407	378	11 10	29	2,2,2,2,3,2,3,3	19	1	84·6
15	02 39	875	777	10 12	98	12 58	23·6	3·0	21 58	20·6	17 30	421	359	06 49	62	3,2,2,3,3,3,2,3	21	1	84·6
16	18 47	883	762	02 03	121	14 08	22·5	−0·1	01 49	22·6	19 40	420	329	01 58	91	4,2,3,1,2,2,3,4	21	1	84·6
17 d	22 13	*924*	785	12 06	139	14 09	26·1	3·5	01 51	22·6	16 20	429	366	00 19	63	4,3,3,3,4,3,4,5	29	1	84·6
18	16 50	887	784	06 12	103	13 10	24·9	10·6	05 13	14·3	17 42	440	368	07 13	72	3,3,4,2,4,4,2,3	25	1	84·6
19	16 32	867	778	10 14	89	00 17	27·7	11·8	09 58	15·9	16 54	418	350	00 39	68	4,3,2,3,3,3,2,2	22	1	84·5
20 q	23 23	859	800	10 43	59	13 54	23·5	10·7	08 02	12·8	17 30	415	384	00 01	31	2,1,1,2,2,2,1,2	13	1	84·6
21	20 50	875	809	11 17	66	13 13	23·6	5·8	23 59	17·8	06 20	406	375	12 01	31	2,0,0,1,2,2,2,3	12	0	84·6
22 d	19 30	886	745	00 40	141	13 46	25·4	*−3·8*	20 56	*29·2*	20 30	419	*313*	01 20	106	5,3,4,2,3,3,4,4	28	2	84·7
23	16 26	885	801	09 34	84	12 58	25·8	7·2	18 40	18·6	16 45	420	372	01 20	48	3,2,2,3,4,4,3,2	23	1	84·8
24	21 58	880	794	11 29	86	12 43	22·3	8·0	06 24	14·3	17 52	433	374	04 07	59	3,3,3,3,4,3,2,3	24	1	84·4
25	20 30	871	801	11 03	70	12 31	21·7	8·2	21 40	13·5	17 50	418	352	01 03	66	3,2,2,3,3,3,3,3	22	1	84·7
26	19 05	855	805	11 43	50	12 52	19·9	9·9	06 46	10·0	16 50	405	381	09 56	24	2,2,2,3,3,2,1,1	16	1	84·7
27	00 48	854	822	11 20	*32*	12 41	21·8	11·0	07 58	10·8	17 20	404	375	12 10	29	1,1,2,1,1,1,1,1	9	0	84·6
28 q	15 39	856	824	08 56	*32*	12 58	23·0	10·9	07 07	12·1	16 53	404	383	11 46	*21*	1,1,0,2,2,2,0,0	8	0	84·9
29	20 11	880	801	22 04	79	13 49	26·2	0·5	20 09	25·7	17 16	414	377	09 15	37	1,2,3,3,3,3,3,3	21	1	84·8
30	19 07	862	789	14 04	73	13 54	23·1	2·3	18 38	20·8	14 47	425	381	11 30	44	1,2,2,2,3,3,4,2	19	1	84·8
31 d	04 29	882	769	08 06	113	01 50	26·1	7·3	03 06	18·8	16 39	412	*313*	04 11	99	4,4,4,3,3,1,3,2	24	1	84·8
Mean	– –	876	791	– –	85	– –	23·8	6·8	– –	17·0	– –	419	363	– –	56	–	–	0·84	84·6

q denotes an international quiet day and *d* an international disturbed day.

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

21 ESKDALEMUIR (H) — 16,000γ (0·16 C.G.S. unit) + — SEPTEMBER 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 19,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	841	840	841	840	850	851	811	794	788	804	807	818	828	824	820	801	841	841	850	852	861	830	830	843	829	906
2 d	836	835	834	813	838	848	819	805	798	785	792	783	808	796	833	809	824	832	837	837	847	832	841	837	822	719
3 d	838	838	830	843	813	813	827	813	792	777	751	785	815	837	823	837	845	849	837	861	837	841	792	832	822	726
4 d	821	825	826	798	847	818	794	790	788	781	754	778	801	822	841	844	887	843	843	860	861	837	821	829	821	709
5	830	830	834	839	840	837	840	824	794	785	792	801	816	827	826	829	841	829	833	832	843	835	834	850	827	841
6	856	828	833	836	848	825	814	837	837	823	800	789	804	810	817	837	835	836	833	837	825	818	817	825	826	820
7	839	836	837	852	845	837	839	827	802	804	801	809	821	808	817	824	825	836	843	844	839	843	843	841	830	912
8	844	837	837	840	825	835	842	830	803	813	816	816	816	820	816	817	823	841	837	843	843	845	845	841	830	925
9	855	847	842	840	838	836	834	837	834	828	828	821	817	816	828	835	837	826	838	847	844	831	840	823	834	1022
10	827	839	834	820	841	840	840	831	817	810	811	823	824	829	832	837	839	838	845	848	848	845	847	844	834	1009
11	844	845	848	839	839	838	839	833	823	798	794	818	822	826	831	833	835	839	843	850	861	851	861	849	836	1059
12 d	855	849	843	846	851	854	827	733	823	805	792	813	833	825	815	818	837	820	816	813	833	837	849	855	827	842
13	833	824	820	820	818	824	805	802	807	812	805	801	812	828	830	833	839	828	833	843	828	829	833	838	823	745
14	841	833	830	826	818	826	832	807	816	821	816	812	822	832	836	840	841	840	841	841	837	845	843	840	831	936
15	838	839	835	830	830	845	829	810	833	824	810	814	821	826	833	840	845	855	843	832	828	839	840	852	833	991
16	848	839	835	831	832	835	833	830	827	819	814	821	819	824	832	837	844	843	840	851	891	852	825	833	836	1055
17 q	841	837	840	844	838	836	834	839	835	826	816	813	816	824	833	841	847	843	848	840	844	845	850	851	837	1081
18 q	848	840	839	839	840	840	839	837	834	827	822	815	822	824	829	837	844	839	843	848	849	860	847	845	838	1107
19 d	844	848	847	843	840	840	855	822	812	812	804	792	804	810	821	835	848	843	830	854	826	827	852	845	831	954
20	784	799	817	818	825	832	831	823	816	811	809	796	815	822	821	831	836	837	840	840	840	837	839	837	823	756
21	845	841	841	837	836	836	836	841	835	824	816	816	821	828	821	824	824	832	839	844	840	847	841	842	834	1007
22	854	849	848	827	832	836	837	836	824	823	804	816	821	827	811	837	837	840	844	839	862	843	845	843	835	1035
23	844	839	835	828	830	827	833	833	826	827	812	802	813	817	821	829	835	835	843	842	847	847	847	844	831	956
24 q	844	844	835	837	833	835	833	835	833	825	820	818	820	827	829	833	840	841	840	841	835	828	836	838	833	1000
25 q	839	839	837	839	839	841	840	836	830	824	820	815	812	824	832	832	828	836	844	853	855	856	858	869	837	1098
26	839	828	831	799	816	837	828	825	809	811	810	808	813	829	823	822	835	822	818	818	828	831	827	829	822	736
27	825	829	827	832	827	829	831	826	813	808	804	801	812	825	823	820	812	821	831	833	835	834	841	833	824	772
28 q	833	831	825	833	835	834	832	823	817	809	808	810	816	831	824	825	825	820	841	848	848	844	843	828	828	883
29	831	831	832	831	840	843	837	832	825	815	804	813	817	816	819	820	827	824	805	800	789	788	779	792	817	610
30	801	808	819	822	841	845	837	832	823	808	808	804	803	805	821	815	828	831	833	839	839	837	838	839	824	776
Mean	837	835	834	831	835	836	831	821	817	811	805	807	816	822	825	829	837	835	837	841	842	838	837	839	829	
Sum 24,000+	1118	1047	1032	942	1045	1073	928	643	514	339	140	221	484	659	758	872	1104	1060	1111	1230	1263	1134	1104	1167		Grand Total 596,988

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

22 ESKDALEMUIR (D) — 10° + — SEPTEMBER 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 200·0+
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1	14·5	15·8	15·2	12·6	11·4	11·6	16·3	15·8	14·5	19·6	19·3	20·1	23·1	21·8	21·5	18·7	18·1	10·2	10·6	10·7	12·0	8·3	12·7	15·6	15·4	170·0
2 d	14·0	12·8	13·6	18·3	17·6	12·1	11·7	14·1	13·6	14·6	17·6	20·5	23·5	19·9	22·0	18·5	18·3	14·9	12·1	12·6	4·6	11·2	13·5	14·4	15·3	166·0
3 d	15·0	15·1	21·4	12·6	11·9	13·5	10·3	9·9	9·8	12·8	15·1	19·7	21·7	24·2	20·6	15·4	18·9	18·1	15·4	4·5	13·2	6·4	3·6	5·2	13·9	134·3
4 d	4·4	9·4	13·4	17·1	19·6	12·4	12·2	10·7	12·2	13·5	14·7	19·7	19·6	20·3	17·1	17·6	11·7	13·4	15·4	11·2	11·8	10·5	11·9	13·3	13·9	133·1
5	14·0	14·2	14·3	16·1	12·3	14·1	12·2	11·1	11·7	12·8	15·4	17·6	21·1	23·9	24·1	19·4	17·9	15·3	14·3	13·9	13·6	12·7	15·0	13·6	15·4	170·6
6	13·1	11·3	9·8	11·6	15·4	15·6	19·4	16·8	12·8	12·4	14·4	17·3	20·5	21·2	20·2	18·9	16·0	14·0	10·8	9·4	9·4	8·2	9·9	11·7	14·2	140·1
7	14·3	12·3	13·7	14·3	12·3	12·7	9·6	11·6	14·0	14·9	18·0	17·4	19·9	20·6	18·0	17·1	15·9	14·8	14·4	13·5	12·7	14·2	14·6	12·6	14·7	153·4
8	12·1	12·0	11·0	8·1	8·9	10·8	10·8	12·6	17·6	17·4	17·2	17·0	18·7	18·8	18·2	16·8	15·6	15·3	14·5	14·8	14·6	14·5	14·4	13·7	14·4	145·4
9	13·7	11·9	10·1	9·9	12·9	13·7	12·2	11·0	11·2	12·4	14·4	17·6	20·4	21·7	21·1	20·1	20·1	18·1	15·4	8·0	10·8	12·4	11·4	9·4	14·2	139·9
10	9·8	9·9	6·5	11·6	12·8	11·6	11·2	10·6	10·0	12·1	14·1	17·1	18·5	19·6	18·7	18·0	17·1	16·2	15·4	15·2	15·1	14·8	14·3	13·7	13·9	133·9
11	13·5	12·8	12·0	11·2	11·4	11·2	10·7	10·6	11·3	13·5	16·3	16·5	18·0	19·3	19·0	17·8	16·4	15·7	15·2	14·8	14·7	13·9	12·3	12·3	14·2	140·4
12 d	13·9	14·0	12·7	12·8	12·5	12·2	12·5	6·6	16·4	16·4	16·7	19·4	19·0	21·2	20·5	18·8	17·3	14·2	5·2	12·4	5·0	13·9	4·7	8·6	13·6	126·9
13	10·9	10·6	8·6	9·4	11·6	12·4	13·5	15·5	12·9	12·9	15·4	18·1	20·1	21·8	19·8	17·7	17·0	9·4	7·6	8·2	11·7	13·1	14·0	13·7	13·6	125·9
14	13·0	16·9	12·4	12·4	12·4	12·0	12·1	13·4	12·7	13·8	16·8	17·9	19·9	20·0	18·9	17·6	16·9	15·6	14·4	13·0	13·6	15·0	12·8	12·8	14·8	156·3
15	14·8	14·8	11·6	11·8	14·3	10·5	12·3	11·9	11·5	13·0	14·4	15·7	18·0	18·5	19·0	18·5	17·0	15·9	15·7	12·2	13·0	15·4	13·5	13·1	14·4	146·4
16	13·0	11·6	11·2	11·7	13·3	12·7	12·1	11·7	11·7	12·8	14·3	18·2	19·4	21·4	21·2	19·0	17·2	15·8	16·0	13·3	8·2	7·7	10·6	13·6	14·1	137·7
17 q	15·2	13·6	13·6	13·0	12·9	12·9	12·7	11·6	11·4	13·2	14·4	16·3	19·4	20·5	19·8	18·8	17·4	16·3	15·1	13·9	14·3	14·4	14·0	12·3	14·9	157·0
18 q	12·6	12·7	13·5	13·9	13·3	12·9	11·7	11·3	10·7	11·5	13·6	16·1	18·9	20·6	20·1	20·1	17·7	16·6	15·4	15·3	15·2	13·4	13·0	11·3	14·6	151·4
19 d	12·1	13·4	12·6	12·0	12·4	15·8	13·0	13·5	12·6	10·2	13·3	18·7	22·0	22·5	23·0	22·5	17·8	15·8	13·0	6·4	10·1	12·6	11·9	18·8	14·8	156·0
20	17·8	10·0	11·2	11·6	13·0	12·6	12·0	11·3	10·9	13·0	15·4	19·0	20·7	22·5	20·7	17·6	16·2	15·2	15·1	15·4	14·5	14·5	14·4	13·9	14·9	158·5
21	13·4	12·9	12·8	12·5	10·9	10·2	12·6	12·6	12·7	13·1	13·9	15·7	19·2	20·8	21·1	17·1	14·8	18·6	17·4	16·5	14·8	13·0	14·2	14·5	14·8	155·3
22	15·5	11·9	8·0	11·3	12·7	11·5	11·6	11·2	11·6	14·5	14·8	15·5	18·4	19·8	14·3	17·5	17·0	12·6	13·5	12·6	12·7	12·3	13·2	13·5	13·6	127·5
23	12·9	15·6	13·5	14·6	12·7	13·1	13·5	13·6	12·6	13·4	14·4	15·4	17·6	17·6	17·6	17·1	15·9	14·0	13·6	14·3	14·1	14·6	14·1	14·2	14·6	150·0
24 q	14·3	13·6	12·2	12·0	11·7	13·0	13·0	13·1	12·9	13·5	14·3	15·5	17·2	17·4	17·4	17·3	17·0	17·0	15·4	15·1	12·8	13·3	14·2	14·0	14·5	147·2
25 q	13·8	13·9	13·4	13·1	13·0	12·9	12·4	11·7	11·2	12·0	14·0	16·4	17·9	18·4	18·3	16·6	15·2	18·4	17·5	16·9	16·0	15·1	14·5	13·8	14·9	156·4
26	7·2	10·7	−1·4	−4·3	8·8	11·2	12·1	12·3	12·4	13·3	14·6	16·3	17·6	18·9	19·0	18·1	2·0	15·6	17·5	13·3	6·3	11·2	13·0	13·0	11·6	78·7
27	14·0	16·3	16·3	13·3	13·6	14·0	14·6	14·0	13·4	14·1	14·3	16·3	17·1	18·9	17·6	16·8	14·8	14·8	14·4	14·0	14·3	13·3	11·8	13·5	14·8	155·5
28 q	13·2	13·3	15·4	14·3	12·6	12·6	12·5	11·4	11·1	11·8	14·1	16·2	17·9	20·0	18·1	17·2	15·3	15·1	16·1	16·1	15·5	15·2	11·3	9·4	14·4	145·7
29	9·1	8·9	8·9	11·7	13·8	17·1	18·2	18·3	15·9	18·6	18·8	20·7	20·7	18·8	18·0	17·0	17·2	17·2	15·3	12·7	8·0	14·1	−2·4	2·6	14·1	139·2
30	5·3	6·8	9·3	4·9	8·6	12·3	13·0	16·0	15·8	16·6	17·2	18·3	17·8	17·4	17·5	17·3	17·0	15·4	15·3	14·8	14·8	14·7	13·4	13·1	13·9	132·6
Mean	12·7	12·6	11·9	11·9	12·7	12·7	12·7	12·5	12·6	13·8	15·4	17·5	19·5	20·3	19·4	18·0	16·2	15·3	14·2	12·8	12·3	12·8	12·0	12·5	14·3	
Sum 300·0+	80·4	79·0	56·8	55·4	80·6	81·2	82·0	75·8	79·1	113·7	161·2	226·2	283·8	308·3	282·4	240·9	186·7	159·5	127·0	85·0	67·4	83·9	59·8	75·2	14·7	Grand Total 10331·3

GEOMAGNETIC FORCE: VERTICAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEMUIR (Z) — 45,000γ (0·45 C.G.S. unit) + — SEPTEMBER 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 9000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	394	389	384	393	394	394	393	388	390	384	380	379	381	392	409	427	436	459	448	425	406	400	402	394	402	641
2 d	396	399	401	376	352	362	373	377	382	391	391	388	389	423	430	446	437	433	436	424	407	392	385	385	399	575
3 d	394	387	365	354	365	376	388	394	397	392	391	394	385	393	415	424	421	424	447	435	408	398	363	300	392	410
4 d	344	375	382	360	336	353	369	382	385	387	394	399	397	394	402	412	428	424	416	412	394	389	391	394	*388*	319
5	395	397	398	388	382	385	389	394	392	395	391	392	395	399	402	428	448	457	446	432	413	407	402	394	405	721
6	369	375	379	375	368	371	372	369	379	386	389	397	401	407	411	418	428	437	438	427	406	398	394	397	395	491
7	387	394	395	373	378	387	395	396	397	394	395	394	393	400	403	408	409	409	408	409	410	407	404	403	398	548
8	398	397	379	359	372	388	397	398	395	393	394	396	399	400	410	413	412	412	412	407	406	406	405	405	398	553
9	395	389	390	392	394	394	398	399	395	389	386	392	396	399	407	412	417	422	420	419	408	408	388	390	400	599
10	392	390	384	377	368	379	387	394	397	395	395	391	391	392	397	401	402	402	405	404	404	405	404	405	394	461
11	404	400	395	399	399	400	400	400	398	397	395	390	389	392	394	398	399	400	401	400	398	402	398	399	398	547
12 d	395	398	398	397	394	394	398	405	381	379	383	383	394	404	412	414	440	464	464	424	413	414	395	368	405	711
13	362	382	398	402	404	405	401	397	400	401	401	400	400	404	412	428	434	447	437	422	400	407	410	407	407	761
14	400	395	387	391	394	392	395	396	398	395	391	389	391	395	403	405	409	409	411	411	409	405	397	399	399	567
15	399	392	394	393	378	382	388	392	394	397	394	393	394	395	399	401	405	407	412	418	420	408	401	398	398	554
16	392	397	401	402	400	401	404	402	400	399	395	393	394	395	400	408	410	412	408	405	394	384	392	398	399	586
17 q	396	397	400	401	403	404	403	401	400	397	393	391	395	400	402	402	407	406	407	408	406	405	402	395	401	621
18 q	391	395	398	401	402	403	404	402	398	395	392	389	388	389	391	397	404	408	405	404	402	402	404	404	399	568
19 d	403	401	401	403	400	384	369	376	389	407	401	396	394	400	412	425	435	446	453	432	412	408	375	346	403	668
20	323	327	371	389	400	406	410	412	412	406	405	403	402	404	405	408	411	414	411	410	410	410	408	408	399	565
21	404	403	400	401	401	401	402	403	404	405	401	395	392	394	400	421	438	424	418	415	416	411	409	408	*407*	766
22	394	391	381	383	388	394	399	400	401	398	397	398	393	395	412	412	421	428	421	419	395	394	397	397	400	608
23	398	392	386	381	383	389	395	399	404	404	401	395	391	394	398	402	405	409	408	407	406	403	402	399	398	551
24 q	398	398	395	393	397	398	399	402	404	405	403	398	395	394	395	399	402	404	406	408	414	416	412	409	402	644
25 q	407	407	406	405	404	402	401	403	404	400	397	392	392	393	400	411	411	407	405	402	402	404	402	395	402	652
26	394	368	323	315	349	370	383	390	400	402	401	401	400	398	404	415	451	434	417	419	424	408	405	404	395	475
27	402	393	394	399	400	400	400	401	403	405	404	401	402	406	406	411	417	414	412	411	410	407	403	401	404	702
28 q	401	402	400	395	398	401	404	405	402	400	395	391	392	400	406	407	414	418	410	407	407	407	402	394	402	658
29	389	393	395	395	394	389	387	388	391	395	398	400	403	412	419	421	425	426	446	444	434	392	387	388	405	711
30	391	392	371	369	362	347	353	364	377	394	398	406	412	417	418	420	415	412	410	408	408	408	408	407	394	467
Mean	390	391	388	385	*385*	388	392	394	396	396	395	394	395	399	406	413	420	*422*	421	416	408	403	398	393	400	
Sum 11,000+	707	715	651	561	559	651	756	829	869	887	851	826	840	980	1174	1394	1591	1668	1638	1468	1242	1105	947	791		Grand Total 287,700

DAILY EXTREMES OF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH CHAMBER

24 ESKDALEMUIR — All Times G.M.T. — SEPTEMBER 1962

Day	Horizontal component: Maximum 16,000γ + (h. m.)	Maximum (γ)	Minimum 16,000γ + (γ)	Minimum (h. m.)	Range (γ)	Declination: Maximum 10° + (h. m.)	Maximum (′)	Minimum 10° + (′)	Minimum (h. m.)	Range (′)	Vertical component: Maximum 45,000γ + (h. m.)	Maximum (γ)	Minimum 45,000γ + (γ)	Minimum (h. m.)	Range (γ)	3-hr. range indices K	Sum of K indices	Magnetic character of day, C (0-2)	Temperature in magneto-graph chamber 200 + (°A.)
1	17 57	915	749	08 45	166	12 35	25·7	3·0	17 52	22·7	17 41	469	377	11 21	92	3,2,4,3,4,5,4,4	29	2	84·9
2 d	20 37	874	754	13 18	120	12 36	25·1	0·8	20 31	24·3	15 21	452	347	04 22	105	2,3,3,3,5,3,4,3	26	2	84·9
3 d	19 31	916	725	22 47	191	13 20	26·3	−4·4	23 34	30·7	19 01	468	*274*	23 29	*194*	3,4,3,4,4,4,5,5	32	2	84·9
4 d	16 31	950	739	10 18	211	13 11	22·1	1·8	00 09	20·3	16 43	434	317	00 01	117	3,4,3,3,3,5,3,3	27	2	85·0
5	23 59	890	778	09 40	112	14 25	24·9	10·0	07 10	14·9	17 13	462	377	23 59	85	1,3,3,2,3,4,3,4	23	1	85·1
6	00 06	892	773	11 10	119	12 52	21·9	3·8	18 47	18·1	18 45	443	362	07 13	81	4,3,4,3,2,3,3,3	25	1	85·0
7	00 01	863	789	08 20	74	12 57	22·3	8·3	06 41	14·0	20 00	411	368	03 40	43	3,3,3,2,3,2,2,1	19	1	85·1
8	02 32	859	794	08 18	65	13 52	19·5	5·5	03 59	14·0	15 54	414	356	03 40	58	3,3,3,2,2,3,2,1	19	1	85·1
9	00 10	862	809	12 16	53	13 57	22·1	5·6	22 37	16·5	17 30	424	383	10 15	41	2,2,1,2,2,3,3,3	18	1	85·0
10	20 09	852	801	09 59	51	12 03	19·9	5·9	02 42	14·0	23 50	406	365	04 42	41	3,3,2,3,2,2,1,0	16	1	85·0
11	22 08	875	785	09 56	90	13 34	19·6	8·9	07 55	10·7	21 39	406	388	11 50	*18*	2,0,1,3,1,1,2,3	13	1	85·1
12 d	22 47	946	*678*	07 18	*268*	19 38	*29·3*	−10·5	20 03	39·8	17 06	471	365	23 59	106	2,3,6,3,4,4,6,5	31	2	85·1
13	19 48	912	771	17 18	141	13 29	24·0	−1·6	19 42	25·6	17 19	455	359	00 37	96	3,2,2,2,3,4,5,2	23	2	85·1
14	21 43	862	785	07 41	77	13 15	20·5	10·7	04 16	9·8	18 45	412	382	01 54	30	3,2,3,2,1,2,2,2	17	1	85·1
15	17 36	871	793	07 09	78	14 30	19·2	8·7	19 50	10·5	19 54	425	372	04 35	53	3,3,3,2,1,3,3,3	21	1	85·1
16	20 48	903	809	10 23	94	13 16	22·3	5·2	21 12	17·1	17 20	413	383	21 00	30	2,2,1,2,2,2,4,3	18	1	85·1
17 q	22 21	859	808	11 43	51	13 48	21·8	10·1	08 21	11·7	19 30	410	388	11 50	22	1,2,2,2,2,2,2,2	15	1	85·1
18 q	21 46	864	812	11 16	52	14 18	21·0	9·7	23 35	11·3	17 10	409	387	11 50	22	1,0,1,1,2,2,2,3	12	0	85·1
19 d	19 09	*952*	766	11 34	186	12 52	25·9	*−15·8*	19 03	*41·7*	19 01	*504*	333	23 59	171	2,3,4,3,3,5,5,4	29	2	85·1
20	05 54	847	749	00 47	98	13 56	23·2	3·5	01 09	19·7	17 30	415	306	01 09	109	4,2,2,3,2,1,1,0	15	1	85·2
21	21 20	864	805	14 05	59	14 38	23·2	9·2	21 17	14·0	16 28	440	391	13 18	49	2,1,2,2,3,3,3,3	19	1	85·1
22	20 06	893	773	10 53	120	13 31	21·6	6·4	01 09	15·2	17 15	434	375	03 02	59	4,3,2,3,3,3,4,2	24	1	85·1
23	22 53	882	789	11 17	93	13 33	18·5	10·5	05 00	*8·0*	18 10	411	380	03 55	31	3,3,2,3,2,2,2,3	20	1	85·1
24 q	00 18	853	816	10 57	*37*	12 58	18·0	10·0	20 54	*8·0*	21 15	418	392	03 30	26	2,2,1,1,1,1,2,2	12	0	85·0
25 q	23 31	888	807	12 32	81	17 33	19·6	8·6	24 00	11·0	16 10	414	389	23 59	25	0,0,1,2,2,2,2,3	12	1	85·0
26	16 50	868	764	03 22	104	13 30	20 6	−9·3	03 13	29·9	16 30	459	305	03 13	154	5,5,2,2,3,5,4,2	28	2	85·0
27	22 23	856	793	11 34	63	13 07	19·7	10·4	22 10	9·3	16 35	420	389	01 55	31	2,2,1,2,2,2,1,2	14	1	84·9
28 q	22 33	872	800	17 17	72	13 42	21·2	5·1	23 11	16·1	17 25	422	388	23 59	34	1,1,0,1,3,3,2,4	14	1	85·0
29	05 57	848	702	21 57	146	21 34	23·4	−4·6	22 21	28·0	18 56	450	369	21 49	81	2,2,2,2,2,2,3,5	20	1	85·0
30	05 07	860	792	13 09	68	12 38	18·8	2·9	00 00	15·9	15 05	424	345	05 10	79	3,3,2,2,2,2,2,1	17	1	85·0
Mean	– –	882	777	– –	105	– –	22·0	3·9	– –	18·1	– –	433	364	– –	69	–	–	1·20	85·0

q denotes an international quiet day and *d* an international disturbed day.

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

21 ESKDALEMUIR (H) 16,000γ (0·16 C.G.S. unit) + OCTOBER 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 19,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1 d	837	849	835	838	828	846	821	800	796	797	782	783	789	803	812	801	803	831	803	812	808	791	818	820	813	503
2	828	820	820	823	828	825	820	794	812	802	785	796	801	809	814	816	817	822	818	824	829	830	832	837	817	602
3	824	822	824	830	828	832	837	822	794	796	780	786	803	807	808	828	827	826	831	837	835	835	846	843	821	701
4 q	834	827	835	841	844	837	838	826	832	812	802	802	806	814	819	821	826	815	817	819	816	821	831	828	823	763
5	829	830	832	835	838	841	847	843	835	820	807	807	812	819	825	836	829	841	827	808	811	814	834	829	827	849
6	838	822	854	843	847	851	833	814	816	809	801	800	804	803	799	818	831	834	832	836	837	838	844	846	827	850
7	826	830	833	843	831	835	839	833	826	811	808	811	814	819	823	827	827	824	830	838	856	860	858	838	831	940
8 d	818	765	805	836	835	831	827	829	823	806	798	799	811	819	832	829	831	828	810	822	831	855	853	827	822	720
9 d	793	847	832	826	826	832	829	807	788	807	812	822	798	808	809	815	832	836	833	832	839	840	836	838	822	737
10	812	835	826	834	827	832	838	833	826	812	803	799	789	824	834	833	826	832	830	857	824	837	843	839	827	845
11	836	830	837	838	809	835	842	828	814	808	803	817	820	808	837	839	844	826	836	839	835	845	832	833	829	891
12 q	836	831	837	833	840	835	835	831	824	804	812	820	827	828	833	832	831	837	841	843	841	841	839	839	832	970
13	836	836	839	840	840	840	842	837	829	815	792	794	803	825	818	817	834	835	835	836	836	828	828	829	828	864
14	839	849	831	830	830	811	807	802	813	805	771	790	808	824	812	824	838	836	837	835	837	839	824	844	822	736
15 q	829	838	835	840	829	831	828	833	828	816	808	811	818	819	827	825	832	839	843	837	837	839	847	851	831	940
16	837	831	833	833	833	836	838	833	832	823	812	758	796	808	819	829	832	837	833	831	837	839	836	843	827	839
17 q	811	828	835	835	832	835	831	832	822	803	803	802	805	817	828	831	835	839	841	843	837	839	841	837	828	862
18	839	845	866	832	836	835	839	841	835	822	811	813	817	822	831	839	835	821	829	832	837	838	843	840	833	998
19	838	838	838	841	842	846	846	842	806	772	799	810	786	790	826	814	827	837	842	835	846	856	822	835	826	834
20	841	832	831	831	831	832	835	833	828	818	811	808	811	824	816	831	835	839	844	853	850	859	841	839	832	973
21	828	828	835	832	834	840	841	839	831	820	818	812	808	820	829	817	829	816	823	813	826	837	839	835	827	850
22	831	833	831	851	851	853	849	843	838	816	786	791	816	806	802	819	827	831	839	832	823	839	833	835	828	875
23	837	835	851	856	834	834	843	838	837	825	811	784	807	806	811	801	815	818	824	829	825	824	825	837	825	807
24	835	836	839	847	834	845	844	839	837	827	816	811	798	817	821	818	827	823	855	804	827	855	833	827	830	915
25 d	816	825	829	835	840	818	848	839	823	799	807	794	783	788	815	819	809	815	843	846	800	855	818	817	820	681
26 d	826	819	822	823	826	837	844	832	803	799	803	789	803	798	806	799	792	809	854	794	794	800	816	824	813	512
27	823	821	819	825	817	811	818	826	818	807	804	803	783	824	806	811	818	829	818	829	835	829	839	839	819	652
28	826	824	827	818	822	841	839	829	816	798	794	796	810	818	823	826	823	834	829	846	839	832	838	828	824	776
29	833	835	839	828	834	838	842	831	829	814	805	816	811	818	824	831	831	831	837	838	836	841	838	850	830	930
30	835	837	830	835	835	843	841	831	814	805	801	789	804	812	815	811	822	839	837	831	827	834	835	831	825	794
31 q	835	843	843	838	842	832	845	841	834	822	811	804	816	824	819	822	823	837	828	833	834	833	835	831	830	925
Mean	829	830	834	835	833	835	836	829	821	809	802	801	805	814	819	822	826	830	832	831	831	836	835	835	825	
Sum 24,000+	1706	1741	1843	1890	1823	1890	1926	1701	1459	1090	856	817	957	1221	1393	1479	1608	1717	1799	1764	1745	1923	1897	1889		Grand Total 614,134

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

22 ESKDALEMUIR (D) 10° + OCTOBER 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 300·0+
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1 d	8·6	6·0	7·8	9·5	15·1	16·9	18·0	16·9	18·8	16·1	15·5	16·6	17·2	19·1	19·5	15·9	14·4	5·6	9·8	12·0	2·2	3·2	10·3	10·3	12·7	5·3
2	11·5	14·4	17·1	11·2	11·6	15·1	19·3	15·7	13·9	14·3	14·7	16·9	19·0	17·3	17·8	17·6	11·6	7·6	11·1	14·1	14·4	13·9	13·1	12·0	14·4	45·2
3	13·0	12·7	13·5	13·7	15·4	16·9	14·8	15·6	15·7	17·3	17·9	19·7	18·7	19·7	16·6	16·6	15·0	14·8	13·9	13·2	14·2	13·6	11·2	11·1	15·2	64·8
4 q	9·1	9·1	8·7	12·5	14·7	14·8	15·4	16·9	15·8	16·7	17·3	18·1	18·4	18·3	18·4	17·0	15·2	11·7	11·6	13·0	10·9	12·7	12·4	10·8	14·1	39·5
5	13·5	13·6	13·9	14·1	14·3	14·5	14·3	11·9	11·2	10·5	11·6	14·0	16·6	19·4	19·6	18·9	16·2	15·1	14·5	12·3	−0·5	10·4	13·3	11·9	13·5	25·1
6	11·2	12·8	13·7	8·6	14·8	15·1	14·2	9·8	8·2	9·8	12·5	15·2	18·9	20·2	20·1	18·2	15·3	14·6	14·5	14·3	13·9	13·4	9·8	10·0	13·7	29·1
7	12·6	12·7	14·3	14·8	12·6	12·8	13·0	12·3	12·0	11·7	13·0	15·7	18·7	18·6	18·2	17·0	15·5	13·7	13·5	14·9	15·3	14·9	0·9	6·8	13·6	25·5
8 d	6·6	15·4	−4·8	10·4	10·4	10·4	10·0	10·0	8·7	12·5	14·5	18·7	21·6	21·7	23·7	21·7	20·7	16·5	8·2	12·8	10·6	12·3	11·1	5·0	12·9	8·7
9 d	12·2	8·5	8·8	8·9	9·9	12·3	10·7	11·5	13·7	14·2	14·4	18·7	18·1	18·7	18·0	16·7	12·6	13·7	14·3	12·0	10·9	8·1	12·8	9·8	12·9	9·5
10	14·8	14·4	12·6	12·6	12·7	13·7	12·9	12·5	12·0	11·5	15·7	18·9	19·1	18·1	19·1	18·1	11·6	10·3	8·5	6·2	12·6	14·4	9·7	10·9	13·5	22·9
11	7·6	12·5	12·7	12·2	15·2	21·5	14·0	13·5	13·0	12·8	15·4	17·2	21·4	20·7	18·7	17·1	16·4	13·0	12·3	12·5	3·6	8·0	9·6	10·7	13·8	31·6
12 q	14·1	12·4	13·6	12·2	11·6	12·6	12·9	12·8	12·6	12·6	14·6	12·2	18·4	19·5	18·9	17·2	15·9	15·1	14·9	14·4	14·4	13·7	13·4	13·7	14·3	43·7
13	14·2	13·7	13·6	13·6	13·4	12·7	12·6	11·6	10·7	12·4	15·7	20·4	20·1	20·6	22·7	19·4	18·1	16·6	14·8	13·5	12·0	10·9	8·1	10·4	14·7	51·8
14	11·3	3·1	8·9	11·1	11·6	14·3	18·0	15·8	12·0	13·5	14·5	15·9	17·8	21·2	17·6	16·8	17·3	15·4	4·5	4·6	9·7	11·4	8·6	12·5	12·8	7·4
15 q	11·8	13·8	14·0	11·8	11·9	13·0	12·9	12·2	11·8	11·9	14·3	16·1	19·3	20·3	20·1	17·9	15·3	14·0	14·8	14·3	14·0	13·5	13·6	9·7	14·3	42·3
16	8·8	12·5	12·7	12·8	14·3	14·0	13·0	12·0	11·6	11·9	17·0	16·3	23·0	23·0	20·0	19·7	16·3	15·5	15·6	8·7	12·3	11·2	9·4	6·2	14·1	37·8
17 q	13·0	14·7	14·3	13·2	12·7	13·6	13·2	12·2	11·7	11·3	13·6	17·0	18·5	18·8	17·5	15·8	14·5	14·3	14·4	14·2	13·7	14·0	14·0	14·2	14·3	44·4
18	14·2	16·3	11·2	5·8	9·7	10·9	11·6	11·2	10·5	11·6	13·4	16·3	19·1	19·7	18·4	16·9	15·4	12·2	8·6	12·9	13·7	13·4	12·7	12·7	13·3	18·4
19	13·5	13·6	13·6	13·8	13·5	13·6	12·6	11·7	11·2	14·8	17·2	19·9	22·0	17·2	21·6	20·9	14·3	16·1	15·4	14·4	7·0	5·7	9·7	9·4	14·3	42·7
20	10·7	13·5	13·5	13·3	13·1	13·5	13·1	12·2	11·7	12·4	14·3	16·9	18·6	20·0	17·3	14·7	16·6	16·0	13·1	10·9	11·5	10·0	12·9	8·9	13·7	28·7
21	8·7	13·2	14·4	14·2	13·9	14·1	14·4	12·7	11·7	11·7	14·0	15·9	17·6	17·9	18·0	16·4	15·5	9·5	11·6	11·3	11·9	13·3	10·9	12·5	13·6	25·3
22	12·2	14·2	14·6	14·4	16·0	17·2	16·0	14·9	12·8	13·5	15·5	18·5	22·5	23·8	27·1	21·6	16·8	14·0	14·4	13·1	10·5	8·2	7·0	11·3	15·4	70·1
23	12·4	12·3	19·4	10·7	13·3	12·8	13·2	13·0	12·0	12·6	15·2	15·0	17·7	19·6	17·7	17·5	13·3	9·7	13·1	14·4	11·2	5·9	12·0	13·8	13·7	27·8
24	13·8	12·4	14·0	15·8	13·7	13·9	13·0	12·5	12·4	13·3	15·6	19·2	21·6	19·0	18·9	12·6	15·2	6·4	0·7	−9·3	2·8	9·5	8·5	7·9	12·5	0·6
25 d	9·4	15·8	15·1	13·2	12·7	18·4	18·7	17·5	15·2	15·7	15·7	17·9	17·5	18·8	19·3	11·9	6·4	13·0	0·4	8·7	4·6	7·1	4·9	10·6	12·9	8·5
26 d	14·8	15·4	13·8	12·7	13·5	12·6	12·8	13·6	16·3	15·6	16·3	18·7	18·1	19·7	15·4	17·4	12·0	10·7	4·0	3·9	3·0	2·2	10·9	11·5	12·7	4·9
27	14·4	14·5	18·1	14·5	15·0	15·2	20·9	18·2	14·1	12·8	15·1	19·3	17·8	18·1	16·8	13·4	16·1	12·9	10·4	13·0	9·8	12·0	12·8	14·0	15·0	59·2
28	11·0	16·0	14·5	17·0	16·2	13·6	13·9	13·4	14·0	13·9	13·6	15·2	16·9	18·5	15·8	16·6	13·4	12·0	11·3	6·7	9·8	10·2	9·7	11·9	13·5	25·1
29	12·5	14·3	14·4	15·7	12·8	13·1	14·0	15·3	12·5	12·3	13·0	16·8	17·6	17·3	17·1	16·3	14·3	8·4	12·8	13·8	11·3	10·5	12·5	13·0	13·8	31·6
30	11·9	12·2	13·0	13·4	14·4	12·8	12·5	13·0	12·4	13·6	14·3	16·5	16·9	17·6	18·5	17·4	14·3	13·0	9·3	11·4	10·9	13·1	11·6	11·4	13·6	25·4
31 q	13·6	13·8	12·7	12·6	13·4	14·8	15·7	15·4	13·6	13·8	15·5	18·4	18·9	20·5	19·6	19·2	15·8	14·3	9·1	10·7	13·0	10·0	10·2	10·8	14·4	45·4
Mean	11·8	12·9	12·8	12·6	13·3	14·2	14·3	13·5	12·7	13·2	14·9	17·2	18·9	19·5	19·0	17·2	14·9	12·8	11·1	11·7	10·2	10·7	10·6	10·8	13·8	
Sum 300·0+	67·0	99·8	97·7	90·3	113·4	140·7	141·6	117·8	93·8	108·6	160·9	232·1	287·6	302·9	288·0	234·4	161·3	95·7	44·0	61·5	15·2	30·7	27·6	35·7	14·3	Grand Total 10248·3

GEOMAGNETIC FORCE: VERTICAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEMUIR (Z) — 45,000γ (0·45 C.G.S. unit) + — OCTOBER 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 9000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1 d	397	391	389	389	387	381	387	391	392	393	408	417	431	420	425	431	443	451	441	425	392	372	349	366	403	668
2	391	387	364	362	382	387	387	399	404	404	406	408	415	426	435	430	441	445	429	418	410	407	407	405	406	749
3	402	404	405	405	402	397	399	403	410	412	412	411	410	416	428	420	423	420	417	412	410	408	405	397	409	828
4 q	392	389	383	381	366	377	387	393	397	401	402	400	398	400	405	411	414	424	426	422	423	418	404	401	401	614
5	404	406	406	405	405	405	405	408	406	405	404	399	397	397	402	405	414	412	420	435	426	406	407	406	408	785
6	402	394	361	352	347	353	339	392	400	399	399	397	396	402	418	417	415	412	410	410	408	407	404	392	393	426
7	397	400	400	392	392	393	398	402	405	406	404	400	397	398	404	408	411	416	416	411	405	402	392	384	401	633
8 d	381	320	322	376	392	398	400	395	400	392	386	382	385	388	393	402	410	420	443	432	427	397	386	382	*392*	409
9 d	340	328	352	380	384	385	388	394	393	395	393	393	405	424	423	424	428	417	412	415	412	410	405	395	396	495
10	372	378	387	396	398	401	402	404	401	403	397	398	410	408	408	416	428	424	422	411	407	405	405	402	403	683
11	398	391	385	376	375	367	373	387	397	401	401	400	405	412	412	413	416	416	415	411	415	402	399	398	399	565
12 q	393	388	388	400	401	400	400	400	399	402	400	396	398	402	408	411	411	408	407	405	405	407	408	408	402	645
13	407	407	406	405	404	404	402	405	406	404	404	402	410	415	421	420	417	412	413	415	417	420	417	411	410	844
14	398	376	383	392	392	390	381	385	395	400	403	404	403	407	423	421	418	419	435	419	404	372	385	388	400	593
15 q	395	399	401	400	400	398	401	402	404	405	403	399	397	398	407	415	418	415	410	409	408	407	403	396	404	690
16	393	398	402	403	404	404	404	404	400	397	393	406	410	412	422	415	414	411	415	422	412	408	405	397	406	751
17 q	398	393	397	406	406	405	406	408	410	411	407	407	407	408	410	411	410	409	407	406	406	405	405	405	406	743
18	398	386	355	360	372	385	394	401	406	408	404	401	400	404	407	412	414	422	422	415	412	411	407	405	400	601
19	405	405	405	404	405	404	404	407	408	412	407	404	404	420	415	435	434	417	412	414	*416	394	397	399	409	827
20	398	399	404	404	407	407	408	409	407	404	404	402	401	402	411	418	414	411	410	408	404	400	397	392	405	721
21	398	400	390	393	397	398	400	402	407	407	403	402	402	401	408	414	414	424	423	425	422	414	410	404	407	758
22	404	402	399	390	381	378	382	389	399	402	404	402	402	407	411	420	423	422	420	418	425	417	384	395	403	676
23	400	397	366	362	377	389	394	399	400	400	398	401	404	407	419	431	436	433	424	417	420	420	411	404	405	709
24	404	399	396	385	387	388	392	398	400	401	400	398	405	419	422	434	423	426	420	414	411	374	363	372	401	631
25 d	371	369	384	394	392	389	388	391	400	404	404	407	424	427	421	432	443	434	428	409	412	378	390	395	404	686
26 d	390	367	366	382	396	399	400	402	407	407	409	414	431	440	473	469	461	449	426	425	420	402	387	394	*413*	916
27	398	396	388	388	394	393	392	391	401	410	410	412	420	431	446	451	430	420	424	418	415	411	405	388	410	832
28	390	395	393	393	390	396	400	404	412	418	420	421	420	419	425	427	424	420	420	416	406	404	392	400	409	805
29	404	402	392	391	393	400	402	404	406	410	407	403	408	411	415	414	417	422	415	410	412	411	408	402	407	759
30	394	396	402	402	398	394	397	402	410	407	404	409	414	416	421	425	426	421	417	415	415	408	408	408	409	809
31 q	404	399	397	398	399	399	398	400	402	405	406	405	408	413	417	421	421	416	421	417	412	413	408	405	408	784
Mean	394	389	*386*	389	391	392	394	399	403	404	403	403	407	411	418	422	*423*	421	420	416	413	403	399	397	404	
Sum 11,000+	1218	1061	968	1066	1125	1164	1210	1371	1484	1525	1502	1500	1617	1750	1955	2073	2111	2068	2020	1899	1789	1510	1353	1296		Grand Total 300,635

DAILY EXTREMES OF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH CHAMBER

24 ESKDALEMUIR — All Times G.M.T. — OCTOBER 1962

	GEOMAGNETIC ELEMENTS																3-hr. range indices K	Sum of K indices	Magnetic character of day, C (0-2)	Temperature in magneto-graph chamber 200 +
	Horizontal component					Declination					Vertical component									
	Maximum 16,000γ +		Minimum 16,000γ +		Range	Maximum 10° +		Minimum 10° +		Range	Maximum 45,000γ +		Minimum 45,000γ +		Range				
	h. m.	γ	γ	h. m.	γ	h. m.	′	′	h. m.	′	h. m.	γ	γ	h. m.	γ				°A.
1 d	22 36	858	751	16 39	107	08 43	21·7	−2·6	20 05	24·3	17 12	456	328	22 41	128	3,3,3,3,4,4,5,4	29	2	85·2
2	17 00	852	769	10 30	83	06 51	21·3	3·0	16 57	18·3	16 52	449	351	03 10	98	3,3,3,3,3,4,2,2	23	1	85·0
3	22 56	862	771	10 39	91	13 10	20·6	8·3	22 53	12·3	14 28	430	392	24 00	38	1,2,3,2,3,2,2,3	18	1	85·0
4 q	22 20	868	798	11 42	70	12 26	18·8	7·5	00 31	11·3	17 46	428	363	04 14	65	2,2,2,1,0,2,2,3	14	1	85·0
5	06 19	852	788	19 35	64	14 09	20·5	−3·5	20 38	24·0	20 08	443	396	12 00	47	1,1,1,1,2,3,4,3	16	1	84·9
6	02 38	873	787	13 00	86	12 42	21·2	7·0	01 10	14·2	14 51	423	343	04 38	80	4,3,3,1,3,2,0,3	19	1	84·9
7	22 33	886	805	10 49	81	12 28	19·3	−5·8	22 15	25·1	18 10	416	377	24 00	39	2,3,1,1,2,2,3,4	18	1	84·8
8 d	21 14	895	*713*	01 57	182	14 23	24·9	*−12·6*	02 21	*37·5*	18 12	448	*260*	01 51	*188*	5,3,3,3,3,4,4,4	29	2	84·8
9 d	01 54	888	750	08 50	138	11 52	23·0	7·0	21 39	16·0	13 48 / 15 55	430	317	01 32	113	5,3,4,3,3,4,2,3	27	2	84·9
10	19 00	880	755	12 21	125	12 12	23·3	−6·8	18 54	30·1	16 42	431	368	00 39	63	3,2,2,3,4,3,4,2	23	1	84·8
11	22 54	861	784	10 57	77	05 24	23·8	−1·5	20 40	25·3	16 38	420	362	05 50	58	3,4,3,3,3,3,4,3	26	1	84·6
12 q	20 06	848	785	09 50	63	13 09	20·2	10·7	04 22	*9·5*	16 00	414	384	02 01	30	2,2,2,3,2,1,1,1	14	1	84·7
13	06 14	847	782	10 45	65	14 38	25·2	6·4	22 34	18·8	14 44	426	402	06 25 / 11 53	24	1,1,2,3,3,3,2,3	18	1	84·8
14	20 41	901	756	10 35	145	13 42	24·1	−3·7	18 44	27·8	18 39	443	338	21 27	105	4,3,3,3,3,3,5,3	27	2	84·9
15 q	23 18	859	796	09 17	63	13 03	20·9	9·4	09 18	11·5	16 48	420	389	00 00	31	2,2,2,2,2,3,1,2	16	1	84·9
16	23 09	863	733	11 22	130	13 32	25·1	2·3	19 13	22·8	19 21	426	391	10 26	35	2,1,2,4,3,1,4,3	20	1	84·8
17 q	18 13	844	797	09 14	*47*	13 14	19·3	8·0	00 00	11·3	08 55	413	390	01 20	*23*	3,1,2,2,1,1,1,1	12	0	84·8
18	02 00	876	805	10 41	71	01 50	22·0	0·9	03 00	21·1	17 43	427	349	02 46	78	4,3,2,2,2,3,3,2	21	1	84·8
19	21 08	886	742	09 13	144	15 18	26·6	1·3	20 29	25·3	15 48	456	390	21 40	66	0,0,4,4,4,4,4,4	24	2	84·8
20	21 24	876	800	14 20	76	13 35	21·5	6·7	23 52	14·8	15 35	420	390	23 18	30	1,1,2,1,3,2,3,3	16	1	84·8
21	05 11	852	802	12 43	50	12 15	18·9	5·1	17 38	13·8	18 03	431	388	02 33	43	3,2,2,2,2,3,3,2	19	1	84·8
22	21 54	912	779	10 40 / 14 31	133	14 12	*29·9*	1·9	21 43	28·0	20 23	428	377	05 44	51	2,3,2,3,4,3,3,5	25	1	84·7
23	02 11	870	765	11 44	105	02 16	28·6	4·0	21 08	24·6	16 38	443	354	02 55	89	4,3,2,3,3,3,3,3	24	1	84·8
24	21 29	900	774	15 10	126	12 28	25·0	−11·1	18 03	36·1	15 25	437	357	21 55	80	3,3,2,3,4,5,5,5	30	2	84·9
25 d	21 10	919	765	13 08	154	05 50	22·5	−7·3	18 29	29·8	16 34	447	364	01 19	83	3,3,3,3,3,4,5,5	29	2	84·5
26 d	18 16	*962*	763	15 46	*199*	12 49	21·2	−7·9	18 10	29·1	14 44	*477*	355	02 04	122	3,2,3,3,3,4,6,3	27	1	84·5
27	22 50	854	749	12 36	105	06 47	29·6	7·1	15 01	22·5	15 00	463	381	03 03	82	3,3,4,3,4,4,3,3	27	1	84·5
28	19 35	887	782	10 52	105	03 46	20·6	0·0	19 29	20·6	14 54	427	353	00 00	74	3,3,2,2,3,3,4,3	23	1	84·5
29	23 57	884	799	12 03	85	11 55	20·5	5·4	17 20	15·1	17 15	423	388	24 00	35	2,2,2,3,2,3,3,3	20	1	84·5
30	18 31	858	773	11 58	85	13 59	18·8	4·7	18 28	14·1	16 56	428	387	00 02	41	3,2,3,2,2,3,3,2	20	1	84·5
31 q	06 53	854	797	11 55	57	13 19	21·1	6·7	21 50	14·4	18 42	424	396	02 35	28	2,2,2,2,2,2,3,3	18	1	84·6
Mean	- -	875	775	- -	100	- -	22·6	1·6	- -	20·9	- -	434	367	- -	67	-	-	1·19	84·8

q denotes an international quiet day and *d* an international disturbed day.

