

RESULTS OF THE MAGNETIC
AND METEOROLOGICAL
OBSERVATIONS

*Made at the Royal Greenwich Observatory, Abinger
the Royal Observatory, Greenwich
and the Royal Greenwich Observatory, Herstmonceux
in the year*

1951

UNDER THE DIRECTION OF
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THE ROYAL OBSERVATORY, GREENWICH

AND

ABINGER MAGNETIC STATION, SURREY.

MAGNETIC AND METEOROLOGICAL OBSERVATIONS 1951.

INTRODUCTION

STAFF

During the year 1951 the staff serving in the Magnetic and Meteorological Department consisted of H. F. Finch, Superintendent, W. Jackson, E. A. Chamberlain, G. F. Wells, P. L. Rickerby, B. R. Leaton, J. D. Winter, Miss C. M. Cannell, R. G. Lorton and D. R. A. Christie. Mr. Chamberlain, resident observer and assistant-in-charge, Mr. Rickerby, Miss Cannell and Mr. Christie were employed exclusively at the Abinger Magnetic Station.

ABINGER MAGNETIC OBSERVATIONS

THE MAGNETIC STATION - *Site* (Lat. $51^{\circ}11'5''N$; Long. $0^{\circ}23'12''W$). Established in 1924, the station is situated on the northern slope of Leith Hill, Surrey, 800 feet above sea level. It is approximately 26 miles from the former site at Greenwich in a direction a little south of south-west. The nearest railway track lies at a distance of about $2\frac{1}{2}$ miles.

The Pavilions. The absolute observations are made in the main pavilion which is constructed of carefully chosen non-magnetic materials. It is approximately 28 feet long by 15 feet wide and contains four stoutly built hard wood piers embedded into concrete bases which are free from contact with the floor. On the north pier is mounted the declination instrument; on the central pier, the coil-magnetometer for measuring horizontal intensity; on the south-east pier, the coil-magnetometer for measuring vertical intensity; and on the south-west pier, the Earth-inductor for observing magnetic inclination.

A second pavilion, erected in 1926 for the testing and standardizing of magnetic instruments (work formerly undertaken at Kew Observatory), and measuring 16 feet by 12 feet, is situated about 40 feet south-east of the main pavilion and contains three concrete piers passing through the floor without contact.

A third pavilion measuring 20 feet square was added in 1932. More convenient and suitable for comparative observations than the second, this pavilion occupies a corresponding position to the north-east of the main pavilion. It contains three circular wooden piers set into concrete and free from contact with the floor, similar to those in the main pavilion.

The Magnetograph House stands 50 feet east of the main pavilion and is oriented with its principal axis north and south. An inner chamber, designed to house the magnetographs at a uniform temperature, measures 15 feet long by 12 feet wide by 8 feet high and is supported on small concrete piers. The whole structure is contained within an outer chamber whose walls are constructed to have a low thermal conductivity and are nearly two feet thick. Between the walls of the two chambers is an air space of from 2 to 3 feet. The inner chamber is electrically heated by a series of low-temperature non-magnetic metallic resistances distributed along the base of the walls and fed by alternating current drawn from the public mains supply.

The temperature of the magnetograph chamber is controlled by a thermostat placed at the centre of the room at the same level as the magnetic instruments. Daily readings of a thermometer attached to one of the variometers show that the departures from a mean temperature do not exceed 0.2 C.

Projecting up through the floor are five concrete piers. Two of these, designed originally to support recording mechanisms, occupy the north-west and south-east corners of the room, their longer sides being transverse to the meridian. In 1938 a massive slate slab measuring 8 feet by 2 feet by $1\frac{1}{4}$ inches was cemented upon the pier occupying the south-east corner. The other three piers are situated at positions 2 feet west and 2 feet 6 inches south of the north-east corner; 5 feet 6 inches west and 5 feet south of the same corner, and 2 feet east and 3 feet north of the south-west corner. Also, in 1938 a heavy wooden table 8 feet by 3 feet was installed near the centre of the room to carry new recording mechanism. The legs of this table pass freely through the floor of the chamber and are cemented into the concrete base of the main building.

LAYOUT OF RECORDING INSTRUMENTS. At the beginning of March 1938 the apparatus used since 1925 to record D and H was superseded by La Cour variometers. These instruments are set up at the south end of the recording chamber in a line running geographically east and west. They occupy the eastern half of the slate slab previously described. The La Cour recording mechanism is mounted upon the table also referred to in the previous paragraph.

Occupying the western halves of the slate slab and wooden table is a "quick-run" magnetograph (see p.vii). On the opposite corner pier is mounted the recording mechanism of a wide-range magnetograph, the declinometer of which is carried by the same pier (see p.vii). The accompanying H variometer is mounted on the south-west pier, formerly occupied by the Watson quartz-fibre Z variometer.

VARIOMETERS - *The La Cour Horizontal Intensity Variometer*. A complete description of this instrument is to be found in *Publikationer fra det Danske Meteorologiske Institut*, No.11 (Copenhagen 1930), but for general information some details are given here. The magnet of cobalt steel is 8 millimetres long and weighs about 25 milligrams, the magnetic moment being 3.2 c.g.s. units. It is suspended at right angles to the Earth's horizontal field by means of a quartz fibre thickened at each end to form a small cone. Each cone fits into a conical brass socket having a fine slit in its side through which the fibre has passed. The focal length of the lens which projects the ray from the mirror attached to the magnet is 160 cms. Compensation for the effect of temperature on the moment of the magnet and the torsional constant of the quartz fibre is attained by optical means in which compensatory deflection of the emergent ray is produced by proportional curving (under temperature changes) of a bi-metallic lamina which supports a prism controlling the ultimate direction of the ray.

A small Helmholtz-Gaugain coil, having a field of 7.43 gamma per milliampere and made to envelop the variometer, is used both to orientate the magnet correctly with respect to the earth's field and to determine the scale-value of the record. The orientation of the magnet was last examined on 1947 December 2 and was then correct within $0^{\circ}6$. The adopted scale-value during 1951 was 4.35 gamma per millimetre.

The La Cour Declination Variometer. The general features of this instrument correspond closely to those of the variometer just described. The scale-value adopted during 1951 was 0.92 per millimetre. Expressed as magnetic intensity the scale-value would be 4.99 gamma per millimetre at the present time.

The La Cour Vertical Intensity Variometer. This instrument is fully described in *Publikationer fra det Danske Meteorologiske Institut No.8*. The recording magnet, including knife-edges and mirror, is fashioned from a single piece of cobalt steel, with the purpose of eliminating the possibility of relative movements among its parts. It is oriented approximately at right-angles to the magnetic meridian. Compensation for temperature changes is optically effected as in the horizontal intensity variometer. The scale-value, determined by the small Helmholtz-Gaugain coil already mentioned, is 4.35 gamma per millimetre.

The Quick-run Variometers. These consist of a set of instruments closely resembling those described above and adapted by La Cour's method to record on a time scale of 3 mm. to one minute, i.e. twelve times as great as the normal scale. This recorder has been in regular use since 1938 November.

The Wide-range Variometers. Instruments formerly serving as standard variometers for H and D have been adapted to serve as wide-range recorders capable of registering on a small scale the largest variations in the two elements deemed possible of occurrence at Abinger. The H variometer, which was superseded as the standard by the La Cour recorder, has been "desensitised" by the addition, immediately beneath its base-plate, of a bundle of strongly magnetised needles set at right-angles to the magnetic meridian. The scale-value is 19.5 gamma per millimetre. The D variometer used at Greenwich from 1917 to 1925 is now fitted with a lens of 50 cms. focal length, which gives a scale-value of 3.7 per millimetre. The two instruments are located as described on p.vi. The present position of the D variometer is such that it is necessary to deflect the recording light rays towards the recording cylinder through a large angle, and an appropriate mirror rigidly supported between the variometer and cylinder forms part of the apparatus. The wide-range variometers have been in regular operation since 1940.

Recording Mechanism. The two principal features of the La Cour recorders are: the three elements H, D and Z are recorded on separate strips of a single photographic sheet; the range over which the elements are able to record is greatly extended by the use of prisms in the optical train which furnish a multiple set of images. For each element are formed six secondary images, three on each side of the principal image, the separation being so adjusted that the image from one prism appears at the edge of the record just before the adjacent image passes off the opposite edge. The time-scale is approximately 15 mm. to the hour.

The time-marks are in all cases photographically printed on the sheets by momentary automatic illumination of an electric lamp. In the case of the La Cour magnetograph the original arrangement provides a series of small dots which constitutes a second, interrupted, trace of the element. These marks, however, have been supplemented by thin time lines extending the whole width of each record, these

lines being produced by adjustable long narrow mirrors which reflect light from an auxiliary time signal lamp. In the case of the "quick-run" and "wide-range" recorders, only the thin lines are printed.

The time-signals are derived from a relay connected to a mean solar clock in the computing room. For a period of one second at every tenth minute of Universal Time the clock operates a relay which in turn operates the lamps. Additional signals at the first and fifty-ninth minute of each hour serve to distinguish the hour signals. The error of the clock is observed daily by comparison with a time-signal radiating from one of the official broadcasting stations. The error, which seldom exceeds one second, is eliminated by temporarily adjusting the clock rate electromagnetically over the required period of a minute or two.

OBSERVING INSTRUMENTS - Declinometer. A hollow cylindrical magnet with scale and collimating lens is used in conjunction with a small telescope mounted independently on the same pier. The magnet is suspended by tungsten wire of diameter 0.02 mm. Frequent reversals are made to eliminate the collimation error of the magnet from the results, and the position of torsional zero of the suspension wire is also frequently checked. 90° of torsion deflects the magnet about 3'. The telescope has a six-inch circle on which azimuths are read by means of two microscope-micrometers to 1". An azimuth mark is fixed on the top of a concrete pillar 10 feet high, erected at the northern extremity of the Observatory grounds at a distance of approximately 300 feet from the observing pier. Determinations of the azimuth of this mark are made at intervals by means of observations of Polaris. During each observation both direct and reflected views of the star are taken. The effect of error of level of the telescope is thus entirely eliminated. Reflection is obtained from the surface of mercury contained in a shallow copper dish.

The Schuster-Smith Coil Magnetometer. This instrument is on loan to the Observatory from the National Physical Laboratory. It is the second of the type constructed and is rather smaller than the original instrument, a detailed description of which is to be found in *Philosophical Transactions of the Royal Society*, Vol.223 (1923), pp.175-200. It is erected on a pier in the centre of the absolute observation pavilion and was brought into use as the standard instrument for measurement of horizontal intensity on 1927 February 1. In general eight independent determinations are made each week-day.

The following is a brief description of the instrument and the method employed in measuring horizontal intensity:-

A hollow marble cylinder of 50 cms. diameter rests, with its axis horizontal, on a brass support which can be turned in azimuth. The azimuth may be read to 10" from a graduated circle on the base-plate by the usual vernier attachment. On the periphery of the cylinder, near each end and at a mean distance of 25 cms. from each other, are two windings, in series, of ten turns of bare silver wire, the method of winding in a double spiral being that adopted in the original instrument referred to above. The whole forms a Helmholtz-Gaugain system at the centre of which a very uniform magnetic field parallel to the axis exists when an electric current is passing through the coils.

A chromium-steel magnet, 15 mm. long and 2 mm. square in cross section, is supported horizontally in a light vertical aluminium frame; the frame carries also a small concave mirror and a damping vane and is suspended by a single silk fibre in a suspension tube passing through a hole in the upper surface of the cylinder. A square box with optically-plane glass sides supports the tube and encloses the

magnet frame, allowing the mirror to project an image of a source of light during observation. The suspension fibre is adjusted so that the magnet hangs at the centre of the coil system.

To afford an easy means of reading the azimuth of the cylinder and the indications of the magnet, graduated ivorine scales are placed horizontally on stands at a distance of approximately 2 metres from the pier, and spots of light are reflected to them by small concave mirrors in the instrument.

Situated outside the observing pavilion, about 40 feet to the south, is a storage battery of 25 cells which produces the current required for the observation. The amount of current employed is very accurately adjusted to a specific quantity by rheostat according to the indications of a Broca galvanometer in a potentiometer circuit in which the fall of potential across a known resistance is brought to equality with the voltage of a Weston standard cell.

Careful precaution is exercised in arranging the circuits both to eliminate accidental magnetic fields and to secure the highest degree of insulation. The latter has been found, in practice, to be of great importance, especially with regard to insulation of the galvanometer circuit, as any stray current here will lead to a difference of potential between the terminals of the standard cell and the standard resistance. It is desirable that the resistance of the galvanometer should be as low as possible consistent with sensitivity.

Theory of the observation:-

If a horizontal magnetic field whose intensity is slightly greater than that of the earth is imposed at an angle of nearly 180° with the earth's field, a precise angle can be found at which the resultant of the two fields becomes directed at right angles to the earth's field. The intensity F of the imposed field, and its angle α with the earth's field being known, the horizontal intensity of the earth's field can then be calculated from the simple relation $H = F \cos \alpha$.

An observation proceeds as follows:-

Torsion having been eliminated from the suspension thread by substituting a copper bar of similar dimensions for the magnet, the magnet is replaced and allowed to hang freely in the earth's field. The position on the appropriate scale of the spot of light reflected by the magnet-mirror is noted. This scale is normally on the west side of the instrument. By optical methods, reference marks on two other scales placed respectively to the magnetic north and south of the instrument are adjusted accurately to points 90° from the spot reflected by the magnet mirror. A current is next passed round the coil in the direction which produces a field augmenting that of the earth, and the coil is turned in azimuth until the addition of the imposed field produces no alteration in the direction of the magnet. The axis of the coil is then accurately parallel to the horizontal component of the earth's field, and the coil-mirror can be adjusted so that it reflects a spot of light to the reference mark, i.e. to the zero graduation of the north scale as already set.

The current is now reversed in the coil by a commutator switch and the coil is turned until the resultant force on the magnet is in a direction at right angles to the earth's field. This is indicated on either the north or south scale by the magnet-mirror, which is carried round 90° by the magnet. The azimuthal angle through which the coil has been turned is read from the north scale, and the coil is then turned to an approximately equal angle on the opposite side of the magnetic meridian.

This reverses the direction of the resultant field and a further small adjustment of the coil brings the spot of light reflected by the magnet-mirror accurately to the reference mark on the opposite scale to that last used. A second reading of the azimuth of the coil completes the observation.

The suspension box and tube are turned by the observer as the magnet turns, so that no torsional change is introduced. The effect of any small error in the assumed direction of the Earth's horizontal field, due, say, to residual torsion on the suspension thread, is eliminated on taking the mean of the two results.

After preliminary details have been gone over, a complete measurement of horizontal intensity is readily obtained in two minutes.

If F be the factor of the coil and i be the current passing, in amperes, then the intensity of the field at the centre of the coil, in gamma units, is $Fi \times 10^4$. The adopted value of the factor F of the coil is 3.59570 ($1 - .0000043t$), t being temperature Celsius.

The observed value of horizontal intensity obtained from this instrument is subject to a correction of -1γ for the effect of the field of magnets in instruments placed permanently in the vicinity. The effect is determined experimentally by reversal of the magnets. The correction is applied in the reduction of the observation.

The constants of the coil and of the potentiometer at various standard temperatures have been precisely determined at the National Physical Laboratory and are checked from time to time. The dimensions of the coil were re-examined in November 1931. The electrical constants on which the reduction of observations made in 1951 is based were verified in June 1951, when, to cope with the increasing value of H , the standard resistance of the potentiometer was shunted with one of 400 Ohms. To convert the measure of current from international units to c.g.s. units the factor adopted prior to 1938 January 1 was .99997; but from this date onward the value adopted has been .99988. The change introduces a discontinuity into the deduced values of H of -1.7γ .

Comparisons of observations made in 1950 with this instrument and with the QHMs of the Association of Geomagnetism and Aeronomy revealed a difference in the mean of 4.8γ , the coil giving the smaller values.

The Vertical Intensity Coil Magnetometer. This instrument, designed by D. W. Dye for direct measurement of vertical intensity and constructed under his supervision at the National Physical Laboratory, Teddington, is on loan to the Royal Observatory from the Laboratory. It is erected on the south-east pier of the observing pavilion and was adopted as the standard for measurement of vertical intensity from 1929 January 1.

A full description of the instrument is published in *Proceedings of the Royal Society, Ser. A, Vol. 117 (1928)*, pp. 434-458. In brief, the instrument consists of a Helmholtz-Gaugain coil wound on a marble cylinder, the axis of which is vertical as truly as can be determined, together with accessory apparatus for accurately controlling and measuring the current passed through the coil, and for testing the resultant field at its centre.

The observation consists of an adjustment of the current until the artificial field imposed at the centre of the coil exactly annuls the vertical component of the earth's field. The intensity of this component is then easily calculable from a knowledge of the dimensions of the coil and the amount of current indicated by potentiometer measurement (see above). The current is taken from the battery which supplies the *Schuster-Smith* instrument.

The special feature of the instrument is the means adopted for ascertaining when the vertical component of the Earth's field is exactly annulled at the centre of the marble cylinder. This consists of a diamond-shaped vibrating test-coil about 2 cms. long suspended by bronze strip stretched horizontally between two supports and carrying a light plane mirror. The principle of the instrument requires that the axis of rotation of the detector coil should be horizontal and its plane vertical in the equilibrium position. The method of securing these adjustments is included in the full description mentioned above.

A weak alternating current, supplied from a generator at some distance from the instrument, passes through the test-coil. The reaction between the field produced and the surrounding magnetic field subjects the test-coil to a forced oscillation which vanishes only when the vertical field is annulled. The resulting vibration is brought to a maximum by adjustment of the generator frequency to synchronism with the natural frequency of the coil (about 15 per second) and high sensitivity is thus obtained. Microscopic vibration is exhibited by projection from the small mirror on the test-coil of an image of illuminated cross-wires to a screen erected about 2 metres distant.

The adopted value of the factor F of the coil is $F = 3.59643 (1 - .0000079t)$, t being temperature Celsius. The constants of the potentiometer in use during the year 1951 for the measurement of the current were verified at the National Physical Laboratory in 1951 July. The factor adopted for the conversion from international units to c.g.s. units was the same as for the Schuster-Smith coil (see p.x). The change on 1938 January 1 introduces a discontinuity of -3.9γ into the deduced values of Z .

Considerable difficulty was experienced at times during the year in obtaining the required stability and sensitivity. The trouble was subsequently traced to the oscillator. During these periods an additional check was maintained upon the base-line values of the Z variometer using BMZ 35.

The Absolute Inclination Instrument. An Earth Inductor by the Cambridge Instrument Company, in conjunction with a Broca galvanometer, is used to determine magnetic inclination. Determinations are normally made on weekdays. Observations are made in four positions to eliminate any small errors arising from slight asymmetry in the instrument. After the first adjustment the coil support is reversed about a horizontal axis and a second adjustment is obtained; the instrument is then reversed in azimuth and two further adjustments are made. The circle for the measurement of inclination is 8 inches in diameter and is read by means of microscope-micrometers to one second of arc. The levels on the base can likewise be read to one second. A detailed description of the inductor will be found in the volume for 1915. Since 1929 January 1 the observations of inclination have not been used for determination of vertical intensity.

REDUCTION OF RESULTS - Time - The system of time used in the reductions is *Universal Time* (U.T.).

Hourly Values. The estimated mean ordinates of the photographic traces for each hour are measured from the base-line by the aid of an etched glass scale - the hour being the period of sixty minutes commencing at the time named in the tables. From the tables of these measures are obtained the mean daily and mean monthly values for each hour of the day and the value of the elements for each day of the month.

Base-lines. Values of the base-lines are adopted from smooth curves drawn through points plotted upon charts, each point representing the mean of several independently observed values. Ten observations of declination, eight of horizontal intensity and six of vertical intensity are made, on an average, each week-day. Prior to 1929 the base-line values for vertical intensity traces were computed from absolute observations of inclination I , combined with simultaneous values of horizontal intensity H , taken from the magnetograms, in accordance with the relation $Z = H \tan I$. From 1929 January 1 the values have been obtained directly from observations of vertical intensity with the coil-magnetometer. The change introduces a discontinuity of about 30γ into the definitive values of vertical intensity, corresponding to 0.9 in inclination. The latter is to be attributed to hitherto unsuspected wear in the bearings of the Earth inductor which, at the time of its discovery, made the observed values of inclination too large by this amount.

Temperature Corrections. As the magnetograph chamber is maintained at a sensibly constant temperature and, moreover, the temperature compensation in the variometers themselves has been closely attained, in general no temperature corrections are required.

K - Indices. In conformity with a resolution passed at the Washington Assembly of the International Association of Terrestrial Magnetism and Electricity in 1939 September, the magnetic character of each day is estimated by means of three-hour-range indices, the index "K" for each three-hour period from 0^h to 24^h U.T. being assigned according to the principles described in an article published in *Terrestrial Magnetism and Atmospheric Electricity*, Vol.44, pp.411 *et seq* (December 1939).

The scale adopted for this purpose is constructed as follows:- The average quiet day variation during a particular three-hour period being reckoned as "0", any excess greater than 5γ but less than 10γ is reckoned as "1"; an excess between 10γ and 20γ as "2"; between 20γ and 40γ as "3"; between 40γ and 70γ as "4"; between 70γ and 120γ as "5"; between 120γ and 200γ as "6"; between 200γ and 330γ as "7"; between 330γ and 500γ as "8"; greater than 500γ as "9".

The traces of all three elements are examined and the largest variation recorded in the interval is used to give the "K" index for that interval.

THE TABLES. Tables I to III contain respectively the hourly mean values of declination, horizontal intensity and vertical intensity.

Table IV gives for each element the mean daily value, the maximum and minimum values with the times of their occurrence and the daily range.

Table IVA contains, for each day of the year, the eight individual K-indices, arranged in succession, together with their sums.

Tables V to VII contain the mean diurnal inequalities obtained from "All" days and from "Quiet" and "Disturbed" days as selected by the International Committee. In addition to monthly and annual values there are given values for the seasons, viz. Winter (January, February, November, December), Equinox (March, April, September, October) and Summer (May, June, July, August). The values in these tables are *not* adjusted for the effect of non-cyclic change.

The figures quoted for the north and west components and the inclination are computed from the corresponding inequalities in declination, horizontal intensity and vertical intensity, the computations being in general carried out to one significant figure beyond that printed. Extreme values are indicated in heavy type.

Tables VIII and IX contain the harmonic coefficients obtained from an analysis of the inequalities in the north (X), west (-Y) and vertical (Z) components. In the case of the International Quiet and Disturbed days, the coefficients are adjusted for non-cyclic change during analysis, but in analysing the results for "All" days the non-cyclic change is ignored. The phase-angles in Table IX are corrected to refer to Abinger Local Mean Time.

Table X. In the annual volumes from 1926-1931 this table contains the range of the mean diurnal inequalities abstracted from the figures given in Tables V to VII for the months, the year and the seasons. In 1932 a change was made which was inadvertently not noted at the time. Thenceforth the figures given for the *year and the seasons* are derived from Table X itself by meaning the values of the months constituting the particular group.

Table XI gives in similar arrangement the non-cyclic change 24^h minus 0^h . The quantities are computed from Tables I to III, the value of 0^h or 24^h being taken as the mean of the last value on one day and the first value on the day following.

Table XII contains the mean monthly and annual values of the components collected together. In forming this table corrections are applied when necessary, to the values of H and Z taken from Table IV to remove the effect of any small secular changes in potentiometer constants found at the periodical re-measurement of the constants at the National Physical Laboratory.

Tables XIII to XV contain the daily values of the base-lines of the magnetograms reduced from the absolute observations.

Table XVI. The first part of this table contains mean annual values of magnetic elements determined at the Royal Observatory, Greenwich, over the whole period of observation. Included in the table are results of early observations of declination made from 1818 to 1820. The second part contains corresponding values determined at the Abinger Station since 1925.

REPRODUCTION OF MAGNETOGRAMS. A brief descriptive summary of the more significant movements recorded in the magnetic elements during the year is accompanied by reduced copies of the Abinger Magnetograms illustrating disturbances of special interest.

GREENWICH METEOROLOGICAL OBSERVATIONS, 1951

Throughout the first four months of the year until April 30 readings were taken at 09 00 U.T. of the following:- barometer, dry-bulb and wet-bulb temperatures, maximum and minimum air temperatures, solar maximum and grass minimum radiation and rainfall. The maximum and minimum thermometers in the revolving stand were also read. In addition sunshine and night-sky records and a weather diary were maintained.

From May 1 readings of the barometer and of the solar maximum thermometers, together with those of the maximum and minimum thermometers in the revolving stand, ceased. At the same time the weather diary was discontinued.

HERSTMONCEUX METEOROLOGICAL OBSERVATIONS, 1951

Sunshine Recorder. A Campbell-Stokes sunshine recorder, M.O. 284/48 (sphere No. 1142/48), brought into use on July 1, 1950, is mounted upon a specially constructed brick pier on the east turret at the South Entrance of the Castle. With this instrument sunshine records were secured throughout the year.

Night-Sky Camera. This instrument was constructed in the workshop at Greenwich and consists of a simple quarter-plate camera, protected by a surrounding weather proof box, and incorporating an ordinary 2 dioptic spectacle lens, of focal length approximately 48 cms. The working aperture is 19 millimetres.

The camera is mounted on the roof of the Solar building and the shutter is opened and closed at the appropriate times by hand. It was brought into regular use on July 6, 1950.

The following are the symbols which have been adopted for clouds and weather.

BEAUFORT WEATHER NOTATION

(modified in conformity with the usage of the British Meteorological Office)

b blue sky (less than one quarter covered with cloud)
 bc sky partially cloudy (less than three quarters covered)
 c sky generally cloudy, but not completely overcast
 d drizzle
 e wet air without falling rain
 f fog, with objects invisible distant more than 1100 yards
 F fog, with objects invisible distant more than 220 yards
 g gale
 h hail
 i intermittent
 k storm (in combination with other symbols)
 l lightning
 m mist, with limit of visibility between 1100 and 2200 yards
 o sky overcast with unbroken cloud
 p passing showers
 q squall
 r rain
 s snow
 rs sleet
 t thunder
 u threatening sky
 v exceptional visibility; i.e. abnormal transparency of air
 w dew
 x hoar frost
 y dry air; i.e. relative humidity less than 60 per cent
 z haze

A capital letter indicates "intense"
 The suffix *o* indicates "slight"
 A letter repeated indicates "continuous"

CLOUD FORMS

<i>Acu</i>	Alto-cumulus	<i>Cist</i>	Cirro-stratus	<i>St</i>	Stratus
<i>Ast</i>	Alto-stratus	<i>Cu</i>	Cumulus	<i>Stcu</i>	Strato-cumulus
<i>Ci</i>	Cirrus	<i>Cunb</i>	Cumulo-nimbus	<i>Fr</i>	Fracto-
<i>Cicu</i>	Cirro-cumulus	<i>Nbst</i>	Nimbo-stratus		

ADDITIONAL SYMBOLS

<i>lu-ha</i>	lunar halo	<i>prhn</i>	Parhelion	<i>so-ha</i>	solar halo
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ROYAL GREENWICH OBSERVATORY

ABINGER MAGNETIC STATION

Results of Magnetic Observations

1951

TABLE IV(A). - THREE-HOUR-RANGE INDICES "K" FOR THE YEAR 1951. (SEE INTRODUCTION PAGE XII).

Date	January		February		March		April		May		June	
	Indices	Sum	Indices	Sum	Indices	Sum	Indices	Sum	Indices	Sum	Indices	Sum
1	3233 3333	23	4432 3244	26	4433 3311	22	2122 1123	14	4344 3466	34	3332 4443	26
2	3333 4353	27	2221 1212	13	0113 3313	15	3332 3544	27	6244 5566	38	1323 3443	23
3	3423 3233	23	1112 1212	11	2232 2211	15	4334 4554	32	4133 3555	29	4222 3222	19
4	2212 1222	14	0023 3332	16	0232 2114	15	4443 4534	31	5334 4453	31	1123 3333	19
5	1122 2344	19	1233 4344	24	1132 2211	13	4435 4344	31	1132 2224	17	3322 3332	21
6	1102 2230	11	5544 2322	27	1353 4333	25	3433 4455	31	4332 2342	23	2355 4321	25
7	0111 2212	10	3221 2333	19	3334 5455	32	5433 3444	30	2221 2332	17	2332 4232	21
8	2022 3321	15	3122 2564	25	3235 4555	32	4332 3344	26	0021 2331	12	3322 4533	25
9	1222 2111	12	2333 4445	28	4333 3344	27	3333 4343	26	1233 3447	27	4223 4501	21
10	1111 1544	18	4343 3345	29	4443 4354	31	4233 3243	24	3444 6542	32	0013 4331	15
11	5132 2344	24	4323 3445	28	4333 3453	28	3222 3314	20	3233 4333	24	3323 3433	24
12	3333 3332	23	5543 3464	34	4334 4353	29	4233 3335	26	4332 3551	26	3333 3333	24
13	2332 2243	21	3333 3344	26	2334 4466	32	5434 5435	33	1122 1223	14	3233 4223	22
14	3322 3333	22	2233 3243	22	4433 4463	31	4333 3333	25	3323 1344	23	1113 1554	21
15	4322 3344	25	1123 2223	16	5433 3321	24	2122 3332	18	4323 3433	25	4333 4433	27
16	4123 4445	27	0122 1221	11	0234 4444	25	3112 1213	14	4423 3333	25	3233 3333	23
17	4322 1211	16	0021 2233	13	2244 4433	26	4222 3321	19	4433 4443	29	2222 1546	24
18	1112 3323	16	3233 2342	22	3334 3334	26	1146 7655	35	4324 3323	24	5454 3424	31
19	3231 3344	23	1223 3333	20	3333 2121	18	5333 3314	25	3222 4223	20	3544 3531	28
20	4212 2211	15	3112 2211	13	1123 3311	15	2332 3455	27	2222 2222	16	3112 2114	15
21	1023 4445	23	2222 3333	20	1122 3134	17	5434 4313	27	1212 1112	11	2334 3312	21
22	4444 5466	37	4444 5456	36	4324 4555	32	4434 4443	30	3211 3221	15	2223 3332	20
23	4234 3354	28	5455 4566	40	3323 3355	27	3432 3212	20	3224 4355	28	3231 2222	17
24	1222 3132	16	4434 3644	32	3233 3354	26	1344 5454	30	4323 3433	25	2123 3233	19
25	1212 3133	16	3223 2335	23	3424 3313	23	4433 3553	30	2233 3333	22	2444 5544	32
26	0113 2444	19	2223 4442	23	3133 3344	24	5212 2320	17	3323 4555	30	3333 3232	22
27	3332 3333	23	6433 4555	35	3322 3333	22	0123 3333	18	5423 2222	22	2332 2523	22
28	3333 3354	27	5555 4434	35	3111 2221	13	3123 2221	16	3322 2210	15	3333 3323	23
29	1333 2333	21			1344 4344	27	3322 3331	20	0143 3324	20	3222 3342	21
30	3233 2334	23			4213 3222	19	1122 2111	11	1134 4323	21	3333 3331	22
31	4554 4445	35			1133 2331	17			2313 3233	20		

TABLE IV(A). - THREE-HOUR-RANGE INDICES "K" FOR THE YEAR 1951. (SEE INTRODUCTION PAGE XII).

