

COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

REPORT No. 21



MAGNETIC RESULTS FROM HEARD ISLAND, 1952.

By

L. N. Ingall

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MINISTER FOR NATIONAL DEVELOPMENT

1955

LIST OF REPORTS

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2. Observations on Stratigraphy and Palaeontology of Devonian, Western Portion of Kimberley Division, Western Australia - Curt Teichert, 1949.
3. Preliminary Report on Geology and Coal Resources of Oaklands-Coorabin Coalfield, New South Wales - E. K. Sturmfels, 1950.
4. Geology of the Nerrima Dome, Kimberley Division, Western Australia - D. J. Guppy, J. O. Cuthbert and A. W. Lindner, 1950.
5. Observations of Terrestrial Magnetism at Heard, Kerguelen and Macquarie Islands, 1947 - 1948 (Carried out in co-operation with the Australian National Antarctic Research Expedition, 1947 - 1948) - N. G. Chamberlain, 1952.
6. Geology of New Occidental, New Cobar and Chesney Mines, Cobar, New South Wales - C. J. Sullivan, 1951.
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18. Petrology and Petrography of Limestones from the Fitzroy Basin, Western Australia - J. J. E. Glover, 1955.
19. Seismic Reflection Survey, Darriman, Gippsland, Victoria - M. J. Garrett, 1955.
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Department Of National Development

Minister - Senator the Hon. W. H. Spooner, M.M.

Secretary - H. G. Raggatt, C.B.E.



BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

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THIS REPORT WAS PREPARED IN THE GEOPHYSICAL SECTION.

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P R E F A C E

The geomagnetic work at Heard Island, which is described in this report, was planned and carried out by the Bureau of Mineral Resources, Geology and Geophysics of the Ministry of National Development, and was made possible by the Australian National Antarctic Research Expeditions (A.N.A.R.E.), which established a scientific research station at the Island in 1947-48. The instruments used in making the geomagnetic observations were supplied by the Bureau of Mineral Resources, but the observatory buildings and living accommodation were provided by the A.N.A.R.E., which is responsible for the general administration of the research station.

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A B S T R A C T

This report describes the Heard Island Magnetic Observatory, the staffing and operation of which is the responsibility of the Bureau of Mineral Resources, Geology and Geophysics, Department of National Development, Commonwealth of Australia. The work done at the observatory is part of the scientific research programme which is being carried out in Antarctica by the Australian National Antarctic Research Expedition.

Details are given of the observatory site and buildings, and of the instruments used at the observatory, which commenced full-scale operations on 11th March, 1952. The greater part of the report consists of the presentation in tabular form of the magnetic observations made at Heard Island during the period March to December, 1952.

INTRODUCTION

The Australian National Antarctic Research Expedition of the Antarctic Division, Department of External Affairs, has been carrying out a programme of scientific research on Heard Island since 11th December, 1947. Included in the programme is the study of terrestrial magnetism, and since March, 1952, a magnetic observatory has been in full scale operation. The Bureau of Mineral Resources, Geology and Geophysics, Department of National Development, is responsible for the planning and carrying out of the terrestrial magnetism research programme.

Heard Island is in the Southern Ocean at latitude 53° South and longitude 73° East. The Island was discovered by Peter Kemp, an English sealer, in 1833, but Kemp did not publicise his discovery. The Island takes its name from John Heard, an American, who rediscovered the Island in 1853.

Up to December, 1947, when the Australian National Antarctic Research Expedition established the first permanent base, the island was visited only by sealers and occasional scientific expeditions. Three scientific expeditions, the "Challenger" of 1847, the "Gauss" of 1902 and the "BANZAR" Expedition of 1929, called at the Island for short periods.

The Island is of volcanic origin and volcanic cones and lava flows give evidence of considerable activity in the past. The only activity observed now is from Big Ben, an ice-covered group of cones, 9,000 ft. high. Clouds of smoke can occasionally be seen rising from the vents, and at night a red glow is sometimes visible.

The Island is elongated in a north-west direction. It is about 25 miles long and tapers to a long narrow spit in the south-east. The widest part of the Island is about 12 miles.

Heard Island is in a hurricane zone and high velocity winds are frequent. The temperature ranges between 20°F and 60°F . Conditions generally are wet, cold and correspondingly unpleasant.

SELECTION OF OBSERVATORY SITE

The site for a magnetic observatory should be free from natural and artificial local disturbances. No suitable site free from natural disturbance was found among those examined. With consideration given to such factors as protection from prevailing winds and freedom from artificial disturbances, a site was selected where natural disturbances were a minimum. This site was at West Bay, one and a quarter miles from the camp area (see Plate 1).

DESCRIPTION OF OBSERVATORY SITE AND BUILDINGS

The site co-ordinates are -

- (a) Geographic - Latitude $53^{\circ}01.9'S$.
Longitude $73^{\circ}21.9'E$.
- (b) Geomagnetic - Latitude -61° .
Longitude 129° .

The site is approximately 20 ft. above sea level on a flat shingle plain in the lee of Mt. Andree, which is 461 ft. high. Scattered vegetation in the form of poa grass and azorella hummocks relieves the flatness of the terrain in the near vicinity of the site.

Climatic conditions are severe. Although Mt. Andree protects the site to a certain extent from the prevailing south-west winds, strong west winds sweep across the site.

In summer the mean temperature is about 35°F and in winter about 30°F. Rainfall is about 45 inches annually, March and April being the wettest months.

Both the Absolute and Variometer Huts (Plates 2 and 3) are constructed of pre-fabricated wooden panels. Each panel is composed of two layers of bondwood separated by 2.1/2 in. of "Onozote" for insulation. Detailed hut descriptions can be found in a previous report (Ingall, 1953).

PROGRAMME OF INVESTIGATION AND STAFF

Continuous recording variometers were installed during late 1951 and early 1952. The variometers are controlled by absolute magnetic determinations made regularly each week. The data obtained is treated by routine magnetic observatory techniques.

The magnetic observatory is operated and maintained by a single observer.

ABSOLUTE AND SEMI-ABSOLUTE INSTRUMENTS AND METHODS OF USE

Modified Kew Pattern Magnetometer manufactured by Elliott Bros. (Plate 4, Fig.1).

Description. This absolute instrument is used for declination measurements only. The horizontal circle for the instrument has verniers reading to 20 seconds of arc. One eyepiece division corresponds to 1.23 minutes of arc and tenths of a division can be estimated by eye. The large magnet is hollow and approximately 7 centimetres in length. At each end of the magnet are glass discs on which two lines are engraved at right angles. The magnet is held in a brass sheath in which the magnet can be rotated. Small marks are engraved on both the magnet and sheath so that the magnet can be rotated accurately from the "erect" to the "inverted" position. Phosphor-bronze ribbon fibre is used to suspend the magnet stirrup, onto which the magnet and sheath are hooked.

Method of use. On each absolute observation day two sets of declination measurements are made, usually with a time break between them. The line of detorsion of the fibre is determined first, using a graduated inertia mass, then the magnet is suspended and readings are taken with the magnet erect, then inverted, and finally erect again.

Quartz Horizontal Magnetometers Nos.172,173 and 174. (Plate 4, Fig.2).

Description. These instruments are semi-absolute, in that the main instrument constant based on the magnet and fibre constants has to be determined by comparison with an absolute instrument. Due to the change in time of this constant, regular intercomparisons must be made. Three Quartz Horizontal Magnetometers (QHM's) are used, so that comparative changes in any of the individual QHM constants can be detected.

The QHM's are used to make regular horizontal intensity measurements. Since November, 1952, QHM 172 has also been used as a declination instrument.

The QHM's are of La Cour design, manufactured in Denmark. One graduated horizontal circle is used for all three QHM's, and each instrument can be clamped to the circle in turn. The magnet is made of cobalt steel, 15 mm long and of moment 2 c.g.s. units. The magnet, magnet carrier and mirror are suspended by a quartz fibre from the top of the QHM. A mercury thermometer is fitted to the instrument so that the chamber temperature, which is presumed to be the temperature of the magnet and fibre, can be read.

Method of use. The principle of operation of the QHM is the balancing of the horizontal component of the earth's magnetic field which acts on the QHM magnet, by the torsion in the quartz suspension fibre. In practice the fibre is given a torsional value of 2π and the angle between the magnet and the magnetic meridian is observed. This angle is related to the horizontal intensity by a simple relationship. In order to allow for residual torsion in the quartz fibre and change of declination during readings, it is usual to commence observations with a reading for zero torsion (neglecting residual torsion), then a plus 2π reading is followed by a minus 2π reading, and finally another zero torsion reading is made. Absolute magnetic determinations of horizontal intensity on Heard Island are made using two QHM's each week. QHM's 173 and 174 are used alternately with QHM 172, which is regarded as the standard instrument and which is in constant use.

On each absolute observation day two sets of readings are made with each of the two QHM's. One set consists of $0, +2\pi, -2\pi, -2\pi, +2\pi, 0$ readings, thus enabling two values of horizontal intensity to be obtained from each set. Declination changes during sets are corrected for by scaling declination values for each reading from the variometer trace.

The equation connecting horizontal intensity with deflection angle is:-

$$\log H = C - \log \sin \phi - c_1 t + c_2 H \cos \phi,$$

where C = constant based on magnet and fibre constants

c_1 = temperature coefficient

t = temperature

c_2 = induction coefficient

ϕ = deflection angle for 2π torsion in fibre.

The constant C is not stable and, as stated earlier, regular intercomparisons are necessary for control of its drift.

Magnetometric Zero Balance No.62. (Plate 5, Fig.1).

Description. This instrument, commonly called the BMZ, is semi-absolute in that it depends for its stability upon the constancy of the moments of the compensating magnets used in its construction. Regular intercomparison is necessary to control the compensating magnet moments. As the name implies the BMZ is a balance, in which the vertical intensity of the Earth's magnetic field is balanced by compensating magnets, the strength of which can be evaluated.

A cobalt steel magnet, 60 millimetres long and of moment 100 c.g.s. units, is balanced about a horizontal axis on agate bearers. The optical system of the instrument is arranged so that the position of the balance magnet is determined by reflecting a crosshair object from a mirror on the magnet, onto a scale in the observing telescope. The scale reading when the magnetic axis of the magnet is horizontal is called the Neutral Division, and this point is easily found by observing the magnet with its north-seeking end at first south and then north.

The balancing of the vertical intensity is generally achieved by using two compensating magnets, though auxiliary magnets are provided in case exceptional values of intensity occur. One magnet, the "Orstit" steel field magnet, is fixed in position and compensates for approximately 99% of the Earth's field. This magnet is carefully insulated against rapid temperature changes and a delicate thermometer inserted into the centre of the magnet allows the temperature to be read to 0.02 degrees Centigrade.

The remaining uncompensated part of the vertical intensity is balanced by a small "Orstit" steel magnet capable of being rotated about a horizontal axis in the same vertical plane as that of the balance magnet. The influence of this turn magnet on the balance magnet is related to the degree of rotation of the turn magnet, so that exact balancing of the Earth's field is done by rotating the turn magnet until the balance magnet is in the neutral position. The field magnet has a strength of a few thousand c.g.s. units, and the turn magnet about 160 c.g.s. units. Auxiliary magnets, when required, are screwed on underneath the turn magnet.

Method of use. A four-legged stand was constructed so that the BMZ could be used on a pier. On absolute observation days, the instrument is assembled and allowed to stand for ten minutes to reach temperature equilibrium. The Neutral Division is determined before observations are commenced because it is found that small changes take place from week to week. Every few months the disc zero is determined, i.e. the position for which the turn magnet has no effect on the balance magnet. The disc zero determinations indicate that it is very constant in value.

A series of four readings is taken, the balance magnet being clamped between each reading and finally the Neutral Division is checked. It is found that the BMZ gives very consistent values on any one absolute day, and four readings are ample.

In the reduction of readings, corrections are made for temperature and rate of change of temperature, by using the following formula:-

$$Z = Z_c - \alpha_1 t - 2\alpha_1 \Delta t + Z_t + Z_s$$

- Z = total compensating field, which is numerically equal to the Earth's field
- Z_c = field of field magnet at 0°C
- α_1 = temperature coefficient of field magnet
- t = temperature
- Δt = rate of change of temperature
- Z_t = field of turn magnet
- Z_s = field of 'supplementary magnet.

Cambridge Dip Circle No.226.

This instrument is available for use, but was not used during 1952.

VARIATION INSTRUMENTS

Magnetograph. (Plate 5, Fig.2).

A La Cour magnetograph of normal sensitivity and speed 15 mm per hour was installed during late 1951 and early 1952, and controlled recording commenced on 11th March, 1952. The arrangement of the variometers and recorder is shown in Plate 3. Time marks are put on the magnetograms from an independent light source operated from a pendulum clock. Every five minutes, contacts on the clock close and a time mark is registered on the magnetogram. To mark the hour, three consecutive minute marks are registered, one before the hour, one on the hour and one after the hour.

The time lamp is situated behind the recording lamp and the time marks appear as a series of dotted lines and curves parallel to the continuous lines and curves obtained from the recording lamp.

The reflected images of the recorder lamp and time lamp are focussed on to the recorder drum by cylindrical lenses. Each variometer has its own cylindrical lens, and by having the variometers and their respective lenses at different heights, the reflected images from each variometer are confined to one-third of the recorder drum. Several total reflecting prisms set in front of the recording lamp provide a series of secondary light sources so that it is possible to record large variations in magnetic field components. When a light spot approaches the edge of its one-third of the recorder drum, a secondary image moves onto the drum from the opposite edge.

The weight-driven pendulum clock is wound once a week and regulated when necessary by lengthening or shortening the pendulum.

Horizontal Intensity Variometer.

Description. The horizontal intensity variometer consists basically of a magnet suspended in the magnetic prime vertical.

The magnet is made of cobalt steel, is 8 mm long, 25 milligrams in weight, and has a moment of 0.8 c.g.s. units. The suspension is a quartz fibre, at each end of which is a small conical globule for attachment. The magnet is attached to a mirror and stirrup, and the whole unit is attached to the fibre.

Two total reflection prisms are used to transmit the light through the front lens of the variometer to the magnet mirror and back. One prism is fixed on an adjustable plate controlled by three screws. The other prism is moveable and suspended by a bi-metallic strip, the length of which is adjustable, to enable temperature compensation of the variometer to be made. The temperature trace is the record of a beam of light reflected from the top silvered part of this suspended prism. The bi-metallic strip is held in a clamp which is in turn attached to a plate. The latter can be adjusted by three screws in the same way as the lower fixed prism. The base-line mirror is on a frame mounted on a plate which is also adjustable by three screws.

"Ghost" images from the prism and mirror surfaces are eliminated by using 87° reflecting prisms instead of right-angled ones, and setting the angle between the front and back surfaces of the baseline mirror at 1°.

Scale value. Scale-value determinations are made at approximately weekly intervals, care being taken not to make the determination on a disturbed day. The method used is that of Helmholtz-Gaugain coil deflections. The instrument scale value is about 10.2 gammas per mm. and a deflecting field of 300 gammas is used. This field, applied first positively and then negatively, gives a double deflection on the trace of about 60 millimetres.

The scale value equation is:-

$$E_H = \frac{ci}{u}$$

where E_H = scale value in gammas/mm.

c = coil constant of 7.49 gammas/ma.

i = current in milliamps.

u = trace deflection in mm.

The milliammeter used to measure the coil current is a Victorian Meter Laboratories Meter S/N10922. The instrument can be read accurately to 0.1 milliamps on the range 0-50 milliamps, and corrections are applied for temperature. Before being sent to the Island in March 1952, the meter was calibrated against a sub-standard meter.

Temperature compensation. When the variometer was set up initially, it was undercompensated, with a temperature coefficient of 16.9 gammas per degree Centigrade. In April, 1952 the bi-metallic temperature strip was reversed and shortened. An analysis made in September, 1952 showed that the variometer was still undercompensated to the extent of 0.9 gammas per degree Centigrade. On the basis of this result a small final adjustment of the bi-metallic strip was made late in September, 1952 and thereafter no temperature effect has been observed.

Orientation. In September, 1952, the magnetic meridian in the Absolute Hut declination pier was transferred by theodolite traverse into the Variometer Hut. For this purpose the anticipated provisional monthly mean declination for September of 50°00' West was chosen. After the magnetic meridian line had been established, orientation tests were made on the H variometer using deflecting currents of 100 milliamps in the Helmholtz-Gaugain coil. Results showed the magnet in the variometer to be 1°02' out of the prime vertical. A torsion head adjustment of half a degree was made so that the misorientation of the magnet was about half a degree. The misorientation was such that secular variation of declination would bring about complete orientation by the end of 1954.

Baselines. Absolute observations are made each week and baseline values are computed after the H ordinates are scaled at the times corresponding to the times of absolute observations.

A check on the temperature compensation of the variometer is made by observing whether any relation exists between baseline value and temperature ordinate.

Declination Variometer.

Description. The declination variometer has a magnet 12 mm. long, with a moment of 1 c.g.s. unit, suspended in the magnetic meridian. The method of suspension is similar to that of the H variometer. A large adjustable prism lens transmits the light beams through the variometer. The baseline mirror is mounted on an adjustable support.

Scale value. Scale-value determinations are made every four months by the torsion head deflection method, in which the variometer torsion head is rotated through three 30° steps on either side of the zero position, and the deflection of the magnet is recorded for each position of the torsion head.

The scale value of the declinometer is given by the expression:-

$$E_D = \frac{f}{f - h} \times \frac{\text{Cotangent } 1'}{2R}$$

where E_D = scale value in minutes of arc per millimetre

f = angle in minutes through which the torsion head is rotated

h = angle in minutes through which the magnet turns when the torsion head is rotated through an angle f

R = distance in millimetres from the first nodal plane of the prism lens of the variometer, to the drum, diminished by one third of the thickness of the cylindrical lens in front of the drum.

Three determinations made in 1952 showed good agreement and the value $E_D = 0.912$ minutes per mm. was adopted for the whole year.

On one occasion the scale value was determined by using a Helmholtz-Gaugain coil to deflect the magnet. The value obtained by this method was 0.909 minutes per mm.

Orientation. Orientation tests were made in September, 1952, using a Helmholtz-Gaugain coil. Results showed that the variometer magnet was 15 minutes of arc out of the magnetic meridian $50^{\circ}00'$ West. No adjustment was made. Secular variation is such that orientation will be complete in early 1954.

Baselines. Absolute observations are made each week with the Elliott Bros. magnetometer. Declination ordinates are scaled for the time of absolute observation, and the baseline values computed.

Vertical Intensity Variometer.

Description. The vertical intensity Variometer has a "Monad" tungsten-steel magnet balanced on agate bearers. The magnet is 60 mm long, 2,500 milligrams in weight and has a moment of 100 c.g.s. units. The magnet mirror is the polished, flat, upper surface of the magnet. A total reflection prism transmits the light beam down to the magnet mirror. This total reflection prism is suspended by a bi-metallic strip from a fixed support and its movement serves to register temperature changes in the variometer. A baseline mirror is mounted on an adjustable support.

Scale value. Scale-value determinations are made at approximately weekly intervals, using a Helmholtz-Gaugain coil centred over the variometer magnet. Initially, the magnet was oriented with its north-seeking end north and the scale value was 14.4 gammas per mm. Late in March, 1952 the magnet was oriented with its north-seeking end south, and the scale value became 3.1 gammas per mm. For the latter orientation a deflecting field of 110 gammas is used. This field, applied positively and then negatively gives a double deflection on the trace of about 60 millimetres.

The scale value equation is:-

$$E_Z = \frac{ci}{u}$$

where E_Z = scale value in gammas per mm.

c = coil constant of 6.10 gammas per ma.

i = current in milliamps

u = trace deflection in mm.

Temperature compensation. When the variometer was set up initially with the north-seeking end of the variometer magnet oriented north, it was overcompensated for temperature, there being a coefficient of 6.4 gammas per degree Centigrade. When the magnet was reversed late in March, 1952, with the north-seeking end oriented south, the variometer became undercompensated for temperature, with a coefficient of 11.6 gammas per degree Centigrade. In April, 1952 the bi-metallic temperature strip was reversed and lengthened, and thereafter no temperature effect has been observed.

Orientation and horizontality of the variometer magnet. The horizontality of the magnet was tested by alternately placing the magnet on the agates, north-seeking end north, then north-seeking end south and checking that it balanced evenly in both orientations. It was found necessary to grind the magnet for horizontality.

Baselines. Absolute observations are made each week with the Magnetometric Zero Balance No.62. The Z ordinates are scaled at each time of absolute observation and the baseline value computed. A check on the temperature compensation of the variometer is made by observing whether any relation exists between baseline value and temperature ordinate.

Shrinkage of Magnetograms.

A shrinkage gauge was used, consisting of a twelve-inch length of well-seasoned wood with five metal points protruding. Each magnetogram is "pricked" after removal from the magnetograph drum and measurement of the distances between the pricks serves to indicate to what degree expansion or contraction of the magnetogram has taken place. All scalings made for derivation of mean hourly values, baseline values, scale values, and for other computation purposes, are corrected for expansion or shrinkage.

COMPARISON OF ABSOLUTE AND SEMI-ABSOLUTE INSTRUMENTS

Quartz Horizontal Magnetometers Nos.172,173 and 174.

In February, 1952, QHM 172 was intercompared with QHM's 187,188 and 189 on Heard Island. These last three QHM's had previously been intercompared with Askania Magnetometer No.508813 at Toolangi. During 1952 and early 1953, QHM's 172, 173 and 174 were regularly compared through baselines and after a special series of baseline intercomparisons had been done in February 1953, QHM 172 was returned to Toolangi for intercomparison with Askania Magnetometer No.508813 again. This last intercomparison took place in June, 1953. The correction to International Magnetic Standard for Askania Magnetometer No. 508813 had previously been determined.

I.M.S. Corrections.

| | | | |
|----------------|----------|-------------|-------------|
| February, 1952 | - QHM172 | $H_{i,ims}$ | = -0.00039H |
| | QHM173 | $H_{i,ims}$ | = -0.00034H |
| | QHM174 | $H_{i,ims}$ | = -0.00048H |
| June, 1953 | - QHM172 | $H_{i,ims}$ | = -0.00081H |
| | QHM173 | $H_{i,ims}$ | = -0.00070H |
| | QHM174 | $H_{i,ims}$ | = -0.00081H |

Elliott Bros. Magnetometer.

The Elliott Bros. magnetometer was intercompared in January, 1951 with D.T.M. C.I.W. Magnetometer No.18 at Toolangi and again in February, 1952 with Askania Magnetometer No.508810 at Heard Island. The latter series of intercomparisons was not reliable and the I.M.S. correction in use is that obtained from the former intercomparison, the relationship being:-

$$D_{ims} = D_{Elliott} - 0.3'$$

Magnetometric Zero Balance No.62.

Magnetometric Zero Balance No.62 was calibrated at Rude Skov before being sent to Heard Island. An intercomparison series at Heard Island in February 1952 with Askania Earth Inductor No.5010174 did not yield reliable results, and no up to date I.M.S. correction is available for BMZ No.62.

VARIOMETER BASELINE VALUES AND SCALE VALUES

The observed baseline values and adopted baseline values of the variometers are listed in Tables 1, 3 and 5. Abrupt changes in the adopted baseline values together with the causes of such changes are shown in Tables 2, 4 and 6.

The observed and adopted variometer scale values are listed in Tables 7, 9 and 10. Abrupt changes in the adopted scale values and the causes of such changes are listed in Tables 8 and 11.

BASIC HOURLY VALUES AND ASSOCIATED MEANS

Tables 12 to 41 list the mean hourly values of horizontal intensity, declination and vertical intensity. Declination and vertical intensity are tabulated in a numerical sense to avoid using negative signs, since both declination and vertical intensity are negative in the algebraic sense at the Heard Island Observatory.

All hourly scalings were made in millimetres at the observatory. The scalings were checked in Melbourne in readiness for conversion to gammas in the case of horizontal intensity and vertical intensity, and degrees and minutes of arc for declination. Daily maxima and minima were also scaled and checked in millimetres.

Scale values and baseline values were computed at the observatory and checked in Melbourne. Using this checked data the scale values and baseline values were analysed in order to obtain adopted scale values and adopted baseline values.

The temperature coefficients of the horizontal intensity and vertical intensity variometers for the period during which they were not temperature compensated, were obtained after a statistical analysis of the variations of observed baseline values with temperature. From these coefficients, temperature corrections, in gammas, for each hourly value were computed and tabulated.

By combining the adopted baseline values, adopted scale values and temperature corrections, the hourly millimetre scalings were converted to gammas in the case of horizontal and vertical intensity and degrees and minutes of arc for declination. From these final reductions, daily means and hourly means for composite days were computed.

MONTHLY MEANS AND ANNUAL MEAN

Monthly means were computed using the mean hourly values of the magnetic elements. The annual mean was computed from the monthly mean values. For 1952, January, February and part of March were not available for inclusion in the annual mean (see Tables 42 and 43).

MAGNETIC ACTIVITY

The principal magnetic storms are shown in Table 44. In classifying these storms, the frequent short term disturbances which were associated with aurorae and which usually occurred about 1600 hours and 2200 hours Greenwich Mean Time were omitted, though K-indices as high as 7 were sometimes recorded during these periods.

The sudden commencements are listed in Table 45. Only clear cases have been noted, this criterion applying particularly to polar sudden commencements.

K-INDICES

K-indices are scaled each month from the records. The scale adopted has a lower limit of 1000 gammas for K=9. The procedure followed is to select the magnetically quiet days from each month's records and use the mean hourly scalings of these quiet days to prepare S_q curves, which are used as the basis of the K-Index scalings.

REPRODUCED MAGNETOGRAMS

Two selected magnetograms representing a quiet day and a disturbed day are reproduced as Plates 6 and 7 respectively, in order to illustrate the type of record produced at the Heard Island Magnetic Observatory.

REFERENCE

Ingall, L. N., 1953 - Geophysical Work at Heard Island, 1952/1953, Bur. Min. Res. Geol. & Geophys., Records 1953 No. 54.