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

21 ESKDALEMUIR (H) — 16,000γ (0·16 C.G.S. unit) + — NOVEMBER 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 19,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ.	γ	γ	γ	γ	γ	γ	γ	γ	
1	835	842	845	841	839	839	843	845	838	819	812	811	819	827	825	831	831	829	828	832	842	835	824	826	832	958
2	831	834	835	841	838	841	843	844	844	835	820	816	822	820	836	829	843	846	838	831	843	854	811	825	834	1020
3	824	824	824	831	833	837	838	839	831	825	811	794	804	811	815	815	816	836	838	829	829	836	828	850	826	818
4	839	840	833	838	838	840	846	846	829	818	805	800	805	818	820	807	828	820	831	828	814	811	835	839	826	828
5	839	838	838	839	837	836	827	825	832	824	812	808	811	817	824	831	835	839	839	839	841	837	833	839	831	940
6 d	836	841	843	845	843	848	856	847	839	828	825	826	831	834	840	829	842	833	838	840	819	877	824	822	838	1106
7	832	839	831	831	841	827	839	841	837	826	807	803	811	818	824	839	841	841	841	844	841	839	832	860	833	985
8	842	834	836	838	837	839	842	844	838	827	822	817	821	825	828	835	834	843	843	844	840	836	836	838	835	1039
9	838	839	837	835	837	839	841	841	839	834	828	826	828	831	836	842	845	845	846	847	846	843	851	850	839	1144
10 q	841	837	837	837	841	845	846	846	840	832	829	829	831	836	838	841	843	843	845	845	846	846	845	839	840	1158
11	839	842	845	848	850	851	848	843	839	828	820	816	820	827	834	822	834	831	835	837	835	839	835	839	836	1057
12 q	835	834	838	836	835	839	838	835	831	824	819	819	825	833	838	839	842	842	841	844	844	842	842	837	835	1052
13 q	836	838	840	842	843	844	844	844	842	835	829	826	831	837	843	844	850	849	849	847	846	843	842	841	841	1185
14	840	835	838	840	844	847	848	847	842	835	831	830	833	839	846	847	837	845	840	850	873	830	842	842	842	1201
15 d	843	840	839	841	839	831	862	854	854	838	839	824	765	781	820	824	829	831	822	811	824	832	807	818	828	868
16 d	837	805	801	824	826	835	820	824	826	820	807	791	812	824	816	808	808	820	817	816	838	831	836	832	820	674
17	830	830	837	826	829	831	831	831	830	827	823	822	826	824	819	823	837	841	842	842	841	838	837	834	831	951
18 q	834	834	837	838	841	842	841	839	835	831	830	829	831	835	837	838	839	841	841	842	842	846	841	841	838	1105
19	838	839	839	841	843	846	847	846	843	833	828	826	829	833	838	839	843	843	840	836	839	836	835	837	838	1117
20 q	840	841	843	848	851	852	850	843	846	845	839	837	834	839	843	847	852	858	855	854	852	849	846	845	*846*	1309
21	850	844	848	862	859	861	844	854	844	836	835	824	812	818	818	814	803	827	804	814	824	828	849	852	834	1024
22 d	827	829	818	838	829	832	831	814	809	816	801	809	789	783	799	806	832	818	829	820	831	867	818	819	*819*	664
23	831	839	818	818	826	835	834	838	818	813	807	809	820	816	827	831	829	846	842	838	841	834	829	826	828	865
24	832	831	833	835	833	842	841	841	819	831	835	820	811	812	817	828	833	836	815	832	833	851	836	826	830	923
25	833	832	823	833	836	843	838	824	832	823	800	818	807	812	826	831	831	841	837	839	836	841	837	837	830	910
26	843	841	838	839	840	843	845	843	841	840	838	836	835	830	832	834	843	845	842	842	838	839	835	837	839	1139
27	840	842	838	838	847	850	847	837	835	829	822	825	825	825	832	835	832	824	835	835	835	830	838	841	835	1037
28	845	833	833	838	841	841	844	849	841	834	827	817	826	828	827	829	827	821	832	839	837	832	831	832	833	1004
29	833	837	835	837	839	840	847	850	849	843	829	823	834	834	832	835	845	845	828	853	819	833	842	844	838	1106
30 d	840	845	864	840	850	823	828	803	815	803	781	803	798	793	802	823	827	826	835	827	822	833	821	829	822	731
Mean	837	836	835	838	839	841	*842*	839	835	828	820	*818*	818	822	828	830	834	837	836	837	837	840	834	837	833	
Sum 24,000+	1103	1079	1064	1138	1185	1219	1249	1177	1058	852	611	534	546	660	832	896	1031	1105	1068	1097	1111	1188	1018	1097		Grand Total 599,918

MAGNETIC DECLINATION (WEST)

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

22 ESKDALEMUIR (D) — 10° + — NOVEMBER 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 200·0+
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1	13·0	14·8	13·8	12·7	12·2	12·8	12·8	12·5	11·9	11·9	13·8	14·5	17·0	17·6	16·5	15·6	15·7	15·5	11·8	12·4	14·1	12·2	5·0	6·7	13·2	116·8
2	11·0	12·9	14·7	15·3	14·1	13·8	13·5	12·9	11·9	12·3	14·0	17·1	19·4	18·4	19·0	17·3	16·3	15·4	15·7	14·3	8·4	1·1	1·5	0·0	12·9	110·3
3	9·4	12·4	14·1	13·7	14·0	13·7	13·8	13·9	12·6	11·7	14·2	14·6	17·7	18·2	17·6	17·5	14·8	15·5	15·0	13·4	6·6	9·0	6·4	14·9	13·5	124·7
4	12·1	12·0	12·4	12·8	14·6	15·1	13·3	13·4	12·0	12·8	13·5	16·0	16·9	18·0	19·1	16·4	18·6	17·5	14·8	14·9	10·4	0·5	13·0	13·4	13·9	133·5
5	13·8	13·4	13·7	13·2	12·8	12·6	14·0	13·9	12·6	12·8	13·1	15·3	16·2	16·6	16·3	15·5	15·0	14·5	14·3	14·2	13·8	13·5	12·5	12·3	14·0	135·9
6 d	13·4	14·0	14·8	14·0	11·7	14·1	12·7	11·9	11·8	12·0	13·2	15·2	16·8	17·0	17·3	16·8	15·9	15·2	−3·6	5·9	9·9	−0·4	5·8	10·9	11·9	86·3
7	14·5	14·8	19·5	11·3	11·2	13·6	13·1	12·9	12·5	13·6	14·7	18·3	17·9	17·1	17·4	15·8	15·5	14·7	14·6	14·2	13·5	13·3	12·3	12·4	*14·5*	148·7
8	12·8	13·2	13·6	13·2	13·0	12·8	12·6	12·2	12·6	13·0	14·8	16·9	17·3	16·9	17·3	16·2	13·9	15·1	14·9	14·5	12·9	11·4	12·0	13·0	14·0	136·1
9	12·3	13·3	13·5	13·6	13·4	13·2	13·1	12·9	12·4	13·1	14·4	16·2	17·3	17·3	16·5	15·5	14·9	14·6	14·2	14·1	14·0	11·3	10·3	11·5	13·9	132·9
10 q	13·2	13·5	13·8	13·2	13·6	13·4	13·0	12·7	12·0	12·1	13·5	15·1	16·1	16·4	15·5	14·7	14·7	13·9	13·8	13·7	13·2	12·9	11·0	12·2	13·6	127·2
11	12·9	14·0	14·0	14·0	14·0	14·1	13·0	13·7	13·3	13·0	13·3	15·6	17·0	18·3	17·8	16·5	16·5	16·0	14·8	13·3	10·6	9·9	9·9	11·4	14·0	136·9
12 q	12·1	14·7	13·1	13·2	13·5	13·4	12·9	12·2	11·4	11·7	12·9	14·7	16·4	16·5	15·5	14·8	14·6	14·3	14·0	13·5	13·3	13·3	11·3	10·7	13·5	124·0
13 q	10·6	12·9	13·9	13·8	14·1	14·0	13·7	13·3	12·9	12·8	13·8	15·6	16·8	17·1	16·6	15·6	15·5	14·7	14·2	13·8	13·8	12·8	12·4	12·1	14·0	136·8
14	11·9	12·2	13·2	14·0	14·2	14·1	13·7	13·4	12·9	12·6	13·8	14·8	15·9	16·6	16·9	17·1	16·8	15·7	17·1	11·2	4·4	10·2	13·1	13·0	13·7	128·8
15 d	13·0	13·2	13·5	13·7	13·6	13·8	12·7	13·7	14·5	12·1	13·3	16·5	18·7	25·3	22·0	20·0	18·5	16·4	14·8	12·0	12·5	−0·4	−0·7	6·6	13·7	129·3
16 d	−0·4	6·0	9·2	15·1	12·7	12·5	13·6	14·8	14·8	12·3	13·2	13·8	14·6	15·7	17·4	9·6	10·8	5·0	10·0	9·3	9·3	11·4	12·2	10·8	*11·4*	73·7
17	13·3	11·9	11·4	14·8	14·7	13·3	13·2	13·6	13·7	13·2	14·2	15·1	17·3	17·1	14·6	15·1	12·7	14·6	14·2	13·8	13·4	13·0	12·8	13·0	13·9	134·0
18 q	12·8	13·0	13·2	13·4	13·3	13·2	13·1	13·0	12·8	12·9	13·7	14·6	15·1	15·6	14·9	14·6	14·1	14·0	13·5	12·9	12·5	12·3	13·3	13·1	13·5	124·9
19	13·3	13·6	13·4	13·6	13·5	13·7	13·5	13·2	12·5	12·3	13·5	15·0	16·0	16·5	16·4	15·1	14·4	14·5	14·2	13·0	6·2	7·5	14·0	13·0	13·4	121·9
20 q	14·2	14·2	14·0	14·1	14·0	13·3	12·8	13·0	12·4	12·9	14·5	15·9	16·5	16·8	16·0	15·0	14·8	14·9	14·5	14·2	14·1	14·0	13·3	12·3	14·2	141·7
21	13·2	12·9	14·6	14·8	12·8	13·8	17·3	22·9	18·6	17·3	17·6	18·4	19·3	18·1	19·5	17·4	10·2	8·1	6·9	8·8	9·3	11·2	11·9	13·7	14·5	148·6
22 d	8·5	8·1	8·9	10·0	15·2	17·9	22·3	19·4	17·4	19·6	16·4	17·7	16·3	17·7	17·8	10·8	8·7	11·3	6·0	10·5	6·0	7·4	7·4	14·0	13·1	115·3
23	16·3	15·6	12·9	16·3	15·8	15·6	12·4	13·3	12·3	14·0	13·9	13·8	15·9	16·4	14·0	15·2	15·4	12·8	14·5	14·4	8·5	10·9	8·4	11·0	13·7	129·6
24	14·1	14·7	13·9	13·6	14·5	14·2	13·2	14·8	14·8	18·2	16·2	17·8	16·4	17·4	16·8	14·2	14·7	13·3	10·6	12·1	11·0	11·5	10·0	9·8	14·1	137·8
25	12·7	11·2	13·8	14·6	15·5	14·5	14·0	16·2	14·7	14·3	13·1	16·7	15·6	14·4	14·3	13·8	11·0	10·2	13·0	12·8	10·6	9·6	11·7	13·2	13·4	121·5
26	14·6	13·7	13·6	14·0	13·8	13·7	13·8	13·3	13·1	13·1	13·6	15·4	15·4	15·2	14·6	14·0	13·8	13·9	13·3	12·9	12·6	12·3	12·0	13·0	13·7	128·7
27	14·6	12·8	12·4	13·5	13·5	13·1	13·6	13·1	13·4	13·8	14·9	15·8	16·0	14·9	14·6	14·3	11·0	13·1	13·7	13·0	6·9	10·9	12·1	12·1	13·2	117·1
28	10·9	11·7	13·4	14·6	13·9	14·0	13·8	13·7	12·9	12·8	13·9	14·6	16·4	17·3	16·6	15·6	14·5	12·8	13·6	12·8	12·5	11·3	10·8	11·9	13·6	126·3
29	12·7	13·6	13·7	13·8	13·9	13·7	14·0	13·6	13·3	13·2	15·7	17·6	19·9	18·3	16·9	15·7	14·1	14·6	15·8	10·3	13·0	13·0	12·2	13·0	14·4	145·6
30 d	12·4	14·0	10·5	10·0	11·3	15·9	20·4	18·3	19·1	14·9	18·0	19·2	18·6	19·5	16·7	14·9	13·8	13·3	13·3	12·4	10·0	6·1	8·8	9·7	14·2	141·1
Mean	12·3	12·9	13·3	13·6	13·6	13·9	14·0	14·1	13·4	13·4	14·3	15·9	16·9	*17·3*	16·7	15·3	14·4	13·9	12·9	12·6	10·9	*9·8*	10·2	11·5	13·6	
Sum 200·0+	169·2	188·3	200·5	207·9	208·4	216·9	218·9	221·7	203·1	202·3	228·7	277·8	306·7	318·2	302·4	260·6	231·2	215·4	187·5	178·6	127·3	93·0	106·7	144·7	13.8	Grand Total 9816·0

GEOMAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEMUIR (Z) 45,000γ (0·45 C.G.S. unit) + NOVEMBER 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 9000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	406	402	399	399	401	403	404	406	410	409	405	406	408	412	416	420	420	418	420	420	412	413	417	408	410	834
2	403	403	402	400	404	407	408	410	408	407	406	405	407	411	413	417	414	412	415	421	419	400	391	388	407	771
3	382	394	403	407	409	409	409	410	412	408	405	408	411	415	421	428	429	421	418	421	425	414	408	391	411	858
4	381	389	398	402	403	401	402	406	411	412	412	410	413	418	428	449	439	432	427	427	432	431	415	411	*415*	949
5	410	409	410	410	409	408	408	406	406	404	404	404	406	408	411	412	412	411	411	411	411	412	416	414	409	823
6 d	410	407	400	400	403	400	401	403	407	407	408	406	407	407	411	412	413	418	435	413	415	400	388	396	407	767
7	398	391	378	394	397	400	403	405	406	405	406	406	410	414	418	414	413	412	411	410	409	411	414	401	405	726
8	395	400	403	405	405	405	406	407	407	406	404	404	406	409	413	415	416	412	410	411	413	414	414	413	408	793
9	409	407	405	406	407	407	406	407	408	407	405	404	407	408	410	410	409	408	407	407	407	410	408	400	407	769
10 q	396	400	400	403	405	404	404	406	409	407	405	404	404	405	409	408	407	407	407	407	407	408	410	411	406	733
11	409	408	407	406	404	403	403	403	406	409	411	412	413	415	417	427	424	421	419	418	418	414	414	411	412	892
12 q	409	406	404	406	407	407	406	408	410	410	409	408	408	410	411	410	409	408	408	408	407	408	409	409	408	795
13 q	408	407	406	406	406	405	405	405	406	407	404	404	406	409	410	410	409	407	407	407	407	408	409	410	407	768
14	408	408	406	406	406	406	404	404	406	407	405	404	404	406	409	411	415	412	413	418	408	407	404	405	408	782
15 d	406	407	407	406	405	404	393	397	400	405	400	400	418	434	430	429	425	423	427	441	435	423	418	411	414	944
16 d	388	400	400	401	409	405	404	408	407	409	408	411	410	412	424	437	433	436	428	424	411	407	407	406	412	885
17	391	401	404	403	404	407	408	407	407	408	406	406	407	411	420	421	419	414	413	411	411	411	411	410	409	811
18 q	410	410	408	408	408	408	409	408	410	409	407	406	407	409	411	411	410	409	409	409	408	407	407	408	409	806
19	407	408	407	407	407	406	405	405	407	407	406	404	402	405	408	410	411	410	411	413	416	410	405	403	407	780
20 q	405	406	406	405	405	404	403	403	403	403	403	403	402	404	406	406	406	403	404	404	404	404	405	405	404	702
21	402	402	400	394	394	395	397	392	395	399	401	404	412	420	425	429	441	440	433	433	425	423	414	391	411	861
22 d	392	395	393	391	392	391	390	395	404	406	411	420	429	440	449	454	449	432	427	423	419	397	395	400	412	894
23	388	382	393	393	397	397	406	408	414	414	415	420	420	424	428	424	424	420	417	417	420	417	421	420	412	879
24	411	407	408	408	408	407	407	405	407	401	403	409	418	423	427	426	422	417	424	420	418	410	407	407	413	900
25	401	397	396	391	398	400	403	406	405	404	410	412	416	424	422	421	424	421	416	414	417	415	413	411	410	837
26	405	398	401	404	405	406	406	406	405	405	403	403	407	411	413	415	413	411	411	411	411	411	407	406	407	774
27	405	400	401	401	398	397	401	404	406	405	402	401	406	410	412	415	418	418	412	411	414	410	408	406	407	761
28	399	400	400	400	402	402	402	401	403	401	400	401	403	407	409	413	415	417	413	409	409	410	409	407	405	732
29	404	401	403	404	404	404	402	400	400	396	393	395	400	404	407	412	412	413	418	414	411	412	410	408	405	727
30 d	407	404	372	375	372	375	376	391	399	408	414	417	424	430	438	404	399	394	388	386	389	384	377	374	*396*	497
Mean	401	402	*401*	401	403	402	403	404	406	406	406	407	410	414	417	*419*	418	416	415	415	414	410	408	405	408	
Sum 12,000+	45	49	20	41	74	73	81	122	184	185	171	197	291	415	526	570	550	477	459	439	408	301	231	141		Grand Total 294,050

DAILY EXTREMES OF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH CHAMBER

24 ESKDALEMUIR All Times G.M.T. NOVEMBER 1962

Day	Horizontal component: Maximum 16,000γ + h. m.	γ	Minimum 16,000γ + γ	h. m.	Range γ	Declination: Maximum 10° + h. m.	′	Minimum 10° + ′	h. m.	Range ′	Vertical component: Maximum 45,000γ + h. m.	γ	Minimum 45,000γ + γ	h. m.	Range γ	3-hr. range indices K	Sum of K indices	Magnetic character of day, C (0-2)	Temperature in magneto-graph chamber 200 + °A.
1	07 36	850	805	22 21	45	13 30	18·3	2·8	22 33	15·5	18 58	425	398	02 37	27	2,1,1,2,2,1,3,3	15	1	84·5
2	20 59	884	781	22 35	103	13 10	21·0	−3·0	23 15	24·0	20 10	423	384	23 52	39	3,2,1,1,3,3,3,4	20	1	84·5
3	23 32	876	790	11 20	86	23 30	19·4	0·5	20 17	18·9	15 35	431	378	23 59	53	3,1,1,2,2,3,4,4	20	1	84·5
4	07 09	854	777	21 10	77	15 05	21·7	−8·8	21 15	30·5	15 40	459	377	00 02	*82*	2,1,2,2,2,3,3,5	20	1	84·5
5	01 08	846	804	10 54	42	13 50	17·6	10·4	08 59	7·2	22 21	417	403	10 15	14	1,0,2,2,1,0,1,1	8	0	84·6
6 d	21 23	925	790	18 06	135	14 35	19·4	−10·7	21 14	30·1	18 17	445	381	22 03	64	2,3,2,2,3,3,5,5	25	2	84·5
7	23 13	878	792	11 03	86	02 08	23·0	9·9	23 42	13·1	14 51	420	374	02 30	46	3,2,0,3,3,0,1,3	15	1	84·5
8	18 03	850	811	11 50	39	14 19	18·2	7·9	21 00	10·3	16 40	419	393	00 15	26	2,1,2,1,2,3,2,2	15	1	84·5
9	22 42	888	823	23 23	65	12 58	17·8	7·3	21 42	10·5	22 00	415	394	23 59	21	1,1,1,0,0,1,1,4	9	0	84·6
10 q	22 30	856	827	11 05	*29*	13 12	17·1	9·3	22 39	7·8	23 20	412	393	00 01	19	2,1,1,0,1,0,1,2	8	0	84·5
11	04 45	860	803	12 26	57	15 17	19·8	7·3	21 00	12·5	16 42	429	400	07 14	29	1,2,2,2,2,3,2,3	17	1	84·5
12 q	22 29	855	816	10 52	39	13 30	17·3	9·5	22 23	7·8	09 40	411	403	02 24	8	1,1,0,0,0,0,1,2	5	0	84·4
13 q	16 37	852	823	11 36	*29*	13 36	17·4	9·6	00 06	7·8	14 10	411	403	10 50	8	1,0,0,0,0,1,0,1	3	0	84·4
14	20 04	*948*	814	21 05	134	16 06	18·3	−5·8	20 03	24·1	19 59	424	405	20 33	19	1,0,0,0,1,2,5,2	11	1	84·3
15 d	21 06	875	*732*	12 30	143	13 24	*30·7*	−4·7	22 45	*35·4*	19 32	443	391	06 34	52	1,2,3,3,4,2,4,4	23	2	83·8
16 d	00 20	878	771	11 26	107	14 35	20·7	*−11·2*	00 15	31·9	15 29	443	383	00 30	60	5,3,3,3,3,4,4,2	27	2	84·4
17	17 46	846	805	14 11	41	12 42	18·0	9·4	02 41	8·6	15 10	421	389	00 30	32	2,2,1,2,2,2,0,0	11	1	84·0
18 q	21 31	860	788	11 56	72	13 16	15·7	10·4	21 31	*5·3*	14 29	412	406	21 31	*6*	0,0,0,0,0,0,1,2	3	0	84·3
19	20 55	867	822	11 17	45	13 53	16·9	−0·1	20 41	17·0	20 42	418	401	12 11	17	0,0,0,0,0,1,4,3	8	0	84·3
20 q	16 55	859	830	12 35	*29*	13 07	17·1	11·1	22 52	6·0	15 56	407	401	10 45	*6*	0,1,2,1,1,1,1,1	8	0	84·4
21	07 37	878	784	16 33	94	07 21	25·6	−2·1	16 52	27·7	16 51	454	378	23 56	76	2,2,3,2,2,3,3,3	20	1	84·5
22 d	21 18	933	771	13 23	*162*	06 37	25·8	−6·7	21 09	32·5	15 54	*460*	381	00 00	79	3,3,3,3,3,4,4,5	28	2	84·5
23	17 01	854	780	10 47	74	00 46	19·7	6·4	22 54	13·3	14 46	430	378	01 31	52	3,2,2,3,3,3,3,3	22	1	84·5
24	21 31	876	786	18 38	90	09 21	20·3	6·8	18 45	13·5	18 45	429	400	09 30	29	2,2,3,3,2,2,3,3	20	1	84·3
25	21 11	852	776	10 13	76	11 31	18·2	6·8	17 05	11·4	13 18	426	389	03 32	37	2,2,3,3,3,3,1,3	20	1	84·5
26	01 18	851	818	13 21	33	00 46	17·3	11·5	19 54	5·8	15 20	415	396	01 25	19	2,1,2,1,2,2,0,0	10	1	84·3
27	23 58	863	812	17 38	51	11 15	16·8	4·4	20 20	12·4	16 40	419	396	05 10	23	2,1,1,1,1,3,3,3	15	1	84·3
28	00 00	862	810	11 19	52	14 06	18·1	9·4	00 53	8·7	17 30	417	398	00 40	19	3,1,2,2,2,2,2,1	15	1	84·5
29	19 24	925	812	19 08	113	12 32	21·2	9·4	19 18	11·8	19 13	424	391	10 20	33	1,0,2,2,2,2,5,2	16	1	84·5
30 d	02 00	908	763	10 28	145	06 37	22·9	2·3	21 20	20·6	14 18	441	*369*	04 04	72	4,4,3,3,3,2,2,4	25	1	84·5
Mean	− −	874	797	− −	76	− −	19·7	3·6	− −	16·1	− −	427	391	− −	36	−	−	0·87	84·5

q denotes an international quiet day and *d* an international disturbed day.

GEOMAGNETIC FORCE: HORIZONTAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

21 ESKDALEMUIR (H) — 16,000γ (0·16 C.G.S. unit) + — DECEMBER 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 19,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	826	827	828	828	829	832	833	835	830	821	822	822	828	832	834	819	829	834	830	842	829	833	834	834	830	911
2 q	833	834	835	838	839	841	843	844	841	832	829	831	832	834	830	830	839	842	838	837	835	833	836	838	836	1064
3	838	837	836	838	839	841	844	842	839	837	835	840	842	845	841	841	841	841	841	840	850	851	849	848	841	1196
4	845	843	843	857	866	865	867	858	850	834	826	822	819	824	795	798	783	786	819	827	826	832	834	830	831	949
5	838	832	826	829	832	837	836	836	840	839	833	830	832	831	824	826	836	840	840	838	837	834	832	832	834	1010
6 q	834	836	836	837	839	842	840	841	841	841	842	842	841	838	836	838	841	844	843	844	841	841	836	836	840	1150
7 q	838	838	838	841	841	842	845	847	849	847	844	845	844	844	846	844	843	845	848	841	835	838	841	841	843	1225
8	842	842	845	846	850	852	850	847	841	834	830	834	834	830	822	826	825	819	817	815	814	823	822	830	833	990
9	827	829	834	836	837	849	854	846	841	840	839	838	840	843	845	847	849	850	849	849	847	846	836	840	842	1211
10	842	847	845	848	848	848	850	850	848	845	843	844	846	849	850	849	845	838	828	822	831	832	827	811	841	1186
11 d	822	827	826	829	829	850	843	835	841	825	823	822	827	824	801	809	802	794	795	833	811	817	814	812	821	711
12	819	819	822	823	830	836	834	834	831	824	822	821	822	827	833	837	842	837	838	817	808	822	822	814	826	834
13	821	825	837	821	826	837	838	837	837	822	827	830	831	819	826	829	836	839	840	840	842	831	822	817	830	930
14	826	829	827	833	831	837	838	835	838	838	831	821	832	839	834	833	834	829	832	855	860	836	837	833	835	1038
15	822	828	825	831	826	841	840	832	835	833	827	832	835	838	838	842	843	843	838	835	833	836	835	838	834	1026
16	831	831	833	836	838	841	845	846	850	843	839	843	843	841	847	847	844	844	844	840	846	842	841	837	841	1192
17 d	856	842	847	847	850	849	853	855	851	835	836	841	838	839	831	823	815	796	773	793	785	801	797	770	826	823
18 d	798	785	787	836	824	830	826	826	832	832	834	815	808	820	784	806	815	794	800	802	747	764	809	821	*808*	395
19 d	832	823	840	818	819	824	822	817	804	829	817	806	807	821	829	807	828	827	834	856	798	822	853	829	823	762
20 d	829	829	826	824	840	836	837	839	827	811	797	818	819	821	814	832	816	846	821	799	836	836	822	809	824	784
21	837	817	821	833	823	834	830	828	833	828	821	822	814	817	819	830	824	834	816	838	812	822	828	831	825	812
22	830	836	836	835	827	832	834	834	826	826	815	812	826	830	827	828	831	837	840	833	833	833	842	848	831	951
23 q	831	829	832	833	835	841	841	841	838	831	829	826	827	830	833	836	837	838	839	838	838	838	838	837	835	1036
24	840	837	836	837	838	843	845	846	842	838	836	831	833	837	834	829	837	839	837	834	838	842	841	842	838	1112
25 q	846	845	842	841	844	849	850	849	848	841	834	835	837	845	844	845	845	844	844	841	838	841	841	854	843	1243
26	842	847	846	848	855	860	860	857	856	848	838	838	829	810	791	810	803	815	823	819	814	822	830	818	832	979
27	831	833	831	831	833	836	839	838	839	834	833	831	832	834	836	830	838	836	832	825	830	854	837	838	835	1031
28	840	839	841	841	842	847	850	848	845	839	837	837	838	834	842	846	843	846	846	843	844	842	838	835	842	1203
29	835	838	841	844	848	851	853	853	842	833	831	836	842	837	837	836	842	842	841	839	837	839	844	842	841	1183
30	843	843	843	845	847	849	850	850	849	843	839	843	846	848	849	850	849	850	849	848	840	837	838	852	*846*	1300
31	842	843	845	846	849	850	852	854	856	832	808	814	834	841	829	809	826	828	830	838	841	839	839	839	837	1084
Mean	833	833	834	837	838	843	*843*	842	840	834	830	830	831	833	829	830	832	832	831	833	*828*	832	833	831	834	
Sum 25,000+	836	810	850	930	974	1122	1142	1100	1040	855	717	722	778	822	701	732	781	797	765	821	676	779	815	756		Grand Total 620,321

837 at 0-1h. 1 January 1963.

MAGNETIC DECLINATION (WEST)

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

22 ESKDALEMUIR (D) — 10° + — DECEMBER 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 200·0+
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	
1	12·2	11·9	15·2	14·0	13·2	13·2	12·9	12·8	12·7	13·2	14·0	15·4	15·6	15·4	14·5	14·1	13·6	13·9	12·0	8·9	11·3	12·0	12·8	13·0	13·2	117·8
2 q	13·3	13·5	13·8	13·9	14·2	14·0	13·6	13·1	12·9	12·2	13·4	14·9	15·1	14·5	13·4	13·3	13·6	13·4	13·1	12·1	10·5	11·1	11·5	11·8	13·2	116·2
3	12·2	12·6	12·8	13·0	12·9	12·7	12·7	12·4	12·5	12·2	13·2	14·4	14·8	15·9	15·6	15·4	15·0	14·5	10·0	12·0	12·9	12·9	12·7	12·6	13·2	117·9
4	12·8	12·9	13·0	13·5	14·0	13·8	13·5	13·1	13·5	17·9	18·0	20·0	20·7	19·3	18·7	20·8	14·1	12·3	13·9	14·8	13·2	11·9	11·9	9·1	*14·9*	156·7
5	9·9	7·7	9·3	12·3	13·0	12·8	12·3	13·0	12·9	12·7	13·5	13·9	14·4	15·0	14·9	14·1	14·4	13·8	13·7	13·3	12·6	12·1	11·7	11·4	12·7	104·7
6 q	12·3	11·2	12·6	12·8	12·8	12·5	12·7	12·3	12·6	12·6	12·8	13·5	14·6	15·3	14·5	13·8	13·8	13·5	13·0	12·2	12·8	12·5	12·1	12·2	13·0	111·0
7 q	12·2	13·7	13·3	12·8	12·2	12·6	13·0	12·5	12·5	13·0	13·6	15·2	15·1	15·6	14·3	14·2	14·0	13·7	14·5	14·6	12·3	12·7	11·7	12·1	13·4	121·4
8	12·9	13·0	12·5	13·0	12·4	12·7	12·8	12·4	13·5	14·8	16·5	17·2	17·3	16·7	15·9	15·2	15·4	14·3	13·6	13·0	11·4	10·7	9·7	11·7	13·7	128·6
9	12·2	11·5	12·1	12·3	13·4	14·6	12·4	12·7	12·2	13·2	13·4	13·8	14·4	14·9	14·7	13·9	13·4	13·2	12·9	12·7	12·6	12·7	12·2	11·4	13·0	112·8
10	11·9	12·5	12·8	12·9	12·8	12·3	12·4	12·4	12·4	12·8	14·0	15·1	15·9	15·3	14·1	13·8	14·4	14·8	13·2	12·0	12·3	8·8	4·4	10·8	12·7	104·1
11 d	8·9	9·7	10·0	10·8	11·0	10·4	11·7	12·0	12·6	11·7	12·9	15·2	18·1	19·4	18·4	20·5	19·5	15·1	11·9	−3·5	10·6	9·6	4·4	3·2	11·8	84·1
12	7·9	9·6	8·8	13·0	13·2	12·7	12·8	12·4	12·2	12·3	13·2	13·8	14·2	14·3	13·7	13·2	13·0	12·7	10·9	9·2	9·0	8·8	6·0	4·9	11·3	71·8
13	6·6	8·5	6·9	7·4	9·0	10·3	11·0	11·8	11·5	12·3	13·5	16·1	16·6	16·2	17·1	16·2	14·1	13·4	12·7	12·2	12·1	8·5	4·0	9·0	11·5	77·0
14	10·0	9·4	9·7	8·9	10·1	11·2	12·3	12·3	12·3	12·1	15·0	16·3	17·0	16·4	18·0	15·1	15·5	13·6	12·3	7·3	5·3	7·8	10·0	9·0	12·0	86·9
15	8·7	9·9	11·9	11·0	12·4	11·2	13·0	12·3	12·1	13·2	13·3	14·1	14·1	13·9	13·8	13·7	13·8	14·0	13·9	13·0	12·3	8·7	9·3	10·5	12·3	94·1
16	11·3	12·3	13·0	13·2	12·6	12·5	13·0	12·9	13·2	14·8	14·9	15·9	15·2	15·4	13·8	13·0	13·2	13·0	12·9	11·2	9·5	11·8	12·0	11·4	13·0	112·0
17 d	10·3	11·7	12·3	13·0	13·1	13·2	13·3	13·1	13·2	14·8	14·9	15·9	15·2	15·9	16·6	14·7	14·9	−4·5	10·3	11·3	1·8	−2·5	−7·0	0·5	10·3	46·0
18 d	−6·0	0·7	8·9	5·8	11·7	13·5	14·4	14·5	13·4	12·1	12·4	13·5	14·0	15·0	11·5	5·4	9·6	9·0	4·3	−0·6	−0·3	2·9	5·6	11·8	*8·5*	3·1
19 d	6·0	−0·2	3·4	10·8	11·9	13·6	14·3	18·6	18·4	16·0	15·5	12·9	15·0	12·8	12·7	6·1	5·0	5·6	−5·1	−2·3	8·8	7·6	10·3	7·7	9·4	25·4
20 d	8·5	9·0	12·2	12·6	19·3	12·7	12·8	14·1	14·7	16·5	16·4	14·1	15·1	15·1	9·6	9·2	10·8	−0·6	1·8	4·6	11·1	11·1	6·9	4·2	10·9	61·8
21	12·4	11·0	12·0	10·2	13·1	14·3	16·8	16·4	14·1	12·0	12·3	12·7	13·5	12·1	12·5	11·9	11·2	7·0	6·9	7·1	8·1	7·7	11·0	11·9	11·6	78·2
22	11·4	12·2	15·2	13·6	13·3	12·1	12·0	12·5	12·1	11·8	12·8	12·8	14·7	15·5	14·4	12·4	11·0	12·3	9·0	10·4	10·3	10·1	11·2	11·6	12·3	94·7
23 q	11·5	12·1	13·0	12·7	12·6	12·3	12·7	12·6	12·1	12·1	13·0	13·3	13·8	14·3	13·9	13·2	12·6	12·5	12·3	12·2	12·0	11·9	12·1	12·1	12·6	102·9
24	12·3	12·8	12·6	12·6	12·5	12·1	12·0	12·1	12·9	12·8	14·0	13·8	14·4	13·7	14·6	13·5	12·8	12·6	12·1	10·3	9·2	10·5	11·6	12·1	12·5	99·9
25 q	14·1	13·7	12·3	12·2	11·4	11·8	11·8	12·1	12·0	11·9	12·5	13·9	14·4	14·9	14·0	13·1	12·8	12·8	13·2	12·8	12·3	11·9	11·4	9·9	12·6	103·2
26	11·0	13·0	13·1	13·6	13·8	13·9	13·8	12·8	12·6	12·8	14·2	15·1	17·2	15·8	20·8	15·8	13·2	9·7	9·7	9·8	6·5	7·7	7·2	5·6	12·4	98·7
27	10·3	12·2	12·3	12·3	13·1	13·0	12·8	12·5	11·8	12·2	12·7	12·6	13·5	14·1	14·0	13·3	12·9	13·4	13·2	11·8	10·2	7·7	10·3	11·8	12·3	94·0
28	12·4	12·2	12·6	12·8	13·3	13·0	12·6	12·1	11·6	11·1	12·1	13·5	14·5	14·7	15·0	14·2	13·9	14·0	13·2	11·8	7·3	6·3	7·7	8·4	12·1	90·3
29	11·8	12·8	13·1	13·2	13·2	13·4	13·3	12·7	11·3	11·5	12·4	13·3	15·0	14·7	14·6	12·1	12·6	13·6	12·6	12·7	12·1	11·3	10·0	11·3	12·7	104·6
30	12·0	12·2	13·1	13·5	13·6	13·6	13·3	12·7	12·1	12·0	12·7	13·7	15·3	15·1	13·8	12·9	13·2	13·4	13·3	13·1	12·2	11·0	10·3	12·3	12·9	110·4
31	9·8	11·0	11·4	11·3	11·4	11·5	12·0	12·2	11·7	12·1	14·8	17·8	17·8	16·9	18·4	18·9	19·2	15·9	14·5	13·0	12·4	11·4	11·1	11·5	13·7	128·0
Mean	10·4	10·9	11·8	12·1	12·8	12·7	12·9	12·9	12·8	13·0	13·8	14·6	*15·4*	15·3	14·9	13·8	13·4	11·8	11·1	10·1	10·1	9·7	*9·2*	9·9	12·3	
Sum q 200·0+	123·1	136·3	165·2	175·0	196·5	193·5	200·0	201·4	195·6	202·7	227·9	253·7	276·5	274·1	261·8	227·0	216·5	165·9	145·8	113·0	114·7	99·2	86·1	106·8	13.0	Grand Total 9158·3

11·1 at 0-1h. 1 January 1963.