Date	July		August		September		October		November		December							
	Indices	Sum	Indices	Sum	Indices	Sum	Indices	Sum	Indices	Sum	Indices	Sum						
1	3223	3355	26	4223	3666	32	4323	3313	22	2212	1322	15	1022	1233	14	3223	3333	22
2	6655	3544	38	5432	3333	26	2223	2222	17	3333	2324	23	3333	3333	24	3332	2333	22
3	3433	4443	28	2123	3222	17	3233	3113	19	2212	3133	17	3434	4246	30	4212	2234	20
4	3433	3334	26	3322	4344	25	2333	3323	22	1123	1232	15	4543	4434	31	3333	4455	30
5	3333	3322	22	4223	3432	23	3133	3244	23	3011	1122	11	3323	2234	22	3313	3323	21
6	1113	3432	18	3133	3333	22	3243	3343	25	2112	1100	8	3333	3364	28	1112	1131	11
7	2122	2323	17	1323	2333	20	3123	3342	21	1123	3565	26	4444	2333	27	2123	3444	23
8	3223	2333	21	2223	2223	18	1133	3433	21	6554	5444	37	3323	2232	20	6345	4565	38
9	3422	3542	25	2223	3333	21	3223	4433	24	4334	5335	30	1333	3433	23	3434	5553	32
10	3132	3331	19	2222	3323	19	4444	4332	28	4335	3555	33	2122	2111	12	1344	3545	29
11	1133	3332	19	2233	4333	23	3333	3446	29	4234	3330	22	0011	3134	13	4344	4435	31
12	2223	3322	19	3333	3334	25	4333	4435	29	1224	4332	21	4343	3523	27	2232	3133	19
13	3322	1222	17	2444	4451	28	5433	4445	32	3334	3345	28	3245	4555	33	2322	2122	16
14	2123	2323	18	2113	2334	19	4443	4333	28	5233	1354	26	4343	4565	34	1312	1144	17
15	2122	2435	21	3333	3453	27	4353	4434	30	3222	2144	20	4434	3433	28	4233	3353	26
16	3424	5543	30	1355	4423	27	3545	5556	38	3333	3345	27	3333	2331	21	3332	2233	21
17	3345	4442	29	3233	3523	24	5344	4435	32	5555	5675	43	1322	3365	25	2322	3444	24
18	3344	4533	29	2222	2211	14	4333	3553	29	4454	4654	36	3112	1132	14	4332	2445	27
19	1233	3331	19	0133	3432	19	3233	6754	33	5444	4565	37	1212	2223	15	3234	4444	28
20	3323	3312	20	5543	3354	32	4465	5665	41	5233	3352	26	4123	2344	23	4334	2132	22
21	3232	2321	18	5444	4545	35	4556	5555	40	3334	2232	22	2322	1134	18	2122	1224	16
22	2454	3543	30	5443	3343	29	5555	5465	40	3333	3544	28	4133	2344	24	3423	3555	30
23	5334	3333	27	3123	3535	25	4544	4455	35	3223	3333	22	3222	3454	25	4324	1231	20
24	1232	3311	16	4334	3344	28	5544	4344	33	2132	1222	15	3312	3432	21	1122	1222	13
25	1223	3433	21	4454	3552	32	3344	6678	41	2123	2211	14	2133	3435	24	1112	1112	10
26	3444	4424	29	4344	4445	32	7644	3423	33	1133	3235	21	2122	4242	19	0011	0111	5
27	4234	2334	25	2333	3455	28	5555	4333	33	3323	3101	16	3222	1123	16	0313	3125	18
28	4534	4553	33	3334	4344	28	4223	2102	16	0335	6885	38	2232	4344	24	4664	5454	38
29	3423	3332	23	3333	3423	24	3222	4543	25	3333	3211	19	3234	4444	28	3212	4321	18
30	2223	3344	23	1113	3333	18	3322	2111	15	1233	2210	14	4243	4332	25	0112	2224	14
31	3443	4545	32	2234	3334	24				0122	1112	10				3245	4565	34

TABLE V. - MEAN DIURNAL INEQUALITIES OF THE MAGNETIC ELEMENTS
DECLINATION, INCLINATION AND HORIZONTAL INTENSITY

All Days

DECLINATION WEST (Unit 0.01)

Table with 24 columns (0-23) and 24 rows (January-December, Year, Winter, Equinox, Summer). Includes sub-header 'Universal Time. Hour commencing'.

INCLINATION (Unit 0.01)

Table with 24 columns and 24 rows (January-December, Year, Winter, Equinox, Summer).

HORIZONTAL INTENSITY (Unit 0.1γ)

Table with 24 columns and 24 rows (January-December, Year, Winter, Equinox, Summer).

TABLE VI. - MEAN DIURNAL INEQUALITIES OF GEOGRAPHICAL COMPONENTS OF MAGNETIC INTENSITY

International Quiet Days

NORTH COMPONENT (Unit 0.1γ)

Table with columns for Month and Season, 1951; Universal Time (0-23); and data rows for North Component. Includes sub-headers for International Quiet Days and NORTH COMPONENT (Unit 0.1γ). Rows include January through December, Year, Winter, Equinox, and Summer.

WEST COMPONENT (Unit 0.1γ)

Table with columns for Month and Season, 1951; Universal Time (0-23); and data rows for West Component. Rows include January through December, Year, Winter, Equinox, and Summer.

VERTICAL COMPONENT (Unit 0.1γ)

Table with columns for Month and Season, 1951; Universal Time (0-23); and data rows for Vertical Component. Rows include January through December, Year, Winter, Equinox, and Summer.

TABLE VIII. - HARMONIC COMPONENTS OF THE DIURNAL INEQUALITY OF MAGNETIC INTENSITY

Values of a_n, b_n in the series $\sum (a_n \cos nt + b_n \sin nt)$, t being reckoned in hours from 0h U.T. and converted into arc at the rate of 15° to each hour.

Table with 3 main columns: NORTH COMPONENT, WEST COMPONENT, VERTICAL COMPONENT. Each column has sub-columns for coefficients a1-b4. Rows include months (Jan-Dec), Year, Winter, Equinox, Summer, and three international day categories (All Days, Quiet Days, Disturbed Days).

TABLE IX. - HARMONIC COMPONENTS OF THE DIURNAL INEQUALITY OF MAGNETIC INTENSITY

Values of c_n, α_n in the series $\sum c_n \sin (\pi T + \alpha_n)$, T being reckoned in hours from midnight, Abinger Local Mean Time, and converted into arc at the rate of 15° to each hour. New phase-angles expressing the inequalities relative to Local Apparent Time may be obtained from the tabulated angles by applying corrections $\alpha, 2\alpha, 3\alpha, 4\alpha$ respectively, where α has the following values:-

January +2°19', February +3 28, March +2 12, April +0° 4', May -0 51, June +0 5, July +1°22', August +0 59, September -1 12, October -3°28', November -3 42, December -1 6, Winter +0°12', Equinox -0 36, Summer +0 24

Table with 3 main columns: NORTH COMPONENT, WEST COMPONENT, VERTICAL COMPONENT. Each column has sub-columns for coefficients c1, alpha1 and c2, alpha2. Rows include months (Jan-Dec), Year, Winter, Equinox, Summer, and three international day categories (All Days, Quiet Days, Disturbed Days).

TABLE X. - RANGE OF MEAN DIURNAL INEQUALITIES FOR THE MONTHS, YEAR AND SEASONS OF 1951

Month and Season	All Days			Quiet Days			Disturbed Days			All Days			Quiet Days			Disturbed Days		
	D	I	H	D	I	H	D	I	H	X	Y	Z	X	Y	Z	X	Y	Z
January	6.78	1.14	11.8	4.12	1.02	14.4	12.38	3.04	32.2	13.0	34.1	14.3	14.9	22.3	7.8	33.9	65.6	35.8
February	6.64	1.26	17.3	3.62	0.83	13.0	9.10	3.15	40.4	20.8	33.8	19.1	11.8	19.1	6.4	44.9	44.8	47.8
March	9.65	1.55	20.0	6.64	1.56	26.8	15.92	3.77	32.2	24.9	49.5	29.5	29.0	34.7	16.0	37.0	85.7	58.4
April	11.47	1.86	32.2	10.10	1.83	33.2	15.48	3.95	60.4	38.7	60.0	39.8	35.9	52.9	29.0	69.5	76.4	56.0
May	12.69	1.84	39.8	14.52	1.90	38.2	16.18	2.34	53.0	39.2	67.6	40.6	37.1	77.7	38.4	49.6	88.0	56.8
June	11.69	2.23	45.1	13.32	2.80	50.4	13.14	2.84	54.8	45.8	63.4	34.6	50.5	71.3	31.4	56.4	72.7	52.8
July	11.19	2.54	47.2	11.02	2.14	42.4	11.80	4.06	53.8	44.6	63.6	37.3	39.7	60.0	28.8	54.1	64.4	83.6
August	10.86	2.62	44.5	11.16	2.55	43.8	12.00	3.71	52.0	45.7	58.2	34.8	42.6	60.8	24.2	54.4	58.0	64.4
September	9.73	3.10	41.9	12.64	3.08	49.4	13.68	6.31	88.8	44.1	50.9	48.9	47.3	71.5	16.6	90.5	72.7	123.2
October	8.96	1.84	28.4	7.22	1.65	29.6	12.62	5.91	61.6	31.3	45.6	30.6	29.6	38.9	12.8	61.4	69.7	115.6
November	7.28	1.89	20.7	5.36	1.04	15.4	12.26	3.29	40.6	23.3	37.4	18.4	17.4	27.9	9.4	44.7	65.9	43.2
December	7.33	1.76	21.7	3.88	0.87	12.4	13.88	5.62	63.0	22.9	37.8	18.4	13.9	20.3	6.4	63.5	70.9	53.6
Year	9.52	1.97	30.9	8.63	1.77	30.8	13.20	4.00	52.7	32.7	50.2	30.5	30.8	46.4	18.9	55.0	69.6	65.9
Winter	7.01	1.51	17.9	4.24	0.94	13.8	11.90	3.78	44.0	20.0	35.8	17.6	14.5	22.4	7.5	46.8	61.8	45.1
Equinox	9.95	2.09	30.6	9.15	2.03	34.8	14.42	4.99	60.8	34.8	51.5	37.2	35.4	49.5	18.6	64.6	76.1	88.3
Summer	11.61	2.31	44.2	12.50	2.35	43.7	13.28	3.24	53.4	43.8	63.2	36.8	42.5	67.4	30.7	53.6	70.8	64.4

TABLE XI. - NON-CYCLIC CHANGE (24^h minus 0^h)

Month 1951	All Days			Quiet Days			Disturbed Days		
	Declination West	Horizontal Intensity	Vertical Intensity	Declination West	Horizontal Intensity	Vertical Intensity	Declination West	Horizontal Intensity	Vertical Intensity
January	-0.13	-1.0	+0.5	+0.16	+1.0	-0.2	-1.22	-6.6	-1.2
February	+0.06	+1.3	-0.4	+0.88	+7.8	-1.8	-1.56	-8.0	+0.8
March	+0.06	+0.5	0.0	-0.16	+11.4	-4.0	-2.14	-17.2	+3.6
April	-0.02	+0.7	-0.1	-1.20	+2.8	-3.0	+1.70	-4.4	-7.6
May	-0.02	+0.1	+0.1	-0.14	+6.2	-0.6	+0.90	-21.8	-2.6
June	-0.06	-0.5	+0.1	-0.44	+2.8	-2.2	-0.46	-6.2	+3.0
July	-0.12	0.0	-0.1	-0.02	+1.8	0.0	-0.46	-3.2	+17.0
August	+0.03	+0.1	+0.1	-0.40	+5.0	+1.6	+1.38	-9.6	-7.8
September	+0.01	+0.1	+0.5	+0.60	+4.8	+1.6	-4.40	-19.8	-33.0
October	+0.01	-0.5	+0.1	+0.66	+9.2	-4.0	-2.06	-11.2	+1.4
November	-0.00	+0.2	-0.1	-0.34	+5.2	-2.2	-2.46	-4.0	-3.6
December	-0.01	+0.1	0.0	+0.18	+3.2	-1.8	+0.94	-13.4	+6.4
Year	..	..	..	-0.02	+5.1	-1.4	-0.82	-10.5	-2.0

TABLE XII. - MEAN MONTHLY AND ANNUAL VALUES OF GEOMAGNETIC ELEMENTS

Month 1951	Declination West	Inclination	Intensity				
			Horizontal	North	West	Vertical	Total
January	9 15.9	66 42.3	.18642	.18398	.03001	.43297	.47140
February	9 15.0	66 42.6	.18638	.18396	.02996	.43299	.47140
March	9 14.6	66 42.4	.18641	.18399	.02994	.43298	.47141
April	9 13.7	66 42.3	.18642	.18401	.02990	.43298	.47141
May	9 12.8	66 41.8	.18651	.18410	.02986	.43300	.47146
June	9 12.8	66 41.2	.18659	.18419	.02987	.43299	.47149
July	9 11.9	66 41.4	.18658	.18418	.02983	.43302	.47150
August	9 11.2	66 41.8	.18653	.18413	.02978	.43303	.47150
September	9 10.2	66 42.8	.18640	.18402	.02971	.43311	.47152
October	9 10.0	66 42.7	.18644	.18406	.02970	.43316	.47158
November	9 9.4	66 42.3	.18650	.18412	.02968	.43317	.47161
December	9 8.8	66 42.1	.18653	.18416	.02965	.43316	.47161
Year	9 12.2	66 42.1	.18648	.18408	.02982	.43305	.47149

TABLE XIII. - DAILY MEAN VALUE OF THE BASE-LINE OF THE DECLINATION MAGNETOGRAMS

Day	January	February	March	April	May	June	July	August	September	October	November	December
	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
1	8 49.5	8 49.6	8 49.6	8 49.8	8 49.8	8 50.0	8 50.1	8 50.0	8 50.0	8 50.2	8 50.5	8 50.4
2	49.6	49.6	49.6	49.8	50.0	50.0	50.1	50.0	50.0	50.2	50.5	50.5
3	49.6	49.6	49.7	49.8	50.0	50.0	50.0	50.1	50.0	50.2	50.5	50.3
4	49.5	49.6	49.7	49.8	50.0	49.9	50.1	50.1	50.0	50.1	50.5	50.3
5	49.5	49.6	49.7	49.8	50.0	49.9	50.0	50.1	50.0	50.1	50.5	50.3
6	49.6	49.6	49.7	49.8	50.0	50.1	49.9	50.0	50.0	50.1	50.4	50.3
7	49.5	49.6	49.7	49.8	50.1	50.0	50.0	50.0	50.0	50.3	50.5	50.4
8	49.7	49.6	49.7	49.9	50.1	50.0	50.0	50.0	50.0	50.2	50.5	50.3
9	49.5	49.5	49.7	49.8	50.0	50.0	50.0	50.0	50.0	50.2	50.6	50.3
10	49.6	49.7	49.7	49.8	49.9	50.0	50.0	50.0	50.0	50.2	50.5	50.2
11	49.6	49.6	49.7	49.8	50.0	50.0	50.0	50.0	50.0	50.1	50.4	50.3
12	49.6	49.6	49.6	49.8	50.1	50.0	50.0	50.0	50.0	50.2	50.5	50.3
13	49.6	49.7	49.7	49.8	50.0	49.9	50.0	50.0	50.0	50.1	50.5	50.4
14	49.6	49.6	49.7	49.8	50.1	50.0	50.1	50.0	49.9	50.1	50.6	50.4
15	49.6	49.6	49.6	49.7	50.0	50.1	50.1	50.0	50.1	50.3	50.4	50.4
16	49.6	49.7	49.7	49.8	50.0	50.1	50.1	50.1	50.0	50.2	50.5	50.3
17	49.5	49.6	49.7	49.8	50.0	50.0	50.1	50.0	50.0	50.2	50.5	50.3
18	49.4	49.7	49.6	49.8	50.1	50.0	50.0	50.0	50.0	50.3	50.5	50.3
19	49.6	49.6	49.7	49.8	50.0	50.1	50.0	50.0	50.0	50.4	50.3	50.3
20	49.5	49.6	49.7	49.8	49.9	50.1	50.1	50.0	49.9	50.4	50.4	50.3
21	49.5	49.7	49.7	49.9	50.1	50.2	50.0	50.0	50.1	50.5	50.4	50.3
22	49.5	49.6	49.7	49.8	50.0	50.1	50.0	50.1	50.2	50.5	50.4	50.3
23	49.6	49.6	49.8	49.9	50.0	50.1	50.0	50.0	50.2	50.6	50.4	50.3
24	49.5	49.6	49.7	50.1	50.0	50.1	50.1	50.0	50.2	50.6	50.4	50.3
25	49.5	49.6	49.9	50.0	50.0	50.2	50.1	50.1	50.2	50.5	50.4	50.3
26	49.5	49.7	49.9	50.0	50.0	50.1	50.0	50.0	50.2	50.5	50.4	50.3
27	49.5	49.7	49.9	50.1	49.9	50.1	50.0	50.0	50.2	50.5	50.4	50.2
28	49.6	49.6	49.9	49.9	49.9	50.1	50.0	50.0	50.2	50.4	50.4	50.3
29	49.7		49.8	50.0	50.0	50.1	50.0	50.0	50.2	50.5	50.3	50.3
30	49.6		49.8	49.7	50.0	50.0	50.0	50.0	50.2	50.6	50.3	50.2
31	49.5		49.7		50.1		50.0	50.0		50.6		50.2

June 5. Recording-Room Temperature raised from 16°0 C to 21°0 C.

MAGNETIC OBSERVATIONS, ABINGER, 1951.

TABLE XV. - RESULTS OF THE DETERMINATIONS OF THE ABSOLUTE VALUE OF VERTICAL INTENSITY FROM OBSERVATIONS MADE WITH THE DYE COIL MAGNETOMETER IN THE MAGNETIC PAVILION AT ABINGER, WITH THE DEDUCED VALUES OF THE BASE-LINE OF THE VERTICAL INTENSITY MAGNETOGRAMS

Table with 3 columns: Universal Time (h m), No. of Obs., Observed Vertical Intensity, Deduced Value of Base-line. Rows are organized by month: August, September, October, November, and December. Each entry includes the date and time (h m) followed by the number of observations, the observed vertical intensity, and the deduced base-line value.

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TABLE XV(A). - DAILY VALUE OF THE BASE-LINE OF THE VERTICAL INTENSITY MAGNETOGRAMS AT THE ABINGER MAGNETIC STATION, DEDUCED FROM OBSERVATIONS OF MAGNETIC DIP MADE WITH THE EARTH INDUCTOR

Day	January	February	March	April	May	June	July	August	September	October	November	December
	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1	43044	43042	-	-	-	-	-	-	43049	43053	-	43045
2	43046	43049	-	43045	-	-	-	-	-	43044	43044	-
3	43042	43044	-	43044	43045	-	-	-	43051	43046	43046	43045
4	43046	-	-	-	-	-	-	-	43051	-	-	43045
5	43043	43044	-	43045	-	-	-	-	43045	-	43047	43046
6	43046	43046	-	43044	-	-	-	-	43048	43048	43048	43044
7	-	43045	-	43041	43050	-	-	-	43051	-	-	43037
8	43045	43044	-	-	43047	-	-	-	43049	-	43045	43048
9	43042	43045	-	43044	43044	-	-	-	-	43050	43046	-
10	43042	-	-	43041	-	-	-	-	43050	-	43045	-
11	43045	-	-	43043	43046	-	-	-	43049	-	-	43043
12	-	43043	-	-	-	-	-	-	43040	-	43047	-
13	-	43043	-	43045	-	-	-	-	-	-	43048	43045
14	-	43042	43047	43043	-	-	-	-	-	-	43048	43045
15	43043	43045	43044	-	-	-	-	-	-	43046	43045	-
16	43047	43042	43047	-	-	-	-	-	-	43049	43047	-
17	43042	43046	43047	43044	-	-	-	-	-	-	43045	-
18	43043	-	-	43043	-	-	-	-	-	43052	-	43046
19	-	43047	43045	43041	-	-	-	-	-	-	43045	43045
20	43044	43047	-	43041	-	-	-	-	-	43051	43044	-
21	-	-	43045	-	-	-	-	-	-	-	43045	43044
22	43043	-	43044	-	-	-	-	-	-	43052	43046	43045
23	43045	-	-	-	-	-	-	-	-	43045	43045	-
24	43044	-	43046	-	-	-	-	-	-	43048	43047	-
25	43044	-	-	-	-	-	-	-	-	43046	-	-
26	43042	-	-	-	-	-	-	-	43048	43049	43047	-
27	43045	-	43048	-	-	-	-	-	-	43050	43043	43046
28	-	-	43046	-	-	-	-	-	43052	-	43042	-
29	43045	-	43043	-	-	-	-	-	43044	43050	-	43047
30	-	-	43040	-	-	-	-	-	-	-	43041	-
31	-	-	-	-	-	-	-	-	-	43048	-	-

MAGNETIC OBSERVATIONS, ABINGER, 1951.

TABLE XV(B). - OBSERVATIONS OF VERTICAL INTENSITY MADE WITH THE BMZ 35 AS AN
ADDITIONAL CHECK UPON THE STABILITY OF THE Z-VARIOMETER BASE-LINE VALUES

Universal Time		Number of Observations	Observed Vertical Intensity	Deduced Value of Base-line	Universal Time		Number of Observations	Observed Vertical Intensity	Deduced Value of Base-line
h	m				h	m				Y	Y
Feb. 13	9 43	10	43316	43067	July 27	8 47	10	43319	43071
14	9 47	10	43315	43067	28	8 38	10	43315	43071
June 6	8 49	10	43318	43067	Oct. 16	15 15	10	43347	43071
7	8 48	10	43321	43067	Nov. 13	9 31	10	43330	43067
8	8 48	10	43304	43067	14	9 54	10	43337	43066
July 5	8 55	10	43323	43071	16	9 44	10	43330	43066
6	8 53	10	43324	43070	Dec. 14	16 18	10	43332	43065
9	8 51	10	43317	43073	17	12 25	10	43332	43070
10	8 54	10	43324	43073	18	14 45	10	43337	43068
11	8 52	10	43328	43074	19	10 23	10	43336	43068
12	8 58	10	43317	43073	21	10 15	10	43328	43068
13	8 54	10	43312	43072	22	10 16	10	43337	43068
14	8 45	10	43317	43071	27	12 39	10	43322	43067
16	8 58	10	43324	43073	28	10 14	10	43336	43068
17	8 56	10	43318	43071	29	10 06	10	43339	43067
18	8 51	10	43322	43073	31	10 13	10	43331	43068
19	8 53	10	43320	43071					
20	8 36	10	43315	43071					
25	8 49	10	43319	43071					

TABLE XVI(A). - MEAN ANNUAL VALUES OF MAGNETIC ELEMENTS DETERMINED AT THE ROYAL OBSERVATORY, GREENWICH, BETWEEN THE YEARS 1818-1925

Year	Declination West	Horizontal Intensity	Vertical Intensity	Dip	Year	Declination West	Horizontal Intensity	Vertical Intensity	Dip
	° ' †	C.G.S.Unit	C.G.S.Unit	° ' †		° ' †	C.G.S.Unit	C.G.S.Unit	° ' †
1818	24 19 †	..	..	..	1882	18 22.3	0.1806	0.4375	67 34.2
1819	24 21	..	..	..	1883	18 15.0	0.1812	0.4381	67 31.7
1820	24 21	..	..	..	1884	18 7.6	0.1814	0.4379	67 29.7
1841	23 16.2	..	..	..	1885	18 1.7	0.1817	0.4380	67 28.0
1842	23 14.6	..	..	..	1886	17 54.5	0.1818	0.4377	67 27.1
1843	23 11.7	..	..	69 0.6	1887	17 49.1	0.1819	0.4380	67 26.6
1844	23 15.3	..	..	69 0.3	1888	17 40.4	0.1822	0.4383	67 25.6
1845	22 56.7	..	..	68 57.5	1889	17 34.9	0.1823	0.4380	67 24.3
1846	22 49.6	0.1731	..	68 58.1	1890	17 28.6	0.1825	0.4381	67 23.0
1847	22 51.3	0.1736	..	68 59.0	1891	17 23.4	0.1827	0.4380	67 21.5
1848	22 51.8	0.1731	..	68 54.7	1892	17 17.4	0.1829	0.4379	67 20.0
1849	22 37.8	0.1733	..	68 51.3	1893	17 11.4	0.1831	0.4373	67 17.9
1850	22 23.5	0.1738	..	68 46.9	1894	17 4.6	0.1831	0.4374	67 17.4
1851	22 18.3	0.1744	..	68 40.4	1895	16 57.4	0.1834	0.4378	67 16.1
1852	22 17.9	0.1745	..	68 42.7	1896	16 51.7	0.1835	0.4382	67 15.1
1853	22 10.1	0.1748	..	68 44.6	1897	16 45.8	0.1838	0.4377	67 13.5
1854	22 0.8	0.1749	..	68 47.7	1898	16 39.2	0.1840	0.4377	67 12.1
1855	21 48.4	0.1756	..	68 44.6	1899	16 34.2	0.1843	0.4380	67 10.5
1856	21 43.5	0.1759	..	68 43.5	1900	16 29.0	0.1846	0.4380	67 8.8
1857	21 35.4	0.1769	..	68 31.1	1901	16 26.0	0.1850	0.4381	67 6.4
1858	21 30.3	0.1762	..	68 28.3	1902	16 22.8	0.1852	0.4377	67 3.8
1859	21 23.5	0.1761	..	68 26.9	1903	16 19.1	0.1852	0.4368	67 1.2
1860	21 14.3	..	..	68 30.1	1904	16 15.0	0.1854	0.4359	66 57.6
1861	21 5.5	0.1773	..	68 24.6	1905	16 9.9	0.1854	0.4355	66 56.3
					1906	16 3.6	0.1854	0.4353	66 55.6
1861	..	0.1759	..	68 15.8	1907	15 59.8	0.1855	0.4357	66 56.2
1862	20 52.6	0.1763	0.4403	68 9.6	1908	15 53.5	0.1854	0.4356	66 56.3
1863	20 45.9	0.1764	0.4396	68 7.0	1909	15 47.6	0.1854	0.4348	66 54.1
1864	..	0.1767	0.4393	68 4.1	1910	15 41.2	0.1855	0.4345	66 52.8
1865	20 33.9	0.1767	0.4388	68 2.7	1911	15 33.0	0.1855	0.4342	66 52.1
1866	20 28.0	0.1773	0.4397	68 1.3	1912	15 24.3	0.1855	0.4340	66 51.8
1867	20 20.5	0.1777	0.4392	67 57.2	1913	15 15.2	0.1853	0.4333	66 50.5
1868	20 13.1	0.1779	0.4395	67 56.5					
1869	20 4.1	0.1782	0.4396	67 54.8					
1870	19 53.0	0.1784	0.4392	67 52.5	1914	15 6.3	0.1853	0.4333	66 50.8
1871	19 41.9	0.1786	0.4389	67 50.3	1915	14 56.5	0.1851	0.4331	66 51.6
1872	19 36.8	0.1789	0.4383	67 47.8	1916	14 46.9	0.1848	0.4326	66 52.2
1873	19 33.4	0.1793	0.4386	67 45.8	1917	14 37.1	0.1848	0.4330*	66 53.0
1874	19 28.9	0.1797	0.4387	67 43.6	1918	14 27.8	0.1846	0.4325	66 52.8
1875	19 21.2	0.1797	0.4383	67 42.4	1919	14 18.2	0.1845	0.4324	66 53.3
1876	19 8.3	0.1799	0.4383	67 41.0	1920	14 8.6	0.1845	0.4325	66 53.6
1877	18 57.2	Q. 1800	0.4381	67 39.7	1921	13 57.6	0.1845	0.4322	66 53.0
1878	18 49.3	0.1802	0.4382	67 38.2	1922	13 46.7	0.1844	0.4318	66 52.3
1879	18 40.5	0.1805	0.4382	67 37.0	1923	13 35.1	0.1843	0.4314	66 51.9
1880	18 32.6	0.1805	0.4380	67 35.7	1924	13 22.8	0.1843	0.4311	66 51.6
1881	18 27.1	0.1807	0.4379	67 34.7	1925	13 9.9	0.1841	0.4308	66 51.4

In 1818, 1819 and 1820 numerous observations of Declination were made with a Dollond needle.

In 1861 new Unifilar Apparatus for absolute Horizontal Intensity and the Airy Dip-Circle were introduced, both sets of apparatus being used in that year. In 1864 the excavation of the Magnetic Basement caused a suspension of Declination Observations. From 1914 the Dip was determined with an Inductor.

N.B. - In the above table the values of Vertical Intensity for the years 1862-1913 inclusive were computed from the corresponding values of Horizontal Intensity and Dip, the values of Dip being the mean of all the absolute observations taken in any year, and the time of observation approximating to noon on the average. Beginning with 1914 the values of Dip have been computed from the corresponding annual mean values of Horizontal and Vertical Intensity.

† Mean of seven months June to December.

* Mean of ten months, March to December.

TABLE XVI(B). - MEAN ANNUAL VALUES OF MAGNETIC ELEMENTS DETERMINED AT THE ABINGER MAGNETIC STATION,
FOR THE YEARS 1925-1951

Year	Declination West		Horizontal Intensity	Vertical Intensity	Inclination	
	°	'	C.G.S.Unit	C.G.S.Unit	°	'
1925	13	22.7	0.18597	0.42946	66	35.1
1926	13	10.4	0.18581	0.42947	66	36.3
1927	12	58.4	0.18575	0.42932	66	36.2
1928	12	47.0	0.18564	0.42941	66	37.3
1929	12	35.8	0.18555	0.42918	66	37.2
1930	12	24.6	0.18542	0.42924	66	38.2
1931	12	13.7	0.18543	0.42923	66	38.1
1932	12	2.6	0.18536	0.42940	66	39.1
1933	11	51.7	0.18532	0.42942	66	39.4
1934	11	41.1	0.18533	0.42955	66	39.7
1935	11	30.3	0.18527	0.42981	66	40.9
1936	11	20.0	0.18524	0.43007	66	41.8
1937	11	10.4	0.18522	0.43031	66	42.7
1938*	11	1.4	0.18522	0.43050	66	43.2
1939	10	51.9	0.18528	0.43074	66	43.5
1940	10	43.0	0.18533	0.43099	66	43.9
1941	10	33.8	0.18539	0.43128	66	44.3
1942	10	24.8	0.18554	0.43146	66	43.9
1943	10	16.2	0.18556	0.43172	66	44.5
1944	10	7.8	0.18566	0.43189	66	44.3
1945	9	59.5	0.18573	0.43207	66	44.3
1946	9	51.1	0.18569	0.43235	66	45.4
1947	9	43.1	0.18577	0.43246	66	45.2
1948	9	35.4	0.18593	0.43255	66	44.4
1949	9	27.5	0.18507	0.43273	66	44.0
1950	9	19.7	0.18628	0.43288	66	43.0
1951	9	12.2	0.18648	0.43305	66	42.1

The values of Inclination are computed from the corresponding values of horizontal and vertical intensity.

Commencing with the years 1927 and 1929 respectively, the values of horizontal and vertical intensity are based upon observations with Coil-magnetometers.

* Discontinuities of -1.7γ in H and -3.9γ in Z were introduced in 1938. See Introduction pp. x and xi.

January. Limited activity was recorded on 2^d, the largest movement in the form of a polar bay occurring between 19^h and 20^h, (H +70γ, D 12' E). By the following day conditions had become fairly quiet, and continued so until 10^d, the only significant movement in the traces during this period being a double easterly bay in D at 5^d21^h and 5^d22^h of about 10'. A fall in the value of H occurring between 10^d16^h and 18^h marked the beginning of a revival of activity which continued on a moderate scale for several days. Amongst the most outstanding movements was a westerly movement in D of 12' (PSC with pulsations) between 11^d0^h53^m and 1^h4^m followed by a recovery between 1^h9^m and 1^h40^m. The initial movement was accompanied by a pulsating increase in H of 30γ. An easterly PSC with pulsations, of 9', was recorded in D between 11^d22^h5^m and 22^h20^m with an accompanying positive bay in H. A movement of similar character occurred in H (+50γ) between 16^d21^h21^m and 21^h28^m, accompanied by an easterly bay in D, these movements occurring during a period of increased activity which was followed next day by a quiet spell. Minor movements were recorded during the night hours of 18^d to 19^d and on a more pronounced scale during the following night, when an easterly movement in D between 19^d21^h and 21^h44^m of 12' was followed by an unsteady recovery which continued until about 20^d3^h. A further quiet spell terminated with a slow fall in the value of H and an accompanying rise in Z beginning about 21^d14^h. This marked the commencement of a further spell of activity. Noteworthy was an easterly bay in D (17') occurring between 21^d21^h and 22^h and a similar movement on a larger scale between 22^d20^h and 22^h (25'). The latter was accompanied by a positive bay in H of +70γ. This spell of activity, which continued until the end of 23^d, has been classified as being of storm intensity. Between 26^d18^h and 27^d1^h a shallow positive bay in Z (+40γ) was accompanied by a similar negative bay in H (-50γ) while for some ten hours or so, commencing at 26^d18^h the D trace exhibited an irregular oscillatory movement with period very roughly one hour. The month ended with a further outbreak of activity which continued throughout 31^d and showed a noteworthy sequence of oscillations in D, of the order of 10' double amplitude, between 3^h and 9^h.