TABLE 1

Observed and adopted base-line values for H variometer
(Observed values determined with QHM's Nos. 172, 173 & 174)

| Date | Observed | Adopted | Adopted value used to | Remarks | Date | Observed | Adopted | Adopted value used to | Remarks |
|-----------------|----------|---------|-----------------------|---|-----------|----------|---------|-----------------------|---|
| 1952 | Y | Y | | | 1952 | Y | Y | | |
| 12 March | 18096 | 18093 | | | 13 August | 18253 | 18253 | | |
| 13 " | 18098 | 18093 | | | 21 " | 18256 | 18253 | | 00h, August 22 |
| 14 " | 18092 | 18093 | | | 28 " | 18249 | 18250 | | |
| 19 " | 18094 | 18093 | | | 4 Sept. | 18248 | 18250 | | |
| 20 " | 18090 | 18093 | | | 11 " | 18252 | 18250 | | |
| 26 " | 18092 | 18093 | 20h, March 28 | Uncontrolled 20h, March 28 to 09h, March 30 | 18 " | 18249 | 18250 | | |
| 3 April (18178) | 18175 | 18175 | | | 19 " | 18251 | 18250 | | |
| 9 " | 18175 | 18175 | | | 20 " | 18249 | 18250 | | 09h, Sept. 23 |
| 16 " | 18176 | 18175 | | | 24 " | 18158 | 18158 | | 09h, Sept. 25 |
| 23 " | 18282 | 18282 | 09h, April 21 | | 28 " | 18141 | 18141 | | 07h, Sept. 28 |
| 25 " | 18242 | 18242 | 08h, April 23 | Uncontrolled 08h, April 23 to 10h, April 24 | 2 Oct. | 18120 | 18124 | | |
| 8 May | 18250 | 18253 | 09h, April 26 | | 9 " | 18123 | 18124 | | |
| 14 " | 18253 | 18253 | | | 16 " | 18122 | 18124 | | |
| 21 " | 18252 | 18253 | | | 25 " | 18124 | 18124 | | |
| 26 " | 18256 | 18253 | | | 30 " | 18128 | 18124 | | 05h, Nov. 3 |
| 11 June | 18252 | 18253 | | | 6 Nov. | 18132 | 18127 | | |
| 18 " | 18254 | 18253 | | | 13 " | 18126 | 18127 | | |
| 23 " | 18254 | 18253 | | | 20 " | 18127 | 18127 | | |
| 2 July | 18252 | 18253 | | | 27 " | 18124 | 18127 | | 00h, Nov. 29 |
| 9 " | 18256 | 18253 | | | 4 Dec. | 18119 | 18119 | | |
| 16 " | 18257 | 18253 | | | 11 " | 18119 | 18119 | | |
| 25 " | 18250 | 18253 | | | 18 " | 18117 | 18119 | | |
| 29 " | 18252 | 18253 | | | 25 " | 18120 | 18119 | | 03h, Dec. 28 |
| 30 " | 18250 | 18253 | | | 1953 | | | | Uncontrolled 03h, Dec. 28 to 03h, Dec. 30 |
| 7 August | 18252 | 18253 | | | 1 Jan. | 18080 | 18080 | | |

TABLE 2

Abrupt changes in the adopted H base-line values
(Horizontal intensity is reckoned as positive; changes below taken algebraically)

| Date | Change from preceding value | Cause of change |
|-----------|-----------------------------|--|
| 1952 | Y | |
| 28 March | + 82 | Z magnet reversed |
| 21 April | +107 | Bimetallic strip reversed and shortened |
| 23 " | - 40 | Bimetallic strip adjusted |
| 26 " | + 11 | H-focus altered |
| 22 August | - 3 | Spontaneous |
| 23 Sept. | - 92 | H magnet reoriented and bimetallic strip slightly lengthened |
| 25 " | - 17 | Prism moved |
| 28 " | - 17 | Prism and torsion head adjusted |
| 3 Nov. | + 3 | Base-line mirror adjusted |
| 28 Dec. | - 39 | Magnet realigned after displacement caused by hurricane |

TABLE 3

Observed and adopted base-line values for D variometer
(Observed values determined with Elliott Magnetometer)
(West declination)

| Date | Observed | Adopted | Adopted value used to | Remarks | Date | Observed | Adopted | Adopted value used to | Remarks |
|----------|----------|----------|-----------------------|---|-----------|----------|----------|-----------------------|---|
| 1952 | | | | | 1952 | | | | |
| 13 March | -50 06.1 | -50 06.5 | | | 21 August | -50 21.8 | -50 21.4 | | 00h, August 28 |
| 20 " | 06.4 | 06.5 | | | 4 Sept. | 20.6 | 20.1 | | |
| 26 " | 06.8 | 06.5 | 20h, March 28 | Uncontrolled 20h, March 28 to 09h, March 30 | 6 " | 19.5 | 20.1 | | |
| 3 April | (20.6) | 21.1 | | | 11 " | 20.0 | 20.1 | | |
| 9 " | 21.0 | 21.1 | | | 19 " | 19.8 | 20.1 | | |
| 16 " | 21.1 | 21.1 | | | 24 " | 20.4 | 20.1 | | 00h, Sept. 25 |
| 25 " | 21.1 | 21.1 | 00h, May 1 | | 2 Oct. | 19.6 | 19.7 | | |
| 8 May | 21.5 | 21.4 | | | 9 " | 19.8 | 19.7 | | |
| 14 " | 21.7 | 21.4 | | | 16 " | 19.8 | 19.7 | | |
| 21 " | 21.8 | 21.4 | | | 23 " | 20.0 | 19.7 | | |
| 26 " | 21.0 | 21.4 | | | 30 " | 19.8 | 19.7 | | |
| 10 June | 21.8 | 21.4 | | | 6 Nov. | 19.1 | 19.7 | | 00h, Nov. 13 |
| 18 " | 21.3 | 21.4 | | | 13 " | 20.7 | 20.5 | | |
| 23 " | 21.6 | 21.4 | | | 25 " | 20.0 | 20.5 | | |
| 2 July | 21.0 | 21.4 | | | 27 " | 20.9 | 20.5 | | |
| 9 " | 21.4 | 21.4 | | | 4 Dec. | 20.0 | 20.5 | | |
| 16 " | 22.2 | 21.4 | | | 11 " | 20.8 | 20.5 | | |
| 25 " | 21.0 | 21.4 | | | 18 " | 21.0 | 20.5 | | |
| 30 " | 21.2 | 21.4 | | | 25 " | 20.0 | 20.5 | | 03h, Dec. 28 |
| 7 August | 21.4 | 21.4 | | | 1953 | | | | Uncontrolled 03h, Dec. 28 to 03h, Dec. 30 |
| 13 " | 21.6 | 21.4 | | | 1 Jan. | 20.1 | 19.6 | | |

TABLE 4

Abrupt changes in the adopted D base-line values
(West declination reckoned as negative; changes below taken algebraically)

| Date | Change from preceding value | Cause of change |
|-----------|-----------------------------|--|
| 1952 | | |
| 28 March | -14.6 | Z magnet reversed |
| 1 May | - 0.3 | Spontaneous |
| 28 August | + 1.5 | Spontaneous |
| 25 Sept. | + 0.4 | Spontaneous |
| 13 Nov. | - 0.8 | Spontaneous |
| 28 Dec. | + 0.9 | Observatory building moved against pier by hurricane |

TABLE 5

Observed and adopted base-line values for Z variometer
(Observed values determined with BMZ No.62)

| Date | Observed | Adopted | Adopted value used to | Remarks | Date | Observed | Adopted | Adopted value used to | Remarks |
|----------|----------|---------|-----------------------|----------------------------|-----------|----------|---------|-----------------------|---------------------------|
| 1952 | Y | Y | | | 1952 | Y | Y | | |
| 12 March | -46896 | -46897 | | | 13 August | -46970 | -46973 | | 00h, August 21 |
| 19 " | 46898 | 46897 | | | 21 " | 46970 | 46986 | | |
| 20 " | 46898 | 46897 | | | 29 " | 46988 | 46986 | | |
| 26 " | 46895 | 46897 | 09h, March 28 | Uncontrolled 09h, March 28 | 5 Sept. | 46985 | 46986 | | |
| 3 April | 47100 | 47101 | | to 08h, March 30 | 11 " | 46988 | 46986 | | |
| 9 " | 47102 | 47101 | | | 19 " | 46984 | 46986 | | |
| 16 " | 47100 | 47101 | 09h, April 24 | | 22 " | 46984 | 46986 | | |
| 23 " | 47072 | 47072 | 08h, April 23 | Uncontrolled 08h, April 23 | 24 " | 46987 | 46986 | | |
| 25 " | 46968 | 46967 | | to 08h, April 24 | 2 Oct. | 46982 | 46986 | | |
| 8 May | 46968 | 46967 | | | 9 " | 46986 | 46986 | | |
| 14 " | 46965 | 46967 | | | 16 " | 46985 | 46986 | | |
| 21 " | 46967 | 46967 | | | 23 " | 46992 | 46986 | | |
| 26 " | 46966 | 46967 | | | 30 " | 46984 | 46986 | | 05h, Nov. 3 |
| 10 June | 46962 | 46967 | | | 6 Nov. | 46974 | 46977 | | |
| 18 " | 46966 | 46967 | | | 13 " | 46975 | 46977 | | |
| 23 " | 46968 | 46967 | | | 20 " | 46972 | 46977 | | |
| 2 July | 46970 | 46967 | | | 27 " | 46979 | 46977 | | |
| 9 " | 46966 | 46967 | | | 4 Dec. | 46973 | 46977 | | |
| 16 " | 46967 | 46967 | | | 11 " | 46983 | 46977 | | |
| 25 " | 46966 | 46967 | 00h, July 26 | | 18 " | 46979 | 46977 | | |
| 30 " | 46970 | 46973 | | | 25 " | 46976 | 46977 | | 03h, Dec. 28 |
| 6 August | 46976 | 46973 | | | 1953 | | | | Uncontrolled 03h, Dec. 28 |
| 7 " | 46978 | 46973 | | | 1 Jan. | 47100 | 47100 | | to 09h, Dec. 30 |

TABLE 6

Abrupt changes in the adopted Z base-line values
(Vertical intensity is reckoned as negative; changes below taken algebraically)

| Date | Change from preceding value | Cause of change |
|-----------|-----------------------------|--|
| 1952 | Y | |
| 28 March | -204 | Z magnet reversed |
| 21 April | + 29 | Bimetallic strip reversed |
| 23 " | +105 | Base-line moved up trace |
| 26 July | - 6 | Spontaneous |
| 21 August | - 15 | Spontaneous |
| 3 Nov. | + 9 | Base-line mirror tilted |
| 28 Dec. | -123 | Observatory building moved against pier by hurricane |

TABLE 7

Observed and adopted H scale-values
Determinations with Helmholtz coil

| Date | Observed H | Adopted H | Adopted value used from | Date | Observed H | Adopted H | Adopted value used from |
|----------|---------------|--------------|-------------------------------|---------|---------------|--------------|--|
| 1952 | γ/mm | γ/mm | | 1952 | γ/mm | γ/mm | |
| 16 March | 9.79 | 10.13 | March 11 | 5 Sept. | (9.83) | 10.13 | |
| 24 " | 10.01 | | | 7 " | | | |
| 27 " | 10.35 | | | 13 " | 10.06 | | |
| 1 April | 9.72 | | | 17 " | 10.12 | | |
| 8 " | 9.96 | | | 20 " | 10.16 | | |
| 15 " | 10.42 | | | 24 " | 10.10 | | |
| 27 " | 10.18 | | | 25 " | 10.18 | | |
| 6 May | 10.00 | | | 3 Oct. | 10.45 | 10.46 | 11 ^h 30 ^m Sept. 28 |
| 13 " | 10.17 | | | 9 " | 10.43 | | |
| 22 " | 10.06 | | | 11 " | 10.39 | | |
| 26 " | 10.56 | | | 16 " | 10.47 | | |
| 11 June | 10.16 | | | 22 " | 10.48 | | |
| 13 " | 10.18 | | | 4 Nov. | 10.43 | | |
| 18 " | 10.09 | | | 10 " | 10.48 | | |
| 22 " | 10.03 x | | | 19 " | 10.51 | | |
| 29 " | 10.13 | | | 25 " | 10.42 | | |
| 2 July | 10.06 | | | 2 Dec. | 10.50 x | | |
| 8 " | 10.12 | | | 10 " | 10.47 | | |
| 14 " | 10.22 x | | | 18 " | 10.50 | | |
| 19 " | 10.08 | | | 23 " | 10.40 | | |
| 25 " | 10.07 | | | 1953 | | | |
| 30 " | 10.14 | | | 1 Jan. | 10.34 x | 10.42 | 17 ^h 16 ^m Dec. 29 |
| 6 August | 10.17 x | | | 5 " | 10.49 | | |
| 9 " | 10.15 | | | 10 " | 10.45 | | |
| 16 " | 10.11 | | | 16 " | 10.38 | | |
| 24 " | 10.12 | | | 23 " | 10.40 | | |

x Disturbed conditions; disregarded in mean

TABLE 8

Abrupt changes in the adopted H scale-values

| Date | Change from preceding value | Cause of change |
|----------|-----------------------------------|---|
| 1952 | γ/mm | |
| 28 Sept. | +0.33 | Torsion head adjusted |
| 29 Dec. | -0.04 | Torsion head adjusted after displacement by hurricane |

TABLE 9

Observed and adopted D scale values

| Date | Observed D | Adopted D | Method used for determination |
|----------|---------------|--------------|-------------------------------|
| 1952 | γ/mm | γ/mm | |
| 16 March | 0.9118 | 0.912 | Torsion head deflections |
| 20 July | 0.9118 | 0.912 | " " " |

TABLE 10

Observed and adopted Z scale-values

Determinations with Helmholtz coil

| Date | Observed Z Y/mm | Adopted Z Y/mm | Adopted value used from | Date | Observed Z Y/mm | Adopted Z Y/mm | Adopted value used from |
|----------|-----------------------|----------------------|-------------------------------|---------|-----------------------|----------------------|-------------------------------|
| 1952 | | | | 1952 | | | |
| 13 March | 14.31 | 14.36 | March 11 | 5 Sept. | 3.15 | 3.14 | |
| 14 " | 14.32 | | | 13 " | 3.13 | | |
| 16 " | 14.62 | | | 17 " | 3.14 | | |
| 19 " | 14.34 | | | 25 " | 3.15 | | |
| 24 " | 14.64 x | | | 3 Oct. | 3.17 | 3.15 | 00h, Oct. 1 |
| 27 " | 14.45 | | | 9 " | 3.13 | | |
| 29 " | 3.06 | 3.11 | 15h, March 28 | 16 " | 3.15 | | |
| 1 April | 3.17 x | | | 22 " | 3.13 | | |
| 8 " | 3.02 | | | 4 Nov. | 3.15 | | |
| 15 " | 3.08 | | | 10 " | 3.16 | | |
| 27 " | 3.12 | | | 19 " | 3.14 | | |
| 13 May | 3.17 | | | 25 " | 3.15 | | |
| 22 " | 3.16 | | | 2 Dec. | 3.15 | | |
| 26 " | 3.06 | | | 10 " | 3.15 | | |
| 11 June | 3.12 | | | 18 " | 3.15 | | |
| 18 " | 3.11 | | | 23 " | 3.17 | | |
| 22 " | 3.12 x | | | | | | |
| 29 " | 3.10 | | | 1953 | | | |
| 2 July | 3.13 | 3.13 | 00h, July 1 | 1 Jan. | 3.08xx | 3.09 | 17h, Dec. 29 |
| 8 " | 3.13 | | | 10 " | 3.09 | | |
| 14 " | 3.11 | | | 16 " | 3.09 | | |
| 19 " | 3.14 | | | 23 " | 3.06 | | |
| 25 " | 3.13 | | | | | | |
| 30 " | 3.14 | | | | | | |
| 6 August | 3.11 x | 3.14 | 00h, August 1 | | | | |
| 9 " | 3.14 | | | | | | |
| 16 " | 3.14 | | | | | | |
| 24 " | 3.13 | | | | | | |

x Disturbed conditions

xx Positive deflection only

TABLE 11

Abrupt changes in the adopted Z scale-values

| Date | Change from preceding value Y/mm | Cause of change |
|----------|---|---|
| 1952 | | |
| 28 March | -11.25 | Magnet reversed to South end pointing North |
| 11 July | + 0.02 | |
| 1 Aug. | + 0.01 | |
| 1 Oct. | + 0.01 | |
| 29 Dec. | - 0.06 | Magnet reground |

TABLE 12

HOURLY VALUES OF HORIZONTAL INTENSITY

MARCH 1952

17700 plus tabular quantities expressed in gammas

G.M.T. used

| Day | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Mean | Maximum | Minimum | Range | | | | | |
|-----|----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|---------|---------|-------|------|-----|------|------|------|
| | | | | | | | | | | | | | | | | | | | | | | | | | | | h | m | h | m | | | | |
| 1 | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | */ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | */ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | */ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | */ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | */ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | 674 | 664 | 632 | 715 | 773 | 771 | 759 | 754 | 750 | 747 | 749 | 764 | 781 | 770 | 837 | 774 | 778 | 796 | 818 | 756 | 753 | 700 | 728 | 714 | 745 | 14 | 24 | 02 | 38 | 605 | 304 | | |
| 13 | * | 745 | 770 | 780 | 780 | 780 | 767 | 749 | 729 | 731 | | | | 772 | 773 | 771 | 775 | 770 | 772 | 777 | 771 | 762 | 701 | 663 | 739 | 745 | 03 | 25 | 786 | 22 | 21 | 612 | 174 | |
| 14 | */ | 760 | 770 | 784 | 794 | 790 | 778 | 768 | 755 | 747 | | 760 | 762 | 763 | 770 | 774 | 776 | 774 | 773 | 773 | 774 | 777 | 775 | 766 | 740 | 745 | 03 | 50 | 796 | 23 | 31 | 723 | 073 | |
| 15 | | 731 | 764 | 779 | 782 | 777 | 774 | 765 | 750 | 741 | 742 | 753 | 756 | 757 | 763 | 783 | 776 | 784 | 849 | 777 | 700 | 447 | 367 | 645 | 779 | 731 | 17 | 37 | 877 | 21 | 32 | 84 | 793 | |
| 16 | | 795 | 796 | 786 | 798 | 767 | 781 | 769 | 740 | 755 | 780 | 766 | 769 | 770 | 785 | 807 | 797 | 799 | 792 | 805 | 776 | 763 | 679 | | | 769 | 19 | 27 | 845 | 23 | 28 | 593 | 252 | |
| 17 | | 691 | 757 | 758 | 765 | 748 | 758 | 763 | 756 | 748 | 740 | 765 | 773 | 798 | 839 | 818 | 805 | 811 | 822 | 781 | 770 | 767 | 769 | 716 | 748 | 769 | 14 | 13 | 934 | 00 | 29 | 655 | 279 | |
| 18 | * | 763 | 773 | 776 | 779 | 773 | 769 | 760 | 763 | 744 | 735 | 754 | 758 | 768 | 778 | 788 | 781 | 787 | 775 | 773 | 775 | 774 | 777 | 775 | 760 | 769 | 16 | 30 | 808 | 09 | 35 | 729 | 079 | |
| 19 | */ | 762 | 771 | 783 | 781 | 786 | 775 | 768 | 753 | 747 | 748 | 753 | 761 | 772 | 775 | 778 | 769 | 780 | 785 | 791 | 788 | 777 | 771 | 779 | 774 | 772 | 18 | 59 | 806 | 09 | 20 | 744 | 062 | |
| 20 | */ | 781 | 787 | 790 | 791 | 787 | 772 | 761 | 742 | 737 | 739 | 746 | 752 | 769 | 776 | 781 | 781 | 780 | 781 | 784 | 786 | 785 | 787 | 786 | 786 | 774 | 23 | 22 | 792 | 09 | 05 | 733 | 059 | |
| 21 | | 773 | 770 | 792 | 811 | 821 | 799 | 757 | 733 | 713 | 727 | 760 | 768 | 791 | 922 | 789 | 869 | 822 | 808 | 777 | 759 | 722 | 715 | 541 | 492 | 760 | 13 | 12 | 1098 | 22 | 57 | 178 | 920 | |
| 22 | | 664 | 540 | 586 | 670 | 690 | 690 | 749 | 750 | 743 | 761 | 762 | 774 | 782 | 775 | 777 | 799 | 797 | 785 | 793 | 608 | 629 | 503 | 49 | 114 | 662 | 18 | 19 | 831 | 22 | 37 | 400 | 1231 | |
| 23 | | (67) | 500 | 644 | 718 | 722 | 728 | 714 | 708 | | | | | 775 | 774 | 760 | 768 | 777 | 803 | 836 | 872 | 844 | 800 | 787 | 788 | 786 | 17 | 58 | 1161 | 00 | 07 | 271 | 1432 | |
| 24 | | 782 | 797 | 778 | 733 | 711 | 759 | | | | 761 | 769 | 761 | 770 | 828 | 866 | 848 | 812 | 805 | 759 | 713 | 576 | 612 | 749 | 778 | 14 | 44 | 952 | 21 | 00 | 475 | 477 | | |
| 25 | | 779 | 791 | 774 | 777 | 768 | 753 | 749 | 734 | | 733 | 752 | 783 | 808 | 765 | 765 | 777 | 805 | 824 | 786 | 745 | 691 | 729 | 769 | 771 | 12 | 02 | 900 | 21 | 07 | 644 | 256 | | |
| 26 | * | 717 | 656 | 686 | 780 | 794 | 779 | 764 | 752 | 745 | 748 | 752 | 762 | 767 | 774 | 779 | 786 | 780 | 779 | 781 | 800 | 788 | 777 | 771 | 769 | 762 | 19 | 58 | 858 | 02 | 00 | 636 | 222 | |
| 27 | | 777 | 774 | 774 | 774 | 753 | 752 | 747 | 737 | 728 | 746 | 757 | 760 | 766 | 771 | 770 | 776 | 840 | 791 | 771 | 769 | 780 | 770 | 767 | 779 | 768 | 16 | 37 | 919 | 08 | 12 | 724 | 195 | |
| 28 | */ | 771 | 784 | 789 | 789 | 787 | 784 | 770 | 760 | 753 | | | | 752 | 755 | 766 | 773 | 776 | 778 | 781 | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | */ | 222 | 259 | 518 | 682 | 709 | 781 | 779 | 745 | 751 | 757 | 763 | 774 | 777 | 775 | 772 | 982 | 030 | 842 | 795 | 638 | 441 | 78 | 232 | 334 | 656 | 16 | 08 | 1103 | 21 | 45 | -540 | 1643 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | 40 | 1014 | 01 | 13 | -296 | 1310 |

Continuous recording started on 11th March, 1952

Mean

Insufficient data

DESIGNATIONS

Mean *

* Ten least disturbed days

Mean /

/ Five international quiet days

Mean #

Five international disturbed days

() Approximate

TABLE 13

HOURLY VALUES OF HORIZONTAL INTENSITY

APRIL 1952

17700 plus tabular quantities expressed in gammas

G.M.T. used

| Day | Hourly Values | | | | | | | | | | | | | | | | | | | | | | | | Mean | Maximum | | Minimum | | Range | | | | |
|---------------------|-------------------|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|------|----------------------------|-------------------------------------|-----|----------------|-------|--------|-------|-------|-----|-----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | 24 | h | m | h | | m | | | |
| 1 | 708 | 674 | 549 | 698 | 736 | 773 | 758 | 705 | 699 | 735 | 769 | 782 | 781 | 819 | 814 | 861 | 915 | 824 | 810 | 750 | 743 | 746 | 766 | 767 | 758 | 17 | 12 | 1035 | 02 | 27 | 430 | 605 | | |
| 2 | 683 | 515 | 521 | 615 | 635 | 757 | 744 | 742 | 739 | 740 | 775 | 749 | 776 | 787 | 831 | 810 | 809 | 879 | 781 | 462 | 168 | 541 | 421 | -076 | 642 | 17 | 19 | 991 | 20 | 04 | -360 | 1351 | | |
| 3 | 451 | 561 | 592 | 625 | 608 | 638 | 673 | 719 | 756 | 874 | 817 | 879 | 816 | 772 | 800 | 956 | 822 | 789 | 753 | 638 | 323 | 441 | 214 | -162 | 640 | 15 | 19 | 1105 | 23 | 25 | -412 | 1517 | | |
| 4 | 479 | 602 | 550 | 635 | 716 | 759 | 738 | 728 | 722 | 747 | 829 | 815 | 864 | 793 | 773 | 785 | 842 | 763 | 735 | 668 | 370 | 321 | 337 | 565 | 672 | 18 | 50 | 1087 | 21 | 48 | -071 | 1158 | | |
| 5 | 616 | 591 | 506 | 658 | 733 | 773 | 737 | 719 | 713 | 761 | 822 | 786 | 754 | 812 | 799 | 804 | 779 | 854 | 770 | 650 | 486 | 656 | 485 | 352 | 692 | 17 | 23 | 935 | 23 | 50 | 045 | 890 | | |
| 6 | 332 | 575 | 732 | 722 | 764 | 767 | 739 | 741 | 767 | 761 | 793 | 759 | 781 | 793 | 785 | 779 | 816 | 766 | 785 | 793 | 686 | 529 | 535 | 268 | 699 | 19 | 37 | 896 | 23 | 13 | 028 | 868 | | |
| 7 | 587 | 735 | 772 | 769 | 779 | 750 | 687 | 668 | 708 | 739 | 761 | 799 | 780 | 769 | 784 | 779 | 773 | 810 | 798 | 752 | 693 | 633 | 725 | 627 | 737 | 18 | 12 | 910 | 00 | 00 | 472 | 438 | | |
| 8 | 403 | 690 | 778 | 772 | 697 | 666 | 706 | 729 | 757 | 758 | 778 | 777 | 758 | 785 | 794 | 779 | 766 | 777 | 792 | 681 | 667 | 562 | 606 | 593 | 711 | 18 | 16 | 900 | 00 | 23 | 163 | 737 | | |
| 9 | 774 | 677 | 720 | 734 | 766 | 787 | 773 | 751 | 733 | 759 | 761 | 779 | 759 | 769 | 769 | 775 | 775 | 858 | 779 | 772 | 749 | 718 | 595 | 551 | 745 | 17 | 21 | 1062 | 00 | 12 | 169 | 893 | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 753 | 762 | 762 | 765 | 776 | 769 | 747 | 726 | 722 | 724 | 743 | 763 | 762 | 765 | 767 | 772 | 774 | 773 | 773 | 769 | 767 | 767 | 771 | 770 | 771 | 765 | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | 770 | 747 | 717 | 710 | 733 | 766 | 774 | 756 | 744 | 750 | 755 | 756 | 758 | 760 | 764 | 769 | 769 | 770 | 764 | 788 | 771 | 770 | 768 | 766 | 758 | 18 | 40 | 804 | 03 | 57 | 649 | 155 | | |
| 14 | 772 | 775 | 778 | 785 | 787 | 781 | 768 | 757 | 754 | 760 | 749 | 753 | 760 | 765 | 767 | 779 | 737 | 678 | 677 | 674 | 770 | 784 | 774 | 773 | 757 | 16 | 16 | 884 | 10 | 20 | 740 | 144 | | |
| 15 | 778 | 773 | 768 | 776 | 774 | 768 | 763 | 751 | 750 | 764 | 760 | 753 | 770 | 883 | 759 | 778 | 841 | 803 | 778 | 773 | 760 | 760 | 766 | 764 | 776 | 13 | 05 | 1105 | 11 | 54 | 739 | 366 | | |
| 16 | 766 | 762 | 753 | 761 | 765 | 749 | 738 | 738 | 738 | 750 | 752 | 764 | 772 | 764 | 775 | 788 | 781 | 772 | 784 | 791 | 739 | 760 | 764 | 774 | 763 | 18 | 55 | 842 | 06 | 20 | 723 | 119 | | |
| 17 | 779 | 780 | 756 | 717 | 698 | 731 | 770 | 760 | 749 | 749 | 762 | 765 | 764 | 768 | 768 | 770 | 769 | 765 | 770 | 771 | 765 | 773 | 776 | 774 | 760 | 06 | 38 | 791 | 04 | 12 | 685 | 106 | | |
| 18 | (772 | 775 | 781 | 783) | 775 | 771 | 760 | 756 | 757 | 760 | 762 | 772 | 776 | 777 | 775 | 779 | 776 | 792 | 839 | 789 | 654 | 560 | 602 | 557 | 746 | 18 | 57 | 924 | 21 | 52 | 482 | 442 | | |
| 19 | 534 | 688 | 761 | 760 | 763 | 753 | 749 | 745 | 744 | 742 | 751 | 760 | 760 | 767 | 832 | 824 | 774 | 793 | 783 | 716 | 717 | 712 | 519 | 683 | 735 | 14 | 06 | 935 | 22 | 26 | (052) | (883) | | |
| 20 | 764 | 770 | 774 | 775 | 764 | 745 | 749 | 748 | 746 | 747 | 757 | 760 | 767 | 771 | 774 | 774 | 770 | 772 | 779 | 781 | 757 | 714 | 715 | 741 | 759 | 19 | 58 | 784 | 21 | 46 | 677 | 107 | | |
| 21 | 766 | 749 | 768 | 772 | 771 | 759 | 741 | 740 | 739 | | | | 802 | 810 | 932 | 942 | 002 | 707 | 563 | 606 | 542 | 442 | 608 | 750 | (15 00) | 1215 | 21 | 22 | (044) | (1171) | 258 | | | |
| 22 | 771 | 748 | 733 | 723 | 738 | 761 | 698 | 741 | 732 | 763 | 762 | 793 | 783 | 778 | 773 | 771 | 772 | 775 | 783 | 774 | 762 | 742 | 763 | 771 | 759 | 11 | 15 | 843 | 03 | 46 | 585 | | | |
| 23 | 773 | 763 | 756 | 753 | 775 | 773 | 762 | 745 | | | | | (760) | 766 | 771 | 775 | 777 | 771 | 800 | 809 | 773 | 773 | 758 | 679 | 670 | 750 | 769 | 03 | 37 | 788 | 08 | 39 | 748 | 040 |
| 24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | 770 | 779 | 779 | 785 | 782 | 777 | 769 | 758 | 750 | 755 | 759 | 759 | 758 | 766 | 770 | 774 | 770 | 772 | 773 | 773 | 771 | 771 | 771 | 772 | 780 | 19 | 00 | 901 | 08 | 35 | 748 | 153 | | |
| 26 | 773 | 779 | 780 | 786 | 787 | 781 | 769 | 755 | 749 | 763 | 768 | 773 | 781 | 790 | 791 | 790 | 784 | 786 | 799 | 836 | 777 | 769 | 783 | 782 | 784 | 22 | 17 | 796 | 08 | 33 | 764 | 032 | | |
| 27 | 782 | 786 | 791 | 791 | 789 | 781 | 771 | 766 | 764 | 769 | 777 | 780 | 789 | 789 | 791 | 790 | 790 | 790 | 790 | 790 | 790 | 791 | 791 | 789 | 763 | 17 | 14 | 943 | 23 | 19 | 405 | 538 | | |
| 28 | 778 | 780 | 776 | 710 | 702 | 708 | 724 | 742 | 757 | 763 | 768 | 761 | 791 | 801 | 845 | 871 | 901 | 841 | 800 | 789 | 749 | 740 | 696 | 511 | 667 | 16 | 23 | 1001 | 22 | 45 | -085 | 1086 | | |
| 29 | 461 | 667 | 768 | 768 | 705 | 716 | 723 | 701 | 749 | 747 | 769 | 787 | 805 | 779 | 789 | 861 | 784 | 624 | 685 | 481 | 563 | 630 | (14.7) | 301 | 682 | 10 | 31 | 1017 | 22 | 35 | 058 | 959 | | |
| 30 | 492 | 405 | 596 | 747 | 746 | 729 | 757 | 753 | 757 | 797 | 888 | 806 | 820 | 778 | 780 | 789 | 840 | 779 | 698 | 595 | 701 | 533 | 249 | 337 | | | | | | | | | | |
| Mean | 662 | 695 | 712 | 735 | 741 | 750 | 743 | 739 | 743 | 761 | 777 | 778 | 781 | 786 | 793 | 807 | 806 | 782 | 763 | 716 | 663 | 656 | 607 | 573 | 733 | DESIGNATIONS | | | | | | | | |
| Mean * | Insufficient data | | | | | | | | | | | | | | | | | | | | | | | | * Ten least disturbed days | | | | | | | | | |
| Mean / c | 772 | 778 | 781 | 784 | 780 | 771 | 764 | 757 | 752 | 758 | 765 | 768 | 774 | 779 | 782 | 782 | 778 | 780 | 785 | 795 | 774 | 761 | 765 | 771 | 773 | / Five international quiet days | | | | | | | | |
| Mean ≠ c | 522 | 537 | 619 | 689 | 674 | 710 | 724 | 729 | 750 | 790 | 812 | 805 | 804 | 779 | 800 | 854 | 814 | 768 | 729 | 544 | 439 | 536 | 258 | 101 | 658 | ≠ Five international disturbed days | | | | | | | | |
| c Means of 4 values | | | | | | | | | | | | | | | | | | | | | | | | | | | | () Approximate | | | | | | |