GEOMAGNETIC FORCE: VERTICAL COMPONENT

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEMUIR (Z) 45,000γ (0·45 C.G.S. unit) + DECEMBER 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 9000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	407	407	406	406	409	410	409	409	408	408	406	406	406	407	411	418	417	415	416	414	413	410	409	409	410	836
2 q	408	409	407	407	407	406	406	405	404	405	402	403	405	406	410	411	410	410	410	411	411	410	409	408	407	780
3	407	406	406	406	406	405	406	405	404	404	402	400	402	403	406	409	408	410	412	410	408	403	404	404	406	736
4	404	403	404	402	399	399	398	400	403	400	398	402	404	411	425	439	464	476	446	428	425	424	423	421	417	998
5	411	400	404	406	409	410	410	411	408	404	404	404	404	406	410	412	413	411	411	411	411	412	414	413	409	809
6 q	408	406	405	406	406	407	408	409	406	404	403	401	403	404	405	407	410	409	410	410	409	409	410	410	407	765
7 q	407	406	406	405	404	405	405	405	404	402	400	400	400	403	404	404	406	406	406	408	412	414	412	410	406	734
8	409	406	404	402	402	402	403	402	401	402	401	403	404	410	414	416	416	420	427	430	431	426	427	422	412	880
9	414	412	410	406	404	398	397	400	402	404	404	405	404	405	406	406	404	404	404	404	404	404	406	407	405	714
10	407	406	406	405	405	403	401	400	399	401	400	402	404	406	410	410	410	410	415	421	420	420	416	410	408	787
11 d	399	404	406	407	410	403	401	402	403	406	410	410	411	414	426	436	452	474	488	467	426	428	419	404	*421*	1106
12	407	407	406	405	408	410	410	410	410	409	408	410	411	414	416	416	413	412	414	423	428	430	429	427	414	933
13	420	416	403	406	409	405	404	409	407	404	400	400	405	413	419	421	420	417	415	413	411	417	409	407	410	850
14	403	400	398	395	399	403	404	405	404	402	399	399	395	403	409	417	418	421	423	416	404	404	407	409	406	737
15	411	407	411	414	411	406	404	409	410	409	410	408	408	410	412	413	410	411	414	416	418	418	413	410	411	863
16	411	410	410	410	410	410	409	408	405	403	401	403	403	404	408	411	412	412	411	413	411	409	409	410	408	803
17 d	402	404	402	404	403	404	403	403	402	403	403	401	399	404	410	415	427	482	465	467	463	391	392	357	413	906
18 d	325	300	253	318	365	389	399	404	407	409	409	412	412	417	449	457	453	452	455	450	418	418	421	415	*400*	607
19 d	377	366	366	372	384	392	399	404	413	414	417	422	426	432	429	441	443	434	424	411	411	411	396	395	407	779
20 d	394	389	389	378	368	377	395	399	404	405	411	416	417	418	434	429	434	435	428	438	417	393	400	406	407	774
21	389	377	389	390	398	400	404	404	409	411	411	415	421	428	433	425	427	428	428	416	414	416	415	416	411	864
22	413	407	404	404	407	410	411	412	416	417	417	420	417	417	422	423	422	418	418	418	418	417	415	406	415	949
23 q	409	411	411	410	410	410	410	410	410	409	409	411	410	410	411	412	413	411	412	412	412	413	413	413	411	862
24	411	411	411	411	410	410	410	410	410	410	411	414	415	413	417	417	416	415	416	417	417	413	412	410	413	907
25 q	410	406	406	407	409	406	406	407	409	410	410	410	407	407	409	410	410	410	409	411	412	411	411	409	409	812
26	407	406	405	405	404	403	403	403	403	402	403	405	408	421	430	440	453	448	439	428	428	420	406	395	415	965
27	408	412	414	414	413	412	412	413	412	411	410	409	408	411	414	415	414	413	414	417	418	411	409	411	412	895
28	411	412	411	411	411	410	409	408	409	409	407	408	409	413	413	413	411	410	410	411	414	413	411	411	411	855
29	410	410	409	409	407	406	404	404	404	405	405	404	403	407	410	413	413	412	411	411	412	412	410	409	408	800
30	407	409	408	407	407	407	407	407	409	407	406	404	399	400	406	409	408	407	407	407	411	412	413	408	407	772
31	400	404	405	406	406	404	404	403	403	405	407	404	402	409	416	427	433	431	430	424	419	416	414	413	412	885
Mean	403	401	*399*	401	403	404	405	406	406	406	406	407	407	411	416	419	421	*423*	422	420	417	413	411	408	410	
Sum 12,000+	506	429	375	434	500	522	551	580	598	594	584	611	622	726	894	992	1060	1124	1088	1033	926	805	754	655		Grand Total 304,963

413 at 0-1h. 1 January 1963

DAILY EXTREMES CF GEOMAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES (K AND C) AND TEMPERATURE IN MAGNETOGRAPH CHAMBER

24 ESKDALEMUIR All Times G.M.T DECEMBER 1962

	GEOMAGNETIC ELEMENTS																3-hr. range indices K	Sum of K indices	Magnetic character of day, C (0-2)	Temperature in magneto-graph chamber 200 +
	Horizontal component					Declination					Vertical component									
	Maximum 16,000γ +		Minimum 16,000γ +		Range	Maximum 10° +		Minimum 10° +		Range	Maximum 45,000γ +		Minimum 45,000γ +		Range					
	h. m.	γ	γ	h. m.	γ	h. m.	′	′	h. m.	′	h. m.	γ	γ	h. m.	γ					°A.
1	19 09	861	815	09 55	46	02 54	17·3	5·9	19 03	11·4	15 55	420	403	03 19	17	2,2,0,1,1,2,3,0	11	1	84·5
2 q	07 24	846	823	15 02	23	11 56	15·4	8·7	19 56	6·7	15 29	412	399	10 59	13	0,0,0,0,1,2,2,1	6	0	84·3
3	18 41	860	826	18 18	34	13 38	16·5	6·6	18 35	9·9	18 26	415	399	10 30	16	0,1,1,1,1,1,3,0	8	1	84·2
4	06 47	873	769	16 47	104	15 31	22·8	6·6	23 57	16·2	17 20	484	394	10 10	90	0,2,2,2,3,3,4,2	18	1	84·0
5	00 08	848	817	04 31	31	14 22	16·6	5·6	01 24	11·0	00 01	420	397	01 10	23	3,1,1,1,2,1,0,1	10	1	84·1
6 q	18 20	846	829	00 10	*17*	13 14	15·6	10·4	19 30	5·2	00 01	411	399	10 29	12	1,1,1,0,0,1,1,1	6	0	84·0
7 q	08 28	851	829	20 12	22	13 28	16·2	10·7	20 52	5·5	20 51	416	399	11 20	17	0,0,1,1,0,1,2,1	6	0	83·8
8	05 40	853	804	22 10	49	11 22	17·6	8·0	22 33	9·6	20 30	431	400	09 20	31	1,0,2,2,2,2,1,3	13	1	84·0
9	05 50	862	819	00 47	43	05 12	17·0	10·4	22 53	6·6	00 01	417	396	05 50	21	2,3,2,1,0,0,0,2	10	1	83·8
10	14 43	853	795	23 20	58	19 47	16·3	1·9	22 32	14·4	21 00	423	399	10 30	24	1,1,1,0,0,2,2,3	10	1	84·0
11 d	19 14	908	725	19 50	183	15 48	22·3	-20·4	19 18	42·7	19 12	*516*	396	00 12	120	2,3,2,1,3,3,6,4	24	2	84·0
12	21 36	856	797	21 20	59	18 22	15·4	2·5	23 00	12·9	21 29	434	404	03 30	30	2,2,0,2,1,2,3,3	15	1	83·8
13	22 01	887	793	22 41	94	15 30	17·7	-0·3	22 25	18·0	21 45	423	398	11 03	25	3,2,2,1,2,2,3,4	19	1	84·0
14	20 11	876	813	17 39	63	11 58	18·2	1·8	20 05	16·4	17 42	424	393	12 20	31	2,2,2,3,2,2,3,2	18	1	83·8
15	04 45	855	817	02 04	38	18 54	15·4	4·7	21 55	10·7	20 42	421	402	06 35	19	2,3,2,1,1,1,2,3	15	1	84·0
16	20 47	854	826	01 24	28	12 04	16·4	8·7	20 36	7·7	19 50	414	400	10 20	14	1,0,1,1,2,1,2,2	10	1	84·0
17 d	17 03	896	661	21 28	*235*	16 45	18·7	*-32·4*	22 05	*51·1*	19 58	495	340	00 00	155	3,1,2,2,2,6,4,6	26	2	84·0
18 d	03 41	858	*655*	02 13	203	02 18	20·6	-14·5	00 40	35·1	15 50	470	*225*	02 42	*245*	6,4,2,3,4,5,5,5	34	2	84·0
19 d	22 13	901	760	08 10	141	08 26	*23·6*	-13·4	19 11	37·0	15 55	453	353	01 01	100	4,3,4,4,4,4,5,4	32	2	84·0
20 d	17 20	908	764	21 45	144	04 17	23·4	-10·5	17 19	33·9	17 15	446	363	04 30	83	3,3,3,3,3,5,5,5	30	2	84·0
21	18 55	*935*	777	20 52	158	00 56	17·7	0·0	18 50	17·7	14 22	437	373	01 20	64	4,3,3,3,3,3,5,3	27	1	84·1
22	22 52	863	802	11 03	61	03 06	17·3	7·0	18 26	10·3	15 49	424	400	03 16	24	2,2,2,2,2,2,3,3	18	1	84·0
23 q	05 40	846	823	11 05	23	13 33	14·9	10·8	00 17	*4·1*	21 48	414	405	00 01	9	2,1,1,1,0,0,0,1	6	0	84·0
24	07 30	846	822	15 15	24	14 33	15·7	8·3	20 10	7·4	15 00	417	409	06 30	8	1,0,1,1,2,2,2,1	10	1	84·0
25 q	23 34	867	830	11 09	37	00 45	16·0	8·7	23 55	7·3	23 10	411	403	02 00	8	2,1,0,1,1,1,0,3	9	0	84·0
26	22 48	865	772	14 36	93	14 30	22·9	2·2	23 19	20·7	16 50	458	385	23 00	73	2,1,1,2,4,3,2,4	19	1	84·0
27	21 32	885	818	19 41	67	14 07	15·6	4·7	21 28	10·9	19 46	420	404	00 01	16	1,1,1,1,2,1,2,3	12	1	84·0
28	15 02	857	827	13 33	30	13 55	15·3	4·7	20 24	10·6	13 50	414	408	06 51	*6*	0,0,0,1,2,2,3,2	10	1	84·3
29	22 24	852	830	15 31	22	12 21	15·5	9·1	22 34	6·4	16 00	417	402	12 15	15	1,1,1,1,2,2,1,2	11	1	84·3
30	23 42	901	826	23 09	75	12 59	15·5	9·3	22 40	6·2	22 35	416	394	23 59	22	0,0,0,1,1,0,1,4	7	1	84·2
31	00 01	861	793	10 52	68	15 07	21·1	8·8	00 18	12·3	16 15	435	232	12 30	203	2,0,1,3,3,3,2,1	15	1	84·1
Mean	- -	869	795	- -	73	- -	17·8	2·4	- -	15·4	- -	433	383	- -	50	-	-	1·00	84·0

q denotes an international quiet day and *d* an international disturbed day.

MEAN MONTHLY AND ANNUAL VALUES OF GEOMAGNETIC ELEMENTS

For all, *a*, quiet, *q*, and disturbed, *d*, days for *H*, *D* and *Z* and for all days for *X*, *-Y*, *I* and *F*

25 ESKDALEMUIR 1962

	Horizontal (*H*) component			Declination (*D*) (west)			Vertical (*Z*) component			North component (*X*) all days	West component (*-Y*) all days	Inclination (*I*) (north) all days	Total force (*F*) all days
	a	*q*	*d*	*a*	*q*	*d*	*a*	*q*	*d*				
	16,000γ +			10° +			45,000γ +						
	γ	γ	γ	′	′	′	γ	γ	γ	γ	γ	° ′	γ
January	811	815	801	18·4	18·3	18·3	394	391	399	16539	3008	69 40·7	48407
February	814	817	808	18·0	18·0	18·3	394	391	401	16543	3006	69 40·5	48408
March	824	827	817	17·6	17·6	17·7	389	387	394	16553	3006	69 39·7	48406
April	824	826	815	16·8	16·6	16·8	390	394	389	16554	3002	69 39·7	48408
May	834	838	836	16·4	16·6	16·4	391	390	396	16564	3002	69 39·1	48413
June	837	842	836	16·3	16·7	16·8	391	390	389	16568	3002	69 38·9	48413
July	838	838	834	15·5	15·9	15·7	392	392	390	16569	2999	69 38·9	48414
August	835	839	831	15·3	15·4	15·6	394	396	389	16566	2997	69 39·1	48415
September	829	835	825	14·3	14·7	14·3	400	401	397	16561	2991	69 39·6	48418
October	825	829	818	13·8	14·3	12·8	404	404	401	16558	2988	69 40·0	48421
November	833	840	825	13·6	13·8	12·9	408	407	408	16566	2989	69 39·6	48427
December	834	839	821	12·3	13·0	10·2	410	408	410	16567	2983	69 39·6	48430
Year	828	832	822	15·7	15·9	15·5	396	396	397	16560	2998	69 39·6	48415

DAILY RANGE AND MEAN MONTHLY VALUES

26 ESKDALEMUIR 1962

	Mean daily range						Mean daily range expressed as percentage of yearly mean					
	1962			Mean 1932-53			1962			Mean 1932-53		
	H	*D*	*Z*	*H*	*D*	*Z*	*H*	*D*	*Z*	*H*	*D*	*Z*
	γ	γ	γ	γ	γ	γ	%	%	%	%	%	%
January	44	47	24	78	83	47	56	61	51	76	90	75
February	59	66	41	84	89	53	76	86	87	82	97	84
March	57	70	32	126	113	85	73	91	68	124	123	135
April	92	82	54	125	103	77	118	106	115	123	112	122
May	71	75	42	116	91	71	91	97	89	114	99	113
June	85	78	44	105	84	55	109	101	94	103	91	87
July	89	77	48	110	85	56	114	100	102	108	92	89
August	85	83	56	113	93	68	109	108	119	111	101	108
September	105	89	69	117	106	81	135	116	147	115	116	129
October	100	102	67	107	102	76	128	132	143	105	111	121
November	76	79	36	73	79	47	97	103	77	72	86	75
December	73	75	50	66	74	42	94	97	106	65	80	67
Winter	63	67	38	75	81	47	81	87	81	74	88	75
Equinox	89	86	55	119	106	80	114	112	117	117	115	127
Summer	83	78	47	111	88	63	106	101	100	109	96	100
Year	78	77	47	102	92	63	-	-	-	-	-	-

"Winter" comprises the four months January, February, November, December; "Equinox" the months March, April, September, October; and "Summer" May to August.

FREQUENCY DISTRIBUTION OF DAILY RANGE

27 ESKDALEMUIR 1962

Range	Number of cases, 1962			Percentage distribution					
				H		*D*		*Z*	
	H	*D*	*Z*	1962	1932-53	1962	1932-53	1962	1932-53
γ				%	%	%	%	%	%
0 - 9	0	0	20	0·0	0·0	0·0	0·0	5·5	2·3
10 - 19	5	1	43	1·4	0·8	0·3	0·4	11·8	14·1
20 - 29	26	18	75	7·1	3·9	4·9	2·5	20·5	19·8
30 - 39	28	30	70	7·7	6·0	8·2	5·0	19·2	16·0
40 - 49	32	17	35	8·8	7·8	4·7	7·4	9·6	10·2
50 - 59	48	63	31	13·0	10·4	17·3	12·1	8·5	7·5
60 - 69	36	60	23	9·9	11·7	16·4	12·9	6·3	5·6
70 - 79	41	50	14	11·2	10·6	13·7	12·3	3·8	3·6
80 - 89	36	19	14	9·9	9·0	5·2	10·7	3·8	3·0
90 - 99	28	26	10	7·7	7·3	7·1	8·3	3·0	2·4
100 - 109	22	16	7	6·0	5·8	4·4	5·9	1·9	2·1
110 - 119	7	22	4	1·9	5·1	6·0	4·0	1·1	1·7
120 - 129	11	7	5	3·0	3·3	1·9	3·5	1·4	1·7
130 - 139	11	7	2	3·0	2·9	1·9	2·6	0·5	1·2
140 - 149	14	11	1	3·8	2·3	3·0	2·2	0·3	0·8
150 - 159	3	5	2	0·8	1·9	1·4	1·7	0·5	0·9
160 - 169	3	1	2	0·8	1·5	0·3	1·6	0·5	0·7
170 - 179	0	6	1	0·0	1·5	1·6	1·2	0·3	0·4
180 - 189	4	2	2	1·1	0·9	0·5	1·0	0·5	0·6
190 - 199	3	1	2	0·8	0·9	0·3	0·8	0·5	0·5
200 +	7	3	2	1·9	6·3	0·8	4·0	0·5	4·8
Days omitted	0	0	0	-	-	-	-	-	-

ALL DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

28 ESKDALEMUIR 1962

NORTH COMPONENT

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	+1·8	+1·7	+2·0	+3·8	+4·8	+8·9	+9·3	+8·9	+6·5	+1·6	-5·0	-9·3	-10·7	-8·0	-5·9	-4·7	-5·0	-4·7	-0·8	-0·6	+0·9	+1·3	+1·2	+2·0
Feb.	+1·9	+2·0	+2·4	+2·6	+5·6	+9·1	+10·6	+9·8	+6·4	-1·4	-6·1	-11·4	-9·6	-8·9	-6·5	-4·6	-5·3	-2·4	-1·1	-2·5	+1·1	+1·9	+1·9	+4·5
Mar.	+6·3	+4·6	+5·3	+3·7	+7·1	+10·0	+10·4	+10·3	+5·3	-1·0	-11·4	-17·6	-19·7	-17·3	-12·3	-6·0	-3·4	-0·5	+1·6	+3·5	+3·8	+5·1	+6·0	+6·2
Apr.	+9·0	+5·9	+2·2	+3·9	+6·8	+9·6	+8·2	+4·2	-4·4	-17·2	-26·2	-30·6	-27·2	-18·7	-11·5	+1·9	+8·9	+11·5	+12·9	+11·6	+10·5	+8·4	+8·8	+11·6
May	+4·6	+6·0	+3·8	+3·7	+6·8	+5·7	+1·3	-3·9	-10·8	-18·5	-25·5	-27·1	-23·7	-15·0	-4·3	+4·6	+9·4	+16·2	+17·5	+12·5	+11·2	+9·9	+9·8	+5·9
June	+4·7	+4·4	+3·3	+4·1	+6·1	+5·3	+1·2	-5·4	-13·9	-22·0	-26·3	-27·0	-23·3	-16·8	-7·5	+1·6	+6·9	+14·8	+20·7	+19·7	+17·7	+12·8	+10·2	+8·7
July	+5·9	+4·3	+4·2	+3·6	+4·6	+2·7	-1·8	-7·5	-11·7	-20·8	-25·8	-26·8	-21·4	-16·6	-7·5	+3·1	+9·2	+16·4	+18·7	+17·1	+16·1	+14·5	+10·9	+8·4
Aug.	+6·9	+7·7	+5·4	+3·3	+5·9	+3·9	-1·7	-8·2	-16·4	-22·6	-25·2	-22·2	-19·1	-12·9	-6·5	+1·5	+7·5	+10·8	+14·9	+16·7	+14·9	+14·1	+12·1	+9·1
Sept.	+9·4	+7·2	+7·3	+4·4	+6·9	+8·0	+3·1	-6·0	-10·4	-17·0	-25·0	-24·1	-17·3	-12·1	-8·2	-3·2	+5·9	+5·3	+7·8	+13·0	+14·5	+9·9	+9·5	+11·2
Oct.	+5·3	+5·7	+8·8	+10·7	+7·8	+9·3	+10·2	+3·9	-3·2	-15·2	-24·3	-27·5	-24·6	-16·5	-10·8	-6·5	-0·4	+5·0	+8·9	+7·5	+8·1	+13·3	+12·5	+12·0
Nov.	+4·7	+3·3	+2·5	+4·7	+6·2	+7·1	+7·9	+5·5	+2·2	-4·5	-13·2	-17·2	-17·6	-14·2	-8·1	-4·7	+0·4	+3·3	+3·0	+4·2	+6·1	+9·6	+3·7	+5·2
Dec.	+1·3	+0·1	+0·6	+2·9	+3·6	+8·3	+8·9	+7·4	+5·7	-0·3	-5·4	-6·0	-4·9	-3·3	-6·9	-4·9	-3·1	-1·1	-1·7	+1·1	-3·5	+0·1	+1·7	-0·9
Year	+5·2	+4·5	+4·0	+4·2	+6·0	+7·3	+5·6	+1·6	-3·7	-11·5	-18·3	-20·6	-18·3	-13·3	-8·0	-1·8	+2·6	+6·2	+8·5	+8·7	+8·4	+8·5	+7·3	+7·0
Winter	+2·4	+1·8	+1·8	+3·5	+5·1	+8·4	+9·1	+7·9	+5·2	-1·2	-7·4	-11·0	-10·7	-8·5	-6·8	-4·7	-3·2	-1·2	-0·1	+0·6	+1·1	+3·2	+2·1	+2·7
Equinox	+7·5	+5·9	+5·9	+5·7	+7·2	+9·2	+7·9	+3·1	-3·3	-12·6	-21·7	-25·0	-22·2	-16·1	-10·7	-3·5	+2·8	+5·3	+7·9	+8·9	+9·2	+9·2	+9·2	+10·3
Summer	+5·5	+5·6	+4·2	+3·7	+5·9	+4·5	-0·2	-6·3	-13·2	-20·9	-25·7	-25·8	-21·9	-15·4	-6·5	+2·7	+8·2	+14·5	+17·9	+16·5	+15·0	+12·8	+10·8	+8·0

WEST COMPONENT

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	-5·3	-2·5	-0·1	+0·6	0·0	-0·3	-0·7	-1·5	-3·4	-3·8	-1·1	+4·5	+10·2	+13·3	+10·7	+6·1	+5·2	+3·8	+1·0	-2·9	-6·0	-9·2	-10·1	-8·4
Feb.	-8·5	-6·6	-2·8	-1·9	-1·4	-0·5	-2·2	-4·1	-6·6	-7·2	-1·5	+6·2	+13·2	+17·6	+17·8	+15·3	+12·0	+5·7	-0·5	-2·6	-10·0	-11·1	-9·9	-10·2
Mar.	-5·0	-5·2	-5·3	-7·7	-6·3	-5·6	-5·4	-7·8	-14·1	-14·4	-7·1	+5·1	+18·8	+25·5	+23·8	+18·7	+9·9	+3·4	+0·3	-2·6	-3·5	-4·2	-6·4	-4·8
Apr.	-6·0	-8·4	-6·6	-6·4	-8·4	-11·5	-11·6	-13·2	-17·0	-15·1	-5·8	+6·9	+18·9	+27·6	+28·0	+21·7	+16·5	+12·5	+5·4	-0·6	-6·8	-6·6	-5·9	-7·5
May	-5·9	-5·8	-6·9	-7·9	-13·0	-20·6	-25·3	-26·7	-24·2	-16·4	-3·2	+12·7	+25·3	+30·4	+28·9	+24·2	+18·5	+12·9	+7·8	+4·5	+2·8	-1·0	-5·7	-5·3
June	-3·9	-6·6	-10·7	-12·3	-14·8	-20·7	-25·2	-27·1	-25·7	-19·6	-6·1	+9·6	+24·4	+31·3	+31·0	+27·0	+21·1	+15·5	+10·8	+3·6	+2·5	+1·9	-2·4	-3·5
July	-6·7	-7·8	-11·7	-10·5	-11·4	-17·0	-20·5	-23·2	-23·0	-18·3	-9·1	+4·9	+19·4	+27·1	+28·3	+24·8	+21·0	+17·5	+11·5	+10·4	+3·8	-2·5	-1·8	-5·3
Aug.	-3·4	-2·8	-9·5	-10·2	-10·4	-16·1	-16·8	-19·8	-19·5	-13·2	-0·7	+15·0	+27·9	+31·0	+26·9	+20·1	+11·5	+6·6	+2·8	+2·0	-1·6	-6·1	-5·8	-7·9
Sept.	-6·6	-7·3	-10·9	-11·6	-7·0	-6·7	-7·5	-10·1	-10·4	-5·9	+0·6	+11·5	+22·3	+27·3	+23·7	+17·7	+10·4	+5·8	+0·8	-5·2	-7·8	-5·9	-10·0	-7·1
Oct.	-8·7	-3·3	-3·1	-3·9	-0·8	+3·9	+4·2	-0·7	-6·0	-5·7	+1·0	+11·9	+21·3	+25·3	+23·9	+16·1	+5·4	-4·1	-11·7	-9·2	-16·5	-13·0	-13·7	-12·5
Nov.	-5·8	-2·9	-0·9	+0·7	+1·0	+2·6	+3·0	+3·1	-0·5	-2·0	+0·9	+8·3	+13·0	+15·5	+14·1	+7·7	+3·7	+1·7	-3·0	-4·3	-12·4	-17·5	-16·4	-9·7
Dec.	-9·2	-7·3	-2·5	-0·5	+3·0	+3·4	+4·5	+4·5	+3·3	+3·3	+6·4	+10·5	+14·3	+14·2	+11·7	+6·4	+5·1	-2·7	-6·1	-10·8	-11·4	-13·2	-15·0	-12·1
Year	-6·2	-5·5	-5·9	-6·0	-5·8	-7·4	-8·6	-10·6	-12·3	-9·9	-2·1	+8·9	+19·1	+23·9	+22·4	+17·1	+11·7	+6·5	+1·6	-1·5	-5·6	-7·4	-8·6	-7·8
Winter	-7·2	-4·8	-1·6	-0·3	+0·7	+1·3	+1·2	+0·5	-1·8	-2·4	+1·2	+7·3	+12·7	+15·1	+13·5	+8·8	+6·5	+2·1	-2·2	-5·1	-10·0	-12·7	-12·8	-10·1
Equinox	-6·6	-6·1	-6·5	-7·4	-5·6	-4·9	-5·1	-8·0	-11·9	-10·3	-2·8	+8·9	+20·3	+26·5	+24·8	+18·5	+10·6	+4·4	-1·3	-4·4	-8·7	-7·5	-9·0	-7·9
Summer	-5·0	-5·8	-9·7	-10·2	-12·4	-18·5	-22·0	-24·2	-23·1	-16·9	-4·8	+10·6	+24·3	+29·9	+28·8	+24·0	+18·0	+13·1	+8·2	+5·1	+1·9	-1·9	-3·9	-5·5

VERTICAL COMPONENT

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	-3·3	-3·9	-3·9	-5·0	-5·7	-5·5	-4·9	-4·6	-4·3	-2·6	-2·5	-2·6	-1·7	+1·1	+4·9	+6·6	+8·5	+7·2	+6·7	+6·8	+4·6	+3·8	+1·7	-1·4
Feb.	-4·4	-5·1	-5·5	-4·3	-4·4	-4·9	-4·8	-4·7	-4·3	-4·7	-6·3	-6·7	-5·5	-3·4	+1·2	+6·8	+10·7	+11·6	+12·0	+11·4	+9·4	+4·9	+2·1	-1·1
Mar.	-0·1	-0·6	-2·3	-2·1	-3·0	-3·8	-3·2	-2·1	-2·3	-4·9	-7·7	-10·8	-11·1	-7·4	-2·0	+4·3	+9·0	+11·1	+10·9	+9·6	+7·7	+5·9	+3·4	+1·5
Apr.	-9·2	-9·3	-7·2	-7·1	-6·4	-5·2	-4·7	-4·5	-5·1	-6·5	-8·1	-10·1	-10·6	-5·7	+2·2	+10·0	+15·0	+18·5	+19·8	+17·6	+13·1	+6·7	+0·9	-4·1
May	-0·1	-1·2	-1·0	-0·1	+1·0	+1·6	+0·2	-2·0	-5·7	-11·0	-15·3	-18·0	-15·7	-8·6	-2·1	+6·0	+11·1	+14·3	+14·7	+12·8	+9·7	+6·5	+2·8	+0·1
June	-3·7	-5·3	-3·9	-2·5	-2·4	-3·7	-4·2	-4·2	-4·5	-6·7	-10·5	-13·6	-12·7	-8·2	-1·8	+5·0	+10·5	+13·7	+15·8	+16·1	+12·9	+8·6	+4·9	+0·4
July	-4·5	-8·2	-8·3	-6·1	-5·7	-4·1	-3·5	-1·9	-3·2	-6·1	-8·3	-11·3	-11·7	-6·6	-0·1	+6·0	+11·7	+14·6	+16·3	+15·4	+13·7	+9·3	+2·8	-0·2
Aug.	-7·2	-12·8	-13·9	-8·9	-6·5	-4·6	-3·7	-2·7	-2·9	-5·3	-9·1	-11·9	-10·7	-3·8	+5·2	+11·9	+17·5	+19·7	+17·8	+14·5	+10·9	+6·9	+1·9	-2·3
Sept.	-9·4	-9·1	-11·1	-14·2	-14·3	-11·2	-7·7	-5·3	-3·9	-3·4	-4·6	-5·4	-4·9	-0·3	+6·3	+13·5	+20·1	+22·7	+21·7	+16·0	+8·6	+3·9	-1·4	-6·6
Oct.	-10·0	-15·0	-17·9	-14·9	-13·0	-11·6	-10·2	-5·0	-1·3	-0·1	-0·8	-0·8	+2·9	+7·2	+13·9	+17·6	+18·8	+17·5	+15·9	+12·0	+8·5	-0·6	-5·6	-7·5
Nov.	-6·9	-6·8	-7·7	-7·0	-5·9	-6·0	-5·7	-4·3	-2·3	-2·2	-2·7	-1·8	+1·3	+5·4	+9·1	+10·6	+9·9	+7·5	+6·9	+6·2	+5·2	+1·6	-0·7	-3·7
Dec.	-6·5	-9·0	-10·7	-8·8	-6·7	-6·0	-5·0	-4·1	-3·5	-3·6	-4·0	-3·0	-2·7	+0·6	+6·0	+9·2	+11·4	+13·5	+12·3	+10·5	+7·1	+3·2	+1·5	-1·7
Year	-5·4	-7·2	-7·8	-6·7	-6·1	-5·4	-4·8	-3·8	-3·6	-4·8	-6·7	-8·0	-6·9	-2·5	+3·6	+9·0	+12·9	+14·3	+14·2	+12·4	+9·3	+5·1	+1·2	-2·2
Winter	-5·3	-6·2	-6·9	-6·3	-5·7	-5·6	-5·1	-4·4	-3·6	-3·3	-3·9	-3·5	-2·1	+0·9	+5·3	+8·3	+10·1	+9·9	+9·5	+8·7	+6·6	+3·4	+1·1	-2·0
Equinox	-7·2	-8·5	-9·6	-9·6	-9·2	-7·9	-6·5	-4·2	-3·1	-3·7	-5·3	-6·8	-5·9	-1·5	+5·1	+11·3	+15·7	+17·5	+17·1	+13·8	+9·5	+4·0	-0·7	-4·2
Summer	-3·9	-6·9	-6·8	-4·4	-3·4	-2·7	-2·8	-2·7	-4·1	-7·3	-10·8	-13·7	-12·7	-6·8	+0·3	+7·2	+12·7	+15·6	+16·1	+14·7	+11·8	+7·8	+3·1	-0·5

"Winter" comprises for four months January, February, November, December; "Equinox" the months March, April, September, October: and "Summer" May to August.

ALL DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

29 ESKDALEMUIR 1962

DECLINATION (measured positive towards the west)

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12
	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	-1·13	-0·57	-0·10	-0·02	-0·17	-0·38	-0·48	-0·62	-0·92	-0·83	-0·04	+1·24
Feb.	-1·79	-1·40	-0·65	-0·48	-0·48	-0·44	-0·83	-1·18	-1·56	-1·40	-0·07	+1·67
Mar.	-1·24	-1·22	-1·26	-1·68	-1·52	-1·49	-1·47	-1·95	*-3·02*	-2·85	-1·01	+1·67
Apr.	-1·54	-1·91	-1·40	-1·43	-1·93	-2·66	-2·63	-2·80	*-3·26*	-2·42	-0·21	+2·49
May	-1·35	-1·39	-1·52	-1·72	-2·85	-4·35	-5·14	*-5·23*	-4·47	-2·63	+0·29	+3·53
June	-0·95	-1·48	-2·27	-2·62	-3·19	-4·35	-5·11	*-5·26*	-4·65	-3·13	-0·27	+2·91
July	-1·55	-1·72	-2·50	-2·24	-2·45	-3·51	-4·05	*-4·39*	-4·19	-2·91	-0·89	+1·96
Aug.	-0·94	-0·85	-2·11	-2·17	-2·31	-3·37	-3·32	*-3·68*	-3·33	-1·83	+0·77	+3·83
Sept.	-1·67	-1·72	-2·46	*-2·50*	-1·66	-1·63	-1·62	-1·82	-1·71	-0·56	+1·02	+3·19
Oct.	-1·94	-0·87	-0·95	-1·18	-0·44	+0·45	+0·47	-0·29	-1·08	-0·59	+1·09	+3·39
Nov.	-1·33	-0·69	-0·28	-0·04	-0·02	+0·27	+0·32	+0·43	-0·19	-0·23	+0·66	+2·29
Dec.	-1·89	-1·46	-0·53	-0·21	+0·48	+0·39	+0·59	+0·64	+0·45	+0·68	+1·49	+2·33
Year	-1·43	-1·27	-1·34	-1·36	-1·38	-1·76	-1·94	-2·18	*-2·33*	-1·56	+0·24	+2·54
Winter	-1·53	-1·03	-0·39	-0·19	-0·05	-0·04	-0·10	-0·18	-0·55	-0·45	+0·51	+1·88
Equinox	-1·60	-1·43	-1·52	-1·70	-1·39	-1·33	-1·31	-1·71	*-2·27*	-1·61	+0·22	+2·69
Summer	-1·20	-1·36	-2·10	-2·19	-2·70	-3·89	-4·41	*-4·64*	-4·16	-2·63	-0·03	+3·06

Hour G.M.T.	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	+2·44	*+2·96*	+2·37	+1·39	+1·24	+0·93	+0·24	-0·56	-1·24	-1·90	*-2·08*	-1·77
Feb.	+3·01	*+3·86*	+3·82	+3·24	+2·60	+1·24	-0·07	-0·44	-2·06	*-2·31*	-2·07	-2·21
Mar.	+4·49	*+5·75*	+5·23	+3·97	+2·12	+0·71	+0·01	-0·66	-0·85	-1·04	-1·50	-1·19
Apr.	+4·78	*+6·23*	+6·04	+4·29	+3·00	+2·10	+0·62	-0·55	-1·75	-1·64	-1·50	-1·92
May	+5·95	*+6·65*	+5·97	+4·69	+3·37	+2·01	+0·94	+0·44	+0·15	-0·56	-1·51	-1·27
June	+5·74	*+6·91*	+6·51	+5·36	+3·98	+2·57	+1·41	-0·01	-0·14	-0·09	-0·85	-1·02
July	+4·67	*+6·04*	+5·96	+4·87	+3·88	+2·91	+1·63	+1·47	+0·17	-1·02	-0·76	-1·38
Aug.	+6·31	*+6·70*	+5·63	+3·99	+2·04	+0·94	+0·02	-0·20	-0·87	-1·73	-1·60	-1·92
Sept.	+5·11	*+5·93*	+5·06	+3·68	+1·87	+0·98	-0·12	-1·52	-2·10	-1·55	-2·36	-1·84
Oct.	+5·17	*+5·68*	+5·19	+3·47	+1·10	-1·01	-2·68	-2·11	*-3·61*	-3·10	-3·21	-2·95
Nov.	+3·26	*+3·63*	+3·12	+1·72	+0·73	+0·22	-0·71	-1·02	-2·72	*-3·86*	-3·42	-2·14
Dec.	*+3·06*	+2·98	+2·59	+1·46	+1·13	-0·50	-1·16	-2·21	-2·16	-2·66	*-3·08*	-2·41
Year	+4·50	*+5·28*	+4·79	+3·51	+2·25	+1·09	+0·01	-0·61	-1·43	-1·79	-1·99	-1·83
Winter	+2·94	*+3·36*	+2·97	+1·95	+1·43	+0·47	-0·43	-1·06	-2·05	*-2·68*	-2·66	-2·13
Equinox	+4·89	*+5·90*	+5·38	+3·85	+2·02	+0·69	-0·54	-1·21	-2·08	-1·83	-2·14	-1·97
Summer	+5·67	*+6·57*	+6·02	+4·73	+3·32	+2·11	+1·00	+0·43	-0·17	-0·85	-1·18	-1·40

INCLINATION

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12
	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	-0·13	-0·18	-0·22	-0·38	-0·45	-0·71	*-0·72*	-0·68	-0·49	-0·12	+0·28	+0·49
Feb.	-0·13	-0·18	-0·26	-0·25	-0·46	-0·71	*-0·79*	-0·71	-0·45	+0·06	+0·26	*+0·51*
Mar.	-0·35	-0·25	-0·34	-0·21	-0·47	-0·68	*-0·70*	-0·63	-0·24	+0·11	+0·64	*+0·83*
Apr.	-0·75	-0·52	-0·25	-0·35	-0·50	-0·62	-0·52	-0·23	+0·37	+1·14	+1·59	*+1·68*
May	-0·23	-0·36	-0·19	-0·15	-0·27	-0·09	+0·22	+0·52	+0·85	+1·13	*+1·33*	+1·18
June	-0·35	-0·34	-0·19	-0·18	-0·29	-0·20	+0·12	+0·57	+1·10	+1·51	*+1·54*	+1·32
July	-0·42	-0·40	-0·35	-0·26	-0·31	-0·08	+0·27	+0·72	+0·96	+1·43	*+1·59*	+1·42
Aug.	-0·59	*-0·79*	-0·58	-0·31	-0·43	-0·18	+0·22	+0·71	+1·23	*+1·51*	+1·43	+0·99
Sept.	-0·77	-0·61	-0·62	-0·50	-0·73	-0·72	-0·30	+0·38	+0·71	+1·10	*+1·52*	+1·31
Oct.	-0·49	-0·70	-0·98	*-1·02*	-0·82	-0·94	-0·98	-0·37	+0·25	+1·06	+1·56	*+1·64*
Nov.	-0·41	-0·35	-0·34	-0·49	-0·57	-0·64	*-0·69*	-0·51	-0·20	+0·27	+0·79	+0·99
Dec.	-0·14	-0·14	-0·27	-0·40	-0·44	-0·73	*-0·76*	-0·64	-0·50	-0·11	+0·18	+0·18
Year	-0·40	-0·40	-0·39	-0·37	-0·48	*-0·53*	-0·39	-0·07	+0·30	+0·75	*+1·06*	+1·05
Winter	-0·20	-0·21	-0·27	-0·38	-0·48	-0·70	*-0·74*	-0·63	-0·41	+0·03	+0·38	*+0·55*
Equinox	-0·59	-0·52	-0·55	-0·52	-0·63	*-0·74*	-0·62	-0·21	+0·28	+0·85	+1·33	*+1·36*
Summer	-0·40	-0·47	-0·33	-0·23	-0·32	-0·14	+0·20	+0·63	+1·04	+1·39	*+1·47*	+1·23

Hour G.M.T.	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	*+0·54*	+0·39	+0·38	+0·40	+0·48	+0·44	+0·21	+0·24	+0·13	+0·11	+0·08	-0·07
Feb.	+0·34	+0·29	+0·24	+0·29	+0·47	+0·37	+0·38	+0·47	+0·28	+0·13	+0·05	-0·20
Mar.	+0·79	+0·65	+0·48	+0·28	+0·33	+0·27	+0·16	+0·04	-0·02	-0·14	-0·24	-0·31
Apr.	+1·30	+0·76	+0·48	-0·13	-0·41	-0·44	-0·42	-0·32	-0·28	-0·31	-0·48	*-0·77*
May	+0·86	+0·41	-0·11	-0·44	-0·56	-0·86	*-0·88*	-0·56	-0·53	-0·48	-0·50	-0·33
June	+0·93	+0·53	+0·08	-0·30	-0·44	-0·81	*-1·09*	-0·93	-0·87	-0·65	-0·52	-0·52
July	+0·88	+0·60	+0·16	-0·35	-0·56	-0·92	*-0·96*	-0·87	-0·76	-0·69	-0·62	-0·49
Aug.	+0·65	+0·39	+0·23	-0·05	-0·19	-0·30	-0·57	-0·76	-0·69	-0·68	-0·68	-0·56
Sept.	+0·75	+0·47	+0·42	+0·33	-0·01	+0·15	+0·02	-0·40	-0·65	-0·48	-0·54	*-0·82*
Oct.	+1·43	+0·96	+0·77	+0·67	+0·42	-0·15	-0·05	-0·08	-0·12	-0·74	-0·80	-0·82
Nov.	*+1·03*	+0·88	+0·59	+0·48	+0·17	-0·05	+0·01	-0·07	-0·13	-0·38	-0·06	-0·32
Dec.	+0·09	+0·06	+0·46	+0·47	+0·42	+0·44	+0·48	+0·31	*+0·54*	+0·23	+0·10	+0·16
Year	+0·80	+0·53	+0·35	+0·13	+0·01	-0·13	-0·23	-0·25	-0·26	-0·34	-0·35	-0·42
Winter	+0·50	+0·40	+0·42	+0·41	+0·38	+0·30	+0·27	+0·23	+0·21	+0·02	+0·04	-0·11
Equinox	+1·07	+0·71	+0·53	+0·29	+0·08	+0·03	-0·08	-0·19	-0·26	-0·41	-0·52	-0·68
Summer	+0·83	+0·49	+0·09	-0·28	-0·44	-0·72	*-0·87*	-0·78	-0·71	-0·63	-0·58	-0·47

HORIZONTAL COMPONENT

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	+0·8	+1·2	+1·9	+3·8	+4·7	+8·7	*+9·0*	+8·5	+5·8	+0·9	-5·1	-8·3
Feb.	+0·3	+0·8	+1·9	+2·2	+5·3	+8·9	*+10·0*	+8·9	+5·1	-2·7	-6·3	*-10·1*
Mar.	+5·3	+3·6	+4·3	+2·3	+5·9	+8·8	*+9·3*	+8·7	+2·7	-3·5	-12·5	*-16·4*
Apr.	+7·8	+4·3	+1·0	+2·7	+5·2	+7·4	+6·0	+1·8	-7·4	-19·6	-26·8	*-28·9*
May	+3·5	+4·9	+2·5	+2·2	+4·4	+1·9	-3·2	-8·6	-14·9	-21·1	*-25·7*	-24·4
June	+3·9	+3·2	+1·4	+1·8	+3·4	+1·6	-3·3	-10·1	-18·2	-25·1	*-27·0*	-24·9
July	+4·6	+2·9	+2·1	+1·7	+2·5	-0·3	-5·4	-11·5	-15·6	-23·7	*-27·0*	-25·5
Aug.	+6·2	+7·1	+3·6	+1·4	+4·0	+1·0	-4·7	-11·6	-19·6	-24·6	*-24·9*	-19·2
Sept.	+8·1	+5·8	+5·2	+2·3	+5·6	+6·7	+1·7	-7·7	-12·1	-17·8	*-24·5*	-21·7
Oct.	+3·7	+5·0	+8·1	+9·8	+7·5	+9·8	*+10·8*	+3·7	-4·2	-16·0	-23·7	*-24·9*
Nov.	+3·6	+2·7	+2·3	+4·7	+6·3	+7·4	*+8·3*	+6·0	+2·1	-4·8	-12·8	*-15·5*
Dec.	-0·3	-1·2	+0·1	+2·8	+4·1	+8·8	*+9·6*	+8·1	+6·2	+0·3	-4·2	-4·0
Year	+4·0	+3·4	+2·9	+3·1	+4·9	+5·9	+4·0	-0·3	-5·8	-13·1	-18·4	*-18·7*
Winter	+1·1	+0·9	+1·5	+3·4	+5·1	+8·5	*+9·2*	+7·9	+4·8	-1·6	-7·1	*-9·5*
Equinox	+6·2	+4·7	+4·7	+4·3	+6·1	+8·2	+6·9	+1·6	-5·3	-14·2	-21·9	*-23·0*
Summer	+4·5	+4·5	+2·4	+1·8	+3·6	+1·1	-4·1	-10·5	-17·1	-23·6	*-26·1*	-23·5

Hour G.M.T.	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	*-8·7*	-5·5	-3·9	-3·6	-4·0	-3·9	-0·6	-1·1	-0·2	-0·3	-0·6	+0·5
Feb.	-7·1	-5·6	-3·2	-1·8	-3·1	-1·3	-1·2	-2·9	-0·7	-0·1	+0·1	+2·6
Mar.	-16·0	-12·5	-7·9	-2·6	-1·6	+0·1	+1·6	+3·0	+3·1	+4·3	+4·8	+5·2
Apr.	-23·4	-13·5	-6·4	+5·7	+11·7	+13·5	*+13·7*	+11·3	+9·1	+7·1	+7·6	+10·1
May	-18·8	-9·4	+0·9	+8·8	+12·5	+18·2	*+18·6*	+13·1	+11·5	+9·6	+8·6	+4·9
June	-18·6	-11·0	-1·9	+6·4	+10·5	+17·3	*+22·3*	+20·0	+17·9	+12·9	+9·6	+7·9
July	-17·6	-11·5	-2·4	+7·5	+12·8	+19·2	*+20·5*	+18·7	+16·5	+13·8	+10·4	+7·3
Aug.	-13·8	-7·2	-1·6	+5·1	+9·4	+11·8	+15·2	*+16·8*	+14·4	+12·8	+10·9	+7·5
Sept.	-13·1	-7·1	-3·9	0·0	+7·6	+6·2	+7·8	+11·9	*+12·9*	+8·7	+7·6	+9·8
Oct.	-20·4	-11·8	-6·4	-3·5	+0·6	+4·2	+6·7	+5·7	+5·0	+10·8	+9·9	+9·6
Nov.	-15·0	-11·2	-5·5	-3·3	+1·1	+3·6	+2·4	+3·4	+3·8	+6·3	+0·7	+3·4
Dec.	-2·3	-0·7	-4·7	-3·7	-2·1	-1·6	-2·7	-0·8	*-5·5*	-2·2	-1·0	-3·0
Year	-14·6	-8·9	-3·9	+1·3	+4·6	+7·3	*+8·7*	+8·3	+7·3	+7·0	+5·7	+5·5
Winter	-8·3	-5·7	-4·3	-3·1	-2·0	-0·8	-0·5	-0·3	-0·7	+0·9	-0·2	+0·9
Equinox	-18·2	-11·2	-6·1	-0·1	+4·6	+6·0	+7·5	+8·0	+7·5	+7·7	+7·5	*+8·7*
Summer	-17·2	-9·8	-1·3	+6·9	+11·3	+16·6	*+19·1*	+17·1	+15·1	+12·3	+9·9	+6·9

"Winter" comprises the four months January, February, November, December; "Equinox" the months March, April, September, October; and "Summer" May to August.