Ranges for the month: D, from 8°47'.2 to 9°28'.8 both on 22^d; H, from .18558 on 22^d to .18703 on 2^d; Z, from .43248 on 31^d to .43346 on 26^d.

February. Little of note occurred upon the traces until following the appearance of agitation in the morning of 5^d which later developed into large movements in the elements. Outstanding amongst these was a positive peak in H, with maximum (+80γ) at 6^d0^h5^m and of overall duration about 30 minutes. This was accompanied between 5^d23^h56^m and 6^d0^h14^m by a westerly movement in D of 13'. A second sharp increase in H (+90γ) occurred between 0^h50^m and 1^h10^m, an irregular recovery being made during the following two hours. Between 1^h20^m and 2^h30^m there was an easterly swing in D of 24' at a time when Z had reached a minimum value. By 6^h the traces exhibited only small scale agitation. A drop in the value of H between 8^d15^h and 16^h marked the commencement of several hours of fairly sharp activity. H rose +60γ from 17^h20^m to a peak at 17^h31^m and again +100γ from 18^h30^m to a peak at 39^m. These movements were preceded by easterly peaks in D at 17^h24^m and 18^h34^m respectively, while the second was further accompanied by an increase in Z of 27γ between 18^h34^m and 38^m, followed by a drop of 40γ during the subsequent 20 minutes. Disturbance continued for several days, though this was limited mainly to the night hours in accordance with the diurnal tendency. Of the more outstanding movements were a rise in H of 100γ from 10^d22^h5^m to a maximum at 22^h32^m with recovery during the following hour. This was accompanied by an easterly peak (15') in D at 22^h21^m and a similar small movement (+15γ) in Z. Following an irregular slow rise H dropped 90γ between 11^d23^h46^m and 12^d0^h18^m. Between 12^d17^h52^m and 18^h28^m the D trace swung 22' easterly to a sharp maximum, from which it recovered during the next 70 minutes. At 12^d23^h1^m H rose sharply by 50γ (PSC) to a maximum at 23^h14^m from which it recovered during the following 45 minutes. From 15^d to 20^d the traces continued comparatively featureless, but agitation appearing during the morning of 21^d slowly developed into activity of storm intensity which extended from 22^d to 24^d. Peak values in H, representing fluctuations of the order of 100γ, occurred at 22^d21^h57^m, 23^d18^h59^m, 23^d19^h53^m, 23^d22^h40^m and 23^d23^h15^m with a comparable minimum at 24^d16^h47^m. Outstanding easterly peaks of similar magnitude occurred in D at 22^d19^h42^m, 23^d18^h43^m, 23^d20^h37^m and 24^d17^h6^m. From 24^d4^h to 11^h D was subject to an oscillatory movement similar to that described following January 26^d18^h. On 25^d between 21^h and 22^h there was a positive bay in H (60γ) with small accompanying movements in D and Z. On 27^d, following a period of some hours of minor disturbance there occurred at 0^h27^m a sudden commencement (H +67γ, D 6'W, Z +10γ). Between 1^h55^m and 2^h37^m H fell steadily by 135γ to a sharp minimum from which it rose suddenly by 40γ in about four minutes. Following the SC, D swung from its most westerly value at 0^h46^m to an extreme easterly value at 2^h36^m through 32'. By 2^h40^m it had returned by 6' and continued to move westward through another 12' during the next 30 minutes. This sharp movement of sudden commencement

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type at 2^h36^m was accompanied by a similar movement in Z (+14γ). Following these movements the character of the traces changed entirely from occasional large movements to small and rapid oscillations. This agitation became very marked in H during the latter half of 27^d and again from about 28^d4^h, when it also became very pronounced in D. At 28^d14^h17^m there occurred a characteristic SC-type movement in all elements which, in H consisted of an initial drop of 16γ, followed immediately by a sharp increase of 59γ, the whole movement occupying about three minutes of time. The spell of marked activity terminated with the month.

Ranges for the month: D, from 8°53'.7 on 12^d to 9°35'.0 on 28^d; H, from .18549 on 24^d to .18745 on 22^d; Z, from .43227 on 27^d to .43361 on 8^d.

March. Small isolated bays occurred in H about 2^d23^h (+30γ) and 4^d22^h (+40γ) and in D at 3^d6^h (6'W), but otherwise the traces remained practically featureless until the appearance of unsteadiness about 6^d3^h marked the beginning of a period of disturbance which continued on a varying scale for about ten days. The build up of activity was gradual. Movements were slow during 6^d but became sharper during the afternoon of 7^d. This scale of activity was practically continuous, with many movements in the H trace of 50γ or more with corresponding movements in D. A period of reduced activity during the earlier hours of 13^d was followed in the evening by an outburst of increased intensity. From 14^d2^h the traces became quieter, though considerable agitation was apparent from midday onwards, with a complex peak in H of over 100γ at 20^h3^m. This was accompanied by a depression in Z (-40γ) with minimum about 20^h35^m. The period 15^d to 21^d was characterized by intermittent small scale agitation of the traces with occasional small bays. About 21^d20^h activity showed an increase and became marked during the evening of 22^d. This was accompanied by a rise in Z to a peak (+80γ) at 17^h15^m and a steady recovery during the next seven hours. A rapid rise in the value of H (+95γ) from 23^h25^m to a sharp peak at 23^h45^m was notable. A similar movement was recorded in H on 24^d between 19^h and 20^h, activity during the intervening period having been maintained at a moderate level. From 25^d movements became more subdued, with a slight revival of activity during the evening of 26^d. 28^d was nearly quiet, but between 29^d3^h and 4^h irregularities began to show in the traces. These were followed by limited disturbance which continued into the early hours of the following morning, when the traces again became relatively quiet.

Ranges for the month: D, from 8°50'.2 on 13^d to 9°30'.6 on 7^d and 29^d; H, from .18533 to .18718 both on 13^d; Z, from .43254 on 14^d to .43404 on 13^d.

April. At 1^d18^h small irregularities began to appear in the traces. These became more pronounced on the following day and rose to storm intensity during the period 2^d to 5^d. The movements in general were not excessively large, but the traces throughout this period were characterized by a state of continuous rapid fluctuation. This became subsequently less marked, but conditions remained generally disturbed until about 14^d when activity abated. Irregularities, however, continued during the next four days until 18^d6^h52^m when a sudden commencement, most marked in D (8'E), was followed by a spell of considerable activity which lasted until about 19^d2^h. There followed a lull, but about midday on 20^d increased activity began to show in H and D, accompanied by a rise in Z characteristic of disturbed conditions. The more outstanding movements consisted mainly of bays lasting from 20 minutes to one hour. Activity continued from 21^d until 23^d6^h on a reduced scale, followed by a lull lasting until 24^d4^h, when a revival of the disturbance appeared which lasted until the early hours of 26^d. The remaining four days of the month were made up of intermittent periods of calm and low activity. Taken as a whole the month was one of considerable activity.

Ranges for the month: D, from 8°49'.0 on 20^d to 9°36'.6 on 18^d; H, from .18464 on 18^d to .18723 on 12^d; Z, from .43241 on 5^d to .43382 on 20^d.

May. The month opened with an increase of activity which rose to storm intensity during the night hours of 1^d to 2^d. Particularly noteworthy was an easterly increase in D of 27' which took place in three stages between 21^h0^m and 34^m. D remained large, attaining a maximum at midnight after

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which it fell during the following 70 minutes by $37'$ to its normal value. Activity was subdued during the following morning but increased again in the evening becoming again marked between 19^h and 22^h when there occurred four peak values in H accompanying oscillations of the order of 100γ . Similar movements appeared in D. Considerable unsteadiness continued until 5^d with outstanding bays in H and D on 3^d between 18^h and 19^h and again at midnight. Conditions from 5^d to 8^d were fairly quiet, with some irregularities in the traces on 6^d , but disturbance set in on the evening of 9^d . A very sharp peak (PSC) in H occurred at 22^h53^m ($+220\gamma$). During daylight hours of 10^d and 11^d the traces became very agitated, though apart from two negative bays in H between 10^d14^h and 16^h (100γ), upon which were superposed rapid oscillations, movements were not large. Bays occurred between 16^h and 19^h on 12^d , but otherwise the traces for 12^d and 13^d were featureless. A renewal of minor activity appeared on 14^d and continued on a fairly uniform scale with no features of outstanding interest until 18^d when conditions gradually became more quiet. From 20^d to 22^d the traces were practically calm but on 23^d a renewal of activity set in. An easterly bay in D ($17'$) centred on 23^d21^h was noteworthy. Minor disturbance continued throughout 24^d , and to a lesser degree during 25^d , though at $25^d18^h47^m$ there occurred a well-defined SC in H ($+32\gamma$). Following this, disturbance continued on a very moderate scale until 26^d15^h after which a minor storm was recorded. This was short-lived and by 27^d5^h relative calm had been restored. This was maintained until 29^d when irregularities began to appear in the traces. An isolated bay in D ($8'E$) centred on 29^d23^h was notable, but apart from this no further feature of note was recorded in May.

Ranges for the month: D, from $8^\circ37'.4$ on 1^d to $9^\circ30'.9$ on 26^d ; H, from $.18511$ on 1^d to $.18855$ on 9^d ; Z, from $.43228$ to $.43368$ both on 2^d .

June. Considerable small-scale activity consisting of short period oscillations was recorded during the first two days of the month. During the evening of 2^d a series of small bays occurred after which conditions remained fairly quiet until the afternoon of 4^d , when the traces again became somewhat irregular. Two well-defined negative bays (-60γ and -80γ) occurred in H between 6^d6^h and 8^h and a general depression of H was shown between 10^h and 16^h on the same day. Well-defined maximum values occurred in H on 8^d near 16^h and on 9^d at 15^h . An easterly movement of $11'$ in D between $9^d2^h40^m$ and 3^h10^m followed a slower westerly movement. The period 9^d17^h to 10^d9^h was practically quiet after which the traces were subject to irregularities and occasional small bays until about 14^d0^h . Conditions then became again quiet until the occurrence of a large sudden commencement (H $+80\gamma$) at $14^d17^h51^m$. The activity, of which this was the onset was not intense, but slightly disturbed conditions persisted for about two days. By 18^d this had disappeared but was renewed on a larger scale with a second large sudden commencement (H $+80\gamma$) at $17^d17^h01^m$. This storm lasted about 24 hours during which a notable depression in Z occurred at 18^d0^h with a subsequent rapid recovery. Conditions were again quiet from 18^d19^h until $18^d23^h14^m$ when a third sudden commencement (H $+40\gamma$) marked the onset of renewed activity. This however was on a very limited scale, though a significant bay occurred in H ($+100\gamma$) near 19^d16^h . During the period 20^d to 24^d the traces showed only minor irregularities, but on $25^d4^h29^m$ a sudden commencement (H $+19\gamma$) marked the onset of a further period of limited activity. This was most pronounced during the afternoon of the same day, the largest single movement being an increase in H of 115γ between 13^h20^m and 50^m . By midnight the movements had died down to mere irregularities in the traces, and these conditions prevailed throughout the remainder of the month. The single outstanding feature during this period was a sharp positive bay in H ($+75\gamma$) centred on $27^d16^h12^m$.

Ranges for the month: D, from $8^\circ53'.5$ on 18^d to $9^\circ29'.2$ on 25^d ; H, from $.18543$ on 18^d to $.18763$ on 17^d ; Z, from $.43144$ on 18^d to $.43365$ on 25^d .

July. A small bay at 1^d1^h (H $+35\gamma$) was followed by a more conspicuous one occurring between 17^h48^m and 18^h40^m , (H $+75\gamma$, D $11'E$). At 22^h26^m there occurred a sudden commencement (H $+66\gamma$) which was followed by a drop in Z of over 200γ occurring during the succeeding three hours. There was an irregular recovery of Z during the following seven hours. This depression of Z was accompanied by activity in H and D of storm intensity, though the large movements had died out by 2^d7^h . Considerable agitation, with many small sharp bays, was recorded during the following days. By 6^d this had to a large extent subsided though the traces continued to reveal some agitation on a much reduced scale. Throughout the following week the traces showed little variation from a state of minor activity, the most conspicuous movement during this interval being an elongated bay in H

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(+50 γ) between 9^d17^h26^m and 18^h45^m. At 15^d15^h activity became more pronounced, and between 14^h and 18^h on the following day there appeared several fluctuations in H of the order of 50 γ . Conditions were moderately disturbed throughout 17^d and 18^d, there being a conspicuous bay in H (+80 γ) near 18^d15^h. By 19^d0^h this activity had subsided, little of interest appearing in the traces until about 22^d3^h when there was a revival of activity. This was in no way spectacular, however, though some oscillations of about 40 minutes period occurring in H between 15^h and 19^h are of interest. From 23^d3^h conditions were quiet, or nearly so until midday on 25^d when movements became more pronounced and the traces assumed a more agitated appearance. These conditions prevailed, in a varying degree, throughout the remainder of the month. Of the more significant features occurring during this period should be mentioned a broad bay in H (+50 γ) between 26^d23^h10^m and 27^d1^h10^m; a bay in D (15'W) with a sharp minimum at 28^d3^h10^m; several abrupt oscillations in H of 2 or 3 minutes period around 15^h and 16^h on 28^d, of double amplitude up to 45 γ ; a large positive swing in Z during the afternoon and evening of 31^d accompanied by a period of increased activity in D and H which terminated with a positive bay in the latter (+80 γ) between 23^h and midnight.

Ranges for the month: D, from 8°51'.6 to 9°28'.4 both on 2^d; H, from .18517 on 2^d to .18735 on 1^d; Z, from .43109 on 2^d to .43409 on 31^d.

August. After a quiet spell during the morning of 1^d activity became brisk following an abrupt rise in H of 25 γ at 15^h41^m. An SC-type movement occurred at 17^h19^m (H +55 γ), this being the most striking of several sharp movements about this time. The largest single movement of this storm occurred in H (-140 γ) between 23^h0^m and 53^m. By 2^d6^h conditions had returned to normal and throughout the next ten days the records exhibited no more than minor activity with small bays up to about 50 γ in H. Signs of increasing disturbance appeared with abrupt movements (SC) in H (+20 γ) and Z at 13^d3^h37^m, but this was short-lived terminating with two sharp bays in H of about +100 γ each between 18^h and 19^h, these being accompanied by similar positive, or easterly bays in D. At 15^d20^h10^m there occurred a typical SC (H +79 γ) which was followed by a temporary increase in the value of H lasting about two hours, but by no marked increase in the general level of activity. Between 16^d7^h30^m and 50^m there occurred a striking series of oscillations (pulsation) with period about 30 seconds and with varying double amplitude in H up to 28 γ . A similar pulsation, though less marked, occurred during the preceding hour. Between 8^h and 12^h there occurred a double negative bay in H (70 γ). Small scale fluctuations were maintained throughout the following day but by 18^d conditions had become quiet. Small movements reappeared on 19^d and at 20^d1^h there appeared a polar bay (H +30 γ , D 11'W) which marked the beginning of a period of increasing activity. Between 15^h and 23^h H oscillated with a period of roughly one hour, the largest bay occurring between 21^h and 22^h (+60 γ). A double easterly bay occurred in D (10' to 15') between 19^h and 22^h and a westerly bay (16') between 21^d1^h and 2^h. This was accompanied by a negative bay in Z (30 γ) centred on 2^h. Activity remained subdued during the morning hours of 21^d but became intensified from midday until about 22^d5^h, during which a number of sharp bays were recorded. The two largest, of about +100 γ , were recorded in H between 21^h and 22^h with corresponding westerly bays (10' and 12') in D. The traces throughout the remainder of the month were characterized by minor disturbance of varying degree including some outstanding bays of which the following were the most noteworthy:— at 23^d23^h, H +110 γ , D 20'E; between 25^d19^h and 20^h, H +90 γ , D 15'E; between 26^d19^h and 20^h, H +60 γ , and between 22^h and midnight H +70 γ ; at 27^d21^h, H +70 γ , D 16'E; at 28^d21^h, H +50 γ , D 9'E; at 31^d23^h, H +40 γ .

Ranges for the month: D, from 8°53'.7 on 23^d and 27^d to 9°22'.9 on 1^d; H, from .18570 on 26^d to .18765 on 1^d; Z, from .43246 to .43392 both on 21^d.

September. The month opened quietly with only occasional small bays appearing in the traces. At 5^d20^h45^m, however, there was an SC which showed in all three elements (H +56 γ) and was followed immediately by a slight, but limited, increase of activity. At 7^d20^h there occurred an easterly bay in D (9') on an otherwise quiet trace. Activity increased noticeably at midday on 9^d, when, in the course of six minutes, the H trace rose by 30 γ and subsequently performed a rough oscillation forming a series of shallow bays of from a half to one hour duration. From 21^h the D trace exhibited similar movements. During the night hours of 10^d to 11^d conditions became fairly quiet, apart from a bay between 1^h and 2^h (H +30 γ , D 6'W) but activity was resumed about 10^h. Between

11^d18^h21^m and 19^h30^m D moved easterly by 14', while three sharp maxima E occurred at 21^h37^m, 22^h09^m and 22^h35^m, these being each succeeded by maxima in H at 21^h43^m(+120γ), 22^h13^m(+40γ) and 22^h43^m(+90γ). This disturbance was accompanied by a drop of 70γ in Z between 21^h20^m and 22^h00^m. A similar movement in Z (-50γ) was associated with the latter part of a complete oscillation in D occurring between 12^d22^h50^m and 13^d0^h20^m and having a double amplitude of 23', while a third (-55γ) accompanied large double swings in D (23') and H (90γ) centred near 13^d23^h. From 16^d8^h30^m H dropped away to a sharp minimum at 9^h34^m. The movements in the traces subsequently recorded on this day appear in an accompanying plate. On 17^d at 22^h a double peak was recorded in H (+100γ) and on 18^d there occurred an easterly bay in D (22') with maximum excursion at 18^h5^m and extending over the interval from 17^h30^m to 19^h0^m. A quiet spell during the early morning hours of 19^d was followed at 11^h54^m by a sudden commencement (H +28γ) which marked the beginning of a prolonged storm. Activity became less marked during 23^d, 24^d and the first half of 25^d though there were notable bays at 23^d21^h in H (+110γ) and D (20'E). Following noon on 25^d activity became brisk with some notably large movements in Z. The storm was of short duration ending fairly abruptly between 26^d5^h and 6^h. Activity remained subdued until 27^d0^h5^m when a sudden commencement marked the beginning of a period of considerable agitation in the traces. At 7^h28^m abrupt, SC-like movements appeared in all three elements; H -60γ, D 14'E, Z -18γ. The latter part of 27^d exhibited no features of special interest and apart from a small easterly bay between 0^h and 1^h conditions on 28^d were fairly quiet. A short revival of moderate activity occurred during the latter half of 29^d with bays in H (+70γ) and D (15'E) coinciding with a well-marked maximum in Z about 17^h. 30^d was relatively quiet. The month was one of very considerable activity.

Ranges for the month: D, from 8°16.6 on 26^d to 9°59.5 on 25^d; H, from .18322 on 26^d to .18777 on 25^d; Z, from .43130 on 26^d to .43524 on 25^d.

October. After a week of comparatively quiet conditions increased activity began to show about midday on 7^d, becoming marked during the evening and night hours. The largest single movement was an easterly swing in D of 26' between 18^h54^m and 20^h5^m. An increase in H of 90γ between 8^d2^h30^m and 2^h51^m was followed by a recovery of 80γ by 3^h26^m. At 8^d22^h28^m H rose steeply in the form of a polar bay reaching a maximum (+60γ) about 23^h. A very sharp polar bay in H (+90γ) and D (18'E) began at 9^d21^h22^m the maximum values being attained at 21^h43^m and 21^h34^m respectively. Considerable activity continued until 11^d19^h when conditions suddenly became quiet. Unsteadiness appeared in the traces the following day from about 10^h, and between 13^d19^h and 14^d2^h several pronounced bays occurred in H and D. The most conspicuous was a polar bay in H which increased 90γ between 23^h0^m and 23^h25^m. During a further short spell of activity on 14^d H rose sharply at 19^h4^m through 70γ to a sharp peak at 19^h11^m which was followed by two small peaks at 19^h59^m and 20^h31^m. During the afternoon of 16^d disturbance became more pronounced and considerable disturbance prevailed throughout the following three days. The most striking features occurring during this interval were, in H, a negative movement of 100γ between 17^d15^h0^m and 20^m; an abrupt increase of 180γ from 19^h28^m to a sharp peak at 19^h34^m followed by a rapid fall of 170γ during the next 20 minutes; a rise of 130γ in 30 minutes from a sharp minimum to a sharp maximum at 18^d17^h13^m; a rise of 110γ from 19^d18^h10^m to 26^m with a second smaller peak at 40^m. These were accompanied by comparable movements in D, the most striking being an easterly swing of 18' between 17^d19^h25^m and 31^m followed immediately by a westerly movement through 33' which continued until 41^m when a second easterly swing of 23' occurred lasting until 20^h0^m. At 20^d20^h an isolated large movement occurred in H (+90γ) accompanied by an easterly bay in D (13') movements being otherwise on a small scale from 20^d1^h. Similar conditions continued until 24^d by which time the traces had become quiet. Some unsteadiness appeared in all elements on 26^d with the appearance of a large easterly bay in D around 22^h (23'). From 27^d14^h the traces became very quiet and remained so for about 14 hours after which they became less steady. At 28^d11^h53^m a "sudden commencement" marked the beginning of a storm which in spite of short duration showed a remarkable degree of activity and a well defined storm time pattern. The two most striking features of this storm were, firstly the very high maximum value attained by Z which from 13^h rose unsteadily by 420γ to a maximum at 17^h46^m. It returned unsteadily until 20^h, about which time the violent movement suddenly ceased, after which a steady decrease of about 60γ during the next four hours returned the trace to its normal position on the sheet. The second outstanding feature was the very deep and sharp minimum in H which decreased in four or five oscillations by 340γ between 19^h33^m and 40^m, i.e. in seven minutes. Recovery took about 30 minutes. By 0^h the traces had become practically quiet and remained so until the end of the month.

Ranges for the month: D, from 8°32.1 to 9°55.0 both on 28^d; H, from .18171 on 28^d to .18741 on 9^d; Z, from .43264 on 17^d to .43715 on 28^d.

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November. Following a quiet spell unsteadiness began to appear in the traces on 1^d at about 21^h. At 3^d3^h0^m H suddenly began to increase by 60γ in 20^m to form a small bay. A peak in H occurred at 3^d21^h22^m followed by a drop of 125γ to a fairly sharp minimum at 22^h2^m. Small positive bays (50γ) appeared in H at 4^d22^h4^m and 5^d23^h with a comparable easterly bay in D (10') at 4^d21^h. A more outstanding example occurred when H increased by 150γ between 6^d19^h10^m and 30^m, after which it decreased by 110γ by 19^h46^m. The corresponding movement in D was an easterly swing of 19' from 18^h50^m to a maximum at 19^h20^m, followed by a westerly swing of 25' which lasted until 19^h41^m. A second easterly movement of 9' restored the trace to approximately its initial position. The movements were accompanied by a small initial increase of Z followed by a decrease of about 50γ between 19^h28^m and 50^m. The following three days exhibited only moderate unsteadiness in the traces and conditions on 10^d, and until about 11^d20^h remained practically quiet. After this some irregularities began to appear, but the traces took on a new character from about midday on 13^d. For the following 12 hours all elements were subject to a ripple of small bays of duration from a half to one hour. Single movements varied in magnitude up to 100γ in H and 20' in D with small movements in Z. Unsteadiness continued until 16^d the ripple being again very marked during the evening hours of 14^d. By 17^d conditions had become comparatively quiet, but at 17^d19^h24^m D suddenly swung easterly to reach a maximum (28') at 20^h11^m. This was followed by a slow recovery during the next three hours. The traces continued to exhibit varying degrees of unsteadiness throughout the remainder of the month with a number of bays of the order of 50γ, but no further features of special interest were recorded.

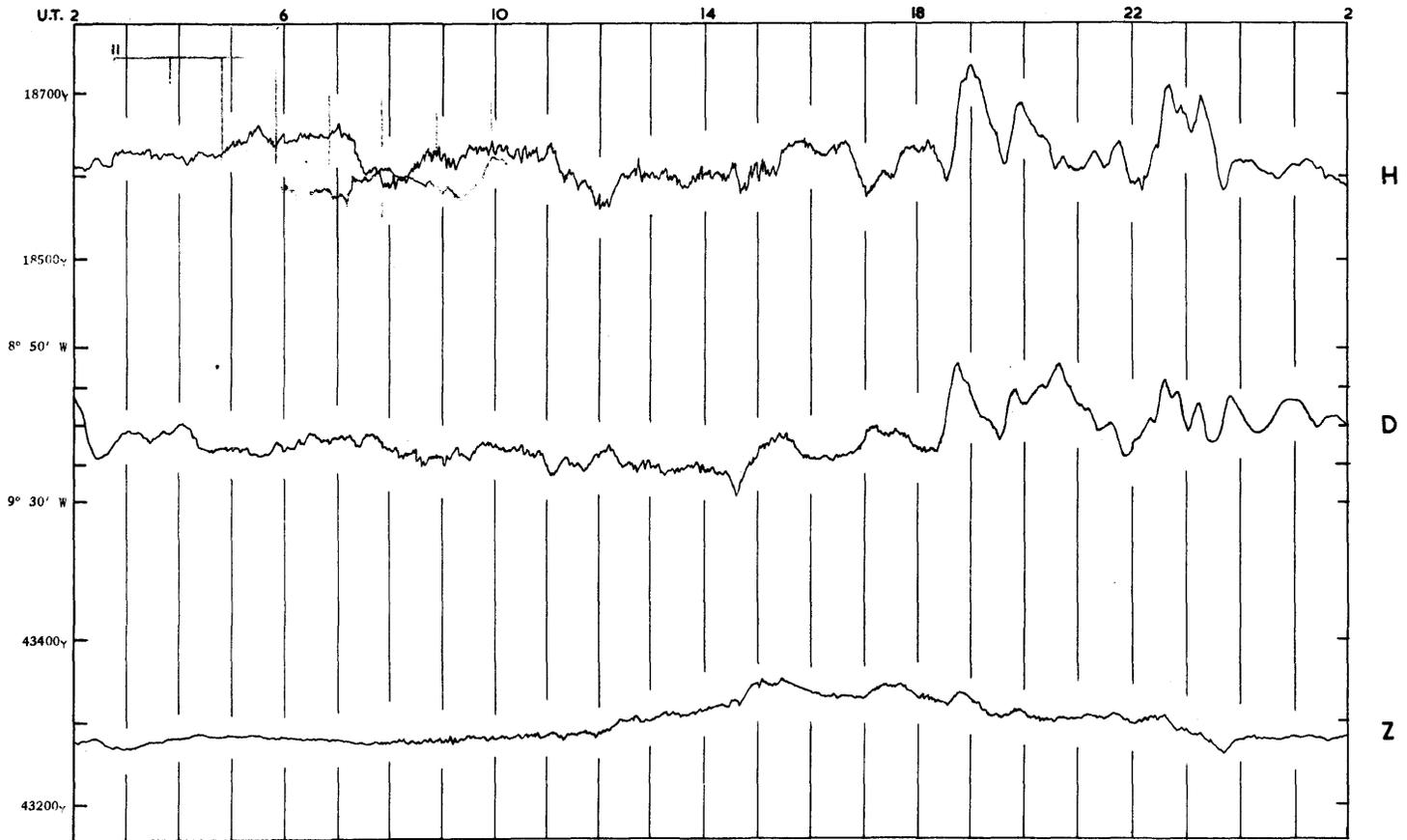
Ranges for the month: D, from 8°44'.1 on 17^d to 9°24'.3 on 14^d; H, from .18534 on 13^d to .18748 on 6^d; Z, from .43267 on 14^d to .43392 on 13^d.

December. The first five days of the month were characterized by a general unsteadiness in the traces, the largest single movement being an easterly swing in D (20') at 4^d20^h2^m reaching maximum at 21^h4^m and returning 13' during the following half hour. This was accompanied by a similar positive bay in H (75γ). During the next two days the traces were fairly quiet but on 8^d between 1^h9^m and 30^m D moved westerly through 16' afterwards swinging back 27' during the following 45 minutes. This was accompanied by a positive bay in H (70γ) and a decrease in Z of 40γ. A period of increased agitation followed with rapid movements of small amplitude. A sharp easterly bay in D (30') occurred between 8^d19^h40^m and 20^h28^m accompanied by rapid increase in H (110γ) between 20^h5^m and 13^m. On 9^d a large irregular bay appeared in H (+120) between 17^h2^m and 19^h2^m with a slightly smaller easterly bay in D (15'). This was followed by small scale agitation, with increased activity from 10^d15^h which terminated with a positive bay in H (70γ) at 11^d23^h. Little movement of the traces was then recorded until 14^d21^h when a slight increase of activity set in. An easterly bay in D (15') occurring between 15^d18^h2^m and 20^h2^m was accompanied by one in H (-80γ) but otherwise movements were not outstanding. Slight unsteadiness prevailed until 17^d14^h when disturbance became more marked. This state of generally increased activity continued until 20^d though during this no movements of special interest were recorded. A revival of activity occurred during the afternoon of 22^d, the largest movement being an easterly bay in D (23') between 17^h2^m and 19^h, but by midday on 23^d conditions had become practically quiet. Very quiet conditions were maintained for several days. A shallow westerly bay in D (4') at 27^d5^h was accompanied by a rise in H of 20γ between 4^h40^m and 5^h10^m, following which H again continued fairly steady until the occurrence of a sudden commencement at 21^h37^m0 which marked the beginning of a disturbance which reached storm intensity. The largest single movement was a drop in H of 150γ from a maximum at 28^d5^h53^m to a minimum at 6^h25^m. By the afternoon of 28^d activity was reduced to moderate intensity and this ceased abruptly at 29^d1^h. The quiet spell continued until 30^d21^h when H and later D became agitated. Between 8^h and 11^h on 31^d this agitation became particularly marked, following which the traces exhibited a series of successive bays (average 50γ) which continued throughout the remainder of the day.

Ranges for the month: D, from 8°33'.7 on 8^d to 9°31'.1 on 28^d; H, from .18534 to .18742 both on 28^d; Z, from .43228 to .43389 both on 28^d.