TABLE 14

HOURLY VALUES OF HORIZONTAL INTENSITY

MAY 1952

17700 plus tabular quantities expressed in gammas

G. M. T. used

| Day | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Mean | Maximum | | Minimum | | Range | |
|---------------------|------|-----|------|-----|-----|-----|-----|-----|-----|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|------|-----|-------------------------------------|---------|------|---------|-----|-------|------|
| | | | | | | | | | | | | | | | | | | | | | | | | | | | h | m | h | m | | |
| 1 | 422 | 493 | 636 | 714 | 752 | 768 | 734 | 761 | 767 | 779 | 821 | 855 | 820 | 789 | 826 | 789 | 806 | 817 | 752 | 749 | 580 | 641 | 679 | 434 | 716 | 11 | 46 | 946 | 00 | 32 | 136 | 810 |
| 2 | 507 | 566 | 464 | 675 | 739 | 776 | 764 | 739 | 738 | 774 | 843 | 799 | 860 | 787 | 822 | 819 | 796 | 780 | 642 | 584 | 696 | 685 | 478 | 558 | 704 | 12 | 24 | 992 | 22 | 28 | 319 | 673 |
| 3 | 596 | 557 | 594 | 734 | 706 | 665 | 703 | 705 | 733 | 758 | 770 | 779 | 779 | 786 | 797 | 818 | 790 | 817 | 665 | 555 | 531 | 181 | 78 | 357 | 644 | 18 | 29 | 959 | 22 | 25 | -258 | 1217 |
| 4 | 260 | 655 | 736 | 736 | 735 | 778 | 776 | 754 | 760 | 771 | 779 | 790 | 789 | 791 | 780 | 796 | 812 | 775 | 791 | 739 | 617 | 536 | 346 | 246 | 690 | 15 | 51 | 874 | 00 | 08 | -267 | 1141 |
| 5 | 477 | 394 | 748 | 796 | 780 | 749 | 758 | 745 | 752 | 771 | 769 | 770 | 806 | 784 | 776 | 779 | 773 | 789 | 807 | 769 | 744 | 732 | 571 | 625 | 728 | 12 | 41 | 848 | 01 | 04 | 079 | 769 |
| 6 | 685 | 721 | 756 | 776 | 740 | 709 | 707 | 707 | 729 | 762 | 760 | 772 | 770 | 769 | 775 | 777 | 778 | 772 | 779 | 779 | 779 | 752 | 708 | 676 | 747 | 19 | 58 | 791 | 22 | 59 | 639 | 152 |
| 7 | 666 | 738 | 761 | 768 | 696 | 700 | | | | | | | | 984 | 035 | 029 | 862 | 780 | 638 | 668 | 555 | 292 | 315 | 728 | | | | | | | | |
| 8 | 783 | 748 | 444 | 679 | 771 | 754 | 734 | 726 | 718 | 763 | 783 | 775 | 759 | 767 | 778 | 775 | 771 | 770 | 768 | 763 | 706 | 737 | 769 | 764 | 742 | 00 | 31 | 799 | 02 | 44 | 243 | 556 |
| 9 | 767 | 769 | 784 | 787 | 784 | 778 | 770 | 765 | 762 | 763 | 765 | 770 | 770 | 771 | 771 | 771 | 770 | 768 | 777 | 770 | 769 | 760 | 759 | 758 | 770 | 18 | 38 | 789 | 24 | 00 | 747 | 042 |
| 10 | 718 | 759 | 789 | 791 | 789 | 793 | 786 | 776 | 768 | 764 | 764 | 768 | 772 | 774 | 775 | 777 | 776 | 777 | 776 | 776 | 775 | 776 | 775 | 775 | 774 | 05 | 20 | 797 | 00 | 48 | 697 | 100 |
| 11 | 776 | 778 | 781 | 783 | 786 | 786 | 777 | 767 | 766 | 774 | 773 | 775 | 779 | 774 | 766 | 768 | 785 | 831 | 797 | 784 | 776 | 780 | 780 | 779 | 780 | 17 | 47 | 893 | 15 | 12 | 758 | 135 |
| 12 | 772 | 738 | 766 | 784 | 787 | 779 | 765 | 756 | 756 | 766 | 768 | 775 | 776 | 777 | 780 | 778 | 779 | 793 | 775 | 777 | 792 | 773 | 777 | 778 | 774 | 20 | 20 | 815 | 01 | 27 | 734 | 081 |
| 13 | 779 | 779 | 779 | 784 | 786 | 786 | 778 | 776 | 773 | 769 | 768 | 776 | 777 | 768 | 777 | 778 | 777 | 778 | 777 | 778 | 780 | 786 | 776 | 767 | 777 | 21 | 35 | 799 | 23 | 36 | 758 | 041 |
| 14 | 707 | 662 | 759 | 782 | 778 | 771 | 758 | 766 | 766 | 764 | 769 | 777 | 778 | 782 | 782 | 779 | 778 | 777 | 777 | 777 | 777 | 777 | 777 | 777 | 767 | 03 | 39 | 787 | 01 | 21 | 634 | 153 |
| 15 | 777 | 775 | 777 | 781 | 787 | 786 | 778 | 770 | 767 | 768 | 769 | 777 | 777 | 771 | 767 | 768 | 790 | 769 | 779 | 777 | 777 | 777 | 777 | 777 | 776 | 16 | 33 | 816 | 17 | 31 | 763 | 053 |
| 16 | 778 | 778 | 777 | 777 | 779 | 786 | 779 | 775 | 769 | 768 | 769 | 775 | 777 | 781 | 780 | 780 | 779 | 779 | 780 | 779 | 780 | 779 | 780 | 779 | 776 | 05 | 51 | 787 | 09 | 00 | 768 | 019 |
| 17 | | | | | | | | | | | | | | 780 | 778 | 779 | 781 | 787 | 787 | 785 | 779 | 778 | 778 | 778 | 771 | 16 | 30 | 1183 | 01 | 50 | 603 | 580 |
| 18 | 693 | 686 | 687 | 767 | 790 | 797 | 786 | 758 | 751 | 763 | 757 | 777 | 785 | 787 | 782 | 790 | 009 | 851 | 791 | 770 | 735 | 717 | 739 | 746 | 760 | 17 | 21 | 900 | 04 | 43 | 588 | 312 |
| 19 | 691 | 741 | 753 | 766 | 669 | 746 | 771 | 752 | 745 | 750 | 786 | 767 | 777 | 778 | 772 | 778 | 782 | 797 | 782 | 779 | 756 | 768 | 767 | 759 | 760 | 17 | 04 | 814 | 22 | 03 | 709 | 105 |
| 20 | 757 | 766 | 755 | 745 | 761 | 777 | 760 | 748 | 745 | 746 | 765 | 770 | 767 | 767 | 777 | 777 | 780 | 778 | 776 | 776 | 775 | 744 | 746 | 772 | 764 | 21 | 02 | 806 | 09 | 09 | 740 | 066 |
| 21 | 776 | 774 | 774 | 777 | 783 | 775 | 764 | 759 | 759 | 750 | 765 | 779 | 775 | 769 | 777 | 776 | 777 | 785 | 779 | 776 | 767 | 771 | 771 | 767 | 772 | 18 | 02 | 806 | 09 | 09 | 740 | 066 |
| 22 | 769 | 772 | 774 | 778 | 777 | 769 | 764 | 758 | 762 | 768 | 765 | 767 | 771 | 776 | 776 | 775 | 775 | 775 | 775 | 774 | 775 | 774 | 774 | 775 | 772 | 04 | 50 | 782 | 08 | 05 | 757 | 025 |
| 23 | 776 | 777 | 777 | 778 | 778 | 777 | 774 | 767 | 764 | 767 | 772 | 780 | 785 | 781 | 780 | 770 | 766 | 770 | 780 | 775 | 774 | 775 | 775 | 767 | 774 | 18 | 50 | 824 | 19 | 38 | 752 | 072 |
| 24 | 758 | 767 | 777 | 771 | 779 | 783 | 765 | 758 | 758 | 767 | 774 | 777 | 757 | 763 | 769 | 775 | 767 | 774 | 777 | 777 | 761 | 770 | 754 | 730 | 767 | 19 | 01 | 784 | 23 | 55 | 703 | 081 |
| 25 | 665 | 697 | 757 | 772 | 766 | 762 | 766 | 756 | 725 | 747 | 746 | 767 | 775 | 772 | 778 | 777 | 774 | 770 | 770 | 770 | 772 | 771 | 771 | 772 | 758 | 15 | 14 | 783 | 01 | 01 | 622 | 161 |
| 26 | 775 | 777 | 777 | 778 | 778 | 777 | 774 | 768 | 768 | 719 | 739 | 772 | 772 | 780 | 786 | 774 | 832 | 848 | 838 | 788 | 622 | (183 | 299 | 275) | 708 | 17 | 50 | 895 | 21 | 30 | -137 | 1032 |
| 27 | (198 | 126 | 260) | 724 | 732 | 763 | 746 | 759 | 744 | 750 | 751 | 803 | 798 | 806 | 795 | 783 | 810 | 769 | 727 | 679 | 653 | 721 | 714 | 538 | 729 | 15 | 21 | 1047 | 23 | 24 | 334 | 713 |
| 28 | 676 | 755 | 735 | 761 | 762 | 769 | 755 | 741 | 754 | 765 | 768 | 779 | 785 | 795 | 784 | 787 | 820 | 814 | 756 | 716 | 743 | 703 | 707 | 747 | 744 | 16 | 53 | 952 | 00 | 00 | 449 | 503 |
| 29 | 576 | 700 | 749 | 712 | 692 | 718 | 708 | 718 | 724 | 753 | 760 | 765 | 798 | 790 | 783 | 776 | 785 | 774 | 774 | 774 | 743 | 762 | 711 | 610 | 738 | 19 | 21 | 851 | 24 | 00 | 562 | 289 |
| 30 | 750 | 689 | 675 | 695 | 677 | 724 | 708 | 718 | 724 | 753 | 760 | 765 | 798 | 790 | 783 | 776 | 785 | 774 | 774 | 774 | 743 | 762 | 711 | 610 | 738 | 19 | 21 | 851 | 24 | 00 | 562 | 289 |
| 31 | 607 | 553 | 663 | 755 | 739 | 684 | 709 | 743 | 762 | 770 | 780 | 779 | 780 | 771 | 773 | 775 | 775 | 784 | 799 | 764 | 726 | 715 | 706 | 700 | 734 | 18 | 20 | 844 | 01 | 03 | 418 | 426 |
| Mean | 660 | 678 | 704 | 756 | 757 | 761 | 757 | 751 | 752 | 765 | 771 | 779 | 783 | 779 | 778 | 785 | 793 | 789 | 770 | 747 | 724 | 698 | 675 | 659 | 745 | DESIGNATIONS | | | | 409 | | |
| Mean * a | 758 | 754 | 776 | 783 | 783 | 780 | 772 | 768 | 765 | 766 | 768 | 774 | 776 | 775 | 776 | 774 | 776 | 776 | 777 | 776 | 777 | 775 | 774 | 772 | 773 | * Ten least disturbed days | | | | 71 | | |
| Mean / c | 758 | 769 | 781 | 784 | 784 | 782 | 774 | 767 | 765 | 766 | 766 | 770 | 772 | 773 | 772 | 773 | 778 | 772 | 777 | 774 | 774 | 772 | 771 | 771 | 773 | / Five international quiet days | | | | | | |
| Mean ≠ c | 431 | 438 | 488 | 712 | 732 | 743 | 737 | 741 | 746 | 765 | 796 | 809 | 814 | 792 | 810 | 802 | 801 | 796 | 696 | 642 | 615 | 557 | 487 | 472 | 684 | ≠ Five international disturbed days | | | | | | |
| a Means of 9 values | | | | | | | | | | c Means of 4 values | | | | | | | | | | | | | | | | | | | | | | |
| () Approximate | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

TABLE 16

HOURLY VALUES OF HORIZONTAL INTENSITY

JULY 1952

17700 plus tabular quantities expressed in gammas

G.M.T. used

| Day | | | | | | | | | | | | | | | | | | | | | | | | 24 Mean | Maximum | | Minimum | | Range | | | |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------|---------|-------------------------------------|---------|------|-------|-----|-------|-------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | 23 | h | m | h | | m | | |
| 1 | 759 | 759 | 766 | 769 | 774 | 774 | 767 | 763 | 756 | 756 | 759 | 766 | 767 | 769 | 771 | 770 | 770 | 770 | 770 | 767 | 765 | 658 | 649 | 763 | 757 | 23 | 49 | 792 | 21 | 50 | 525 | 267 |
| 2 * / | 790 | 782 | 777 | 775 | 775 | 777 | 776 | 768 | 764 | 751 | 750 | 767 | 775 | 776 | 776 | 775 | 772 | 774 | 774 | 773 | 772 | 774 | 774 | 775 | 773 | 00 | 07 | 802 | 09 | 45 | 742 | 060 |
| 3 | 774 | 773 | 771 | 776 | 778 | 776 | 768 | 765 | 760 | 762 | 764 | 769 | 774 | 777 | 776 | 787 | 807 | 819 | 776 | 790 | 785 | 760 | 754 | 766 | 775 | 17 | 19 | 868 | 22 | 29 | 738 | 130 |
| 4 | 772 | 773 | 771 | 769 | 766 | 761 | 766 | 766 | 762 | 753 | 752 | 770 | 775 | 780 | 783 | 780 | 785 | 778 | 776 | 774 | 769 | 795 | 762 | 770 | 771 | 21 | 25 | 811 | 10 | 20 | 745 | 066 |
| 5 | 774 | 764 | 775 | 776 | 766 | 726 | 726 | 736 | 732 | 738 | 745 | 766 | 817 | 049 | 946 | 830 | 834 | 699 | 639 | 504 | 307 | 492 | 729 | 721 | 733 | 13 | 05 | 1294 | 20 | 12 | 022 | 1272 |
| 6 | 743 | 763 | 774 | 775 | 750 | 755 | 755 | 689 | 715 | 749 | 745 | 762 | 781 | 785 | 785 | 778 | 778 | 776 | 773 | 770 | 766 | 774 | 757 | 756 | 761 | 10 | 05 | 807 | 07 | 59 | 594 | 213 |
| 7 * | 771 | 767 | 767 | 766 | 766 | 762 | 759 | 750 | 746 | 753 | 761 | 773 | 776 | 776 | 776 | 774 | 767 | 782 | 776 | 774 | 769 | 765 | 765 | 766 | 767 | 17 | 34 | 792 | 08 | 37 | 742 | 050 |
| 8 | 767 | 768 | 767 | 770 | 773 | 774 | 761 | 754 | 757 | 767 | 770 | 766 | 774 | 768 | 772 | 784 | 767 | 771 | 768 | 768 | 766 | 763 | 763 | 752 | 767 | 15 | 19 | 797 | 23 | 31 | 745 | 052 |
| 9 | 756 | 766 | 755 | 757 | 776 | 774 | 738 | 711 | 725 | 725 | 738 | 775 | 776 | 794 | 779 | 796 | 797 | 780 | 772 | 773 | 808 | 780 | 764 | 760 | 766 | 20 | 37 | 864 | 10 | 13 | 703 | 161 |
| 10 | 761 | 763 | 761 | 761 | 761 | 753 | 766 | 757 | 762 | 762 | 751 | 762 | 771 | 783 | 783 | 781 | 799 | 805 | 799 | 772 | 760 | 761 | 727 | 715 | 766 | 17 | 57 | 829 | 23 | 35 | 698 | 131 |
| 11 | 700 | 711 | 739 | 764 | 742 | 753 | 757 | 753 | 754 | 756 | 762 | 772 | 776 | 776 | 771 | 774 | 778 | 792 | 782 | 776 | 776 | 775 | 775 | 775 | 762 | 17 | 34 | 800 | 00 | 26 | 675 | 125 |
| 12 * | 772 | 757 | 738 | 765 | 765 | 776 | 774 | 764 | 767 | 767 | 764 | 777 | 777 | 778 | 781 | 783 | 783 | 783 | 780 | 778 | 778 | 784 | 778 | 776 | 773 | 21 | 17 | 795 | 02 | 30 | 735 | 060 |
| 13 | 781 | 785 | 785 | 779 | 777 | 777 | 772 | 770 | 771 | 768 | 767 | 777 | 786 | 775 | 765 | 774 | 773 | 778 | 785 | 770 | 775 | 776 | 775 | 775 | 776 | 18 | 15 | 804 | 19 | 00 | 757 | 047 |
| 14 | 776 | 765 | 741 | 764 | 778 | 776 | 773 | 765 | 752 | 763 | 762 | 763 | 767 | 781 | 781 | 784 | 791 | 779 | 778 | 778 | 778 | 774 | 765 | 745 | 770 | 16 | 09 | 816 | 23 | 59 | 712 | 104 |
| 15 | 743 | 777 | 775 | 762 | 750 | 764 | 761 | 759 | 748 | 731 | 745 | 767 | 776 | 777 | 771 | 769 | 774 | 777 | 778 | 776 | 773 | 769 | 768 | 732 | 763 | 12 | 36 | 782 | 00 | 00 | 712 | 070 |
| 16 * | 763 | 769 | 769 | 767 | 770 | 768 | 746 | 751 | 756 | 761 | 753 | 767 | 774 | 769 | 773 | 771 | 776 | 776 | 779 | 779 | 783 | 773 | 772 | 772 | 768 | 18 | 58 | 797 | 06 | 46 | 736 | 061 |
| 17 * | 773 | 775 | 775 | 774 | 762 | 767 | 758 | 760 | 759 | (760) | 764 | 774 | 776 | 778 | 773 | 768 | 777 | 786 | 793 | 784 | 775 | 777 | 783 | 782 | 773 | 18 | 24 | 804 | (08 | 47) | (751) | (053) |
| 18 * | 778 | 776 | 776 | 767 | 765 | 782 | 783 | 766 | 751 | 752 | 757 | 768 | 770 | 773 | 771 | 767 | 773 | 778 | 775 | 775 | 781 | 777 | 776 | 771 | 771 | 20 | 33 | 802 | 08 | 53 | 745 | 057 |
| 19 * / | 776 | 777 | 780 | 784 | 787 | 786 | 781 | 774 | 767 | 767 | 769 | 777 | 779 | 779 | 780 | 778 | 779 | 779 | 795 | 777 | 777 | 777 | 775 | 772 | 778 | 18 | 21 | 821 | 24 | 00 | 763 | 058 |
| 20 | 766 | 775 | 784 | 790 | 797 | 798 | 792 | 787 | 782 | (774) | 774 | 758 | 767 | 786 | 843 | 888 | 844 | 806 | 747 | 674 | 542 | 494 | 615 | 596 | 749 | 15 | 11 | 1010 | 21 | 22 | 310 | 700 |
| 21 | 649 | 672 | 706 | 696 | 679 | 773 | 735 | 710 | 725 | 749 | 772 | 759 | 787 | 814 | 787 | 909 | 773 | 776 | 807 | 769 | 753 | 680 | 635 | 665 | 741 | 15 | 13 | 1157 | 01 | 58 | 558 | 599 |
| 22 | 709 | 767 | 767 | 754 | 768 | 765 | 766 | 757 | 746 | 753 | 772 | 781 | 783 | 781 | 780 | 779 | 778 | 776 | 775 | 790 | 750 | 746 | 739 | 725 | 763 | 19 | 24 | 822 | 00 | 13 | 660 | 162 |
| 23 | 756 | 776 | 776 | 776 | 776 | 782 | 769 | 769 | 761 | 763 | 766 | 777 | 783 | 785 | 777 | 770 | 773 | 779 | 783 | 784 | 777 | 742 | 752 | 752 | 771 | 19 | 26 | 790 | 21 | 43 | 715 | 075 |
| 24 | 730 | 745 | 772 | 781 | 787 | 788 | 786 | 780 | 775 | 770 | 771 | 775 | 782 | 783 | 779 | 778 | 776 | 804 | 781 | 781 | 763 | 749 | 722 | 754 | 771 | 17 | 20 | 816 | 01 | 00 | 700 | 116 |
| 25 | 778 | 784 | 784 | 785 | 786 | 783 | 773 | 766 | 766 | 769 | 767 | 779 | 777 | 785 | 781 | 810 | 804 | 808 | 777 | 771 | 736 | 725 | 735 | 700 | 772 | 17 | 19 | 842 | 23 | 42 | 669 | 173 |
| 26 | 674 | 743 | 721 | 703 | 778 | 782 | 761 | 757 | 758 | 775 | 772 | 780 | 776 | 775 | 787 | 787 | 783 | 783 | 788 | 783 | 777 | 774 | 775 | 772 | 765 | 18 | 18 | 808 | 00 | 35 | 660 | 148 |
| 27 | 772 | 759 | 775 | 788 | 788 | 785 | 778 | 775 | 773 | 773 | 775 | 777 | 776 | 774 | 776 | 779 | 777 | 779 | 777 | 777 | 765 | 733 | 623 | 780 | 768 | 04 | 15 | 791 | 22 | 26 | 484 | 307 |
| 28 * / | 784 | 778 | 781 | 784 | 779 | 780 | 778 | 778 | 779 | 776 | 774 | 778 | 779 | 782 | 783 | 785 | 782 | 782 | 782 | 778 | 781 | 778 | 778 | 781 | 780 | 20 | 35 | 796 | 01 | 51 | 771 | 025 |
| 29 * / | 782 | 784 | 784 | 785 | 783 | 779 | 779 | 777 | 775 | 771 | 769 | 773 | 777 | 780 | 779 | 778 | 776 | 778 | 778 | 775 | 782 | 782 | 778 | 776 | 778 | 20 | 54 | 799 | 10 | 21 | 768 | 031 |
| 30 * / | 775 | 779 | 782 | 788 | 792 | 785 | 774 | 771 | 773 | 772 | 771 | 774 | 777 | 781 | 780 | 780 | 779 | 777 | 777 | 777 | 781 | 780 | 778 | 784 | 779 | 04 | 13 | 792 | 10 | 35 | 769 | 023 |
| 31 | 787 | 794 | 788 | 788 | 798 | 803 | 795 | 776 | 751 | 745 | 756 | 759 | 760 | 777 | 782 | 780 | 784 | 815 | 799 | 818 | 799 | 781 | 779 | 775 | 783 | 20 | 48 | 866 | 09 | 15 | 726 | 140 |
| Mean | 758 | 765 | 767 | 769 | 771 | 774 | 767 | 759 | 757 | 759 | 762 | 771 | 777 | 789 | 785 | 789 | 784 | 782 | 775 | 766 | 751 | 744 | 746 | 752 | 767 | DESIGNATIONS | | | 179 | | | |
| Mean * | 776 | 774 | 773 | 776 | 774 | 776 | 771 | 766 | 764 | 763 | 763 | 773 | 776 | 777 | 777 | 776 | 776 | 780 | 781 | 777 | 778 | 777 | 776 | 776 | 774 | * Ten least disturbed days | | | 48 | | | |
| Mean / | 781 | 780 | 781 | 783 | 783 | 781 | 778 | 774 | 772 | 767 | 767 | 774 | 777 | 780 | 780 | 779 | 778 | 778 | 781 | 776 | 779 | 778 | 777 | 778 | 778 | / Five international quiet days | | | | | | |
| Mean ≠ | 738 | 748 | 759 | 757 | 756 | 765 | 749 | 727 | 736 | 747 | 755 | 764 | 786 | 846 | 828 | 840 | 805 | 767 | 748 | 698 | 635 | 644 | 700 | 700 | 750 | ≠ Five international disturbed days | | | | | | |
| () Approximate | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