INTERNATIONAL QUIET DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

30 ESKDALEMUIR 1962

NORTH COMPONENT

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	-1·5	-1·8	-0·7	+0·4	+2·1	+3·8	+4·7	+4·6	+2·6	-1·1	-5·4	-9·3	-9·0	-4·7	-1·8	+0·4	+0·1	+1·2	+2·6	+2·8	+2·8	+3·3	+2·3	+1·3
Feb.	-1·3	-0·7	-0·8	+0·9	+2·5	+3·5	+4·5	+4·5	+2·3	-2·5	-8·3	-13·7	-12·2	-8·1	-5·1	-1·0	0·0	+2·9	+4·7	+5·9	+6·2	+5·2	+5·6	+4·9
Mar.	+3·4	+3·3	+4·1	+2·4	+5·5	+6·9	+7·9	+7·9	+2·8	-4·2	-10·9	-15·5	-16·6	-14·2	-10·2	-5·2	-0·6	+2·9	+4·6	+5·5	+5·0	+4·7	+5·1	+5·0
Apr.	+3·7	+2·1	-0·1	+0·5	+2·5	+4·1	+3·5	+0·6	-3·7	-13·6	-23·1	-24·9	-20·7	-17·7	-7·9	+2·6	+6·7	+14·9	+15·9	+15·7	+12·7	+8·0	+9·3	+8·9
May	+5·9	+5·6	+3·7	+3·8	+6·6	+7·7	+5·0	-0·6	-7·0	-14·1	-22·6	-27·7	-26·6	-20·1	-10·8	-3·3	+5·1	+12·9	+15·5	+14·8	+13·2	+12·1	+10·7	+10·4
June	+3·4	+3·9	+3·7	+6·7	+12·1	+13·1	+6·7	-2·5	-14·1	-23·6	-30·1	-32·5	-28·5	-19·9	-6·3	+4·9	+11·4	+13·1	+14·2	+15·8	+14·6	+13·3	+10·8	+9·7
July	+7·8	+7·2	+5·4	+5·9	+10·2	+9·7	+2·1	-3·5	-10·8	-18·7	-25·2	-27·1	-23·4	-18·7	-9·2	-1·8	+4·4	+9·9	+13·3	+14·5	+13·1	+12·7	+11·7	+10·5
Aug.	+3·3	+3·9	+1·6	+2·9	+3·9	+3·1	+1·1	-5·3	-14·7	-22·5	-22·6	-19·6	-14·4	-6·9	-3·2	+2·9	+6·1	+7·6	+10·8	+11·4	+11·9	+11·1	+12·2	+15·4
Sept.	+6·8	+4·5	+1·3	+4·9	+4·0	+3·9	+2·8	+1·8	-2·1	-10·3	-16·8	-21·4	-20·5	-12·7	-8·9	-4·0	+0·4	-0·8	+7.3	+10.4	+11·1	+12·0	+12·9	+13·5
Oct.	+1·8	+5·9	+9·5	+9·9	+9·7	+5·6	+6·6	+4·1	+0·3	-16·3	-21·9	-22·5	-18·1	-12·8	-7·5	-5·4	-0·3	+4·9	+6·2	+6·9	+5·1	+6·9	+11·0	+10·4
Nov.	-1·8	-3·0	-0·9	+0·3	+2·1	+4·6	+4·2	+2·1	0·0	-5·3	-10·6	-13·1	-11·6	-6·3	-2·0	+0·7	+4·2	+6·0	+5·8	+6·3	+6·2	+5·8	+4·4	+2·0
Dec.	-2·6	-2·7	-2·8	-1·2	+0·6	+3·9	+4·6	+5·4	+4·4	-0·4	-3·7	-4·5	-4·5	-2·8	-2·5	-1·2	+1·3	+3·1	+2·8	+1·1	-1·1	-0·3	+0·1	+3·0
Year	+2·4	+2·4	+2·0	+3·1	+5·1	+5·8	+4·5	+1·6	-3·4	-11·1	-16·7	-19·3	-17·2	-12·1	-6·2	-0·8	+3·2	+6·6	+8·7	+9·2	+8·5	+7·9	+8·0	+7·9
Winter	-1·7	-2·1	-1·3	+0·2	+1·8	+3·9	+4·5	+4·2	+2·3	-2·3	-7·0	-10·1	-9·3	-5·4	-2·8	-0·3	+1·5	+3·2	+4·0	+4·0	+3·5	+3·5	+3·1	+2·9
Equinox	+3·9	+3·9	+3·7	+4·5	+5·5	+5·1	+5·2	+3·6	-0·7	-11·1	-18·2	-21·1	-19·0	-14·4	-8·7	-3·0	+1·6	+5·5	+8·5	+9·6	+8·5	+7·9	+9·6	+9·5
Summer	+5·1	+5·2	+3·6	+4·9	+8·2	+8·5	+3·7	-3·0	-11·6	-19·7	-25·1	-26·7	-23·2	-16·4	-7·4	+0·7	+6·7	+10·9	+13·5	+14·1	+13·3	+12·3	+11·3	+11·5

WEST COMPONENT

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	-2·6	-0·8	+0·8	+1·5	+1·3	-0·1	-2·1	-3·5	-5·8	-5·9	-3·3	+0·4	+7·3	+11·9	+8·1	+3·8	+2·5	+1·6	+0·9	-0·4	-2·8	-4·3	-5·1	-3·4
Feb.	-2·6	-2·5	-1·7	-1·0	-1·0	-1·6	-2·9	-5·1	-9·8	-11·3	-5·1	+0·8	+7·3	+12·7	+10·7	+7·2	+5·0	+4·4	+3·0	+1·9	-0·3	-1·4	-3·5	-3·2
Mar.	-2·7	-1·7	-3·8	-3·7	-2·3	-3·4	-5·1	-10·2	-16·7	-19·1	-12·0	-0·6	+12·8	+17·6	+16·2	+11·5	+7·7	+6·3	+4·6	+3·0	+2·5	+0·4	-0·3	-0·9
Apr.	+1·9	-4·4	-8·0	-9·5	-12·3	-16·4	-19·2	-20·7	-20·4	-17·0	-7·5	+3·6	+16·9	+24·1	+25·4	+21·5	+16·3	+11·3	+9·9	+5·0	+1·0	+0·5	-0·3	-1·5
May	-0·7	-1·8	-2·4	-4·7	-10·7	-18·0	-23·9	-27·0	-27·5	-22·4	-9·9	+5·9	+18·3	+22·6	+23·8	+21·2	+16·9	+12·1	+7·1	+5·7	+5·7	+4·7	+2·8	+2·3
June	+0·4	-3·2	-6·7	-10·9	-14·7	-22·0	-25·6	-27·[illegible]	-25·7	-23·1	-8·9	+10·7	+26·0	+30·0	+30·4	+24·1	+16·3	+7·6	+3·9	+4·1	+3·6	+4·6	+3·4	+3·1
July	-5·9	-5·8	-5·3	-4·1	-10·5	-19·2	-24·9	-27·3	-28·1	-20·8	-8·8	+7·7	+22·8	+28·4	+28·3	+22·9	+15·3	+7·8	+6·1	+4·9	+4·8	+5·5	+3·9	+2·1
Aug.	-0·4	-2·1	-4·3	-5·5	-11·3	-18·0	-21·7	-23·1	-20·9	-13·1	+1·3	+19·0	+28·2	+29·8	+21·3	+11·3	+3·3	-2·3	-1·5	+2·7	+5·3	+3·4	+2·5	-3·8
Sept.	-2·9	-5·3	-4·9	-6·0	-9·0	-8·1	-10·4	-13·8	-16·3	-13·0	-5·9	+3·3	+14·3	+21·3	+18·7	+15·9	+9·4	+10·0	+7·5	+5·9	+2·6	+0·4	-3·9	-9·9
Oct.	-9·5	-6·5	-6·4	-7·3	-5·4	-1·7	-0·1	-1·2	-5·9	-8·1	-0·2	+6·2	+18·6	+23·5	+21·5	+14·6	+5·2	-1·2	-5·5	-3·6	-4·5	-6·3	-5·9	-10·3
Nov.	-6·3	-1·2	-1·1	-1·2	-0·1	-0·8	-2·7	-4·3	-7·4	-7·5	-2·5	+4·5	+9·8	+12·3	+9·2	+5·8	+5·5	+3·9	+2·1	+0·3	-0·9	-2·6	-6·8	-8·1
Dec.	-1·8	-1·1	-0·3	-0·6	-1·5	-0·8	-0·2	-1·2	-1·8	-3·1	-0·1	+5·2	+7·4	+9·3	+4·9	+2·6	+2·2	+1·7	+1·8	-0·7	-5·0	-4·7	-5·9	-6·1
Year	-2·7	-3·1	-3·7	-4·4	-6·5	-9·2	-11·6	-13 7	-15·5	-13·7	-5·2	+5·6	+15·8	+20·3	+18·2	+13·5	+8·8	+5·3	+3·3	+2·4	+1·0	0·0	-1·6	-3·3
Winter	-3·3	-1·4	-0·6	-0·3	-0·3	-0·8	-2·0	-3·6	-6·2	-6·9	-2·7	+2·7	+7·9	+11·6	+8·3	+4·9	+3·8	+2·9	+2·0	+0·3	-2·3	-3·2	-5·3	-5·2
Equinox	-3·3	-4·5	-5·8	-6·6	-7·2	-7·4	-8·7	-11·4	-14·8	-14·3	-6·4	+3·1	+15·6	+21·6	+20·5	+15·9	+9·6	+6·6	+4·1	+2·5	+0·3	-1·3	-2·6	-5·7
Summer	-1·7	-3·3	-4·7	-6·3	-11·8	-19·3	-24·0	-26·2	-25·5	-19·8	-6·6	+10·8	+23·8	+27·7	+26·0	+19·9	+13·0	+6·3	+3·9	+4·4	+4·8	+4·6	+3·2	+0·9

VERTICAL COMPONENT

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	+1·3	+0·8	+0·3	-0·2	-0·6	-0·5	-1·0	-1·0	-1·3	-0·2	-1·5	-2·4	-2·1	0·0	+3·1	+1·4	+1·2	+1·3	+0·6	+0·6	+0·1	0·0	+0·3	-0·2
Feb.	+1·8	+1·0	+1·6	+2·0	+2·0	+1·3	+1·2	+0·8	+0·4	-2·2	-4·4	-4·2	-3·0	-2·4	-0·6	+1·4	+1·4	+1·1	+0·8	+0·2	+0·4	0·0	-0·2	-0·4
Mar.	+2·1	+2·2	+1·9	+1·8	+1·4	+0·3	+1·2	+2·2	+2·3	-2·0	-6·5	-10·4	-11·9	-8·2	-3·9	+1·0	+3·2	+3·5	+2·8	+3·2	+2·9	+3·8	+3·7	+3·4
Apr.	-5·6	-3·7	+0·2	+1·6	+2·6	+2·7	+1·8	+0·6	-2·4	-5·1	-8·6	-12·2	-14·0	-8·7	-3·0	+0·6	+4·4	+8·3	+9·4	+9·4	+7·6	+6·5	+4·6	+3·0
May	+2·8	+3·8	+4·5	+5·2	+5·4	+5·0	+3·4	+1·6	-2·3	-7·0	-12·0	-15·0	-13·6	-10·2	-5·3	-0·2	+3·8	+6·8	+7·6	+5·2	+3·7	+2·8	+2·2	+1·8
June	+3·7	+3·7	+5·0	+5·3	+5·5	+5·1	+2·7	+1·3	+0·4	-5·5	-12·7	-16·7	-16·1	-12·9	-9·0	-2·5	+4·1	+8·7	+9·7	+7·5	+5·4	+3·1	+2·3	+1·9
July	+1·2	+0·8	-0·4	-1·6	-0·6	+0·3	+0·4	+0·2	-1·8	-5·6	-8·8	-11·0	-13·6	-9·0	-1·2	+4·0	+7·2	+8·5	+7·6	+6·6	+5·8	+4·4	+3·4	+3·2
Aug.	-0·6	+0·2	+1·0	+1·2	+2·2	+4·7	+4·8	+4·2	+0·6	-6·4	-11·6	-13·0	-13·0	-7·6	+0·4	+5·2	+7·6	+8·9	+6·0	+2·4	+1·2	+1·4	+1·0	-0·8
Sept.	-2·6	-1·4	-1·4	-2·2	-0·4	+0·5	+1·0	+1·4	+0·4	-1·8	-5·2	-9·0	-8·8	-6·0	-2·4	+2·0	+6·4	+7·5	+5·4	+4·6	+5·0	+5·6	+3·2	-1·8
Oct.	-7·5	-10·4	-10·8	-6·9	-9·6	-8·2	-5·5	-3·4	-1·6	+0·9	-0·4	-2·6	-2·3	+0·2	+5·4	+9·9	+10·8	+10·4	+10·3	+7·8	+6·8	+6·1	+1·6	-1·0
Nov.	-1·1	-0·9	-1·9	-1·1	-0·5	-1·1	-1·3	-0·7	+0·9	+0·5	-1·1	-1·7	-1·3	+0·7	+2·7	+2·3	+1·5	+0·1	+0·3	+0·3	-0·1	+0·3	+1·3	+1·9
Dec.	+0·4	-0·3	-1·0	-0·9	-0·7	-1·2	-0·9	-0·7	-1·4	-1·9	-3·2	-2·9	-3·0	-1·9	-0·2	+0·9	+1·9	+1·2	+1·5	+2·5	+3·2	+3·5	+3·0	+2·1
Year	-0·3	-0·3	-0·1	+0·3	+0·6	+0·7	+0·7	+0·5	-0·5	-3·0	-6·3	-8·4	-8·6	-5·5	-1·2	+2·2	+4·5	+5·5	+5·2	+4·2	+3·5	+3·1	+2·2	+1·1
Winter	+0·6	+0·1	-0·3	-0·1	+0·1	-0·4	-0·5	-0·4	-0·3	-0·9	-2·5	-2·8	-2·3	-0·9	+1·3	+1·5	+1·5	+0·9	+0·8	+0·9	+0·9	+0·9	+1·1	+0·9
Equinox	-3·4	-3·3	-2·5	-1·4	-1·5	-1·2	-0·4	+0·2	-0·3	-2·0	-5·2	-8·5	-9·3	-5·7	-1·0	+3·4	+6·2	+7·4	+7·0	+6·3	+5·6	+5·5	+3·3	+0·9
Summer	+1·8	+2·1	+2·5	+2·5	+3·1	+3·8	+2·8	+1·8	-0·8	-6·1	-11·3	-13·9	-14·1	-9·9	-3·8	+1·6	+5·7	+8·2	+7·7	+5·4	+4·0	+2·9	+2·2	+1·5

"Winter" comprises the four months January, February, November, December; "Equinox" the months March, April, September, October; and "Summer" May to August.

INTERNATIONAL QUIET DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

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Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
													DECLINATION (measured positive towards the west)											
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	−0·47	−0·10	+0·18	+0·29	+0·18	−0·16	−0·59	−0·88	−1·26	−1·15	−0·46	+0·42	+1·79	+2·56	+1·70	+0·75	+0·50	+0·28	+0·09	−0·18	−0·66	−0·99	−1·10	−0·74
Feb.	−0·47	−0·48	−0·32	−0·23	−0·30	−0·46	−0·75	−1·20	−2·06	−2·17	−0·72	+0·66	+1·91	+2·86	+2·34	+1·49	+1·00	+0·78	+0·43	+0·16	−0·28	−0·47	−0·90	−0·82
Mar.	−0·67	−0·46	−0·91	−0·84	−0·66	−0·93	−1·32	−2·34	−3·45	−3·68	−2·01	+0·44	+3·17	+4·06	+3·63	+2·50	+1·56	+1·15	+0·76	+0·40	+0·31	−0·10	−0·25	−0·36
Apr.	+0·24	−0·96	−1·61	−1·92	−2·56	−3·44	−3·98	−4·18	−3·97	−2·92	−0·66	+1·62	+4·14	+5·48	+5·39	+4·22	+3·02	+1·72	+1·40	+0·44	−0·27	−0·18	−0·40	−0·62
May	−0·36	−0·57	−0·62	−1·08	−2·40	−3·89	−4·98	−5·40	−5·28	−3·99	−1·16	+2·18	+4·64	+5·27	+5·18	+4·38	+3·22	+1·97	+0·86	+0·60	+0·66	+0·51	+0·18	+0·08
June	−0·04	−0·79	−1·48	−2·44	−3·40	−4·89	−5·38	−5·40	−4·66	−3·79	−0·70	+3·34	+6·26	+6·75	+6·34	+4·66	+2·86	+1·05	+0·26	+0·24	+0·20	+0·45	+0·30	+0·26
July	−1·46	−1·43	−1·25	−1·04	−2·49	−4·21	−5·08	−5·35	−5·25	−3·50	−0·85	+2·53	+5·44	+6·39	+6·03	+4·66	+2·91	+1·21	+0·74	+0·45	+0·49	+0·64	+0·37	+0·05
Aug.	−0·21	−0·56	−0·93	−1·22	−2·40	−3·73	−4·40	−4·44	−3·67	−1·82	+1·09	+4·52	+6·19	+6·24	+4·39	+2·16	+0·44	−0·73	−0·70	+0·14	+0·63	+0·28	+0·05	−1·32
Sept.	−0·83	−1·22	−1·03	−1·39	−1·95	−1·78	−2·19	−2·83	−3·19	−2·24	−0·57	+1·45	+3·61	+4·74	+4·09	+3·35	+1·87	+2·04	+1·25	+0·81	+0·11	−0·36	−1·25	−2·49
Oct.	−1·98	−1·53	−1·64	−1·83	−1·43	−0·54	−0·27	−0·39	−1·20	−1·03	+0·76	+2·07	+4·40	+5·19	+4·60	+3·13	+1·05	−0·42	−1·33	−0·97	−1·10	−1·51	−1·58	−2·45
Nov.	−1·21	−0·13	−0·18	−0·25	−0·09	−0·33	−0·69	−0·95	−1·48	−1·31	−0·11	+1·39	+2·39	+2·69	+1·92	+1·15	+0·95	+0·57	+0·21	−0·17	−0·40	−0·73	−1·53	−1·71
Dec.	−0·27	−0·12	+0·05	−0·08	−0·32	−0·31	−0·20	−0·44	−0·53	−0·60	+0·11	+1·20	+1·65	+1·96	+1·07	+0·56	+0·40	+0·23	+0·26	−0·18	−0·97	−0·94	−1·19	−1·34
Year	−0·64	−0·70	−0·81	−1·00	−1·49	−2·06	−2·49	−2·82	−3·00	−2·35	−0·44	+1·82	+3·80	+4·52	+3·89	+2·75	+1·65	+0·82	+0·35	+0·15	−0·11	−0·28	−0·61	−0·95
Winter	−0·61	−0·21	−0·07	−0·07	−0·13	−0·31	−0·56	−0·87	−1·33	−1·31	−0·29	+0·92	+1·93	+2·52	+1·76	+0·99	+0·71	+0·47	+0·25	−0·09	−0·58	−0·78	−1·18	−1·15
Equinox	−0·81	−1·04	−1·30	−1·49	−1·65	−1·67	−1·94	−2·43	−2·95	−2·47	−0·62	+1·39	+3·83	+4·87	+4·43	+3·30	+1·87	+1·12	+0·52	+0·15	−0·24	−0·54	−0·87	−1·48
Summer	−0·52	−0·84	−1·07	−1·45	−2·67	−4·18	−4·96	−5·15	−4·71	−3·27	−0·41	+3·14	+5·63	+6·16	+5·49	+3·97	+2·36	+0·87	+0·29	+0·36	+0·49	+0·47	+0·23	−0·23
													INCLINATION											
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	+0·16	+0·15	+0·04	−0·05	−0·17	−0·26	−0·31	−0·29	−0·13	+0·13	+0·36	+0·55	+0·45	+0·17	+0·10	−0·04	0·00	−0·07	−0·17	−0·17	−0·15	−0·17	−0·08	−0·05
Feb.	+0·16	+0·10	+0·11	0·00	−0·10	−0·18	−0·23	−0·21	−0·02	+0·25	+0·50	+0·78	+0·64	+0·32	+0·19	+0·01	−0·03	−0·21	−0·32	−0·40	−0·40	−0·33	−0·33	−0·30
Mar.	−0·14	−0·15	−0·18	−0·07	−0·30	−0·41	−0·43	−0·35	+0·07	+0·45	+0·69	+0·77	+0·65	+0·52	+0·38	+0·23	+0·03	−0·18	−0·28	−0·32	−0·29	−0·22	−0·24	−0·24
Apr.	−0·42	−0·16	+0·11	+0·12	+0·04	−0·01	+0·04	+0·22	+0·43	+0·97	+1·39	+1·29	+0·81	+0·66	+0·15	−0·41	−0·52	−0·91	−0·93	−0·85	−0·66	−0·37	−0·49	−0·49
May	−0·31	−0·25	−0·10	−0·07	−0·17	−0·17	+0·04	+0·40	+0·73	+1·02	+1·30	+1·37	+1·19	+0·80	+0·29	−0·04	−0·44	−0·82	−0·91	−0·91	−0·84	−0·78	−0·68	−0·66
June	−0·13	−0·13	−0·04	−0·18	−0·48	−0·47	−0·07	+0·52	+1·23	+1·68	+1·76	+1·59	+1·16	+0·63	−0·17	−0·67	−0·84	−0·73	−0·74	−0·90	−0·87	−0·85	−0·69	−0·63
July	−0·41	−0·39	−0·30	−0·38	−0·56	−0·40	+0·17	+0·56	+0·99	+1·33	+1·54	+1·41	+0·93	+0·66	+0·24	−0·05	−0·29	−0·53	−0·76	−0·84	−0·78	−0·79	−0·73	−0·63
Aug.	−0·23	−0·23	−0·03	−0·10	−0·07	+0·12	+0·31	+0·72	+1·23	+1·47	+1·18	+0·74	+0·29	−0·09	−0·03	−0·20	−0·25	−0·25	−0·55	−0·72	−0·81	−0·73	−0·80	−0·99
Sept.	−0·48	−0·27	−0·06	−0·30	−0·16	−0·15	−0·03	+0·08	+0·34	+0·79	+1·04	+1·14	+0·95	+0·43	+0·30	+0·12	+0·02	+0·12	−0·43	−0·64	−0·64	−0·65	−0·72	−0·81
Oct.	−0·19	−0·56	−0·81	−0·74	−0·81	−0·55	−0·57	−0·34	+0·01	+1·19	+1·43	+1·33	+0·91	+0·56	+0·37	+0·43	+0·23	−0·05	−0·09	−0·22	−0·11	−0·23	−0·61	−0·58
Nov.	+0·78	+0·07	+0·07	+0·14	+0·05	+0·19	+0·43	+0·62	+1·01	+0·88	+0·05	−0·97	−1·62	−1·77	−1·21	−0·71	−0·60	−0·38	−0·13	+0·12	+0·26	+0·49	+1·05	+1·19
Dec.	+0·20	+0·19	+0·16	+0·07	−0·04	−0·28	−0·32	−0·36	−0·30	+0·01	+0·17	+0·16	+0·13	+0·03	+0·10	+0·07	−0·07	−0·19	−0·17	0·00	+0·21	+0·16	+0·13	−0·07
Year	−0·13	−0·13	−0·09	−0·15	−0·25	−0·26	−0·14	+0·07	+0·42	+0·81	+1·00	+0·99	+0·73	+0·42	+0·16	−0·05	−0·20	−0·36	−0·48	−0·53	−0·48	−0·44	−0·45	−0·45
Winter	+0·17	+0·15	+0·09	−0·01	−0·11	−0·26	−0·29	−0·24	−0·09	+0·21	+0·43	+0·56	+0·46	+0·20	+0·12	0·00	−0·10	−0·22	−0·27	−0·24	−0·18	−0·17	−0·11	−0·11
Equinox	+0·45	+0·61	+0·80	+0·96	+1·06	+1·08	+1·28	+1·62	+1·96	+1·60	+0·29	−1·14	−2·78	−3·38	−2·97	−2·11	−1·09	−0·56	−0·17	+0·05	+0·30	+0·50	+0·66	+1·01
Summer	−0·27	−0·25	−0·12	−0·18	−0·32	−0·23	+0·11	+0·55	+1·05	+1·37	+1·45	+1·28	+0·89	+0·50	+0·09	−0·24	−0·45	−0·58	−0·74	−0·85	−0·83	−0·79	−0·73	−0·73
													HORIZONTAL COMPONENT											
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	−1·9	−1·9	−0·5	+0·7	+2·3	+3·7	+4·3	+3·9	+1·5	−2·1	−5·9	−9·1	−7·5	−2·5	−0·3	+1·1	+0·5	+1·5	+2·7	+2·7	+2·3	+2·5	+1·3	+0·7
Feb.	−1·7	−1·1	−1·1	+0·7	+2·3	+3·2	+3·9	+3·5	+0·5	−4·5	−9·1	−13·3	−10·7	−5·7	−3·1	+0·3	+0·9	+3·6	+5·1	+6·1	+6·1	+4·9	+4·9	+4·3
Mar.	+2·9	+3·0	+3·4	+1·7	+5·0	+6·2	+6·9	+6·0	−0·2	−7·5	−12·8	−15·4	−14·1	−10·8	−7·2	−3·1	+0·8	+4·0	+5·3	+6·0	+5·4	+4·7	+5·0	+4·8
Apr.	+4·0	+1·3	−1·5	−1·2	+0·3	+1·1	0·0	−3·1	−7·3	−16·4	−24·1	−23·9	−17·4	−13·1	−3·3	+6·4	+9·5	+16·7	+17·4	+16·3	+12·7	+8·0	+9·1	+8·5
May	+5·7	+5·2	+3·2	+2·9	+4·6	+4·4	+0·7	−5·4	−11·8	−17·9	−24·0	−26·2	−22·9	−15·8	−6·4	+0·5	+8·0	+14·8	+16·5	+15·6	+14·0	+12·7	+11·0	+10·6
June	+3·4	+3·3	+2·4	+4·7	+9·3	+9·0	+2·1	−7·3	−18·4	−27·3	−31·2	−30·1	−23·4	−14·3	−0·8	+9·1	+14·1	+14·2	+14·7	+16·3	+15·0	+13·9	+11·2	+10·1
July	+6·6	+6·1	+4·4	+5·1	+8·2	+6·1	−2·4	−8·3	−15·6	−22·1	−26·4	−25·3	−19·0	−13·3	−4·0	+2·3	+7·0	+11·1	+14·2	+15·1	+13·8	+13·5	+12·2	+10·7
Aug.	+3·2	+3·5	+0·8	+1·9	+1·8	−0·1	−2·8	−9·3	−18·2	−24·5	−22·0	−15·9	−9·2	−1·5	+0·6	+4·9	+6·6	+7·1	+10·4	+11·7	+12·6	+11·5	+12·4	+14·5
Sept.	+6·2	+3·5	+0·4	+3·7	+2·3	+2·4	+0·9	−0·7	−5·0	−12·5	−17·6	−20·5	−17·6	−8·7	−5·4	−1·1	+2·1	+1·0	+8·5	+11·3	+11·4	+11·9	+12·0	+11·5
Oct.	+0·1	+4·6	+8·2	+8·5	+8·6	+5·2	+6·5	+3·8	−0·8	−17·5	−21·6	−21·0	−14·5	−8·4	−3·6	−2·7	+0·6	+4·6	+5·1	+6·2	+4·2	+5·7	+9·8	+8·4
Nov.	−2·9	−3·2	−1·1	+0·1	+2·1	+4·4	+3·7	+1·3	−1·3	−6·6	−10·9	−12·1	−9·7	−4·0	−0·3	+1·7	+5·1	+6·6	+6·1	+6·3	+5·9	+5·2	+3·1	+0·5
Dec.	−2·9	−2·9	−2·8	−1·3	+0·3	+3·7	+4·5	+5·1	+4·0	−0·9	−3·7	−3·5	−3·1	−1·1	−1·6	−0·7	+1·7	+3·3	+3·1	+0·9	−2·0	−1·1	−0·9	+1·9
Year	+1·9	+1·8	+1·3	+2·3	+3·9	+4·1	+2·4	−0·9	−6·1	−13·3	−17·4	−18·0	−14·1	−8·3	−2·9	+1·6	+4·7	+7·4	+9·1	+9·5	+8·5	+7·8	+7·6	+7·2
Winter	−2·3	−2·3	−1·4	+0·1	+1·7	+3·7	+4·1	+3·5	+1·2	−3·5	−7·4	−9·5	−7·7	−3·3	−1·3	+0·6	+2·1	+3·7	+4·3	+4·0	+3·1	+2·9	+2·1	+1·9
Equinox	+3·3	+3·1	+2·6	+3·2	+4·1	+3·7	+3·6	+1·5	−3·3	−13·5	−19·0	−20·2	−15·9	−10·3	−4·9	−0·1	+3·3	+6·6	+9·1	+9·9	+8·4	+7·6	+9·0	+8·3
Summer	+4·7	+4·5	+2·7	+3·7	+6·0	+4·9	−0·6	−7·6	−16·0	−22·9	−25·9	−24·4	−18·6	−11·2	−2·7	+4·2	+8·9	+11·8	+13·9	+14·7	+13·9	+12·9	+11·7	+11·5

"Winter" comprises the four months January, February, November, December; "Equinox" the months March, April, September, October; and "Summer" May to August.

DIURNAL INEQUALITIES OF THE GEOGRAPHICAL COMPONENTS CF MAGNETIC FORCE

INTERNATIONAL DISTURBED DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

32 ESKDALEMUIR 1962

NORTH COMPONENT

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	+8·1	+13·6	+11·4	+15·5	+7·3	+18·3	+17·1	+17·3	+17·9	+11·0	-4·8	-14·6	-19·5	-15·1	-18·5	-17·1	-18·7	-15·2	-5·0	-7·8	-3·8	-0·7	-0·3	+3·6
Feb.	+6·9	+10·9	+11·0	+9·8	+13·0	+16·2	+17·4	+17·2	+11·9	+2·2	+0·5	-5·3	-2·2	-11·0	-8·8	-6·3	-14·9	-18·0	-13·0	-22·4	-10·7	-6·3	-0·8	+2·7
Mar.	+10·7	+12·2	+10·5	+9·4	+11·9	+18·0	+17·3	+15·1	+8·9	+5·5	-12·3	-16·8	-28·0	-20·8	-20·9	-10·7	-10·9	-1·7	-4·0	-4·1	-6·6	+1·8	+9·3	+6·1
Apr.	+14·7	+11·9	+7·4	+8·6	+12·4	+13·7	+12·7	+7·7	-8·3	-24·1	-34·1	-42·1	-42·4	-20·5	-15·7	+9·8	+19·2	+16·9	+14·7	+6·6	+8·5	+1·5	+5·6	+15·4
May	+9·3	+10·1	+6·8	+4·1	+8·7	+11·2	+5·4	-0·2	-4·6	-14·6	-25·9	-32·3	-27·5	-13·2	+6·1	+12·5	+15·3	+20·5	+20·4	-0·9	+0·3	-3·9	+2·3	-9·9
June	+9·0	+10·6	+8·8	+6·5	+9·5	+8·2	+0·7	-8·0	-17·2	-31·0	-30·9	-26·0	-22·7	-24·3	-10·7	-2·3	+4·3	+15·6	+21·7	+23·0	+20·6	+15·2	+11·9	+7·5
July	+4·3	+10·0	+8·7	+1·6	-1·3	-8·3	-6·2	-13·2	-12·1	-20·4	-30·6	-28·0	-18·2	-20·2	-11·9	+4·8	+6·5	+17·8	+25·8	+17·8	+23·3	+28·3	+12·3	+9·2
Aug.	+9·8	+19·7	+18·0	+4·3	+17·0	+7·9	+6·8	-12·5	-32·0	-40·8	-33·9	-27·2	-28·1	-15·2	-11·0	-2·4	+2·1	+11·3	+15·7	+24·5	+23·8	+17·9	+19·3	+4·9
Sept.	+16·1	+15·4	+10·9	+3·7	+12·6	+10·8	+1·9	-28·6	-10·5	-31·4	-46·3	-38·5	-18·2	-12·9	-3·5	+0·2	+11·2	+11·8	+9·7	+24·3	+20·7	+13·0	+10·8	+16·7
Oct.	+2·2	+3·5	+10·5	+15·1	+13·3	+13·4	+14·6	+2·5	-12·7	-17·8	-19·5	-24·8	-25·8	-20·4	-8·7	-8·6	-4·8	+6·5	+15·3	+5·8	+2·2	+15·5	+12·5	+10·1
Nov.	+14·2	+8·1	+8·9	+12·3	+11·8	+6·7	+10·8	+0·6	+0·9	-5·5	-16·1	-17·7	-29·5	-27·4	-14·4	-8·6	+1·6	+0·9	+6·9	-0·1	+4·4	+29·3	+1·3	+0·8
Dec.	+10·7	+3·9	+5·2	+9·7	+8·8	+14·7	+12·7	+9·9	+6·5	+2·1	-2·9	-3·8	-5·4	-0·5	-11·7	-6·0	-6·9	-4·6	-11·0	+3·2	-21·6	-8·7	+3·7	-8·2
Year	+9·7	+10·9	+9·8	+8·4	+10·4	+10·9	+9·3	+0·6	-4·3	-13·8	-21·4	-23·1	-22·3	-16·7	-10·8	-2·9	+0·4	+5·2	+8·1	+5·8	+5·1	+8·6	+7·3	+4·9
Winter	+10·0	+9·2	+9·1	+11·8	+10·2	+13·9	+14·5	+11·2	+9·4	+2·4	-5·8	-10·4	-14·1	-13·5	-13·4	-9·5	-9·7	-9·2	-5·5	-6·7	-7·9	+3·4	+1·0	-0·2
Equinox	+10·9	+10·8	9·8	+9·2	+12·6	+14·0	+11·6	-0·8	-5·7	-17·0	-28·1	-30·5	-28·6	-18·7	-12·2	-2·3	+3·7	+8·4	+8·9	+8·1	+6·2	+7·9	+9·5	+12·1
Summer	+8·1	+12·6	10·5	+4·1	+8·5	+4·8	+1·6	-8·4	-16·5	-26·7	-30·3	-28·4	-24·1	-18·2	-6·9	+3·2	+7·0	+16·3	+20·9	+16·1	+17·0	+14·3	+11·5	+2·9

WEST COMPONENT

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	-4·9	-2·1	+0·7	+0·6	-1·0	+1·6	+2·1	+5·8	+3·9	+2·3	+1·0	+9·7	+16·3	+19·3	+14·4	+5·7	+7·7	+2·3	-4·8	-13·0	-13·3	-18·9	-21·3	-14·2
Feb.	-21·5	-14·8	-4·4	-2·8	-1·6	-0·6	-1·1	-3·3	-6·3	-7·3	-1·6	+13·9	+22·5	+27·5	+30·8	+32·1	+33·3	+9·5	-8·4	-15·1	-28·5	-20·7	-18·3	-13·3
Mar.	-7·6	-1·3	-5·0	-6·8	-2·0	-2·4	-3·7	-5·1	-13·3	-11·1	-1·5	+12·1	+24·2	+36·5	+31·5	+28·6	+13·8	-2·7	-13·7	-26·8	-18·6	-9·7	-8·7	-6·6
Apr.	-17·1	-24·3	-8·9	+1·0	+0·2	-7·5	-0·4	+0·1	-8·7	-12·7	-2·3	+12·4	+20·8	+33·4	+39·9	+26·7	+17·5	+22·5	-3·7	-13·9	-18·2	-23·9	-16·2	-16·8
May	-11·3	-13·9	-7·1	-2·1	-9·3	-18·7	-23·8	-27·7	-26·1	-19·7	-3·2	+16·2	+33·5	+43·4	+41·8	+32·4	+26·2	+14·1	+4·7	-3·5	-1·5	-8·5	-17·9	-17·9
June	-2·1	-10·4	-13·7	-9·7	-5·3	-16·3	-27·1	-30·2	-28·6	-18·9	-1·9	+12·2	+29·5	+34·6	+31·0	+26·9	+24·8	+20·7	+11·1	-3·8	-2·5	-3·6	-9·8	-6·8
July	-3·0	-1·2	-8·5	-8·8	-9·9	-17·6	-19·7	-25·0	-20·3	-14·2	-6·7	+11·0	+21·6	+27·4	+30·4	+23·1	+20·3	+20·4	+9·0	+12·0	-1·5	-15·8	-11·5	-11·4
Aug.	-13·7	+0·4	-13·0	-14·0	-6·4	-19·5	-17·2	-16·3	-13·9	-12·0	+5·5	+22·4	+33·1	+37·2	+33·9	+25·5	+14·3	+14·7	+5·1	-4·9	-15·2	-17·2	-16·0	-12·7
Sept.	-9·1	-4·0	+4·2	+2·0	+4·8	-3·6	-11·4	-21·8	-8·8	-9·7	-2·5	+19·4	+30·9	+34·1	+30·9	+21·2	+14·5	+7·0	-8·6	-19·9	-22·9	-14·5	-23·8	-8·1
Oct.	-12·0	-2·2	-21·3	-6·6	0·0	+9·0	+8·7	+5·9	+6·3	+6·8	+8·8	+21·9	+23·6	+30·1	+30·1	+17·9	+1·2	-3·3	-24·4	-13·5	-32·1	-28·1	-11·7	-14·9
Nov.	-14·9	-7·6	-5·9	+0·6	+2·2	+10·9	+19·2	+13·7	+13·3	+5·5	+6·7	+14·7	+15·2	+25·7	+24·1	+6·1	+3·6	-3·1	-22·5	-14·3	-15·8	-34·9	-30·5	-12·2
Dec.	-21·1	-19·1	-3·1	+3·9	+17·7	+15·1	+17·9	+23·1	+22·5	+20·5	+20·6	+20·0	+25·5	+27·1	+15·7	+3·9	+7·7	-27·0	-29·5	-40·6	-22·6	-23·6	-29·8	-24·8
Year	-11·5	-8·4	-7·2	-3·6	-0·9	-4·1	-4·7	-6·8	-6·7	-5·9	+1·9	+15·5	+24·7	+31·4	+29·6	+20·9	+15·4	+6·3	-7·1	-13·1	-16·1	-18·3	-18·0	-13·3
Winter	-15·6	-10·9	-3·2	+0·5	+4·3	+6·7	+9·5	+9·8	+8·3	+5·4	+6·7	+14·6	+19·8	+24·9	+21·3	+11·9	+13·1	-4·5	-16·3	-20·7	-20·1	-24·5	-25·0	-16·1
Equinox	-11·4	-8·0	-7·8	-2·6	+0·7	-1·1	-1·7	-5·3	-6·1	-6·7	+0·6	+16·5	+24·9	+33·5	+33·2	+23·6	+11·7	+5·9	-12·6	-18·5	-23·0	-19·0	-15·1	-11·6
Summer	-7·5	-6·2	-10·6	-8·7	-7·7	-18·0	-22·0	-24·8	-22·3	-16·2	-1·6	+15·4	+29·4	+35·7	+34·3	+27·0	+21·4	+17·5	+7·5	0·0	-5·1	-11·3	-13·8	-12·2

VERTICAL COMPONENT

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	-13·0	-14·3	-12·4	-17·1	-17·3	-17·2	-14·5	-14·1	-13·4	-11·5	-7·2	-5·3	-1·8	+3·9	+14·0	+24·1	+36·3	+28·2	+24·1	+20·3	+9·2	+6·1	0·0	-7·1
Feb.	-16·0	-19·1	-19·3	-14·4	-12·5	-12·9	-13·2	-12·7	-11·3	-12·0	-16·1	-16·9	-13·0	-7·7	+3·1	+16·2	+34·9	+41·3	+40·6	+38·7	+25·3	+9·2	-1·7	-10·5
Mar.	-6·4	-8·2	-9·0	-7·2	-10·8	-13·2	-11·0	-9·8	-10·2	-11·4	-12·2	-13·8	-11·8	-4·0	+3·0	+12·6	+20·8	+25·0	+27·4	+24·8	+17·6	+10·0	0·0	-2·2
Apr.	-29·6	-28·3	-18·7	-20·0	-20·5	-18·3	-18·0	-16·7	-13·9	-11·2	-8·9	-8·7	-4·8	+2·9	+15·7	+34·8	+40·7	+42·5	+47·8	+40·3	+24·1	+5·2	-14·9	-21·5
May	-10·7	-11·8	-11·7	-13·6	-11·2	-9·1	-9·4	-10·6	-14·5	-17·8	-21·1	-23·0	-14·9	+0·4	+12·9	+26·8	+29·8	+33·9	+30·4	+27·4	+17·5	+10·8	-1·1	-9·4
June	-9·7	-8·0	-6·8	-8·1	-14·0	-18·6	-15·9	-11·8	-9·0	-8·1	-9·4	-10·4	-7·5	-2·0	+1·0	+6·7	+12·8	+17·4	+24·5	+27·6	+23·0	+16·9	+9·6	-0·2
July	-12·4	-18·0	-14·5	-13·0	-16·2	-13·0	-14·0	-5·0	-4·7	-9·2	-8·8	-9·8	-6·2	+2·0	+10·5	+22·0	+28·8	+25·6	+23·0	+18·2	+16·3	+6·6	-3·0	-5·2
Aug.	-3·8	-25·5	-41·5	-29·0	-28·3	-19·9	-14·8	-8·9	-4·1	-2·2	-6·7	-9·3	-6·6	+3·5	+15·5	+26·4	+33·1	+31·9	+30·0	+27·1	+21·5	+13·4	+2·3	-4·1
Sept.	-10·9	-5·4	-7·9	-19·4	-28·0	-23·5	-18·0	-10·6	-10·5	-6·2	-5·3	-5·4	-5·5	+5·4	+16·9	+26·8	+34·8	+40·9	+45·8	+28·0	+9·5	+2·8	-15·5	-38·8
Oct.	-25·6	-46·5	-38·8	-17·3	-11·2	-11·1	-8·8	-6·9	-3·0	-3·3	-1·4	+1·1	+13·8	+18·3	+25·6	+30·1	+35·6	+32·7	+28·6	+19·7	+11·2	-9·7	-18·0	-15·1
Nov.	-7·6	-5·7	-13·8	-13·6	-12·0	-13·3	-15·4	-9·4	-4·8	-1·3	0·0	+2·6	+9·4	+16·3	+22·2	+19·0	+15·6	+12·3	+12·8	+9·2	+5·6	-6·1	-11·2	-10·8
Dec.	-30·3	-37·2	-46·6	-33·9	-23·8	-16·8	-10·3	-7·4	-4·0	-2·3	+0·2	+2·4	+3·3	+7·2	+19·8	+25·9	+32·0	+45·6	+42·3	+36·8	+17·2	-1·5	-4·2	-14·4
Year	-14·7	-19·0	-20·1	-17·2	-17·1	-15·6	-13·6	-10·3	-8·6	-8·0	-8·1	-8·0	-3·8	+3·9	+13·3	+22·6	+29·6	+31·4	+31·4	+26·5	+16·5	+5·3	-4·8	-11·6
Winter	-16·7	-19·1	-23·0	-19·7	-16·4	-15·1	-13·3	-10·9	-8·4	-6·8	-5·8	-4·3	-0·5	+4·9	+14·8	+21·3	+29·7	+31·9	+29·9	+26·3	+14·3	+1·9	-4·3	-10·7
Equinox	-18·1	-22·1	-18·6	-16·0	-17·6	-16·5	-13·9	-11·0	-9·4	-8·0	-6·9	-6·7	-2·1	+5·7	+15·3	+26·1	+33·0	+35·3	+37·4	+28·2	+15·6	+2·1	-12·1	-19·4
Summer	-9·1	-15·8	-18·6	-15·9	-17·4	-15·1	-13·5	-9·1	-8·1	-9·3	-11·5	-13·1	-8·8	+1·0	+10·0	+20·5	+26·1	+27·2	+27·0	+25·1	+19·6	+11·9	+1·9	-4·7

"Winter" comprises the four months January, February, November, December; "Equinox" the months March, April, September, October; and "Summer" May to August.

INTERNATIONAL DISTURBED DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

33 ESKDALEMUIR 1962

DECLINATION (measured positive towards the west)

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	−1·28	−0·91	−0·28	−0·45	−0·47	−0·34	−0·21	+0·53	+0·14	+0·07	+0·38	+2·49	+4·00	+4·43	+3·58	+1·77	+2·23	+1·02	−0·79	−2·33	−2·54	−3·77	−4·28	−2·99
Feb.	−4·59	−3·37	−1·29	−0·93	−0·79	−0·72	−0·85	−1·29	−1·71	−1·55	−0·35	+2·99	+4·61	+5·95	+6·53	+6·69	+7·25	+2·56	−1·21	−2·23	−5·35	−3·93	−3·65	−2·77
Mar.	−1·92	−0·72	−1·39	−1·72	−0·84	−1·14	−1·38	−1·58	−3·01	−2·44	+0·14	+3·06	+5·90	+8·12	+7·11	+6·14	+3·18	−0·48	−2·60	−5·24	−3·51	−2·02	−2·10	−1·56
Apr.	−3·97	−5·32	−2·05	−0·11	−0·41	−2·00	−0·55	−0·27	−1·45	−1·68	+0·77	+4·03	+5·73	+7·46	+8·61	+5·03	+2·83	+3·92	−1·29	−3·03	−3·97	−4·86	−3·47	−3·95
May	−2·60	−3·15	−1·68	−0·58	−2·18	−4·17	−4·98	−5·56	−5·08	−3·43	+0·30	+4·42	+7·72	+9·19	+8·18	+6·06	+4·70	+2·09	+0·20	−0·66	−0·30	−1·57	−3·68	−3·24
June	−0·76	−2·48	−3·06	−2·18	−1·40	−3·57	−5·46	−5·78	−5·12	−2·68	+0·74	+3·40	+6·74	+7·84	+6·62	+5·48	+4·82	+3·59	+1·44	−1·60	−1·26	−1·28	−2·40	−1·64
July	−0·76	−0·60	−2·02	−1·82	−1·94	−3·23	−3·74	−4·54	−3·64	−2·12	−0·24	+3·22	+5·00	+6·24	+6·54	+4·46	+3·64	+3·45	+0·86	+1·76	−1·14	−4·20	−2·76	−2·62
Aug.	−3·11	−0·63	−3·26	−2·97	−1·91	−4·21	−3·71	−2·83	−1·64	−0·93	+2·33	+5·49	+7·67	+8·03	+7·22	+5·21	+2·79	+2·55	+0·45	−1·87	−3·92	−4·11	−3·91	−2·73
Sept.	−2·42	−1·37	+0·44	+0·26	+0·50	−1·11	−2·36	−3·34	−1·38	−0·81	+1·18	+5·30	+6·86	+7·31	+6·34	+4·26	+2·50	+0·97	−2·08	−4·88	−5·36	−3·39	−5·18	−2·24
Oct.	−2·49	−0·58	−4·67	−1·87	−0·49	+1·32	+1·23	+1·09	+1·73	+2·02	+2·47	+5·31	+5·69	+6·80	+6·37	+3·91	+0·41	−0·90	−5·47	−2·93	−6·55	−6·22	−2·81	−3·37
Nov.	−3·50	−1·82	−1·50	−0·32	+0·02	+1·95	+3·46	+2·74	+2·64	+1·30	+1·94	+3·60	+4·12	+6·16	+5·36	+1·54	+0·66	−0·65	−4·78	−2·86	−3·34	−8·06	−6·18	−2·48
Dec.	−4·63	−3·99	−0·81	+0·43	+3·23	+2·51	+3·13	+4·29	+4·29	+4·05	+4·25	+4·15	+5·31	+5·47	+3·59	+1·01	+1·79	−5·25	−5·53	−8·27	−3·77	−4·43	−6·13	−4·69
Year	−2·67	−2·08	−1·80	−1·02	−0·56	−1·23	−1·29	−1·38	−1·19	−0·68	+1·16	+3·95	+5·78	+6·92	+6·34	+4·30	+3·08	+1·07	−1·73	−2·85	−3·42	−3·99	−3·88	−2·86
Winter	−3·50	−2·52	−0·97	−0·32	+0·50	+0·85	+1·38	+1·57	+1·34	+0·97	+1·55	+3·31	+4·51	+5·50	+4·77	+2·75	+2·98	−0·58	−3·08	−3·92	−3·75	−5·05	−5·06	−3·23
Equinox	−2·70	−2·00	−1·92	−0·86	−0·31	−0·73	−0·77	−1·03	−1·03	−0·73	+1·14	+4·43	+6·05	+7·42	+7·11	+4·83	+2·23	+0·88	−2·86	−4·02	−4·85	−4·12	−3·39	−2·78
Summer	−1·81	−1·71	−2·51	−1·89	−1·86	−3·79	−4·47	−4·68	−3·87	−2·29	+0·78	+4·13	+6·78	+7·83	+7·14	+5·30	+4·04	+2·92	+0·74	−0·59	−1·65	−2·79	−3·19	−2·56

INCLINATION

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	−0·79	−1·22	−1·06	−1·45	−0·89	−1·65	−1·51	−1·55	−1·55	−1·03	+0·12	+0·71	+1·04	+0·86	+1·39	+1·65	+2·03	+1·66	+0·98	+1·17	+0·63	+0·42	+0·27	−0·24
Feb.	−0·59	−1·01	−1·14	−0·96	−1·14	−1·37	−1·45	−1·40	−0·99	−0·36	−0·41	−0·24	−0·44	+0·20	+0·29	+0·43	+1·44	+2·09	+1·95	+2·60	+1·66	+0·89	+0·22	−0·28
Mar.	−0·77	−0·99	−0·85	−0·71	−1·03	−1·48	−1·36	−1·17	−0·68	−0·51	+0·53	+0·62	+1·25	+0·83	+1·07	+0·67	+1·06	+0·76	+1·10	+1·20	+1·09	+0·25	−0·51	−0·37
Apr.	−1·49	−1·19	−0·84	−1·07	−1·32	−1·27	−1·27	−0·92	+0·31	+1·45	+2·04	+2·39	+2·41	+1·02	+0·94	−0·10	−0·46	−0·32	+0·26	+0·73	+0·25	+0·31	−0·54	−1·34
May	−0·74	−0·79	−0·65	−0·58	−0·74	−0·74	−0·31	+0·08	+0·25	+0·75	+1·22	+1·36	+1·04	+0·36	−0·57	−0·54	−0·58	−0·67	−0·64	+0·78	+0·43	+0·62	+0·03	+0·63
June	−0·81	−0·77	−0·58	−0·51	−0·91	−0·81	−0·12	+0·59	+1·24	+2·06	+1·82	+1·30	+0·95	+1·14	+0·36	0·00	−0·26	−0·83	−0·95	−0·78	−0·75	−0·54	−0·43	−0·42
July	−0·56	−1·08	−0·83	−0·32	−0·20	+0·43	+0·29	+1·04	+0·92	+1·28	+1·87	+1·46	+0·79	+1·05	+0·68	−0·04	+0·05	−0·77	−1·23	−0·85	−1·11	−1·50	−0·75	−0·59
Aug.	−0·57	−1·93	−2·05	−0·84	−1·74	−0·78	−0·61	+0·79	+2·16	+2·76	+1·99	+1·29	+1·29	+0·64	+0·70	+0·51	+0·51	−0·12	−0·35	−0·88	−0·85	−0·64	−1·02	−0·27
Sept.	−1·22	−1·09	−0·96	−0·75	−1·57	−1·25	−0·43	+1·87	+0·53	+2·02	+2·93	+2·16	+0·69	+0·57	+0·28	+0·40	−0·05	+0·16	+0·60	−0·67	−0·85	−0·61	−0·81	−1·96
Oct.	−0·63	−1·35	−1·40	−1·34	−1·15	−1·26	−1·28	−0·40	+0·69	+1·00	+1·14	+1·39	+1·75	+1·43	+0·85	+1·10	+1·18	+0·42	−0·01	+0·27	+0·52	−0·93	−1·12	−0·86
Nov.	−0·94	−0·58	−0·85	−1·15	−1·09	−0·89	−1·31	−0·43	−0·34	+0·26	+0·98	+1·05	+1·98	+1 89	+1·21	+0·96	+0·24	+0·28	+0·13	+0·40	+0·04	−1·66	−0·01	−0·17
Dec.	−1·20	−0·95	−1·46	−1·52	−1·37	−1·55	−1·29	−1·00	−0·79	−0·44	−0·05	+0·07	+0·13	−0·11	+1·07	+0·99	+1·05	+1·75	+2·11	+1·17	+2·10	+0·81	0·00	+0·47
Year	−0·86	−1·08	−1·05	−0·93	−1·09	−1·05	−0·89	−0·21	+0·15	+0·77	+1·18	+1·13	+1·07	+0·82	+0·69	+0·50	+0·53	+0·36	+0·33	+0·43	+0·27	−0·21	−0·39	−0·45
Winter	−0·89	−0·95	−1·13	−1·27	−1·12	−1·37	−1·39	−1·12	−0·92	−0·39	+0·16	+0·40	+0·68	+0·71	+0·99	+1·01	+1·21	+1·45	+1·29	+1·34	+1·11	+0·11	+0·13	−0·06
Equinox	−1·03	−1·16	−1·01	−0·97	−1·27	−1·31	−1·08	−0·16	+0·21	+0·99	+1·66	+1·64	+1·53	+0·97	+0·78	+0·52	+0·43	+0·25	+0·49	+0·38	+0·25	−0·24	−0·75	−1·13
Summer	−0·67	−1·14	−1·03	−0·56	−0·90	−0·47	−0·18	+0·62	+1·15	+1·71	+1·72	+1·35	+1·01	+0·80	+0·29	−0·02	−0·07	−0·60	−0·79	−0·43	−0·57	−0·51	−0·55	−0·21

HORIZONTAL COMPONENT

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	+7·1	+13·0	+11·3	+15·4	+7·0	+18·3	+17·2	+18·0	+18·3	+11·2	−4·5	−12·6	−16·3	−11·4	−15·7	−15·8	−17·0	−14·5	−5·8	−10·0	−6·1	−4·0	−4·1	+1·0
Feb.	+3·0	+8·1	+10·0	+9·1	+12·5	+15·8	+16·9	+16·3	+10·6	+0·9	+0·2	−2·7	+1·8	−5·9	−3·2	−0·5	−8·7	−16·0	−14·3	−24·7	−15·6	−9·9	−4·0	+0·3
Mar.	+9·2	+11·8	+9·4	+8·0	+11·4	+17·3	+16·4	+14·0	+6·4	+3·4	−12·4	−14·4	−23·2	−14·0	−15·0	−5·4	−8·2	−2·1	−6·4	−8·8	−9·8	0·0	+7·6	+4·8
Apr.	+11·4	+7·4	+5·7	+8·6	+12·2	+12·2	+12·4	+7·6	−9·7	−26·0	−34·0	−39·2	−38·0	−14·2	−8·3	+14·4	+22·0	+20·6	+13·8	+4·0	+5·1	−2·8	+2·6	+12·2
May	+7·1	+7·5	+5·4	+3·7	+6·9	+7·7	+1·1	−5·1	−9·2	−17·9	−26·1	−28·9	−21·1	−5·3	+13·4	+18·1	+19·7	+22·7	+20·9	−1·5	0·0	−5·3	−0·9	−12·9
June	+8·5	+8·6	+6·2	+4·7	+8·4	+5·2	−4·1	−13·2	−22·0	−33·9	−30·8	−23·4	−17·1	−17·8	−5·0	+2·5	+8·6	+19·0	+23·3	+22·0	+19·8	+14·3	+10·0	+6·2
July	+3·7	+9·6	+7·1	0·0	−3·0	−11·3	−9·6	−17·4	−15·5	−22·6	−31·3	−25·6	−14·1	−15·0	−6·3	+8·8	+10·0	+21·1	+27·0	+19·6	+22·7	+25·0	+10·1	+7·0
Aug.	+7·2	+19·5	+15·4	+1·8	+15·6	+4·3	+3·6	−15·2	−34·0	−42·3	−32·4	−22·8	−21·8	−8·3	−4·8	+2·2	+4·6	+13·7	+16·4	+23·2	+20·7	+14·6	+16·2	+2·6
Sept.	+14·2	+14·4	+11·5	+4·0	+13·2	+10·0	−0·2	−32·0	−11·9	−32·6	−46·0	−34·4	−12·4	−6·6	+2·1	+4·0	+13·6	+12·8	+8·0	+20·4	+16·3	+10·2	+6·4	+15·0
Oct.	0·0	+3·1	+6·6	+13·7	+13·1	+14·8	+15·9	+3·5	−11·4	−16·3	−17·6	−20·5	−21·2	−14·7	−3·2	−5·3	−4·5	+5·8	+10·7	+3·3	−3·6	+10·3	+10·2	+7·3
Nov.	+11·3	+6·6	+7·7	+12·2	+12·0	+8·5	+14·0	+3·0	+3·3	−4·4	−14·7	−14·8	−26·3	−22·4	−9·9	−7·4	+2·2	+0·3	+2·8	−2·6	+1·5	+22·6	−4·1	−1·4
Dec.	+6·8	+0·5	+4·6	+10·2	+11·8	+17·1	+15·6	+13·8	+10·4	+5·7	+0·8	−0·2	−0·8	+4·3	−8·8	−5·2	−5·4	−9·3	−16·0	−4·0	−25·2	−12·7	−1·6	−12·4
Year	+7·5	+9·2	+8·4	+7·6	+10·1	+10·0	+8·3	−0·6	−5·4	−14·6	−20·7	−20·0	−17·5	−10·9	−5·4	+0·9	+3·1	+6·2	+6·7	+3·4	+2·1	+5·2	+4·0	+2·5
Winter	+7·1	+7·1	+8·4	+11·7	+10·8	+14·9	+15·9	+12·8	+10·7	+3·3	−4·5	−7·6	−10·4	−8·9	−9·4	−7·2	−7·2	−9·9	−8·3	−10·3	−11·3	−1·0	−3·5	−3·1
Equinox	+8·7	+9·2	+8·3	+8·6	+12·5	+13·6	+11·1	−1·7	−6·7	−17·9	−27·5	−27·1	−23·7	−12·4	−6·1	+1·9	+5·7	+9·3	+6·5	+4·7	+2·0	+4·4	+6·7	+9·8
Summer	+6·6	+11·3	+8·5	+2·5	+7·0	+1·5	−2·3	−12·7	−20·2	−29·2	−30·1	−25·2	−18·5	−11·6	−0·7	+7·9	+10·7	+19·1	+21·9	+15·8	+15·8	+12·1	+8·9	+0·7

"Winter" comprises the four months January, February, November, December; "Equinox" the months March, April, September, October; and "Summer" May to August.