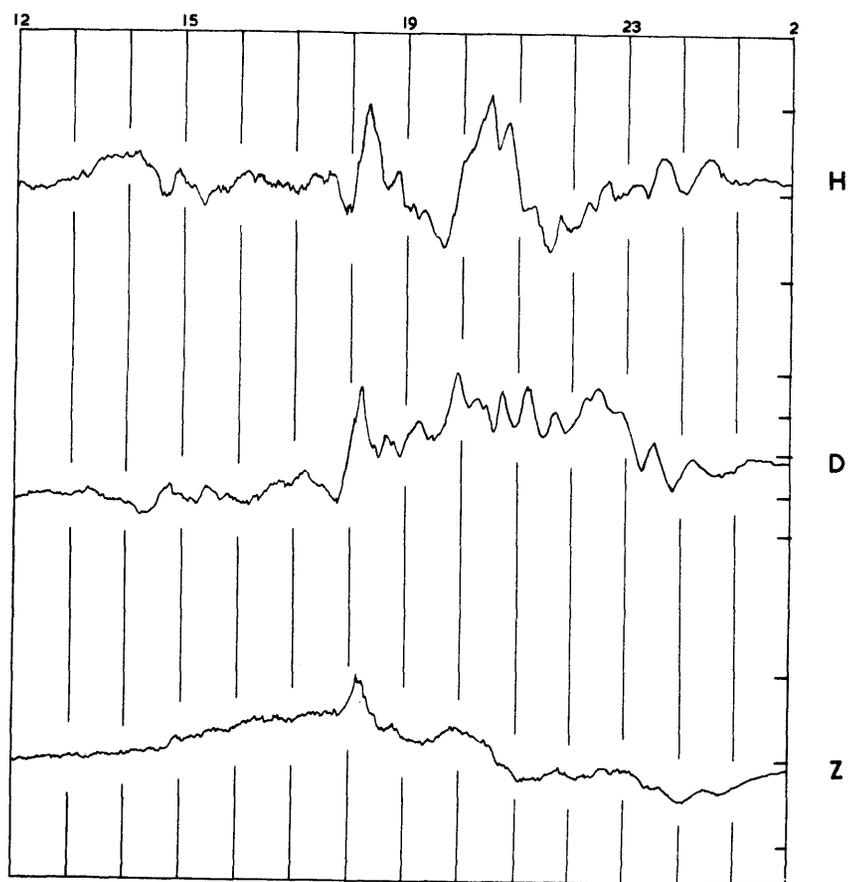
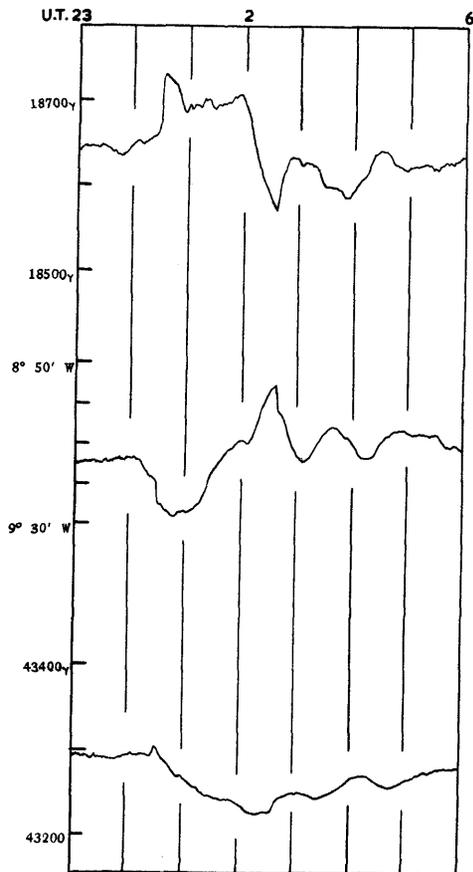
The absolute maximum and minimum values respectively of the elements recorded during the year were:

Declination West: 9°59'.5 on September 25; 8°16'.6 on September 26.
 Horizontal Intensity: .18855 on May 9; .18171 on October 28.
 Vertical Intensity: .43715 on October 28; .43109 on July 2.

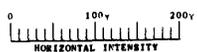


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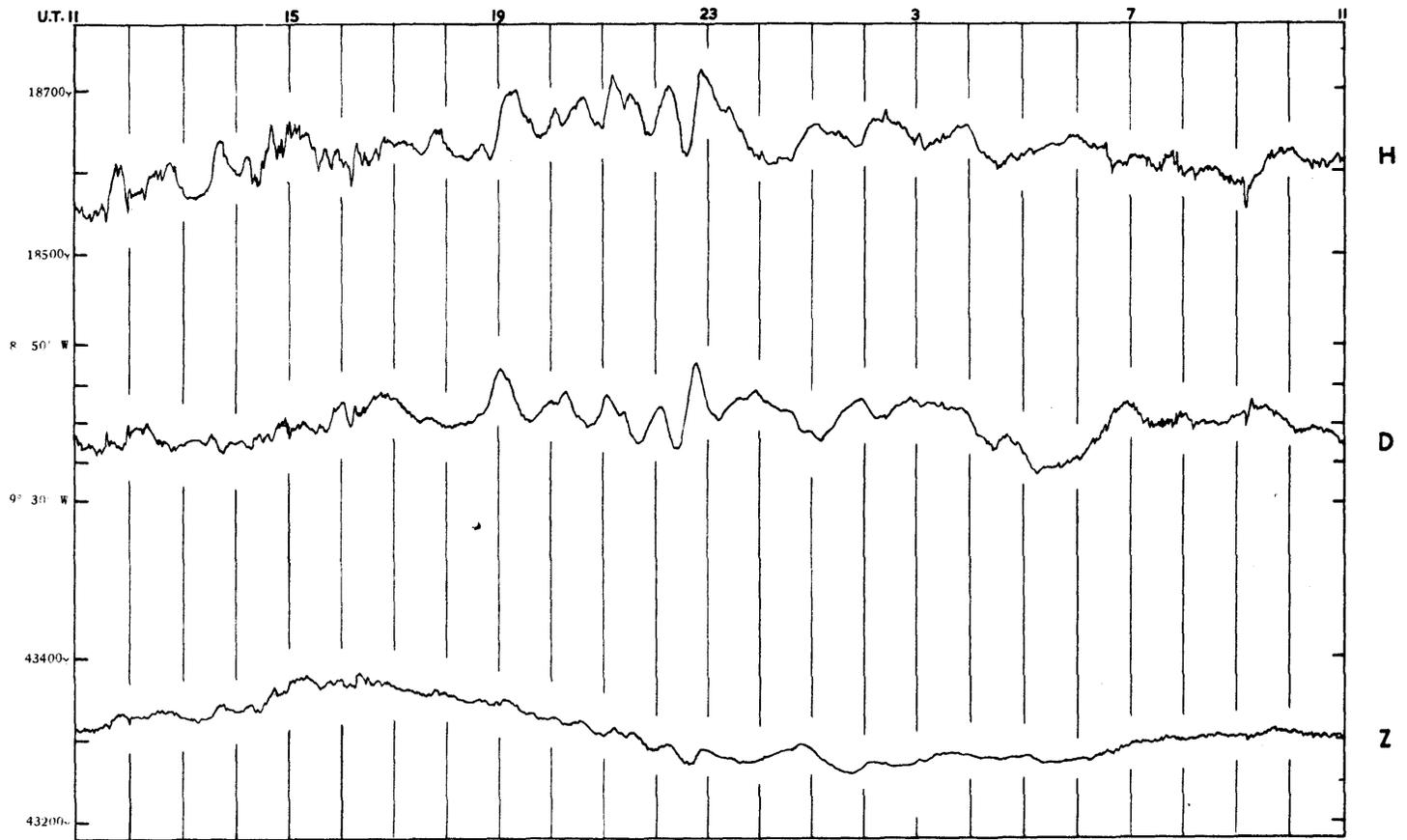
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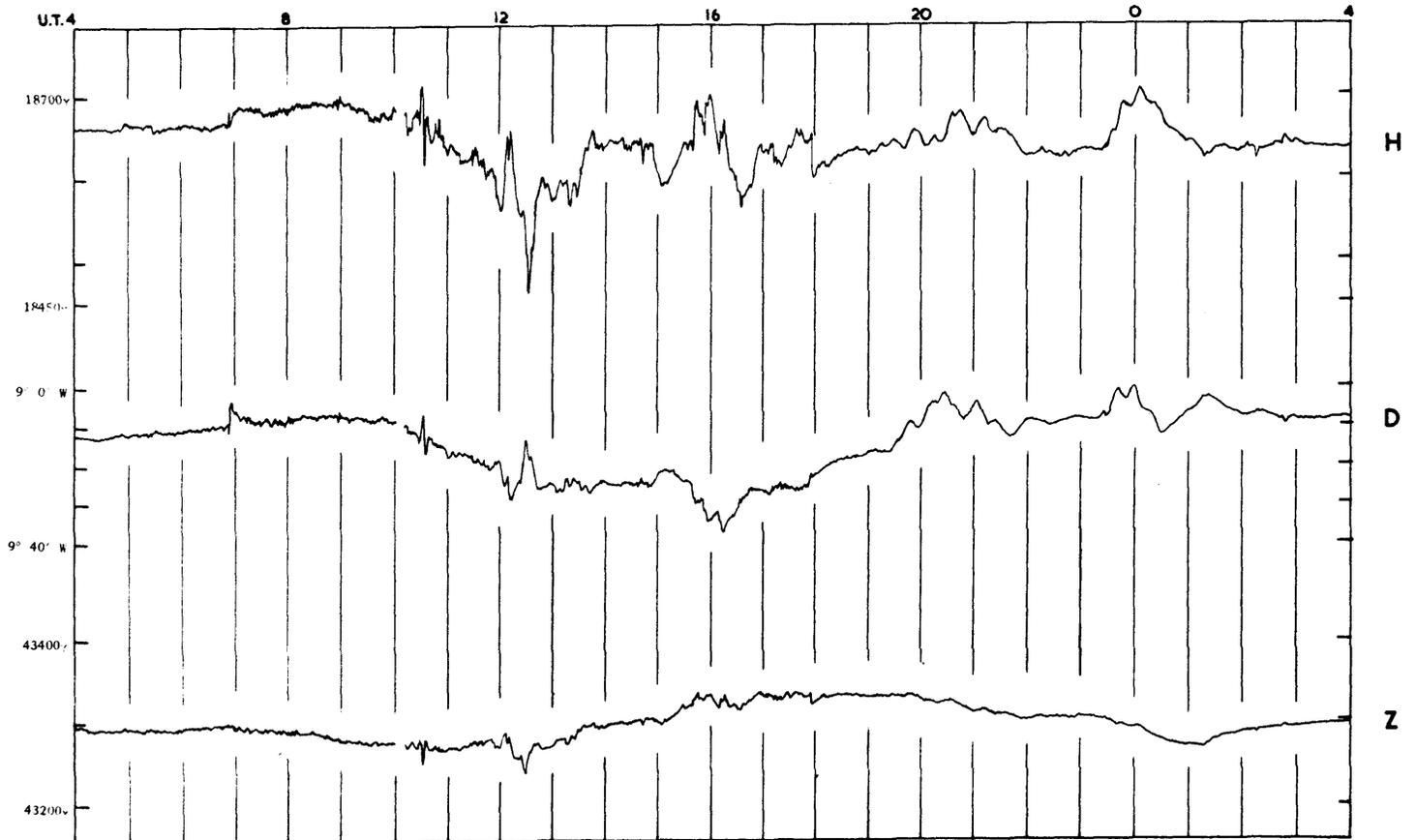
SCALES FOR THE MAGNETIC ELEMENTS



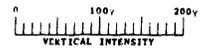
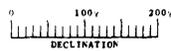
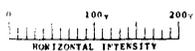
1951 SEPTEMBER 21 - 22



1951 APRIL 18 - 19

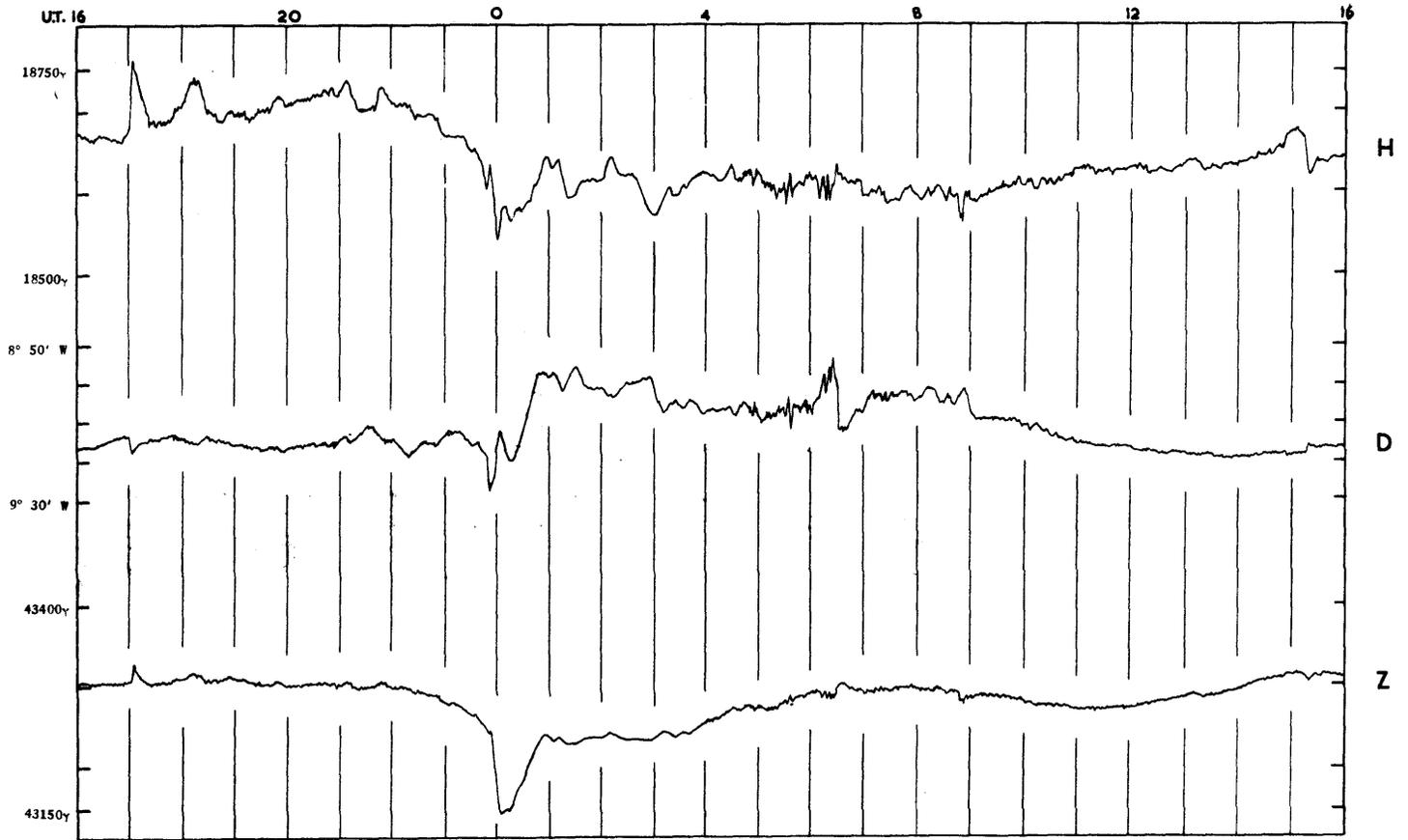


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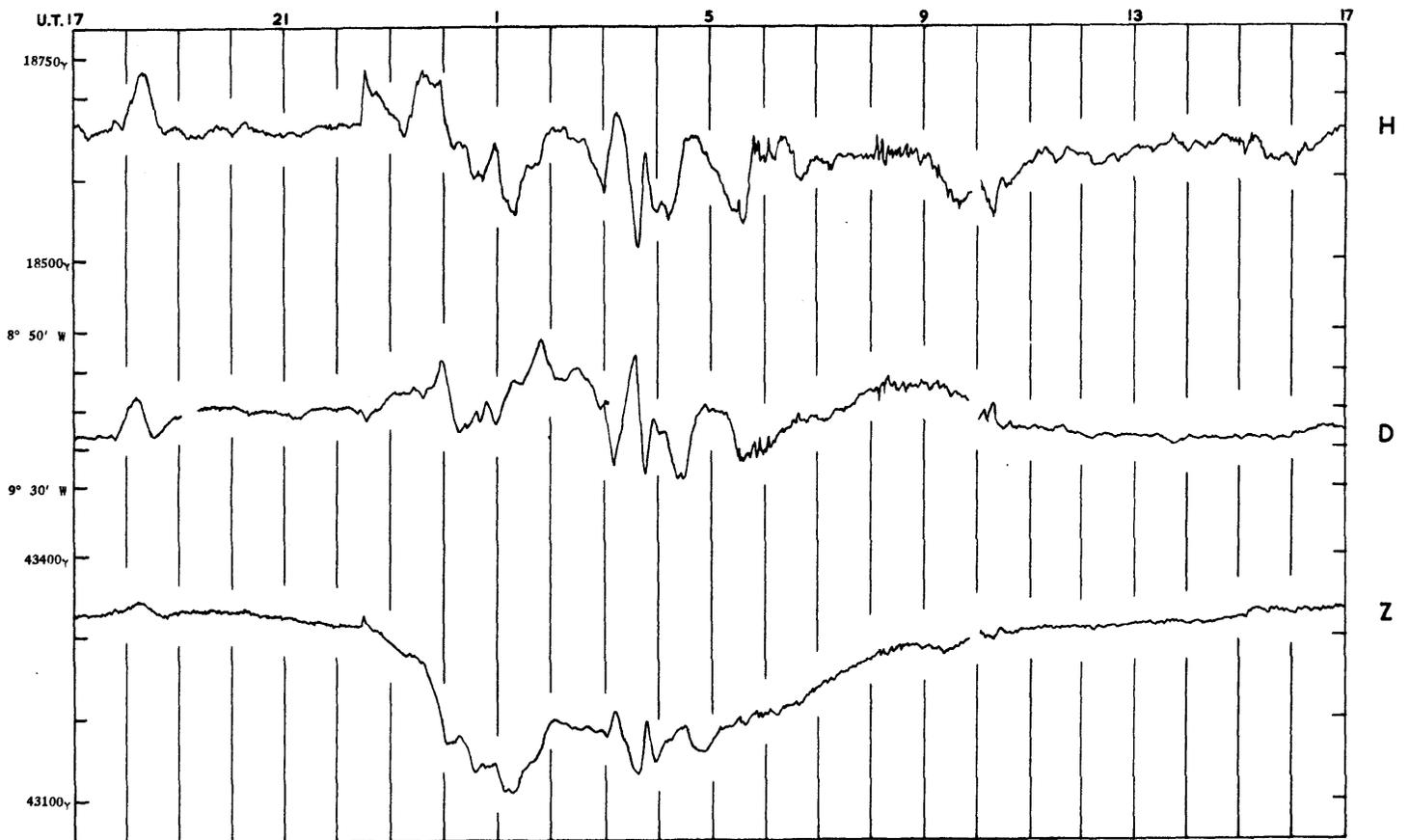


1951 JUNE 17 - 18

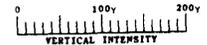
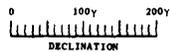
Plate III

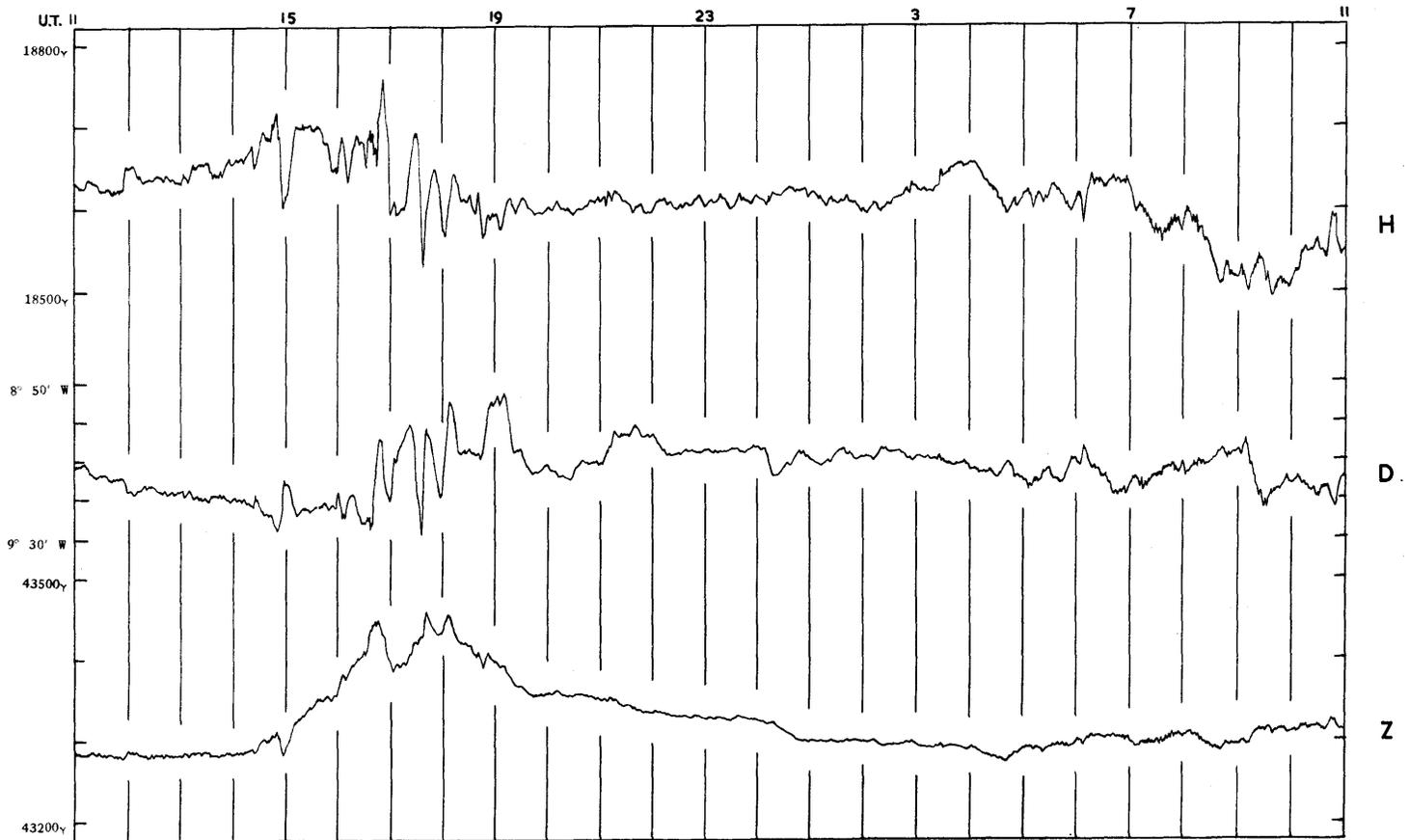
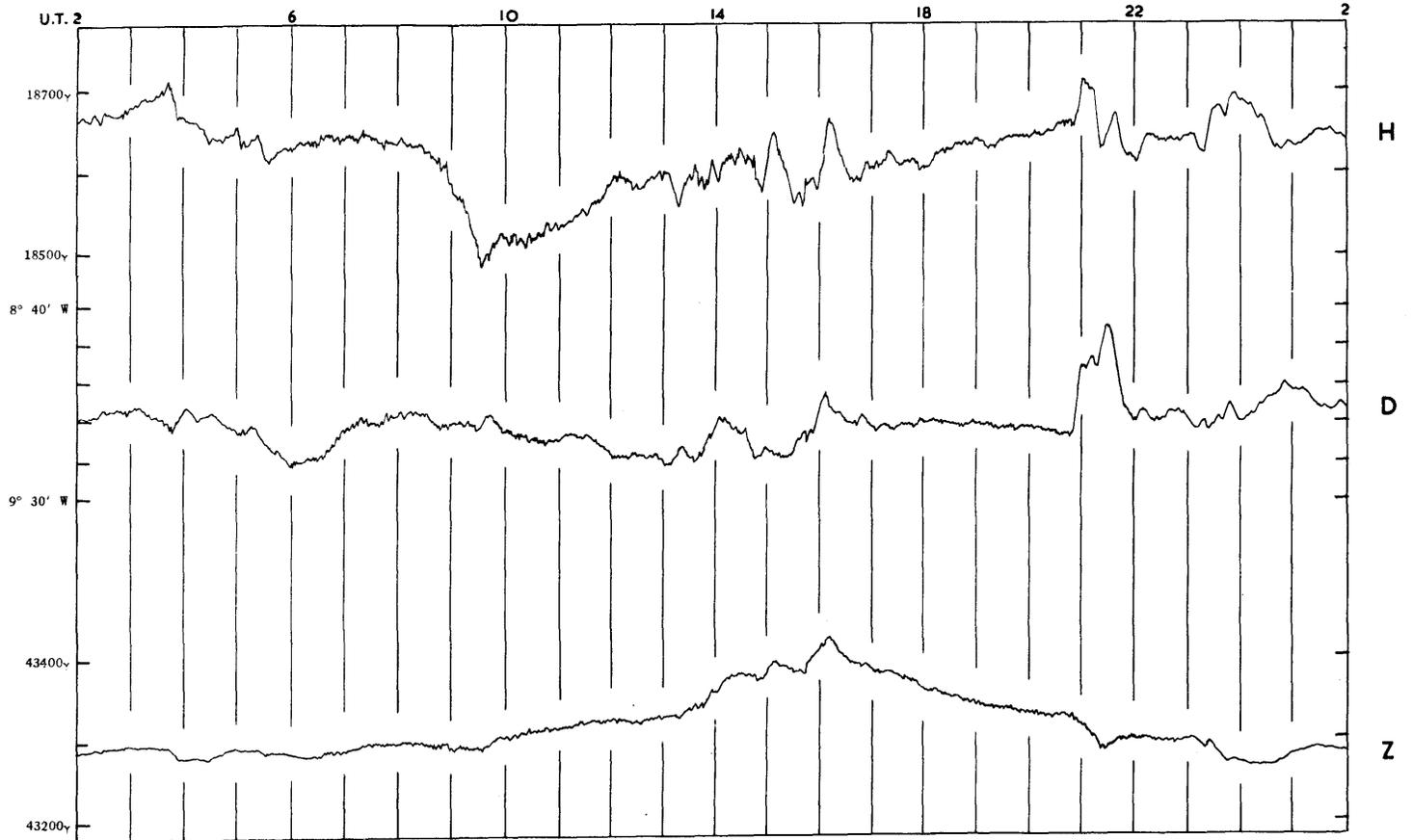


1951 JULY 1 - 2

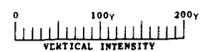
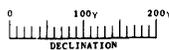


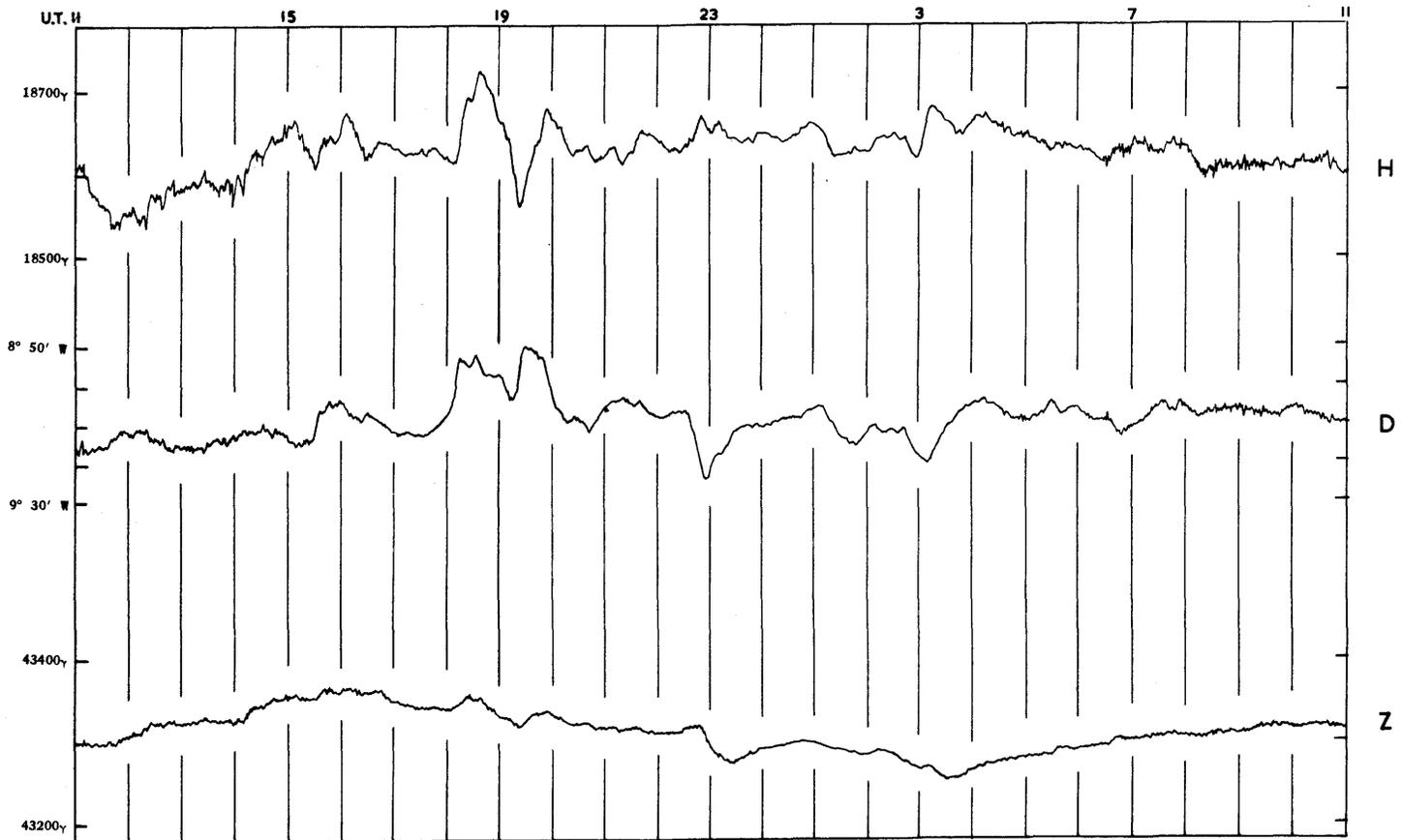
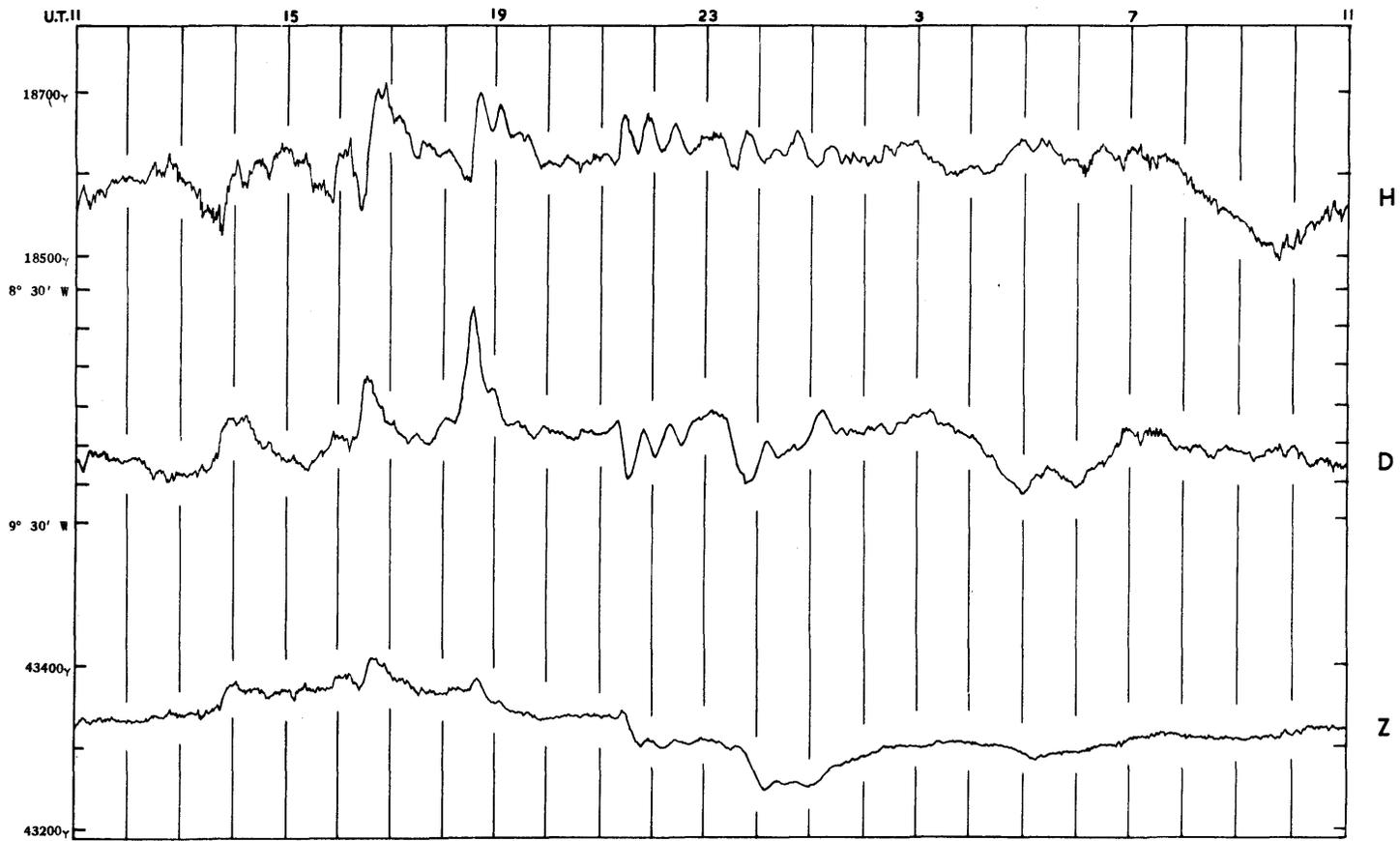
SCALES FOR THE MAGNETIC ELEMENTS