TABLE 18

HOURLY VALUES OF HORIZONTAL INTENSITY

SEPTEMBER 1952

17600 plus tabular quantities expressed in gammas

G.M.T. used

| Day | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Mean | Maximum | Minimum | Range | | | |
|----------|---|---------------------|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------------------------------|---------|-----------------|-------|----|------|------|
| | | | | | | | | | | | | | | | | | | | | | | | | | | h m | | h m | | | | | |
| 1 | ≠ | 820 | 750 | 741 | 773 | 839 | 860 | 822 | 819 | 847 | 842 | 895 | 917 | 904 | 911 | 957 | 051 | 928 | 885 | 876 | 834 | 811 | 864 | 669 | 515 | 840 | 15 | 30 | 1269 | 23 | 17 | 315 | 954 |
| 2 | | 769 | 863 | 859 | 850 | 866 | 846 | 881 | 841 | 858 | 832 | 834 | 842 | 875 | 894 | 913 | 880 | 862 | 867 | 871 | 871 | 843 | 759 | 695 | 750 | 844 | 19 | 15 | 976 | 21 | 49 | 624 | 352 |
| 3 | | 824 | 838 | 845 | 828 | 823 | 840 | 852 | 833 | 863 | 874 | 874 | 868 | 879 | 881 | 883 | 883 | 883 | 900 | 880 | 877 | 867 | 834 | 784 | 810 | 855 | 17 | 19 | 920 | 22 | 23 | 762 | 158 |
| 4 | ≠ | 832 | 843 | 842 | 872 | 891 | 888 | 878 | 872 | 857 | 853 | 848 | 861 | 866 | 875 | 888 | 888 | 873 | 873 | 902 | 873 | 872 | 872 | 873 | 874 | 869 | 18 | 44 | 954 | 00 | 00 | 787 | 167 |
| 5 | | 867 | 862 | 875 | 882 | 888 | 889 | 871 | 847 | 834 | 841 | 854 | 861 | 877 | 874 | 891 | 981 | 035 | 868 | 888 | 869 | 847 | 794 | 806 | 827 | 872 | 16 | 34 | 1102 | 21 | 55 | 741 | 361 |
| 6 | | 804 | 856 | 863 | 854 | 872 | 863 | 842 | 841 | 838 | 858 | 860 | 864 | 869 | 874 | 875 | 887 | 905 | 890 | 904 | 900 | 854 | 863 | 880 | 877 | 866 | 16 | 07 | 934 | 00 | 45 | 779 | 155 |
| 7 | | 872 | 877 | 884 | 880 | 838 | 825 | 876 | 869 | 859 | 856 | 854 | 861 | 870 | 876 | 879 | 882 | 883 | 919 | 954 | 899 | 786 | 738 | 661 | 700 | 850 | 18 | 00 | 1058 | 22 | 31 | 314 | 744 |
| 8 | ≠ | 814 | 754 | 701 | 832 | 820 | 812 | 818 | 883 | 880 | 866 | 859 | 867 | 892 | 883 | 881 | 957 | 951 | 915 | 916 | 804 | 653 | 832 | 863 | 621 | 836 | 16 | 03 | 1005 | 23 | 35 | 476 | 529 |
| 9 | ≠ | 787 | 794 | 697 | 752 | 874 | 849 | 857 | 861 | 860 | 866 | 920 | 883 | 875 | 884 | 883 | 963 | 912 | 882 | 889 | 887 | 831 | 788 | 774 | 694 | 844 | 15 | 40 | 1187 | 00 | 02 | 700 | 487 |
| 10 | | 772 | 850 | 846 | 835 | 882 | 866 | 831 | 850 | 846 | 843 | 863 | 884 | 875 | 881 | 875 | 870 | 877 | 884 | 895 | 888 | 886 | 884 | 873 | 859 | 863 | 18 | 08 | 910 | 00 | 07 | 747 | 163 |
| 11 | | 847 | 878 | 887 | 891 | 895 | 887 | 884 | 876 | 872 | 855 | 855 | 844 | 880 | 867 | 883 | 883 | 891 | 891 | 874 | 865 | 875 | 838 | 823 | 853 | 871 | 18 | 27 | 918 | 21 | 55 | 794 | 124 |
| 12 | | 832 | 819 | 772 | 817 | 853 | 852 | 872 | 867 | 856 | 854 | 864 | 876 | 875 | 872 | 874 | 874 | 874 | 908 | 889 | 862 | 673 | 781 | 856 | 873 | 848 | 18 | 49 | 958 | 20 | 21 | 525 | 433 |
| 13 | ≠ | 882 | 878 | 878 | 882 | 882 | 883 | 874 | 867 | 863 | 860 | 861 | 867 | 870 | 873 | 874 | 874 | 873 | 876 | 876 | 881 | 884 | 891 | 890 | 878 | 876 | 22 | 10 | 895 | 10 | 00 | 857 | 038 |
| 14 | ≠ | 875 | 895 | 894 | 860 | 815 | 864 | 860 | 856 | 853 | 859 | 860 | 862 | 863 | 864 | 898 | 895 | 905 | 873 | 881 | 874 | 845 | 864 | 841 | 803 | 865 | 14 | 44 | 996 | 23 | 10 | 773 | 223 |
| 15 | ≠ | 854 | 863 | 883 | 893 | 894 | 888 | 872 | 857 | 850 | 844 | 851 | 864 | 874 | 873 | 874 | 872 | 873 | 879 | 888 | 899 | 877 | 871 | 835 | 801 | 868 | 19 | 05 | 915 | 23 | 44 | 782 | 133 |
| 16 | ≠ | 846 | 880 | 873 | 872 | 891 | 890 | 879 | 864 | 862 | 858 | 853 | 864 | 873 | 876 | 878 | 878 | 880 | 886 | 889 | 880 | 883 | 875 | 857 | 863 | 873 | 21 | 05 | 902 | 00 | 00 | 821 | 081 |
| 17 | ≠ | 882 | 880 | 874 | 886 | 891 | 887 | 874 | 863 | 858 | 858 | 858 | 863 | 866 | 872 | 877 | 877 | 877 | 889 | 876 | 877 | 881 | 882 | 880 | 875 | 875 | 17 | 01 | 897 | 10 | 06 | 852 | 045 |
| 18 | ≠ | 875 | 884 | 889 | 898 | 896 | 886 | 865 | 860 | 855 | 855 | 861 | 870 | 877 | 881 | 881 | 881 | 881 | 880 | 880 | 892 | 881 | 883 | 883 | 883 | 878 | 19 | 33 | 913 | 09 | 03 | 853 | 060 |
| 19 | ≠ | 885 | 886 | 893 | 900 | 901 | 893 | 875 | 861 | (854 | 853) | 858 | 865 | 874 | 879 | 879 | 875 | 873 | 879 | 883 | 883 | 883 | 885 | 888 | 874 | 878 | 03 | 39 | 901 | 09 | 52 | 853 | 048 |
| 20 | ≠ | 872 | 880 | 892 | 898 | 901 | 890 | 867 | 845 | 845 | 852 | 857 | 867 | 875 | 883 | 883 | 884 | 884 | 887 | 884 | 898 | 892 | 796 | 762 | 680 | 861 | 19 | 57 | 905 | 23 | 06 | 541 | 364 |
| 21 | | 679 | 690 | 822 | 892 | 905 | 894 | 871 | 854 | 842 | 843 | 852 | 859 | 868 | 873 | 874 | 874 | 875 | 876 | 875 | 885 | 885 | 874 | 866 | 874 | 854 | 04 | 23 | 914 | 00 | 42 | 555 | 359 |
| 22 | ≠ | 881 | 881 | 882 | 891 | 887 | 889 | 873 | 855 | 852 | 847 | 854 | 862 | 868 | 874 | 875 | 873 | 875 | 884 | 884 | 882 | 885 | 888 | 880 | 873 | 875 | 21 | 12 | 899 | 09 | 12 | 842 | 057 |
| 23 | ≠ | 867 | 873 | 889 | 893 | 893 | 886 | 873 | 864 | 854 | 864 | 864 | 864 | 873 | 877 | 881 | 879 | 883 | 883 | 884 | 886 | 884 | 886 | 889 | 890 | 880 | 16 | 27 | 974 | 23 | 22 | 697 | 277 |
| 24 | | 889 | 886 | 892 | 902 | 900 | 882 | 863 | 859 | 853 | 861 | 862 | 865 | 869 | 879 | 878 | 888 | 934 | 888 | 887 | 903 | 863 | 860 | 838 | 746 | 873 | 19 | 01 | 1008 | 23 | 45 | 407 | 601 |
| 25 | | 848 | 884 | 900 | 897 | 884 | 874 | 863 | 858 | 853 | 856 | 860 | 867 | 872 | 877 | 881 | 884 | 882 | 880 | 891 | 912 | 879 | 887 | 881 | 570 | 864 | 20 | 20 | 887 | 02 | 03 | 157 | 730 |
| 26 | | 470 | 495 | 430 | 698 | 800 | 795 | 830 | 856 | 861 | 861 | 862 | 870 | 871 | 872 | 872 | 867 | 875 | 875 | 873 | 881 | 881 | 880 | 877 | 876 | 805 | 15 | 10 | 1105 | 04 | 51 | 785 | 320 |
| 27 | | 887 | 896 | 895 | 878 | 816 | 796 | 827 | 822 | 838 | 891 | 862 | 857 | 861 | 865 | 906 | 965 | 889 | 868 | 871 | 880 | 878 | 874 | 870 | 871 | 869 | 13 | 49 | 1279 | 23 | 30 | -270 | 1549 |
| 28 | | 869 | 866 | 857 | 865 | 850 | 849 | 840 | 823 | | | | | 955 | 975 | 011 | 035 | 056 | 860 | 860 | 892 | 869 | 868 | 840 | 450 | 511 | 15 | 10 | 1105 | 04 | 51 | 785 | 320 |
| 29 | ≠ | | | | | | | | | | | | | | | | | | | | | | | | | | 13 | 49 | 1279 | 23 | 30 | -270 | 1549 |
| 30 | ≠ | 338 | 527 | 852 | 889 | 905 | 882 | 871 | 847 | 853 | 896 | 926 | 882 | 895 | 884 | 873 | 904 | 918 | 882 | 850 | 788 | 825 | 865 | 870 | 839 | 836 | 15 | 41 | 969 | 00 | 03 | -024 | 993 |
| Mean | | 810 | 827 | 838 | 861 | 872 | 866 | 861 | 855 | 854 | 858 | 864 | 867 | 874 | 878 | 884 | 899 | 895 | 885 | 886 | 876 | 850 | 850 | 834 | 805 | 860 | DESIGNATIONS | | | 375 | | | |
| Mean * | | 868 | 875 | 880 | 888 | 893 | 888 | 873 | 861 | 855 | 853 | 856 | 865 | 872 | 876 | 879 | 878 | 877 | 882 | 885 | 885 | 882 | 873 | 864 | 850 | 873 | * Ten least disturbed days | | | 110 | | | |
| Mean / c | | 881 | 882 | 884 | 892 | 892 | 887 | 872 | 863 | 858 | 856 | 860 | 866 | 872 | 876 | 878 | 877 | 876 | 881 | 879 | 883 | 885 | 885 | 886 | 878 | 877 | / Five international quiet days | | | | | | |
| Mean ≠ c | | 690 | 706 | 748 | 812 | 860 | 851 | 842 | 852 | 860 | 868 | 900 | 887 | 892 | 890 | 898 | 969 | 927 | 891 | 883 | 828 | 780 | 837 | 794 | 675 | 839 | ≠ Five international disturbed days | | | | | | |
| | | c Means of 4 values | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | () Approximate | | | | |

TABLE 20

HOURLY VALUES OF HORIZONTAL INTENSITY

NOVEMBER 1952

17900 plus tabular quantities expressed in gammas

G.M.T. used

| Day | Hour | | | | | | | | | | | | | | | | | | | | | | | | 24 Mean | Maximum | | Minimum | | Range | | |
|--------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------|-------------------------------------|----|---------|-----|-------|-----|-----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | h | m | h | m | | | |
| 1 | 439 | 495 | 550 | 573 | 574 | 580 | 565 | 550 | 547 | 562 | 558 | 582 | 556 | 587 | 628 | 617 | 627 | 602 | 582 | 613 | 552 | 519 | 511 | 389 | 557 | 19 | 12 | 729 | 23 | 54 | 288 | 441 |
| 2 | 477 | 563 | 579 | 581 | 585 | 571 | 562 | 543 | 536 | 543 | 561 | 570 | 577 | 593 | 610 | 598 | 602 | 605 | 585 | 509 | 487 | 573 | 580 | 586 | 566 | 14 | 17 | 639 | 00 | 00 | 297 | 342 |
| 3 | 577 | 580 | 572 | 583 | 590 | 582 | 565 | 561 | 545 | 545 | 552 | 552 | 570 | 572 | 590 | 596 | 577 | 576 | 574 | 575 | 585 | 582 | 577 | 558 | 572 | 15 | 19 | 613 | 23 | 49 | 530 | 083 |
| 4 | 563 | 577 | 596 | 605 | 598 | 587 | 569 | 545 | 543 | 548 | 558 | 561 | 568 | 573 | 573 | 575 | 576 | 575 | 581 | 582 | 585 | 584 | 584 | 586 | 575 | 02 | 55 | 610 | 00 | 00 | 533 | 077 |
| 5 | 589 | 593 | 593 | 597 | 595 | 586 | 573 | 563 | 553 | 547 | 543 | 556 | 565 | 572 | 571 | 574 | 584 | 588 | 589 | 594 | 595 | 596 | 586 | 612 | 580 | 23 | 45 | 624 | 09 | 48 | 539 | 085 |
| 6 | 622 | 628 | 626 | 606 | 603 | 585 | 594 | 572 | 553 | 545 | 562 | 574 | 576 | 573 | 571 | 576 | 584 | 597 | 583 | 617 | 592 | 583 | 578 | 570 | 586 | 17 | 56 | 719 | 18 | 31 | 510 | 209 |
| 7 | 549 | 545 | 584 | 593 | 582 | 570 | 564 | 552 | 542 | 544 | 555 | 563 | 563 | 570 | 576 | 601 | 592 | 587 | 627 | 552 | 498 | 342 | 517 | 543 | 555 | 18 | 24 | 650 | 21 | 32 | 182 | 468 |
| 8 | 586 | 610 | 611 | 606 | 594 | 583 | 561 | 563 | 555 | 550 | 552 | 554 | 569 | 578 | 582 | 583 | 588 | 584 | 589 | 457 | 508 | 370 | 533 | 543 | 559 | 18 | 25 | 657 | 21 | 26 | 237 | 420 |
| 9 | 575 | 562 | 541 | 585 | 591 | 583 | 580 | 575 | 569 | 564 | 564 | 569 | 568 | 573 | 580 | 586 | 585 | 591 | 574 | 585 | 590 | 581 | 578 | 582 | 576 | 17 | 33 | 627 | 02 | 15 | 518 | 109 |
| 10 | 587 | 595 | 603 | 603 | 595 | 588 | 576 | 564 | 556 | 552 | 555 | 555 | 563 | 571 | 574 | 575 | 576 | 577 | 586 | 582 | 583 | 584 | 587 | 587 | 578 | 03 | 07 | 607 | 09 | 53 | 551 | 056 |
| 11 | 585 | 592 | 595 | 596 | 591 | 585 | 573 | 553 | 549 | 552 | 558 | 563 | 572 | 575 | 578 | 582 | 582 | 589 | 583 | 581 | 584 | 580 | 594 | 583 | 578 | 03 | 13 | 600 | 09 | 00 | 545 | 055 |
| 12 | 584 | 596 | 606 | 603 | 599 | 586 | 580 | 564 | 556 | 564 | 571 | 575 | 580 | 583 | 586 | 589 | 590 | 590 | 594 | 594 | 595 | 596 | 594 | 593 | 586 | 02 | 35 | 606 | 08 | 06 | 553 | 053 |
| 13 | 605 | 599 | 614 | 616 | 616 | 607 | 594 | 575 | 565 | 558 | 559 | 563 | 565 | 582 | 589 | 587 | 590 | 591 | 595 | 596 | 603 | 606 | 612 | 615 | 592 | 04 | 09 | 620 | 10 | 02 | 554 | 066 |
| 14 | 623 | 616 | 615 | 609 | 604 | 592 | 580 | 563 | 553 | 544 | 560 | 565 | 576 | 584 | 590 | 590 | 588 | 592 | 595 | 596 | 597 | 585 | 585 | 607 | 588 | 00 | 42 | 626 | 09 | 11 | 540 | 086 |
| 15 | 620 | 626 | 631 | 627 | 616 | 596 | 575 | 545 | 544 | 540 | 530 | 559 | 574 | 575 | 581 | 586 | 587 | 585 | 586 | 595 | 586 | 591 | 595 | 593 | 585 | 14 | 32 | 632 | 10 | 23 | 520 | 112 |
| 16 | 606 | 614 | 616 | 616 | 612 | 593 | 565 | 544 | 539 | 541 | 560 | 575 | 595 | 675 | 823 | 615 | 573 | 574 | 577 | 581 | 582 | 584 | 586 | 583 | 597 | 14 | 32 | 933 | 09 | 06 | 525 | 408 |
| 17 | 588 | 593 | 608 | 617 | 615 | 595 | 578 | 549 | 528 | 546 | 547 | 551 | 566 | 583 | 583 | 581 | 585 | 593 | 590 | 364 | 458 | 310 | 351 | 527 | 542 | 04 | 18 | 622 | 21 | 40 | 153 | 469 |
| 18 | 604 | 628 | 641 | 637 | 615 | 607 | 589 | 582 | 559 | 546 | 566 | 569 | 572 | 574 | 574 | 574 | 583 | 583 | 587 | 600 | 592 | 581 | 580 | 584 | 589 | 03 | 23 | 647 | 09 | 16 | 533 | 144 |
| 19 | 594 | 601 | 604 | 611 | 593 | 581 | 563 | 545 | 540 | 546 | 550 | 558 | 568 | 573 | 578 | 583 | 589 | 588 | 591 | 593 | 593 | 580 | 585 | 583 | 579 | 03 | 27 | 616 | 07 | 49 | 529 | 087 |
| 20 | 601 | 606 | 613 | 626 | 617 | 601 | 581 | 567 | 561 | 561 | 561 | 571 | 582 | 585 | 585 | 587 | 587 | 591 | 596 | 597 | 601 | 603 | 595 | 616 | 591 | 03 | 49 | 628 | 10 | 27 | 549 | 079 |
| 21 | 584 | 583 | 615 | 636 | 629 | 604 | 575 | 561 | 553 | 540 | 641 | 677 | 580 | 584 | 574 | 577 | 594 | 600 | 589 | 566 | 583 | 578 | 561 | 512 | 587 | 11 | 05 | 835 | 23 | 54 | 489 | 346 |
| 22 | 491 | 509 | 553 | 583 | 592 | 594 | 578 | 559 | 550 | 556 | 551 | 583 | 611 | 594 | 621 | 660 | 676 | 591 | 591 | 595 | 589 | 584 | 584 | 583 | 582 | 16 | 26 | 764 | 00 | 30 | 456 | 308 |
| 23 | 592 | 590 | 587 | 591 | 586 | 565 | 562 | 555 | 548 | 552 | 539 | 561 | 580 | 594 | 589 | 578 | 581 | 585 | 583 | 582 | 583 | 585 | 589 | 592 | 577 | 13 | 30 | 604 | 10 | 15 | 520 | 084 |
| 24 | 587 | 605 | 609 | 614 | 605 | 594 | 583 | 578 | 562 | 541 | 533 | 561 | 571 | 591 | 591 | 592 | 610 | 585 | 584 | 588 | 588 | 589 | 591 | 593 | 585 | 16 | 19 | 673 | 10 | 04 | 525 | 148 |
| 25 | 583 | 571 | 599 | 604 | 613 | 609 | 595 | 584 | 573 | 552 | 542 | 563 | 574 | 585 | 598 | 590 | 584 | 585 | 594 | 593 | 586 | 584 | 582 | 584 | 584 | 04 | 23 | 617 | 10 | 10 | 532 | 085 |
| 26 | 591 | 596 | 606 | 612 | 611 | 613 | 595 | 584 | 578 | 559 | 536 | 552 | 596 | 595 | 601 | 615 | 627 | 627 | 589 | 436 | 374 | 249 | 277 | 277 | 537 | 17 | 05 | 671 | 23 | 05 | 088 | 583 |
| 27 | 528 | 629 | 644 | 618 | 610 | 575 | 546 | 544 | 570 | 610 | 634 | 775 | 741 | 732 | 633 | 663 | 646 | 583 | 566 | 479 | 447 | 431 | 531 | 456 | 591 | 11 | 57 | 1047 | 19 | 59 | 338 | 709 |
| 28 | 425 | 544 | 566 | 594 | 606 | 590 | 573 | 551 | 562 | 552 | 587 | 605 | 671 | 688 | 627 | 628 | 605 | 590 | 547 | 552 | 581 | 562 | 563 | 547 | 580 | 12 | 53 | 758 | 00 | 04 | 368 | 390 |
| 29 | 574 | 590 | 603 | 606 | 610 | 602 | 585 | 577 | 563 | 557 | 573 | 586 | 600 | 620 | 607 | 585 | 579 | 603 | 572 | 570 | 583 | 570 | 565 | 560 | 585 | 17 | 59 | 661 | 18 | 34 | 484 | 177 |
| 30 | 541 | 552 | 588 | 600 | 604 | 597 | 575 | 564 | 542 | 535 | 545 | 553 | 564 | 572 | 580 | 597 | 595 | 595 | 586 | 575 | 573 | 576 | 576 | 577 | 573 | 15 | 47 | 625 | 00 | 59 | 527 | 098 |
| Mean | 569 | 586 | 599 | 605 | 602 | 590 | 575 | 561 | 553 | 552 | 560 | 577 | 584 | 594 | 598 | 595 | 595 | 590 | 586 | 563 | 562 | 541 | 558 | 557 | 577 | DESIGNATIONS | | | 225 | | | |
| Mean x | 594 | 600 | 608 | 610 | 602 | 592 | 578 | 562 | 554 | 552 | 558 | 564 | 571 | 577 | 580 | 582 | 584 | 586 | 590 | 592 | 593 | 590 | 590 | 597 | 584 | * Ten least disturbed days | | | 76 | | | |
| Mean / | 585 | 592 | 603 | 605 | 600 | 591 | 578 | 560 | 554 | 555 | 560 | 563 | 570 | 577 | 580 | 582 | 583 | 584 | 588 | 587 | 590 | 590 | 594 | 593 | 582 | / Five international quiet days | | | | | | |
| Mean ≠ | 513 | 569 | 596 | 607 | 606 | 592 | 571 | 558 | 562 | 565 | 591 | 638 | 629 | 637 | 613 | 620 | 620 | 600 | 575 | 529 | 507 | 468 | 489 | 435 | 570 | ≠ Five international disturbed days | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | () Approximate | | | | | | |