RANGE OF MEAN DIURNAL INEQUALITIES FOR THE MONTHS, YEAR AND SEASONS OF 1962

The ranges are derived from the diurnal inequalities printed in Tables 28 to 33

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	All days			Quiet days			Disturbed days			All days			Quiet days			Disturbed days		
	X	*-Y*	*Z*	*X*	*-Y*	*Z*	*X*	*-Y*	*Z*	*D*	*I*	*H*	*D*	*I*	*H*	*D*	*I*	*H*
	γ	γ	γ	γ	γ	γ	γ	γ	γ	′	′	γ	′	′	γ	′	′	γ
January	20·0	23·4	14·2	14·0	17·8	5·5	37·8	40·6	53·6	5·04	1·26	17·7	3·82	0·86	13·4	8·71	3·68	35·3
February	22·0	28·9	18·7	19·9	24·0	6·4	39·8	61·8	60·6	6·17	1·30	20·1	5·03	1·18	19·4	12·60	4·05	41·6
March	30·1	39·9	22·2	24·5	36·7	15·7	46·0	63·3	41·2	8·77	1·53	25·7	7·74	1·20	22·3	13·36	2·73	40·5
April	43·5	45·0	30·4	40·8	46·1	23·4	61·6	64·2	77·4	9·49	2·45	42·6	9·66	2·32	41·5	13·93	3·90	61·2
May	44·6	57·1	32·7	43·2	51·3	22·6	52·8	71·1	56·9	11·88	2·21	44·3	10·67	2·28	42·7	14·75	2·15	51·6
June	47·7	58·4	29·7	48·3	57·7	26·4	54·0	64·8	46·2	12·17	2·63	49·3	12·15	2·66	47·5	13·62	3·01	57·2
July	45·5	51·5	28·0	41·6	56·5	22·1	58·9	55·4	46·8	10·43	2·55	47·5	11·74	2·38	41·5	11·08	3·37	58·3
August	41·9	50·8	33·6	38·0	52·9	21·9	65·3	56·7	74·6	10·38	2·30	41·7	10·68	2·46	39·0	12·24	4·81	65·5
September	39·5	38·9	37·0	34·9	37·6	16·5	70·6	57·9	84·6	8·43	2·34	37·4	7·93	1·95	32·5	12·67	4·89	66·4
October	40·8	41·8	36·7	33·5	33·8	21·6	41·3	62·2	82·1	9·29	2·66	35·7	7·64	2·24	31·4	13·35	3·15	37·1
November	27·2	33·0	18·3	19·4	20·4	4·6	58·8	60·6	37·6	7·49	1·72	23·8	4·40	2·96	18·7	14·22	3·64	48·9
December	15·8	29·3	24·2	9·9	15·4	6·7	36·3	67·7	92·2	6·14	1·30	15·1	3·30	0·57	8·8	13·74	3·66	42·3
Year	29·3	36·2	22·3	28·5	35·8	14·1	34·0	49·7	51·5	7·61	1·59	27·4	7·52	1·53	27·5	10·91	2·27	30·8
Winter	20·1	27·9	17·0	14·6	18·5	4·3	28·6	49·9	54·9	6·04	1·29	18·7	3·85	0·85	13·8	10·56	2·84	27·2
Equinox	35·3	38·4	27·1	30·7	36·4	16·7	44·5	56·5	59·5	8·17	2·10	31·7	7·82	5·34	30·1	12·27	2·97	41·1
Summer	43·7	54·1	29·8	40·8	53·9	22·3	51·2	60·5	45·8	11·21	2·34	45·2	11·31	2·30	40·6	12·51	2·86	52·0

NON-CYCLIC CHANGE

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	All days			Quiet days			Disturbed days		
	H	*D*	*Z*	*H*	*D*	*Z*	*H*	*D*	*Z*
	γ	′	γ	γ	′	γ	γ	′	γ
January	+0·3	+0·05	0·0	+3·0	+0·17	−1·5	−6·0	−0·33	+4·2
February	+0·2	−0·02	+0·1	+5·9	+0·01	−3·3	−6·8	+1·75	−0·3
March	+0·7	0·00	−0·2	+2·4	−0·08	+1·4	−1·5	+1·29	−0·1
April	−0·3	−0·07	+0·4	+7·7	+0·42	+3·7	−5·8	−0·90	−4·2
May	−0·7	−0·07	−0·3	+3·3	+0·24	+1·0	−22·5	−1·09	+0·1
June	+0·9	+0·03	+0·3	+7·6	+0·16	−2·0	−9·5	−1·15	+0·8
July	+0·4	+0·04	+0·2	+3·1	+1·29	+2·0	−7·2	−1·12	−0·9
August	−0·5	−0·05	−0·2	+7·7	−1·19	−0·5	−4·4	+1·34	−4·0
September	0·0	−0·10	+0·2	+2·8	−2·11	−1·4	−9·6	+0·42	−20·3
October	−0·2	−0·03	+0·1	+2·3	+0·94	+5·3	−3·0	+1·99	+0·4
November	−0·2	−0·03	−0·5	+2·3	−0·02	+1·6	−10·2	−0·24	−7·1
December	+0·3	+0·01	+0·7	+3·2	−0·50	+0·1	−4·9	−1·37	−1·5
Year	+0·1	−0·02	+0·1	+4·3	−0·06	+0·5	−7·6	+0·05	−2·7
Winter	+0·1	0·00	+0·1	+3·6	−0·09	−0·8	−7·0	−0·05	−1·2
Equinox	+0·1	−0·05	+0·1	+3·8	−0·21	+2·3	−5·0	+0·70	−6·1
Summer	0·0	−0·01	0·0	+5·4	+0·13	+0·1	−10·9	−0·51	−1·0

AVERAGE RANGE OF DIURNAL INEQUALITY 1932-53
WITH 1962 AS PERCENTAGE OF THIS

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		All days			International quiet days			International disturbed days		
		H	*D*	*Z*	*H*	*D*	*Z*	*H*	*D*	*Z*
		γ	′	γ	γ	′	γ	γ	′	γ
Year	1932-53	37·8	8·66	28·7	34·4	8·43	13·7	53·9	11·93	82·1
	1962(%)	73	88	78	80	89	103	57	91	63
Winter	1932-53	19·3	6·95	21·2	16·2	4·44	5·9	34·4	11·45	66·5
	1962(%)	97	87	80	85	87	73	79	92	83
Equinox	1932-53	43·1	10·18	37·1	39·7	9·69	14·8	75·4	15·11	108·9
	1962(%)	74	80	73	76	81	113	55	81	55
Summer	1932-53	59·7	11·84	33·9	50·4	11·76	21·9	83·7	13·11	82·4
	1962(%)	76	95	88	81	96	102	62	95	56

"Winter" comprises the four months January, February, November, December; "Equinox" the months March, April, September, October; and "Summer" May to August.

HARMONIC COMPONENTS OF THE DIURNAL INEQUALITY OF MAGNETIC FORCE

Values of a_n, b_n in the series $\Sigma(a_n \cos 15nt + b_n \sin 15nt)$, t being reckoned in hours from midnight G.M.T.

Longitude of Eskdalemuir Observatory, 3°12′W.

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North component

	a_1	b_1	a_2	b_2	a_3	b_3	a_4	b_4
	γ	γ	γ	γ	γ	γ	γ	γ
ALL DAYS								
January	+3·9	+5·0	−3·6	−2·0	+1·8	−1·1	−0·7	+0·7
February	+4·6	+5·0	−3·8	−1·7	+2·3	−1·6	0·0	+0·7
March	+9·3	+4·7	−6·1	−2·9	+3·5	−0·3	−0·5	+0·3
April	+14·8	−3·2	−10·8	+0·1	+5·0	−1·6	+0·9	+0·4
May	+13·4	−6·9	−9·9	+2·2	+2·5	−1·0	+0·1	−0·2
June	+15·4	−7·8	−10·3	+0·8	+0·5	−1·1	+0·7	+0·7
July	+14·9	−8·5	−9·2	+1·0	+1·3	−0·5	0·0	0·0
August	+15·0	−8·0	−7·0	+1·9	+0·1	−1·7	+0·7	+0·3
September	+14·5	−3·9	−6·3	+1·4	+0·9	−2·2	+0·5	+0·9
October	+15·3	+0·1	−8·3	−0·5	+2·6	−2·6	−0·5	+0·5
November	+8·8	+1·4	−6·1	−1·9	+2·5	−1·0	−0·9	0·0
December	+2·2	+4·1	−3·1	−1·2	+1·1	−1·1	+0·8	+0·8
Year	+11·0	−1·5	−7·1	−0·2	+2·0	−1·3	+0·1	+0·5
Winter	+4·9	+3·8	−4·2	−1·7	+1·9	−1·2	−0·2	+0·6
Equinox	+13·5	−0·6	−7·9	−0·4	+3·0	−1·7	+0·1	+0·5
Summer	+14·7	−7·8	−9·1	+1·5	+1·1	−1·1	+0·4	+0·2
QUIET DAYS								
Year	+9·9	−1·0	−6·7	+0·1	+1·8	−1·1	0·0	+0·5
Winter	+3·3	+0·8	−4·3	−0·9	+1·7	−0·8	−0·4	+0·3
Equinox	+11·3	−0·1	−6·9	−0·7	+2·5	−0·8	−0·3	+0·9
Summer	+15·0	−3·6	−9·1	+1·8	+1·7	−1·8	+0·5	+0·1
DISTURBED DAYS								
Year	+13·8	−1·4	−7·7	+0·3	+2·2	−1·6	+0·2	0·0
Winter	+7·0	+8·6	−3·2	−2·0	+2·3	−0·7	−0·5	−0·2
Equinox	+16·9	−1·5	−9·7	+1·4	+3·8	−2·2	+0·8	−0·4
Summer	+17·4	−11·6	−10·1	+1·5	+0·5	−1·8	+0·2	+0·4

West component

	a_1	b_1	a_2	b_2	a_3	b_3	a_4	b_4
	γ	γ	γ	γ	γ	γ	γ	γ
ALL DAYS								
January	−6·0	−1·4	−0·3	+5·4	−1·3	−0·6	+0·7	+1·7
February	−8·8	−4·1	−0·4	+7·9	−0·6	−2·1	+0·7	+0·6
March	−7·5	−8·5	+2·7	+8·6	−0·8	−5·4	+1·0	+2·6
April	−9·2	−12·4	+2·4	+10·2	−0·8	−3·4	+1·2	+1·2
May	−8·7	−18·3	+6·4	+10·3	−4·1	−1·8	+0·2	+0·6
June	−8·1	−20·2	+6·0	+10·5	−2·4	−3·1	+1·0	+0·6
July	−7·2	−19·0	+2·4	+9·5	−2·3	−2·9	+1·0	+1·0
August	−10·1	−13·4	+7·0	+9·1	−3·5	−2·8	+1·6	+2·2
September	−11·5	−8·4	+3·9	+7·1	−0·9	−3·7	+1·8	+1·1
October	−12·2	−0·1	+2·7	+9·3	−0·8	−5·1	+0·9	+2·2
November	−9·2	+1·2	−0·3	+6·7	−0·6	−0·6	+1·6	+2·6
December	−10·9	+3·0	+0·2	+4·7	−0·8	−1·3	+0·4	+0·5
Year	−9·1	−8·4	+2·7	+8·3	−1·6	−2·7	+1·0	+1·4
Winter	−8·7	−0·3	−0·2	+6·1	−0·8	−1·2	+0·9	+1·3
Equinox	−10·1	−7·3	+2·9	+8·8	−0·8	−4·4	+1·3	+1·7
Summer	−8·5	−17·7	+5·4	+9·9	−3·1	−2·7	+0·9	+1·1
QUIET DAYS								
Year	−4·4	−9·8	+3·5	+6·9	−2·5	−3·0	+0·6	+1·4
Winter	−3·2	−2·8	+0·1	+4·3	−1·7	−1·3	+0·8	+1·4
Equinox	−5·4	−10·3	+2·2	+7·0	−1·6	−3·9	+0·8	+2·0
Summer	−4·6	−16·2	+8·2	+9·4	−4·1	−3·7	+0·1	+0·8
DISTURBED DAYS								
Year	−15·8	−4·7	+2·9	+11·8	−0·6	−3·4	+1·0	+0·5
Winter	−17·7	+5·5	−0·1	+8·7	+1·1	−3·3	−0·1	+0·6
Equinox	−16·5	−1·7	+3·8	+13·8	+0·7	−5·0	+1·3	+0·1
Summer	−13·3	−18·1	+4·9	+12·9	−3·6	−1·9	+1·7	+0·7

Vertical component

	a_1	b_1	a_2	b_2	a_3	b_3	a_4	b_4
	γ	γ	γ	γ	γ	γ	γ	γ
ALL DAYS								
January	−0·5	−6·5	−1·5	0·0	+0·5	+0·1	−0·7	−0·3
February	+1·4	−8·0	−4·4	−0·9	+0·4	+0·6	−0·5	−0·5
March	+4·2	−6·1	−4·7	−1·1	+1·9	+1·3	−0·7	−0·3
April	+1·4	−11·2	−8·0	−1·7	+0·5	+1·2	−0·9	−0·4
May	+6·6	−6·9	−8·3	+0·5	+1·7	0·0	−0·4	+0·1
June	+4·9	−8·5	−6·8	−1·9	+0·5	+0·7	−1·1	−0·5
July	+3·0	−9·4	−6·9	−2·9	+1·1	+0·3	−0·7	−0·3
August	+0·2	−11·6	−8·2	−2·0	+2·5	−0·4	−0·5	−1·2
September	−2·8	−13·8	−6·3	−1·4	+2·1	+2·5	0·0	+0·1
October	−7·5	−13·4	−4·1	−0·7	+1·7	+0·5	−0·7	+0·1
November	−3·2	−7·6	−1·9	+0·4	+0·5	−0·9	−1·2	0·0
December	−1·7	−9·0	−3·9	−1·1	+0·9	−0·1	+0·1	−0·6
Year	+0·5	−9·3	−5·4	−1·1	+1·2	+0·5	−0·6	−0·3
Winter	−1·0	−7·8	−2·9	−0·4	+0·6	−0·1	−0·6	−0·3
Equinox	−1·2	−11·1	−5·8	−1·3	+1·5	+1·4	−0·6	−0·1
Summer	+3·7	−9·1	−7·6	−1·5	+1·5	+0·1	−0·7	−0·5
QUIET DAYS								
Year	+3·1	−2·0	−3·6	−0·2	+1·5	+0·1	−0·6	−0·3
Winter	+0·9	−1·1	−0·6	+0·1	+0·7	−0·4	−0·4	−0·1
Equinox	+2·5	−3·1	−4·2	−1·1	+1·5	+0·3	−1·1	0·6
Summer	+5·9	−1·7	−6·1	+0·4	+2·3	+0·5	−0·4	0·0
DISTURBED DAYS								
Year	−5·1	−22·5	−9·7	−1·3	+0·9	+1·5	−0·6	0·0
Winter	−6·8	−21·8	−8·9	−1·2	+0·7	+1·6	+0·5	−0·3
Equinox	−7·7	−24·9	−11·8	−0·4	−0·3	+2·8	−0·8	+0·3
Summer	−0·8	−21·1	−8·4	−2·5	+2·3	+0·3	−1·5	−0·1

HARMONIC COMPONENTS OF THE DIURNAL INEQUALITY OF MAGNETIC FORCE

Values of c_n, α_n in the series $\Sigma c_n \sin(15nt + \alpha_n)$, t being mean local time, reckoned in hours from midnight

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North component

	c_1	α_1	c_2	α_2	c_3	α_3	c_4	α_4
	γ	°	γ	°	γ	°	γ	°
ALL DAYS								
January	6·4	41	4·1	248	2·1	131	1·0	330
February	6·8	46	4·2	252	2·9	134	0·7	11
March	10·4	67	6·7	251	3·5	105	0·7	316
April	15·1	105	10·8	277	5·2	117	0·9	75
May	15·1	121	10·2	289	2·7	121	0·2	173
June	17·3	120	10·3	281	1·1	165	1·0	56
July	17·2	123	9·2	283	1·4	124	0·0	114
August	17·0	121	7·3	291	1·7	188	0·7	82
September	15·0	108	6·5	289	2·4	168	1·0	39
October	15·3	93	8·3	273	3·6	145	0·7	328
November	8·9	84	6·4	259	2·7	121	0·9	285
December	4·7	31	3·3	256	1·6	145	1·1	56
Year	11·1	101	7·1	275	2·4	133	0·5	21
Winter	6·2	55	4·5	254	2·3	132	0·6	353
Equinox	13·5	96	7·9	273	3·4	129	0·5	21
Summer	16·6	121	9·2	285	1·5	145	0·4	78
QUIET DAYS								
Year	9·9	99	6·7	277	2·1	129	0·5	8
Winter	3·4	80	4·4	264	1·9	124	0·5	323
Equinox	11·3	93	6·9	271	2·6	117	0·9	356
Summer	15·4	107	9·3	288	2·5	145	0·6	87
DISTURBED DAYS								
Year	13·8	99	7·7	279	2·7	136	0·2	113
Winter	11·1	42	3·8	244	2·4	117	0·5	259
Equinox	17·0	98	9·9	285	4·4	130	0·9	128
Summer	20·9	127	10·2	285	1·9	175	0·5	45

West component

	c_1	α_1	c_2	α_2	c_3	α_3	c_4	α_4
	γ	°	γ	°	γ	°	γ	°
ALL DAYS								
January	6·1	260	5·4	3	1·4	256	1·8	37
February	9·7	248	7·9	3	2·1	205	1·0	62
March	11·3	225	9·0	24	5·5	198	2·7	35
April	15·4	220	10·5	19	3·5	203	1·7	59
May	20·2	209	12·1	38	4·4	255	0·7	27
June	21·8	205	12·1	36	3·9	228	1·1	73
July	20·3	204	9·7	21	3·7	228	1·4	56
August	16·8	220	11·5	44	4·5	241	2·7	49
September	14·3	237	8·1	35	3·8	203	2·1	70
October	12·2	273	9·7	23	5·2	198	2·4	36
November	9·3	281	6·7	4	0·9	233	3·1	44
December	11·3	289	4·7	9	1·6	221	0·7	52
Year	12·4	230	8·8	25	3·1	220	1·8	49
Winter	8·7	271	6·1	4	1·4	225	1·6	46
Equinox	12·5	237	9·3	25	4·5	200	2·2	49
Summer	19·6	209	11·2	35	4·1	239	1·4	54
QUIET DAYS								
Year	10·7	207	7·7	34	3·9	230	1·5	35
Winter	4·3	232	4·3	8	2·2	242	1·6	42
Equinox	11·6	211	7·3	24	4·2	212	2·2	34
Summer	16·9	199	12·5	47	5·6	238	0·8	22
DISTURBED DAYS								
Year	16·5	257	12·2	20	3·5	200	1·1	78
Winter	18·6	290	8·7	6	3·5	172	0·7	3
Equinox	16·5	267	14·3	22	5·0	182	1·3	97
Summer	22·4	220	13·8	27	4·0	251	1·9	82

Vertical component

	c_1	α_1	c_2	α_2	c_3	α_3	c_4	α_4
	γ	°	γ	°	γ	°	γ	°
ALL DAYS								
January	6·5	187	1·5	276	0·5	92	0·8	258
February	8·1	173	4·5	265	0·7	40	0·7	241
March	7·4	149	4·8	263	2·2	65	0·8	258
April	11·3	176	8·2	265	1·3	31	1·0	259
May	9·6	139	8·3	280	1·7	99	0·4	300
June	9·9	153	7·1	261	0·9	47	1·2	260
July	9·9	166	7·4	253	1·1	87	0·8	263
August	11·6	182	8·4	263	2·6	110	1·3	216
September	14·1	195	6·5	264	3·2	49	0·1	359
October	15·3	213	4·2	266	1·8	82	0·7	289
November	8·2	206	1·9	288	1·1	159	1·2	283
December	9·2	194	4·0	261	0·9	106	0·6	178
Year	9·4	180	5·5	265	1·3	79	0·7	256
Winter	7·8	190	2·9	269	0·6	108	0·7	253
Equinox	11·2	189	5·9	264	2·0	57	0·6	270
Summer	9·8	161	7·7	265	1·5	95	0·8	248
QUIET DAYS								
Year	3·7	125	3·6	274	1·5	94	0·7	260
Winter	1·5	145	0·7	288	0·8	129	0·5	270
Equinox	4·0	144	4·3	262	1·5	88	1·3	254
Summer	6·1	109	6·1	281	2·3	87	0·4	276
DISTURBED DAYS								
Year	23·1	196	9·8	269	1·8	39	0·6	280
Winter	22·8	201	9·0	269	1·8	33	0·6	136
Equinox	26·1	201	11·8	274	2·9	4	0·9	301
Summer	21·1	185	8·7	260	2·3	93	1·5	281

"Winter" comprises the four months January, February, November, December; "Equinox" the months March, April, September, October; and "Summer" May to August.

38 ESKDALEMUIR 1962

(a) Disturbances without sudden commencement All times G.M.T.

Serial Number	From		To		Range (γ)			Notes
	Date	Hour	Date	Hour	*H*	*D*	*Z*	
1a	6 Apr.	02	12 Apr.	04	247	195	161	
2a	26 July	02	30 July	16	195	118	134	
3a	30 Aug.	23	4 Sept.	24	225	150	195	
4a	11 Sept.	05	13 Sept.	22	268	195	112	
5a	17 Dec.	09	23 Dec.	01	280	274	270	

(b) Disturbances with sudden commencement (ssc) All times G.M.T.

Serial Number	Date	Time of sudden commencement	End of disturbance		With initial reversed stroke			Magnitude of main stroke (γ)			Range of following disturbance (γ)		
			Date	Hour	*H*	*D*	*Z*	*H*	*D*	*Z*	*H*	*D*	*Z*
		h. m.						γ	γ	γ			
1b	10 Jan.	02.14	12 Jan.	01	No	No	No	+19	−15	−4	182	174	190
2b	19 Jan.	01.13	−	−	No	Yes	No	+16	−9	−2		small	
3b	22 Feb.	02.20	−	−	Yes	Yes	No	+43	−21	−6		small	
4b	26 Feb.	12.33	−	−	Yes	Yes	No	+34	−18	−5		small	
5b	20 Apr.	23.55	−	−	No	No	No	+73	−21	−9		small	
6b	25 Apr.	13.29	−	−	Yes	Yes	No	+30	−6	0		small	
7b	7 Oct.	20.27	12 Oct.	18	No	No	No	+43	−8	−5	182	183	188
8b	4 Dec.	03.35	−	−	No	Yes	Yes	+19	−21	−4		small	

In the case of an ssc*, that is, an ssc preceded, on at least one component, by one or more small oscillations, timing of the sudden commencement has been made from the main stroke.

(c) Disturbances due to solar flare (sfe) All times G.M.T.

Serial Number	Date	Commencement	Max.	End	Movement (γ)			*K*	*K′*	Notes
					H	*D*	*Z*			
		h. m.	h. m.	h. m.						
1c	25 Mar.	12.31	12.36	12.41	−18	+5	+1	3	2	S.E.A.
2c	27 Apr.	14.11	14.16	14.24	−21	-9	+4	3	1	S.E.A.

S.E.A. = Sudden enhancement of atmospherics

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

39 ESKDALEMUIR — Factor 8·63 — JANUARY 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
												volts per metre													
1	-	-	-	-	-	-	-	-	205	185	135	180	180	190	140	130	165	220	185	245	155	140	110	135	169 (16)
2	120	110	105	80	90	95	90	95	65	75	95	130	-	-	-	-	-	-	-	-	-	-	-	-	96 (12)
3	-	-	-	-	-	-	-	-	65	125	60	85	95	130	30	5	95	190	90	-5	-10	5	-	-	69 (14)
4	-	-	-	-	65	40	50	60	105	45	75	165	155	-10	25	5	55	40	115	185	150	95	120	45	79 (20)
5	45	30	-15	-5	55	70	15	20	30	-30	-50*	-20*	-40*	-50	30*	-55*	-95*	-60*	Z-*	Z-*	Z-*	-300*	-25*	-50*	15 (11)
6	-10	-5	65	90	-5	-15	-10	20	35	45	45	45	20	30	135	35	-30	5	25	5	10*	-45*	-30*	-5*	26 (20)
7	Z-*	Z±*	Z±*	Z-*	Z±*	5	40	50	70	65	45	85	80	85	80	55	45*	5*	30	30	15	35	45	45	51 (17)
8	15	-20	-35	-15	20	35	30	50	75	70*	10*	30*	-5	60	25*	Z-*	Z-*	Z-*	Z-*	Z-*	Z-*	Z-*	Z-*	15*	19 (11)
9	30	35	30	15*	15*	20	20*	35*	30	30	45	70	100	Z-*	40*	Z-*	115*	50*	80*	Z-*	55*	-35*	60*	45*	47 (9)
10	40*	60	30	35	65	60	50	80	60	55	60	110	90	105*	65	35*	40*	40*	-50*	Z-*	-105*	Z-*	Z-*	Z-*	63 (13)
11	Z-*	20*	35*	Z+*	75*	Z-*	Z-*	Z-*	-115*	-100*	10*	Z-*	Z-*	Z-*	75	65*	Z+*	Z+*	60	95	Z-*	25*	0	30	52 (5)
12	25	20	30	Z±*	Z±*	Z-*	Z±*	Z-*	Z-*	Z-*	-70*	-20*	-40*	Z-*	-60*	Z+*	Z+*	-*	-*	35	90	50	80	Z+*	47 (7)
13	100	Z-*	Z+*	110*	Z-*	Z±*	Z-*	85*	105*	110*	80*	75*	Z-*	Z±*	Z+*	110*	Z±*	Z±*	Z-*	50*	50	40*	50*	200	117 (3)
14	115	90	70	80	50	-20	-75*	145*	-95	50	45*	-5*	60*	35*	Z-*	75*	130*	115*	45*	95	90	30*	95	125	62 (12)
15	95	65	110	30	40*	95*	75*	20*	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	75 (4)
16	-*	-*	-*	-*	-	-	-	-*	Z±*	85*	90*	Z+*	Z+*	90	100	80*	90*	90	Z+*	80*	85	Z±*	70	55	82 (6)
17	70	50	Z±*	Z±*	Z-*	Z±*	70	Z-*	Z-*	35*	30*	30*	40	60	35	30	45	60	35	55	75	50	5	50*	49 (14)
18	Z-*	Z-	-50	45	45	50	50	30	40	-5*	30*	75	55	55	60	75	100	80	115	115*	50*	35	65	30*	54 (17)
19	60*	Z-*	Z-*	Z-*	Z-*	25	30	Z-*	50*	60*	60*	50	40*	45*	55	70	70	70	45	45*	30	Z-*	20	30	45 (11)
20	5	15	20	65	45	-*	-*	-*	Z-*	55*	60	40*	70*	60	60	60	65	90	80	65	75	65	65	-5	52 (17)
21	80	45	35	-75*	Z-*	Z-*	Z±*	Z±*	75*	90	60	55	40*	50*	90	60	Z±*	85	80	95	50*	35	60	75	67 (14)
22	75	50	45	55	60	60	Z-*	Z-*	-25*	25*	55	Z+*	Z±*	Z±*	Z±*	Z+*	Z+*	Z±*	Z±*	Z±*	Z±*	Z±*	Z+*	75*	57 (7)
23	350	65*	Z-*	80*	70	75	75	80	-	-	-*	-*	-	-	-	-	-	-	-	-	-	65	Z-*	35*	119 (6)
24	10*	-30*	-15*	Z±*	Z-*	Z-*	195*	40*	Z-*	Z-*	-20*	Z-*	-10*	Z-*	Z±*	Z-*	Z±*	5*	-145*	-80*	Z-*	25*	-10	-35	-23 (2)
25	0	30	25	-20	25	-15	50	30	25	20	15	25	35	10	20	115*	50*	95*	105*	-30*	-20*	60*	Z-*	-45*	18 (15)
26	15*	5*	45	45	65	30	30*	45	30	35	30	45	55	55	35	45	45	25	35	30	35	30	15	20	38 (21)
27	0	-5	15	-10	-15	5	15	35	25	30	30	35	75	-	-	-	35	30	30	35	20	5	20	0	20 (21)
28	30	15	25	20	20	25	25	30	35	45	75	60	60	75	75	35	15	15	25	45	45	40	30	15	37 (24)
29	0	5	-5	5	20	5	10	5*	20*	25	20	-5	-25	15	-20	-25	-15	-35	-30	-30	-10	0	-10	-10*	-5 (21)
30	-5*	-15	0	-20	-35	15	45	30*	25*	70*	75*	30*	55*	45*	-80*	30*	Z-*	Z-*	Z-*	195*	Z-*	30*	Z-*	Z-*	-2 (6)
31	Z-*	Z-*	Z-*	Z-*	-110*	-5*	50*	55*	5*	75*	10*	-45*	35*	0*	30*	-135*	Z-*	Z-*	Z-*	60*	70	Z-*	Z+*	Z-*	70 (1)
Mean	64 (18)	32 (18)	29 (19)	30 (16)	38 (17)	30 (19)	40 (16)	48 (13)	50 (16)	56 (16)	57 (16)	76 (16)	67 (15)	57 (15)	62 (17)	45 (13)	54 (12)	69 (14)	61 (15)	65 (15)	60 (16)	46 (14)	46 (17)	53 (14)	51 (377)
Mean for 0a days																									[137 (2)]

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

39 ESKDALEMUIR — Factor 8·65 — FEBRUARY 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
												volts per metre													
1	50	50	Z-	45	60	Z+	70	65	75	65	70	75	85	80	60	55*	75*	85	90	90	60	55	70	55	68 (20)
2	50	45	35	30	30	30	30	30	30	40	60	60*	55*	25*	30	75	55	70*	55*	60*	60*	45*	35*	25*	41 (14)
3	45*	45	40	45	50	55	55	60	80	115	95	120*	25*	-35*	Z-*	Z-*	85	85	90	85	Z-*	75*	Z-*	Z+*	70 (14)
4	Z-*	Z+*	Z±*	100*	100*	90	90	100	85	65*	-320*	Z-*	Z-*	Z-*	Z-*	-390*	-60*	65*	20*	30*	25*	80*	-25*	30	79 (5)
5	Z+*	30*	Z±*	Z+*	45	Z+*	105*	65	65	65	80	75*	80	75	45	40	55	45	40	35	50	30	-55*	-10*	54 (15)
6	Z-*	-75*	-105*	-60*	-175*	Z-*	5*	-15*	15	15	30	65	75*	Z-*	25*	20*	40	75*	115*	65	80*	50*	70*	Z-*	38 (6)
7	Z-*	Z-*	45*	Z-*	30*	40*	Z-*	Z-*	-145*	Z±*	Z-*	-40*	-20*	35	30	40	45	50	30*	-20*	30*	0*	45	45	41 (7)
8	40	45	45	45	50	50	45	40	35	-	-	-	-	-	-	-	50	40	60	45	45	60	15	50	45 (17)
9	40	30*	40*	80*	85*	35*	45*	40*	75*	15*	20	35	100	105	45	95	65	45	45	35	30	30	75	55	55 (15)
10	75	30	5	30	15*	50*	45*	45*	95*	45*	30*	65	85	110	75	80*	-5*	120*	Z-*	Z-*	Z±*	85*	60*	70*	59 (8)
11	70*	60	55	65	40	45	35	45	340	190*	Z+*	Z+*	625*	Z+*	Z+*	Z+*	Z+*	Z±*	Z±*	Z-*	20*	60*	Z±*	Z-*	86 (8)
12	Z+*	Z+*	Z+*	415*	0*	-25*	-55*	-100*	-50*	Z+*	Z-*	45*	30	35	30	30	25	40	30	Z-	Z-*	-20*	45*	35	32 (8)
13	35	25	5*	20	30	25	25	20	20	30	35	40	65	60	65*	80	80	75	95	100	105	105	150	180	64 (22)
14	140	100	85	90	85	75	80	95	80	100	100	95	70	60	60	55	70	65	75	65	55	45	45	30	76 (24)
15	35	65	40	35	35*	25*	5*	20*	75*	55*	-30*	-15*	-140*	0*	55	60*	55*	70	60*	30*	-15	5	25	20	33 (10)
16	0	10	25*	-105*	Z-*	50	55*	65*	Z-*	75	95*	Z+*	125*	Z+*	55*	95*	85*	115	110	85	100	115	95	85	76 (11)
17	70	50	60	45	45	60	55	75	70	70	70	75	85	75	75	60	60	65	45*	50*	30*	25*	45*	55	64 (19)
18	40	30	55	45	30	40	35	10*	10*	35	30	25	30*	35*	45	60*	40*	60*	50	60	55*	65*	55	60	42 (15)
19	55	55	50	60	65	30*	60*	15*	60*	40*	45*	30	40	60	60	40	35*	30*	35	25	0	65	30	30	44 (16)
20	30	40	0	20	60	5	10	20	30	55	50	55	60	65	55	50	45	30	30	30	35	25	25	20	35 (24)
21	20	15	20	10	25	35	25	40	60	30	10	30	50	30	-	-	35	50	40	45	-25	-30	-5	5	23 (22)
22	15	20	25	20	45	35	30	40	25	65	55	50	30	30	40	30	45	40	10	45	45	40	45	30	36 (24)
23	30	30	30	30	30	25	-	30	25	25	25	45	35	50	60	55	45	55	40	45	40	40	40	30	37 (23)
24	30	30	25	25	25	25	25	30	30*	15*	30*	20*	25*	25*	30*	-5*	-15*	0*	-5*	15	20*	5*	10	-5*	24 (10)
25	-10	10	10	5*	0*	5*	10*	-15*	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	3 (3)
26	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	Z±*	Z±*	Z±*	Z±*	Z-*	Z±*	Z-*	Z±*	Z±*	Z±*	-*	-*	-*	- (0)
27	-*	-*	-*	-*	30*	5*	35*	-20*	-55*	20*	15*	85*	110*	75*	70	65*	65*	130*	10*	60*	65	75*	30*	-10*	68 (2)
28	55*	15*	20*	45*	10*	30*	30*	20*	15*	50*	75*	85*	75*	65*	85	60	90	65*	55*	100*	75	80	70	50*	77 (6)
Mean	41 (18)	40 (19)	36 (16)	39 (17)	45 (16)	43 (15)	44 (14)	50 (15)	69 (15)	56 (14)	52 (14)	53 (13)	63 (13)	62 (14)	54 (17)	55 (13)	56 (16)	60 (16)	56 (15)	54 (16)	44 (15)	47 (14)	49 (16)	48 (17)	50 (368)
Mean for 0a days																									[76 (1)]

The potential gradient is reckoned as positive when the potential increases upwards. The symbol Z indicates either that the trace fluctuates rapidly so that estimation of a mean value is impracticable, or that the trace is limited by the range of the instrument (see Introduction); and the suffix +, − or ± indicates that the mean value is plainly positive, plainly negative, or indeterminate in sign. The occurrence of precipitation of any sort is indicated by an asterisk. Round brackets round any hourly mean indicates that the record during that hour is somehow imperfect.