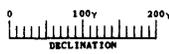
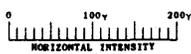


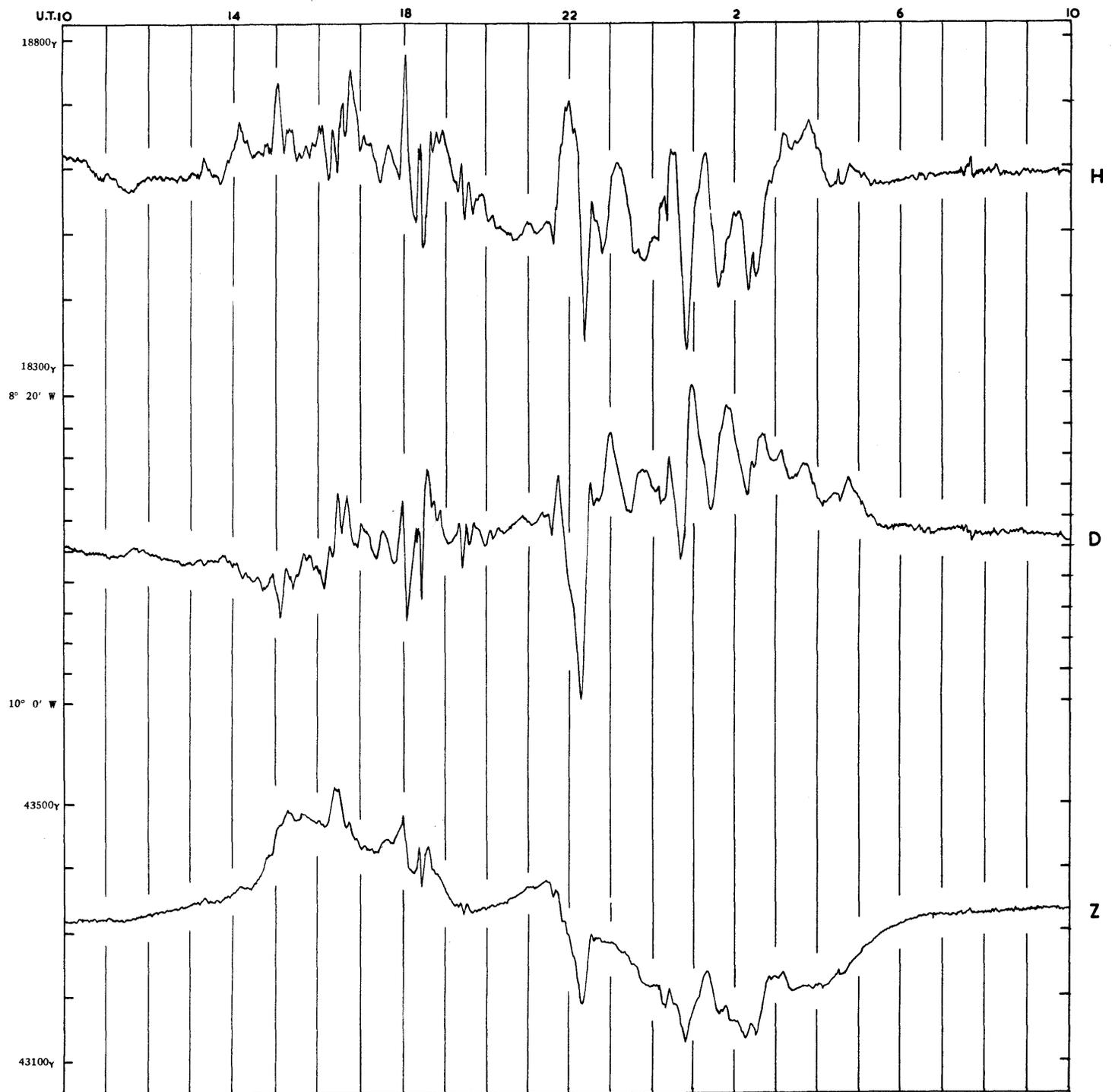
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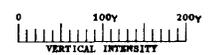
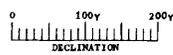
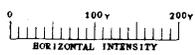


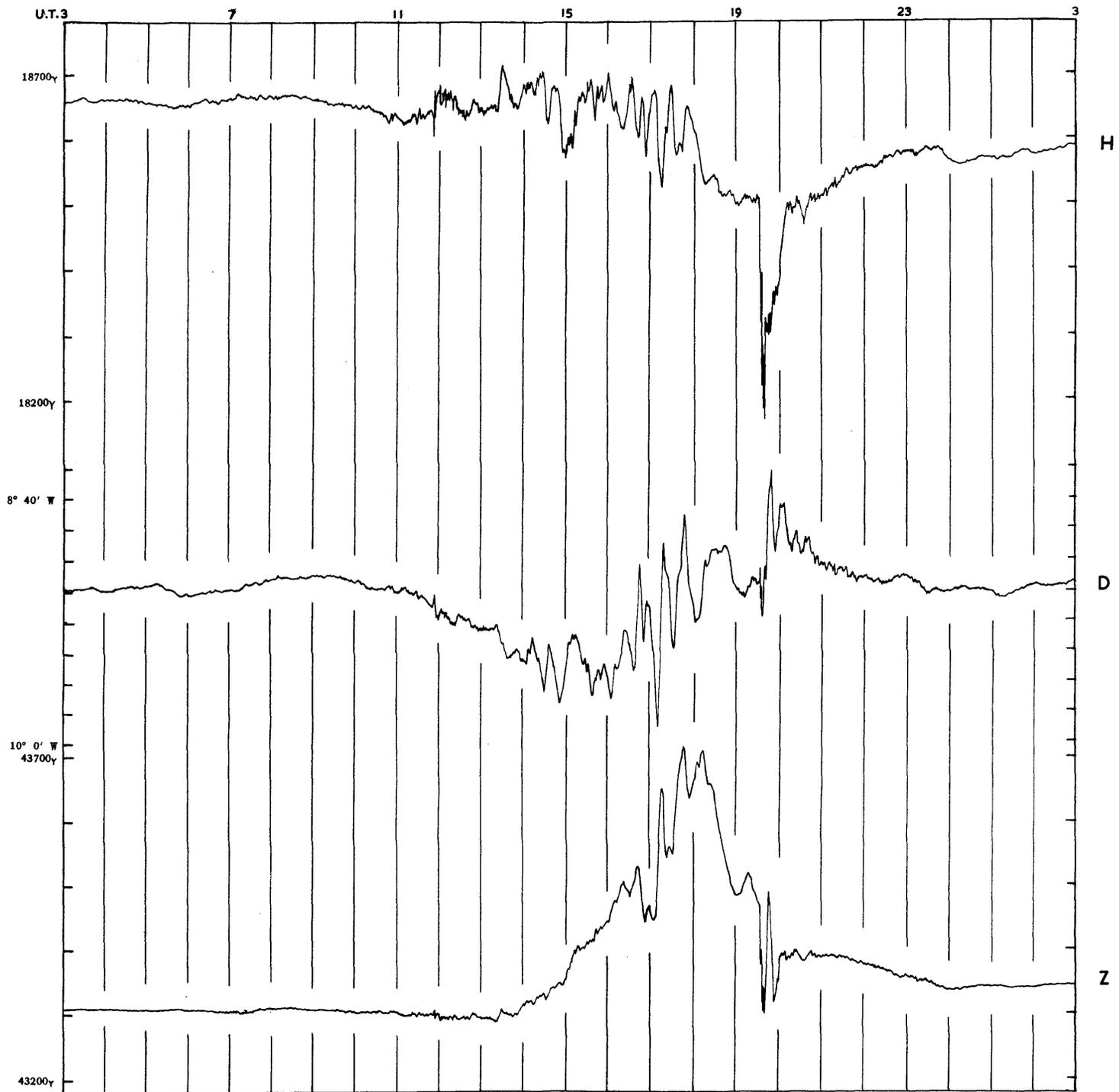
SCALES FOR THE MAGNETIC ELEMENTS



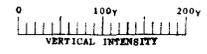
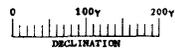
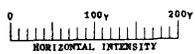


SCALES FOR THE MAGNETIC ELEMENTS





SCALES FOR THE MAGNETIC ELEMENTS



FEB 28

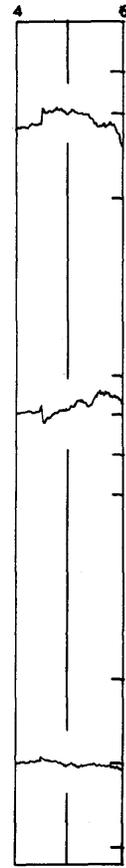
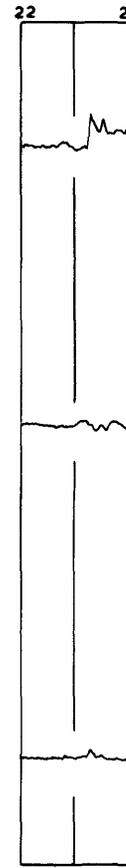
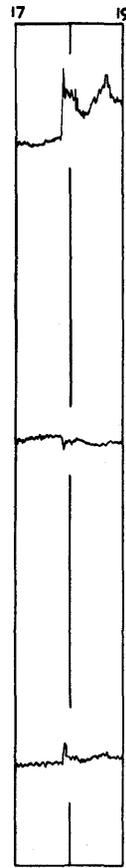
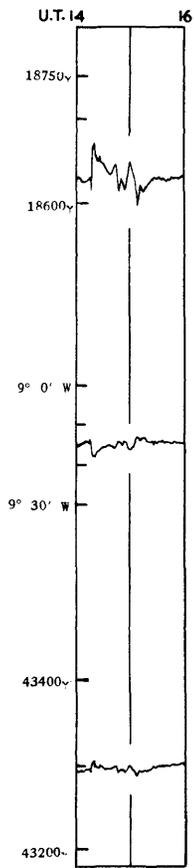
MAR 6

MAY 25

1951 JUNE 14

JUNE 18

JUNE 25



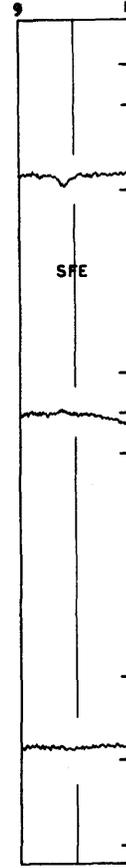
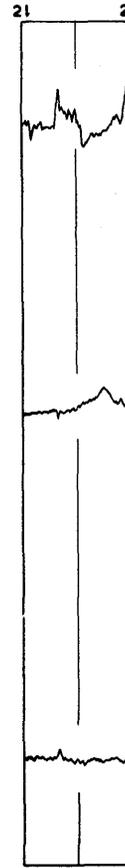
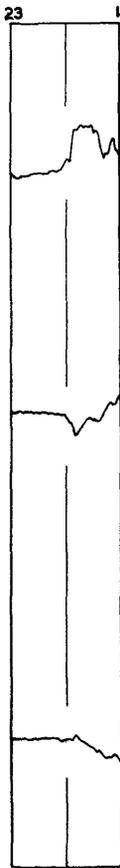
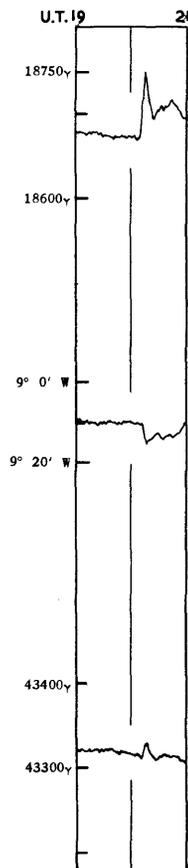
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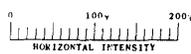
1951 SEPT 26-27

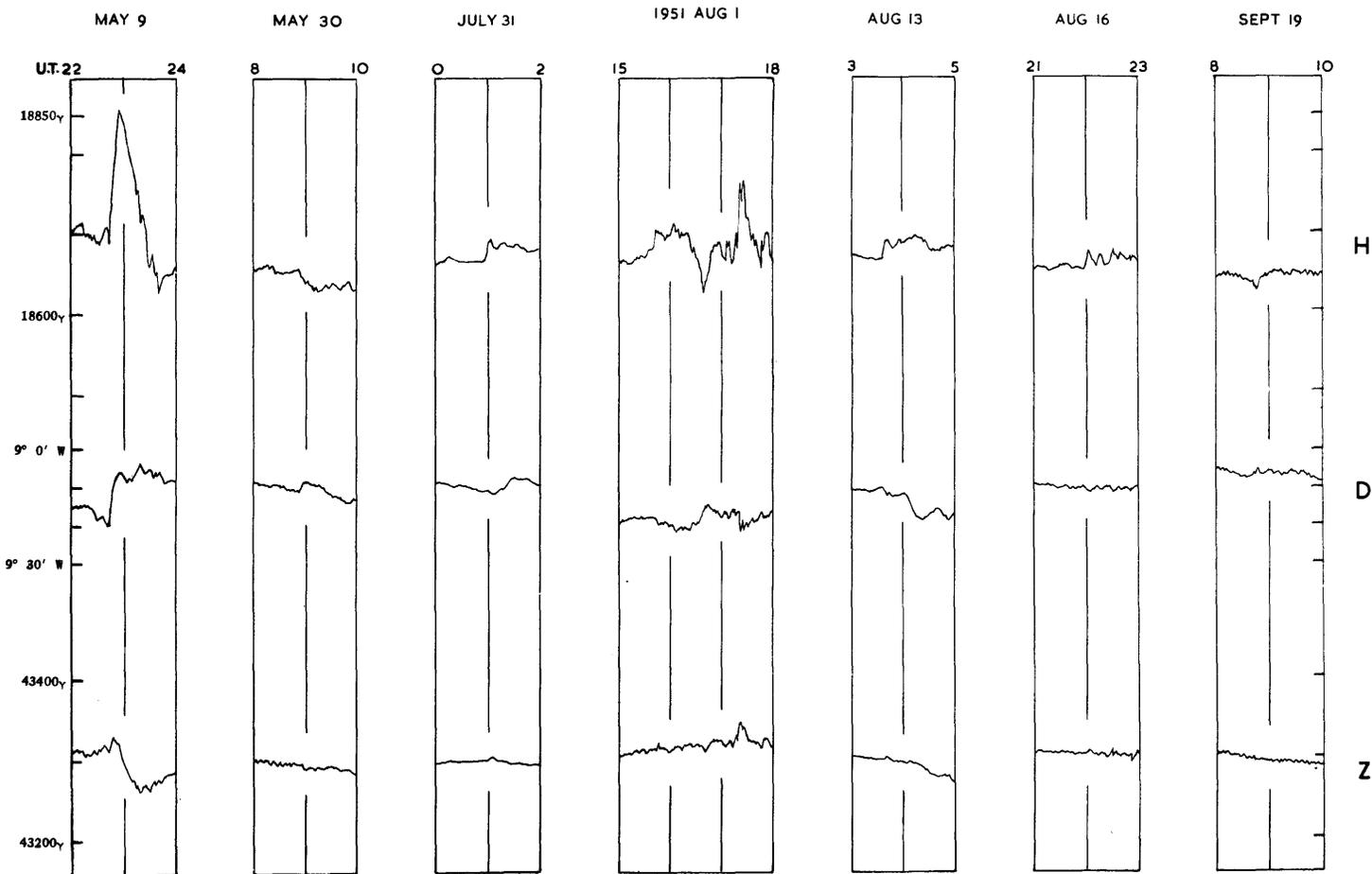
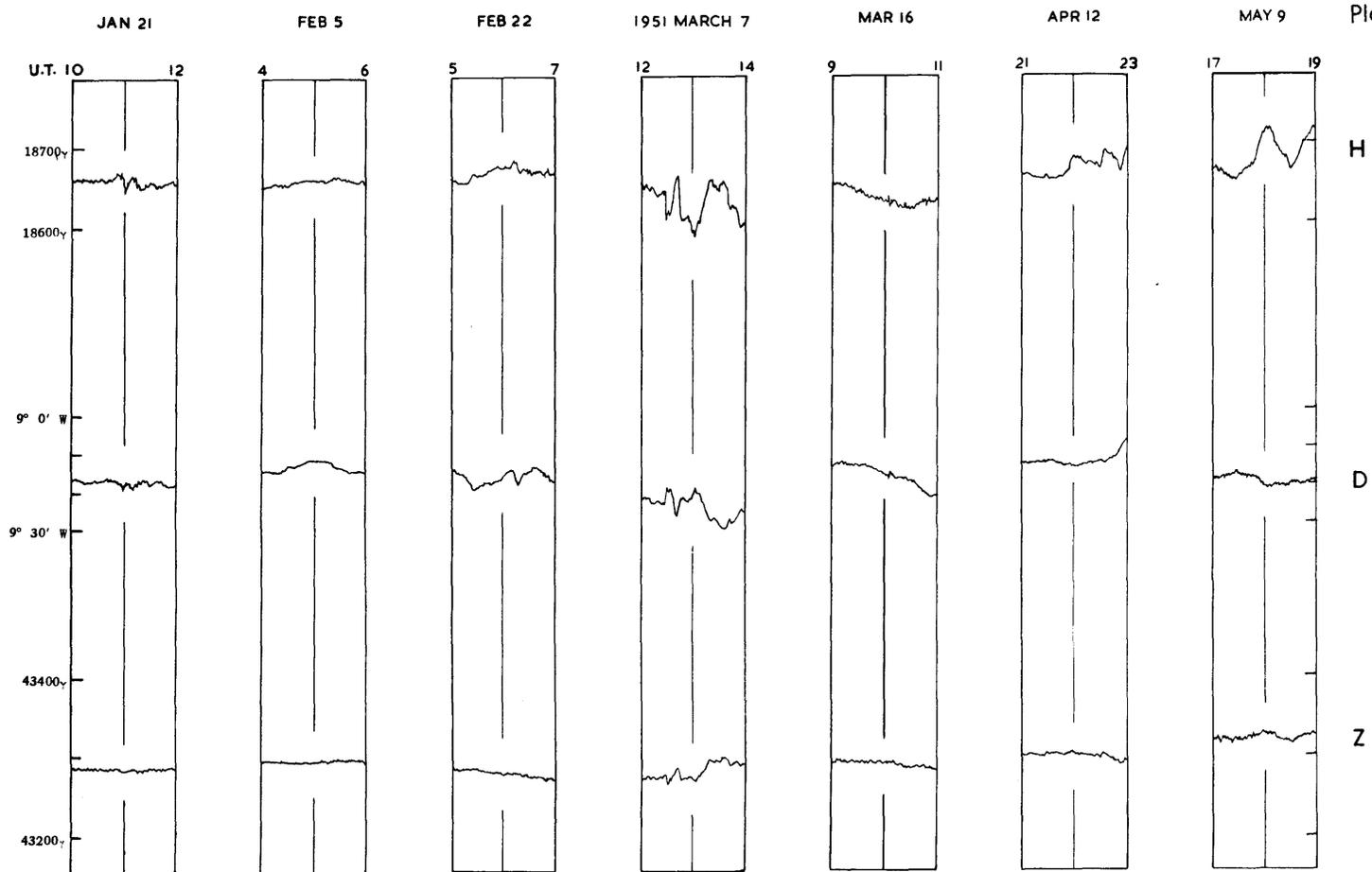
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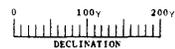
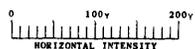


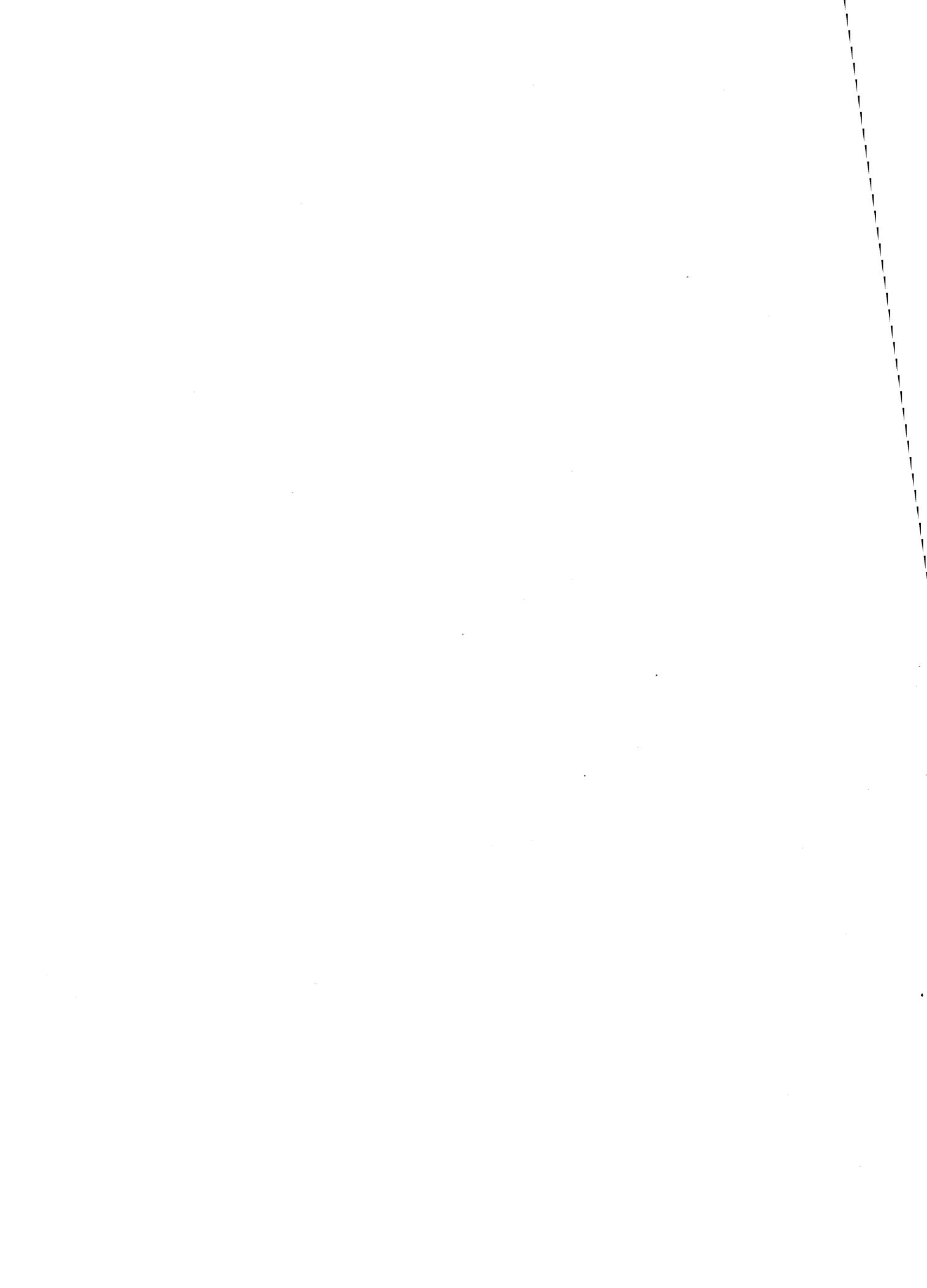
SCALES FOR THE MAGNETIC ELEMENTS





SCALES FOR THE MAGNETIC ELEMENTS





ROYAL OBSERVATORY, GREENWICH
AND THE
ROYAL GREENWICH OBSERVATORY, HERSTMONCEUX

Results of
Meteorological Observations

1951

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

AT THE ROYAL OBSERVATORY, GREENWICH																
Month and Day 1951	Eye Readings made at 09 00 hours						Degree of Humidity (saturation = 100)	Temperature of Radiation		Rainfall (Thrown back)	Daily Duration of Sunshine	Sun above Horizon	Record of the Night Sky			
	Barometer Corrected and Reduced to 32° Fahrenheit	Temperature of the Air						Highest in Sun's Rays (Thrown back)	Lowest on the Grass				Polaris		δ Ursæ Minoris	
		Highest (Thrown back)	Lowest	Daily Range	Dry Bulb	Wet Bulb							Dura- tion	Fraction of total Exposure	Dura- tion	Fraction of total Exposure
Jan. 1	28.869	35.0	31.8	3.2	33.2	32.8	96	38.0	26.8	0.764	0.4	7.9	0.9	0.06	0.3	0.02
2	28.750	36.4	32.4	4.0	34.2	33.9	97	35.0	30.4	0.110	0.0	7.9	1.7	0.12	1.5	0.11
3	29.468	40.8	33.7	7.1	34.2	32.7	84	43.8	29.0	0.023	0.2	7.9	6.5	0.47	5.5	0.40
4	29.512	49.6	30.6	19.0	40.8	40.4	96	50.0	22.9	0.150	0.0	8.0	0.6	0.05	0.0	0.00
5	29.450	51.2	40.8	10.4	49.6	48.2	90	53.3	38.3	0.210	0.0	8.0	0.0	0.00	0.0	0.00
6	29.423	50.4	45.6	4.8	45.6	43.3	82	63.3	43.1	0.030	1.6	8.0	5.1	0.38	3.8	0.28
7	29.547	47.8	41.4	6.4	41.8	39.5	80	63.6	36.4	0.007	5.4	8.0	4.7	0.35	3.4	0.25
8	29.579	47.6	41.4	6.2	47.3	46.1	91	54.2	36.8	0.220	0.0	8.1	8.3	0.61	7.2	0.53
9	29.651	43.6	35.3	8.3	36.2	34.4	82	63.7	30.2	0.004	2.4	8.1	11.7	0.87	10.0	0.74
10	29.522	46.6	33.8	12.8	39.2	37.7	86	56.6	23.3	0.200	0.1	8.1	0.6	0.04	0.0	0.00
11	29.058	48.4	36.6	11.8	46.6	45.3	90	50.4	32.2	0.100	0.0	8.2	9.5	0.70	9.0	0.67
12	28.996	42.1	36.9	5.2	39.6	37.7	83	57.6	31.5	0.055	0.5	8.2	9.3	0.69	8.0	0.60
13	29.115	45.0	35.2	9.8	41.4	38.9	78	67.8	28.8	0.000	1.9	8.2	13.0	0.98	12.6	0.95
14	29.444	46.2	38.6	7.6	41.3	39.1	81	63.2	30.0	0.225	1.2	8.3	2.4	0.18	1.4	0.10
15	29.542	43.6	39.3	4.3	39.7	37.6	81	54.8	34.1	0.000	2.0	8.3	12.3	0.93	9.6	0.72
16	30.249	51.8	33.9	17.9	37.4	35.9	86	51.6	27.1	0.130	0.0	8.3	0.0	0.00	0.0	0.00
17	29.712	51.8	36.7	15.1	51.7	49.3	83	63.3	33.4	0.010	0.1	8.4	5.6	0.43	3.7	0.28
18	29.557	50.0	45.1	4.9	49.0	44.1	65	63.3	40.6	0.020	0.1	8.4	12.2	0.92	12.0	0.91
19	29.905	50.4	38.0	12.4	42.1	39.6	79	48.8	31.9	0.005	0.0	8.5	3.0	0.23	2.4	0.18
20	29.849	49.8	41.8	8.0	48.6	46.6	85	59.4	38.9	0.000	0.0	8.5	2.1	0.16	1.8	0.14
21	29.982	49.7	46.0	3.7	47.2	46.1	91	65.6	39.0	0.003	0.0	8.5	1.6	0.13	1.5	0.12
22	29.898	48.4	43.6	4.8	44.8	43.0	85	66.1	35.3	0.050	0.1	8.6	2.5	0.19	1.1	0.08
23	29.783	48.9	39.8	9.1	43.5	43.0	96	71.1	29.3	0.074	1.0	8.7	0.0	0.00	0.0	0.00
24	29.934	44.5	41.4	3.1	42.6	41.3	89	61.9	39.4	0.006	0.6	8.7	0.0	0.00	0.0	0.00
25	29.693	42.4	39.2	3.2	40.0	39.0	91	51.0	36.4	0.016	0.0	8.8	0.2	0.02	0.0	0.00
26	29.489	44.0	39.6	4.4	41.6	40.9	94	49.4	34.0	0.167	0.0	8.8	5.6	0.43	5.6	0.43
27	29.412	42.8	27.3	15.5	30.9	30.1	91	83.5	18.0	0.000	5.8	8.9	12.8	1.00	12.8	1.00
28	29.603	38.4	27.7	10.7	29.6	29.3	97	64.7	18.0	0.000	3.4	8.9	12.8	1.00	11.3	0.88
29	29.977	30.8	24.4	6.4	28.4	28.4	100	32.5	17.6	0.000	0.0	9.0	0.0	0.00	0.0	0.00
30	29.965	37.0	23.7	13.3	25.2	25.2	100	58.0	24.6	0.000	3.2	9.0	1.0	0.08	0.9	0.07
31	29.758	41.4	24.9	16.5	34.7	33.2	84	60.9	22.6	0.000	0.6	9.1	..	..	..	..
Means	29.571	45.0	36.3	8.7	40.3	38.8	87.5	57.0	31.0	Sum 2.579	1.0	8.4	4.9	0.37	4.2	0.32