TABLE 21

HOURLY VALUES OF HORIZONTAL INTENSITY

DECEMBER 1952

17700 plus tabular quantities expressed in gammas

G. M. T. used

| Day | | | | | | | | | | | | | | | | | | | | | | | | | Mean | Maximum | | Minimum | | Range | | | | | |
|--------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|---------|-----|---------|------|-------|----|-----|-----|-----|--|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | 24 | h | m | h | | m | | | | |
| 1 | | 785 | 800 | 802 | 806 | 797 | 788 | 782 | 745 | 766 | 740 | 745 | 759 | 761 | 775 | 804 | 788 | 798 | 832 | 788 | 797 | 618 | 668 | 628 | 645 | 759 | 17 | 24 | 924 | 20 | 37 | 490 | 434 | | |
| 2 | # | 566 | 708 | 773 | 776 | 807 | 811 | 793 | 773 | 753 | 755 | 764 | 743 | 787 | 943 | 956 | 946 | 879 | 839 | 764 | 541 | 669 | 716 | 388 | 661 | 755 | 13 | 48 | 1134 | 22 | 54 | 209 | 925 | | |
| 3 | | 774 | 790 | 789 | 785 | 774 | 767 | 785 | 777 | 766 | 765 | 764 | 764 | 758 | 785 | 796 | 787 | 786 | 785 | 796 | 786 | 762 | 659 | 710 | 691 | 767 | 14 | 43 | 825 | 21 | 19 | 597 | 228 | | |
| 4 | # | 565 | 503 | 701 | 742 | 781 | 797 | 798 | 751 | 755 | 774 | 767 | 807 | 820 | 836 | 838 | 804 | 787 | 809 | 734 | 742 | 649 | 666 | 678 | 609 | 738 | 13 | 49 | 913 | 01 | 39 | 356 | 557 | | |
| 5 | | 691 | 765 | 776 | 765 | 786 | 777 | 776 | 780 | 776 | 762 | 785 | 775 | 813 | 785 | 715 | 715 | 775 | 778 | 786 | 723 | 690 | 780 | 786 | 784 | 764 | 12 | 54 | 856 | 00 | 09 | 537 | 319 | | |
| 6 | * | 778 | 783 | 785 | 789 | 781 | 782 | 781 | 779 | 768 | 764 | 757 | 764 | 763 | 777 | 770 | 775 | 786 | 798 | 788 | 786 | 786 | 786 | 790 | 778 | 779 | 17 | 47 | 848 | 10 | 45 | 755 | 093 | | |
| 7 | ** | 763 | 782 | 802 | 814 | 819 | 808 | 784 | 766 | 755 | 742 | 743 | 753 | 758 | 768 | 774 | 780 | 785 | 781 | 787 | 734 | 772 | 784 | 777 | 785 | 776 | 04 | 23 | 827 | 19 | 41 | 714 | 113 | | |
| 8 | * | 781 | 782 | 804 | 811 | 811 | 808 | 793 | 776 | 765 | 742 | 752 | 758 | 766 | 776 | 776 | 777 | 773 | 783 | 785 | 783 | 783 | 785 | 783 | 782 | 781 | 05 | 10 | 819 | 09 | 31 | 736 | 083 | | |
| 9 | ** | 791 | 798 | 810 | 810 | 810 | 801 | 784 | 768 | 756 | 751 | 759 | 767 | 775 | 776 | 778 | 780 | 784 | 784 | 785 | 791 | 800 | 798 | 797 | 803 | 786 | 04 | 14 | 813 | 09 | 32 | 748 | 065 | | |
| 10 | ** | 805 | 804 | 796 | 795 | 790 | 777 | 770 | 766 | 765 | 764 | 764 | 766 | 776 | 776 | 789 | 818 | 818 | 830 | 797 | 719 | 750 | 775 | 779 | 793 | 783 | 19 | 02 | 902 | 19 | 12 | 639 | 263 | | |
| 11 | # | 797 | 797 | 798 | 798 | 796 | 791 | 787 | 772 | 768 | 736 | 744 | 772 | 800 | 828 | 827 | 811 | 777 | 776 | 776 | 774 | 776 | 780 | 782 | 781 | 785 | 13 | 07 | 839 | 09 | 51 | 713 | 126 | | |
| 12 | | 797 | 797 | 798 | 798 | 796 | 791 | 787 | 772 | 768 | 736 | 744 | 772 | 800 | 828 | 827 | 811 | 777 | 776 | 776 | 774 | 776 | 780 | 782 | 781 | 785 | 13 | 07 | 839 | 09 | 51 | 713 | 126 | | |
| 13 | # | 760 | 768 | 798 | 785 | 778 | 756 | 763 | 756 | 778 | 048 | 064 | 046 | 029 | 865 | 754 | 756 | 755 | 753 | 757 | 764 | 765 | 770 | 766 | 790 | 818 | 10 | 29 | 1180 | 05 | 06 | 722 | 458 | | |
| 14 | * | 796 | 791 | 797 | 799 | 798 | 792 | 780 | 766 | 758 | 757 | 751 | 760 | 766 | 767 | 781 | 782 | 774 | 776 | 779 | 782 | 784 | 787 | 791 | 779 | 779 | 03 | 11 | 803 | 10 | 21 | 744 | 059 | | |
| 15 | | 786 | 734 | 808 | 797 | 812 | 815 | 793 | 775 | 765 | 766 | 747 | 742 | 761 | 777 | 777 | 783 | 785 | 793 | 789 | 795 | 797 | 793 | 792 | 799 | 783 | 05 | 42 | 828 | 01 | 19 | 713 | 115 | | |
| 16 | | 803 | 805 | 820 | 806 | 807 | 798 | 787 | 781 | 774 | 756 | 764 | 775 | 775 | 785 | 790 | 792 | 802 | 790 | 789 | 798 | 789 | 764 | 744 | 730 | 784 | 02 | 15 | 825 | 21 | 43 | 719 | 106 | | |
| 17 | | 758 | 791 | 792 | 797 | 790 | 772 | 767 | 764 | 745 | 739 | 747 | 752 | 765 | 776 | 780 | 785 | 784 | 784 | 786 | 791 | 795 | 780 | 744 | 724 | 771 | 02 | 56 | 809 | 23 | 08 | 631 | 178 | | |
| 18 | | 788 | 821 | 815 | 800 | 806 | 808 | 789 | 772 | 762 | 752 | 759 | 765 | 773 | 785 | 787 | 789 | 796 | 803 | 789 | 776 | 795 | 810 | 811 | 806 | 790 | -18 | 07 | 842 | 18 | 32 | 687 | 155 | | |
| 19 | ** | 788 | 786 | 818 | 827 | 815 | 801 | 782 | 775 | 765 | 763 | 757 | 764 | 772 | 777 | 778 | 784 | 785 | 786 | 786 | 789 | 793 | 797 | 797 | 797 | 787 | 03 | 14 | 831 | 10 | 34 | 756 | 075 | | |
| 20 | ** | 801 | 802 | 812 | 810 | 805 | 799 | 789 | 775 | 765 | 751 | 745 | 762 | 772 | 777 | 777 | 784 | 785 | 788 | 788 | 791 | 796 | 792 | 796 | 806 | 786 | 02 | 34 | 815 | 10 | 11 | 743 | 072 | | |
| 21 | ** | 812 | 819 | 818 | 822 | 818 | 809 | 795 | 784 | 774 | 762 | 754 | 761 | 765 | 775 | 786 | 788 | 786 | 788 | 791 | 795 | 793 | 789 | 797 | 801 | 791 | 03 | 46 | 826 | 10 | 44 | 751 | 075 | | |
| 22 | ** | 808 | 803 | 806 | 809 | 816 | 819 | 802 | 787 | 774 | 755 | 747 | 744 | 764 | 783 | 804 | 828 | 806 | 805 | 784 | 784 | 784 | 778 | 769 | 773 | 789 | 15 | 08 | 883 | 11 | 30 | 737 | 146 | | |
| 23 | ** | 785 | 800 | 808 | 823 | 828 | 819 | 809 | 791 | 777 | 762 | 755 | 755 | 766 | 765 | 775 | 779 | 785 | 789 | 793 | 800 | 806 | 801 | 803 | 810 | 791 | 04 | 06 | 832 | 11 | 31 | 750 | 082 | | |
| 24 | # | 818 | 816 | 796 | 793 | 806 | 823 | 815 | 797 | 785 | 799 | 789 | 786 | 804 | 014 | 933 | 825 | 805 | 803 | 785 | 717 | 779 | 770 | 660 | 624 | 798 | 13 | 53 | 1178 | 22 | 48 | 523 | 655 | | |
| 25 | | 734 | 722 | 745 | 742 | 734 | 790 | 785 | 776 | 764 | 767 | 806 | 770 | 791 | 826 | 798 | 777 | 781 | 793 | 783 | 772 | 785 | 781 | 758 | 762 | 773 | 13 | 15 | 839 | 01 | 50 | 699 | 140 | | |
| 26 | | 751 | 764 | 793 | 787 | 793 | 776 | 769 | 772 | 775 | 765 | 766 | 772 | 754 | 762 | 778 | 790 | 810 | 788 | 786 | 786 | 788 | 780 | 785 | 779 | 778 | 16 | 17 | 846 | 01 | 02 | 739 | 107 | | |
| 27 | | 775 | 788 | 775 | 782 | 788 | 787 | 774 | 767 | 762 | 765 | 758 | 758 | 770 | 777 | 786 | 785 | 790 | 796 | 804 | 816 | 787 | 702 | 504 | 409 | 750 | 21 | 24 | 859 | 22 | 58 | 007 | 852 | | |
| 28 | | 693 | 780 | 783 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | # | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | # | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | | 746 | 733 | 746 | 775 | 798 | 753 | 784 | 772 | 761 | 767 | 784 | 752 | 828 | 826 | 841 | 822 | 854 | 793 | 788 | 761 | 678 | 659 | 697 | 702 | 773 | 16 | 27 | 1042 | 21 | 37 | 617 | 425 | | |
| Mean | | 764 | 774 | 792 | 796 | 798 | 794 | 784 | 772 | 766 | 769 | 771 | 773 | 784 | 800 | 796 | 795 | 792 | 794 | 785 | 767 | 765 | 765 | 740 | 743 | 778 | | | | | | | | 252 | |
| Mean * | | 790 | 795 | 806 | 811 | 810 | 804 | 790 | 777 | 766 | 755 | 752 | 759 | 767 | 774 | 780 | 786 | 785 | 788 | 787 | 784 | 790 | 790 | 790 | 791 | 784 | * | | | | | | | 86 | |
| Mean / | | 795 | 801 | 813 | 818 | 815 | 806 | 792 | 779 | 767 | 758 | 754 | 762 | 770 | 774 | 779 | 783 | 785 | 787 | 789 | 793 | 798 | 795 | 798 | 803 | 788 | / | | | | | | | | |
| Mean / | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Insufficient data

DESIGNATIONS

* Ten least disturbed days

/ Five international quiet days

/ Five international disturbed days

() Approximate

TABLE 22

HOURLY VALUES OF DECLINATION

MARCH 1952

49° West plus tabular quantities expressed in tenth of minutes of arc

G.M.T. used

| Day | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Mean | Maximum | Minimum | Range | | | | | | |
|-----|-----|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|------|------|---------|---------|--------|---------|-----|-----|--------|--------|--|
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | * / | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | 602 | 613 | 610 | 556 | 541 | 563 | 546 | 541 | 523 | 516 | 504 | 487 | 472 | 497 | 541 | 536 | 526 | 529 | 535 | 529 | 575 | 548 | 554 | 550 | 541 | 00 | 42 | 676 | (19 10) | 423 | 253 | | | |
| 13 | * | 541 | 546 | 547 | 557 | 549 | 564 | 563 | 536 | 525 | | | | 492 | 511 | 533 | 527 | 527 | 525 | 566 | 543 | 523 | 590 | 529 | 503 | | 21 | 22 | 639 | 12 | 24 | 479 | 160 | | |
| 14 | * / | 518 | 536 | 565 | 572 | 565 | 566 | 564 | 546 | 525 | | | 482 | 500 | 500 | 504 | 525 | 528 | 521 | 521 | 520 | 527 | 524 | 518 | 493 | 473 | | 03 | 54 | 584 | 23 | 42 | 445 | 139 | |
| 15 | | 497 | 537 | 569 | 580 | 555 | 547 | 553 | 534 | 528 | 503 | 493 | 491 | 491 | 507 | 523 | 506 | 518 | 463 | 564 | 605 | (059 | 940) | 694 | 539 | | 575 | 20 | 54 | 1462 | 17 | 21 | 417 | 1045 | |
| 16 | | 534 | 548 | 574 | 588 | 602 | 567 | 569 | | | 492 | 458 | 427 | 463 | 487 | 504 | 491 | 517 | 501 | 500 | 536 | 557 | 549 | 574 | 584 | | 19 | 51 | 672 | 11 | 41 | 363 | 309 | | |
| 17 | | 580 | 571 | 591 | 592 | 538 | 546 | 548 | 524 | 518 | 501 | 464 | 461 | 439 | 428 | 491 | 491 | 547 | 590 | 556 | 547 | 538 | 538 | 548 | 522 | | 528 | 17 | 05 | 644 | 14 | 14 | 338 | 306 | |
| 18 | * | 535 | 555 | 577 | 574 | 565 | 573 | 563 | 549 | 537 | 519 | 499 | 495 | 494 | 517 | 494 | 483 | 519 | 524 | 528 | 535 | 534 | 543 | 539 | 523 | | 532 | 02 | 44 | 593 | 15 | 07 | 470 | 123 | |
| 19 | * / | 520 | 532 | 546 | 555 | 550 | 555 | 549 | 539 | 525 | 516 | 509 | 508 | 505 | 509 | 501 | 525 | 556 | 531 | 539 | 525 | 548 | 541 | 555 | 532 | | 532 | 20 | 39 | 595 | 14 | 40 | 482 | 113 | |
| 20 | * / | 536 | 536 | 545 | 546 | 556 | 556 | 556 | 545 | 528 | 521 | 500 | 503 | 501 | 501 | 508 | 511 | 510 | 514 | 517 | 525 | 528 | 526 | 519 | 519 | | 525 | 06 | 32 | 567 | 10 | 45 | 491 | 076 | |
| 21 | | 524 | 504 | 536 | 556 | 559 | 564 | 593 | 509 | 509 | 459 | 423 | 462 | 390 | 442 | 504 | 455 | 515 | 540 | 556 | 598 | 705 | 597 | 765 | 573 | | 535 | 22 | 45 | 1015 | 13 | 08 | 243 | 772 | |
| 22 | | 597 | 629 | 618 | 528 | 483 | 482 | 527 | 525 | 532 | 513 | 503 | 497 | 514 | 509 | 507 | 574 | 546 | 526 | 548 | 621 | 583 | (821 | 894 | 665) | | 573 | (23 | 30) | 1535 | 05 | 22 | 448 | 1087 | |
| 23 | | (123) | 816 | 674 | 545 | 509 | 504 | 515 | 489 | | | | 490 | 492 | 529 | 533 | 541 | 515 | 518 | 531 | 500 | 553 | 546 | 548 | 562 | | (00 | 15) | 1535 | 18 | 36 | 226 | 1309 | | |
| 24 | | 568 | 569 | 594 | 644 | 567 | 529 | | | | 450 | 437 | 510 | 501 | 473 | 484 | 473 | 520 | 608 | 598 | 613 | 651 | 653 | 562 | 544 | | 21 | 01 | 756 | 10 | 05 | 314 | 442 | | |
| 25 | | 561 | 571 | 567 | 577 | 552 | 547 | 544 | 543 | | 531 | 480 | 448 | 480 | 512 | 509 | 536 | 545 | 522 | 544 | 603 | 583 | 549 | 566 | 554 | | 19 | 11 | 677 | 12 | 02 | 291 | 386 | | |
| 26 | * | 558 | 604 | 596 | 590 | 597 | 587 | 572 | 557 | 538 | 516 | 507 | 497 | 491 | 488 | 522 | 562 | 506 | 506 | 516 | 525 | 581 | 547 | 539 | 535 | | 543 | 20 | 44 | 653 | 13 | 36 | 465 | 188 | |
| 27 | | 544 | 548 | 560 | 589 | 589 | 567 | 539 | 530 | 517 | 501 | 482 | 468 | 475 | 446 | 506 | 528 | 535 | 559 | 539 | 539 | 563 | 527 | 511 | 532 | | 529 | 16 | 47 | 643 | 13 | 24 | 392 | 251 | |
| 28 | * / | 525 | 542 | 554 | 565 | 564 | 570 | 573 | 566 | 551 | 525 | 523 | 518 | 511 | 515 | 516 | 519 | | | | | | | | | | | | | | | | | | |
| 29 | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | / | (049-994) | 646 | 646 | 620 | 510 | 545 | 546 | 520 | | 518 | 508 | 500 | 493 | 491 | 453 | 335 | 324 | 626 | 599 | 579 | 746 | (937 | 937 | 994) | | 21 | 50 | (1542) | 16 | 02 | 198 | (1344) | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | 00 | 40 | (1872) | 15 | 17 | 333 | (1539) | |

Continuous recording started 11th March, 1952

| Mean | Insufficient data | | | | | | | | | | | | | | | | DESIGNATIONS | | | | | | | | | |
|--------|-------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|-------------------------------------|--|--|--|--|--|--|--|--|--|
| Mean * | " | | | | | | | | | | | | | | | | * Ten least disturbed days | | | | | | | | | |
| Mean / | " | | | | | | | | | | | | | | | | / Five international quiet days | | | | | | | | | |
| Mean ≠ | " | | | | | | | | | | | | | | | | ≠ Five international disturbed days | | | | | | | | | |
| | | | | | | | | | | | | | | | | | () Approximate | | | | | | | | | |

TABLE 23

HOURLY VALUES OF DECLINATION

APRIL 1952

49° West plus tabular quantities expressed in tenth of minutes of arc

G.M.T. used

| Day | Hourly Values | | | | | | | | | | | | | | | | | | | | | | | | Mean | Maximum | | Minimum | | Range | | | | |
|----------|---------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-------|-----|-------|-----|-----|-------|-----|-------|-----|-----|-------|------|---------|-------------------------------------|---------|------|-------|------|--------|------|-----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | 24 | h | m | h | | m | | | |
| 1 | 590 | 630 | 740 | 653 | 584 | 556 | 559 | 564 | 545 | 525 | 504 | 512 | 507 | 474 | 580 | 498 | 487 | 590 | 588 | 604 | 571 | 555 | 539 | 533 | 562 | 02 | 30 | 94 | 2 | 35 | 2 | 590 | | |
| 2 | 576 | 562 | 747 | 596 | 627 | 575 | 577 | 564 | 526 | 534 | 456 | 523 | 502 | 482 | 526 | 563 | 585 | 487 | 618 | 756 | 074 | 784 | 945 | 058 | 635 | 20 | 05 | 18 | 11 | 21 | 282 | 1529 | | |
| 3 | 658 | 791 | 805 | 739 | 665 | 563 | 567 | 519 | 506 | 471 | 497 | 433 | 510 | 544 | 546 | 642 | 598 | 591 | 609 | 727 | 594 | 858 | 961 | (086) | 645 | 22 | 48 | (1935) | 11 | 50 | 274 | (1661) | | |
| 4 | 659 | 683 | 750 | 644 | 567 | 551 | 548 | 564 | 558 | 507 | 487 | 443 | 439 | 520 | 549 | 536 | 604 | 637 | 712 | 667 | 694 | 740 | 001 | 557 | 609 | 22 | 25 | 1271 | 18 | 58 | 342 | 929 | | |
| 5 | 634 | 692 | 630 | 590 | 538 | 564 | 592 | 574 | 529 | 501 | 472 | 498 | 536 | 574 | 594 | 628 | 558 | 590 | 612 | 744 | 767 | 630 | 711 | 828 | 607 | 23 | 49 | 1311 | 17 | 49 | 381 | 930 | | |
| 6 | 775 | 601 | 622 | 603 | 600 | 591 | 573 | 578 | 544 | 500 | 537 | 539 | 509 | 571 | 557 | 591 | 585 | 549 | 566 | 526 | 586 | 772 | 793 | 855 | 605 | 23 | 16 | 1182 | 09 | 55 | 444 | 738 | | |
| 7 | 543 | 596 | 595 | 598 | 584 | 592 | 592 | 526 | 495 | 530 | 521 | 521 | 521 | 544 | 563 | 562 | 544 | 695 | 555 | 599 | 590 | 609 | 566 | 619 | 569 | 17 | 27 | 754 | 18 | 41 | 458 | 296 | | |
| 8 | 699 | 555 | 573 | 582 | 592 | 556 | 520 | 526 | 510 | 519 | 530 | 525 | 527 | 541 | 629 | 566 | 542 | 556 | 640 | 529 | 628 | 773 | 764 | 728 | 588 | 00 | 09 | 1003 | 19 | 17 | 445 | 558 | | |
| 9 | 827 | 622 | 547 | 578 | 548 | 562 | 567 | 565 | 557 | 537 | 540 | 500 | 544 | 534 | 539 | 535 | 545 | 626 | 557 | 574 | 588 | 529 | 671 | 552 | 573 | 00 | 12 | 1041 | 21 | 39 | 465 | 576 | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | * | 557 | 560 | 564 | 563 | 559 | 565 | 584 | 573 | 555 | 545 | 527 | 510 | 538 | | | | | | | | | | | | | | | | | | | | |
| 12 | * / | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | 547 | 554 | 610 | 620 | 545 | 538 | 556 | 550 | 548 | 529 | 514 | 526 | 511 | 528 | 543 | 549 | 549 | 547 | 546 | 544 | 543 | 528 | 555 | 545 | 538 | 538 | | | | | | | |
| 14 | * | 550 | 555 | 564 | 577 | 580 | 582 | 578 | 571 | 551 | 507 | 529 | 526 | 514 | 519 | 514 | 492 | 499 | 559 | 546 | 539 | 545 | 508 | 530 | 546 | 541 | 03 | 50 | 590 | 16 | 18 | 445 | 145 | |
| 15 | | 555 | 561 | 566 | 569 | 582 | 564 | 567 | 562 | 553 | 521 | 516 | 497 | 436 | 448 | 491 | 510 | 516 | 536 | 574 | 563 | 547 | 528 | 537 | 530 | 535 | 13 | 25 | 628 | 13 | 05 | 227 | 401 | |
| 16 | | 531 | 545 | 557 | 566 | 595 | 579 | 564 | 532 | 529 | 526 | 527 | 537 | 526 | 498 | 529 | 534 | 551 | 557 | 587 | 582 | 509 | 518 | 539 | 544 | 544 | 18 | 53 | 649 | 20 | 52 | 482 | 167 | |
| 17 | * | 550 | 554 | 568 | 586 | 600 | 529 | 554 | 551 | 546 | 540 | 535 | 530 | 551 | 547 | 552 | 548 | 547 | 552 | 554 | 557 | 536 | 546 | 544 | 540 | 551 | 04 | 16 | 636 | 05 | 48 | 507 | 129 | |
| 18 | | 540 | 543 | 550 | 559 | 565 | 571 | 574 | 565 | 551 | 535 | 520 | 514 | 515 | 508 | 522 | 535 | 527 | 537 | 574 | 508 | 587 | 673 | 595 | 755 | 559 | 23 | 25 | 941 | 19 | 10 | 428 | 513 | |
| 19 | | 712 | 590 | 541 | 564 | 548 | 557 | 547 | 555 | 553 | 547 | 537 | 530 | 517 | 484 | 508 | 528 | 572 | 584 | 626 | 733 | 664 | 674 | 681 | 546 | 579 | 22 | 11 | 993 | 14 | 05 | 381 | 612 | |
| 20 | * / | 574 | 557 | 565 | 573 | 572 | 573 | 581 | 581 | 564 | 555 | 546 | 539 | 539 | 541 | 540 | 545 | 555 | 575 | 559 | 558 | 573 | 595 | 592 | 574 | 564 | 564 | | | | | | | |
| 21 | | 610 | 536 | 540 | 566 | 574 | 573 | 559 | 544 | 527 | | | | (482) | 428 | (263) | 217 | 334 | 685 | 738 | 834 | 693 | 857 | 697 | 588 | 18 | 05 | 1302 | 14 | 22 | -179 | 1481 | | |
| 22 | | 612 | 646 | 630 | 627 | 604 | 602 | 609 | 539 | 526 | 495 | 517 | 535 | 562 | 557 | 559 | 563 | 549 | 563 | 573 | 560 | 565 | 586 | 557 | 557 | 571 | 01 | 35 | 717 | 10 | 56 | 472 | 245 | |
| 23 | * | 546 | 566 | 582 | 560 | 556 | 557 | 564 | 566 | | | | | (541) | 543 | 543 | 540 | 555 | 554 | 554 | 540 | 560 | 557 | 547 | 544 | 550 | | | | | | | | |
| 24 | * / | 548 | 554 | 552 | 557 | 561 | 565 | 565 | 565 | (557) | | | | (543) | 537 | 536 | 537 | 536 | 516 | 472 | 544 | 572 | 567 | 573 | 495 | 582 | 582 | 22 | 53 | 692 | 16 | 28 | 280 | 412 |
| 25 | * | 561 | 559 | 556 | 573 | 580 | 579 | 574 | 565 | 556 | 543 | 527 | 519 | 536 | 536 | 545 | 545 | 537 | 545 | 545 | 538 | 535 | 527 | 531 | 536 | 548 | 03 | 59 | 590 | 11 | 07 | 510 | 080 | |
| 26 | * / | 537 | 537 | 552 | 557 | 563 | 564 | 564 | 561 | 549 | 528 | 526 | 527 | 536 | 538 | 538 | 537 | 536 | 543 | 577 | 572 | 567 | 589 | 552 | 555 | 550 | 18 | 54 | 664 | 10 | 37 | 517 | 147 | |
| 27 | * / | 554 | 540 | 547 | 556 | 565 | 566 | 567 | 552 | 536 | 526 | 521 | 519 | 526 | 527 | 528 | 528 | 528 | 533 | 538 | 535 | 537 | 529 | 526 | 554 | 539 | 04 | 31 | 576 | 11 | 00 | 511 | 065 | |
| 28 | | 556 | 561 | 549 | 559 | 508 | 481 | 505 | 546 | 547 | 554 | 526 | 519 | 485 | 480 | 444 | 468 | 481 | 569 | 665 | 719 | 568 | 572 | 597 | 741 | 550 | 24 | 00 | 923 | 13 | 57 | 362 | 561 | |
| 29 | | 785 | 609 | 526 | 556 | 561 | 474 | 487 | 560 | 457 | 508 | 499 | 474 | 536 | 536 | 537 | 495 | 601 | (628) | 775 | (862) | 782 | 707 | (048) | 676 | 612 | 22 | 30 | 1627 | 16 | 33 | 365 | 1262 | |
| 30 | / | 977 | 893 | 668 | 581 | 590 | 579 | 562 | 547 | 540 | 547 | 426 | 482 | 527 | 565 | 575 | 568 | 607 | 609 | 638 | 547 | 618 | 803 | (982) | 930 | 640 | 23 | 06 | 1460 | 10 | 52 | 227 | 1233 | |
| Mean | | 626 | 604 | 604 | 590 | 577 | 560 | 562 | 555 | 537 | 503 | 514 | 512 | 518 | 525 | 542 | 543 | 547 | 572 | 596 | 610 | 615 | 626 | 676 | 661 | 575 | DESIGNATIONS | | | 598 | | | | |
| Mean * | | Insufficient data | | | | | | | | | | | | | | | | | | | | | | | | | * Ten least disturbed days | | | | | | | |
| Mean / c | | 556 | 548 | 555 | 565 | 570 | 570 | 572 | 565 | 551 | 538 | 530 | 526 | 534 | 536 | 538 | 539 | 539 | 549 | 555 | 551 | 553 | 560 | 550 | 555 | 550 | / Five international quiet days | | | | | | | |
| Mean / c | | 749 | 714 | 689 | 618 | 611 | 598 | 548 | 548 | 507 | 515 | 470 | 478 | 519 | 532 | 546 | 567 | 598 | 579 | 660 | 723 | 767 | 788 | 984 | 938 | 633 | / Five international disturbed days | | | | | | | |
| | | c Means of 4 values | | | | | | | | | | | | | | | | | | | | | | | | | () Approximate | | | | | | | |