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

39 ESKDALEMUIR | Factor 8·51 | MARCH 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
												volts per metre														
1	30*	55	80	45	85	90	95*	110*	135*	125*	90	125	120	115	90	105	110*	130*	165	150	120*	100	70	75	97	(16)
2	55	75	160	195	185	155	210*	-5*	10*	45*	60*	45*	45*	150*	150	120	85	115	150	130	85	65	65	70	116	(16)
3	60	50	40	45	40	55	50	55	55	75	90	155	175	140	120	65	30	40	60	45	65	95	95	75	74	(24)
4	45	40	60	60	60	45	60	55	90	80	95	170	135	125	105	90	50	5*	Z±*	Z-*	135*	70*	115	50	81	(19)
5	60	70	80	75	55	45	45	80	90	90	95	105	125	115	115	80	60	45	40	25	20	15	15	20	65	(24)
6	20	10	5	5	10	15	15	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	(8)
7	-	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	(1)
8	-	-	-	-	-	-	-	-	-	-	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	-	-	-	-	(0)
9	-	-	-	-	-	-	-	-*	15*	40*	30*	40*	155	205	40	60	-35*	25*	65*	40*	45*	50	60	45	88	(7)
10	35	45	5	-10	45	50	115	135*	55*	0*	-115*	Z-*	Z-*	-280*	-75*	-70*	60*	55*	55*	70*	60*	60	45	45	43	(10)
11	45	40	45	45	45	45	50	45*	60*	-*	-*	-*	-*	-5*	Z±*	35*	60*	60*	65	75	65	55	45	45	51	(13)
12	45	45	25	45	40	45	40	35	50	75	90	75	90	70	Z+	Z+*	Z-*	45*	40	35	55*	45	45	25	51	(19)
13	25	20	30	25	30	30	30	40	35	75	95	65	60	55	60	50*	45*	20	-5	5	15	25	20	25	35	(22)
14	10	5	10	15	-15	25	35	45	45	65	45	50	60	55	55	35	35	15*	15	25	25	20	15	20	30	(23)
15	30	30	20	25	25	25	20	35	50	55	60	70	70	75	70	75	55	30	15	10	15	10	10	5	37	(24)
16	10	15	25	5	5	20	10	30	20	45	90	115	105	55	45	60	75	25	10	5	30	25	-10	10	34	(24)
17	30	5	5	20	15	10	15	20	30	50	45	45	55	50	55	60	30	-10	10	20	30	20	25	15	27	(24)
18	15	15	10	30	30	5	15	10	15	25	10	35	30	45	30	35	95	60	45	90	95	15	-10	45	33	(24)
19	35	45	20	25	30	30	60	45	75*	60*	55	75	60	60	55	45	35	40	45	35*	0	30*	10	0	39	(20)
20	60	100	85	50	45	30	30	45	60*	35*	55*	60	40*	Z-*	Z-*	50*	60	65	75	80	80	75	70	45	62	(17)
21	35	35	35	40	40	45	45	60	60	60	60	60	65	40	40	45	45	5	-15	55	30	30	50	35	42	(24)
22	40	35	35	15	25	30	10	15	50*	60*	35*	45	60	40	40	30*	50	50	55	40	50	45	60	45	39	(20)
23	60	55	60	60	60	45	60*	70	60	65	-*	-*	-*	-*	-*	-*	60*	75*	65	75	65	65	50	40	60	(15)
24	40	30	35	30	25	50	60	40	45	50	55	45	45	35	45	45	55	60	60	45	35	45	70	75	47	(24)
25	35	35	35	35	35	45	45	20*	55*	30*	-50*	-25*	Z-*	Z-*	Z±*	Z±*	Z-*	Z±*	Z±*	Z-*	Z-*	Z-*	105*	Z+*	38	(7)
26	Z+*	95*	Z±*	-115*	60	55	60	-10	-25*	75*	105	75	45	110	35	-20*	45*	45	30	35	35	30	25	25	47	(16)
27	30	5	40	15	5	10	5	15	60	55	45	Z+	Z±*	Z±*	Z±*	70	65	60	70	50	30	25	35	45	37	(20)
28	30	20	25	40	35	45	45	60	80	65	75	80	65	85	75	60	45	75*	50*	40*	-35*	Z-*	Z±*	-30*	55	(17)
29	-15*	-5*	45*	65*	30*	15*	5*	15*	0*	-5*	25*	15*	10*	25*	45*	85*	110*	205*	Z-*	Z-*	Z-*	-45*	50*	135	135	(1)
30	-15	60	50	60	50	45	45*	80	-*	-*	-*	-	-*	-	-	-*	-*	-	-	-	-	-	-	-	47	(7)
31	-	-	-	-	-*	-*	-	-	-	-*	-*	-*	-	65	60	90	Z-*	Z+	Z+*	95*	60	95	60	Z+*	72	(6)
Mean	35 (24)	38 (25)	41 (25)	40 (25)	41 (26)	42 (26)	39 (22)	40 (22)	52 (15)	62 (15)	71 (17)	81 (18)	84 (18)	81 (19)	68 (19)	67 (17)	54 (16)	43 (15)	50 (20)	52 (19)	44 (19)	46 (22)	43 (24)	42 (24)	51	(492)
																							Mean for 0a days		[97	(1)]

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

39 ESKDALEMUIR | Factor 8·25 | APRIL 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
												volts per metre														
1	Z-*	100*	Z±*	Z+*	Z+*	225	190	365*	120*	40	Z-*	95	135	Z±*	70*	45*	80*	Z±*	125*	Z-*	Z+*	65	55	45	106	(8)
2	45	40	45	30	30*	45*	50*	55*	80*	Z-*	Z±*	Z-*	Z-*	Z-*	Z-*	Z-*	Z-*	Z-*	Z-*	Z-*	-50*	Z-*	115*	Z-*	40	(4)
3	Z-*	70*	50*	30*	-20*	Z-*	Z-*	Z-*	15*	45*	60	Z±*	Z-*	35*	-45*	30*	40*	50*	55	40	-	-	-	-	52	(3)
4	-	-	-	-	Z+*	15*	Z±*	Z+*	Z-*	60*	65*	85*	40*	Z-*	Z-*	Z-*	Z-*	-90*	25*	25*	15*	-25*	-	-	-	(0)
5	-	-*	-*	-*	-*	-	-	-	20	35	45	45	25	20*	Z-*	80*	55*	55*	50	Z-*	Z+*	50	60	60	43	(9)
6	25	45	55	45	50	60*	75	125*	55	65	45	50	55*	70*	Z±*	55*	Z+*	45*	50*	20*	Z-*	Z-*	Z-*	Z-*	51	(10)
7	Z-*	Z-*	Z-*	Z-*	Z-*	Z-*	-225*	-110*	-30*	45*	-20*	50	60	60	70	70	60	60	60	45	35	40	30	35	52	(13)
8	25	Z+*	50*	Z-*	45*	45	35	Z-*	45	50	20*	95	Z±*	Z±*	Z±*	Z±*	Z+*	85*	60	30	45	45	60	100	53	(12)
9	85	70	70	70	70	55	60	70	65	70	75	70	45	45	Z-*	Z-*	Z-*	Z-*	Z-*	55	Z-*	70*	70	55	65	(17)
10	45	45	40	30	35	35	40	45*	Z-*	Z-*	Z-*	-55*	40*	Z±*	55*	40*	35*	35	25	35	40	35	40	50	38	(14)
11	30	5	5	-5*	25*	35*	15*	-95*	30	20*	40	60	60	65	60	60*	60*	45	45	40	35	40	30	25	38	(16)
12	25	40	40	35	30	30	30	55	60	50	55	60	65	65	60	50	35	45	95*	15	25	20	-25	20	38	(23)
13	20	20	15	20	25	20	35	60	65	80	85	55	60	70	75	65	40	45	40	30	70	25	25	30	45	(24)
14	20	35	30	30	25	35	40	55	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	(9)
15	-	-	-	-	-	-	-	-	-	-	55	60	55	110	70	60	60	60	80	75	60	55	65	65	66	(14)
16	55	35	40	30	30	35	55	60	45	60	65	80	70	55	-10*	-20*	-*	-*	-*	-*	-*	-*	-	-	51	(14)
17	-	-	-	-	-	-	-	-	25	25	-*	-*	-*	-*	-	-*	-*	-*	-*	30*	25*	35*	30*	25*	25	(2)
18	15*	0	15	45	-15	20	25	40	25	35	40	0*	-240*	-275*	-35*	20*	40*	105*	150*	100*	70*	45*	120*	Z-*	23	(10)
19	85*	15	45	45	95	90	60	20	35	10	5	20	30	5	45	-	-	-	-	-	-	20	25	15	34	(17)
20	30	20	-5	5	-5	15	10	-5	30*	-30*	-45*	30	40	30	Z±*	Z+*	Z±*	20	Z±*	30*	25*	30	15	-80*	16	(14)
21	Z-*	70*	60	60	50	85	65	30	45	60	55	60	45	-5*	60	55	-10*	-125*	Z-*	-95*	Z-*	-60*	Z+*	Z±*	56	(13)
22	Z+*	Z-*	35	30	30	35	40	45	50	75	55	30*	25*	60	60	70	70	50	50	45	40	35	35	35	47	(20)
23	25	25	20	20	20	25	30	45	60	110	85	70	75	80	70	30	25	15	25	30	20	20	20	10	40	(24)
24	10	15	10	10	15	20	30	40	25	35	35	30	55	80	85	85	50	30	15	-5	15	10	20	15	30	(24)
25	20	15	15	20	15	20	30	65	55	55	65	85	80	75	70	60	70	90	75	55	30	20	20	25	47	(24)
26	30	25	20	35	30	25	40	-5*	25*	20*	40	55	65	60	50	35	25	20	30	70	20	35	25	15	36	(21)
27	15	15	30	20	20	20	45	55	75	70	95	65	55	60	60	50	45	35	30	20	25	25	30	25	41	(24)
28	20	45	80	25	70	-20	-30	30	45	55	50	60	60	70	85	90	80	70	85	45	30	50	50	25	49	(24)
29	5	30	25	40	60	50	55	60	70	70	75	85	80	85	75	70	80	85	95	55	45	25	20	45	58	(24)
30	25	40	30	25	20	30	45	55	60	65	60	55	35	45	70	55	35	60	35	15	20	20	15	15	39	(24)
Mean	29 (19)	29 (20)	33 (22)	32 (21)	33 (20)	43 (21)	46 (22)	46 (17)	48 (21)	56 (20)	56 (21)	61 (22)	60 (20)	62 (18)	67 (16)	60 (14)	52 (13)	48 (16)	50 (17)	39 (18)	35 (16)	33 (20)	33 (21)	35 (20)	45	(455)
																							Mean for 0a days		[47	(1)]

Daily, monthly and annual means are computed excluding hours with precipitation and, of course, all indeterminate entries. The number of hours or days used in computing each mean is shown in round brackets. Entries in square brackets are means for 0a days (see Introduction) and the figure in round brackets is the number of days used in computing this mean.

H

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean values for periods of sixty minutes between exact hours

39 ESKDALEMUIR Factor 7·83 MAY 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
												volts per metre													
1	30	30	25	15	20	15	25	30	50	70	50	30	35	35	35	35	30	40	25	55	105	40	30	25	37 (24)
2	20	20	-5	15	45	40	45	45	50	40	55	55	70	95	95	90	95	40	30	45	30	35	30	30	46 (24)
3	20	15	25	30	30	30	30	55	60	50	40	30	25	35	40	15	40	0	15	Z±*	-60*	30	25	20	30 (22)
4	20	15	15	15	10	15	60	30	45	50	55	60	50	55	50	65	55	55	45	30	40	50	90	45	43 (24)
5	110	100	30	40	30	40	35	40	55	70	65	70	65	50	55	55	45*	100*	15*	30*	20*	30*	30*	200*	57 (16)
6	115*	20*	-30*	-15*	45*	40*	95*	100	70	120	210	95	85	105	65	75*	70*	80*	100*	30*	95*	25*	155*	105*	106 (8)
7	80*	40*	25*	80*	140*	190*	115*	Z±*	90	70*	125*	75	65*	95*	130*	195	165*	60*	Z+*	Z±*	Z+*	185*	175*	Z-*	120 (3)
8	Z-*	Z-*	205*	165	185	180	165	165*	210*	45*	150	180*	120	110	125*	95	80	115	90	70	70	65	55	50	110 (16)
9	45	50	45	35	40	30	95	70	35	40	60	65	65	65	Z-*	40*	55	55	55	40	45	25	40	50	50 (22)
10	50	40	45	25	45	80	75	70	55	55	65	Z-*	125*	Z±*	Z-	Z-*	60*	Z±*	Z+*	15*	25	30	Z-	Z±*	51 (13)
11	10	35	50	105	70	65*	80	20	50	55*	40	50	45	40	Z+*	Z-*	Z-	35	25	20	Z±*	45*	-45*	0	42 (16)
12	30	40	40	35	-5*	-160*	-5*	25*	45*	50*	35	20	30	30	30	25	30	45	40	30	25	20	20	15	30 (18)
13	20	15	10	10	15	20	25	30	55	40	40	40	35	30	30	30	15	20*	25*	25	20	30	15	25	26 (22)
14	15	25	20	30	20	35	25	30	35	35	25	20	35	35*	30*	30*	35*	30*	40	60	55	35	35	45	33 (19)
15	50	55	45	45	40	45	50	60	60	50	30	45	30	25	30	45	45	35	30	30*	25*	15*	-5*	-40*	43 (19)
16	Z-*	Z-*	Z-*	Z-*	Z-*	Z-*	55*	55	Z±*	Z+*	15*	50	Z-*	Z-*	Z+*	70	65	55*	85	Z-*	100*	50	Z-*	Z±*	63 (6)
17	Z+*	Z-*	Z-*	Z±*	Z-*	Z-*	Z-*	Z±*	Z-*	Z±*	Z-*	40*	55*	40*	85	75	80	80	75	75	80	75	Z-*	Z-*	78 (8)
18	40	40*	85	Z-*	-15*	Z-*	Z-*	60*	Z-*	Z-*	65*	85	Z±*	Z-*	40*	Z±*	65	40	45	40	20	30	30	30	46 (11)
19	15	-35*	-55*	Z-*	Z-*	Z+*	Z-*	Z-*	Z-*	Z-*	Z-*	Z-*	-65*	45*	45	25	5*	10*	Z±*	50*	40	55	55	50	41 (7)
20	40	65	40	40	40	40	55	40	45	40	Z-*	0*	60	55	65	75	60*	-10*	-5*	-15*	-90*	-175*	Z-*	Z-*	50 (14)
21	Z-*	-30*	15*	100*	125*	160*	95*	85*	60*	-20*	95*	70	10*	-5*	15	-5	15	55*	45	40	-5	15	25	15	23 (10)
22	30	15	25	30	30	45	55	50	55	20*	55*	40*	0	0*	65*	35	55	Z-*	Z-*	35*	Z-*	50	70	55	40 (15)
23	65	60	55	-25*	30*	45*	Z-*	Z-*	25*	45*	35	75*	65	Z+*	Z+*	65	30*	Z±*	35*	60	75	95	90	80	68 (11)
24	80	80	80	45	40	45	55	50	65	60	60	55	50	45	50	60	5*	40*	35	25	20	30	25	25	49 (22)
25	30	30	30	25	50	30	40	55	60	55	50	40	35	45	55	50	55	45	45	40	40	35	35	30	42 (24)
26	25	35	40	30	20	10	25	45	55	55*	50	65	70	55	65	65	70	55	55*	50	Z-*	55*	60	55	47 (20)
27	55	60	55	55	55	45	5	35	25	15*	25	25	40	45	50	45	45	45	45	40	25	25	20	40	39 (23)
28	40	20	25	30	30	40	40	45	60	60	70	85	60	50	40	45	55*	60	-20*	35*	30*	10*	-15*	55*	47 (17)
29	-50*	30*	85*	95	100	95	100	90	90	75	80	65	55	55	30	40	35	25*	20	25	10	30	90*	-5*	61 (18)
30	-	-	-	-	-	-	70	75	60	65	70	80	85	65	50	5	15*	90*	85	95	45	95	85	55	67 (16)
31	85	90	70	50	50	75	85	85	75	55	85	75	80	65	50	60	65	55	45	30	20	30	40	35	61 (24)
Mean	40 (23)	43 (21)	39 (22)	44 (22)	46 (21)	48 (20)	56 (22)	52 (23)	57 (23)	57 (18)	63 (23)	56 (24)	54 (24)	55 (21)	49 (21)	54 (25)	52 (19)	50 (16)	46 (20)	45 (20)	39 (20)	42 (23)	44 (20)	37 (21)	49 (512)
																								Mean for 0a days	[34 (3)]

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean values for periods of sixty minutes between exact hours

39 ESKDALEMUIR Factor 7·68 JUNE 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
												volts per metre													
1	16	20	24	23	16	24	33	54	35	43	49	49	53	42	30	18	14	15	31	29	60	67	73	61	37 (24)
2	121	38	18	29	35	23	58	54	50	38	41	33	14	18	20	19	15	31	38	19	23	18	22	24	33 (24)
3	22	27	15	20	29	18	43	61	52	37	43	64	49	52	43	48	42	29	16	14	11	15	10	11	32 (24)
4	11	12	11	16	19	24	38	43	56	48	39	90	65	63	54	37	38	12	3	0	18	8	0	11	30 (24)
5	10	15	16	18	18	29	48	84	139	167	133	121	128	106	83	73	77	37	65	42	7	0	-11	12	59 (24)
6	16	19	14	20	11	38	67	82	88	-	-	-	-	-	86	57	45	37	41	23	0	12	7	11	35 (19)
7	0	10	7	8	12	18	19	16	65	58	71	83	88	57	52	64	111	87	82	86	22	-11	20	18	43 (24)
8	18	8	5	10	16	42	30	24	58	61	77	67	61	41	53	53	57	50	57	22	19	10	11	11	36 (24)
9	5	0	4	5	5	8	-4	7	46	41	65	54	58	76	79	75	64	65	72	69	58*	54*	71	75	43 (22)
10	73	79	67	38	34	42	64	76	94	54	31	41	39	29	27	31	30	43	41	39	27	38	23	29	45 (24)
11	22	12	10	26	39	34	38	53*	41*	43*	22	11*	18*	-	-	-	-	-	-	-	7*	-7*	-4*	4*	25 (8)
12	38*	122*	91*	155*	173*	156*	158*	107*	94*	77*	126*	158*	73*	106*	132*	65*	33*	39*	58*	49*	29	24	23	-18*	25 (3)
13	-4*	-*	-*	-*	-	19*	4*	19*	120*	133*	88	54	57	83	102	109	77	53	42*	48*	58	54	67	38	70 (12)
14	27	43	39	31	34	77	133	120	63*	79*	61*	23*	16*	110*	185*	188	77	103	82	69	65	83	68	82	78 (17)
15	76	58	45	37	37	71	96	105	99	80	53	67	37	57	42	-*	-*	-*	16*	14*	35*	46*	-23*	35*	64 (15)
16	37	29	46	45	94	207	156	120	82	77	80	79	49	54	49*	46*	50*	64	63	65	67	60	50	23	74 (21)
17	14	16	4	8	34	39	35	38	71	118	140	69	65	61	68	38	27	22	14	-	14	11*	18	24	43 (22)
18	33	35	38	34*	Z±*	Z±*	Z±*	Z+*	Z+*	Z±*	169*	65	128	106	177	211	99	Z±*	92*	68	58	56	43	37*	86 (13)
19	39*	46*	52*	39	26*	Z±*	Z-*	-10*	Z-*	Z-*	Z±*	95*	106*	41*	-*	Z-*	Z-*	48*	Z-*	38*	22*	149*	Z-*	Z-*	39 (1)
20	16*	20	45	-27	-45*	49*	43*	39	95*	63	41	11	19	45*	54	12	57	88	69	49	57	87	52	10	41 (18)
21	22*	72*	64*	109*	408*	591*	367	217	88*	91*	99*	149*	148*	120*	Z-*	Z-*	Z-*	250*	285	144*	204	340	231	175*	274 (6)
22	152	147	132	178	194	189	174*	-*	-*	-*	-*	-	-*	-*	-*	-*	-*	-*	-*	-*	-	-	-	-	165 (6)
23	-	-	-	-	-	-	-*	-*	132*	65*	68	76	65	65	101	133	116	103*	69*	75*	Z-*	Z-*	-58*	10*	89 (7)
24	54*	58	Z-*	38*	45*	33*	54*	53*	53*	106*	35*	34*	54	Z-*	Z-*	61*	105*	102*	87	95	107	113	114	124	94 (8)
25	117	87	35*	37*	103	68	54*	26*	48*	Z-*	Z-*	65*	Z-*	Z-*	68	140*	Z-*	52*	Z-*	251*	190	130	71	Z-*	104 (8)
26	56	92	113	83	65	92	86	128	106	75	58	128	95	58	Z+*	Z-*	88	63*	65*	52	45	48	45	31	77 (20)
27	34	30	45	42	38	48	54	53	43*	52	65	43	48*	50	65	49	-7*	-8*	91	106*	63*	-23	-4	10	41 (18)
28	34	56	43	68	80	84	114	122	77	58	71	68	54	45	24	22	23	27	24	20	12	38	52	39	52 (24)
29	71	68	53	52	69	39	48	68	43	38	68	68	68	67	54	42	29	24	10	16	26	7	4	3	43 (24)
30	18	24	52	37	-71*	18*	29*	170*	204	183	71	29*	58*	41*	35	38	27	43	50	50	84	65	75	79	66 (17)
Mean	43 (23)	40 (25)	37 (23)	35 (23)	47 (21)	58 (21)	76 (20)	76 (20)	80 (17)	72 (18)	65 (21)	67 (20)	62 (20)	59 (19)	63 (21)	66 (20)	56 (20)	46 (18)	61 (20)	44 (19)	52 (23)	54 (23)	45 (25)	35 (21	55 (501)
																								Mean for 0a days	[43 (4)]

The potential gradient is reckoned as positive when the potential increases upwards. The symbol Z indicates either that the trace fluctuates rapidly so that estimation of a mean value is impracticable, or that the trace is limited by the range of the instrument (see Introduction); and the suffix +, - or ± indicates that the mean value is plainly positive, plainly negative, or indeterminate in sign. The occurrence of precipitation of any sort is indicated by an asterisk. Round brackets round any hourly mean indicates that the record during that hour is somehow imperfect.

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

39 ESKDALEMUIR — Factor 8·50 — JULY 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
	Hour G.M.T.											volts per metre														
1	56	51	75	62	59	60	65	74	90	99	74	72	86	104	105	92	72	59	5	3*	44*	57*	45	59	70	(21)
2	53	53	54	44	44	35	11	44	38	32	-12*	2*	27*	45*	86*	102	105	105	105	75	74	87	75	74	64	(19)
3	93	80	102	92	108	107	114	117	66	62	83	32	56	65	78	60	80	57	60	74	81	113	123	32	81	(24)
4	60	75	29	27	29	86	110	123	95	75	74	60	86	105	57	50	93	60	62*	81*	77	30	30	38	67	(22)
5	27	26	45	32	29	41	Z±	18	18	48	77	56	-	-	-	-	-	-	-	-	-	-	-	-	38	(11)
6	-	-	-	-	-	-	-	-	38	59	53	66	74	74	54	41	62	42	42	54	45	44	45	32	52	(16)
7	32	38	33	33	32	57	102	74	57	54	44	59	68	66	74	62	45	41	39	32	53	50	48	41	51	(24)
8	47	42	32	77	18	30	39	68	59	45	38	27	47	50	44	33	50	59	41	-11	-	-	-	-	42	(20)
9	-	-	-	-	-	-	-	-	26	35	35	51	72	56	33	38	30	41	30	32	51	62	60	42	43	(16)
10	18	47	32	26	29	42	0	14	48	27	63	75	38	30	0*	-27*	Z±*	15*	108*	108*	27*	-135*	Z+*	Z+*	35	(14)
11	Z+*	Z-*	Z-*	391*	459*	391*	128*	129	211	181	181	68	20	151	69	84	151	Z±	Z+	Z+	Z±	Z+	Z±	15	124	(11)
12	211	348	293	259	406	411*	274*	173*	57	78	120	78	57	89	74	78	62	71	80	59	50	45	32	27	123	(21)
13	72	59	57	63	92	92	132	92	114	105	125	140	134	107	74	74	20	35	51	38	44	47	53	72	79	(24)
14	84	75	33	3	35	18	90	45	63	60	57	45	72	60	54	59	57	54	15	33	18	21	24	18	46	(24)
15	41	33	11	18	30	48	60	59*	72*	75	53	38	45	47	59	75	89	90	69	47	33	30	30	17	47	(22)
16	17	20	20	20	18	27	44	71	81	60	38	78	60	60	74	57	35	27	32	30	44	59	30	29	43	(24)
17	20	27	15	12	12	17	44	47	72	72	44	48	48	60	71	74	75	77	83	66	30	-	-	-	48	(21)
18	-	-	-	-	-	-	2	2	5	6	6	6	3	3	-	-	45	35	60	-9*	-143*	95*	-60*	32*	16	(11)
19	65*	149*	272*	153*	142*	200*	211*	354*	451*	163*	123*	197*	226*	212*	170*	129*	269*	184*	239	268	178	122	89	90	164	(6)
20	104	90	75	74	74	147	226	166*	191*	147	179	134	137	143	143	135	153	151	123	105	57	27	29	26	113	(22)
21	48	-42*	-33*	18*	45*	Z±*	Z+*	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	Z-*	Z-*	Z-*	Z-*	Z-*	Z-*	Z-	-412*	-24*	Z-*	48	(1)
22	-182*	30*	165*	133	302	153	185	45	134	135	75	41	-8	11*	8	18	-17*	18*	63*	92	62	75	105	113	98	(17)
23	92	33	15	14	8*	6*	69	60	65	74	56	59	42	54	57	48	57	54	50	44	17	14	18	12	46	(22)
24	9	14	3	3	45	8	12	39	63	62	77	47	59	90	65	63	-60*	-95*	-60*	Z-*	-62*	60*	30*	75*	41	(16)
25	8*	-36*	15*	33*	36*	5*	9*	271	83	20*	5*	14	33	24	29	27	45	42	47	45	24	12	-	-	54	(13)
26	-	-	-	-	-	-*	-*	-*	-*	-*	12*	15*	9*	6*	-6	-	-	-	-	-	-	-	-	-	-6	(1)
27	-	-	-	-	-	-	-	-	24	60	60	95	92	93	78	60	57	54	47	57	48	29	44	17	57	(16)
28	29	15	24	6	18	48	83	44	56	53	57	87	54	72	87	87	45	44*	53*	98	96	110	39	20	56	(22)
29	50*	42*	51*	134	135	80	232	286	144	60	75	110	93	89	135	Z±*	331	113	95	56	59	68	30*	35*	127	(18)
30	30*	72*	-47*	Z-*	Z-*	238*	194*	211*	391*	316*	179*	256*	152*	95*	135*	134	92	105	80*	80*	27*	29	30*	33*	90	(4)
31	45*	89*	47*	119	122	132	87	90	66*	8*	29*	77	93	-60*	105*	120	96	95	113	95	104	93	74	42	97	(16)
Mean	58 (19)	63 (18)	53 (18)	69 (18)	82 (20)	65 (19)	85 (20)	83 (21)	71 (24)	71 (25)	73 (24)	64 (26)	66 (25)	74 (23)	66 (23)	70 (24)	81 (24)	67 (22)	68 (21)	66 (21)	59 (21)	56 (21)	52 (19)	41 (20)	67	(519)
Mean for 0a days																									[59	(5)]

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

39 ESKDALEMUIR — Factor 8·26 — AUGUST 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
	Hour G.M.T.											volts per metre														
1	71	50	41	44*	26	43	132	100*	103*	82	87	90	87	87	87	84	91	88	87	113	101*	71*	60	59	77	(19)
2	60	54	41	28	57	87	63	54*	167	122	98	Z±*	-15*	Z±*	Z±	31	Z±*	72	Z±*	Z±*	78	107	148	73	80	(16)
3	12	Z-*	Z-*	Z-*	159	128*	144*	237*	147*	Z-*	Z-*	-88*	Z-*	Z-*	Z-*	Z-*	Z-*	Z-*	Z+*	15*	57	206	162	103	117	(6)
4	Z-*	88	103	95	81	73	71*	71*	38*	56*	62*	76	Z±*	Z±*	Z±*	60*	65*	87	60*	47*	Z-*	28	44	23*	75	(9)
5	21*	13*	35	88	50	26	28	29	57*	73*	71*	71	57	78	62	73	44	47*	-*	-*	-*	-*	-	-	53	(12)
6	-	-	-	-	-	44	-	-	29	53	43*	13*	Z-*	Z-*	96*	35*	90	57	62	73	37	-	-	-	56	(8)
7	-	-	-	-	-	-	-	-	-*	-*	-	-	-	50	-	31	-	-	-	-*	-	-*	-	-	41	(2)
8	-	-	-	-	-	-	43	47	-	-	-	-	46	43	16	50	43	15*	Z-*	37	29*	25	32	44	39	(11)
9	-	-	-	-	-	-	-	-	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	-	-	-	-	0	(0)
10	-	-	-	-	-	-*	-*	-	-	-	-	-	-	-	-	80	104	81	50	78*	56*	76*	71*	-162*	78	(4)
11	-743*	-514*	-73*	-43*	-51*	-41*	-44*	-15*	-*	-*	-	28	59	79	88	59	38	21	7*	26*	15	-	-	-	48	(8)
12	-	-	-	-	-	-	-	-	-	-	43	81*	62*	122	104	132	116	107*	103*	103	15	16	-	-	81	(8)
13	-	-	-	-	-	28	81	109	119	131	107	87	-	90	94	76	59	60	57	Z-	31	31	28	26	71	(17)
14	31	28	21	16	46	59	104	97	99	119	146	148	172	132	122	96	106	116	132	126	119	123	1*	-44*	98	(22)
15	12*	31*	31*	37*	123*	187*	79*	78*	68*	91*	Z-*	Z-*	4*	100*	-40*	47*	60*	18*	12*	129*	75*	56*	97	121	109	(2)
16	178	177	104	62	75*	85*	119	131	104	79	Z±*	Z±*	Z±*	Z±*	-94*	Z±*	Z±*	Z±*	76	106	97	96	72	60	104	(14)
17	47	57	60	54	56	71	72	57	73	32*	26*	29*	13*	31*	29*	38*	31*	53*	60	59	41	90	93	94	66	(15)
18	90	79	100	76	87	87	123	138	116	100	73	71	84	101	85	69	76	57	71	46	41	73	73	16	81	(24)
19	63	43	71*	71*	75*	75*	71*	46*	-*	-	-	-	-	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	53	(2)
20	-*	-*	-*	-*	-*	-*	-*	-*	44*	50*	76*	56*	56	34	44	46*	50*	57	47	56	28*	71	87	84	60	(9)
21	91	100	59	38*	71*	15*	-26*	-87*	56*	73*	59*	46*	60*	56*	44*	76*	75	72	57	44*	26*	24*	31*	21*	76	(6)
22	65	49	-9*	16	21*	19	44	Z±*	Z±*	-44*	-29*	68*	71*	76*	96*	51*	41*	71*	49	47	38	24	15	13*	37	(10)
23	15*	16*	21*	26	18*	3*	13*	12*	25*	32*	24*	31*	24*	41*	79	-44*	-221*	15*	71	59	65	46	31*	24*	58	(6)
24	28	0*	1*	-24*	-19*	22*	-4*	-16*	-3*	13*	7*	4*	15*	28*	15*	28*	38*	26	3*	15*	15*	21	15*	15	23	(4)
25	15	13	16*	13	10*	13*	16*	21*	26	12*	15*	34	59*	73	85	44	85	53*	37	19	15	15	12	7	33	(15)
26	13	15	13	13	13	7*	3*	-21*	-15*	-41*	-15*	-44*	-15*	0*	29*	60	-44*	-9*	21*	41*	3*	44*	63	147	42	(8)
27	112	79*	37*	73	75	78	103	94	112	126	113	103	119	87	78*	116*	107	112	104	60	72	73	88	44*	95	(19)
28	-7*	-31*	-73*	29*	73	62	79	100	73	103	91	87	90*	62*	63*	57*	60	73	59	49	59	62	21	16	67	(16)
29	15	15	16	15	37	31	19	29	56	68	81	79	78	75	59	44	49	62	62	26	31	35	31	32	44	(24)
30	29	29	31	19	15	16	18	25	29	38*	54	54	81	72	71	68	73	62	51	38	32	19	19	15	40	(23)
31	-	-	-	-	-*	-	-	18*	29*	66*	28*	47*	15	19	47	57	53	51	43	26	15	88	13	13	37	(12)
Mean	57 (16)	57 (14)	52 (12)	42 (14)	60 (13)	52 (14)	73 (14)	68 (11)	84 (12)	98 (10)	89 (10)	77 (12)	78 (11)	76 (15)	75 (14)	66 (16)	75 (17)	68 (17)	65 (18)	61 (17)	48 (18)	62 (20)	61 (19)	54 (17)	66	(351)
Mean for 0a days																									[58	(4)]

Daily, monthly and annual means are computed excluding hours with precipitation and, of course, all indeterminate entries. The number of hours or days used in computing each mean is shown in round brackets. Entries in square brackets are means for 0a days (see Introduction) and the figure in round brackets is the number of days used in computing this mean.

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

39 ESKDALEMUIR — Factor 6·68 — SEPTEMBER 1962

volts per metre

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
1	10	10	7	8	6	5	11	17	12	41	48	73	59	47	48	23	16	10*	11*	12	23	14*	-12*	-26*	25 (19)
2	5*	17	19	14	12	8	13	11	12	13	5	8	7	10	13	12	12	12	4*	1*	2*	6	13*	-34*	11 (18)
3	-48*	-94*	24*	8*	6*	10*	12*	14	12*	10*	8*	21*	41*	79	Z+	Z+	71	29	29*	12*	79	16*	83	84	63 (7)
4	72	Z±*	135*	11*	12*	37*	98*	170	120	125	Z±*	Z±*	61	122	116	83	71	64	36	37	25*	13*	0*	5*	90 (12)
5	23*	22	24	70	43	29	16	22	-	-	-	-	-	-	-	-	-*	-*	Z±	77*	73	58	30	13	36 (11)
6	11	16	12	24	17*	35	25	37	45	29*	24*	16*	19	12	84	20	25	34	23	11	10	5	12	7	23 (20)
7	8	2	5	12	7	13	25	35	61	84	110	99	37*	Z-*	Z-*	Z±*	Z-*	Z-*	Z-*	-36*	118*	212	123	124	61 (15)
8	100	84	69	53	77	63	88	106	107	94	90	92	87	85	73	84	106	100	89	98	123	116	110	119	92 (24)
9	125	122	142	41*	47*	-22*	Z±*	Z±*	Z-*	-102*	-138*	Z-*	Z-*	Z-*	Z-*	Z-*	Z-*	-123*	Z-*	-315*	-290*	Z-*	-178*	-340*	13 (3)
10	-122*	-113*	-67*	85*	83	77*	37*	83	163	88	79	65	60	63	67	71	61	58	37	33	39*	27*	25*	17*	72 (14)
11	13*	19*	25*	40	21*	22*	24*	39*	96	93	73	64	49	53	41*	0*	25*	21*	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	67 (7)
12	-37*	Z±*	157*	-51*	-197*	-196*	7*	81	60	63	60	72	83	88	67	69	51	34	36	47	59	41	23	19	56 (17)
13	16	17	13	12	12	12	13	24	84	117	61	119	60	71	Z+	51	59	61	36	36	57	43	37	30	45 (23)
14	41	34	24	24	12*	13*	21*	24*	39*	-108*	181*	61	60	46*	72*	39	23	34	58*	Z±*	58*	26*	Z±*	Z±*	38 (9)
15	100*	123*	110*	Z±*	63*	99*	107	99	94	70*	60*	42	54	36	67	63	61*	90	81	65	70	34	19	24	63 (15)
16	20	Z+*	58*	36*	49	46	71	111	81	72*	0*	84	Z±*	Z±*	72	88	29*	31	24	23	18	18	31	19	49 (16)
17	23	16	10	16	23	22	20	35	43	81	108	107	71	70	58	63	34	70	25	12	10	25	12	13	40 (24)
18	10	8	25	16	18	24	17*	24	23	2	7	4	4*	8*	24*	-	-	-	-	-	-	-	-	-	15 (11)
19	-	-	-	-	-	-	-	-	-	-	-	-	-	52	31	27	36	-	-	-	-	-	-	-	37 (4)
20	-	-	-	-	-	-	-	-	-	-	-	70	82	69	65	66	55	83	47	29	51	46	49	57	59 (13)
21	31	34	33	33	39	37	36	48	51	53	48	48	47	43	63	78	140	129	131	131	146	120	110	113	73 (24)
22	135	117	138	135	146	144	151	142	118	93	63	69	89	85	84	100	60	29	14	46*	41*	-14	12	4*	91 (21)
23	53*	85*	101*	96*	102*	120	138*	85*	39	70	35	52	49	39	36	37	10	52	35	59	72	75	16	21	48 (17)
24	58*	43	90	97	107	117	72	96	106	77	54	75	18*	54	67	65	70	84*	95*	28*	37	26	41	41	70 (19)
25	43	34	33	33	67	46	63	65	87	110	113	134	120	126	118	90	73	48	30	12*	34*	36*	24*	49*	75 (19)
26	Z±*	Z±*	71	96	131	70	66	Z±*	157	168	41	48	57	59	60	Z±	52	24*	4*	24*	20*	49	98	73	81 (16)
27	72	85	30	13	49*	72*	102*	129*	60*	90	52*	78*	88	112	102	98*	70*	73*	Z±*	48*	77	65	70*	-84*	73 (10)
28	-43*	Z±*	-120*	-48*	7*	30*	38*	98*	72*	75*	108*	51*	5*	19*	60*	54*	89*	59*	55*	42*	66*	75	42	14	44 (3)
29	8	19	54	26	5	5*	7	35	11*	10*	5	-24	Z-*	Z-	Z-	Z-	Z-	Z-	-48	63	40	53*	54*	35*	16 (12)
30	64*	55*	76*	60*	61*	61	24	22	14*	17	42	60	110	Z±*	20*	Z±*	5*	-2*	18*	2*	1*	2*	2	6*	42 (8)
Mean	45 (16)	40 (17)	44 (18)	40 (18)	52 (16)	50 (17)	48 (17)	61 (21)	78 (20)	78 (19)	58 (18)	65 (22)	66 (20)	65 (21)	68 (19)	59 (19)	54 (19)	56 (17)	40 (15)	47 (14)	59 (16)	56 (18)	47 (18)	48 (16)	56 (431)
Mean for 0a days																									[83 (2)]

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

39 ESKDALEMUIR — Factor 5·92 — OCTOBER 1962

volts per metre

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
1	9*	2	-34*	-13	2*	11	13*	-16*	-*	-*	-*	-*	-*	-	-	-	-	-	-	-	-*	-*	-*	-*	0 (3)
2	-*	-*	-*	-*	-*	-*	-	-	-	-*	-	-*	-*	-	-	-	-	-	-	-	-	-	-	-	0 (0)
3	-	-	-	-	-	-	-	-	42	60	71	-	74	-	-	-	-	55	62	51	17	74	35	19	51 (11)
4	16	19	34	43	29	13	15	23	13	19	13*	11*	12*	-*	-*	-	-*	-*	-	-	-	-	-	-	22 (10)
5	-*	-*	-*	-*	-*	-*	-	93	73	76	77	73	84	84	96	103	66	55	40	44	55	44	41	31	67 (17)
6	26	41	39	51	51	85	83	66	50	46	33	54	51	37	37	72	66	73	57	83	79	68	56	42	56 (24)
7	29	31	24	18	19	24	44	34	32	35	29	31	20	44	41	34	41	-4	10	18	40	24	36	19	28 (24)
8	42	33	26	28	35	24	28	32	45	76	90	114	108	108	104	107	74	26	11	28	30	21	31	23	52 (24)
9	13	14	11	9	10	12	17	23	29	33	53	76	116	108	99	81	41	32	31	20	42	24	2	164	44 (24)
10	46	87	76	150	49	41	0	41	75	21	50	90	40	51	57	30	36	47	33	21	39	-17	48	26	47 (24)
11	33	0	63	-45	-4	-44	-40	61	73	51	11	8	-12	-4	30	-	9	-	-	-12	19	36	63	42	16 (21)
12	-2*	3*	17	18	33	48	51	58	-*	13*	30	20	30	26	27	49	44	45	55	63	39	42	49	44	39 (20)
13	43	39	33	28	31	28	33	80	41	33	23	53	24	21	10	-15	2	44	43	40	34	50	44	101	36 (24)
14	90	41	17*	12*	18*	41*	14*	50*	60*	34*	114*	36	-4*	42*	20	45	49	47	81	61	66	31	57	62	53 (13)
15	41	34	24	28	41	50	44	51	40	63	69	66	68	77	100	124	33	74	43	87	50	103	84	83	62 (24)
16	49	55	44	43	51	60	63	88	56	58	76	73	79	109	108	78	110	17	94	146	179	77	68	65	77 (24)
17	41	24	36	76	99	124	44	120	130	98	69	122	109	178	77	79	43	13	20	2	73	25	-23	32	67 (24)
18	31	48	41	20	14	36	41	10	15	3	3*	9*	28*	20*	46*	45*	66*	50*	85*	87*	58*	53	73	64	35 (13)
19	53	62	58	51	86	75	65	56	55	69	74	76	87	99	83	85	69	53	66	54	39	20	15	18	61 (24)
20	19	16	28	31	17	19	18	17	101	274	165	28	50	95	88	36	17	58	57	39	41	25	41	28	54 (24)
21	37	31	33	20	14	13	-6	-1	2	9*	36*	21	25	20	17	51	53	79	60	65	64	64	54	44	35 (22)
22	34	32	31	26	32	23	34	45	50	53	87	112	99	85	73	58	23	31	24	24	17	39	23	21	45 (24)
23	17	14	9	33	1	23	63	19	29	33	73	92	88	108	72	63	30	8	-2	-1	19	-11	-12	2	32 (24)
24	23	39*	36*	41*	68*	123*	144*	154*	160*	111*	57*	137*	53*	48*	61*	76*	109*	117	107	75	45	55	31*	53	70 (6)
25	130*	47*	33*	55*	62*	56*	49*	44*	65*	72*	90*	44*	55*	76	66	44*	45*	87	55	58	42	32	Z±*	-108*	59 (7)
26	0*	3*	8*	-10*	26*	42	56	55	94	109	107	97	98	109	106	46	11	24	26	45	32	20	23	23	59 (19)
27	31	21	24	39	25	43	26*	-88*	-11*	-9*	1*	15*	55*	76*	Z±*	Z-*	Z-*	Z-*	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	31 (6)
28	Z±*	Z±*	Z±*	Z±*	39*	Z±*	Z±*	-13*	51*	74*	77	89	85	101	104	105	116	109	132	111	77	39	21	31	86 (14)
29	34	46	39	32	29	31	32	40	43	61	58	68	87	85	Z±*	Z±*	Z±*	16*	13*	32*	1*	1*	-23*	-31*	49 (14)
30	40*	Z±*	31*	41*	50	62*	71*	66*	66*	46*	38*	Z±*	Z-*	93	83	35*	Z±*	Z±*	Z±*	28*	Z±*	Z±*	34	30*	65 (4)
31	Z±*	Z±*	44*	41	40	Z-	51	31	3*	Z±*	45*	97	90	77	43	41	13	30	36	73	76	62	51	34	59 (17)
Mean	36 (21)	33 (21)	35 (20)	33 (22)	34 (22)	36 (22)	36 (21)	47 (22)	52 (21)	64 (20)	66 (20)	68 (22)	68 (22)	78 (23)	67 (23)	64 (20)	45 (21)	49 (23)	50 (23)	50 (24)	51 (24)	40 (25)	38 (24)	44 (23)	49 (529)
Mean for 0a days																									[62 (2)]

The potential gradient is reckoned as positive when the potential increases upwards. The symbol Z indicates either that the trace fluctuates rapidly so that estimation of a mean value is impracticable, or that the trace is limited by the range of the instrument (see Introduction): and the suffix +, - or ± indicates that the mean value is plainly positive, plainly negative, or indeterminate in sign. The occurrence of precipitation of any sort is indicated by an asterisk. Round brackets round any hourly mean indicates that the record during that hour is somehow imperfect.

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

101

39 ESKDALEMUIR — Factor 6·15 — NOVEMBER 1962

volts per metre

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
1	13	24	9	21	27*	20	-16	-4*	Z-*	Z-*	-71*	-94*	-9*	24*	Z±*	105*	Z-*	27	54	63	38	10*	11*	11	24 (11)
2	4	4*	55*	19	9	20	-19*	4*	10*	60	109	99	77	54	87	22*	Z±*	-29*	13	43	10	9	0	-20	37 (16)
3	Z±*	-4*	-1*	Z-*	Z-*	Z±*	60*	76	48	Z±*	Z±*	Z±*	18*	15*	Z±*	Z±*	36*	69*	-45*	10	10	-27*	8*	8	30 (5)
4	9	6	4	4	4	-3*	4*	8	11	19	2*	-2*	41*	57	67	35	12	16	4	7	4	4	20	16	16 (19)
5	16	18	11	13	10	10	4*	3*	-24	11*	34*	54	76	56	38	45	43	25	7	9	10	26	4	-4*	25 (19)
6	-9*	9*	1*	8*	4*	-3*	3*	2	6	-1*	7	6	-1	1	6	4	-2	-27	44*	-*	-24*	-27*	-58*	-35*	0 (10)
7	-15	4	-21	16	-3	55	-3*	-11*	-32*	-44*	-21	13	2*	-81*	-40*	-45*	2*	-13	-19	-11	-24	-13	-26	-20	-7 (15)
8	-7*	25*	-3	16	24	56	9	27	41	43	47	21	37	63	76	107*	76*	79	63	69	43*	4*	2*	9*	41 (16)
9	-19*	-20*	2*	1*	-7*	-10*	2*	9*	22*	33*	27	4*	2*	35*	-20*	-29*	2*	-19*	-13*	-4*	2*	1*	13*	7*	27 (1)
10	4*	3*	-13*	-11*	-10*	-21*	-22*	-32*	-*	-*	-*	-	-*	-*	-*	-*	-	-	-*	-*	-	-	-	-	0 (0)
11	-*	-*	-*	-*	-*	-*	-*	-	-*	-*	-	-	-*	-*	-*	-	-	-	-	-	-	-	-	-	0 (0)
12	-	-	-	-	-	-	-	-	-	16	19	20	24	31	19	41	-	-	-	-	-	-	-	-	24 (7)
13	-	-	-	-	-	-	-	-	-	-	12	25	31	19	15	11*	12*	7*	3*	2*	1*	8*	6	44	22 (7)
14	24	19	15	12	-2*	1*	8*	1*	9*	16*	12*	45*	Z±*	Z-*	Z+*	Z±*	Z±*	26*	58	55	55	47	47	44	38 (10)
15	48	41	47	46	48	43	45	39	54	57	Z±	Z±	68	58	71	72	49	24	7	19	25	2	13	19	41 (22)
16	35	18	7	8	53*	104*	48*	45*	27*	2*	0*	21*	36*	2*	35*	10*	-146*	Z±*	Z±*	Z±*	-84*	Z-*	Z-*	Z-*	17 (4)
17	Z-*	Z-*	Z-*	Z-*	114*	224*	291*	54*	Z-*	Z-*	-124*	-72*	-9*	54*	87*	313*	330*	492*	244*	255*	257	186	336	196	244 (4)
18	470	588	430	334	166	425	Z+*	Z+*	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	636	352	311	226	215	177	188	420	351 (14)
19	313	308	212	168	151	156	153	202	133	181	196	241	279	352	513	463	418	532	452	502	314	265	188	137	285 (24)
20	102	99	84	63	71	88	82	76*	56*	76	92	123	133	138	102	104*	132*	88*	65*	66	82	93	55	49	89 (18)
21	82	78	68	65	88	125	127	140	115	80	118	195	170	223	175	153	168	202	191	157	111	123	123	88	132 (24)
22	67	75	66	59	72	58	57	58	88	90	111	136	124	130	132	110	79	65	68	90	83	69	79	84	86 (24)
23	53	55	51	33*	36*	44*	33*	43*	-2*	54*	-155*	-217*	-64*	-46*	110*	-33*	97*	-66*	46*	83*	-25*	293*	253*	30*	53 (3)
24	79*	55*	65*	-23*	-16*	12*	-16*	34*	31	-4	58	100	60*	87*	85	65	94*	83*	79*	91	92	46	34	33	57 (11)
25	41	43	38	35	35	33	25	27	-	-	-	-	-	-	-	-	-*	-*	-*	-	-	23	25	46	34 (11)
26	33	18	33	18	26	35	47	44	33	46	-	66	75	68	-	43	67	47	59	72	76	75	44	36	48 (22)
27	24	43	35	37	39	35	31	31	23	60	54	57	81	35	-	31	38	43	79	49	46	23	32	38	42 (23)
28	38	38	23	28	37*	23	23*	35*	36	32	41	16*	25*	46*	56*	46	38	44	34	23	26*	31	59	44	36 (16)
29	47	29	25	26	20	30	44*	35*	26*	25	16	16	-	-*	-*	-*	-*	-	65	47	57	47	38	36	35 (15)
30	35	31	21	23	23	21	23	30	32	43	47	46	60	51	46	43	44	35	47	43	31	38	36	29	37 (24)
Mean	72 (20)	81 (19)	58 (20)	51 (20)	49 (16)	73 (17)	53 (11)	57 (12)	45 (14)	55 (15)	51 (16)	76 (16)	88 (14)	89 (15)	102 (14)	89 (13)	133 (12)	97 (15)	88 (17)	81 (20)	79 (19)	67 (19)	65 (20)	64 (21)	72 (395)
Mean for 0a days																									[153 (3)]

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

39 ESKDALEMUIR — Factor 5·96 — DECEMBER 1962

volts per metre

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
1	17	9	8	1	13	3	5	10	9*	13*	18	30	19	19	11*	14*	10*	8*	14*	21	10	11	9	10	12 (17)
2	10	10	9	8	9	9	16	14	19	25	33	43	31	31	19	32	33	35	40	32	21	24	33	21	23 (24)
3	31	22	29	11	30	28	11	23	24	43	41	62	51	33	31	41	-47	-57	-69	-164	-101	-31	-36	-5	0 (24)
4	-13	-8	3	19	24	23	19	-40	19*	53*	-29	-9	-13	-38*	81*	224	285	161	290	23	14	58	86	23	57 (20)
5	62	90	-11	4	37	-11	-13	78	37	53	52	87	78	82	47	33	35	31	43	39	53	43	42	30	43 (24)
6	31	22	24	32	22	30	17	10	33	21	38	53	16	50	31	41*	28*	-10	15	32	13	30	43	40	27 (22)
7	33	13	10	10	35*	24*	13*	11	-3	-2	10*	21*	-1*	13*	35	22	13	10*	11*	-56*	105*	30*	-119*	-39*	14 (10)
8	-146*	Z-*	Z-*	Z-*	Z-*	-*	-*	-*	Z-*	Z-*	Z-*	Z-*	30*	51	Z-*	Z-*	Z-*	33*	Z±*	13*	-85*	-121*	-32*	31*	51 (1)
9	Z-*	Z-*	Z±*	54*	143	73	72	77	121*	96*	86	96	86	42*	66*	76*	65*	85*	85	77	76	72	64	52	81 (13)
10	53	42	44	51	54	54	54	54	42	43	45	53	44	5*	Z±*	Z±	31	11*	32*	Z-*	64*	73*	53*	59	48 (15)
11	52	47	60	70	99	138*	87*	31*	Z-*	Z-*	79*	30	96	76	Z-*	45*	42	16	Z-*	51*	75	75*	41*	42	54 (13)
12	51	31	37	22	52	85	73	96*	98*	72*	106	132	120	107	118	108	148*	56*	-*	-	-	-	-*	-*	80 (13)
13	-*	-*	-	-	-	-	-	-*	97*	125	121	108	173	133	58	26	84	85	79	85	82	77	35	17	86 (15)
14	1	6*	-10*	-12*	-15*	-4*	26*	23*	24*	17*	12*	9*	4*	9*	6*	10*	9*	-11*	-28*	23*	30*	49*	15*	12	7 (2)
15	-	-	-	-	-	-*	-*	-*	-*	12*	10*	22*	22*	33*	21*	8*	8*	8*	22*	37*	12*	-13*	3	3	3 (2)
16	Z-*	Z±*	65	65	65	63	63	65	56	44	44	46	47	46	46	49	33	41	40	37	36	41	36	31	48 (22)
17	31	30	32	29	24	18	18	17	21	22	23	24	25*	29*	19*	3*	-117*	-95*	-34*	22*	8*	16	19	19	23 (15)
18	13	12*	-8*	17	19	20	17	11	13*	22*	5*	73*	87	Z±*	98	90*	108	89	98	54	47*	110*	83	63	55 (14)
19	19	-	-	-	-	-	-	-	-	-	-	84	65	41	30	42	35	55	31	36	35	8	14	-12*	38 (13)
20	Z±	Z-	Z-	-169	52	-187	Z-	Z-	-9	Z±	74	142	131	88	87	79	45	41	8	Z±	66	77	73	70	39 (17)
21	65*	67*	64*	65*	65*	56*	52*	66*	53*	66*	78*	85*	92	77	88	76	85	76	33*	35*	65	50	57	91	76 (10)
22	32	35	33	24	18	16	45	42	96	45	77	106	171	28	19	62	19	19	19	52	44	35	25	28	45 (24)
23	97	13	12	10	12	-	-	-	-24	-32	19	-8	24	57	-54	62	11	39	62	12	42	27	30	19	20 (21)
24	23	11	13	9	13	44	23	9	29	30	43	36	25	47	58	40	9	13	18	24	28	45	41	33	28 (24)
25	28	24	21	25	29	17	37	15*	-131*	-135*	-115*	-39*	-96*	Z+*	87*	Z±*	167*	-13*	96*	28*	78*	41*	31*	42*	26 (7)
26	-45	-56	13	63*	46*	35*	-10*	-9*	77*	15*	58*	39*	86*	96*	118*	160*	165	207	204	217	209	169	153*	150	123 (10)
27	150	160	143	131	107	99	110	116	143*	144*	184*	311*	258*	Z+*	150	184*	150	135	131	96	116*	198	184	152	138 (16)
28	186	120	121	119	106	130	86	106	-	-	96	101	127	136	131	89	96	128	109	120	110	131	105	106	24 (22)
29	71	62	66	63	56	54	36	74	117	122	119	130*	106*	51	68	111	117*	175*	181*	Z+*	33*	Z±*	Z±*	53*	76 (14)
30	87	93	60	32	31	37*	78*	50	51	53*	25*	49*	63*	46*	63*	43*	63*	133*	165*	96	Z+*	-9	Z±	Z±*	55 (9)
31	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	139*	Z-*	-14*	98*	42*	42*	55*	-8*	-13*	1*	21*	32	134	40	Z-*	-12*	-9	-42	39 (4)
Mean	44 (23)	39 (20)	38 (21)	27 (22)	46 (22)	30 (19)	38 (18)	40 (18)	35 (14)	41 (13)	56 (18)	64 (19)	73 (20)	64 (18)	59 (18)	69 (16)	65 (19)	60 (19)	74 (18)	49 (19)	49 (18)	54 (20)	45 (21)	53 (24)	50 (457)
Mean for 0a days																									nil.
Annual Mean	47 (240)	46 (237)	41 (236)	40 (238)	48 (230)	48 (230)	53 (217)	56 (215)	60 (212)	64 (203)	63 (218)	67 (230)	69 (222)	69 (221)	67 (222)	64 (210)	65 (208)	59 (208)	59 (215)	54 (222)	52 (225)	50 (239)	47 (244)	46 (238)	56 (5380)
Annual mean for 0a days																									[77]

Daily, monthly and annual means are computed excluding hours with precipitation and, of course, all indeterminate entries. The number of hours or days used in computing each mean is shown in round brackets. Entries in square brackets are means for 0a days (see Introduction) and the figure in round brackets is the number of days used in computing this mean.