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

Month and Day 1951	AT THE ROYAL OBSERVATORY, GREENWICH				AT THE ROYAL GREENWICH OBSERVATORY, HERSTMONCEUX					
	Clouds and Weather				Daily Duration of Sunshine	Sun above Horizon	Record of the Night Sky			
	0 ^h to 6 ^h	6 ^h to 12 ^h	12 ^h to 18 ^h	18 ^h to 24 ^h			Polaris		δ Ursæ Minoris	
							Duration	Fraction of total Exposure	Duration	Fraction of total Exposure
Jan. 1	r ₀ r ₀ b x	b c ss c s c Nbst m	S s c b Acu Ci c m	c r c m	2.0	8.0	0.5	0.04	0.5	0.04
2	c ss m	ss c Nbst i rs m	c Nbst rs ir ₀ s ₀ m	c ir ₀ s ₀ c m	0.2	8.0	1.0	0.08	0.8	0.06
3	c r ₀ c b m	b bc Ci m	bc Acu m b f	b c ff x	6.2	8.1	6.5	0.48	4.3	0.32
4	c ir ₀ f m	c Nbst m	c Nbst rr c m ₀	c r c r m ₀	0.0	8.1	0.0	0.00	0.0	0.00
5	rr c r m ₀	r c Nbst r	rr ₀	rr ₀	0.0	8.1	1.2	0.09	0.2	0.02
6	dd c r c	c Nbst ir c Ci Acu	bc c Nbst ir ₀	ir ₀ d ₀ c	2.2	8.1	4.2	0.31	3.1	0.23
7	c b	b Frcu	bc Ci b	b c	6.2	8.1	5.5	0.41	4.2	0.31
8	c r c	c Nbst r ₀ r	rr f c Nbst d ₀	d ₀ c bc	0.0	8.2	5.1	0.38	3.8	0.28
9	bc b x	b c Ci so-ha c	c bc c Acu Ast D ₀	c bc b	3.4	8.2	12.8	0.95	12.5	0.92
10	b c b x	b x c Acu Ast	c Nbst rr c	c	0.5	8.2	0.0	0.00	0.0	0.00
11	c rr	rr c Nbst r	c Nbst r b c	c r b c d	0.0	8.3	6.5	0.48	5.9	0.44
12	b	b c p bc Ci Cumb prhn	c Nbst Cumb p	c b c b	0.9	8.3	6.5	0.48	4.9	0.36
13	b c	c Stcu c D ₀	c Stcu m c b	b	4.4	8.3	12.9	0.98	12.9	0.97
14	b x	b c Nbst r ₀	c Nbst r c Acu	c r c	5.4	8.4	..	..	..	..
15	rr c	c b m b Frcu	b c Acu b	b	5.2	8.4	12.3	0.93	9.8	0.74
16	b c x f	c o St ff	o St m r ₀ c	c rr	2.0	8.4	0.0	0.00	0.0	0.00
17	r c rr c	c Nbst ir c	c bc Frcu c r ₀	c lu-ha c	0.7	8.5	3.6	0.27	2.5	0.19
18	c	c Stcu	c Nbst p b c	c b bc	0.0	8.5	11.9	0.90	11.8	0.89
19	bc b m	b c Acu Ast m	c Nbst r ₀ m c m ₀	c m ₀	0.0	8.6	2.4	0.18	1.8	0.14
20	c m ₀	c Stcu Acu m ₀	c Stcu Acu m ₀	c	0.0	8.6	0.0	0.00	0.0	0.00
21	c m ₀	c Stcu m ₀ m	c Stcu m m ₀	c i d m ₀	0.0	8.7	0.0	0.00	0.0	0.00
22	id c m	bc Ci c Acu m	c Stcu St m	c m m ₀	0.0	8.7	0.0	0.00	0.0	0.00
23	c i r m	c Acu Frst b c m	c m c r c	c r c	4.8	8.8	2.8	0.21	2.4	0.18
24	rr c	c Stcu Frst	c Stcu c so-ha c	c	1.3	8.8	3.8	0.29	0.7	0.05
25	c o d m	o St i d o m	o St m	o m	0.0	8.8	1.2	0.09	0.9	0.07
26	o m	o c Nbst r r ₀ m	c Nbst rr c m	c m	0.0	8.9	5.5	0.41	5.3	0.40
27	c b x m	b x m b Frcu	b bc Frcu b	b m x	4.6	8.9	11.8	0.95	11.7	0.93
28	b x f	b x f m	b m f x	b ff x	7.2	9.0	12.5	1.00	12.5	1.00
29	b ff x	f FF x	FF x	FF x	6.5	9.0	6.6	0.53	4.7	0.37
30	FF x	FF b f x	b f m	b c m	6.0	9.1	0.0	0.00	0.0	0.00
31	c m x	c Acu Stcu m x	c Acu b m	b x c m	0.6	9.1	12.5	1.00	12.5	1.00
Means	-	-	-	-	2.3	8.5	5.0	0.38	4.3	0.33

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

AT THE ROYAL OBSERVATORY, GREENWICH																
Month and Day 1951	Eye Readings made at 09 00 hours						Degree of Humidity (Saturation = 100)	Temperature of Radiation		Rainfall (Thrown back)	Daily Duration of Sunshine	Sun above Horizon	Record of the Night Sky			
	Barometer Corrected and Reduced to 32° Fahrenheit	Temperature of the Air						Highest in Sun's Rays (Thrown back)	Lowest on the Grass				Polaris		♁ Ursæ Minoris	
		Highest (Thrown back)	Lowest	Daily Range	Dry Bulb	Wet Bulb							Duration	Fraction of total Exposure	Duration	Fraction of total Exposure
	in.	°	°	°	°	°	°	°	in.	hours	hours	hours	hours			
Feb. 1	29.979	44.3	28.1	16.2	33.0	31.3	82	61.3	20.6	0.000	0.0	9.1	3.0	0.24	2.7	0.21
2	29.918	42.1	33.0	9.1	40.4	39.7	94	47.2	30.6	0.042	0.0	9.2	0.0	0.00	0.0	0.00
3	29.417	40.4	39.2	1.2	39.9	39.1	93	44.4	37.0	0.343	0.0	9.3	5.5	0.44	5.4	0.43
4	28.605	42.9	31.8	11.1	39.3	38.1	89	46.6	24.4	0.760	0.0	9.3	4.1	0.33	2.6	0.21
5	28.533	46.1	37.7	8.4	40.9	38.4	78	82.9	34.1	0.020	2.8	9.3	12.4	0.99	12.0	0.96
6	28.960	46.4	34.8	11.6	36.8	35.7	89	88.8	28.3	0.020	4.4	9.4	11.6	0.93	11.4	0.91
7	29.302	48.1	32.3	15.8	36.6	35.7	91	89.0	24.5	0.060	6.8	9.5	2.0	0.16	1.1	0.09
8	29.072	48.9	36.6	12.3	48.1	45.4	80	61.3	30.6	0.890	0.0	9.5	0.0	0.00	0.0	0.00
9	29.259	43.8	36.7	7.1	36.8	36.3	95	63.5	34.6	0.065	0.8	9.6	11.8	0.94	11.5	0.92
10	29.622	43.2	32.7	10.5	36.4	35.7	93	66.3	22.2	0.348	0.2	9.6	0.0	0.00	0.0	0.00
11	29.454	40.3	36.5	3.8	36.5	35.8	93	46.8	32.2	0.110	0.0	9.7	9.6	0.80	9.1	0.76
12	29.576	50.6	33.7	16.9	40.3	39.7	94	104.3	23.8	0.000	3.9	9.8	4.1	0.34	4.0	0.33
13	29.560	41.8	35.7	6.1	37.4	37.1	97	46.8	28.1	0.630	0.0	9.8	0.0	0.00	0.0	0.00
14	29.529	38.4	35.9	2.5	36.4	35.9	95	47.0	34.4	0.044	0.0	9.9	0.0	0.00	0.0	0.00
15	29.662	44.8	34.9	9.9	36.0	35.4	94	76.9	30.0	0.040	2.3	10.0	5.4	0.45	4.3	0.36
16	29.497	46.7	34.2	12.5	43.2	42.1	91	61.3	26.2	0.310	0.8	10.0	3.2	0.27	2.9	0.24
17	29.267	46.8	42.5	4.3	46.7	46.0	95	62.3	36.2	0.249	0.5	10.1	10.9	0.95	10.6	0.92
18	29.446	48.6	35.0	13.6	41.6	39.2	79	80.9	29.1	0.370	0.5	10.1	0.7	0.06	0.0	0.00
19	29.206	47.7	38.2	9.5	40.3	37.7	77	97.0	32.6	0.023	7.3	10.2	10.4	0.90	10.0	0.87
20	29.097	47.0	34.8	12.2	44.4	42.5	85	62.9	26.6	0.620	0.0	10.3	2.1	0.19	1.2	0.10
21	28.966	46.6	34.6	12.0	38.8	36.0	74	99.5	29.7	0.095	4.5	10.3	9.3	0.81	8.3	0.72
22	29.290	43.3	34.2	9.1	36.6	35.5	89	83.3	27.8	0.008	2.5	10.4	9.5	0.83	9.2	0.80
23	29.627	47.1	35.4	11.7	40.2	37.9	79	94.3	29.4	0.018	3.0	10.5	9.3	0.81	8.5	0.74
24	29.467	46.7	34.1	12.6	39.8	39.1	93	90.9	25.2	0.628	0.1	10.5	0.0	0.00	0.0	0.00
25	29.673	41.2	36.2	5.0	37.3	36.6	93	53.0	33.7	0.086	0.2	10.6	8.5	0.77	1.0	0.09
26	29.821	42.6	28.0	14.6	33.1	31.3	81	76.1	20.4	0.160	2.6	10.7	0.0	0.00	0.0	0.00
27	29.793	44.6	33.1	11.5	39.6	37.8	84	98.3	32.4	0.000	1.7	10.7	6.5	0.59	2.5	0.23
28	30.159	45.4	30.0	15.4	34.6	33.9	93	84.6	22.6	0.000	1.0	10.8	11.0	1.00	8.6	0.78
Means	29.420	44.9	34.6	10.2	39.0	37.7	88.2	72.1	28.8	Sum 5.939	1.6	9.9	5.4	0.46	4.5	0.38

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

Month and Day 1951	AT THE ROYAL OBSERVATORY, GREENWICH				AT THE ROYAL GREENWICH OBSERVATORY, HERSTMONCEUX					
	Clouds and Weather				Daily Duration of Sunshine	Sun above Horizon	Record of the Night Sky			
	0 ^h to 6 ^h	6 ^h to 12 ^h	12 ^h to 18 ^h	18 ^h to 24 ^h			Polaris		δ Ursæ Minoris	
							Duration	Fraction of total Exposure	Duration	Fraction of total Exposure
Feb. 1	c b bc m x	c m x <i>Acu c Stcu</i>	c <i>Stcu</i>	b c	4.3	9.2	2.5	0.20	0.5	0.04
2	c	c <i>Nbst id₀ m₀</i>	c <i>Nbst id₀ m₀</i>	c <i>id₀ c m</i>	0.0	9.2	0.0	0.00	0.0	0.00
3	c r c m ₀	c <i>Nbst rr m₀</i>	rr	r c b x	0.0	9.3	5.2	0.43	4.9	0.40
4	b x c rr	rr	rr c	c rr	0.0	9.3	3.8	0.31	2.5	0.20
5	rr c ir bc	bc <i>Omb Acu Ci</i>	bc <i>Omb Stcu p bc</i>	b	2.6	9.4	5.0	0.41	4.8	0.39
6	b x	b x c r b	b c b c p b	b	3.2	9.5	3.9	0.32	3.2	0.26
7	b x m	b x m b <i>Ou Acu</i>	b bc c <i>Cu Acu</i>	c rr	5.8	9.5	1.3	0.11	0.7	0.06
8	rr c	c <i>Nbst rr₀</i>	rr ₀ m	rr ₀ c r m	0.0	9.6	0.9	0.07	0.6	0.05
9	rr m	rr m c <i>Stcu</i>	c p c <i>Stcu b</i>	b c p c b	6.2	9.7	10.0	0.82	9.5	0.77
10	b m x	b m c <i>Stcu Acu</i>	c <i>Ast</i>	c	0.9	9.7	0.8	0.07	0.1	0.01
11	c r R	R r c <i>Nbst</i>	c ff	c ff b m	1.7	9.8	10.6	0.90	9.9	0.84
12	b m x	b m c <i>Acu Ou</i>	c <i>Stcu Frst b m</i>	b m ff	7.4	9.8	2.4	0.20	1.8	0.15
13	fe fe	fe fe o f r ₀	c <i>Nbst r₀ rr f m</i>	rr m	0.0	9.9	0.0	0.00	0.0	0.00
14	rr m	rr r ₀ m	c <i>Nbst id₀ m</i>	c m	0.0	9.9	2.3	0.20	1.4	0.12
15	c r m	r c b m c <i>Stcu</i>	c <i>Stcu</i>	c b	0.4	10.0	0.0	0.00	0.0	0.00
16	c	c <i>Nbst rr₀</i>	r c <i>Nbst Acu c r</i>	r c b m c	0.0	10.1	1.2	0.10	0.0	0.00
17	c r	rr	rr c <i>Stcu b</i>	b x	0.4	10.1	11.1	0.97	10.5	0.91
18	b x	b c <i>Nbst r₀ c p c</i>	c <i>Nbst p bc Ast Ci</i>	c r c r	4.4	10.2	0.9	0.08	0.4	0.03
19	rr c	c b c <i>Cu Stcu</i>	c <i>Ou p b</i>	b c <i>lu-ha b</i>	7.8	10.2	9.6	0.84	9.6	0.84
20	b x c	c <i>Nbst ir d₀ r</i>	rr c r ₀ p bc	bc c ir	0.2	10.3	2.9	0.25	1.8	0.16
21	ir c	c <i>Cist so-ha bc Ci Prcu</i>	bc <i>Acu Ci c p t bc</i>	b <i>prsa</i>	7.8	10.4	9.3	0.81	9.0	0.78
22	b c r m	r m c <i>Ci Cist so-ha c</i>	c p c	c p ₀ b c b	4.7	10.4	11.4	0.99	11.3	0.98
23	b c m	c m c <i>Nbst Omb</i>	c <i>Omb b</i>	b bc <i>lu-ha</i>	5.8	10.5	7.0	0.61	6.5	0.56
24	bc <i>lu-ha x c</i>	c <i>Nbst ir c Ast</i>	c <i>Nbst u rr₀</i>	r ₀ r c	0.1	10.6	2.6	0.24	1.9	0.17
25	c id rr	r rs rr ₀	r ₀ c <i>Stcu</i>	c bc	0.6	10.6	9.9	0.90	8.3	0.76
26	bc x m	bc c <i>Cist so-ha</i>	<i>so-ha c Nbst rr</i>	r c r c	4.9	10.7	0.0	0.00	0.0	0.00
27	c	c <i>Stcu</i>	c bc <i>Acu Prcu m</i>	c b m f	2.8	10.8	8.5	0.77	7.3	0.67
28	f F x	F x b m	b c <i>Acu b m</i>	b m F f	4.7	10.8	10.9	0.99	9.0	0.82
Means	-	-	-	-	2.7	10.0	4.8	0.41	4.1	0.36

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

AT THE ROYAL OBSERVATORY, GREENWICH																
Month and Day 1951	Eye Readings made at 09 00 hours						Degree of Humidity (Saturation = 100)	Temperature of Radiation		Rainfall (Thrown back)	Daily Duration of Sunshine	Sun above Horizon	Record of the Night Sky			
	Barometer Corrected and Reduced to 32° Fahrenheit	Temperature of the Air						Highest in Sun's Rays (Thrown back)	Lowest on the Grass				Polaris		δ Ursæ Minoris	
		Highest (Thrown back)	Lowest	Daily Range	Dry Bulb	Wet Bulb							Dura- tion	Fraction of total Exposure	Dura- tion	Fraction of total Exposure
Mar. 1	30.171	45.9	29.2	16.7	35.4	33.9	85	72.3	21.2	0.038	2.5	10.9	0.0	0.00	0.0	0.00
2	30.026	44.4	35.4	9.0	42.1	41.6	96	56.7	32.2	0.006	0.0	10.9	5.2	0.48	4.7	0.43
3	30.208	40.4	34.6	5.8	35.4	31.7	65	86.3	26.5	0.000	2.0	11.0	1.0	0.10	0.8	0.07
4	30.159	46.8	35.1	11.7	36.7	34.4	77	92.3	28.1	0.000	5.8	11.1	5.6	0.53	3.7	0.35
5	29.927	47.4	31.1	16.3	33.4	32.9	95	79.0	19.0	0.008	0.3	11.1	0.0	0.00	0.0	0.00
6	29.646	45.8	33.4	12.4	42.0	40.0	83	80.6	32.2	0.006	0.0	11.2	5.4	0.52	4.0	0.38
7	29.248	50.6	36.2	14.4	44.8	39.7	60	101.0	27.4	0.000	2.9	11.3	8.2	0.78	7.0	0.67
8	29.293	40.4	36.2	4.2	40.0	37.7	79	47.0	25.0	0.114	0.0	11.3	0.0	0.00	0.0	0.00
9	29.366	36.2	34.6	1.6	35.2	34.4	92	39.0	32.2	0.024	0.0	11.4	0.0	0.00	0.0	0.00
10	29.351	38.7	34.3	4.4	35.3	34.3	90	48.9	32.0	0.178	0.0	11.4	0.0	0.00	0.0	0.00
11	29.086	43.8	35.3	8.5	38.7	38.3	96	70.1	34.2	0.060	0.0	11.5	0.3	0.03	0.0	0.00
12	29.157	50.3	37.3	13.0	40.2	38.4	84	104.9	30.1	0.003	7.5	11.6	2.8	0.27	1.7	0.17
13	28.969	52.4	39.0	13.4	48.3	44.4	71	94.3	28.2	0.600	1.6	11.6	0.1	0.01	0.0	0.00
14	28.877	52.6	42.7	9.9	46.2	42.8	74	96.1	40.6	0.000	1.9	11.7	4.1	0.40	4.0	0.39
15	29.601	55.1	39.3	15.8	43.6	41.3	81	104.2	32.0	0.000	5.8	11.8	7.8	0.76	7.0	0.69
16	29.631	52.7	34.1	18.6	44.4	42.4	84	66.7	24.1	0.284	0.1	11.8	0.0	0.00	0.0	0.00
17	29.323	55.9	44.0	11.9	52.2	51.2	92	88.7	45.4	0.050	0.0	11.9	0.0	0.00	0.0	0.00
18	29.248	51.0	44.0	7.0	47.7	42.6	62	96.3	40.6	0.360	2.7	12.0	6.6	0.68	6.0	0.62
19	29.259	43.4	40.8	2.6	42.8	42.3	96	72.8	32.4	0.106	0.0	12.0	2.7	0.28	1.2	0.12
20	29.920	45.4	32.7	12.7	38.4	35.0	68	101.6	25.4	0.000	8.7	12.1	3.8	0.39	0.6	0.06
21	30.181	51.1	31.8	19.3	44.1	39.1	60	99.3	23.6	0.270	3.8	12.2	0.0	0.00	0.0	0.00
22	29.771	57.0	39.8	17.2	50.8	48.8	86	91.3	37.7	0.000	0.1	12.2	0.0	0.00	0.0	0.00
23	29.490	53.7	49.2	4.5	50.1	47.0	78	75.3	47.3	0.278	0.0	12.3	8.0	0.82	7.6	0.78
24	29.728	47.8	37.8	10.0	41.3	36.8	61	107.3	31.2	0.000	5.2	12.4	8.9	0.96	8.5	0.92
25	29.904	46.7	33.7	13.0	40.3	36.0	62	97.7	27.3	0.040	4.9	12.4	0.0	0.00	0.0	0.00
26	29.582	47.9	39.7	8.2	41.6	38.9	77	63.0	38.4	0.163	0.0	12.5	5.4	0.58	5.0	0.54
27	29.428	45.1	37.1	8.0	37.9	36.1	83	92.9	35.4	0.010	2.3	12.6	8.8	0.95	8.4	0.90
28	29.730	45.1	32.1	13.0	38.8	34.5	61	100.5	25.0	0.027	5.7	12.6	4.2	0.46	0.4	0.04
29	29.405	44.2	31.3	12.9	40.3	37.3	73	77.7	25.6	0.135	0.2	12.7	0.0	0.00	0.0	0.00
30	29.508	45.7	34.8	10.9	38.2	34.7	67	101.6	33.3	0.000	4.6	12.7	9.3	1.00	9.3	1.00
31	29.629	46.2	26.7	19.5	41.5	37.0	62	78.3	18.8	0.070	0.0	12.8	7.4	0.85	6.6	0.75
Means	29.575	47.4	36.2	11.2	41.5	38.9	77.4	83.3	30.7	Sum 2.830	2.2	11.8	3.4	0.35	2.8	0.29

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

Month and Day 1951	AT THE ROYAL OBSERVATORY, GREENWICH				AT THE ROYAL GREENWICH OBSERVATORY, HERSTMONCEUX					
	Clouds and Weather				Daily Duration of Sunshine	Sun above Horizon	Record of the Night Sky			
	0 ^h to 6 ^h	6 ^h to 12 ^h	12 ^h to 18 ^h	18 ^h to 24 ^h			Polaris		δ Ursæ Minoris	
							Duration	Fraction of total Exposure	Duration	Fraction of total Exposure
Mar. 1	b m f x	b f c Stcu	c Stcu b c	c	hours 7.4	hours 10.9	hours 0.0	0.00	hours 0.0	0.00
2	c o f	o St f m id _o	o St c b	b c	0.1	10.9	4.1	0.37	3.4	0.31
3	c x	c Stcu	c bc Prcu b	b c	7.9	11.0	3.0	0.28	1.8	0.17
4	c x	c bc Ci Prcu	bc Ci Prcu so-ha b	b x f	6.4	11.1	10.5	0.98	7.7	0.71
5	b c x f F	FF c Cist so-ha m	c Cist so-ha c Ast m	c r c m	6.4	11.1	2.8	0.26	0.6	0.06
6	c m _o	c Ast Nbst r _o c	c r _o c Stcu	c b	1.3	11.2	1.5	0.14	1.2	0.11
7	b c ir	c Acu Ast Ci	c bc Acu Ci b m	b m x	5.3	11.3	8.4	0.78	8.4	0.78
8	b x c	c Stcu	c Stcu c d	dd c r	1.9	11.3	0.0	0.00	0.0	0.00
9	rr _o c m	r r s s c Nbst id _o	c Nbst r _o r _o s _o	c r _o s _o r _o c	0.0	11.4	0.0	0.00	0.0	0.00
10	c	c Nbst s _o r _o s _o	c Nbst ir r _o	c ir r _o	0.0	11.4	0.0	0.00	0.0	0.00
11	c ir	ir d _o c h c Nbst	c Nbst	c f	0.0	11.5	3.0	0.30	2.8	0.27
12	FF r c	c p c bc Cumb Acu Cu	c p bc Cu Acu d	b c	7.4	11.6	4.9	0.48	3.9	0.38
13	c b c bc x	bc Cist Ci so-ha b c r	c Nbst rr c	c rr	2.5	11.7	0.0	0.00	0.0	0.00
14	rr c	c d c Nbst	c Stcu Nbst D _o c	c	7.2	11.7	8.5	0.83	8.0	0.78
15	c b	b c Stcu m bc b	b bc Prcu b	b bc	9.4	11.8	9.8	0.95	8.8	0.86
16	b bc x	bc c Nbst r _o c	c Nbst r _o c r	rr c r c	0.0	11.8	0.0	0.00	0.0	0.00
17	c ir _o	c Nbst ir _o	c Nbst r id	c id	0.2	11.9	0.5	0.05	0.4	0.04
18	c ir _o c	c b c Nbst	c Nbst r c r c	c b	6.6	12.0	6.0	0.61	5.8	0.59
19	b c rr	c rr c Nbst	c Nbst r c rr	r _o c r c	2.0	12.0	0.0	0.00	0.0	0.00
20	c b x	b Ci Prcu so-ha b	b bc Cu Acu	bc c lu-ha c	10.3	12.1	0.0	0.00	0.0	0.00
21	c x	c Acu Ci so-ha c Ast	c Ast	c rr	5.0	12.2	0.0	0.00	0.0	0.00
22	rr c	c Nbst	c	c	0.4	12.2	3.0	0.31	1.1	0.11
23	c	c Stcu	c r c r R	r c b	0.0	12.3	8.9	0.91	8.9	0.91
24	b c b	b c Cu Stcu	c r _o bc b	b	6.1	12.4	9.0	1.00	9.0	1.00
25	b x	b Prcu c	c	c ir c	7.2	12.4	0.0	0.00	0.0	0.00
26	c	c Nbst ir _o	c Nbst ir _o r	rr bc b	0.0	12.5	6.0	0.66	6.0	0.66
27	b c	c Nbst r _o r c	c bc b	b c b	1.0	12.5	9.0	1.00	9.0	1.00
28	b x	b c Cu Stcu	c Nbst	s c	9.6	12.6	8.2	0.91	7.7	0.85
29	c x	c Acu Ast	c Nbst r _o r _o r	rr r _o r	0.5	12.7	0.0	0.00	0.0	0.00
30	r c	c bc Acu Cu Stcu	bc	b	7.2	12.7	9.0	1.00	9.0	1.00
31	b x bc	bc Cist so-ha c Ast	c Nbst ir	c b	0.2	12.8	6.8	0.80	6.1	0.72
Means	-	-	-	-	3.9	11.8	4.0	0.41	3.5	0.36

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

AT THE ROYAL OBSERVATORY, GREENWICH																
Month and Day 1951	Eye Readings made at 09 00 hours						Degree of Humidity (saturation = 100)	Temperature of Radiation		Rainfall (Thrown back)	Daily Duration of Sunshine	Sun above Horizon	Record of the Night Sky			
	Barometer Corrected and Reduced to 32° Fahrenheit	Temperature of the Air						Highest in Sun's Rays (Thrown back)	Lowest on the Grass				Polaris		δ Ursæ Minoris	
		Highest (Thrown back)	Lowest	Daily Range	Dry Bulb	Wet Bulb							Duration	Fraction of total Exposure	Duration	Fraction of total Exposure
Apr. 1	29.330	52.3	40.0	12.3	46.2	43.2	77	103.3	34.1	0.200	2.3	12.9	2.4	0.28	1.3	0.15
2	29.538	50.4	37.8	12.6	43.8	39.8	68	92.8	32.2	0.000	4.4	12.9	7.3	0.84	7.1	0.81
3	29.948	53.6	36.3	17.3	46.2	41.6	65	108.3	28.3	0.050	5.4	13.0	3.6	0.41	1.4	0.16
4	29.648	54.0	43.9	10.1	48.7	47.3	89	100.0	39.2	0.230	2.6	13.1	8.6	0.98	8.6	0.98
5	29.946	56.6	37.4	19.2	47.6	42.9	65	113.3	30.0	0.204	8.8	13.2	4.9	0.56	4.2	0.48
6	29.614	57.5	40.2	17.3	49.2	48.3	93	102.3	29.2	0.208	0.1	13.2	1.2	0.14	0.5	0.06
7	29.237	50.0	40.7	9.3	46.2	41.0	60	105.3	37.1	0.437	4.5	13.3	0.0	0.00	0.0	0.00
8	29.377	52.4	37.4	15.0	45.6	41.0	65	103.8	35.0	0.478	4.7	13.3	0.0	0.00	0.0	0.00
9	28.906	46.0	42.3	3.7	43.6	40.9	78	93.3	39.3	0.118	0.7	13.4	6.8	0.83	6.7	0.81
10	29.530	49.0	38.3	10.7	44.8	39.0	55	104.9	32.4	0.068	5.4	13.5	3.9	0.47	3.8	0.46
11	29.890	51.0	33.7	17.3	42.4	37.0	55	105.0	25.6	0.000	7.5	13.5	4.6	0.56	2.9	0.36
12	29.715	54.3	41.4	12.9	50.0	45.9	71	102.1	29.4	0.320	0.8	13.6	0.0	0.00	0.0	0.00
13	29.533	53.7	36.8	16.9	40.9	39.4	87	116.0	35.4	0.020	4.4	13.7	5.5	0.66	5.2	0.63
14	29.849	48.8	37.0	11.8	42.8	37.7	58	103.3	30.8	0.000	5.7	13.7	7.5	1.00	7.5	1.00
15	30.114	52.9	33.2	19.7	46.7	40.1	51	103.5	24.2	0.000	5.1	13.8	3.6	0.48	3.5	0.47
16	29.813	52.2	40.8	11.4	49.7	44.9	66	82.3	33.6	0.006	0.6	13.9	7.4	0.98	7.3	0.97
17	30.029	55.8	36.7	19.1	44.7	37.9	47	112.1	28.1	0.000	10.8	13.9	7.3	0.98	4.8	0.64
18	29.851	56.2	37.4	18.8	47.5	40.7	50	117.9	25.0	0.000	7.0	14.0	1.3	0.18	0.4	0.05
19	29.818	55.7	43.6	12.1	49.3	41.4	44	118.9	38.4	0.000	5.3	14.1	7.2	0.96	6.8	0.91
20	29.931	57.5	40.0	17.5	46.2	42.3	70	115.6	35.0	0.000	8.7	14.1	5.8	0.78	5.7	0.76
21	30.021	49.0	36.7	12.3	43.2	38.5	61	109.9	32.2	0.000	8.3	14.2	3.8	0.55	2.3	0.33
22	30.129	51.3	38.0	13.3	44.4	39.3	59	116.3	30.2	0.000	11.5	14.2	..	..	..	..
23	30.081	70.4	36.8	33.6	46.7	44.8	85	122.7	25.6	0.000	7.6	14.3	6.9	0.99	6.7	0.96
24	30.046	73.3	38.8	34.5	61.2	51.5	47	127.7	27.1	0.000	11.4	14.4	7.0	1.00	7.0	1.00
25	29.975	73.6	39.2	34.4	62.6	50.9	39	128.3	26.9	0.000	11.8	14.4	7.0	1.00	7.0	1.00
26	29.739	58.4	42.7	15.7	55.2	50.1	68	94.1	28.7	0.000	2.1	14.5	0.1	0.02	0.0	0.00
27	29.809	51.6	39.8	11.8	43.3	39.1	66	108.7	36.8	0.012	1.1	14.6	4.0	0.58	3.6	0.51
28	29.934	47.4	37.8	9.6	44.1	39.1	60	99.5	32.7	0.004	1.7	14.6	2.2	0.34	1.2	0.18
29	29.878	50.6	35.2	15.4	43.4	38.9	63	110.0	27.8	0.302	0.8	14.7	0.0	0.00	0.0	0.00
30	29.850	50.0	36.0	14.0	42.0	40.0	83	108.6	33.3	0.154	2.4	14.7	3.5	0.54	3.1	0.47
Means	29.769	54.5	38.5	16.0	46.9	42.1	64.8	107.7	31.5	Sum 2.811	5.1	13.8	4.3	0.56	3.7	0.49

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

Month and Day 1951	AT THE ROYAL OBSERVATORY, GREENWICH				AT THE ROYAL GREENWICH OBSERVATORY, HERSTMONCEUX					
	Clouds and Weather				Daily Duration of Sunshine	Sun above Horizon	Record of the Night Sky			
	0 ^h to 6 ^h	6 ^h to 12 ^h	12 ^h to 18 ^h	18 ^h to 24 ^h			Polaris		δ Ursæ Minoris	
							Duration	Fraction of total Exposure	Duration	Fraction of total Exposure
Apr. 1	b c	c Nbst r ₀ t R c Cumb Cu	c Stcu Nbst r bc	bc p c	hours	hours	hours		hours	
2	c r c b	b c Stcu	c Cu Stcu	c b	7.9	12.9	6.1	0.72	5.3	0.62
3	b x bc	bc Cu Prcu	bc c Stcu	c bc c	7.2	13.0	2.7	0.32	1.5	0.18
4	c 1r	rr Nbst	r c bc Stcu Ci b	b	2.2	13.1	8.5	1.00	8.5	1.00
5	b	b Prcu	b Prcu bc	b bc	10.8	13.1	5.8	0.68	4.9	0.57
6	bc c rr	rr c Nbst	c Nbst d ₀ d ₀	d ₀ rr c	0.0	13.2	0.1	0.01	0.1	0.01
7	c p c	c bc c Cu Ci p	c q h r t l c p c	c rr c	6.6	13.3	1.7	0.21	0.7	0.09
8	c	c Nbst	c Cu Stcu c r ₀	c r ₀ c rr	7.9	13.3	0.0	0.00	0.0	0.00
9	rr c r	r c Nbst Cumb	c Nbst r ₀ r ₀ rr	r c b	0.7	13.4	7.0	0.85	6.9	0.84
10	b c b	b c Cu Cumb p	c Cumb p h c	c p c	7.5	13.4	2.1	0.26	2.0	0.24
11	c b x	b bc Cu Prcu	bc Cu Stcu	bc b c	8.2	13.5	6.6	0.80	5.3	0.64
12	c b c	c Ci Cu Ast	c Ast	c	0.3	13.6	0.0	0.00	0.0	0.00
13	c rr	c Nbst c Cu	c bc Cu Cumb p c	c p b c b	5.8	13.6	8.3	1.00	8.3	1.00
14	b c	c b c Cu Cumb	c Cumb p c	c b	10.7	13.7	7.5	1.00	7.5	1.00
15	b x	c bc Ci Cist so-ha c	c b	b c	11.5	13.8	4.5	0.60	4.4	0.58
16	c	c Nbst d ₀ d ₀	c Nbst d ₀ d c	c b	3.2	13.8	7.4	0.98	7.2	0.96
17	b c b x	b	b	b bc	12.9	13.9	7.5	1.00	6.8	0.91
18	bc x	bc Cicu Ci Acu	bc Ci Acu c	c	10.2	14.0	5.7	0.76	4.7	0.63
19	c p c	c bc Cu Acu Ci	bc Cu Acu Ci c	c b	0.0	14.0	0.0	0.00	0.0	0.00
20	b c	c Stcu b	b	b	10.7	14.1	7.5	1.00	7.5	1.00
21	b bc c	c Stcu	c Stcu bc b	b c	10.7	14.1	7.0	1.00	7.0	1.00
22	c b	b Prcu Acu	b	b	11.1	14.2	7.0	1.00	7.0	1.00
23	b c x f	f b Ci	b Ci	b	13.0	14.3	7.0	1.00	7.0	1.00
24	b x	b x z ₀	b z ₀	b z ₀	13.3	14.3	7.0	1.00	7.0	1.00
25	b x z ₀	b z ₀	b z ₀	b	13.3	14.4	7.0	1.00	7.0	1.00
26	b bc	bc b z ₀ c	c r ₀ c	c r ₀ c	8.5	14.4	0.0	0.00	0.0	0.00
27	c	c Stcu Nbst	c Cumb p	c p b c p	2.5	14.5	6.0	0.86	5.7	0.81
28	c p	c Cu Cumb	r ₀ c r ₀ c	c b	3.2	14.6	3.5	0.54	3.5	0.53
29	bc x	bc Ast Cist so-ha c Stcu	c Stcu Nbst	c R c	1.7	14.6	2.6	0.40	2.3	0.35
30	c r c	c rs r c Nbst p c	c Nbst Cumb p	c b	4.3	14.7	0.6	0.09	0.4	0.06
Means	-	-	-	-	7.0	13.8	4.7	0.61	4.3	0.57