TABLE 25

HOURLY VALUES OF DECLINATION

JUNE 1952

49° West plus tabular quantities expressed in tenth of minutes of arc

G.M.T. used

| Day | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Mean | Maximum | Minimum | Range | | | | |
|--------|-----|-----|-----|-------|-------|-------|-----|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|-----|-----|-------------------------------------|----------------|---------|-------|-----|-------|--------|-----|
| | | | | | | | | | | | | | | | | | | | | | | | | | h | m | h | m | | | | | |
| 1 | 567 | 552 | 554 | 547 | 542 | 519 | 535 | 522 | 535 | 543 | 549 | 558 | 553 | 553 | 558 | 560 | 564 | 562 | 567 | 568 | 604 | 558 | 571 | 560 | 554 | 20 | 26 | 06 | 00 | 504 | 119 | | |
| 2 * | 555 | 560 | 550 | 538 | 532 | 557 | 539 | 549 | 552 | 548 | 549 | 550 | 547 | 549 | 557 | 558 | 560 | 565 | 567 | 631 | 579 | 571 | 557 | 557 | 557 | 557 | 19 | 12 | 697 | 20 | 01 | 519 | 178 |
| 3 | 550 | 539 | 531 | 531 | 496 | 525 | 530 | 542 | 557 | 557 | 550 | 553 | 552 | 551 | 550 | 555 | 558 | 563 | 585 | 572 | 578 | 567 | 557 | 573 | 551 | 19 | 25 | 643 | 04 | 47 | 467 | 176 | |
| 4 * | 526 | 567 | 549 | 550 | 560 | 568 | 576 | 572 | 566 | (555) | 544 | 548 | 550 | 552 | 558 | 559 | 566 | 560 | 564 | 580 | 581 | 574 | 559 | 557 | 560 | 19 | 14 | 627 | 00 | 07 | 481 | 146 | |
| 5 | 561 | 552 | 537 | 484 | 531 | 557 | 542 | 538 | 531 | 530 | 534 | 531 | 540 | 546 | 541 | 575 | 567 | 579 | 580 | 589 | 569 | 577 | 575 | 583 | 552 | 15 | 46 | 623 | 03 | 42 | 466 | 157 | |
| 6 * / | 578 | 557 | 541 | 548 | 558 | 560 | 550 | 539 | 530 | 521 | 531 | 547 | 549 | 550 | 550 | 558 | 558 | 558 | 557 | 557 | 560 | 551 | 549 | 558 | 551 | 00 | 25 | 584 | 10 | 07 | 517 | 067 | |
| 7 * / | 566 | 560 | 557 | 546 | 546 | 549 | 549 | 541 | 539 | 548 | 547 | 550 | 550 | 549 | 558 | 560 | 567 | 567 | 578 | 589 | 585 | 550 | 544 | 559 | 556 | 19 | 02 | 598 | 22 | 12 | 535 | 063 | |
| 8 | 550 | 550 | 541 | 503 | 538 | 551 | 539 | 517 | 482 | 478 | 495 | 476 | 466 | 499 | 510 | 530 | 550 | 568 | 559 | 538 | 519 | 594 | 566 | 590 | 530 | 21 | 28 | 674 | 11 | 06 | 373 | 301 | |
| 9 | 597 | 577 | 585 | 568 | 575 | 570 | 558 | 531 | 540 | 534 | 529 | 526 | 549 | 521 | 637 | 551 | 567 | 568 | 583 | 588 | 558 | 557 | 557 | 595 | 563 | 14 | 25 | 711 | 14 | 47 | 485 | 226 | |
| 10 | 587 | 560 | 551 | 548 | 548 | 546 | 542 | 543 | 552 | 539 | 539 | 530 | 533 | 521 | 549 | 560 | 556 | 560 | 567 | 557 | 538 | 557 | 658 | 618 | 557 | 22 | 09 | 705 | 20 | 23 | 458 | 247 | |
| 11 | 587 | 557 | 555 | 557 | 550 | 558 | 560 | 567 | 547 | 530 | 529 | 534 | 534 | 539 | 529 | 550 | 558 | 557 | 565 | 570 | 583 | 566 | 592 | 581 | 556 | 22 | 05 | 664 | 21 | 44 | 506 | 158 | |
| 12 * | 595 | 550 | 554 | 556 | 559 | 551 | 559 | 567 | 558 | 539 | 541 | 539 | 539 | 529 | 530 | 549 | 550 | 558 | 559 | 562 | 563 | 560 | 559 | 558 | 554 | 00 | 29 | 606 | 13 | 59 | 520 | 086 | |
| 13 * / | 556 | 551 | 558 | 559 | 560 | 559 | 558 | 560 | 558 | 549 | 541 | 541 | 540 | 548 | 550 | 555 | 558 | 560 | 560 | 559 | 550 | 549 | 558 | 571 | 534 | 23 | 59 | 576 | 21 | 57 | 530 | 046 | |
| 14 | 560 | 551 | 555 | 558 | 551 | 550 | 544 | 540 | 548 | 541 | 519 | 481 | 449 | 486 | 519 | 550 | 521 | 473 | 515 | 506 | 588 | 588 | 452 | 607 | 531 | 18 | 24 | 688 | 18 | 57 | 183 | 505 | |
| 15 | 591 | 574 | 579 | 584 | 547 | 539 | 550 | 539 | 532 | 529 | 532 | 519 | 504 | 535 | 550 | 544 | 560 | 568 | 581 | 578 | 579 | 591 | 558 | 560 | 555 | 20 | 14 | 622 | 12 | 31 | 485 | 137 | |
| 16 | 576 | 568 | 586 | 576 | 564 | 564 | 550 | 512 | 533 | 539 | 550 | 529 | 537 | 541 | 535 | 585 | 577 | 560 | 569 | 572 | 585 | 575 | 566 | 566 | 559 | 16 | 43 | 623 | 07 | 28 | 476 | 147 | |
| 17 | 579 | 577 | 566 | 576 | 585 | 553 | 538 | 549 | 547 | 529 | 547 | 549 | 541 | 559 | 539 | 565 | 591 | 541 | 577 | 597 | 560 | 556 | 567 | 570 | 561 | 19 | 27 | 627 | 17 | 09 | 496 | 131 | |
| 18 | 556 | 543 | 597 | 596 | 595 | 580 | 575 | 561 | 550 | 536 | 533 | 531 | 550 | 541 | 550 | 541 | 551 | 567 | 558 | 560 | 558 | 568 | 494 | 562 | 556 | 03 | 57 | 618 | 22 | 29 | 451 | 167 | |
| 19 * | 560 | 560 | 566 | 567 | 567 | 569 | 559 | 551 | 549 | 548 | 542 | 536 | 539 | 550 | 558 | 560 | 564 | 565 | 567 | 567 | 547 | 557 | 557 | 567 | 557 | 19 | 25 | 587 | 20 | 21 | 513 | 074 | |
| 20 * / | 560 | 556 | 556 | 558 | 562 | 563 | 559 | 551 | 556 | 550 | 548 | 541 | 547 | 551 | 547 | 550 | 553 | 556 | 559 | 571 | 559 | 547 | 559 | 565 | 555 | 19 | 50 | 585 | 10 | 27 | 539 | 046 | |
| 21 * / | 556 | 539 | 560 | 558 | 566 | 560 | 560 | 560 | 550 | 541 | 539 | 542 | 549 | 550 | 558 | 560 | 566 | 569 | 567 | 567 | 559 | 553 | 524 | 541 | 554 | 17 | 55 | 578 | 22 | 21 | 502 | 076 | |
| 22 | 550 | 550 | 548 | 555 | 559 | 550 | 549 | 529 | 514 | 528 | 532 | 537 | 532 | 520 | 539 | 549 | 520 | 618 | 659 | 696 | 857 | 804 | 757 | 759 | 596 | 20 | 37 | 1130 | 17 | 05 | 384 | 746 | |
| 23 | 685 | 556 | 578 | 570 | 530 | 521 | 539 | 541 | 519 | 492 | 513 | 503 | 502 | 477 | 550 | 576 | 589 | 595 | 591 | 595 | 610 | 581 | 752 | 721 | 570 | 22 | 30 | 932 | 13 | 16 | 384 | 548 | |
| 24 | 641 | 870 | 558 | 488 | 542 | 559 | 557 | 542 | 530 | 544 | 524 | 520 | 512 | 546 | 567 | 559 | 599 | 596 | 588 | 577 | 575 | 574 | 603 | 585 | 573 | 01 | 46 | 1115 | 15 | 18 | 412 | 703 | |
| 25 | 558 | 558 | 560 | 563 | 566 | 565 | 568 | 567 | 568 | 550 | 540 | 535 | 519 | 524 | 530 | 539 | 547 | 573 | 587 | 599 | 575 | 598 | 645 | 630 | 565 | 22 | 13 | 722 | 14 | 50 | 459 | 263 | |
| 26 | 595 | 575 | 520 | 469 | 508 | 522 | 521 | 520 | 512 | 517 | 529 | 530 | 559 | 519 | 559 | 585 | 575 | 573 | 576 | 577 | 565 | 560 | 556 | 555 | 545 | 14 | 57 | 704 | 03 | 13 | 437 | 267 | |
| 27 | 560 | 564 | 556 | 555 | 519 | 547 | 539 | 557 | 531 | 530 | 540 | 555 | 545 | 548 | 559 | 596 | 587 | 583 | 587 | 603 | 591 | 566 | 585 | 570 | 561 | 20 | 09 | 631 | 04 | 41 | 504 | 127 | |
| 28 * | 575 | 550 | 529 | 567 | 568 | 568 | 570 | 567 | 564 | 558 | 537 | 548 | 549 | 556 | 560 | 566 | 569 | 569 | 574 | 576 | 574 | 565 | 564 | 560 | 562 | 06 | 15 | 584 | 02 | 24 | 509 | 075 | |
| 29 | 559 | 557 | 550 | 543 | 543 | 539 | 539 | 550 | 558 | 544 | 542 | 549 | 552 | 555 | 560 | 568 | 570 | 569 | 577 | 558 | 612 | 640 | 759(996) | | 587 | 23 | 13 | 1262 | 23 | 50 | 429 | 833 | |
| 30 | 732 | 600 | 520 | (942) | (798) | (958) | 768 | 636 | 541 | 311 | 274 | 494 | 567 | 601 | 590 | 609 | 604 | 623 | 632 | 616 | 625 | 593 | 578 | 581 | 616 | 05 | 04 | 1263 | (10 | 00) | (175) | (1088) | |
| Mean | 579 | 569 | 555 | 562 | 539 | 566 | 557 | 549 | 542 | 529 | 527 | 533 | 535 | 539 | 552 | 561 | 564 | 567 | 575 | 579 | 583 | 578 | 583 | 598 | 560 | DESIGNATIONS | | | | 263 | | | |
| Mean * | 563 | 555 | 552 | 555 | 558 | 560 | 558 | 556 | 552 | 546 | 542 | 544 | 546 | 548 | 553 | 558 | 561 | 563 | 565 | 576 | 566 | 558 | 553 | 559 | 556 | * Ten least disturbed days | | | | 06 | | | |
| Mean / | 556 | 553 | 554 | 554 | 558 | 558 | 555 | 550 | 547 | 542 | 541 | 544 | 547 | 550 | 553 | 557 | 560 | 562 | 564 | 569 | 563 | 550 | 547 | 566 | 554 | / Five international quiet days | | | | | | | |
| Mean ≠ | 643 | 631 | 559 | 625 | 599 | 632 | 593 | 558 | 536 | 484 | 472 | 505 | 516 | 526 | 573 | 569 | 576 | 571 | 582 | 576 | 591 | 579 | 588 | 618 | 571 | ≠ Five international disturbed days | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | () Approximate | | | | | | |

TABLE 30

HOURLY VALUES OF DECLINATION

NOVEMBER 1952

49° West plus tabular quantities expressed in tenth of minutes of arc

G.M.T. used

| Day | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24' Mean | Maximum | Minimum | Range | | | | |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|--------------|-----------------------------------|-------|----|-----|------|------|
| | | | | | | | | | | | | | | | | | | | | | | | | h m | | h m | | | | | | |
| 1 | 758 | 680 | 666 | 635 | 635 | 630 | 623 | 605 | 590 | 567 | 564 | 522 | 561 | 540 | 560 | 574 | 556 | 584 | 636 | 618 | 602 | 579 | 632 | 813 | 614 | 23 | 32 | 962 | 14 | 10 | 445 | 517 |
| 2 | 652 | 651 | 678 | 677 | 677 | 651 | 641 | 620 | 586 | 579 | 569 | 555 | 585 | 567 | 597 | 586 | 595 | 613 | 616 | 613 | 591 | 574 | 586 | 597 | 611 | 00 | 00 | 823 | 11 | 05 | 532 | 291 |
| 3 | 615 | 626 | 624 | 616 | 605 | 595 | 594 | 595 | 569 | 548 | 533 | 523 | 509 | 524 | 553 | 571 | 587 | 587 | 593 | 595 | 607 | 603 | 590 | 603 | 582 | 01 | 45 | 636 | 12 | 32 | 495 | 144 |
| 4 | 609 | 645 | 661 | 640 | 635 | 629 | 629 | 605 | 587 | 595 | 587 | 587 | 590 | 594 | 595 | 587 | 594 | 595 | 597 | 600 | 596 | 599 | 604 | 606 | 607 | 02 | 21 | 668 | 08 | 49 | 578 | 090 |
| 5 | 621 | 633 | 633 | 634 | 636 | 639 | 630 | 622 | 598 | 586 | 581 | 578 | 579 | 577 | 587 | 585 | 578 | 586 | 593 | 578 | 587 | 589 | 578 | 625 | 601 | 02 | 36 | 646 | 22 | 31 | 558 | 088 |
| 6 | 623 | 626 | 634 | 657 | 611 | 586 | 559 | 553 | 533 | 525 | 525 | 502 | 521 | 568 | 568 | 565 | 577 | 576 | 580 | 635 | 598 | 589 | 587 | 535 | 578 | 03 | 31 | 666 | 11 | 51 | 468 | 198 |
| 7 | 594 | 595 | 623 | 638 | 640 | 621 | 591 | 567 | 560 | 557 | 549 | 540 | 565 | 570 | 586 | 621 | 605 | 611 | 654 | 653 | 724 | 836 | 587 | 624 | 613 | 21 | 30 | 908 | 11 | 01 | 511 | 397 |
| 8 | 633 | 635 | 640 | 633 | 633 | 630 | 583 | 576 | 568 | 565 | 541 | 559 | 560 | 559 | 585 | 589 | 612 | 595 | 605 | 632 | 679 | 799 | 597 | 605 | 609 | 21 | 07 | 908 | 10 | 54 | 512 | 396 |
| 9 | 621 | 597 | 615 | 637 | 633 | 634 | 619 | 614 | 605 | 600 | 589 | 584 | 595 | 592 | 593 | 620 | 595 | 578 | 579 | 605 | 601 | 577 | 578 | 539 | 602 | 15 | 13 | 658 | 17 | 47 | 504 | 154 |
| 10 | 604 | 614 | 616 | 616 | 613 | 597 | 595 | 586 | 579 | 576 | 576 | 574 | 577 | 578 | 582 | 585 | 587 | 609 | 611 | 592 | 585 | 585 | 583 | 531 | 592 | 18 | 05 | 623 | 11 | 04 | 567 | 056 |
| 11 | 593 | 609 | 621 | 624 | 625 | 627 | 604 | 594 | 583 | 572 | 568 | 569 | 574 | 576 | 577 | 578 | 578 | 577 | 605 | 606 | 604 | 577 | 575 | 550 | 591 | 05 | 10 | 631 | 23 | 23 | 550 | 081 |
| 12 | 594 | 625 | 634 | 627 | 623 | 613 | 605 | 595 | 593 | 587 | 580 | 576 | 577 | 578 | 579 | 578 | 578 | 579 | 577 | 580 | 579 | 578 | 585 | 596 | 592 | 02 | 26 | 640 | 12 | 30 | 566 | 074 |
| 13 | 613 | 611 | 615 | 622 | 623 | 622 | 613 | 606 | 604 | 603 | 599 | 584 | 592 | 584 | 583 | 583 | 579 | 580 | 585 | 578 | 577 | 577 | 583 | 593 | 596 | 05 | 06 | 627 | 21 | 48 | 573 | 054 |
| 14 | 604 | 620 | 634 | 641 | 626 | 604 | 591 | 566 | 550 | 556 | 556 | 568 | 569 | 571 | 569 | 567 | 570 | 578 | 575 | 588 | 604 | 619 | 579 | 601 | 588 | 03 | 30 | 652 | 08 | 53 | 538 | 114 |
| 15 | 612 | 623 | 629 | 628 | 620 | 617 | 593 | 568 | 566 | 547 | 570 | 574 | 585 | 592 | 593 | 592 | 595 | 593 | 584 | 603 | 619 | 596 | 588 | 539 | 595 | 04 | 59 | 648 | 09 | 47 | 541 | 107 |
| 16 | 597 | 612 | 623 | 633 | 640 | 651 | 624 | 586 | 553 | 557 | 541 | 511 | 465 | 386 | 393 | 558 | 616 | 592 | 591 | 594 | 596 | 601 | 600 | 601 | 572 | 05 | 09 | 658 | 14 | 25 | 253 | 405 |
| 17 | 615 | 630 | 648 | 647 | 633 | 624 | 610 | 625 | 598 | 587 | 583 | 585 | 591 | 599 | 586 | 589 | 596 | 597 | 606 | 904 | 813 | 871 | 821 | 537 | 648 | 21 | 34 | 1241 | 23 | 29 | 520 | 721 |
| 18 | 589 | 624 | 644 | 628 | 613 | 615 | 588 | 574 | 541 | 551 | 551 | 568 | 591 | 602 | 598 | 595 | 591 | 594 | 593 | 606 | 586 | 587 | 576 | 616 | 593 | 02 | 26 | 658 | 08 | 57 | 519 | 139 |
| 19 | 621 | 634 | 641 | 642 | 643 | 635 | 605 | 581 | 585 | 585 | 586 | 586 | 593 | 601 | 594 | 603 | 601 | 603 | 603 | 595 | 587 | 567 | 579 | 592 | 603 | 04 | 08 | 660 | 21 | 08 | 541 | 119 |
| 20 | 611 | 629 | 652 | 660 | 647 | 638 | 616 | 590 | 568 | 551 | 561 | 567 | 567 | 578 | 579 | 576 | 580 | 589 | 584 | 583 | 585 | 576 | 561 | 613 | 594 | 03 | 06 | 697 | 22 | 36 | 537 | 160 |
| 21 | 605 | 597 | 660 | 676 | 655 | 661 | 635 | 606 | 588 | 539 | 431 | 437 | 527 | 576 | 588 | 602 | 653 | 634 | 634 | 628 | 612 | 593 | 571 | 616 | 597 | 05 | 08 | 750 | 11 | 00 | 222 | 528 |
| 22 | 623 | 634 | 671 | 686 | 677 | 660 | 646 | 621 | 579 | 549 | 540 | 514 | 513 | 510 | 505 | 523 | 588 | 641 | 623 | 615 | 613 | 596 | 595 | 604 | 597 | 03 | 12 | 713 | 16 | 24 | 458 | 255 |
| 23 | 624 | 641 | 664 | 649 | 657 | 643 | 624 | 589 | 568 | 525 | 542 | 542 | 559 | 568 | 577 | 588 | 596 | 621 | 613 | 603 | 603 | 596 | 592 | 600 | 599 | 02 | 51 | 672 | 09 | 43 | 506 | 166 |
| 24 | 605 | 626 | 647 | 648 | 655 | 641 | 631 | 613 | 583 | 576 | 579 | 565 | 556 | 567 | 570 | 584 | 585 | 607 | 604 | 603 | 603 | 603 | 606 | 613 | 603 | 03 | 52 | 665 | 16 | 29 | 538 | 127 |
| 25 | 625 | 634 | 658 | 649 | 641 | 634 | 613 | 590 | 573 | 569 | 581 | 575 | 573 | 582 | 578 | 597 | 612 | 611 | 613 | 613 | 605 | 603 | 608 | 613 | 606 | 02 | 10 | 662 | 09 | 54 | 557 | 105 |
| 26 | 624 | 634 | 639 | 642 | 657 | 650 | 650 | 590 | 571 | 550 | 560 | 556 | 534 | 539 | 551 | 562 | 538 | 609 | 650 | 626 | 862 | 741 | 082 | 075 | 570 | 21 | 31 | 1443 | 19 | 27 | 367 | 1076 |
| 27 | 787 | 677 | 653 | 668 | 624 | 665 | 622 | 575 | 519 | 515 | 454 | 292 | 356 | 319 | 495 | 539 | 625 | 632 | 631 | 638 | 675 | 738 | 631 | 744 | 586 | 00 | 00 | 1017 | 11 | 53 | -081 | 1098 |
| 28 | 716 | 647 | 675 | 658 | 643 | 648 | 624 | 605 | 586 | 576 | 525 | 523 | 487 | 451 | 559 | 597 | 546 | 612 | 551 | 600 | 680 | 673 | 672 | 639 | 605 | 00 | 10 | 810 | 13 | 12 | 396 | 414 |
| 29 | 661 | 670 | 675 | 661 | 649 | 642 | 629 | 616 | 578 | 555 | 536 | 495 | 477 | 490 | 542 | 564 | 587 | 603 | 558 | 635 | 632 | 617 | 610 | 623 | 596 | 02 | 38 | 679 | 13 | 33 | 458 | 221 |
| 30 | 621 | 618 | 634 | 648 | 647 | 638 | 613 | 595 | 580 | 570 | 557 | 553 | 565 | 579 | 572 | 622 | 608 | 613 | 624 | 613 | 605 | 632 | 606 | 614 | 605 | 15 | 41 | 662 | 11 | 00 | 530 | 132 |
| Mean | 629 | 630 | 644 | 644 | 637 | 631 | 613 | 594 | 575 | 564 | 553 | 542 | 550 | 551 | 566 | 583 | 590 | 600 | 602 | 618 | 627 | 642 | 618 | 631 | 601 | DESIGNATIONS | | | | 281 | | |
| Mean * | 606 | 624 | 635 | 633 | 628 | 622 | 608 | 592 | 579 | 576 | 574 | 576 | 581 | 584 | 584 | 584 | 584 | 589 | 592 | 591 | 589 | 585 | 580 | 598 | 596 | * | Ten least disturbed days | 98 | | | | |
| Mean / | 605 | 621 | 629 | 626 | 624 | 618 | 609 | 597 | 589 | 587 | 580 | 578 | 582 | 582 | 583 | 582 | 583 | 588 | 595 | 591 | 588 | 583 | 586 | 537 | 596 | / | Five international quiet days | | | | | |
| Mean ≠ | 698 | 647 | 659 | 656 | 643 | 651 | 631 | 596 | 571 | 549 | 507 | 466 | 493 | 485 | 551 | 575 | 584 | 614 | 620 | 622 | 686 | 745 | 718 | 731 | 614 | ≠ | Five international disturbed days | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | () | Approximate | | | | | |

TABLE 31

HOURLY VALUES OF DECLINATION

DECEMBER 1952

49° West plus tabular quantities expressed in tenth of minutes of arc

G.M.T. used

| Day | Hour | | | | | | | | | | | | | | | | | | | | | | | | Mean | Maximum | | Minimum | | Range | | | | |
|--------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|-----|------|-------------------------------------|------|---------|----|-------|-----|------|--|--|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | h | m | h | m | | | | | |
| 1 | 631 | 641 | 648 | 651 | 650 | 641 | 605 | 602 | 586 | 573 | 564 | 535 | 526 | 535 | 512 | 565 | 576 | 543 | 668 | 643 | 735 | 686 | 742 | 768 | 618 | 23 | 51 | 1132 | 17 | 37 | 487 | 645 | | |
| 2 | 830 | 760 | 616 | 632 | 616 | 625 | 615 | 584 | 573 | 548 | 519 | 532 | 515 | 375 | 346 | 361 | 488 | 526 | 625 | 784 | 711 | 797 | 997 | 686 | 611 | 00 | 44 | 1234 | 13 | 53 | 202 | 1032 | | |
| 3 | 634 | 644 | 651 | 678 | 684 | 695 | 627 | 587 | 603 | 581 | 549 | 557 | 572 | 564 | 572 | 574 | 592 | 584 | 599 | 624 | 688 | 639 | 655 | 662 | 616 | 23 | 52 | 718 | 10 | 05 | 514 | 204 | | |
| 4 | 665 | 595 | 677 | 659 | 671 | 643 | 640 | 606 | 604 | 569 | 540 | 485 | 521 | 528 | 587 | 595 | 597 | 635 | 682 | 706 | 777 | 802 | 718 | 737 | 635 | 21 | 20 | 843 | 11 | 12 | 449 | 394 | | |
| 5 | 667 | 696 | 665 | 634 | 633 | 630 | 622 | 604 | 593 | 585 | 551 | 551 | 577 | 579 | 588 | 594 | 597 | 593 | 610 | 586 | 607 | 615 | 603 | 606 | 608 | 00 | 07 | 754 | 10 | 43 | 513 | 241 | | |
| 6 | 623 | 639 | 640 | 640 | 649 | 643 | 630 | 613 | 602 | 587 | 574 | 568 | 578 | 586 | 603 | 613 | 603 | 622 | 624 | 613 | 601 | 602 | 612 | 595 | 611 | 04 | 27 | 665 | 11 | 15 | 561 | 104 | | |
| 7 | 651 | 651 | 639 | 650 | 665 | 653 | 647 | 626 | 593 | 574 | 566 | 562 | 581 | 586 | 596 | 598 | 593 | 603 | 620 | 575 | 603 | 601 | 589 | 599 | 609 | 01 | 01 | 681 | 11 | 04 | 548 | 133 | | |
| 8 | 599 | 614 | 622 | 620 | 622 | 619 | 623 | 615 | 592 | 572 | 555 | 558 | 570 | 574 | 593 | 597 | 595 | 594 | 603 | 598 | 590 | 591 | 577 | 577 | 595 | 04 | 34 | 631 | 11 | 01 | 547 | 084 | | |
| 9 | 606 | 622 | 631 | 636 | 640 | 646 | 632 | 614 | 596 | 576 | 561 | 569 | 584 | 594 | 595 | 594 | 591 | 588 | 588 | 594 | 623 | 611 | 600 | 599 | 604 | 05 | 40 | 651 | 10 | 53 | 555 | 096 | | |
| 10 | 614 | 634 | 656 | 652 | 639 | 622 | 613 | 603 | 602 | 588 | 573 | 568 | 568 | 582 | 561 | 563 | 528 | 567 | 588 | 649 | 696 | 645 | 652 | 645 | 609 | 20 | 14 | 731 | 19 | 04 | 403 | 328 | | |
| 11 | 657 | 657 | 656 | 651 | 676 | 646 | 587 | 589 | 582 | 568 | 551 | 563 | 554 | 553 | 579 | 588 | 589 | 587 | 633 | 664 | 624 | 613 | 621 | 638 | 609 | 05 | 02 | 686 | 11 | 10 | 539 | 147 | | |
| 12 | 644 | 642 | 642 | 655 | 667 | 663 | 626 | 602 | 570 | 547 | 555 | 537 | 514 | 495 | 506 | 534 | 617 | 605 | 599 | 593 | 605 | 604 | 607 | 611 | 593 | 05 | 33 | 675 | 15 | 14 | 460 | 215 | | |
| 13 | 639 | 706 | 701 | 713 | 707 | 597 | 601 | 575 | 586 | 427 | 229 | 178 | 188 | 436 | 570 | 590 | 614 | 624 | 624 | 628 | 630 | 617 | 625 | 633 | 560 | 04 | 53 | 743 | 10 | 31 | 025 | 718 | | |
| 14 | 639 | 651 | 649 | 639 | 621 | 621 | 613 | 613 | 603 | 594 | 609 | 612 | 612 | 615 | 613 | 613 | 610 | 604 | 606 | 604 | 605 | 605 | 596 | 632 | 616 | 01 | 47 | 656 | 09 | 52 | 578 | 078 | | |
| 15 | 654 | 664 | 668 | 682 | 649 | 601 | 579 | 563 | 553 | 535 | 521 | 571 | 578 | 576 | 583 | 580 | 584 | 572 | 580 | 593 | 595 | 600 | 612 | 613 | 596 | 03 | 32 | 707 | 10 | 35 | 468 | 239 | | |
| 16 | 617 | 624 | 641 | 648 | 638 | 611 | 580 | 566 | 551 | 542 | 540 | 540 | 558 | 566 | 565 | 579 | 595 | 604 | 602 | 633 | 614 | 648 | 615 | 624 | 596 | 21 | 04 | 668 | 11 | 55 | 525 | 143 | | |
| 17 | 688 | 744 | 724 | 717 | 707 | 668 | 639 | 589 | 587 | 585 | 583 | 588 | 595 | 600 | 601 | 593 | 588 | 589 | 588 | 586 | 587 | 586 | 609 | 702 | 626 | 23 | 07 | 787 | 22 | 07 | 552 | 235 | | |
| 18 | 661 | 669 | 679 | 680 | 624 | 606 | 612 | 597 | 576 | 571 | 578 | 586 | 585 | 582 | 578 | 593 | 588 | 575 | 603 | 607 | 632 | 622 | 613 | 623 | 610 | 19 | 02 | 726 | 19 | 22 | 453 | 273 | | |
| 19 | 647 | 632 | 642 | 656 | 665 | 651 | 632 | 603 | 594 | 594 | 601 | 600 | 599 | 593 | 593 | 591 | 593 | 593 | 601 | 600 | 600 | 605 | 609 | 616 | 613 | 04 | 20 | 669 | 13 | 52 | 588 | 081 | | |
| 20 | 633 | 648 | 655 | 658 | 650 | 639 | 631 | 613 | 606 | 597 | 591 | 576 | 579 | 584 | 589 | 589 | 593 | 597 | 600 | 594 | 586 | 591 | 612 | 619 | 610 | 03 | 41 | 662 | 11 | 25 | 569 | 093 | | |
| 21 | 632 | 633 | 632 | 631 | 634 | 625 | 612 | 607 | 604 | 595 | 592 | 582 | 571 | 578 | 588 | 603 | 592 | 593 | 595 | 597 | 608 | 597 | 598 | 600 | 604 | 01 | 07 | 640 | 12 | 41 | 568 | 072 | | |
| 22 | 616 | 619 | 615 | 609 | 606 | 616 | 616 | 605 | 593 | 585 | 572 | 578 | 567 | 553 | 558 | 530 | 587 | 607 | 647 | 652 | 645 | 623 | 613 | 624 | 602 | 19 | 09 | 662 | 15 | 34 | 495 | 167 | | |
| 23 | 632 | 634 | 632 | 627 | 615 | 613 | 623 | 618 | 622 | 615 | 601 | 594 | 581 | 580 | 582 | 585 | 585 | 587 | 589 | 614 | 632 | 604 | 601 | 603 | 607 | 20 | 38 | 649 | 13 | 58 | 576 | 073 | | |
| 24 | 617 | 633 | 631 | 628 | 559 | 583 | 594 | 595 | 595 | 541 | 505 | 478 | 462 | 263 | 357 | 579 | 573 | 573 | 599 | 640 | 705 | 627 | 725 | 754 | 576 | 22 | 47 | 904 | 13 | 40 | 185 | 719 | | |
| 25 | 621 | 691 | 646 | 684 | 657 | 650 | 636 | 624 | 604 | 567 | 532 | 541 | 540 | 524 | 567 | 603 | 613 | 641 | 633 | 632 | 662 | 623 | 596 | 604 | 612 | 01 | 25 | 729 | 14 | 04 | 505 | 224 | | |
| 26 | 603 | 611 | 625 | 645 | 644 | 650 | 620 | 607 | 598 | 589 | 570 | 550 | 575 | 597 | 614 | 602 | 646 | 612 | 606 | 618 | 613 | 604 | 618 | 605 | 609 | 16 | 12 | 697 | 11 | 23 | 530 | 167 | | |
| 27 | 613 | 625 | 614 | 622 | 653 | 651 | 643 | 625 | 606 | 596 | 591 | 587 | 589 | 595 | 598 | 600 | 595 | 582 | 606 | 674 | 662 | 726 | (905)894 | 644 | 22 | 47 | 1389 | 17 | 30 | 565 | 824 | | | |
| 28 | | 773 | 621 | 614 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | 646 | 654 | 616 | 621 | 631 | 609 | 615 | 580 | 586 | 586 | 560 | 592 | 584 | 591 | 573 | 636 | 584 | 598 | 620 | 599 | 638 | 748 | 661 | 687 | 613 | 21 | 32 | 812 | 16 | 58 | 444 | 368 | | |
| Mean | 647 | 650 | 647 | 651 | 645 | 631 | 618 | 601 | 591 | 571 | 551 | 548 | 551 | 549 | 563 | 580 | 590 | 593 | 612 | 625 | 638 | 635 | 650 | 646 | 608 | DESIGNATIONS | | | | 287 | | | | |
| Mean * | 628 | 634 | 636 | 637 | 637 | 633 | 626 | 613 | 600 | 589 | 582 | 580 | 582 | 584 | 591 | 591 | 594 | 599 | 607 | 604 | 609 | 603 | 601 | 606 | 607 | * Ten least disturbed days | | | | 98 | | | | |
| Mean † | 630 | 634 | 638 | 622 | 641 | 653 | 626 | 611 | 604 | 595 | 589 | 584 | 583 | 586 | 589 | 592 | 591 | 591 | 595 | 600 | 610 | 602 | 604 | 607 | 607 | † Five international quiet days | | | | | | | | |
| Mean ‡ | | | | | | | | | | | | | | | | | | | | | | | | | | ‡ Five international disturbed days | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | () Approximate | | | | | | | | |