40 ESKDALEMUIR 1962

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE	
	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient
		hr.		hr.		hr.		hr.		hr.		hr.
1	0a	···	1b	0·7	0a	···	1c	2·4	1a	0·1	1a	0·1
2	0a	···	1a	1·1	1a	0·6	2c	14·2	1a	0·5	1a	0·5
3	(2)a	–	2b	3·1	1a	0·1	2c	–	1b	2·7	0a	···
4	(1)a	–	2c	9·2	1b	1·0	2c	–	1a	0·3	1a	2·1
5	2b	14·1	1b	2·0	0a	···	(1b)	–	1a	1·3	1a	1·3
6	2a	8·7	2b	9·8	(1a)	–	2c	3·6	1a	2·8	(1)a	–
7	2b	5·1	2c	8·6	(1a)	–	2c	7·9	1b	2·9	1a	2·7
8	2c	12·5	(1a)	–	(2b)	–	2c	3·6	1b	1·4	1a	0·3
9	2b	3·7	1a	1·1	(1a)	–	2c	4·1	1b	1·2	1a	0·8
10	2b	5·7	1b	2·9	2b	7·0	1b	2·7	2c	3·4	0a	···
11	2c	7·1	2c	3·2	(1)b	–	2a	3·5	2b	7·1	(1)a	–
12	2c	–	2c	5·0	1b	0·4	1a	1·4	1a	1·9	1a	0·7
13	2c	4·3	1a	0·2	1a	0·9	1a	0·3	0a	···	(1)a	–
14	2b	4·1	0a	···	1a	0·7	(1a)	–	0a	···	1a	1·2
15	(2c)	–	2a	6·3	1a	0·3	(1a)	–	1a	1·7	2b	3·3
16	(1b)	–	1b	2·8	1a	2·1	(2b)	–	2c	9·4	1a	0·5
17	2c	4·6	1a	0·6	1a	0·7	(2a)	–	2c	7·1	1a	1·4
18	2b	3·2	1a	0·1	1a	2·5	2b	5·7	2c	4·1	1c	2·4
19	2c	4·5	1a	2·0	1a	2·1	(2a)	–	2c	10·5	2c	8·5
20	(1)b	–	1a	1·7	1a	1·2	2b	6·4	2b	6·5	2a	3·4
21	2b	5·2	(1)a	–	1a	1·1	2b	6·7	2b	4·5	1b	0·8
22	2c	5·7	1a	1·0	1a	1·5	1b	1·1	2b	3·6	(0a)	···
23	(2b)	–	1a	0·2	(1a)	–	1a	0·8	2b	3·8	1b	2·3
24	2c	14·5	2a	3·6	1a	0·1	1a	0·9	1a	0·1	1b	2·6
25	2b	5·9	(2b)	–	2c	7·3	0a	···	0a	···	2c	4·4
26	1a	0·9	2c	–	2b	3·0	1a	1·2	1b	0·9	1b	0·3
27	2a	–	(2)b	–	1b	2·4	1a	0·6	1a	1·2	2a	3·4
28	1a	0·2	1a	2·4	2b	3·5	1a	2·0	1a	1·6	0a	···
29	2a	12·0			2b	9·4	1a	0·4	1a	2·1	0a	···
30	2c	10·8			(1b)	–	1a	0·5	1a	–	1a	1·0
31	2c	11 2			(1b)	–			1a	0·1		
Total	–	144·0	–	67·6	–	47·9	–	70·0	–	82·8	–	44·0
No. of days used	–	23	–	23	–	23	–	22	–	30	–	27
Mean	–	6·3	–	2·9	–	2·1	–	3·2	–	2·8	–	1·6

	JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient
		hr.		hr.		hr.		hr.		hr.		hr.
1	1a	1·5	0a	···	1a	2·0	(1a)	–	2a	7·1	1a	3·6
2	1a	1·9	1c	1·0	1a	1·1	–	–	2a	5·3	1a	1·9
3	1a	0·1	1c	1·2	2a	3·0	(1a)	–	2c	7·1	2a	8·0
4	1a	0·3	1b	0·6	1b	2·4	(1a)	–	1a	1·0	2a	8·5
5	0a	···	(1a)	–	(1b)	–	(0a)	–	1a	3·0	2a	3·3
6	0a	···	(1b)	–	1a	0·4	1a	0·1	2a	10·4	1a	2·5
7	0a	···	(0a)	–	2c	3·4	1a	1·4	2a	15·2	2a	8·3
8	1a	0·9	(1b)	–	0a	···	1a	0·6	1a	4·1	(2c)	–
9	0a	···	–	–	2c	6·9	1a	1·0	2a	11·5	1b	2·0
10	2b	5·2	(1a)	–	1b	2·8	1a	1·8	(2a)	–	1a	2·8
11	2c	4·0	2b	7·4	2c	3·9	2a	7·7	–	–	1a	2·2
12	1a	0·4	1a	0·2	2b	4·2	1a	1·7	(1a)	0·1	(1a)	–
13	1a	0·1	0a	···	1a	0·1	1a	2·3	(1a)	0·4	(1a)	–
14	1a	1·3	1a	1·3	1b	2·4	1a	2·1	2a	4·3	2a	7·3
15	1a	0·7	2b	4·2	1b	1·8	0a	···	1a	1·2	1a	2·4
16	1a	0·1	2c	3·8	1b	1·8	1a	0·4	2b	7·4	1a	1·2
17	1a	0·1	1a	0·5	1a	0·1	2a	3·9	2c	15·5	2a	3·4
18	2a	3·3	1a	0·3	(1a)	–	1a	1·5	1c	0·1	1a	1·7
19	1a	0·5	(0a)	–	(0a)	–	0a	···	0a	···	1a	1·9
20	0a	···	(1a)	–	(1a)	–	1a	1·1	0a	···	2b	8·0
21	2c	14·3	1a	2·0	0a	···	1a	2·5	1a	0·2	1a	0·2
22	1a	2·4	1b	2·2	1a	2·1	1a	0·2	0a	···	1a	2·4
23	1a	0·1	1a	2·4	1a	0·7	2a	4·4	2a	7·1	(1a)	–
24	2b	3·3	2a	4·4	1a	0·3	1a	1·0	2a	3·7	1a	2·0
25	1a	1·8	1a	0·7	1a	0·9	1a	2·9	(1a)	–	2a	7·1
26	1a	1·2	2a	7·7	1a	1·1	1a	1·5	(1a)	–	2a	5·0
27	1a	0·2	1a	0·5	1a	0·9	2b	6·5	(1a)	–	1a	0·1
28	1a	0·4	1a	2·1	2a	3·1	2c	3·2	1a	1·2	(0a)	–
29	1b	1·0	0a	···	2a	8·0	2b	3·4	(1a)	–	1a	1·8
30	1a	1·4	0a	···	1b	1·6	2c	3·9	1a	0·2	1a	2·4
31	1a	1·0	1a	0·1			1b	2·3			2c	10·4
Total	–	47·5	–	42·6	–	55·0	–	57·4	–	106·1	–	100·4
No. of days used	–	26	–	19	–	24	–	24	–	21	–	26
Mean	–	1·8	–	2·3	–	2·3	–	2·4	–	5·1	–	3·9

Annual values: Character 0 1 2
No. of days used 35 210 117

Duration: Total 865·3
No. of days 288
Mean 3·00 hr.

KEW

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

41 KEW OBSERVATORY — Factor 4·27 — JANUARY 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
	volts per metre																								
1	395	510	540	670	635	675	795	700	630	590*	810*	860	890	510	565	860	865	620	360	280	15	55	65	65	525 (22)
2	120	-40	-10	145	215	0	205	215	395	475	825	875	835	930	985	1000	845	875	685	1050	1035	820	810	845	589 (24)
3	660	810	955	635	590	685	725	605	940	1095	1035	980	810	825	610	860	620	780*	725*	715*	715*	350*	360	540	755 (19)
4	65	190	-65	225	335	335	255	360	620	825	780	955	1035	970	920	1010	970	540	635	635	605	445	280	255	549 (24)
5	255	255	285	310	285	215	225	245	415	475	540	460	380	430	495	510	660	590	445	350	40	125	200	160	348 (24)
6	125	95	85	160	105	110	40	30	175	95	65	95	270	325	225	225	340	445	335	360	430*	620*	30*	80*	185 (20)
7	125*	65*	70	105	205	200	190	240	255	260	285	300	270	320	325	325	470	475	390	460	565	500	510	460	326 (22)
8	380	300	350	350	285	175	300	320*	125*	240	110	50*	110*	175	240	260	225	215	160	-115*	-40*	15*	0	Z-*	235 (16)
9	Z±*	105	125	125	145	175	240	360	475	565	590	550	430	395	325*	395	80	190	395	240	240	0*	Z-*	Z-*	306 (19)
10	Z-*	Z-*	125*	145*	Z±*	-185	95	190	395	460	535	595	540	515	675	485	455	380	160*	55*	-60*	-315*	-135*	-75*	395 (13)
11	-330*	-200*	65*	145	205	95	160	70*	-85*	Z±*	-315*	-135*	80*	205	240	245	270	270	295	215	240	205	200	175	211 (15)
12	190	165	105	-15*	Z±*	Z±*	Z±	Z±*	Z+*	Z+*	205	270	Z±*	270	285	285	285	285	255	270	245	225	260	225	239 (16)
13	165	150	165	185	240	285	285	350	365	340	300	270	260	190	245	240	215	150	165	230	165	50	120	105	218 (24)
14	105	105	105	125	135	160	190	240	320	310	335	325	280	260	240	240	300	270	365	365	230	30	190	175	225 (24)
15	360	415	270	320	460	570	360	510	420	495	475	365	320*	285	280	245	225	190	165	200	125	55	50	55	300 (23)
16	30	Z±*	Z±*	-200*	Z±*	Z±*	Z±*	Z-*	-140*	700	715	595	535	525	430	550	485	515	395	350	485	260	225*	Z±*	469 (14)
17	110*	80*	80*	15*	15*	-65*	25*	160*	200*	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	320	325	335	375	335	325	375	320	225	326 (9)
18	200	175	215	255	255	260	340	495	660	675	555	475	420	415	395	475	510	550	525	555	455	590	430	325	425 (24)
19	340	255	175	-185*	-65*	80*	175*	255*	145*	120	Z±*	Z±*	185	285	320	375	380	475	420	495	540	650	765	685	404 (16)
20	460	295	255	225	240	255	295	295	245	255*	380	190	145	125	135*	200	70*	70	25	165*	30*	-35*	-250*	-90*	231 (16)
21	110	65	80	55*	55	80*	55*	55	65*	40*	95*	Z±*	Z±*	Z-*	Z-*	Z±*	230	325	340	340	Z±*	Z±*	Z±*	Z±*	178 (9)
22	145*	125*	65*	Z±*	125*	215	270	310	320	325	295	285	285	245	240	280	335	395	Z+*	145*	185	240	240	240	277 (17)
23	175	135	125	125	145	190	320	340	395	350	365	375	335	350*	390	395*	230*	285*	Z-*	Z±*	Z±*	Z±*	-35*	190	264 (15)
24	205	95	105	120*	110	125	145*	135*	110*	80*	0*	160*	185*	200*	150*	145*	225	240*	280	215	190*	215	205	Z±*	178 (10)
25	Z-*	55*	-50*	80*	80*	160	190	240	295	365	260	335	340	285*	380*	395	445	535	535	415	360	175	120	110	310 (17)
26	185	135	95	110	80	145	165	230	230	255	335	340	320	280	300	245	295*	285*	285	415	395	205	200*	185*	237 (20)
27	85*	70*	65*	135*	80*	85*	Z-*	Z-*	375*	435	565	535	390	360	435	390	335	260	175	200	185	120	85	80	303 (15)
28	0	70	80	65	15	65	95	190	415	500	590	470	460	380	300	335	405	495	635	580	435	285	325	270	311 (24)
29	205	215	15	590	445	240	150	205	175	295	395	430	395	445	390	415	430	390	375	395	335	510	435	350	343 (24)
30	310	270	215	175	190	135	70	65	15	175	205	160	245	300	280	225	240	150	175	95	95	55*	50*	70	175 (22)
31	30	40*	300*	150*	95*	65*	215*	360*	-25*	95*	205*	-85*	30*	50*	-10*	-10*	25*	40*	40*	15*	-15*	40*	-430*	-15*	30 (1)
Mean	220 (23)	217 (22)	189 (23)	252 (20)	244 (22)	220 (24)	259 (23)	294 (22)	388 (21)	427 (23)	447 (24)	462 (24)	437 (23)	399 (25)	409 (24)	422 (27)	414 (27)	384 (26)	353 (26)	377 (24)	332 (22)	292 (21)	284 (21)	267 (21)	336 (558)

Mean for selected quiet days [320 10)]

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

41 KEW OBSERVATORY — Factor 4·19 — FEBRUARY 1962

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
	volts per metre																								
1	-95*	155	145	155	170	185	215	325	425	380	265	265	250	265	255	265	270	265	280	225	255	155	185	140	239 (23)
2	115	130	75	130	145	165	225	295	380	410	480	385	425	385	385	335	365	340	235	300	405	365	405	335	301 (24)
3	295	265	340	215	125*	55*	155*	250*	335	250	130	95	200	70	250	235	210*	170*	225	295	405	235	270	240	242 (18)
4	210	145	165	185	250	265	250	310	465	535	350	285	325	320	255*	265*	185	75*	45	40*	0*	-65*	-15*	-50*	283 (15)
5	-30*	25*	25	100	115	140	170	250	370	405	325	300	280	250	295	300	340	385	265	200	270	350	310	300	261 (22)
6	180	140*	95*	40	15	125	130	165	280	335	340	300	255*	340	355	280	325*	370	350	295	200*	170*	75*	100*	244 (16)
7	95*	70*	70*	75	45*	125*	70*	310*	365	340	365	340	285*	Z±*	320*	340	385*	310*	Z±*	30*	Z±*	Z±*	240	55	265 (8)
8	-10	Z±*	-65*	25	70	-225*	0*	Z±*	-155*	-25*	355	385	395	355	405	340	370	490	505	465	490	690	630	420	375 (17)
9	295	365	195	185	155	195	280	95	495	730	775	590	435	310	250	255	285	340	280	235	300	180*	255*	255*	337 (21)
10	130	210	210	215	255	365	200	320	310	350	565	590	490	410	450	355	295	350	350	155	15*	215*	325	350	330 (22)
11	255	165	170	165	155	235	250	385	455	545	370	325	310	270	215	215	250	235*	255	195	145	-10	-25	25	231 (23)
12	55	70	45	60	75	110	55	75	75	60	0	0	-40	-25	45	60	85	Z±*	-80*	Z-*	Z±*	-40*	Z-*	Z±*	47 (17)
13	Z-*	-65*	45*	70	Z±*	70	185	285	340	310	295	310	300	325	285	280	200	250	235	235	280	285	200	265	250 (20)
14	270	200	250	225	250	270	295	355	385	395	385	355	295	295	265	200	295	320	270	235	250	265	255	270	285 (24)
15	250	265	235	235	200	235	240	335	380	450	350	425	270	60*	95*	-15*	-130	-130	-70	-70	-15	45	30	0	168 (21)
16	45	85	60	75	95	100	85	125	70	60	55*	110*	200	225	240	250*	270	255	280	265	235	200	155	130	155 (21)
17	130	130	155	140	140	195	185	250	255*	250*	265	225	200	185	170	170	165	185	235	250	265	365	185	280	203 (22)
18	340	155	125	285	215	165	215	235	255	300	320	185	170	200	185	200	265	320	325	435	340	295	420	520	269 (24)
19	475	440	340	195	210	200	225	370	490	590	525	450	595	325	225	265	250	280	385	510	650	560	450	480	396 (24)
20	405	185	140	110	155	355	265	265*	-95*	395*	385	675	465	410	310*	300*	370	620	800	405	425	560	505	520	408 (19)
21	370	385	320	325	295	170	235	310*	475*	560*	620*	675*	580	525	545	560	565	545	370	435	300	145	180	95	366 (19)
22	10	145	130	155	210	265	380	520	590	550	450	475	495	510	480	590	560	550	435	405	405	280	300	250	381 (24)
23	195	185	155	155	165	165	215	340	410*	520*	235*	265*	495*	480	435	520	495*	455	525	525	435	365	250	225	322 (18)
24	235	250	185	170	170	180	200	285	385	395	380	465	450	355	325	350	420	480	490	475*	295*	340*	55*	170	317 (20)
25	185	140	140	110	100	115	130	140*	195*	240	Z±*	Z±*	270	295	250	-65	155	75	170	165	195	-115	-130	155	129 (20)
26	170	165	300*	310*	-15*	-145*	-320*	-485*	Z±*	Z-*	Z±*	Z±*	-145*	-50*	-320*	-225*	-135*	-200*	-160*	10*	125*	110	130	140	143 (5)
27	145	125	95	100	100	100	140	295	435	465	480	385*	380*	420	425	455*	465	425	405	355	355	335	280	250	295 (21)
28	200	140	115	95	115	95	130	250	420	495*	560	495	535	480	435	525	505	475*	510*	480*	285*	215	280*	295*	312 (17)
Mean	206 (24)	196 (23)	166 (23)	148 (27)	159 (24)	186 (24)	204 (24)	279 (21)	367 (21)	385 (21)	379 (23)	360 (22)	343 (23)	319 (25)	313 (23)	299 (22)	296 (23)	341 (21)	330 (23)	296 (22)	319 (20)	271 (21)	252 (22)	244 (23)	275 (545)

Mean for selected quiet days [285 (10)]

The potential gradient is reckoned as positive when the potential increases upwards. The symbol Z indicates either that the trace fluctuates rapidly so that estimation of a mean value is impracticable, or that the trace is limited by the range of the instrument (see Introduction): and the suffix +, − or ± indicates that the mean value is plainly positive, plainly negative, or indeterminate in sign. The occurrence of precipitation of any sort is indicated by an asterisk. Round brackets round any hourly mean indicates that the record during that hour is somehow imperfect.

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

41 KEW OBSERVATORY — Factor 4·37 — MARCH 1962

volts per metre

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
1	305	410	15	-130	-135*	-85*	-85*	0*	105*	150*	245	400	385	310*	330	410*	460	450	330*	395	445*	535*	355	105	287	(13)
2	75	35	15	25	80	120	245	320	360	360	260*	195*	240*	310*	335	305	195	360	330	360	375	195	65	215	219	(20)
3	170	75	75	115	75*	40	105	155	280	295	395	360	280	215	170	170	190	195	295	330	180	50	230	240	200	(23)
4	170	215	65	50	35	80	140	75	15	15*	50*	65*	220	90*	150	10*	Z±*	165*	115*	330	310	410	360	280	182	(16)
5	50	0	10*	115	55*	-60	-75*	25*	150	260	230	310	285	205	280	420	305	270	360	335	410	465	435	395	261	(20)
6	410	375	360	310	165	180	280	330	410	650*	475*	285	330	280	280	255	155	150	230	295	220	165	65	130	257	(22)
7	130	130	165	195	280	240	280	410	270	305	280	305	320	330	295	310	345	375	445	410	345	330	320	285	296	(24)
8	205	195	170	170	180	140	-105*	40	-155*	35*	190	280	295	335	245*	245*	230	220*	170*	-240*	-135*	-95*	55	90	184	(14)
9	-70	35	10*	10*	-15*	100*	80*	-70*	240*	230	215	270	320	360	360	280	285	215	260	310	260	280	270	180	239	(17)
10	150	125	90	65	-15*	-190*	50*	Z-*	Z±*	Z±*	340*	50*	230*	65*	-325*	80*	195*	-220*	-70*	195*	170*	195*	Z-*	35*	107	(4)
11	-205*	-105*	165*	Z-*	Z-*	Z-*	-240*	150	230*	295*	310	370	425	400*	375	445	385	345	385	400	260	215	215	165	317	(14)
12	240	220	165	165	180	245	180	360	425	460	425	375*	285*	270*	255	295	395	295	360	395	370	310	270	240	298	(21)
13	170	220	155	125	180	245	260	465	525	525	370	345	310	280	245	230	180	205	240	170	260	205	190	240	264	(24)
14	165	195	155	180	105	-10	100	215	295	345	295	295	285	230	215	220	245	195*	195	255	295	270	230	245	218	(23)
15	205	320	335	245	80	130	255	580	655	795	820	485	305	280	150	115	100	195	195	230	215	115	240	295	306	(24)
16	310	195	150	100	65	75	180	540	705	295	295	385	395	360	370	410	465	525	820	625	655	670	630	560	407	(24)
17	445	370	255	0	140	140	260	245	425	490	330	285	270	310	330	355	395	280	180	150	195	260	345	450	288	(24)
18	260	285	305	345	425	400	460	335	360	425	665	490	630	515	460	395	400	425	460	490	490	590	590	485	445	(24)
19	510	475	465	540	565	490	565	755	835	695	590	640	580	525	535	575	640	590	680	360	335	560	425	425	556	(24)
20	475	565	345	230	150	80	180	525	950	795	805	705	785	740	640	550	650	510	510	80	-85*	115*	295	245	491	(22)
21	215	335	260	295	375	360	490	670	780	625	605	590*	670*	395	445	500	445	375	510	605	670	720	845	560	504	(22)
22	515	355	410	465	395	305	330	515	690	490	395	375*	330	330*	410	425	330*	215*	190*	240	345	395	465*	395	411	(18)
23	355	215	245	220	195	195	170	165*	165*	180*	260	260*	370	345*	345	370	385	345	310	295	260*	150*	Z±	Z±	285	(15)
24	Z±	295	335	400	205	260	450	575	690	510	500	385	400	330	280	310	360	330	510	370	335	560	370	355	396	(23)
25	395	80	195	355	320	170	230	320	400	295	240	215	165	170	155	165	150	180	180	10*	-170*	Z-*	Z-*	-335*	231	(19)
26	15*	180	195	190	155	220	305	395	285	220*	65*	220*	180*	280*	230*	Z±*	255*	285	295	370	385	370	205	205	269	(15)
27	180	105	100	105	180	190	230	335	330	320	295	295	245	240	195	205	215	215	230	195	190	205	190	50	210	(24)
28	180	150	240	295	220	310	490	665	755	625	155	165	155	230	195	280*	Z-*	Z-*	Z±*	Z-*	Z-*	Z+*	Z±*	295*	322	(15)
29	400*	130*	35*	65*	80*	Z±*	Z-*	Z-*	Z-*	270*	245	295*	170*	Z±*	Z±*	Z±*	165*	130*	245	150*	230*	155	170	100	183	(5)
30	75	150	180	195	190	255	410	490	345*	195*	-105*	Z±*	-120*	-85*	345	425	435	295	245*	370	375	375	425	395	317	(17)
31	360	220	220	230	195	255*	370*	450	330	330	260*	260	220	240	Z±	195	220	215	Z±*	255	215	180	195	180	248	(19)
Mean	246	225	210	200	211	192	287	397	475	451	381	359	346	329	313	330	329	318	358	332	334	335	307	278	310	(589)
	(27)	(29)	(27)	(28)	(24)	(25)	(23)	(25)	(23)	(21)	(24)	(21)	(24)	(20)	(26)	(24)	(25)	(24)	(23)	(26)	(23)	(24)	(26)	(27)		

Mean for selected quiet days [332 (10)]

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

41 KEW OBSERVATORY — Factor 4·48 — APRIL 1962

volts per metre

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
1	210	210	220	185	195	185	185	210	250	220	185*	170*	185	175*	175	235	260	285	345	370*	Z±*	Z±*	Z±*	170	219	(17)
2	170	125	170	150	135	100*	65*	120*	125	135	100	15	175	200	200	125*	160*	-60*	-10*	145	160*	170*	135	60	136	(15)
3	40*	-165*	-60*	-60*	-45*	-45*	-80*	-80*	-60*	-45*	60	60	60	Z±*	Z±*	Z±*	Z±*	135	75	Z±*	Z±*	Z+*	Z±*	Z-*	78	(5)
4	110	170	65	135	225	Z+	Z+	Z+	Z±*	Z+*	250*	40*	-485*	Z±*	Z±*	Z±*	Z±*	Z±*	250	Z±*	Z±*	Z±*	Z±*	-35*	159	(6)
5	140*	-240*	35*	145	185	220	-260*	-225*	285*	75*	175*	90*	185*	200*	220	235*	245	250	225	200	200	225	175	185	206	(12)
6	195	185	160	135	110	185	310	385	410	330	245	225	195	185	200	210	Z±*	270	260	235	250	355	270	185	239	(23)
7	120	35*	85*	40*	25	65	10	-105*	-35*	125	135*	170	235	125	125*	15*	60	135*	90	50	15	-10*	-10*	-10*	91	(12)
8	40*	50*	-15*	-35*	90*	145	110*	195	195	200	225*	235*	Z±*	Z±*	Z±*	185*	Z±*	Z±*	-310*	75	40	Z±	Z±*	125	139	(7)
9	135	125	110	100	135	225	295	330	300	270	245	235	200	200	200	200	185	185	200	210*	125*	135*	125	110	196	(21)
10	125	135	135	135	160	200	235	285	270	225	200	200	170	160	200	175*	145	135*	75*	40*	150*	175*	170	135	183	(18)
11	15	50*	40*	110*	135*	125	245	295	270	270	210	210	150*	185	195	160	195	150	135	120	270	185	145	100	183	(19)
12	185	85	175	135	175	295	405	455	520	410	-	220	225	200	220	250	210	175	145	150	150	195	195	170	232	(23)
13	90	160	85	100	220	235	330	605	655	480	355	250	245	285	250	295	260	275	285	455	345	420	245	220	298	(24)
14	220	210	195	250	270	285	270	295	295	285	295	300	300	320	310*	275*	285	300	320	330	330	295	185	85	269	(22)
15	75	50	0	Z±*	85*	120	170	200	160*	125*	135*	195	100	65*	135	145	50	120	170	15	-10	65	40	50	94	(18)
16	0	15	-10*	85*	250*	355*	435*	455*	385*	355*	185*	170*	175*	175	200	60*	85*	245*	270*	10*	65*	170*	245*	220*	97	(4)
17	185	125	-35	-50	65	60	75	15	Z±	85	85	75	65	85	100	100	110	150	160	160	200	200	100	125	97	(23)
18	200	235	295	270*	100*	135*	150*	225*	480*	120*	250*	-80*	25*	-175*	-275*	Z±*	-205*	370*	175*	10*	-10	0	75	185	140	(7)
19	135	170	200	260	235	260	300	410	320	295	435	300	200	210	455	405	330	640	690	505*	435*	250*	125	75	307	(21)
20	50	160	110	90*	90*	50	75	100*	250*	170*	135*	125*	100*	135	110	135	135	-10	40	60	50	100	160	195	97	(16)
21	245	120	225	225	125	35*	-190*	-145*	170	85	145	135	135*	85*	50*	-15*	35*	Z±*	-365*	-380*	Z-*	185*	135*	135*	164	(9)
22	150*	175*	200	145	100	120	160	135	170	235	195	160	235	210	220	200	160	135	50	15	-25	75	100	120	142	(22)
23	110	135	110	120	125	145	110	250	335	270	345	300	285	270	335*	300*	260*	455*	410*	235*	220*	285*	250*	300*	208	(14)
24	120	65	110	145	90	200	370	435	405	435	420	380	380	360	455	470	435	370	335	395	285	410	360	185	317	(24)
25	260	285	220	260	355	235	270	385	670	705	520	480	435	405	360	335	285	430	360	310	160	100	120	65	334	(24)
26	100	150	10	-10	110	185	260	370	445	445	455	270	235	200	200	210	235	175	135	225	250	195	160	135	214	(24)
27	90	175	160	135	120	150	335	300	310	355	420	395	385	355	360	380	320	295	330	335	300	195	225	200	276	(24)
28	185	160	120	125	145	250	310	370	260	270	270	250	225	235	270	250	275	275	285	410	505	495	455	485	286	(24)
29	270	170	145	125	120	135	160	200	185	170	200	175	195	185	175	185	175	235	285	310	295	330	295	270	208	(24)
30	185	170	125	150	170	220	395	405*	485	435	380	380	395	370	405	405	420	395	405	435	385	335	335	260	332	(23)
Mean	146	150	138	141	156	179	240	306	335	293	279	234	233	230	241	254	227	249	242	221	199	232	191	162	217	(525)
	(26)	(24)	(24)	(22)	(23)	(24)	(22)	(20)	(21)	(23)	(20)	(23)	(22)	(22)	(22)	(18)	(21)	(21)	(23)	(20)	(20)	(18)	(22)	(24)		

Mean for selected quiet days [268 (10)]

Daily, monthly and annual means are computed excluding hours with precipitation an, of course, all indeterminate netties. The number of hours or days used in computing each mean is shown in round brackets. Entries in square brackets are means for selected quiet days (see Introduction) and the figure in round brackets is the number of days used in computing this mean.

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

41 KEW OBSERVATORY — Factor 4·50 — MAY 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
	volts per metre																									
1	275	275	310	95	180	445	580	625	445	410	435	460	455	445	480	425	400	395	480	375	325	130	215	120	366	(24)
2	70	130	230	155	170	265	400	515	600	460	375	335	275	275	435	425	460	310	275	325	105	-20	120	105	283	(24)
3	95	85	85	105	85	105	205	205	195	170	160	155	135	135	135	135	130	110	95	145	155	155	135	105	134	(24)
4	110	85	85	85	50	120	205	255	230	275*	300	240	205	205	220	170*	130	Z±*	Z±*	Z±*	70*	85*	105	135	163	(17)
5	105	35	105	75	120	145	325	360	240	205	135	205	70	120	120*	105*	130*	35*	155*	240*	240	280	275	220	181	(18)
6	255	190	155*	190*	105*	50*	0*	50*	70*	50*	70	95*	85*	85	160	170	220	230	275	250*	255	325*	290*	220	194	(11)
7	155	130*	170*	135*	70	35	50*	105	205	220	220	240	220	220	250	275	240	220	275	250	220	190	180	120	195	(20)
8	85	105	50	45	15	Z±*	Z±*	160	215	255	220	240	255	255	240	220	230	195	220	310	300	300	310	315	206	(22)
9	160*	110	130	105	110*	160*	275*	275	275	240	215	180	160	180	190	170	155	155	10*	Z±*	Z±*	70	120*	170	174	(16)
10	170	155	130	85	160	155	170	35*	-350*	170	180	Z±*	Z±*	Z±*	Z±	Z±*	130	Z±*	135	Z±*	Z±*	425*	155	180	152	(13)
11	205	170	170	120	Z±*	Z±*	Z±*	Z±*	Z±*	300	565	Z±*	Z±*	Z±*	0	Z±*	Z±*	Z±*	Z±*	180	135	145	95	85	181	(12)
12	60	60	85	75	85	130	190	205	170	70*	70	50*	85*	85*	35*	70	25	35	25	45	15	70	120	95	86	(19)
13	0	10	50	45	70	85	105	75	35	85	105	85	35	50	45	105	105	105	75	105	120	240	170	205	88	(24)
14	180	135	85	75	85	85	105	190	195	160	145	155	135	120	180	155	105	105	105	85	105	110	135	75	125	(24)
15	0	25	0*	35*	135	155	240	290	325	275	275	215	190	190	135	170	110	105	95	120	50	135	170	110	160	(22)
16	85	70	70	120	85*	120	155	120*	95*	105*	85*	155	145	155	155	155	120	105	105	135	160	155	170	160	131	(19)
17	180	120	120	120	130	155	215	240	240	205	Z±*	10	155*	135*	135	155	120	105	135	160	180	220	220	170	159	(21)
18	180	170	135	145	170	215	275	280	230	170	190	170*	135*	70*	170	160	170	155	160	135	220	130	85	-230	158	(21)
19	-55*	105	85	15*	-10	10*	0*	0*	70	120*	50	Z±*	-160*	35	0*	105*	Z±*	-55	135	170	155	145	155	155	92	(13)
20	130	130	120	120	120	135	145	155	155	135	120	105*	120*	105	110	120	130	85	70*	-125	-335*	-55*	50*	35*	111	(17)
21	-140*	15*	50*	70*	85*	-45*	180	205*	255	Z±*	190	85*	135	170*	170*	155	220*	170	160	155	205	155	130	120	167	(12)
22	135	105	85	95	120	135	190	275	250	240	220	180	155*	130*	135	155	135	85	155	155	220	170	130	120	159	(22)
23	135	135	135	135	205	240	290	280	250	215	190	195	180	410*	135	105*	180	145	170	170	180	170	170	155	185	(22)
24	145	105	130	135	155	195	290	315	275	230	85*	215*	170	265	Z±*	Z±*	Z±*	Z±	Z±	75	120	105	135	170	177	(17)
25	180	180	155	155	160	180	250	310	280	290	255	230	240	220	215	195	170	180*	155	145	135	110	110	120	193	(23)
26	50*	-90*	70*	85	85	85	110	110*	105	110	120	70	35	50*	105*	105	70*	-35*	Z±*	-160*	-125*	-55	25	45	71	(13)
27	-55	15	60*	35*	35*	Z±*	Z±*	Z±*	Z±*	-105*	135	Z±*	Z±*	Z±*	Z±*	220*	120	155	220*	230	170	170	280	220	144	(10)
28	180	95	50	15	60	70	155	205	275	340	220	205	215	265	240	250	205	190	170	135	170	275	315	170	186	(24)
29	190	160	130	95	105	70	205	275	310	275	205	180	70*	-55*	-10*	-140*	-55*	155*	275*	315*	300*	310*	105*	-140*	183	(12)
30	160	275	335	335	375	495	590	600	485	395	445	445	310	255	215	160	145	145	130	145	170	95	135	160	292	(24)
31	135	170	220	190	240	240	360	395	340	325	310	280	255	250	280	340	255	250	310	280	340	395	375	340	286	(24)
Mean	131 (27)	122 (28)	131 (25)	112 (25)	126 (25)	169 (24)	247 (24)	287 (23)	256 (26)	245 (24)	219 (28)	212 (21)	191 (20)	191 (20)	194 (22)	194 (22)	175 (24)	152 (23)	175 (22)	163 (24)	178 (25)	156 (26)	171 (27)	143 (29)	179	(584)
																								Mean for selected quiet days	[184	(10)]

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

41 KEW OBSERVATORY — Factor 4·63 — JUNE 1962

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
	volts per metre																									
1	260	245	270	245	305	395	490	515	505	430	305	125	305	305	245	305	245	245	210	245	245	245	220	60	290	(24)
2	60	85	60	35	35	85	185	245	280	245	185	185	185	145	125	185	160	145	160	185	160	185	245	245	159	(24)
3	60	35	60	25	35	60	160	260	245	245	245	210	185	170	145	135	125	160	185	145	245	210	160	85	150	(24)
4	25	125	60	60	85	85	465	615	555	490	405	330	330	370	370	405	370	330	270	260	245	280	270	185	291	(24)
5	220	185	185	85	185	260	530	490	490	490	465	490	395	405	430	430	370	370	245	245	235	125	60	35	309	(24)
6	85	125	245	245	245	245	330	430	615	675	615	430	305	280	270	270	245	245	245	185	235	245	125	60	291	(24)
7	60	35	60	35	0	125	370	575	675	675	490	490	430	395	330	330	330	305	270	245	245	305	245	125	298	(24)
8	85	0	60	85	145	185	270	555	675	555	430	405	330	305	270	305	270	260	185	125	60	-65	0	25	230	(24)
9	60	35	0	10	10	25	125	145	185	185	185	160	125	125	85	60	35	85	125	85	85	75	85	60	90	(24)
10	35	35	25	35	25	10	75	85	125	100	125	125	110	85	60	60	85	85	75	85	60	25	10	25	65	(24)
11	35	35	35	35	85	-65*	-125*	-65*	185*	185	125	125	100	85	75	60	75*	75	60	35	60	100	125	125	82	(19)
12	160	100	60	60	60*	100*	185*	185*	185*	185	160*	125	185	85	60	60*	35	0	35	60	25	125	160	185	97	(17)
13	125	100	10	100	85	220	260	245	245	220	210	160	125	125	125	160	85	75	60	60	75	75	125	60	130	(24)
14	85	85	110	60	125	185	305	245	185	245	210	245	245	245	185	210	185	160	125	125	235	185	185	125	179	(24)
15	160	145	125	60	185	160	100	160	185	220	185	185	160	170	160	160	145	125	125	85	185	185	160	145	153	(24)
16	125	100	85	85	60*	100	125	160	185	185	185	160	160	125	125	100	60	60	60	60	85	60	35	60	180	(23)
17	25	25	10	35	50	60	85	125	160*	125*	125	125	100	100	85	85	60	60	60	100	185	160	125	85	85	(22)
18	60	85	85	75	85	0*	125*	245	160	85	125	100*	145*	145	160	160	160	145	185	160	160	160	60*	0*	136	(18)
19	-65*	-125*	0*	145	160	125	185	185*	210	210	145*	85*	160	145*	85	125	100	85	60	145	245	185	185	125	149	(17)
20	85	100	100	100	125	85	145	145*	185*	160*	185*	185*	125*	85*	35*	25	125	85	35	10*	25	10	60	10	74	(15)
21	0	25	25	60	125	60	125	145	60	95	190	190	180	190	180	135	95	85	100	85	85	125	185	160	113	(24)
22	145	60	60	35	85	125	125	160*	245	245	220	210	160	160	85	85	160	110	95	85	95	110	215	205	136	(23)
23	180	170	155	120	135	190	230	310	310	255	180	160	135	130	105	105	110	105	160	160	190	195	255	275	180	(24)
24	230	195	120	120	85	120	135	155	190	170	155	145	130	130	135	130	130	155	180	205	220	240	250	195	163	(24)
25	170	160	135	130	195	275	325	370	300	240	205	190	180	155	160	180	120	135	120	160	135	155	155	170	188	(24)
26	180	155	135	135	160	230	275	250	220	275	205*	50*	205	170	170	170	160	180	85*	95*	95*	255*	Z±*	205*	192	(16)
27	155	145	145	135	120	205	350	425	395	325	335	230	180	155	110	120	130	155	145	180	195	170	160	170	201	(24)
28	195	230	195	170	215	220	360	340	290	300	215	180	205	215	180	170	145	155	190	205	180	135	95	85	203	(24)
29	70	105*	120*	-20*	325*	180*	170*	215	310	425	445	370	265	240	230	230	195	255	255	255	180	105	25	10	227	(18)
30	75	50	45	75	60	130	180	205	160	170	145	145	135	145	155	135	120	75*	50	70*	50*	50	85	95	115	(21)
Mean	111 (29)	103 (28)	95 (28)	89 (29)	117 (27)	153 (26)	243 (26)	300 (25)	308 (26)	290 (28)	258 (26)	227 (26)	204 (28)	191 (28)	169 (29)	173 (29)	157 (29)	153 (29)	140 (29)	147 (27)	156 (28)	143 (29)	143 (28)	114 (28)	173	(665)
																								Mean for selected quiet days	[179	(10)]

The potential gradient is reckoned as positive when the potential increases upwards. The symbol Z indicates either that the trace fluctuates rapidly so that estimation of a mean value is impracticable, or that the trace is limited by the range of the instrument (see Introduction): and the suffix +, − or ± indicates that the mean value is plainly positive, plainly negative, or indeterminate in sign. The occurrence of precipitation of any sort is indicated by an asterisk. Round brackets round any hourly mean indicates that the record during that hour is somehow imperfect.