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

Month and Day 1951	AT THE ROYAL OBSERVATORY, GREENWICH									
	Eye Readings made at 09 00 hours of the Temperature of the Air					Degree of Humidity (Saturation = 100)	Lowest Tempera- ture on the Grass	Rainfall (Thrown back)	Daily Duration of Sunshine	Sun above Horizon
	Highest (Thrown back)	Lowest	Daily Range	Dry Bulb	Wet Bulb					
May 1	54.7	40.6	14.1	43.2	42.2	92	37.1	0.01	1.9	14.8
2	58.0	42.8	15.2	53.2	45.4	49	41.2	Trace	9.6	14.8
3	61.3	41.3	20.0	53.1	48.7	71	30.6	0.07	0.1	14.9
4	54.5	46.4	8.1	47.7	47.1	95	42.6	0.19	0.5	14.9
5	58.6	41.7	16.9	53.2	49.9	78	29.7	0.11	2.3	15.0
6	57.8	42.8	15.0	49.1	46.7	83	33.4	Trace	0.3	15.1
7	49.5	44.8	4.7	45.9	43.9	84	44.2	0.01	0.0	15.1
8	49.4	38.8	10.6	40.2	38.4	84	36.6	0.01	0.2	15.2
9	49.6	40.0	9.6	43.5	42.8	94	40.4	0.06	0.0	15.2
10	58.4	43.2	15.2	48.6	45.7	79	43.5	0.00	8.1	15.3
11	58.8	41.3	17.5	51.8	46.5	64	36.4	0.00	7.0	15.4
12	63.1	38.2	24.9	51.1	44.2	53	29.6	0.00	11.9	15.4
13	58.9	46.2	12.7	55.3	49.3	62	35.6	0.00	3.2	15.5
14	51.8	43.8	8.0	45.9	41.5	66	37.9	0.00	1.0	15.5
15	57.4	45.2	12.2	51.5	47.7	74	36.3	0.12	0.0	15.6
16	52.7	48.3	4.4	49.4	44.9	68	47.1	0.00	1.7	15.6
17	55.7	41.8	13.9	52.5	46.2	58	38.4	0.10	6.8	15.7
18	61.5	45.1	16.4	55.7	50.8	69	41.1	0.02	3.1	15.7
19	61.7	49.4	12.3	54.8	52.1	82	43.6	0.21	0.4	15.8
20	66.2	48.5	17.7	55.8	53.0	82	45.3	0.08	4.4	15.8
21	66.7	48.7	18.0	56.9	50.4	61	43.5	0.12	11.8	15.9
22	62.0	43.3	18.7	55.4	52.8	84	32.6	0.01	6.9	15.9
23	69.7	49.7	20.0	60.5	53.9	62	41.6	0.27	1.4	16.0
24	72.7	53.7	19.0	56.9	56.1	95	46.2	Trace	4.6	16.0
25	70.2	51.4	18.8	64.7	57.7	63	42.6	0.00	8.9	16.0
26	62.8	51.8	11.0	58.3	52.7	67	43.5	0.59	0.0	16.1
27	57.3	48.3	9.0	52.0	49.4	82	45.6	0.00	1.7	16.1
28	65.4	44.0	21.4	57.1	53.2	76	35.4	0.01	2.8	16.1
29	58.7	50.3	8.4	52.4	49.5	80	46.4	0.00	1.1	16.2
30	60.0	45.1	14.9	48.5	45.1	75	43.2	0.00	6.9	16.2
31	61.0	44.6	16.4	57.7	50.0	54	38.3	0.00	13.7	16.3
Means	59.6	45.2	14.4	52.3	48.3	73.7	39.7	Sum 1.99	3.9	15.6

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

Month and Day 1951	AT THE ROYAL OBSERVATORY, GREENWICH				AT THE ROYAL GREENWICH OBSERVATORY, HERSTMONCEUX					
	Record of the Night Sky				Daily Duration of Sunshine	Sun above Horizon	Record of the Night Sky			
	Polaris		δ Ursæ Minoris				Polaris		δ Ursæ Minoris	
	Duration	Fraction of total Exposure	Duration	Fraction of total Exposure	Duration	Fraction of total Exposure	Duration	Fraction of total Exposure	Duration	Fraction of total Exposure
	hours		hours		hours	hours	hours		hours	
May 1	0.0	0.00	0.0	0.00	5.7	14.7	0.0	0.00	0.0	0.00
2	5.7	0.88	5.2	0.80	11.3	14.8	4.7	0.72	4.3	0.65
3	0.6	0.09	0.1	0.01	3.3	14.8	0.0	0.00	0.0	0.00
4	6.2	0.95	6.1	0.94	3.1	14.9	3.8	0.58	3.3	0.52
5	3.2	0.53	3.1	0.51	7.0	15.0	5.8	0.93	5.3	0.85
6	0.1	0.01	0.1	0.01	3.6	15.0	0.9	0.15	0.8	0.13
7	0.2	0.04	0.1	0.02	0.0	15.1	0.0	0.00	0.0	0.00
8	0.0	0.00	0.0	0.00	0.3	15.1	0.0	0.00	0.0	0.00
9	0.0	0.00	0.0	0.00	0.3	15.2	0.0	0.00	0.0	0.00
10	3.7	0.62	3.2	0.54	8.7	15.2	6.3	1.00	6.3	1.00
11	6.0	1.00	6.0	1.00	13.0	15.3	6.3	1.00	6.3	1.00
12	5.4	0.98	4.3	0.78	13.9	15.3	5.7	1.00	5.7	1.00
13	0.3	0.06	0.3	0.05	5.4	15.4	1.5	0.26	1.1	0.18
14	0.8	0.15	0.6	0.12	1.0	15.4	0.0	0.00	0.0	0.00
15	0.0	0.00	0.0	0.00	0.9	15.5	0.0	0.00	0.0	0.00
16	0.6	0.12	0.5	0.10	5.0	15.5	2.1	0.37	1.9	0.33
17	0.2	0.04	0.1	0.02	9.8	15.6	0.0	0.00	0.0	0.00
18	0.0	0.00	0.0	0.00	8.7	15.6	1.8	0.32	1.5	0.26
19	0.0	0.00	0.0	0.00	1.0	15.7	0.0	0.00	0.0	0.00
20	0.0	0.00	0.0	0.00	7.0	15.7	0.0	0.00	0.0	0.00
21	3.6	0.71	3.6	0.71	14.3	15.8	3.3	0.63	3.1	0.59
22	4.8	0.97	4.8	0.97	6.4	15.8	3.3	0.63	2.3	0.43
23	2.9	0.59	2.7	0.53	3.4	15.8	4.3	0.83	4.0	0.76
24	0.8	0.16	0.5	0.10	7.7	15.9	0.0	0.00	0.0	0.00
25	1.2	0.25	1.1	0.21	12.9	15.9	0.0	0.00	0.0	0.00
26	0.0	0.00	0.0	0.00	0.0	16.0	0.0	0.00	0.0	0.00
27	3.7	0.77	3.3	0.70	7.0	16.0	4.4	0.89	3.3	0.66
28	2.6	0.54	2.4	0.51	7.2	16.0	1.4	0.28	0.4	0.07
29	2.8	0.59	2.5	0.52	2.0	16.1	3.8	0.76	2.5	0.51
30	4.7	1.00	4.7	1.00	14.4	16.1	5.0	1.00	5.0	1.00
31	4.7	0.98	4.7	0.98	13.9	16.2	5.0	1.00	5.0	1.00
Means	2.1	0.39	1.9	0.36	6.4	15.5	2.2	0.40	2.0	0.35

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

Month and Day 1951	AT THE ROYAL OBSERVATORY, GREENWICH									
	Eye Readings made at 09 00 hours of the Temperature of the Air					Degree of Humidity (Saturation = 100)	Lowest Temperature on the Grass	Rainfall (Thrown back)	Daily Duration of Sunshine	Sun above Horizon
	Highest (Thrown back)	Lowest	Daily Range	Dry Bulb	Wet Bulb					
June 1	67.7	46.9	20.8	60.3	53.1	59	41.2	0.00	12.5	16.3
2	68.3	44.0	24.3	55.8	49.8	63	37.2	0.00	10.8	16.3
3	71.6	40.4	31.2	60.7	54.8	67	39.9	0.00	12.3	16.4
4	65.7	46.3	19.4	51.2	47.7	75	35.7	0.00	8.8	16.4
5	73.0	47.7	25.3	58.1	50.7	56	40.6	0.00	12.2	16.4
6	70.8	47.7	23.1	63.0	55.3	59	35.3	0.00	13.0	16.4
7	57.5	49.4	8.1	52.2	48.0	70	44.8	0.00	4.1	16.5
8	65.2	44.8	20.4	55.4	48.3	56	39.6	0.00	13.5	16.5
9	69.7	43.8	25.9	58.9	52.5	62	30.4	0.09	4.8	16.5
10	72.4	49.3	23.1	59.0	53.4	67	41.7	0.01	9.6	16.5
11	75.8	48.8	27.0	64.7	56.7	58	39.0	0.38	12.3	16.5
12	70.0	59.3	10.7	64.2	61.6	86	54.6	0.00	7.6	16.6
13	68.7	57.2	11.5	64.5	58.4	68	52.3	0.00	4.4	16.6
14	74.6	55.6	19.0	67.4	61.1	68	47.4	0.06	3.8	16.6
15	74.6	57.0	17.6	65.3	59.1	68	51.6	0.00	11.5	16.6
16	73.7	51.3	22.4	64.5	55.3	53	39.2	0.00	12.2	16.6
17	71.4	49.6	21.8	64.7	55.5	53	38.7	0.00	11.0	16.6
18	70.4	47.7	22.7	61.8	54.5	59	34.2	Trace	8.7	16.6
19	68.4	46.0	22.4	62.6	54.3	55	33.0	Trace	9.4	16.6
20	72.2	47.1	25.1	64.2	57.5	65	34.2	0.00	6.7	16.6
21	73.5	45.9	27.6	68.3	57.8	50	31.6	0.42	10.8	16.6
22	70.8	58.8	12.0	60.9	58.7	87	56.5	Trace	3.0	16.6
23	65.3	55.5	9.8	56.6	55.0	90	54.4	0.00	0.0	16.6
24	70.5	55.7	14.8	63.7	56.9	64	53.3	0.05	2.7	16.6
25	71.6	47.5	24.1	63.8	56.1	59	38.1	0.14	10.0	16.6
26	59.5	49.2	10.3	53.9	50.6	78	42.6	0.10	0.5	16.6
27	67.4	53.0	14.4	59.1	53.2	65	51.3	0.00	0.9	16.6
28	65.5	55.6	9.9	57.3	54.1	80	53.5	Trace	0.0	16.6
29	68.6	51.4	17.2	62.4	58.4	77	41.4	0.00	6.9	16.6
30	72.1	45.5	26.6	60.3	53.4	61	34.8	0.00	12.5	16.6
Means	69.5	49.9	19.6	60.8	54.7	65.9	42.3	Sum 1.25	7.9	16.5

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

Month and Day 1951	AT THE ROYAL OBSERVATORY, GREENWICH				AT THE ROYAL GREENWICH OBSERVATORY, HERSTMONCEUX					
	Record of the Night Sky				Daily Duration of Sunshine	Sun above Horizon	Record of the Night Sky			
	Polaris		δ Ursæ Minoris				Polaris		δ Ursæ Minoris	
	Duration	Fraction of total Exposure	Duration	Fraction of total Exposure	Duration	Fraction of total Exposure	Duration	Fraction of total Exposure		
	hours		hours	hours	hours	hours	hours		hours	
June 1	4.7	1.00	4.7	1.00	13.6	16.2	5.0	1.00	5.0	1.00
2	4.2	0.93	4.1	0.90	13.9	16.2	4.3	0.90	3.9	0.81
3	4.5	1.00	4.5	1.00	13.8	16.2	4.7	1.00	4.7	1.00
4	4.5	1.00	4.5	1.00	9.8	16.3	4.7	1.00	4.7	1.00
5	4.5	1.00	4.5	1.00	14.2	16.3	4.7	1.00	4.7	1.00
6	4.5	1.00	1.7	0.39	13.8	16.3	4.7	1.00	4.4	0.92
7	3.7	0.82	3.6	0.80	6.3	16.4	4.7	1.00	4.7	1.00
8	4.5	1.00	4.5	1.00	14.9	16.4	4.7	1.00	4.7	1.00
9	3.6	0.80	3.5	0.77	9.9	16.4	1.4	0.32	1.2	0.27
10	1.5	0.33	1.4	0.32	12.7	16.4	3.9	0.86	3.9	0.86
11	0.2	0.05	0.2	0.05	12.4	16.4	0.5	0.11	0.3	0.06
12	0.0	0.00	0.0	0.00	5.5	16.5	0.0	0.00	0.0	0.00
13	2.6	0.58	2.4	0.53	6.2	16.5	4.5	1.00	4.5	1.00
14	0.0	0.00	0.0	0.00	10.8	16.5	0.0	0.00	0.0	0.00
15	4.1	0.91	4.0	0.89	10.9	16.5	4.3	0.96	4.2	0.94
16	4.4	0.98	4.3	0.96	12.5	16.5	2.0	0.45	1.8	0.40
17	4.5	1.00	4.2	0.93	12.2	16.5	4.5	1.00	4.4	0.97
18	4.5	1.00	4.5	1.00	11.2	16.5	4.5	1.00	4.5	1.00
19	4.5	1.00	4.5	1.00	15.0	16.5	4.5	1.00	4.5	1.00
20	4.5	1.00	4.5	1.00	14.8	16.5	4.5	1.00	4.5	1.00
21	0.0	0.00	0.0	0.00	12.9	16.5	0.0	0.00	0.0	0.00
22	0.0	0.00	0.0	0.00	6.8	16.6	0.0	0.00	0.0	0.00
23	0.0	0.00	0.0	0.00	0.0	16.5	0.0	0.00	0.0	0.00
24	3.7	0.83	2.8	0.61	1.1	16.5	1.6	0.35	1.0	0.22
25	0.1	0.01	0.0	0.00	9.4	16.5	1.9	0.43	1.7	0.37
26	0.0	0.00	0.0	0.00	3.4	16.5	0.0	0.00	0.0	0.00
27	0.0	0.00	0.0	0.00	4.4	16.5	3.1	0.69	2.5	0.54
28	1.3	0.28	0.8	0.18	0.3	16.5	0.7	0.16	0.6	0.13
29	4.5	1.00	4.5	1.00	6.6	16.5	4.5	1.00	4.5	1.00
30	4.7	1.00	4.0	0.85	14.4	16.5	4.5	1.00	4.5	1.00
Means	2.8	0.62	2.6	0.57	9.8	16.4	2.9	0.64	2.8	0.62

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

Month and Day 1951	AT THE ROYAL OBSERVATORY, GREENWICH									
	Eye Readings made at 09 00 hours of the Temperature of the Air					Degree of Humidity (Saturation = 100)	Lowest Temperature on the Grass	Rainfall (Thrown back)	Daily Duration of Sunshine	Sun above Horizon
	Highest (Thrown back)	Lowest	Daily Range	Dry Bulb	Wet Bulb					
July 1	80.7	50.5	30.2	67.0	60.5	67	42.1	0.00	10.3	16.6
2	81.9	56.1	25.8	70.6	61.7	58	44.5	0.00	10.6	16.6
3	81.4	61.2	20.2	71.6	62.3	57	49.0	0.01	11.9	16.5
4	67.5	57.8	9.7	64.2	59.9	77	49.0	0.00	3.3	16.5
5	69.0	51.2	17.8	61.2	52.7	53	40.1	0.02	3.5	16.5
6	75.4	55.7	19.7	68.5	62.2	69	50.8	0.00	8.6	16.5
7	74.9	56.3	18.6	66.1	59.7	67	43.5	0.00	5.4	16.5
8	76.0	55.6	20.4	68.4	61.9	68	42.2	0.00	5.0	16.4
9	74.4	54.3	20.1	67.0	57.3	52	44.0	0.13	5.9	16.4
10	76.3	59.3	17.0	66.8	61.6	73	56.6	0.00	5.2	16.4
11	72.5	59.1	13.4	66.0	60.7	73	51.6	0.03	7.2	16.3
12	70.9	54.8	16.1	63.1	56.0	62	47.8	0.44	5.7	16.3
13	70.3	50.3	20.0	60.3	56.5	78	41.4	0.00	7.0	16.3
14	67.8	47.5	20.3	60.3	55.1	70	37.1	0.00	1.7	16.3
15	69.0	52.9	16.1	60.8	56.8	77	42.7	0.00	3.4	16.2
16	73.2	52.4	20.8	65.4	56.9	56	38.6	0.00	8.1	16.2
17	81.3	52.9	28.4	70.3	61.4	58	40.6	0.00	11.7	16.1
18	72.8	59.8	13.0	69.2	63.0	70	49.2	Trace	1.6	16.1
19	81.7	60.2	21.5	67.9	63.2	76	52.2	0.00	7.7	16.1
20	78.3	59.4	18.9	71.2	63.7	64	45.2	0.00	7.4	16.0
21	75.2	55.0	20.2	68.6	61.6	65	41.3	Trace	12.7	16.0
22	78.8	54.4	24.4	68.0	60.6	63	39.2	0.70	3.8	16.0
23	59.9	58.2	1.7	59.2	57.7	91	47.1	0.03	0.0	15.9
24	65.3	53.0	12.3	57.8	52.4	68	44.2	0.00	1.6	15.9
25	74.6	50.0	24.6	61.3	55.2	66	38.4	0.00	6.3	15.8
26	78.0	55.2	22.8	65.0	59.7	72	47.6	Trace	4.8	15.8
27	75.7	60.2	15.5	67.4	60.4	65	56.1	0.00	1.6	15.7
28	84.4	56.9	27.5	71.3	62.3	58	46.2	0.00	14.1	15.7
29	70.6	59.4	11.2	63.6	57.4	67	50.6	0.00	1.5	15.6
30	74.8	52.8	22.0	65.2	59.4	70	41.7	0.14	10.8	15.6
31	72.7	62.9	9.8	69.4	66.4	85	56.6	0.01	0.5	15.5
Means	74.4	55.7	18.7	65.9	59.6	67.6	45.7	Sum 1.51	6.1	16.1

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

Month and Day 1951	AT THE ROYAL OBSERVATORY, GREENWICH				AT THE ROYAL GREENWICH OBSERVATORY, HERSTMONCEUX					
	Record of the Night Sky				Daily Duration of Sunshine	Sun above Horizon	Record of the Night Sky			
	Polaris		δ Ursæ Minoris				Polaris		δ Ursæ Minoris	
	Dura- tion	Fraction of total Exposure	Dura- tion	Fraction of total Exposure	Dura- tion	Fraction of total Exposure	Dura- tion	Fraction of total Exposure		
July 1	hours 4.7	1.00	hours 4.7	1.00	hours 12.7	hours 16.5	hours 3.4	0.76	hours 3.2	0.71
2	1.9	0.40	1.7	0.35	14.2	16.5	4.5	1.00	4.5	1.00
3	4.7	1.00	4.6	0.99	14.7	16.4	4.5	1.00	4.5	1.00
4	2.5	0.53	2.3	0.48	5.6	16.4	2.0	0.45	1.3	0.30
5	0.0	0.00	0.0	0.00	9.0	16.4	0.0	0.00	0.0	0.00
6	4.7	0.99	4.7	0.99	9.0	16.4	3.7	0.83	3.5	0.78
7	..	..	..	..	12.1	16.3	4.3	0.91	3.1	0.66
8	2.9	0.59	2.1	0.42	8.8	16.3	1.9	0.40	1.2	0.25
9	0.0	0.00	0.0	0.00	3.7	16.3	0.0	0.00	0.0	0.00
10	1.5	0.30	1.4	0.27	0.9	16.3	1.8	0.38	1.7	0.36
11	..	..	..	..	4.3	16.2	2.5	0.52	1.8	0.38
12	1.3	0.27	1.0	0.20	7.1	16.2	1.9	0.39	1.9	0.39
13	5.0	1.00	5.0	1.00	13.5	16.2	4.5	0.94	4.3	0.90
14	3.2	0.62	2.9	0.55	4.7	16.1	1.6	0.31	1.2	0.24
15	3.7	0.70	3.3	0.63	6.5	16.1	1.5	0.30	1.1	0.21
16	5.3	1.00	5.3	1.00	13.3	16.1	5.0	1.00	5.0	1.00
17	4.9	0.93	4.6	0.88	12.7	16.0	5.0	1.00	5.0	1.00
18	0.9	0.17	0.7	0.13	5.0	16.0	2.3	0.46	1.7	0.33
19	5.3	1.00	5.2	0.98	5.3	16.0	5.0	1.00	5.0	1.00
20	3.4	0.65	3.3	0.63	10.6	15.9	5.0	1.00	5.0	1.00
21	4.9	0.86	4.8	0.84	13.8	15.9	5.0	0.91	4.0	0.73
22	0.8	0.15	0.7	0.12	5.4	15.9	0.3	0.05	0.1	0.02
23	0.0	0.00	0.0	0.00	1.0	15.8	0.0	0.00	0.0	0.00
24	..	..	..	..	5.9	15.8	2.8	0.52	2.2	0.39
25	3.5	0.61	2.5	0.42	10.8	15.7	4.8	0.88	4.2	0.76
26	0.1	0.01	0.0	0.00	5.7	15.7	0.0	0.00	0.0	0.00
27	3.6	0.62	3.4	0.60	5.3	15.6	4.4	0.81	3.1	0.57
28	4.4	0.71	2.2	0.36	14.1	15.6	4.3	0.75	3.7	0.65
29	5.5	0.89	5.3	0.84	0.0	15.5	2.0	0.35	1.1	0.19
30	..	..	..	..	11.7	15.5	3.6	0.62	3.1	0.54
31	0.4	0.06	0.2	0.04	1.4	15.4	0.0	0.00	0.0	0.00
Means	2.9	0.56	2.7	0.51	8.0	16.0	2.8	0.56	2.5	0.49

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

Month and Day 1951	AT THE ROYAL OBSERVATORY, GREENWICH									
	Eye Readings made at 09 00 hours of the Temperature of the Air					Degree of Humidity (Saturation = 100)	Lowest Tempera- ture on the Grass	Rainfall (Thrown back)	Daily Duration of Sunshine	Sun above Horizon
	Highest (Thrown back)	Lowest	Daily Range	Dry Bulb	Wet Bulb					
Aug. 1	° 77.4	° 61.3	° 16.1	° 65.0	° 60.0	73	° 55.2	inches 0.00	hours 3.8	hours 15.5
2	79.0	54.4	24.6	69.4	61.3	61	41.6	0.00	13.6	15.4
3	79.3	56.7	22.6	68.4	61.3	65	46.3	Trace	13.0	15.4
4	68.8	56.3	12.5	65.4	61.3	78	44.6	0.01	0.4	15.3
5	71.1	54.0	17.1	66.7	60.1	66	43.9	0.01	5.0	15.3
6	68.7	59.3	9.4	63.3	61.0	87	55.3	0.72	0.2	15.2
7	72.3	56.4	15.9	60.4	58.7	90	51.8	0.01	4.4	15.1
8	71.3	52.3	19.0	65.0	56.9	58	45.2	0.00	4.0	15.1
9	67.7	54.4	13.3	58.1	54.9	80	46.0	0.33	1.6	15.0
10	71.4	53.4	18.0	60.2	57.5	84	45.2	Trace	3.7	15.0
11	62.3	51.4	10.9	60.0	56.7	81	43.8	0.47	0.0	14.9
12	66.4	57.0	9.4	59.0	55.3	78	56.1	0.01	6.0	14.9
13	66.7	49.0	17.7	61.0	54.3	62	41.0	Trace	7.4	14.8
14	64.6	50.3	14.3	57.4	54.3	81	41.7	0.00	0.8	14.7
15	68.3	53.3	15.0	61.0	52.3	52	46.2	0.00	5.8	14.7
16	70.8	52.3	18.5	63.3	54.1	51	42.6	Trace	7.5	14.6
17	68.5	51.7	16.8	61.7	58.0	79	42.5	0.03	2.0	14.6
18	72.3	51.3	21.0	63.7	56.7	63	40.7	0.16	10.8	14.5
19	74.4	58.2	16.2	66.2	60.9	73	52.7	0.19	6.4	14.4
20	73.5	51.3	22.2	62.8	57.5	71	43.2	Trace	9.9	14.4
21	71.8	49.8	22.0	64.2	58.1	68	39.6	0.02	6.8	14.3
22	71.9	58.9	13.0	62.3	60.6	91	57.1	0.01	2.7	14.3
23	73.0	50.6	22.4	62.6	56.1	65	40.5	Trace	6.4	14.2
24	69.6	52.3	17.3	64.0	59.8	77	43.5	0.01	0.8	14.1
25	64.7	50.2	14.5	57.8	53.4	73	41.1	0.27	0.3	14.1
26	65.8	53.6	12.2	58.1	54.7	79	48.8	0.20	6.1	14.0
27	65.6	50.8	14.8	58.9	54.3	72	45.0	0.07	5.8	14.0
28	70.2	55.8	14.4	65.6	62.1	81	54.2	0.08	0.1	13.9
29	70.2	60.6	9.6	64.0	58.1	69	56.2	Trace	9.4	13.8
30	63.9	55.8	8.1	61.9	58.5	81	49.2	0.37	2.3	13.8
31	65.7	52.7	13.0	59.4	56.9	85	48.0	0.19	2.9	13.7
Means	69.9	54.0	15.9	62.5	57.6	73.4	46.7	Sum 3.16	4.8	14.6

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

Month and Day 1951	AT THE ROYAL OBSERVATORY, GREENWICH				AT THE ROYAL GREENWICH OBSERVATORY, HERSTMONCEUX					
	Record of the Night Sky				Daily Duration of Sunshine	Sun above Horizon	Record of the Night Sky			
	Polaris		δ Ursæ Minoris				Polaris		δ Ursæ Minoris	
	Duration	Fraction of total Exposure	Duration	Fraction of total Exposure	Duration	Fraction of total Exposure	Duration	Fraction of total Exposure		
	hours		hours		hours	hours	hours		hours	
Aug. 1	5.9	0.94	5.6	0.90	2.6	15.4	5.5	0.96	5.3	0.93
2	6.3	1.00	6.3	1.00	14.3	15.3	5.6	0.98	5.6	0.98
3	..	..	..	..	14.2	15.3	5.7	1.00	5.7	1.00
4	2.8	0.41	2.6	0.38	2.7	15.2	5.3	0.84	5.0	0.80
5	0.1	0.02	0.1	0.02	3.7	15.2	0.0	0.00	0.0	0.00
6	1.0	0.15	0.6	0.09	0.1	15.1	..	..	..	..
7	4.9	0.73	4.3	0.63	9.0	15.1	2.9	0.46	1.8	0.29
8	5.9	0.87	5.3	0.79	6.4	15.0	1.1	0.17	0.9	0.15
9	3.3	0.49	3.1	0.46	6.1	15.0	0.7	0.11	0.5	0.07
10	5.0	0.74	4.9	0.72	6.5	14.9	5.8	0.93	5.4	0.86
11	0.0	0.00	0.0	0.00	0.0	14.9	0.0	0.00	0.0	0.00
12	6.2	0.86	6.1	0.85	7.5	14.8	6.7	1.00	6.7	1.00
13	4.5	0.62	4.2	0.58	7.5	14.8	6.5	0.97	6.5	0.97
14	1.5	0.20	1.0	0.14	4.6	14.7	0.0	0.00	0.0	0.00
15	0.3	0.05	0.0	0.00	4.6	14.6	4.3	0.64	2.2	0.32
16	4.5	0.62	2.3	0.31	6.3	14.6	6.1	0.90	3.9	0.57
17	5.6	0.77	5.1	0.70	0.8	14.5	6.7	1.00	6.7	0.99
18	..	..	..	..	11.2	14.5	3.1	0.43	2.4	0.33
19	5.0	0.64	4.9	0.63	4.3	14.4	6.2	0.86	6.1	0.84
20	7.7	1.00	7.7	1.00	12.1	14.3	7.2	0.99	7.2	0.99
21	0.0	0.00	0.0	0.00	8.7	14.3	0.0	0.00	0.0	0.00
22	..	..	..	..	2.4	14.2	6.5	0.89	5.6	0.77
23	5.1	0.66	3.9	0.51	8.0	14.1	6.0	0.83	5.5	0.75
24	5.1	0.66	4.7	0.60	0.6	14.1	5.3	0.73	4.3	0.60
25	0.0	0.00	0.0	0.00	1.8	14.0	1.5	0.19	1.0	0.13
26	1.4	0.17	0.4	0.05	5.6	14.0	0.8	0.10	0.6	0.07
27	0.0	0.00	0.0	0.00	4.3	13.9	0.0	0.00	0.0	0.00
28	0.3	0.03	0.2	0.03	0.0	13.9	0.4	0.05	0.3	0.04
29	6.9	0.82	6.5	0.77	9.8	13.8	7.1	0.89	6.5	0.82
30	6.9	0.82	6.5	0.77	2.9	13.7	6.2	0.78	5.2	0.65
31	8.5	1.00	8.5	1.00	6.7	13.7	6.9	0.86	6.3	0.79
Means	3.7	0.51	3.4	0.46	5.7	14.6	4.0	0.59	3.6	0.52