TABLE 32

HOURLY VALUES OF VERTICAL INTENSITY

MARCH 1952

46500 plus tabular quantities expressed in gammas

G. M. T. used

| Day | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Mean | Maximum | Minimum | Range | | | |
|--------|---|------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|------|------|---------|---------|-------|----|-----|-----|
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | h | m | h | m | | | |
| 1 | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | * | † | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | † | † | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | * | † | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | * | † | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | * | † | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | * | † | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | † | (607 | 323 | 283) | 378 | 497 | 548 | 581 | 592 | 615 | 594 | 590 | 588 | 583 | 584 | 602 | 573 | 472 | 633 | 604 | 584 | (638 | 494 | 431 | 490) | 20 | 55 | 795 | 22 | 34 | 358 | 437 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | 57 | 755 | 02 | 22 | 195 | 560 |
| Mean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean † | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean ‡ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Continuous recording started on 11th March, 1952

Insufficient data

DESIGNATIONS

- * Ten least disturbed days
- † Five international quiet days
- ‡ Five international disturbed days
- () Approximate

TABLE 33

HOURLY VALUES OF VERTICAL INTENSITY

APRIL 1952

46500 plus tabular quantities expressed in gammas

G.M.T. used

| Day | | | | | | | | | | | | | | | | | | | | | | | | | Mean | Maximum | | Minimum | | Range | | | | | |
|---------------------|---|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----------------------------|-------------------------------------|---------|-----|-------|-----|-----|-----|--|--|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | 24 | h | m | h | | m | | | | |
| 1 | | 507 | 496 | 521 | 507 | 553 | 583 | 605 | 622 | 640 | 633 | 637 | 637 | 616 | 660 | 712 | 679 | 659 | 623 | 596 | 574 | 572 | 560 | 577 | 588 | 598 | 14 | 09 | 754 | 00 | 00 | 474 | 280 | | |
| 2 | # | 585 | 518 | 470 | 450 | 469 | 542 | 579 | 597 | 611 | 632 | 659 | 629 | 616 | 616 | 691 | 672 | 665 | 667 | 645 | 644 | 536 | 456 | 441 | 512 | 579 | 17 | 35 | 719 | 22 | 43 | 364 | 355 | | |
| 3 | # | 409 | 447 | 454 | 510 | 548 | 540 | 572 | 620 | 633 | 665 | 667 | 652 | 654 | 656 | 673 | 662 | 599 | 617 | 626 | 543 | 372 | 508 | 340 | 523 | 562 | 11 | 59 | 742 | 22 | 10 | 256 | 486 | | |
| 4 | | 435 | 491 | 510 | 548 | 566 | 590 | 606 | 616 | 660 | 655 | 661 | 652 | 682 | 673 | 660 | 644 | 659 | 599 | 558 | 554 | 402 | 455 | 406 | 437 | 572 | 12 | 23 | 714 | 20 | 04 | 313 | 401 | | |
| 5 | | 475 | 506 | 490 | 493 | 532 | 567 | 587 | 613 | 640 | 662 | 664 | 648 | 638 | 646 | 633 | 641 | 628 | 615 | 557 | 512 | 340 | 455 | 435 | 432 | 559 | 13 | 54 | 689 | 20 | 28 | 308 | 381 | | |
| 6 | | 332 | 363 | 476 | 520 | 562 | 580 | 593 | 604 | 614 | 634 | 646 | 620 | 634 | 648 | 636 | 642 | 615 | 605 | 608 | 565 | 506 | 474 | 488 | 346 | 555 | 12 | 59 | 683 | 23 | 48 | 252 | 431 | | |
| 7 | | 386 | 489 | 535 | 564 | 580 | 590 | 608 | 623 | 617 | 617 | 612 | 641 | 625 | 613 | 630 | 619 | 610 | 642 | 563 | 558 | 541 | 468 | 492 | 477 | 571 | 17 | 19 | 672 | 00 | 00 | 313 | 359 | | |
| 8 | | 407 | 467 | 537 | 566 | 573 | 560 | 574 | 587 | 607 | 608 | 627 | 622 | 622 | 646 | 645 | 610 | 613 | 615 | 579 | 495 | 486 | 430 | 410 | 437 | 555 | 14 | 24 | 680 | 00 | 13 | 341 | 339 | | |
| 9 | | 442 | 448 | 488 | 522 | 561 | 585 | 593 | 596 | 606 | 606 | 602 | 604 | 622 | 615 | 608 | 606 | 627 | 613 | 564 | 581 | 578 | 517 | 469 | 444 | 562 | 16 | 55 | 663 | 24 | 00 | 374 | 289 | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | * | 552 | 573 | 587 | 595 | 601 | 606 | 610 | 616 | 616 | 614 | 608 | 611 | 637 | | | | | | | | | | | | | | | | | | | | | |
| 12 | # | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | 592 | 585 | 562 | 555 | 547 | 578 | 592 | 595 | 599 | 600 | 602 | 602 | 598 | 595 | 596 | 597 | 596 | 598 | 605 | 594 | 585 | 586 | 589 | 587 | 589 | 08 | 54 | 617 | 04 | 07 | 537 | 080 | | |
| 14 | * | 585 | 592 | 598 | 601 | 600 | 604 | 608 | 611 | 606 | 604 | 609 | 600 | 595 | 597 | 600 | 615 | 686 | 642 | 610 | 600 | 594 | 575 | 575 | 588 | 604 | 16 | 36 | 705 | 21 | 42 | 569 | 136 | | |
| 15 | | 589 | 589 | 592 | 594 | 598 | 595 | 598 | 601 | 604 | 606 | 605 | 606 | 623 | 690 | 641 | 656 | 701 | 671 | 627 | 595 | 583 | 581 | 586 | 589 | 613 | 13 | 21 | 763 | 21 | 08 | 573 | 190 | | |
| 16 | | 591 | 594 | 594 | 591 | 598 | 598 | 600 | 604 | 607 | 601 | 604 | 602 | 599 | 602 | 628 | 640 | 633 | 616 | 615 | 572 | 537 | 525 | 530 | 556 | 593 | 14 | 48 | 654 | 20 | 57 | 520 | 134 | | |
| 17 | * | 572 | 577 | 578 | 564 | 563 | 574 | 608 | 611 | 608 | 617 | 611 | 610 | 603 | 601 | 600 | 598 | 596 | 598 | 598 | 596 | 584 | 581 | 585 | 593 | 06 | 41 | 617 | 04 | 01 | 557 | 060 | | | |
| 18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | | 456 | 483 | 517 | 549 | 575 | 589 | 598 | 601 | 605 | 603 | 600 | 599 | 600 | 623 | 703 | 683 | 644 | 612 | 579 | 530 | 491 | 486 | 393 | 458 | 566 | 14 | 19 | 734 | 22 | 42 | 362 | 372 | | |
| 20 | # | 518 | 545 | 561 | 572 | 579 | 587 | 595 | 599 | 598 | 601 | 598 | 597 | 597 | 597 | 597 | 600 | 604 | 609 | 601 | 595 | 575 | 513 | 479 | 490 | 575 | 17 | 19 | 615 | 22 | 51 | 464 | 151 | | |
| 21 | | 513 | 524 | 536 | 556 | 566 | 572 | 585 | 589 | 593 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | | 606 | 607 | 592 | 578 | 566 | 584 | 610 | 622 | 626 | 625 | 626 | 625 | 612 | 607 | 608 | 606 | 606 | 614 | 610 | 588 | 568 | 529 | 522 | 563 | 596 | 07 | 53 | 645 | 22 | 12 | 507 | 138 | | |
| 23 | * | 581 | 583 | 588 | 588 | 591 | 593 | 596 | 599 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | # | 551 | 573 | 586 | 596 | 598 | 603 | 604 | 604 | 601 | 598 | 596 | 596 | 598 | 597 | 598 | 598 | 604 | 608 | 604 | 601 | 597 | 595 | 595 | 595 | 596 | 16 | 54 | 611 | 00 | 00 | 526 | 085 | | |
| 26 | # | 595 | 595 | 598 | 598 | 599 | 598 | 597 | 595 | 594 | 592 | 591 | 589 | 589 | 588 | 588 | 589 | 592 | 601 | 626 | 625 | 583 | 557 | 569 | 583 | 593 | 18 | 59 | 658 | 21 | 25 | 554 | 104 | | |
| 27 | # | 590 | 591 | 595 | 598 | 599 | 600 | 600 | 601 | 601 | 598 | 595 | 592 | 590 | 589 | 588 | 589 | 590 | 592 | 595 | 594 | 592 | 586 | 579 | 572 | 592 | 07 | 11 | 602 | 23 | 33 | 570 | 032 | | |
| 28 | | 570 | 576 | 576 | 567 | 554 | 560 | 585 | 605 | 611 | 612 | 609 | 619 | 632 | 638 | 718 | 731 | 718 | 660 | 652 | 606 | 546 | 542 | 511 | 401 | 600 | 16 | 24 | 757 | 23 | 36 | 342 | 415 | | |
| 29 | # | 370 | 488 | 552 | 570 | 559 | 584 | 593 | 619 | 636 | 622 | 616 | 625 | 654 | 633 | 622 | 677 | 647 | 536 | 607 | 595 | 545 | 523 | 564 | 439 | 578 | 17 | 00 | 713 | 00 | 18 | 258 | 455 | | |
| 30 | # | 474 | 367 | 466 | 518 | 558 | 592 | 607 | 617 | 632 | 643 | 661 | 646 | 664 | 632 | 625 | 620 | 635 | 594 | 595 | 487 | 514 | 477 | 286 | 411 | 555 | 16 | 15 | 730 | 22 | 45 | 203 | 527 | | |
| Mean | | 506 | 521 | 541 | 554 | 567 | 582 | 596 | 607 | 615 | 619 | 622 | 618 | 620 | 624 | 635 | 634 | 632 | 615 | 601 | 574 | 532 | 521 | 497 | 501 | 581 | DESIGNATIONS | | | 269 | | | | | |
| Mean * | | Insufficient data | | | | | | | | | | | | | | | | | | | | | | | | * Ten least disturbed days | | | | | | | | | |
| Mean / c | | 564 | 576 | 585 | 591 | 594 | 597 | 599 | 600 | 598 | 597 | 595 | 594 | 594 | 593 | 593 | 594 | 598 | 602 | 606 | 604 | 587 | 563 | 556 | 560 | 589 | / Five international quiet days | | | | | | | | |
| Mean ≠ c | | 460 | 455 | 486 | 512 | 534 | 564 | 588 | 613 | 628 | 640 | 651 | 638 | 647 | 634 | 653 | 658 | 636 | 604 | 618 | 567 | 492 | 491 | 408 | 471 | 569 | ≠ Five international disturbed days | | | | | | | | |
| c Means of 4 values | | | | | | | | | | | | | | | | | | | | | | | | | | () Approximate | | | | | | | | | |

TABLE 35

HOURLY VALUES OF VERTICAL INTENSITY

JUNE 1952

46800 plus tabular quantities expressed in gammas

G.M.T. used

| Day | Mean | | | | | | | | | | | | | | | | | | | | | | | | Maximum | Minimum | | Range | | | | | | |
|----------|------|---------------------|-----|-----|------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|---------|---------|-------------------------------------|-------|-----|-----|-----|-----|-----|-----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | 24 | h | | m | h | m | | | |
| 1 | | 280 | 292 | 299 | 300 | 304 | 304 | 308 | 306 | 310 | 315 | 317 | 314 | 314 | 313 | 312 | 311 | 310 | 310 | 312 | 313 | 316 | 299 | 296 | 295 | 306 | 20 | 26 | 321 | 00 | 02 | 272 | 049 | |
| 2 | * | 293 | 292 | 293 | 291 | 296 | 300 | 299 | 307 | 308 | 310 | 311 | 311 | 310 | 311 | 313 | 311 | 311 | 313 | 317 | 322 | 279 | 288 | 297 | 300 | 303 | 19 | 09 | 357 | 20 | 29 | 273 | 084 | |
| 3 | | 301 | 299 | 298 | 290 | 285 | 285 | 286 | 291 | 295 | 299 | 300 | 301 | 301 | 301 | 301 | 304 | 309 | 320 | 321 | 262 | 277 | 261 | 251 | 235 | 291 | 18 | 22 | 337 | 23 | 20 | 229 | 108 | |
| 4 | * | 228 | 235 | 260 | 278 | 288 | 292 | 293 | 292 | 295 | 296 | 299 | 301 | 302 | 303 | 304 | 304 | 306 | 305 | 307 | 303 | 293 | 286 | 283 | 280 | 289 | 19 | 14 | 316 | 00 | 44 | 204 | 112 | |
| 5 | | 279 | 282 | 277 | 268 | 277 | 283 | 286 | 292 | 298 | 301 | 304 | 308 | 311 | 319 | 323 | 357 | 336 | 325 | 320 | 313 | 301 | 290 | 282 | 263 | 300 | 15 | 46 | 385 | 23 | 28 | 258 | 127 | |
| 6 | * / | 273 | 271 | 289 | 299 | 304 | 304 | 300 | 301 | 301 | 300 | 303 | 304 | 303 | 304 | 305 | 307 | 307 | 308 | 308 | 307 | 307 | 301 | 299 | 298 | 300 | 20 | 38 | 312 | 00 | 00 | 266 | 046 | |
| 7 | * / | 300 | 301 | 302 | 304 | 308 | 308 | 305 | 306 | 306 | 307 | 304 | 304 | 304 | 304 | 307 | 308 | 311 | 315 | 326 | 320 | 290 | 280 | 283 | 288 | 304 | 18 | 49 | 331 | 21 | 21 | 277 | 054 | |
| 8 | | 292 | 295 | 292 | 284 | 292 | 295 | 295 | 291 | 294 | 292 | 295 | 314 | 312 | 315 | 318 | 323 | 323 | 324 | 327 | 341 | 325 | 267 | 293 | 310 | 305 | 20 | 00 | 379 | 21 | 45 | 241 | 138 | |
| 9 | # | 305 | 295 | 291 | 292 | 292 | 294 | 295 | 298 | 303 | 302 | 305 | 307 | 315 | 328 | 289 | 338 | 321 | 318 | 319 | 323 | 306 | 281 | 296 | 258 | 305 | 14 | 13 | 426 | 23 | 01 | 245 | 181 | |
| 10 | | 270 | 268 | 282 | 295 | 302 | 305 | 309 | 309 | 308 | 307 | 306 | 304 | 300 | 304 | 322 | 330 | 325 | 320 | 317 | 304 | 267 | 242 | 220 | 220 | 293 | 15 | 08 | 335 | 23 | 04 | 195 | 140 | |
| 11 | | 264 | 282 | 292 | 300 | 306 | 311 | 310 | 315 | 313 | 310 | 308 | 307 | 304 | 304 | 308 | 319 | 317 | 320 | 321 | 321 | 313 | 261 | 237 | 261 | 300 | 18 | 07 | 326 | 24 | 47 | 223 | 103 | |
| 12 | * | 261 | 272 | 277 | 295 | 301 | 301 | 300 | 305 | 309 | 309 | 309 | 306 | 305 | 305 | 305 | 310 | 311 | 311 | 311 | 312 | 312 | 310 | 307 | 305 | 302 | 19 | 15 | 313 | 00 | 38 | 260 | 053 | |
| 13 | * / | 304 | 303 | 304 | 303 | 303 | 302 | 302 | 304 | 304 | 308 | 307 | 305 | 303 | 301 | 301 | 301 | 301 | 303 | 304 | 304 | 304 | 301 | 299 | 291 | 303 | 09 | 18 | 309 | 23 | 56 | 289 | 020 | |
| 14 | # | 291 | 293 | 295 | 297 | 297 | 299 | 295 | 298 | 304 | 305 | 306 | 313 | 366 | 376 | 338 | 329 | 346 | 379 | 318 | 280 | 310 | 302 | 264 | 280 | 312 | 18 | 06 | 424 | 18 | 57 | 181 | 243 | |
| 15 | | 282 | 287 | 294 | 279 | 274 | 289 | 292 | 297 | 299 | 304 | 311 | 316 | 322 | 337 | 323 | 316 | 316 | 317 | 323 | 319 | 321 | 313 | 283 | 283 | 304 | 13 | 08 | 340 | 04 | 06 | 260 | 080 | |
| 16 | | 277 | 298 | 297 | 305 | 311 | 303 | 314 | 307 | 313 | 317 | 317 | 321 | 329 | 320 | 318 | 355 | 332 | 329 | 328 | 323 | 318 | 310 | 305 | 305 | 315 | 15 | 28 | 377 | 00 | 21 | 270 | 107 | |
| 17 | | 302 | 304 | 308 | 300 | 295 | 302 | 301 | 307 | 305 | 310 | 319 | 319 | 316 | 321 | 317 | 327 | 336 | 321 | 325 | 326 | 317 | 309 | 308 | 303 | 312 | 16 | 12 | 345 | 04 | 29 | 291 | 054 | |
| 18 | | 273 | 253 | 254 | 272 | 278 | 289 | 297 | 299 | 298 | 298 | 301 | 301 | 305 | 306 | 309 | 314 | 319 | 325 | 323 | 314 | 310 | 308 | 308 | 289 | 292 | 297 | 17 | 28 | 329 | 01 | 52 | 240 | 089 |
| 19 | * | 300 | 303 | 304 | 306 | 303 | 299 | 299 | 298 | 298 | 301 | 301 | 301 | 302 | 305 | 306 | 308 | 309 | 309 | 312 | 307 | 299 | 301 | 304 | 306 | 303 | 18 | 27 | 314 | 20 | 21 | 291 | 023 | |
| 20 | * / | 306 | 306 | 307 | 308 | 307 | 307 | 304 | 303 | 306 | 304 | 302 | 301 | 302 | 303 | 304 | 307 | 309 | 313 | 314 | 316 | 311 | 307 | 307 | 306 | 307 | 19 | 51 | 318 | 10 | 28 | 301 | 017 | |
| 21 | * / | 304 | 302 | 303 | 305 | 307 | 307 | 307 | 305 | 304 | 303 | 302 | 302 | 302 | 303 | 305 | 308 | 311 | 313 | 312 | 310 | 306 | 301 | 315 | 273 | 305 | 17 | 51 | 314 | 23 | 33 | 271 | 043 | |
| 22 | * | 280 | 289 | 295 | 301 | 303 | 304 | 302 | 298 | 297 | 299 | 299 | 301 | 303 | 307 | 336 | 350 | 354 | 357 | 327 | 289 | 323 | 275 | 213 | 238 | 302 | 17 | 34 | 391 | 22 | 02 | 202 | 189 | |
| 23 | # | 183 | 214 | 226 | 244 | 276 | 292 | 298 | 303 | 308 | 319 | 323 | 356 | 359 | 407 | 352 | 378 | 345 | 335 | 325 | 318 | 298 | 237 | 195 | 137 | 293 | 13 | 22 | 438 | 23 | 30 | 104 | 334 | |
| 24 | # | 177 | 184 | 067 | 108 | 208 | 249 | 278 | 290 | 299 | 311 | 314 | 318 | 348 | 400 | 390 | 364 | 348 | 340 | 335 | 305 | 275 | 279 | 282 | 273 | 281 | 14 | 08 | 423 | 02 | 34 | 046 | 377 | |
| 25 | | 281 | 295 | 304 | 308 | 311 | 313 | 315 | 318 | 323 | 321 | 320 | 320 | 316 | 338 | 386 | 354 | 353 | 380 | 371 | 352 | 332 | 306 | 281 | 299 | 325 | 14 | 20 | 410 | 22 | 21 | 273 | 137 | |
| 26 | | 292 | 272 | 280 | 279 | 286 | 296 | 298 | 304 | 312 | 314 | 319 | 327 | 332 | 321 | 358 | 334 | 320 | 317 | 317 | 314 | 306 | 301 | 299 | 301 | 308 | 14 | 56 | 413 | 01 | 38 | 265 | 148 | |
| 27 | | 303 | 302 | 298 | 300 | 295 | 295 | 298 | 308 | 311 | 313 | 316 | 317 | 316 | 319 | 323 | 333 | 336 | 327 | 317 | 314 | 295 | 263 | 233 | 213 | 302 | 15 | 09 | 345 | 22 | 56 | 202 | 143 | |
| 28 | * | 240 | 267 | 272 | 289 | 295 | 300 | 306 | 308 | 308 | 309 | 308 | 314 | 313 | 310 | 310 | 310 | 312 | 311 | 313 | 313 | 310 | 305 | 306 | 306 | 301 | 11 | 57 | 316 | 00 | 00 | 224 | 092 | |
| 29 | | 305 | 304 | 303 | 302 | 301 | 302 | 305 | 305 | 309 | 310 | 310 | 310 | 310 | 309 | 308 | 310 | 309 | 308 | 310 | 305 | 291 | 219 | 136(186) | 290 | 290 | 19 | 12 | 313 | 23 | 50 | 084 | 229 | |
| 30 | # | (127 | 129 | 098 | 223) | (404) | 342 | 348 | 305 | 266 | 326 | 383 | 363 | 361 | 351 | 345 | 338 | 330 | 319 | 309 | 303 | 298 | 301 | 308 | 308 | 05 | 20 | 519 | 00 | 30 | 040 | 479 | | |
| Mean | | 272 | 276 | 275 | 284 | 293 | 301 | 301 | 304 | 305 | 305 | 309 | 314 | 316 | 322 | 325 | 326 | 323 | 323 | 320 | 312 | 304 | 287 | 274 | 274 | 302 | DESIGNATIONS | | | 133 | | | | |
| Mean * | | 281 | 285 | 291 | 298 | 301 | 302 | 302 | 303 | 304 | 305 | 305 | 305 | 305 | 305 | 306 | 307 | 309 | 310 | 312 | 311 | 301 | 298 | 300 | 295 | 302 | * Ten least disturbed days | | | 54 | | | | |
| Mean / | | 297 | 297 | 301 | 304 | 306 | 306 | 304 | 304 | 304 | 304 | 304 | 303 | 303 | 303 | 304 | 306 | 308 | 310 | 313 | 311 | 304 | 298 | 301 | 291 | 304 | / Five international quiet days | | | | | | | |
| Mean # c | | 217 | 223 | 195 | 233 | 268 | 308 | 302 | 307 | 304 | 301 | 315 | 335 | 350 | 374 | 364 | 351 | 340 | 340 | 323 | 307 | 298 | 279 | 260 | 251 | 298 | # Five international disturbed days | | | | | | | |
| | | c Means of 4 values | | | | | | | | | | | | | | | | | | | | | | | | 298 | () Approximate | | | | | | | |