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

41 KEW OBSERVATORY — Factor 4·60 — JULY 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
	volts per metre																									
1	105	95	95	85	35	10	55	70*	80*	125	115	80*	55*	130	95	115	115	130	105	115	105	150	195	175	107	(20)
2	185	200	195	185	185	220	270	265	245	220	170	155	130	155	150	150	140	105	95	115	130	115	85	105	165	(24)
3	115	115	155	130	155	195	265	290	265	255	225	210	175	150	140	155	155	150	150	165	130	140	105	105	171	(24)
4	115	95	125	105	115	165	255	295	315	235	210	255*	Z±*	265	295*	200	280*	125*	70*	150*	165	165	185	185	188	(17)
5	210	225	200	220	245	280	350	350	325	350	290	235	225	220	175	175	60	105	80	15*	35*	10	115	195	211	(22)
6	235	195	150	115	140	185	140	295	315	270	210	185	155	150	130	140	130	140	130	125	125	130	105	85	166	(24)
7	125	35	35	105	115	95	155	220	195	165	150	165	115	85	70	70	55	45	55	70	60	85	85	55	100	(24)
8	55	45	45	45	60	45	95	85	105	85	70	55	55	80	60	60	55	35	35	70	85	80	130	125	69	(24)
9	125	95	85	115	130	175	255	365	325	315	255	185	225	195	195	255	210	210	165	125	85	125	140	105	186	(24)
10	−20	−25	80	85	10	25	210	Z±*	Z±*	480*	140	130*	165*	Z±*	Z±*	105*	175	140	150	165	155	155	150	150	109	(16)
11	140	130	115	105	105	115	175	235	225	220	150*	195*	210	200	165*	155	165	Z±*	115*	130	155	210	200	140	165	(19)
12	115	105	80	55	80	85	165	235	265	225	140*	Z±*	200	165*	Z±*	155	155*	140*	130	85	85	60	70	105	128	(18)
13	70	80	70	95	80	125	225	290	305	265	195	195	155	165	150	155	150	115	95	105	115*	155*	185*	130	153	(21)
14	200*	15*	35*	70	60	Z±*	−250*	10*	125*	70*	45*	85*	85*	150	155	210	150	165	155	130	195	365	140	175	163	(13)
15	195	125	60	45	45	55	125	85	105	85	45	55	70	55	0	Z±*	Z±*	−20	35*	55*	55	45	25	15	63	(20)
16	10	0	−10	15	80	125	220	385	360	265	220	175	175	165	165	185	165	115	115	140	115	140	140	140	150	(24)
17	105	140	85	85	80	290	420	465	435	475	465	455	315	280	185	185	175	80	85	−25	0	0	70	80	205	(24)
18	45	55	45	55	85	125	195	255	265	225	150	140	140	150	125	70	55	105	130	80*	10*	45*	115	115	126	(21)
19	125	60	60	60	85	140	165	235*	225*	210	185*	220*	185*	165	150	165	130	185	140	115	175	175	155	165	138	(19)
20	140	95	85	95	115	175	270	265	265	210	200	175	155	130	115	55*	−55*	175*	45*	Z±*	Z±*	125	155	95	159	(18)
21	265*	155*	105*	70	95	140	165	210	220	235	130*	150*	165*	55*	125*	210	Z±*	Z±*	Z±*	Z±*	115*	175	175	185	171	(11)
22	165	155	140	125	125	140	165	150	140*	130*	130*	115	85	105	105	115	105	115	130	140	175	175	175	155	136	(21)
23	125	85	70	60	85	165	210	265	265	185	165	175	155	150	130	125	95	80	95	80	105	125	85	60	131	(24)
24	55	60	85	85	55	45	115	185	220	220	220	185	165	140	125	85*	115	140	255	175	105	125	200	175	141	(23)
25	140	95	125	140	125	195	295	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	105	335	360	295	255	245	210	209	(14)
26	130	15*	Z±*	Z±*	405	335	85	455*	365*	Z±*	Z±*	Z±	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	Z−*	Z−*	Z−*	−230*	−25*	239	(4)
27	−25*	95	85	60	70	115	315	340	375	335	295	290	255	270	245	245	175	85	140	210	85*	175	130*	95	203	(21)
28	35	35	35	25	15	25	55	115	175	245	210	185	115	80	35	25	45	70	85	45	85	60	80	60	81	(24)
29	55	25	10	15*	10	0*	35	55	60	85	70	70	85	85	85	85	60	85	85	115	140	155	150	125	79	(22)
30	85	105	95	70	55	85	150	195	210	210	175*	125*	155*	200	105	45	55*	80*	70*	85	140	95	115	130	121	(18)
31	130	95	85	70	130	155	210	185	220	210	185	200	175	175	165	155	140	125	115	140	175	165	125	105	151	(24)
Mean	111	93	89	89	102	139	194	243	253	228	193	180	161	157	127	144	123	109	127	124	127	135	133	125	144	(622)
	(28)	(28)	(28)	(29)	(31)	(29)	(30)	(25)	(24)	(26)	(22)	(20)	(22)	(26)	(24)	(25)	(23)	(24)	(24)	(24)	(24)	(28)	(28)	(30)		

Mean for selected quiet days [142 (10)]

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

41 KEW OBSERVATORY — Factor 4·56 — AUGUST 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
	volts per metre																									
1	70	105	105	110	145	175	250	200	260	235	180	165	130	130	110	Z±	Z±*	Z±*	80	Z±	Z±	145	175	105	151	(19)
2	85	70	45	60	110	120	270	365	320	292	285	235	180	120	120	140	130	110	140	145	110	120	175	110	161	(24)
3	105	105	140	130	155	190	285	305	310	275	215	180	165*	175*	145	120*	35*	105*	130*	70*	−215*	70*	80*	110	189	(14)
4	155	145	120	105	165	215	250	240	240	190	155	130	95	85	85	85	105	105	120	145	140	120	110	120	143	(24)
5	140	110	85	120	145	175	205	305	250	165	145	140	110	105	95	85	70	70	85	95	95	80	80	70	126	(24)
6	70	60	60	35	35	35	50	70*	130*	95*	45	175*	Z±*	Z±*	Z±*	Z±*	175*	Z±*	Z±*	130*	60*	35*	70*	105*	49	(8)
7	−20	−20	−465*	−340*	Z±*	Z±*	−35*	−100*	−340*	−90*	0*	−265*	145*	120*	Z±*	Z±*	180	190	190	155	Z±*	205	Z±*	110	124	(8)
8	110	105	85	95	110	190	270	345	440	250	225	235	260*	190*	120*	175*	200	180	205	205	200	165	225	225	203	(20)
9	215	190	175	190	200	295	580	425	380	330	235	205	190	180*	175*	190	235	0*	10*	−10*	105*	85*	110	95	249	(17)
10	85	70	85	105	120	165	235	295	240	205	175	205	180	190	155	180	205	175	200	165	175*	165	110	95	165	(23)
11	85	60	60	60	85	70	120	145	165	145	130	110	70	130	120	130	85	110	175	190*	130*	95	120*	60*	107	(20)
12	35*	85*	105*	85	110	130	145	180	205	225	175	140	145	165	110	110	105	70	70	70	130	140	130	85	130	(21)
13	70	80	60	110	130	235	355	365	425	450	465	330	320	330	320	310	310	275	165	130	145	205	235	205	251	(24)
14	175	145	155	175	165	155	270	555	345	270*	270*	190*	35*	Z±*	Z±*	Z±*	−90*	Z±*	Z±*	Z±*	35	130	120	110	195	(13)
15	95*	85*	95*	70*	80*	95*	130*	105*	215	175	145	175	180*	190	190	175*	205*	215	215	180*	250	240	215	175	200	(12)
16	140	130	120	130	175	240	335	320	310	270	250	205	165*	225	200	175	215	200	225	240	270	305	190	130*	221	(22)
17	35*	−105*	−260*	Z±*	70*	110*	225*	295	285	270	295	260	250	225	225	215	190	180	215	225	205	215	180	145	228	(17)
18	140	130	105	120	165	235	285	310	305	275	250	190	155	120	110	95	95	110	105	80	120	105	105	120	160	(24)
19	80	95	105	120	175	95	140	270	275	330	275	180	140	130	155	205	165	205	155	95	105	155	145	85	162	(24)
20	45	35	70	45	50	85	70	140	225	235	190	140	130	155	190*	180*	190	140	165	50*	260	235	305	260	151	(21)
21	215	190	175	145	175	225	320	330	335	295	235	215*	145	155	235	235	235	180	180	235	390	345	305	285	242	(23)
22	225	180	95	70	95	140	235	295	310	310	320	330	235	235	225	235	225	200	225	305	250	215	225	190	224	(24)
23	155	180	225	225	205	225	335	405	190*	260	200*	165	155	165*	120*	105*	155*	95*	85*	80	15*	−20	25	60	179	(15)
24	80	80	80	80	80*	110	175	250	215	225	190	215	165	155	145	145	155	155	175	205	225	180	200	180	165	(23)
25	165	140	130	120	165	175	215	270	260	205	180	155	140	85	110	105	110	120	145	200	155	165	240	285	168	(24)
26	215	175	155	120	155	175	205	200	180	200	200	200	180	155	175	110*	140*	95*	80*	15*	155*	215*	205	155	179	(17)
27	110	140	120	130	155	190	305	345	310	285	250	215	225	225	240	235	190	140	145	155	180	275	215	140*	208	(23)
28	35*	105*	130	120	165	180	275	260	205*	140*	130	190	175	165	180	180	130	80	175	205	175	180	165	165	171	(20)
29	95	85	95	95	130	145	285	405	355	380	275	235	200	175	175	155	140	130	95	45	60	175	85	140	173	(24)
30	180	190	110	110	105	130	260	215	365	295	235	165	165	175	180	180	180	175	215	275	200	105	60	85	181	(24)
31	85	95	70	120	175	175	240	450	400	400	355	310	240	240	260	275	335	310	205	140	140	130	70	80	221	(24)
Mean	121	114	110	112	139	167	249	303	294	266	222	200	172	169	169	175	174	159	163	163	175	169	163	143	179	(620)
	(27)	(27)	(27)	(28)	(27)	(28)	(28)	(28)	(27)	(27)	(28)	(27)	(24)	(24)	(24)	(21)	(24)	(24)	(25)	(22)	(22)	(27)	(27)	(27)		

Mean for selected quiet days [171 (10)]

Daily, monthly and annual means are computed excluding hours with precipitation and, of course, all indeterminate entries. The number of hours or days used in computing each mean is shown in round brackets. Entries in square brackets are means for selected quiet days (see Introduction) and the figure in round brackets is the number of days used in computing this mean.

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

Factor 4·82

41 KEW OBSERVATORY SEPTEMBER 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
	volts per metre																									
1	120	140	80	70	80	105	140	315	355	225	200	210	210	200	155	140	105	130	175	190	200	95	80	105	159	(24)
2	80	105	105	120	85	45	95	175	250	215	130	140	130	150	130	150	150	130	95	35	245	315*	95	70	127	(23)
3	60	50	35	25	50	Z+	80	190	175	175	185	175	140	150	150	130	80	95	115	85	175	245	210	130	126	(23)
4	80*	10*	10*	80	85	130	175	185*	315*	50*	Z±*	Z±*	225	Z±*	Z±*	175*	155	165	130*	185	Z±*	215	Z±*	165	158	(10)
5	260*	Z±*	0*	95*	120	165	245	260	280	260	235	225	185	210	200	210	165	115	130	175	210	200	175	140	195	(20)
6	95	105	130	80*	70*	−60*	50*	120*	165*	70*	165	185	Z±*	190	225	95	Z±*	Z±*	225	Z±*	210*	225	Z±*	Z±*	164	(10)
7	115	105	45*	50*	105	130	260	315	320	295	285	210	190	215	250	250	245	235	250	355	250	280	295	215	235	(22)
8	200	190	140	150	155	210	250	315	305	225	225	215	155	215	185	150	235	285	280	320	270	215	215	175	220	(24)
9	175	165	165	95	165	105	140	215	225	185	165	165	175	185	190	190	200	210	250	250	305	330	260	200	196	(24)
10	190	140	155	165	115	95*	130	260	295	280	50*	Z±*	175*	190	130*	175*	95*	140*	95*	190*	210	185	175	165	190	(14)
11	155	130	130	150	155	175	235*	280*	200*	185*	155*	140*	120*	120*	50*	105*	70	130	165	175	165	165	120	85	141	(14)
12	80*	95*	85*	80	85	130	200	215	155*	210	215	210	190	155*	50*	165*	200	120	115	70	15	70*	85	130	142	(16)
13	−105*	330*	130	80	105*	280	425	485	435	400	355	330	235	260	260	245	130	85	95	85	95	95	70	85	222	(21)
14	80	70	50	80	105	130	155	295	245	260	245	210	190	210	185	200	185	175	215	165	Z±*	Z±*	Z±*	Z±*	173	(20)
15	Z±*	−80*	120*	130*	85	115	270	355	320	355	385	245	185	175	155	165	215	70*	115*	250	215	190	235	225	230	(18)
16	200	185	165	185	190	200	270	315	320	235	165	150	120	150	165	155	15	155	Z±*	235	330	285	210	185	199	(23)
17	165	150	140	150	165	235	355	550	460	315	330	270	Z±*	200*	Z±*	Z±*	140	165	175	105	115	150	105	95	217	(20)
18	60	45	70	115	175	155	350	450	385	375	375	285	235	215	190	185	250	190	Z±*	190*	120	215	215	175	220	(22)
19	130*	120*	105*	105*	140*	165	260	355	355	355	305	315	280	305	165	235	175	210	115	200	130	185	305	270	247	(19)
20	280	190	155	105	140	155	215	250	260	245	225	235	210	235	175	85	130	140	250*	200	210	225	235	260	198	(23)
21	200	200	190	140	210	200	320	365	390	365	340	280	225	225	250	235	200	140	140	60	165	215	130	175	223	(24)
22	35	80	85	200	120	150	250	375	375	365	200	130	130	120	95	95	25	50	95	185	140	115	95	85	150	(24)
23	115	85	80	85	105	140	165	165	175	200	175	165	150	140	155	150	155	185	250	270	295	50	185	130	157	(24)
24	130	85	45	50	95	140	155	295	410	285	320	260	200	165	130	130	120	150	130	85	140	80	120	175	162	(24)
25	105	80	120	105	105	175	260	330	175	215	245	235	215	245	215	235	260	285	350	320	190	185	185*	175	210	(23)
26	150*	70*	60*	105*	120*	15*	15*	50*	50*	155*	60*	45*	0*	0*	115*	85*	140*	210	250	320	330	280	210	215	259	(7)
27	175	150	120	140	215	225	315	505	530	355	250	175*	210	200	190	190*	185	235	315	270	235	225	185	155	245	(22)
28	140	105	95	95	85*	80	80*	85*	235*	155*	155*	105*	70*	45*	120*	Z±*	155*	260	140*	155	250	250	280	115	166	(11)
29	120	190	210	225	250	285	425	565	575	485	330	235	175	150	155	150	70	235	280	270	225	140*	10*	70*	267	(21)
30	−20*	−355*	Z−*	Z±*	15*	15*	0*	35*	−45*	50*	105*	130*	235*	260	210	225	215	250	280	280	190	165	165	140	216	(11)
Mean	136 (22)	125 (22)	118 (22)	117 (23)	132 (24)	161 (25)	236 (25)	330 (24)	331 (23)	287 (24)	252 (24)	221 (23)	190 (23)	198 (24)	182 (23)	173 (22)	157 (26)	175 (27)	195 (23)	196 (27)	201 (27)	195 (26)	178 (25)	157 (27)	194	(581)
Mean for selected quiet days																									[199	(10)]

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

41 KEW OBSERVATORY Factor 4·73 OCTOBER 1962

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
	volts per metre																									
1	110	90	80	80	90	90	135	170	200	160	160	180	170*	160*	90*	80*	Z±*	Z±*	70*	110*	−185*	90*	90	80	123	(14)
2	90	80	80	90	100	110	155	235	260	245	200	180*	200*	205	190	205*	180*	250*	250	290	295	180	200	160	180	(19)
3	125	155	205	65	70	145	270	360	440	360	305	260	225	290	290	295	385	380	370	325	260	290	180	35	254	(24)
4	100	35	90	110	90	100	205	335	585	530	450	290	260	260	215	225	245	245	260	270	260	215	205	160	239	(24)
5	160	180	200	190	180	180	260	325	295	335	315	280	235	190	205	200	215	225	250	290	250	145	110	115	222	(24)
6	100	80	70	115	145	80	115	55	125	125	55	110	135	145	160	145	70	65	125	100	90	205	160	190	115	(24)
7	180	100	80	110	70	70	90	145	145	205	170	160	160	155	125	110	180	250	225	190	235	180	155	135	151	(24)
8	80	65	65	35	20	25	45	55	235	245	335	340	385	405	405	530	425	340	235	225	190	155	170	115	214	(24)
9	90	65	10	10	65	100	125	215	295	280	245	250	260	245	245	155	110	110	135	110	110	180	190	100	154	(24)
10	−10	190	370	290	360	385	270	335	350	325	395	495	370	350	405	360	295	235	270	145	170	25	10	20	267	(24)
11	110	65	10	10	10	10	115	205	335	360	395	440	475	450	395	415	470	425	395	385	405	380	335	260	286	(24)
12	190	190	170	135	145	155	260	385	405	530	560	550	540	540	515	520	485	485	425	460	380	370	305	270	374	(24)
13	305	305	415	315	270	190	170	290	325	350	305	385	290	350	250	160	200	250	260	305	350	340	155	200	280	(24)
14	115	205	115	55	225	205	215	205	280	350	380	315	270	245	245	250	245	290	290	305	280	200	295	235	242	(24)
15	145	135	180	135	335	200	205	325	440	450	425	485	350	315	245	260	215	170	155	160	135	180	135	170	248	(24)
16	155	145	135	235	460	430	540	540	650	250	205	190	415	405	425	295	225	155	360	155	155	160	415	845	331	(24)
17	1295	990	720	765	755	720	835	620	280	200	180	−35	205	350	370	325	325	290	280	385	415	110	25	180	441	(24)
18	830	540	685	710	630	630	665	575	270	360	200	395	415	370	280	315	325	395	450	340	315	415	260	235	442	(24)
19	205	170	180	205	190	205	145	190	270	350	325	280*	295	280	250	270	325	340	325	250	125	65	190	65	227	(23)
20	−30	0	0	90	80	280	290	245	350	305	305	350	385	270	290	295	350	340	295	305	395	360	250	280	253	(24)
21	180	160	200	180	135	110	100	110	190	250	190	160	215	305	360	290	315	295	205	0	100	280	225	215	199	(24)
22	180	190	55	65	80	70	135	305	460	665	575	495	450	350	350	460	495	440	315	350	370	395	270	215	322	(24)
23	65	110	25	145	145	90	205	475	540	470	415	560	450	430	350	425	425	450	460	340	325	270	200	270	318	(24)
24	205	170	135	170	190	180	270	205	380	415	450	485	450	515	350	245	245	370	360	360	270	325	250	155	298	(24)
25	65	65	70	25*	Z±*	65	80*	155*	160	145	180	180	180	180	160	170	145	90*	125*	160*	125*	100*	−85*	65*	136	(13)
26	20*	Z±*	35*	80	−235*	−55*	−35*	0*	Z±*	Z−*	−245*	Z−*	−310*	−320*	−400*	155*	35*	340	485	505	575	450	405	335	397	(8)
27	360	315	335	360	395	460	495	685	665	650	695	665	315	305	305	270	350	430	425	270*	260*	−10*	145	160	418	(21)
28	180	180	190	180	180	190	235	260	305	290	245	245	235	245*	270*	Z±*	100	200	395	415	350	250	260	225	243	(21)
29	190	160	180	160	200	315	370	575	675	630	475	440	380	340	350	360	505	665	515	520	515	440	360*	235*	407	(22)
30	70*	65*	70*	100*	125*	145*	Z−*	280	440	415	380	360	325	340*	Z±*	370	380	395	460	425	385	325	350	225	368	(15)
31	190	200	180	205	235	295	350	505	540	530	370	340	Z+	540*	Z±*	470	540	640	395*	415	495	505	430	380	391	(20)
Mean	206 (29)	184 (29)	180 (29)	183 (29)	209 (28)	210 (29)	260 (28)	318 (29)	363 (30)	359 (30)	329 (30)	335 (28)	321 (27)	317 (26)	297 (26)	303 (27)	307 (28)	329 (28)	321 (28)	297 (28)	293 (28)	264 (28)	220 (29)	208 (29)	275	(680)
Mean for selected quiet days																									[253	(10)]

The potential gradient is reckoned as positive when the potential increases upwards. The symbol Z indicates either that the trace fluctuates rapidly so that estimation of a mean value is impracticable, or that the trace is limited by the range of the instrument (see Introduction); and the suffix +, − or ± indicates that the mean value is plainly positive, plainly negative, or indeterminate in sign. The occurrence of precipitation of any sort is indicated by an asterisk. Round brackets round any hourly mean indicates that the record during that hour is somehow imperfect.

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

41 KEW OBSERVATORY — Factor 4·60 — NOVEMBER 1962

Hour G.M.T. (volts per metre)

	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
1	290	320	275	355	505	440	355	265	335	225	260	190*	110*	0*	25*	70*	Z±*	Z±*	-125*	Z±*	-180*	45*	215	200	311	(13)
2	180	180	190	215	215	215	225	215	380	290*	15*	260	Z±*	310	325	290*	260	285	250	190	225	Z±*	Z±*	320	247	(18)
3	275	240	205	200	230	250	325	360	515	445	360	380	405	360	240	250	360	380	310	Z-*	Z-*	Z±*	325	335	321	(21)
4	370	325	290	415	285	385	345	500	430	395	240	230	155	260	240	260	190*	290	120	345	355	335	300	230	309	(23)
5	145*	-235*	Z-*	Z±*	70*	95	130	Z±*	140	250	Z±*	155*	215*	240	285	310	380	325	415*	335*	250*	70*	60*	190*	239	(9)
6	60*	75*	110	165	170	70	275	465	570	540	480	475	415	395	550	525	395	320	385	355	290	225	285	275	352	(22)
7	325	370	300	445	405	360	335*	Z±*	Z±*	Z±*	Z±*	Z±*	345*	-35*	480	325	355	310	420	475	505	285	585	475	401	(16)
8	445	300	300	260*	250*	120	200*	455	690	570	490	515*	535	405	300	405	440	405	490	440	380	355	285	190	400	(20)
9	130	190	165	190	180	230	155	140	345	355	395	335	320	290*	260*	225*	140*	145*	0*	70*	205*	120*	180*	145*	241	(13)
10	190*	230*	130*	70*	70*	170*	75*	145*	130*	110*	85*	275*	130*	75*	85*	25*	75*	180*	85*	70*	15*	85*	165*	180*	-	(0)
11	70*	45*	15*	10*	0*	35*	75*	75*	155	145*	190*	225*	225*	230	275	325	380	355	320	355	345	230	285	345	300	(12)
12	225	165	105	95	105	110	190	300	355	380	355	345	310	310	310	335	335	355	240	170	145	260	260	275	251	(24)
13	215	200	240	205	240	180	190	205	355	385	355	455	360	300*	355	355	310	250	260	265	290	310	230	190	278	(23)
14	215	215	215	140	110	-10	70	310	355	355	455	515	415	320*	355*	250	200	130*	-20*	35*	145*	130*	Z±*	75*	254	(15)
15	105	120	140	95	110	170	205	300	380	420	420	345	310	320	240	310	320	265	260	275	370	355	385	155	266	(24)
16	140	85	120	155	165	140	140	325	500	445*	475*	445*	275*	120*	120	205*	-20*	-70*	0	-235*	-540*	-180*	-35	25	145	(13)
17	0	-215	Z±*	Z-*	Z±*	Z±*	Z±*	Z±*	Z-*	Z-*	Z±*	Z±*	225*	260*	95*	140*	250*	250*	Z±*	Z-*	Z-*	Z-*	Z-*	Z-*	-107	(2)
18	-540*	-305*	-80*	-10	15	35	35	85	85	75*	-80*	-155*	-180*	-235*	Z±*	Z±*	Z±*	Z±*	Z±*	Z±	-155	-125*	-45*	10	13	(8)
19	15	50	60	110	145	140	170	300	380	370	360	355	250*	230*	345	395	355	320	200	260	335	300	290	165	246	(22)
20	70	105	110	240	200	170	260	345	500	550*	500*	620*	405*	455	285*	180*	320*	260*	-305*	Z-*	Z-*	Z-*	Z-*	Z-	245	(10)
21	-280	0	95	130	200	110	170	360	790	655*	620	620*	630	490	360	445	505	600	360	415	370	430	325	120	329	(22)
22	155	25	165	60	130	140	155	240	385	570	515	475	430	285	575	300	405	275	360	360	385	300	215	275	299	(24)
23	260	-20	870	970	740	430	600	325	515	570	310	120*	-55*	15*	-200*	70*	-35*	-20*	-225*	-110*	85*	130*	-115*	15*	506	(11)
24	95*	130	110	105	110*	180	170	205	250	275	240*	140*	250*	0*	300*	260	285	355	370	310	230	140	225	205	224	(17)
25	310	260	130	155	85	50	110*	190	45*	105*	70	215	320	225	240	180	205	95*	105*	95	60	60	70	-10	153	(19)
26	-55	-25	25	70	60	95	170	155	230	360	430	455	380	405	415	500	535	610	585	500	455	325	300	415	308	(24)
27	230	275	190	190	200	225	200	260	385	465	525	480	515	405	385	370	455	595	355	630	540	200	140	85	346	(24)
28	120	105	120	145	190	230	130	180	345	445	515	515	500	465	430	370	290	300	285	265	445	275	205	180	294	(24)
29	360	320	320	275	205	170	130	275	380	310	345	415	455	420	380	395	505	445	505	355	200	140	165	170	318	(24)
30	75	130	120	120	110	130	180	240	355	465*	515	430	355	290	445	480	505	475	405	395	525	430	320	290	318	(23)
Mean	174 (24)	154 (25)	199 (25)	209 (25)	208 (24)	180 (27)	207 (24)	280 (25)	389 (26)	404 (19)	401 (20)	393 (17)	401 (17)	348 (18)	347 (21)	350 (21)	370 (21)	376 (20)	324 (20)	340 (19)	315 (20)	275 (18)	256 (21)	214 (23)	289	(520)

Mean for selected quiet days [290 (10)]

POTENTIAL GRADIENT (close to the ground, over an open level surface).
Mean value for periods of sixty minutes between exact hours

41 KEW OBSERVATORY — Factor 4·56 — DECEMBER 1962

Hour G.M.T. (volts per metre)

	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
1	215	245	0	240	545	525	330	295	495	425	270	305	230	230	315	390	500	560	610	665	895	780	400	240	404	(24)
2	220	215	230	240	205	245	240	230	295	450	580	400	295	330	510	605	725	755	595	560	605	595	585	595	429	(24)
3	450	375	295	390	425	315	305	375	440	655	920	805	665	645	740	545	525	365	585	605	725	705	835	715	559	(24)
4	985	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	900	825	465	645	560	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	730	(6)
5	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	1225	690	670	1175	1405	1455	Z+	Z+	Z+	Z+	Z+	Z+	1103	(6)
6	825	800	730	750	1145	1020	1200	1155	1455	1555	1420	780	865	840	715	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	1017	(15)
7	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	350	295	290	365	390	495	425	385	365	350	295	255	230	145	331	(14)
8	100	45	75	95	85	70	100	95	145	160	120	120	155	110*	-90*	Z-*	Z±*	Z±*	-105*	475	290	0	170	145	136	(18)
9	155	85	125	100	120	120	Z±*	Z±*	155	245	255	265	240	240	270	290	280	270	265	255	160	145	155	145	197	(22)
10	145	155	125	110	145	185	255	365	610	485	365	355	340	315	355	425	465	535	560	440	325	365	355	170	331	(24)
11	185	50	70	70	85	85	135	205	280	270	230	185	70*	-10*	-10*	100*	-20*	0*	120	340*	Z±*	355	315	265	182	(16)
12	255	295	330	330	375	330	425	475	970	1005	570	605	580*	Z±*	Z±*	Z-*	Z-*	-70*	-20*	-90*	-20*	-10*	-35*	60	463	(13)
13	70	75	120	85	205	280	290	390	425	400	350	350	365	270	330	315	315	340	365	315	290	305	340	325	288	(24)
14	145	75	170	220	245	205	185	305	400	385	390	280	245	155	205	270	170	180	245	50	50*	100	95	145	212	(23)
15	95	95*	35*	60*	70	75	125*	195*	170*	135*	185	135	-*	-*	35	50	95	85	155	120	100*	125	100	100	102	(14)
16	75	95	85	75	95	125	120	110	155	170	185	230	265	255	240	215	170	135	50	95	205	180	135	125	150	(24)
17	120	120	100	155	180	195	230	305	460	570	560	610	645	510	435	475	475	500*	390*	365*	305*	-90*	50	110	332	(19)
18	125	125	100	75	135	125	215	400	510	500	440	425	350	290	355	415	390	330	330	315	220	230	205	220	284	(24)
19	195	135	145	160	160	170	195	355	525	560	495	460	440	450	415	410	365	365	450	450	410	350	245	355	344	(24)
20	410	160	205	245	50*	-150*	-320*	-125*	-310*	-215*	-55*	85*	0*	-265*	-215*	245*	180	100	145	255	185	135	155	Z±*	198	(11)
21	160	Z±*	110*	155	215	195	195	265	330	340	340	390	375	340	330	315	400	435	415	415	440	415	290	240	318	(22)
22	185	100	75	95	95	160	255	375	525	510	730	1035	1055	1070	1005	975	1005	620	325	230	325	325	355	400	493	(24)
23	385	270	245	215	155	160	155	135	315	365	325	125	160	205	215	245	295	280	330	290	180	95	245	270	236	(24)
24	325	270	245	290	240	265	365	525	580	580	510	510	465	510	440	510	465	450	535	500	510	485	400	375	431	(24)
25	245	205	220	160	160	125	145	95	145	180	340	365	325	305	355	315	230	215	135	160	230	240	295	390	233	(24)
26	180	155	100	315	410	295	450	245	145	220	375	245	315	325*	180*	230*	270*	180*	195*	160*	155*	85*	270*	305*	265	(13)
27	585*	465*	630*	510*	680*	1105*	1190*	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	865*	1020*	1010*	790*	825*	885*	840*	555	750	580	295*	628	(3)
28	495*	520*	610*	415	240	290	330	415	645	610*	815*	750	765	835	780	935	910	835	740	865	715	570	500	415	629	(19)
29	500	495	425	570	690	815	585	495	690	805	885	875	765	680*	350	205	290	415	400	315	110	185	230*	180*	517	(21)
30	Z±*	Z±*	Z±*	Z±*	Z-*	Z-*	Z-*	Z±*	Z±*	Z±*	Z±*	Z±*	100*	70	195	330	145	305	240	215	95	245	170	295	210	(11)
31	375	315	290	270	255	220	170	245	340	350	220	205	155	290	495	385	330	325	280	160*	170	180	25*	Z±*	279	(21)
Mean	274 (26)	211 (23)	196 (23)	233 (25)	267 (25)	264 (25)	299 (23)	342 (23)	460 (24)	486 (23)	456 (25)	445 (27)	473 (25)	421 (23)	432 (25)	452 (24)	440 (24)	423 (23)	358 (23)	361 (22)	361 (22)	325 (25)	300 (24)	272 (23)	357	(575)
Annual Mean	173 (312)	156 (308)	151 (304)	154 (310)	170 (304)	184 (310)	243 (300)	307 (290)	350 (292)	338 (289)	316 (294)	303 (279)	289 (278)	270 (281)	266 (289)	274 (282)	263 (295)	261 (290)	255 (289)	249 (285)	245 (281)	227 (291)	213 (300)	190 (311)	242	(7064)

Mean for selected quiet days [332 (10)]

Annual mean for selected quiet days [246]

Daily, monthly and annual means are computed excluding hours with precipitation and, of course, all indeterminate entries.* The number of hours or days used in computing each mean is shown in round brackets. Entries in square brackets are means for selected quiet days (see Introduction) and the figure in round brackets is the number of days used in computing this mean.

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	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE	
	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient
		hr.		hr.		hr.		hr.		hr.		hr.
1	1	0·8	1	0·7	2	5·0	1	1·4	1	0·2	1	0·5
2	1	2·0	0	0·0	1	0·8	1	2·3	1	1·2	1	1·1
3	1	0·1	1	0·3	1	0·7	2	11·7	0	0·0	1	0·3
4	1	1·8	2	3·2	2	3·0	2	7·0	1	2·5	1	0·8
5	1	0·2	1	1·2	2	3·9	1	2·5	1	0·2	1	0·2
6	1	0·9	1	0·3	1	0·2	1	0·1	1	1·2	0	0·0
7	1	0·3	2	3·3	0	0·0	2	4·0	0	0·0	1	0·1
8	1	2·8	2	5·5	2	3·8	2	5·0	1	0·8	2	3·3
9	2	3·2	1	0·3	2	3·0	1	0·1	1	1·3	1	0·8
10	2	7·0	1	0·7	2	10·3	1	0·4	2	4·9	1	1·1
11	2	6·4	1	1·7	2	5·5	1	0·4	2	6·7	1	1·8
12	2	3·8	2	8·4	0	0·0	0	0·0	1	2·4	1	1·3
13	1	0·2	1	2·1	0	0·0	1	0·1	1	2·2	1	0·2
14	1	0·4	0	0·0	1	0·5	0	0·0	0	0·0	0	0·0
15	0	0·0	2	6·3	1	0·2	2	3·0	1	1·1	0	0·0
16	2	6·5	1	0·1	0	0·0	1	2·8	1	0·2	0	0·0
17	2	4·8	1	0·3	1	0·5	1	1·5	1	0·6	0	0·0
18	0	0·0	1	0·1	1	0·1	2	5·7	1	1·2	1	0·5
19	1	1·8	1	0·1	0	0·0	0	0·0	2	5·8	1	1·9
20	1	2·7	1	0·5	1	1·2	1	1·0	2	3·3	1	0·4
21	2	7·0	0	0·0	0	0·0	2	7·7	1	1·5	1	0·3
22	2	3·4	1	0·5	0	0·0	1	0·9	1	0·1	0	0·0
23	2	4·5	1	0·4	1	0·9	1	0·8	1	0·3	0	0·0
24	1	0·7	1	0·3	1	0·2	1	0·1	1	2·5	0	0·0
25	1	1·7	1	2·4	2	4·5	1	0·1	1	0·1	0	0·0
26	0	0·0	2	12·3	1	0·7	1	1·0	2	5·7	1	0·9
27	1	2·3	0	0·0	1	0·1	0	0·0	2	5·0	1	0·1
28	1	0·7	0	0·0	2	6·5	0	0·0	1	0·1	0	0·0
29	1	0·7			2	6·1	0	0·0	2	3·9	1	1·3
30	1	1·1			1	2·5	0	0·0	0	0·0	1	0·1
31	2	7·0			1	1·4			0	0·0		
Total	-	74·8	-	51·0	-	61·6	-	59·6	-	55·0	-	17·0
No. of days used	-	31	-	28	-	31	-	30	-	31	-	30
Mean	-	2·4	-	1·8	-	2·0	-	2·0	-	1·8	-	0·6

	JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient
		hr.		hr.		hr.		hr.		hr.		hr.
1	1	0·8	2	3·5	1	0·2	1	2·3	2	5·3	1	0·9
2	0	0·0	1	0·1	1	0·5	0	0·0	1	1·4	0	0·0
3	0	0·0	1	1·2	1	0·7	1	0·5	1	1·5	0	0·0
4	1	0·8	0	0·0	2	4·4	1	0·3	1	0·5	0	0·0
5	1	1·2	0	0·0	1	1·0	0	0·0	2	3·2	1	0·1
6	1	0·1	2	4·0	2	3·5	1	0·5	1	0·6	1	0·1
7	1	0·4	2	11·3	1	0·4	0	0·0	2	3·2	0	0·0
8	1	0·2	1	0·2	0	0·0	0	0·0	0	0·0	2	4·2
9	1	0·1	1	1·9	0	0·0	0	0·0	1	0·6	1	0·7
10	2	3·8	0	0·0	1	0·8	1	0·7	1	1·0	0	0·0
11	1	0·8	1	0·1	1	0·2	0	0·0	1	0·4	1	2·9
12	1	1·2	1	0·4	1	0·7	0	0·0	0	0·0	2	6·7
13	0	0·0	0	0·0	1	0·7	0	0·0	0	0·0	1	0·1
14	1	1·6	2	4·4	1	1·7	0	0·0	1	2·0	1	0·8
15	2	3·0	0	0·0	1	1·7	1	0·2	0	0·0	1	0·2
16	1	1·2	1	0·1	1	0·5	1	0·1	2	5·3	1	0·2
17	1	1·5	1	2·6	1	0·7	1	2·2	2	15·7	1	1·0
18	1	1·1	0	0·0	1	0·2	0	0·0	2	14·7	0	0·0
19	1	0·2	0	0·0	0	0·0	0	0·0	1	0·1	0	0·0
20	1	2·0	1	0·3	1	0·1	1	1·3	2	6·8	2	8·7
21	1	2·4	0	0·0	1	0·2	1	0·8	1	1·5	1	0·7
22	1	0·1	1	0·1	1	0·5	0	0·0	1	0·5	1	0·1
23	0	0·0	1	1·6	1	0·2	1	0·3	2	7·1	0	0·0
24	1	0·2	0	0·0	0	0·0	0	0·0	1	0·5	0	0·0
25	2	5·2	0	0·0	0	0·0	1	1·7	1	1·5	0	0·0
26	2	10·9	1	0·3	1	2·9	2	10·3	1	1·9	0	0·0
27	1	0·9	0	0·0	1	0·3	1	0·4	1	0·1	1	2·3
28	1	0·3	1	0·3	1	1·7	1	1·0	0	0·0	0	0·0
29	1	1·0	1	0·1	1	0·6	0	0·0	0	0·0	1	0·1
30	1	0·3	1	0·1	2	5·0	1	1·2	0	0·0	2	7·2
31	0	0·0	1	0·2			1	0·3			1	1·3
Total	-	41·3	-	32·8	-	29·4	-	24·1	-	75·4	-	38·3
No. of days used	-	31	-	31	-	30	-	31	-	30	-	31
Mean	-	1·3	-	1·1	-	1·0	-	0·8	-	2·5	-	1·2

Annual values: Character 0 1 2
No. of days used 91 209 65

Duration: Total 560·3 hr.
No. of days 365
Mean 1·54

ELECTRICAL OBSERVATIONS, UNDERGROUND LABORATORY, WILSON METHOD

Mean value for periods of twenty minutes about 14h. 30m. G.M.T.

F = Potential gradient, unit 1 v.cm.$^{-1}$. i = Air-earth current, unit 10^{-18} amp. cm.$^{-2}$

$\lambda+$ = Conductivity due to positive ions, unit 10^{-18} ohm.$^{-1}$ cm.$^{-1}$

43 KEW OBSERVATORY

1962

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	F	i	$\lambda+$	F	i	$\lambda+$	F	i	$\lambda+$	F	i	$\lambda+$	F	i	$\lambda+$	F	i	$\lambda+$
1	5·71	105	18	...	...	...	...	...	...	...	...	...	4·70	345	73	2·57	332	129
2	...	...	...	3·50	244	70	...	...	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...	...	...	...	1·48	173	117	...	...	...
4	...	...	...	...	...	...	...	...	...	...	...	...	2·28	262	115	3·73	282	76
5	4·67	192	41	3·12	236	76	2·46	177	72	...	...	...	...	...	...	4·37	311	71
6	...	...	...	...	...	...	2·81	218	78	1·93	199	103	...	...	...	2·94	278	95
7	...	...	...	...	...	...	2·88	179	62	...	...	...	...	...	...	3·53	264	75
8	2·46	159	65	3·09	204	66	...	...	...	...	...	...	2·27	284	125	...	...	...
9	...	...	...	2·41	194	81	3·54	326	92	1·97	178	90	2·10	289	138	...	...	...
10	...	...	...	...	...	...	...	...	...	2·07	202	98	...	...	...	...	...	...
11	...	...	...	...	...	...	...	...	...	1·71	157	92	...	...	...	...	...	...
12	2·76	181	66	0·37	140	378	...	...	...	2·18	223	102	...	...	...	...	...	...
13	...	...	...	2·64	150	57	2·26	186	82	...	...	...	...	...	...	1·70	219	129
14	...	...	...	...	...	...	1·95	109	56	...	...	...	...	...	...	2·28	293	129
15	...	...	...	...	...	...	...	...	...	...	...	...	1·29	180	139	...	...	...
16	...	...	...	...	...	...	3·81	232	61	...	...	...	1·52	246	162	...	...	...
17	...	...	...	...	...	...	...	...	...	1·12	137	122	1·47	185	126	...	...	...
18	...	...	...	...	...	...	...	...	...	...	...	...	1·58	238	151	...	...	...
19	3·44	204	59	2·54	162	64	...	...	...	...	...	...	...	...	...	1·27	118	93
20	...	...	...	...	...	...	5·91	359	61	...	...	...	...	...	...	...	...	...
21	...	...	...	...	...	...	4·54	277	61	...	...	...	...	...	...	1·66	205	124
22	2·26	199	88	4·90	209	43	4·35	282	65	...	...	...	...	...	...	1·44	166	115
23	3·85	254	66	4·22	231	55	...	...	...	...	...	...	...	...	...	...	...	...
24	...	...	...	...	...	...	...	...	...	4·27	314	74	...	...	...	...	...	...
25	...	...	...	...	...	...	...	...	...	3·42	350	102	2·22	221	100	1·80	216	120
26	2·64	206	78	...	...	...	1·89	153	81	2·04	248	122	...	...	...	...	...	...
27	...	...	...	4·62	211	46	...	...	...	3·45	344	100	...	...	...	...	...	...
28	...	...	...	...	...	...	1·23	128	104	...	...	...	2·11	223	106	1·91	230	120
29	4·03	184	46				...	...	...	...	...	...	...	...	...	2·10	189	90
30	2·82	359	127				...	...	...	4·09	367	90	...	...	...	...	...	...
31	...	...	...				...	...	...				2·82	340	121			
Mean	3·46	204	65	3·14	198	94	3·14	219	73	2·57	247	99	2·15	249	123	2·41	239	105
No. of days used	10	10	10	10	10	10	12	12	12	11	11	11	12	12	12	13	13	13

	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	F	i	$\lambda+$	F	i	$\lambda+$	F	i	$\lambda+$	F	i	$\lambda+$	F	i	$\lambda+$	F	i	$\lambda+$
1	...	...	...	1·06	165	156	...	...	...	...	...	...	...	...	...	...	...	...
2	1·35	134	99	...	...	...	...	...	...	2·63	209	79	...	...	...	...	...	...
3	...	...	...	1·36	187	137	1·42	170	120	2·88	250	87	...	...	...	7·50	198	26
4	...	...	...	...	...	...	...	...	...	2·12	253	119	...	...	...	...	...	...
5	1·77	209	118	...	...	...	1·83	168	92	...	...	...	...	...	...	...	...	...
6	1·25	142	114	...	...	...	...	...	...	...	...	...	5·93	155	26	...	...	...
7	...	...	...	...	...	...	2·48	268	108	...	...	...	4·67	393	84	...	...	...
8	...	...	...	1·24	193	156	...	...	...	3·80	244	64	...	...	...	...	...	...
9	1·88	169	90	2·02	220	109	...	...	...	3·48	135	39	...	...	...	...	...	...
10	...	...	...	1·47	169	115	...	...	...	5·69	228	40	...	...	...	3·34	240	72
11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12	...	...	...	...	...	...	...	...	...	4·66	340	73	3·33	418	126	...	...	...
13	1·51	233	154	3·48	309	89	2·39	223	93	...	...	...	3·68	455	124	...	...	...
14	...	...	...	...	...	...	1·99	246	124	...	...	...	3·55	295	83	...	...	...
15	...	...	...	2·00	220	110	...	...	...	2·68	227	85	2·56	240	94	...	...	...
16	...	...	...	1·97	258	131	...	...	...	...	...	...	...	...	...	...	...	...
17	1·21	117	97	2·28	260	114	...	...	...	...	...	...	...	...	...	4·46	335	75
18	1·47	200	136	...	...	...	1·72	184	107	2·65	191	72	...	...	...	3·59	288	80
19	1·52	202	133	...	...	...	1·46	204	140	...	...	...	3·06	282	92	3·94	234	59
20	1·62	156	96	1·92	201	105	1·41	169	120	...	...	...	...	...	...	...	...	...
21	...	...	...	2·51	227	90	2·53	275	109	...	...	...	...	...	...	3·91	317	81
22	...	...	...	2·27	197	87	...	...	...	3·58	260	73	5·29	360	68	...	...	...
23	1·18	152	129	...	...	...	...	...	...	3·08	253	82	...	...	...	...	...	...
24	1·22	110	90	1·61	153	95	1·36	201	148	3·04	245	81	...	...	...	...	...	...
25	...	...	...	...	...	...	2·30	266	116	...	...	...	...	...	...	...	...	...
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
27	...	...	...	2·24	242	108	1·68	257	153	...	...	...	3·43	243	71	...	...	...
28	...	...	...	...	...	...	...	...	...	...	...	...	4·12	398	97	7·67	248	32
29	...	...	...	1·65	279	169	...	...	...	3·26	316	97	...	...	...	...	...	...
30	...	...	...	1·76	268	152	...	...	...	...	...	...	3·91	355	91	...	...	...
31	1·67	281	168	2·56	260	102				...	...	...				3·89	261	67
Mean	1·47	175	119	1·96	224	119	1·88	219	119	3·35	242	76	3·96	327	87	4·79	265	61
No. of days used	12	12	12	17	17	17	12	12	12	13	13	13	11	11	11	8	8	8

Year:		F	i	$\lambda+$
	Mean	2·75	233	97
	No. of days used	141	141	141

44 KEW OBSERVATORY — Complete days only — 1962

Hour G.M.T.	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22	22 to 23	23 to 24	Mean	No. of days used
	milligrams per cubic metre																									
January	0·10	0·07	0·08	0·07	*0·06*	0·06	0·06	0·08	0·11	0·12	0·12	0·11	0·11	0·11	0·13	0·15	0·16	0·20	0·20	*0·21*	0·20	0·18	0·16	0·13	0·12	31
February	0·07	0·06	0·06	0·05	0·05	*0·04*	*0·04*	0·06	0·09	0·10	0·09	0·09	0·08	0·08	0·07	0·08	0·09	0·12	0·14	*0·15*	0·13	0·12	0·11	0·09	0·09	27
March	0·12	0·11	0·10	0·09	0·09	0·09	0·09	0·12	0·13	0·10	0·09	0·09	0·08	0·07	0·07	*0·07*	0·07	0·09	0·13	0·17	0·17	*0·19*	0·16	0·13	0·11	30
April	0·04	0·04	0·05	0·04	0·04	0·04	0·05	0·05	0·05	0·05	0·04	0·03	0·03	*0·03*	0·03	0·04	0·04	0·05	0·06	*0·07*	0·07	0·06	0·05	0·04	0·05	28
May	0·03	0·03	0·03	*0·02*	0·03	0·03	0·04	0·03	0·03	0·03	0·03	0·02	0·03	0·03	0·03	0·03	0·03	0·03	0·04	0·05	*0·05*	0·05	0·04	0·04	0·03	31
June	0·02	0·02	0·02	0·02	0·02	0·03	0·03	*0·03*	0·03	0·03	0·02	0·02	0·01	0·02	*0·01*	0·02	0·02	0·02	0·02	0·03	0·03	0·03	0·02	0·02	0·02	30
July	0·02	0·02	*0·02*	*0·02*	*0·02*	0·02	0·03	0·03	*0·03*	0·03	0·03	0·03	0·02	0·02	*0·02*	*0·02*	0·02	0·02	0·02	0·03	0·03	0·03	0·03	0·02	0·02	31
August	0·01	0·01	0·01	0·01	0·01	0·02	0·02	*0·02*	0·02	0·02	0·02	0·01	*0·01*	0·01	0·01	*0·01*	0·01	0·01	0·01	0·02	0·02	0·02	0·02	0·02	0·01	31
September	0·03	0·03	0·03	0·03	0·03	0·03	0·04	*0·05*	0·05	0·03	0·03	0·02	0·02	*0·01*	0·02	0·02	0·02	0·03	0·04	0·05	0·05	0·04	0·04	0·03	0·03	30
October	0·12	0·11	0·09	0·08	0·08	0·09	0·10	0·13	0·15	0·14	0·13	0·11	0·09	*0·08*	0·09	0·09	0·10	0·13	0·14	*0·16*	*0·16*	0·16	0·15	0·13	0·12	31
November	0·11	0·10	0·09	0·08	*0·08*	0·08	0·09	0·11	0·15	*0·17*	0·15	0·13	0·12	0·11	0·10	0·10	0·12	0·15	0·16	0·16	0·15	0·16	0·15	0·13	0·12	30
December	0·15	0·12	0·11	0·11	0·09	*0·08*	0·08	0·10	0·14	0·17	0·19	0·21	0·23	0·24	0·22	0·26	0·27	*0·30*	0·25	0·24	0·25	0·23	0·21	0·15	0·18	26
Year	0·07	0·06	0·06	0·05	*0·05*	0·05	0·06	0·07	0·08	0·08	0·08	0·07	0·07	0·07	0·07	0·07	0·08	0·10	0·10	*0·11*	0·11	0·11	0·09	0·08	0·07	356
Winter	0·11	0·09	0·09	0·08	0·07	*0·07*	0·07	0·09	0·12	0·14	0·14	0·13	0·13	0·13	0·13	0·15	0·16	*0·19*	0·19	0·19	0·18	0·17	0·16	0·13	0·13	114
Spring	0·08	0·07	0·07	0·07	0·07	0·07	0·07	0·09	0·09	0·07	0·07	0·06	0·05	*0·05*	*0·05*	0·05	0·05	0·07	0·09	0·12	0·12	*0·13*	0·11	0·09	0·08	58
Autumn	0·07	0·07	0·06	0·05	0·05	0·06	0·07	0·09	0·10	0·09	0·08	0·07	0·05	*0·05*	0·05	0·05	0·06	0·08	0·09	*0·11*	*0·11*	0·10	0·09	0·08	0·07	61
Summer	0·02	0·02	0·02	*0·02*	0·02	0·03	0·03	0·03	0·03	0·03	0·03	0·02	*0·02*	0·02	*0·02*	0·02	0·02	0·02	0·02	*0·03*	*0·03*	*0·03*	0·03	0·03	0·02	123

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