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

Month and Day 1951	AT THE ROYAL OBSERVATORY, GREENWICH									
	Eye Readings made at 09 00 hours of the Temperature of the Air					Degree of Humidity (Saturation = 100)	Lowest Tempera- ture on the Grass	Rainfall (Thrown back)	Daily Duration of Sunshine	Sun above Horizon
	Highest (Thrown back)	Lowest	Daily Range	Dry Bulb	Wet Bulb					
Sept.1	° 65.8	° 48.9	° 16.9	° 60.7	° 56.1	73	° 41.4	inches 0.62	hours 4.3	hours 13.6
2	65.6	48.8	16.8	56.2	54.0	86	43.2	Trace	2.9	13.6
3	72.4	47.7	24.7	60.0	54.4	68	39.6	0.21	8.2	13.5
4	76.2	57.2	19.0	66.9	65.1	90	56.1	0.00	6.2	13.5
5	72.7	63.0	9.7	68.2	64.0	79	59.9	0.00	0.1	13.4
6	74.3	62.6	11.7	68.2	64.9	83	56.9	0.25	0.1	13.3
7	68.7	59.2	9.5	61.4	60.3	93	59.5	Trace	0.1	13.3
8	68.0	58.2	9.8	60.7	57.5	81	56.2	Trace	4.6	13.2
9	63.6	54.7	8.9	58.8	57.0	89	50.0	0.00	0.0	13.1
10	70.8	56.8	14.0	59.8	58.5	92	56.7	0.00	0.0	13.0
11	76.7	59.0	17.7	67.8	64.4	82	53.6	Trace	4.8	13.0
12	76.9	62.8	14.1	66.7	64.7	89	60.1	0.00	3.1	12.9
13	70.8	57.7	13.1	67.9	64.3	81	52.0	0.22	2.6	12.9
14	68.7	52.3	16.4	61.4	55.5	67	45.6	0.02	10.5	12.8
15	64.8	57.3	7.5	57.8	56.1	89	51.6	0.06	0.0	12.7
16	64.6	47.7	16.9	57.7	54.2	78	40.8	0.10	4.2	12.7
17	62.0	49.3	12.7	54.2	50.3	75	44.1	0.00	4.9	12.6
18	58.2	47.7	10.5	55.6	50.7	69	39.7	0.00	1.2	12.5
19	61.2	53.0	8.2	57.0	52.0	69	50.9	0.00	1.0	12.5
20	61.1	44.9	16.2	54.3	49.4	69	34.4	0.00	1.3	12.4
21	61.8	46.6	15.2	57.1	50.5	60	37.6	0.00	7.5	12.3
22	66.7	43.8	22.9	58.2	54.0	75	31.1	0.04	6.4	12.3
23	66.0	55.2	10.8	62.0	61.0	94	49.1	0.01	1.0	12.2
24	67.4	51.3	16.1	60.0	55.1	71	44.6	0.00	5.4	12.2
25	68.6	57.8	10.8	63.0	58.7	76	53.0	0.17	3.8	12.1
26	63.8	53.7	10.1	58.8	55.9	83	49.0	Trace	4.2	12.0
27	64.6	51.7	12.9	60.5	58.3	87	44.0	1.34	0.1	11.9
28	64.7	50.7	14.0	54.5	53.2	91	42.5	Trace	6.7	11.9
29	67.4	43.2	24.2	49.2	48.5	95	34.6	Trace	6.0	11.8
30	65.5	44.0	21.5	52.2	51.9	98	36.8	0.00	2.5	11.8
Means	67.3	52.9	14.4	59.9	56.7	81.1	47.2	Sum 3.04	3.5	12.7

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

Month and Day 1951	AT THE ROYAL OBSERVATORY, GREENWICH				AT THE ROYAL GREENWICH OBSERVATORY, HERSTMONCEUX					
	Record of the Night Sky				Daily Duration of Sunshine	Sun above Horizon	Record of the Night Sky			
	Polaris		δ Ursæ Minoris				Polaris		δ Ursæ Minoris	
	Duration	Fraction of total Exposure	Duration	Fraction of total Exposure			Duration	Fraction of total Exposure	Duration	Fraction of total Exposure
	hours		hours		hours	hours	hours		hours	
Sept.1	3.0	0.34	0.5	0.05	4.0	13.6	4.0	0.47	3.2	0.37
2	6.8	0.78	6.7	0.77	1.4	13.6	7.0	0.83	6.8	0.80
3	0.0	0.00	0.0	0.00	8.8	13.5	0.0	0.00	0.0	0.00
4	0.5	0.06	0.2	0.03	0.0	13.4	0.0	0.00	0.0	0.00
5	0.0	0.00	0.0	0.00	1.9	13.3	5.7	0.67	5.0	0.59
6	0.5	0.06	0.3	0.03	10.6	13.3	5.2	0.61	3.9	0.45
7	0.0	0.00	0.0	0.00	3.9	13.2	0.0	0.00	0.0	0.00
8	3.6	0.39	3.4	0.37	1.0	13.2	2.7	0.30	2.5	0.28
9	0.0	0.00	0.0	0.00	0.3	13.1	0.5	0.06	0.3	0.03
10	1.4	0.15	0.0	0.00	0.0	13.0	1.6	0.19	0.0	0.00
11	0.0	0.00	0.0	0.00	1.8	13.0	2.1	0.24	0.9	0.10
12	6.2	0.67	4.6	0.50	1.7	12.9	2.5	0.29	1.9	0.21
13	9.1	0.98	9.1	0.98	1.6	12.9	8.1	0.93	7.9	0.90
14	4.3	0.47	3.4	0.37	9.6	12.8	7.5	0.85	6.3	0.72
15	9.7	0.99	9.7	0.99	0.0	12.7	8.7	0.94	8.7	0.94
16	2.8	0.29	1.6	0.16	6.0	12.6	3.0	0.32	2.9	0.31
17	6.6	0.67	5.9	0.61	9.4	12.6	8.9	0.97	8.7	0.95
18	0.0	0.00	0.0	0.00	1.6	12.5	1.1	0.12	0.7	0.08
19	8.0	0.82	7.3	0.75	4.9	12.5	8.1	0.88	7.5	0.81
20	3.1	0.31	2.9	0.30	4.8	12.4	7.9	0.86	7.8	0.85
21	9.7	1.00	9.7	1.00	5.5	12.3	9.3	1.00	9.3	1.00
22	0.3	0.03	0.0	0.00	7.7	12.3	2.2	0.22	1.2	0.12
23	8.7	0.85	8.6	0.84	0.6	12.2	7.6	0.78	6.6	0.67
24	3.6	0.35	2.6	0.25	4.0	12.1	8.7	0.89	8.0	0.82
25	0.0	0.00	0.0	0.00	5.2	12.1	0.0	0.00	0.0	0.00
26	9.1	0.89	7.5	0.73	6.3	12.0	5.4	0.55	4.3	0.44
27	1.6	0.16	0.6	0.06	0.2	12.0	2.1	0.22	1.5	0.16
28	10.3	1.00	10.3	1.00	7.9	11.9	9.7	1.00	9.7	1.00
29	8.8	0.82	8.7	0.81	9.9	11.8	10.3	1.00	10.3	1.00
30	1.3	0.12	0.8	0.08	8.4	11.8	8.3	0.81	6.9	0.67
Means	4.0	0.41	3.5	0.36	4.3	12.7	4.9	0.53	4.4	0.48

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

Month and Day 1951	AT THE ROYAL OBSERVATORY, GREENWICH									
	Eye Readings made at 09 00 hours of the Temperature of the Air					Degree of Humidity (Saturation = 100)	Lowest Tempera- ture on the Grass	Rainfall (Thrown back)	Daily Duration of Sunshine	Sun above Horizon
	Highest (Thrown back)	Lowest	Daily Range	Dry Bulb	Wet Bulb					
Oct. 1	° 60.3	° 51.8	° 8.5	° 57.2	° 54.9	85	° 50.7	inches 0.02	hours 0.0	hours 11.7
2	60.8	56.7	4.1	58.1	56.2	89	56.1	0.00	0.0	11.6
3	60.0	57.0	3.0	58.2	55.4	83	55.0	Trace	0.0	11.6
4	56.8	48.9	7.9	49.4	48.3	92	39.4	0.00	0.2	11.5
5	57.4	49.1	8.3	53.7	50.8	80	45.2	Trace	0.1	11.4
6	63.2	52.7	10.5	56.2	54.1	87	45.4	0.00	5.5	11.4
7	59.5	42.2	17.3	51.4	50.9	97	33.0	Trace	6.0	11.3
8	65.8	44.2	21.6	48.5	48.3	98	32.7	Trace	6.1	11.3
9	61.5	39.7	21.8	50.6	48.9	88	27.9	Trace	9.3	11.2
10	62.4	41.9	20.5	50.6	48.2	83	27.7	Trace	9.2	11.1
11	62.0	36.7	25.3	45.3	44.3	92	26.6	Trace	5.6	11.0
12	57.5	40.8	16.7	47.0	42.9	69	28.7	0.01	8.9	11.0
13	65.4	47.0	18.4	53.4	52.5	94	43.6	0.01	0.0	10.9
14	61.7	53.1	8.6	56.6	55.9	95	51.0	Trace	0.1	10.9
15	61.0	49.3	11.7	50.8	50.5	98	40.5	Trace	0.9	10.8
16	52.6	44.8	7.8	45.0	44.7	97	39.1	0.04	0.0	10.7
17	58.0	42.2	15.8	50.2	49.8	97	31.1	Trace	0.3	10.7
18	57.6	41.8	15.8	49.0	46.6	83	32.4	0.03	1.9	10.6
19	54.8	44.8	10.0	50.1	47.9	84	33.3	0.00	1.9	10.5
20	60.6	38.9	21.7	52.0	48.4	75	28.6	0.12	2.3	10.5
21	56.3	46.7	9.6	48.1	45.1	77	41.2	0.01	6.3	10.4
22	44.7	34.8	9.9	39.0	38.0	91	28.1	0.02	0.0	10.3
23	47.2	34.2	13.0	38.6	35.3	69	28.1	Trace	7.6	10.3
24	51.5	28.4	23.1	33.6	32.4	87	20.0	Trace	5.9	10.2
25	52.7	27.8	24.9	33.0	31.9	88	20.4	0.00	5.0	10.1
26	53.1	32.9	20.2	50.0	47.8	84	27.9	0.00	0.0	10.1
27	56.6	45.2	11.4	48.4	41.9	53	44.8	0.00	4.2	10.0
28	61.7	48.3	13.4	52.8	51.3	90	41.2	0.13	5.8	10.0
29	55.4	49.0	6.4	52.4	51.6	94	42.1	0.17	0.7	9.9
30	54.7	44.4	10.3	50.2	49.3	93	34.8	0.15	0.2	9.8
31	48.3	42.2	6.1	46.6	46.0	95	30.6	0.20	0.0	9.8
Means	57.5	43.8	13.7	49.2	47.4	86.7	36.4	Sum 0.91	3.0	10.7

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

Month and Day 1951	AT THE ROYAL OBSERVATORY, GREENWICH				AT THE ROYAL GREENWICH OBSERVATORY, HERSTMONCEUX					
	Record of the Night Sky				Daily Duration of Sunshine	Sun above Horizon	Record of the Night Sky			
	Polaris		δ Ursæ Minoris				Polaris		δ Ursæ Minoris	
	Duration	Fraction of total Exposure	Duration	Fraction of total Exposure	Duration	Fraction of total Exposure	Duration	Fraction of total Exposure		
hours		hours		hours	hours	hours		hours		
Oct. 1	0.0	0.00	0.0	0.00	4.8	11.7	0.0	0.00	0.0	0.00
2	0.0	0.00	0.0	0.00	0.7	11.7	1.9	0.18	1.7	0.16
3	3.9	0.36	2.9	0.27	0.0	11.6	0.7	0.07	0.3	0.03
4	0.9	0.09	0.2	0.02	4.8	11.5	..	..	..	..
5	1.6	0.15	1.2	0.11	4.4	11.4	10.0	0.98	9.0	0.88
6	8.9	0.81	8.7	0.79	9.0	11.4	10.5	1.00	10.5	1.00
7	6.0	0.55	6.0	0.55	9.7	11.3	10.5	1.00	10.5	1.00
8	10.0	0.91	9.7	0.88	9.4	11.3	10.5	1.00	10.5	1.00
9	11.0	1.00	11.0	1.00	9.8	11.2	10.5	1.00	10.5	1.00
10	10.3	0.94	6.3	0.57	9.8	11.1	10.5	1.00	10.5	1.00
11	11.0	1.00	11.0	1.00	8.9	11.0	10.3	0.98	8.0	0.76
12	7.2	0.66	5.9	0.54	9.3	11.0	7.0	0.67	5.7	0.54
13	0.1	0.01	0.0	0.00	0.0	10.9	0.0	0.00	0.0	0.00
14	3.8	0.33	2.0	0.17	0.6	10.9	6.0	0.54	5.3	0.49
15	2.9	0.25	2.2	0.19	7.9	10.8	4.2	0.38	3.9	0.36
16	1.0	0.09	0.4	0.03	8.1	10.8	5.0	0.46	4.9	0.45
17	7.7	0.67	6.7	0.58	0.0	10.7	7.1	0.65	6.7	0.61
18	2.7	0.23	1.5	0.13	0.2	10.6	2.4	0.22	1.5	0.14
19	..	..	..	..	0.8	10.6	7.8	0.71	6.3	0.57
20	4.1	0.34	3.4	0.28	1.2	10.5	1.1	0.09	0.7	0.06
21	11.8	0.98	11.8	0.98	5.8	10.4	10.7	0.93	10.7	0.93
22	12.0	1.00	12.0	1.00	1.9	10.4	10.8	0.94	10.8	0.94
23	12.0	1.00	12.0	1.00	9.2	10.3	11.5	1.00	11.5	1.00
24	11.4	0.95	7.3	0.61	6.5	10.3	9.6	0.84	9.5	0.82
25	6.7	0.56	6.6	0.55	9.2	10.2	7.1	0.61	6.3	0.55
26	0.0	0.00	0.0	0.00	0.0	10.1	0.0	0.00	0.0	0.00
27	2.0	0.16	1.3	0.10	1.5	10.1	1.8	0.15	0.5	0.04
28	2.6	0.21	1.8	0.14	1.8	10.0	0.9	0.07	0.4	0.03
29	4.7	0.38	3.7	0.29	0.7	10.0	6.9	0.59	6.8	0.58
30	4.3	0.34	3.0	0.24	3.9	9.9	8.0	0.68	7.5	0.64
31	3.5	0.28	3.1	0.25	1.0	9.8	7.9	0.67	7.1	0.60
Means	5.5	0.47	4.7	0.41	4.5	10.8	6.4	0.58	5.9	0.54

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

Month and Day 1951	AT THE ROYAL OBSERVATORY, GREENWICH									
	Eye Readings made at 09 00 hours of the Temperature of the Air					Degree of Humidity (saturation = 100)	Lowest Tempera- ture on the Grass	Rainfall (Thrown back)	Daily Duration of Sunshine	Sun above Horizon
	Highest (Thrown back)	Lowest	Daily Range	Dry Bulb	Wet Bulb					
Nov. 1	53.4	44.8	8.6	47.9	45.4	81	38.1	0.02	3.1	9.7
2	55.6	41.0	14.6	52.9	52.0	94	28.6	0.18	1.1	9.7
3	51.3	35.2	16.1	40.0	38.4	86	28.4	Trace	6.9	9.6
4	52.4	36.4	16.0	49.0	47.7	90	27.3	0.15	0.0	9.5
5	54.8	48.8	6.0	52.4	50.0	83	47.0	0.39	0.0	9.5
6	59.6	51.6	8.0	52.9	51.1	87	48.7	0.18	5.0	9.4
7	59.4	48.7	10.7	51.2	50.8	97	37.6	0.16	1.4	9.4
8	53.8	48.4	5.4	52.6	51.9	95	37.2	0.14	0.0	9.3
9	55.2	45.3	9.9	50.7	49.8	93	32.8	0.11	0.7	9.3
10	53.7	45.4	8.3	50.4	49.4	93	35.7	0.43	2.7	9.2
11	56.9	46.6	10.3	50.6	49.2	90	39.8	0.00	5.3	9.2
12	56.7	47.6	9.1	50.4	49.3	92	37.3	0.01	0.1	9.1
13	52.1	47.2	4.9	49.5	48.4	92	38.0	Trace	0.2	9.0
14	53.8	44.8	9.0	46.2	45.0	91	41.5	0.04	3.3	9.0
15	58.2	39.8	18.4	53.8	52.8	93	28.7	0.02	2.2	8.9
16	56.4	47.1	9.3	53.2	51.0	85	38.0	0.53	0.0	8.9
17	54.6	50.2	4.4	53.4	51.1	84	47.0	0.65	0.1	8.8
18	53.0	47.4	5.6	52.2	51.0	91	44.8	0.38	0.0	8.8
19	52.8	42.8	10.0	48.8	47.7	92	35.8	0.09	1.7	8.7
20	54.3	45.2	9.1	48.8	46.7	84	37.2	0.13	4.4	8.7
21	50.6	44.2	6.4	46.9	43.7	75	38.6	0.01	4.3	8.6
22	49.1	41.0	8.1	46.0	41.9	68	34.4	0.15	1.3	8.6
23	57.0	40.9	16.1	44.5	43.9	95	33.8	0.09	0.0	8.5
24	58.1	44.2	13.9	57.0	54.5	84	44.4	0.51	0.0	8.5
25	48.4	46.1	2.3	46.2	43.6	80	39.3	Trace	3.2	8.4
26	45.5	31.2	14.3	33.7	32.2	84	21.7	Trace	1.2	8.4
27	48.9	33.4	15.5	45.5	41.5	69	26.2	Trace	0.0	8.4
28	48.6	43.3	5.3	44.3	40.9	71	37.3	0.02	0.0	8.3
29	50.8	34.8	16.0	40.6	37.5	72	27.2	0.01	0.4	8.3
30	53.1	39.8	13.3	44.3	42.9	88	36.6	0.01	5.9	8.3
Means	53.6	43.4	10.2	48.5	46.7	86.0	36.3	Sum 4.41	1.8	8.9

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

Month and Day 1951	AT THE ROYAL OBSERVATORY, GREENWICH				AT THE ROYAL GREENWICH OBSERVATORY, HERSTMONCEUX					
	Record of the Night Sky				Daily Duration of Sunshine	Sun above Horizon	Record of the Night Sky			
	Polaris		δ Ursæ Minoris				Polaris		δ Ursæ Minoris	
	Dura- tion	Fraction of total Exposure	Dura- tion	Fraction of total Exposure	Dura- tion	Fraction of total Exposure	Dura- tion	Fraction of total Exposure		
	hours		hours	hours	hours	hours	hours	hours		
Nov. 1	5.8	0.47	5.5	0.44	6.1	9.8	6.7	0.57	5.6	0.48
2	12.4	0.99	12.4	0.99	1.4	9.7	11.3	0.96	10.8	0.92
3	7.1	0.57	5.7	0.46	8.1	9.7	4.2	0.36	4.1	0.35
4	0.1	0.01	0.0	0.00	0.0	9.6	0.2	0.02	0.0	0.00
5	0.0	0.00	0.0	0.00	0.0	9.5	0.0	0.00	0.0	0.00
6	6.4	0.51	5.5	0.44	3.9	9.5	5.9	0.50	3.9	0.33
7	1.9	0.15	1.5	0.12	5.2	9.4	0.0	0.00	0.0	0.00
8	10.6	0.85	9.9	0.79	0.0	9.3	7.0	0.60	5.9	0.50
9	4.0	0.32	3.9	0.31	0.1	9.3	5.3	0.46	4.5	0.38
10	2.3	0.18	1.1	0.09	0.6	9.2	3.9	0.33	3.6	0.30
11	2.6	0.20	0.9	0.07	5.2	9.2	2.3	0.19	2.3	0.19
12	0.7	0.05	0.3	0.02	0.4	9.1	7.0	0.58	5.6	0.47
13	1.6	0.12	0.8	0.06	0.2	9.1	5.9	0.49	1.5	0.12
14	5.0	0.38	3.7	0.28	6.0	9.1	3.6	0.30	3.5	0.30
15	9.7	0.75	9.7	0.69	1.3	9.0	5.7	0.47	1.6	0.14
16	5.0	0.39	4.4	0.34	0.1	9.0	3.4	0.28	2.1	0.17
17	3.0	0.22	0.0	0.00	0.2	8.9	3.9	0.32	3.5	0.29
18	6.2	0.46	5.0	0.37	0.0	8.9	8.1	0.66	7.5	0.61
19	11.1	0.82	5.0	0.37	2.6	8.8	7.7	0.63	7.0	0.57
20	4.9	0.36	3.8	0.28	4.2	8.8	4.5	0.37	3.7	0.30
21	11.1	0.82	10.3	0.76	4.9	8.7	11.3	0.93	11.0	0.90
22	0.0	0.00	0.0	0.00	3.5	8.7	0.0	0.00	0.0	0.00
23	0.0	0.00	0.0	0.00	0.0	8.6	0.0	0.00	0.0	0.00
24	2.0	0.15	1.4	0.10	0.0	8.6	0.7	0.05	0.7	0.05
25	10.5	0.78	9.7	0.72	5.5	8.6	11.9	0.88	11.0	0.82
26	13.5	1.00	13.5	1.00	7.3	8.5	13.4	0.99	13.3	0.99
27	1.1	0.08	0.4	0.03	0.1	8.5	0.4	0.03	0.1	0.01
28	10.5	0.78	10.5	0.78	0.1	8.4	10.9	0.81	9.4	0.70
29	7.0	0.52	6.0	0.44	0.0	8.4	5.1	0.38	4.7	0.35
30	4.0	0.30	3.4	0.25	5.7	8.4	2.3	0.17	2.2	0.16
Means	5.3	0.41	4.5	0.34	2.4	9.0	5.1	0.41	4.3	0.35

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

Month and Day 1951	AT THE ROYAL OBSERVATORY, GREENWICH									
	Eye Readings made at 09 00 hours of the Temperature of the Air					Degree of Humidity (saturation = 100)	Lowest Temperature on the Grass	Rainfall (Thrown back)	Daily Duration of Sunshine	Sun above Horizon
	Highest (Thrown back)	Lowest	Daily Range	Dry Bulb	Wet Bulb					
	°	°	°	°	°		°	inches	hours	hours
Dec. 1	47.3	43.7	3.6	46.7	45.3	89	38.3	Trace	2.6	8.2
2	42.4	33.4	9.0	35.4	34.7	93	23.2	Trace	0.4	8.2
3	50.0	31.8	18.2	34.7	33.8	91	24.6	0.25	1.2	8.2
4	51.5	33.7	17.8	50.0	47.9	85	30.2	0.00	0.0	8.1
5	52.4	48.8	3.6	51.3	45.9	64	42.7	0.23	0.0	8.1
6	43.7	40.9	2.8	41.7	40.5	90	39.3	0.01	1.3	8.1
7	49.5	33.0	16.5	35.2	34.5	93	23.3	0.05	0.6	8.0
8	51.9	35.2	16.7	49.2	47.9	90	27.2	0.39	0.0	8.0
9	45.4	41.8	3.6	42.2	38.7	70	35.5	Trace	5.3	8.0
10	41.6	36.0	5.6	36.7	32.8	62	29.4	Trace	3.1	8.0
11	39.3	23.8	15.5	25.0	25.0	100	15.3	Trace	2.5	7.9
12	38.6	24.3	14.3	28.0	27.6	95	15.6	Trace	1.9	7.9
13	43.0	26.2	16.8	29.7	29.4	96	14.2	Trace	2.2	7.9
14	51.0	29.1	21.9	37.4	37.4	100	24.2	Trace	0.3	7.9
15	53.3	37.4	15.9	51.0	49.5	89	31.6	Trace	0.2	7.9
16	53.4	48.2	5.2	51.2	49.5	88	42.7	0.00	0.0	7.8
17	48.0	46.0	2.0	46.0	44.9	91	43.7	Trace	1.4	7.8
18	52.0	44.9	7.1	48.0	46.5	89	29.0	0.04	0.0	7.8
19	51.7	47.8	3.9	51.6	50.4	91	44.4	0.00	0.0	7.8
20	53.0	44.6	8.4	50.3	49.1	91	37.4	0.14	0.0	7.8
21	48.5	45.7	2.8	46.8	46.4	97	41.0	0.01	0.0	7.8
22	48.0	44.2	3.8	46.5	45.2	90	32.0	0.00	0.0	7.8
23	50.5	42.3	8.2	42.1	41.7	97	33.8	0.04	0.0	7.8
24	52.3	41.9	10.4	50.5	48.7	87	34.0	0.20	0.0	7.8
25	47.8	42.0	5.8	42.1	41.2	92	33.2	0.02	0.7	7.8
26	45.7	33.2	12.5	34.5	33.9	94	24.6	0.27	1.9	7.8
27	45.7	33.8	11.9	45.1	42.1	76	24.7	0.00	0.3	7.9
28	44.8	40.2	4.6	42.8	38.3	63	33.6	0.37	3.1	7.9
29	45.3	37.9	7.4	38.8	38.0	92	35.1	0.05	0.0	7.9
30	52.4	33.0	19.4	45.3	43.9	89	25.0	0.01	1.1	7.9
31	40.6	37.8	2.8	38.6	36.5	80	32.0	0.02	0.0	7.9
Means	47.8	38.1	9.6	42.4	40.9	87.5	31.0	Sum 2.10	1.0	7.9

TABLE XVII. - DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS

Month and Day 1951	AT THE ROYAL OBSERVATORY, GREENWICH				AT THE ROYAL GREENWICH OBSERVATORY, HERSTMONCEUX					
	Record of the Night Sky				Daily Duration of Sunshine	Sun above Horizon	Record of the Night Sky			
	Polaris		δ Ursæ Minoris				Polaris		δ Ursæ Minoris	
	Dura- tion	Fraction of total Exposure	Dura- tion	Fraction of total Exposure	Dura- tion	Fraction of total Exposure	Dura- tion	Fraction of total Exposure		
	hours		hours	hours	hours	hours	hours	hours		
Dec. 1	13.2	0.96	10.4	0.76	0.9	8.3	11.1	0.82	5.5	0.41
2	10.8	0.78	10.4	0.76	4.4	8.3	13.1	0.97	13.1	0.97
3	0.0	0.00	0.0	0.00	3.7	8.2	0.0	0.00	0.0	0.00
4	4.1	0.30	2.5	0.18	0.0	8.2	0.0	0.00	0.0	0.00
5	0.4	0.03	0.2	0.02	0.1	8.2	2.2	0.17	1.7	0.12
6	8.1	0.59	6.9	0.50	2.2	8.2	6.8	0.50	5.8	0.43
7	3.2	0.23	1.6	0.12	5.6	8.1	5.0	0.37	2.5	0.19
8	6.7	0.49	4.5	0.33	0.0	8.1	8.1	0.59	6.8	0.50
9	11.7	0.85	11.1	0.80	5.0	8.1	12.5	0.91	12.2	0.89
10	13.7	1.00	11.8	0.86	6.6	8.1	13.7	1.00	13.7	1.00
11	13.7	1.00	13.7	1.00	5.7	8.1	13.7	1.00	13.6	0.99
12	13.7	1.00	13.1	0.95	3.3	8.0	13.7	1.00	13.7	1.00
13	8.3	0.61	6.4	0.47	6.6	8.0	13.7	1.00	13.7	1.00
14	6.2	0.45	5.2	0.38	3.5	8.0	7.1	0.52	6.7	0.49
15	4.8	0.35	2.9	0.21	0.0	8.0	3.7	0.27	2.9	0.21
16	0.0	0.00	0.0	0.00	0.0	8.0	0.0	0.00	0.0	0.00
17	0.7	0.05	0.4	0.03	6.3	8.0	0.7	0.05	0.6	0.04
18	0.0	0.00	0.0	0.00	0.0	8.0	0.0	0.00	0.0	0.00
19	10.7	0.76	10.0	0.72	0.0	7.9	12.1	0.88	11.0	0.80
20	0.0	0.00	0.0	0.00	0.0	7.9	0.0	0.00	0.0	0.00
21	1.3	0.09	1.3	0.09	0.8	7.9	1.7	0.12	1.5	0.11
22	0.0	0.00	0.0	0.00	0.0	7.9	0.0	0.00	0.0	0.00
23	0.3	0.02	0.0	0.00	0.0	7.9	0.1	0.01	0.1	0.01
24	5.3	0.38	4.4	0.31	0.0	7.9	3.0	0.22	3.0	0.22
25	8.8	0.63	8.8	0.63	1.7	7.9	8.0	0.58	7.3	0.53
26	4.5	0.32	3.0	0.21	3.7	8.0	3.1	0.23	3.1	0.23
27	7.8	0.56	6.4	0.45	0.4	8.0	8.2	0.60	5.8	0.42
28	0.0	0.00	0.0	0.00	4.8	8.0	0.0	0.00	0.0	0.00
29	8.8	0.64	7.0	0.51	0.7	8.0	9.1	0.67	8.5	0.63
30	5.2	0.38	4.5	0.33	0.9	8.0	5.8	0.43	5.4	0.40
31	3.3	0.24	3.0	0.22	0.0	8.0
Means	5.7	0.41	4.8	0.35	2.2	8.0	5.9	0.43	5.3	0.39

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TABLE XIX. - READINGS OF THERMOMETERS AT 9^h ON THE REVOLVING OPEN STAND (FORMERLY CALLED "ORDINARY") AT GREENWICH

1951	January		February		March		April	
Day	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
	°	°	°	°	°	°	°	°
1	38.9	31.8	41.7	27.6	45.1	28.3	46.3	39.4
2	35.0	32.1	44.6	33.7	46.3	35.4	52.3	36.7
3	36.2	32.4	42.1	38.8	44.6	32.6	51.7	35.4
4	41.0	29.2	40.4	31.2	41.1	34.0	54.9	43.6
5	49.6	40.8	43.2	37.6	47.4	29.7	54.7	36.3
6	51.3	45.7	45.2	34.4	47.6	33.2	57.6	39.3
7	50.4	40.5	45.1	32.8	45.6	35.6	58.1	40.4
8	47.9	40.7	48.0	36.0	50.9	34.4	50.0	37.4
9	47.6	34.6	49.0	36.0	40.3	34.2	53.3	42.3
10	43.4	32.5	44.0	31.8	36.2	33.8	47.2	37.3
11	46.9	36.1	44.0	36.0	38.5	35.1	50.7	32.6
12	48.3	36.4	40.5	32.6	44.3	36.7	..	..
13	42.3	34.3	50.4	35.2	49.8	38.6	54.7	36.5
14	45.2	37.9	42.0	35.6	52.0	42.7	54.6	35.6
15	46.3	38.8	38.9	34.3	53.0	38.2	50.1	32.0
16	43.5	32.9	44.4	33.6	56.0	33.9	53.3	40.0
17	51.9	36.4	46.8	41.8	52.8	44.0	52.4	35.6
18	52.0	44.6	46.8	34.0	56.4	43.8	56.4	34.6
19	50.6	36.9	48.6	37.1	51.4	40.0	58.2	42.6
20	50.0	41.5	47.8	34.2	42.8	31.2	57.2	38.8
21	50.1	45.3	47.3	33.4	45.4	30.4	59.2	36.3
22	50.0	42.9	46.9	33.8	51.7	39.6	51.0	36.6
23	48.8	39.4	43.6	34.4	57.6	48.8	52.9	34.6
24	49.3	41.2	47.9	34.6	54.2	36.6	69.8	38.6
25	44.8	38.8	47.0	35.7	49.3	32.4	73.5	36.7
26	42.7	39.0	41.4	26.4	48.0	39.9	75.2	39.8
27	44.3	26.5	42.9	33.6	48.0	36.7	59.2	39.2
28	42.9	25.2	46.0	29.4	46.6	30.8	54.0	36.8
29	38.3	22.7			46.2	30.7	49.0	33.4
30	30.8	23.7			44.9	34.2	52.9	35.4
31	36.9	24.9						
Mean	45.1	35.7	44.9	34.1	47.8	35.5	55.5	37.5

TABLE XX. - AMOUNT OF RAIN COLLECTED AT GREENWICH IN EACH MONTH OF THE YEAR 1951

Gauges partly sunk in the Ground in the Christie Enclosure	Monthly Amount of Rain collected in each Gauge														Height of Receiving Surface	
	Number of Gauge	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Sums	Above the Ground	Above Mean Sea Level
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	ft. in.	ft. in.
	6	2.579	5.939	2.830	2.811	1.99	1.25	1.51	3.16	3.04	0.91	4.41	2.10	32.53	0 5	149 6
	8	2.547	6.020	2.781	2.761	1.99	1.24	1.50	3.08	3.03	0.91	4.45	2.09	32.40	1 0	150 1
	Number of Rainy Days (0.005 in. or over)	21	24	21	15	17	8	9	19	11	12	24	16	197	..	..