TABLE 36

HOURLY VALUES OF VERTICAL INTENSITY

JULY 1952

46900 plus tabular quantities expressed in gammas

G.M.T. used

| Day | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Mean | Maximum | Minimum | Range | | | | | |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-----|------|---------|---------------|-----------|----|--------------|-----------|------|--|
| | | | | | | | | | | | | | | | | | | | | | | | | | h | m | h | m | | | | | | |
| 1 | 214 | 215 | 214 | 213 | 211 | 211 | 213 | 216 | 218 | 217 | 218 | 218 | 216 | 215 | 215 | 215 | 214 | 214 | 213 | 214 | 209 | 163 | 108 | 71 | 206 | 10 | 35 | 220 | 22 | 02 | 078 | 142 | | |
| 2 * | 182 | 196 | 202 | 204 | 204 | 200 | 201 | 204 | 205 | 208 | 209 | 208 | 212 | 212 | 213 | 214 | 213 | 212 | 211 | 210 | 210 | 211 | 212 | 212 | 207 | 14 | 54 | 215 | 00 | 09 | 174 | 041 | | |
| 3 | 212 | 212 | 211 | 209 | 210 | 212 | 213 | 215 | 215 | 215 | 215 | 212 | 211 | 209 | 212 | 237 | 280 | 295 | 261 | 247 | 236 | 220 | 215 | 215 | 225 | 17 | 17 | 332 | 15 | 14 | 206 | 126 | | |
| 4 | 218 | 216 | 215 | 215 | 214 | 209 | 208 | 207 | 206 | 208 | 208 | 209 | 213 | 219 | 224 | 237 | 246 | 239 | 227 | 222 | 224 | 220 | 215 | 211 | 218 | 15 | 59 | 252 | 07 | 10 | 203 | 049 | | |
| 5 | 209 | 202 | 207 | 211 | 209 | 203 | 193 | 199 | 218 | 221 | 208 | 236 | 247 | 318 | 313 | 303 | 292 | 226 | 148 | 126 | (189) | 125 | 114 | 156 | 211 | 13 | 48 | 365 | 19 | 11 | 003 | 362 | | |
| 6 | 183 | 199 | 210 | 211 | 214 | 221 | 220 | 231 | 224 | 224 | 227 | 224 | 228 | 222 | 227 | 228 | 225 | 223 | 221 | 219 | 216 | 211 | 214 | 212 | 218 | 08 | 07 | 261 | 00 | 13 | 173 | 088 | | |
| 7 * | 215 | 215 | 218 | 221 | 221 | 220 | 219 | 215 | 218 | 218 | 215 | 213 | 211 | 212 | 213 | 215 | 221 | 244 | 234 | 232 | 218 | 214 | 214 | 214 | 219 | 17 | 33 | 259 | 12 | 33 | 209 | 050 | | |
| 8 | 214 | 214 | 215 | 217 | 216 | 213 | 211 | 211 | 211 | 211 | 209 | 206 | 206 | 218 | 218 | 215 | 215 | 215 | 231 | 229 | 221 | 215 | 209 | 196 | 220 | 15 | 31 | 268 | 24 | 00 | 183 | 085 | | |
| 9 | 182 | 185 | 192 | 194 | 196 | 202 | 199 | 193 | 196 | 210 | 236 | 224 | 219 | 218 | 221 | 270 | 270 | 236 | 229 | 227 | 219 | 203 | 199 | 192 | 213 | 16 | 00 | 298 | 00 | 11 | 177 | 121 | | |
| 10 | 192 | 197 | 204 | 206 | 203 | 199 | 205 | 208 | 213 | 214 | 214 | 220 | 218 | 217 | 215 | 235 | 269 | 266 | 266 | 249 | 221 | 206 | 182 | 157 | 216 | 16 | 29 | 289 | 23 | 27 | 152 | 137 | | |
| 11 | 140 | 139 | 160 | 185 | 184 | 191 | 198 | 202 | 210 | 210 | 211 | 211 | 212 | 212 | 217 | 220 | 224 | 226 | 223 | 221 | 218 | 215 | 214 | 211 | 202 | 17 | 01 | 230 | 00 | 40 | 131 | 099 | | |
| 12 * | 208 | 199 | 186 | 184 | 189 | 193 | 199 | 204 | 208 | 211 | 213 | 211 | 211 | 211 | 211 | 212 | 212 | 212 | 212 | 213 | 214 | 212 | 203 | 202 | 205 | 21 | 14 | 219 | 02 | 54 | 182 | 037 | | |
| 13 | 204 | 205 | 205 | 205 | 205 | 205 | 208 | 206 | 208 | 208 | 208 | 208 | 206 | 208 | 214 | 244 | 232 | 235 | 224 | 214 | 211 | 208 | 209 | 209 | 212 | 15 | 35 | 262 | 18 | 55 | 201 | 061 | | |
| 14 | 206 | 199 | 186 | 182 | 186 | 193 | 199 | 202 | 205 | 205 | 209 | 216 | 229 | 233 | 228 | 227 | 259 | 243 | 230 | 227 | 222 | 214 | 199 | 174 | 211 | 16 | 13 | 284 | 24 | 00 | 161 | 123 | | |
| 15 | 158 | 174 | 189 | 195 | 193 | 197 | 198 | 197 | 199 | 203 | 206 | 211 | 214 | 213 | 215 | 215 | 214 | 215 | 218 | 215 | 212 | 212 | 197 | 153 | 201 | 18 | 20 | 219 | 23 | 50 | 138 | 081 | | |
| 16 * | 158 | 185 | 194 | 201 | 205 | 204 | 202 | 204 | 205 | 207 | 211 | 217 | 217 | 221 | 218 | 223 | 222 | 224 | 228 | 224 | 221 | 215 | 211 | 212 | 210 | 18 | 57 | 240 | 00 | 11 | 143 | 097 | | |
| 17 * | 212 | 212 | 212 | 212 | 209 | 204 | 202 | 205 | 206 | (210) | 212 | 214 | 213 | 213 | 217 | 223 | 229 | 240 | 249 | 235 | 228 | 220 | 215 | 211 | 217 | 18 | 18 | 257 | 06 | 14 | 202 | 055 | | |
| 18 * | 208 | 208 | 210 | 210 | 200 | 201 | 203 | 208 | 208 | 210 | 213 | 218 | 222 | 223 | 227 | 237 | 240 | 228 | 220 | 216 | 213 | 207 | 197 | 189 | 213 | 16 | 04 | 243 | 23 | 38 | 188 | 055 | | |
| 19 * | 195 | 202 | 207 | 208 | 209 | 211 | 209 | 213 | 213 | 211 | 208 | 209 | 208 | 209 | 210 | 212 | 242 | 214 | 214 | 208 | 206 | 206 | 205 | 199 | 208 | 18 | 17 | 226 | 00 | 00 | 189 | 037 | | |
| 20 | 186 | 187 | 192 | 196 | 196 | 199 | 203 | 203 | 202 | (201) | 195 | 214 | 234 | 239 | 269 | 329 | 279 | 287 | 234 | 182 | 115 | 066 | 036 | 017 | 194 | 15 | 20 | 370 | 23 | 59 | 007 | 363 | | |
| 21 | 016 | 097 | 117 | 158 | 156 | 191 | 208 | 238 | 234 | 225 | 224 | 237 | 241 | 292 | 250 | 309 | 247 | 240 | 228 | 202 | 178 | 134 | 094 | 035 | 192 | 15 | 19 | 398 | 00 | 34 | 002 | 396 | | |
| 22 | 094 | 111 | 149 | 168 | 183 | 193 | 202 | 208 | 210 | 214 | 218 | 222 | 218 | 215 | 215 | 218 | 218 | 221 | 223 | 218 | 189 | 165 | 155 | 158 | 191 | 19 | 18 | 232 | 00 | 03 | 077 | 155 | | |
| 23 | 184 | 197 | 202 | 207 | 204 | 208 | 208 | 211 | 213 | 214 | 215 | 213 | 212 | 211 | 214 | 221 | 224 | 230 | 225 | 218 | 212 | 168 | 153 | 172 | 206 | 17 | 49 | 236 | 21 | 57 | 139 | 097 | | |
| 24 | 177 | 171 | 183 | 198 | 202 | 204 | 205 | 209 | 212 | 212 | 212 | 210 | 209 | 211 | 212 | 216 | 231 | 230 | 218 | 213 | 199 | 158 | 140 | 155 | 199 | 16 | 58 | 266 | 22 | 56 | 136 | 130 | | |
| 25 | 183 | 198 | 205 | 208 | 210 | 210 | 211 | 215 | 214 | 214 | 216 | 212 | 213 | 218 | 220 | 230 | 243 | 214 | 215 | 197 | 154 | 134 | 139 | 134 | 199 | 15 | 20 | 241 | 23 | 53 | 111 | 130 | | |
| 26 | 116 | 145 | 148 | 150 | 171 | 189 | 204 | 214 | 217 | 218 | 222 | 222 | 224 | 227 | 230 | 225 | 227 | 230 | 224 | 218 | 212 | 205 | 204 | 205 | 202 | 17 | 36 | 245 | 00 | 09 | 110 | 135 | | |
| 27 | 205 | 203 | 203 | 210 | 212 | 212 | 215 | 215 | 214 | 213 | 212 | 212 | 211 | 211 | 211 | 212 | 215 | 223 | 223 | 221 | 199 | 148 | 074 | 127 | 200 | 18 | 00 | 228 | 22 | 27 | 015 | 213 | | |
| 28 * | 165 | 179 | 188 | 195 | 197 | 198 | 199 | 200 | 206 | 208 | 210 | 210 | 209 | 208 | 208 | 209 | 240 | 211 | 211 | 212 | 213 | 211 | 211 | 212 | 203 | 20 | 31 | 214 | 00 | 02 | 152 | 062 | | |
| 29 * | 212 | 212 | 213 | 214 | 214 | 214 | 215 | 220 | 219 | 218 | 219 | 218 | 217 | 216 | 217 | 217 | 248 | 218 | 218 | 220 | 217 | 214 | 211 | 211 | 216 | 08 | 03 | 221 | 22 | 00 | 208 | 013 | | |
| 30 * | 210 | 209 | 209 | 209 | 209 | 212 | 213 | 214 | 213 | 213 | 214 | 214 | 215 | 214 | 215 | 215 | 216 | 217 | 220 | 220 | 214 | 211 | 209 | 209 | 213 | 19 | 16 | 226 | 22 | 59 | 207 | 019 | | |
| 31 | 210 | 208 | 207 | 205 | 204 | 202 | 201 | 203 | 205 | 205 | 212 | 218 | 245 | 233 | 243 | 242 | 256 | 292 | 287 | 284 | 246 | 205 | 215 | 25 | 227 | 17 | 20 | 302 | 21 | 13 | 186 | 116 | | |
| Mean | 183 | 190 | 195 | 201 | 200 | 204 | 206 | 209 | 211 | 212 | 214 | 216 | 218 | 223 | 225 | 235 | 235 | 234 | 225 | 218 | 208 | 191 | 180 | 182 | 209 | | | | | | DESIGNATIONS | 419 | | |
| Mean * | 196 | 202 | 204 | 206 | 206 | 206 | 206 | 209 | 210 | 211 | 212 | 213 | 214 | 214 | 215 | 218 | 219 | 222 | 222 | 219 | 215 | 212 | 209 | 207 | 211 | * | Ten | least | disturbed | | | 47 | | |
| Mean / | 193 | 200 | 204 | 206 | 207 | 207 | 207 | 210 | 211 | 212 | 212 | 212 | 212 | 212 | 213 | 213 | 214 | 214 | 215 | 214 | 212 | 211 | 210 | 209 | 210 | / | Five | international | | | | quiet | days | |
| Mean ≠ | 155 | 174 | 184 | 194 | 194 | 203 | 205 | 213 | 215 | 216 | 218 | 227 | 234 | 258 | 256 | 288 | 263 | 242 | 212 | 191 | 183 | 148 | 131 | 134 | 206 | ≠ | Five | international | | | | disturbed | days | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | () | Approximate | | | | | | |

TABLE 39

HOURLY VALUES OF VERTICAL INTENSITY

OCTOBER 1952

46700 plus tabular quantities expressed in gammas

G.M.T. used

| Day | Hour | | | | | | | | | | | | | | | | | | | | | | | | Mean | Maximum | | Minimum | | Range | | | | |
|--------|------|-------|-----|-----|-----|-----|-----|------|----------|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|----------|-----|-----|-----|------|---------|-------------------------------------|----------------|-----|-------|-----|-----|-----|--|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | 24 | h | m | h | | m | | | |
| 1 | | 384 | 394 | 416 | 421 | 424 | 427 | 429 | 432 | 434 | 438 | 436 | 433 | 431 | 433 | 435 | 444 | 448 | 440 | 431 | 424 | 415 | 409 | 410 | 400 | 424 | 16 | 37 | 461 | 00 | 24 | 378 | 083 | |
| 2 | | 413 | 425 | 425 | 427 | 427 | 430 | 434 | 437(435) | 434 | 428 | 432 | 436 | 446 | 463 | 453 | 444 | 447 | 447 | 391 | 357 | 357 | 390 | 414 | 425 | 14 | 13 | 477 | 19 | 34 | 337 | 140 | | |
| 3 | | 425 | 418 | 403 | 403 | 412 | 419 | 427 | 432 | 434 | 433 | 428 | 425 | 432 | 436 | 469 | 518 | 536 | 448 | 464 | 377(179) | 295 | 314 | 213 | 406 | 16 | 51 | 550 | 21 | 00 | 037 | 513 | | |
| 4 | ≠ | (295) | 277 | 324 | 388 | 409 | 412 | 413 | 444 | 454 | 454 | 437 | 426 | 428 | 437 | 467 | 492 | 495 | 483 | 374 | 301 | 333 | 305 | 264 | 201 | 388 | 15 | 57 | 523 | 23 | 49 | 117 | 406 | |
| 5 | ≠ | 226 | 328 | 381 | 409 | 411 | 419 | 438 | 445 | 450 | 479 | 485 | 489 | 500 | 482 | 486 | 476 | 477 | 442 | 470 | 355 | 343 | 355 | 362 | 384 | 420 | 16 | 06 | 564 | 00 | 00 | 142 | 422 | |
| 6 | ≠ | 370 | 371 | 384 | 399 | 413 | 425 | 432 | 441 | 444 | 460 | 451 | 443 | 447 | 469 | 482 | 487 | 451 | 447 | 412 | 428 | 421 | 409 | 413 | 422 | 430 | 15 | 52 | 547 | 00 | 41 | 356 | 191 | |
| 7 | | 426 | 431 | 431 | 428 | 426 | 425 | 429 | 432 | 432 | 432 | 438 | 441 | 445 | 455 | 463 | 461 | 454 | 466 | 464 | 451 | 429 | 378 | 381 | 400 | 434 | 14 | 55 | 492 | 21 | 37 | 368 | 124 | |
| 8 | | 416 | 417 | 400 | 400 | 409 | 419 | 422 | 428 | 428 | 431 | 435 | 435 | 437 | 476 | 454 | 457 | 487 | 496 | 455 | 394 | 381 | 381 | 374 | 403 | 426 | 17 | 28 | 507 | 20 | 00 | 353 | 154 | |
| 9 | | 415 | 375 | 375 | 393 | 404 | 414 | 426 | 429 | 432 | 432 | 436 | 439 | 447 | 450 | 444 | 441 | 440 | 442 | 446 | 439 | 407 | 380 | 371 | 360 | 418 | 13 | 19 | 453 | 23 | 36 | 347 | 106 | |
| 10 | | 385 | 405 | 416 | 421 | 424 | 428 | 432 | 433 | 428 | 428 | 429 | 428 | 429 | 428 | 429 | 430 | 434 | 457 | 445 | 393 | 299 | 251 | 324 | 373 | 406 | 17 | 10 | 475 | 21 | 10 | 166 | 309 | |
| 11 | | 394 | 407 | 413 | 417 | 420 | 418 | 421 | 420 | 422 | 429 | 431 | 432 | 436 | 442 | 439 | 435 | 441 | 463 | 400 | 352 | 383 | 399 | 407 | 331 | 415 | 17 | 52 | 516 | 23 | 27 | 290 | 226 | |
| 12 | | 284 | 345 | 370 | 365 | 365 | 378 | 409 | 432 | 432 | 428 | 428 | 431 | 430 | 443 | 435 | 434 | 441 | 444 | 445 | 422 | 385 | 379 | 396 | 400 | 405 | 18 | 20 | 453 | 00 | 20 | 260 | 193 | |
| 13 | * | 360 | 386 | 406 | 414 | 418 | 419 | 422 | 425 | 422 | 419 | 420 | 422 | 425 | 425 | 425 | 433 | 438 | 429 | 425 | 423 | 422 | 422 | 421 | 410 | 418 | 16 | 05 | 441 | 00 | 30 | 355 | 086 | |
| 14 | * | 412 | 424 | 423 | 422 | 422 | 431 | 432 | 428 | 427 | 431 | 429 | 429 | 428 | 428 | 428 | 428 | 445 | 439 | 431 | 424 | 419 | 419 | 421 | 424 | 427 | 16 | 50 | 455 | 00 | 00 | 401 | 054 | |
| 15 | * | 424 | 426 | 428 | 428 | 428 | 432 | 433 | 432 | 433 | 430 | 428 | 427 | 427 | 429 | 430 | 431 | 435 | 433 | 409 | 406 | 407 | 413 | 417 | 422 | 425 | 16 | 45 | 439 | 18 | 46 | 396 | 043 | |
| 16 | * | 426 | 430 | 429 | 428 | 428 | 435 | 436 | 433 | 423 | 421 | 422 | 429 | 426 | 435 | 434 | 439 | 439 | 439 | 436 | 432 | 428 | 422 | 399 | 384 | 427 | 15 | 29 | 442 | 23 | 11 | 377 | 065 | |
| 17 | | 406 | 419 | 397 | 383 | 388 | 400 | 415 | 419 | 422 | 431 | 433 | 438 | 439 | 438 | 438 | 440 | 450 | 478 | 445 | 422 | 428 | 395 | 387 | 395 | 421 | 17 | 08 | 493 | 02 | 59 | 379 | 114 | |
| 18 | | 407 | 416 | 423 | 426 | 421 | 427 | 426 | 422 | 425 | 442 | 439 | 431 | 432 | 441 | 440 | 460 | 495 | 496 | 456 | 408 | 387 | 388 | 399 | 406 | 417 | 17 | 11 | 508 | 21 | 14 | 372 | 136 | |
| 19 | * | 418 | 428 | 430 | 429 | 431 | 432 | (433 | 434) | 433 | 448 | 450 | 439 | 435 | 440 | 441 | 441 | 440 | 438 | 432 | 428 | 425 | 419 | 414 | 413 | 432 | 09 | 45 | 457 | 23 | 02 | 412 | 045 | |
| 20 | * | 415 | 416 | 414 | 416 | 417 | 421 | 421 | 423 | 422 | 420 | 419 | 422 | 427 | 434 | 444 | 483 | 502 | 506 | 470 | 449 | 438 | 421 | 421 | 425 | 435 | 17 | 10 | 514 | 00 | 03 | 412 | 102 | |
| 21 | | 427 | 428 | 430 | 431 | 429 | 429 | 433 | 434 | 432 | 427 | 415 | 426 | 445 | 460 | 490 | 553 | 527 | 472 | 421 | 408 | 301 | 359 | 395 | 406 | 432 | 15 | 26 | 579 | 20 | 21 | 220 | 359 | |
| 22 | * | 416 | 422 | 425 | 427 | 429 | 431 | 431 | 427 | 425 | 425 | 425 | 427 | 428 | 428 | 426 | 428 | 432 | 429 | 432 | 442 | 439 | 435 | 432 | 426 | 420 | 14 | 05 | 435 | 00 | 04 | 412 | 023 | |
| 23 | * | 425 | 425 | 425 | 425 | 427 | 428 | 429 | 432 | 431 | 429 | 428 | 426 | 428 | 432 | 429 | 432 | 442 | 439 | 435 | 432 | 426 | 420 | 419 | 417 | 428 | 16 | 25 | 445 | 23 | 30 | 416 | 029 | |
| 24 | * | 424 | 427 | 427 | 426 | 424 | 425 | 425 | 427 | 429 | 428 | 428 | 426 | 426 | 428 | 427 | 427 | 428 | 430 | 432 | 432 | 431 | 428 | 424 | 425 | 427 | 18 | 11 | 435 | 00 | 00 | 421 | 014 | |
| 25 | | 428 | 428 | 427 | 426 | 427 | 425 | 425 | 424 | 422 | 420 | 418 | 431 | 428 | 429 | 436 | 438 | 444 | 459 | 415 | 436 | 404 | 378 | 333 | 327 | 418 | 17 | 26 | 501 | 22 | 55 | 308 | 193 | |
| 26 | ≠ | 315 | 273 | 283 | 309 | 371 | 398 | 409 | 416 | 421 | 425 | 425 | 439 | 488 | 438 | 457 | (418 | 401) | 479 | 498 | 473 | 363 | 352 | 340 | 341 | 397 | 14 | 30 | 544 | 16 | 05 | 208 | 336 | |
| 27 | * | 348 | 350 | 362 | 387 | 402 | 412 | 419 | 423 | 431 | 429 | 436 | 438 | 438 | 435 | 435 | 433 | 432 | 434 | 438 | 420 | 418 | 422 | 423 | 414 | 416 | 18 | 35 | 447 | 00 | 18 | 337 | 110 | |
| 28 | | 408 | 411 | 397 | 409 | 412 | 415 | 416 | 422 | 426 | 428 | 430 | 434 | 441 | 441 | 445 | 450 | 452 | 433 | 429 | 417 | 411 | 413 | 421 | 425 | 424 | 16 | 14 | 471 | 02 | 39 | 390 | 084 | |
| 29 | | 428 | 425 | 416 | 415 | 420 | 425 | 426 | 421 | 426 | 429 | 432 | 432 | 442 | 454 | 476 | 491 | 497 | 506 | 480 | 422 | 311 | 269 | 289 | 252 | 416 | 14 | 52 | 527 | 23 | 18 | 207 | 320 | |
| 30 | ≠ | 321 | 315 | 314 | 314 | 337 | 381 | 419 | 430 | 439 | 444 | 441 | 441 | 444 | 442 | 461 | 480 | 325 | 507 | 472 | 387 | 303 | 387 | 261 | 336 | 392 | 17 | 57 | 557 | 22 | 17 | 172 | 385 | |
| 31 | ≠ | 327 | 388 | 387 | 384 | 402 | 419 | 436 | 461 | 461 | 448 | 446 | 446 | 476 | 461 | 525 | 455 | 452 | 451 | 464 | 398 | 354 | 328 | 262 | 342 | 416 | 14 | 05 | 555 | 22 | 30 | 229 | 326 | |
| Mean | | 386 | 395 | 399 | 405 | 412 | 419 | 426 | 430 | 431 | 434 | 433 | 434 | 440 | 442 | 450 | 454 | 452 | 457 | 441 | 412 | 382 | 380 | 377 | 377 | 420 | DESIGNATIONS | | | 183 | | | | |
| Mean * | | 407 | 413 | 417 | 420 | 423 | 427 | 428 | 428 | 428 | 428 | 428 | 428 | 429 | 432 | 432 | 438 | 443 | 442 | 434 | 428 | 424 | 421 | 419 | 416 | 426 | * Ten least disturbed days | | | 57 | | | | |
| Mean / | | 421 | 423 | 424 | 424 | 425 | 427 | 428 | 428 | 428 | 426 | 426 | 426 | 428 | 431 | 432 | 440 | 447 | 448 | 435 | 420 | 426 | 422 | 422 | 423 | 429 | / Five international quiet days | | | | | | | |
| Mean ≠ | | 297 | 316 | 338 | 361 | 387 | 406 | 423 | 439 | 445 | 450 | 447 | 448 | 467 | 452 | 479 | 464 | 430 | 472 | 456 | 383 | 339 | 346 | 298 | 321 | 403 | ≠ Five international disturbed days | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | () Approximate | | | | | | |

TABLE 40

HOURLY VALUES OF VERTICAL INTENSITY

NOVEMBER 1952

46800 plus tabular quantities expressed in gammas

G.M.T. used

| Day | 0 | | | | 1 | | | | 2 | | | | 3 | | | | 4 | | | | 5 | | | | 6 | | | | 7 | | | | 8 | | | | 9 | | | | 10 | | | | 11 | | | | 12 | | | | 13 | | | | 14 | | | | 15 | | | | 16 | | | | 17 | | | | 18 | | | | 19 | | | | 20 | | | | 21 | | | | 22 | | | | 23 | | | | 24 | Mean | Maximum | Minimum | Range | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | 265 | 292 | 301 | 316 | 330 | 332 | 333 | 335 | 338 | 338 | 349 | 351 | 367 | 364 | 418 | 400 | 421 | 398 | 380 | 323 | 316 | 271 | 253 | 244 | 335 | 14 | 30 | 455 | 23 | 35 | 212 | 243 | 268 | 286 | 312 | 323 | 329 | 336 | 345 | 351 | 350 | 351 | 351 | 355 | 358 | 357 | 393 | 392 | 389 | 401 | 378 | 299 | 246 | 285 | 307 | 327 | 337 | 14 | 32 | 408 | 20 | 09 | 223 | 185 | 335 | 332 | 328 | 321 | 329 | 329 | 361 | 339 | 339 | 342 | 347 | 351 | 356 | 367 | 382 | 384 | 389 | 367 | 355 | 347 | 340 | 330 | 323 | 322 | 346 | 14 | 48 | 404 | 03 | 26 | 320 | 084 | 4 | 316 | 323 | 320 | 324 | 333 | 338 | 340 | 344 | 342 | 345 | 341 | 341 | 339 | 339 | 339 | 341 | 347 | 348 | 347 | 345 | 341 | 339 | 338 | 337 | 338 | 17 | 00 | 350 | 00 | 09 | 311 | 039 | 5 | 336 | 334 | 330 | 329 | 333 | 332 | 334 | 335 | 333 | 335 | 335 | 333 | 336 | 339 | 352 | 348 | 347 | 354 | 359 | 353 | 348 | 340 | 326 | 311 | 338 | 18 | 04 | 360 | 23 | 41 | 308 | 052 | 6 | 319 | 327 | 329 | 323 | 319 | 319 | 312 | 314 | 319 | 326 | 338 | 354 | 380 | 390 | 359 | 349 | 364 | 364 | 291 | 320 | 308 | 313 | 316 | 308 | 332 | 13 | 16 | 402 | 18 | 46 | 257 | 145 | 7 | 302 | 283 | 289 | 307 | 313 | 316 | 316 | 325 | 326 | 329 | 330 | 339 | 342 | 341 | 346 | 355 | 351 | 349 | 339 | 258 | 167 | 103 | 123 | 206 | 294 | 16 | 23 | 370 | 21 | 49 | 029 | 341 | 8 | 270 | 297 | 317 | 324 | 327 | 335 | 337 | 341 | 345 | 348 | 348 | 349 | 348 | 351 | 357 | 356 | 361 | 354 | 319 | 219 | 235 | 123 | 215 | 254 | 310 | 16 | 38 | 381 | 21 | 22 | 077 | 304 | 9 | 268 | 294 | 288 | 300 | 316 | 325 | 330 | 333 | 338 | 341 | 342 | 341 | 342 | 342 | 342 | 347 | 341 | 339 | 323 | 328 | 326 | 316 | 317 | 326 | 325 | 15 | 12 | 359 | 00 | 11 | 255 | 104 | 10 | 332 | 335 | 336 | 335 | 332 | 332 | 332 | 333 | 335 | 337 | 338 | 339 | 338 | 337 | 336 | 337 | 339 | 345 | 342 | 338 | 336 | 335 | 335 | 335 | 336 | 18 | 06 | 348 | 00 | 03 | 330 | 018 | 11 | 336 | 337 | 339 | 341 | 341 | 339 | 336 | 337 | 339 | 340 | 339 | 338 | 337 | 336 | 335 | 336 | 344 | 339 | 354 | 333 | 325 | 323 | 304 | 300 | 335 | 17 | 47 | 365 | 23 | 24 | 300 | 065 | 12 | 307 | 319 | 326 | 331 | 333 | 334 | 334 | 339 | 341 | 339 | 339 | 339 | 340 | 340 | 338 | 336 | 337 | 339 | 338 | 338 | 334 | 329 | 329 | 334 | 334 | 08 | 06 | 343 | 00 | 00 | 301 | 042 | 13 | 334 | 332 | 332 | 335 | 336 | 338 | 341 | 341 | 342 | 342 | 338 | 339 | 339 | 339 | 335 | 336 | 336 | 336 | 336 | 335 | 332 | 332 | 332 | 334 | 336 | 08 | 04 | 343 | 01 | 58 | 330 | 013 | 14 | 335 | 337 | 336 | 337 | 336 | 334 | 328 | 323 | 321 | 327 | 329 | 332 | 333 | 333 | 333 | 335 | 336 | 336 | 335 | 338 | 337 | 317 | 290 | 307 | 329 | 19 | 56 | 345 | 22 | 28 | 283 | 062 | 15 | 324 | 337 | 338 | 340 | 338 | 334 | 333 | 336 | 331 | 339 | 354 | 355 | 361 | 356 | 350 | 352 | 358 | 334 | 348 | 345 | 300 | 312 | 325 | 332 | 340 | 16 | 01 | 367 | 20 | 11 | 295 | 072 | 16 | 337 | 342 | 344 | 345 | 345 | 342 | 342 | 339 | 339 | 347 | 339 | 342 | 355 | 406 | 463 | 462 | 406 | 374 | 359 | 348 | 342 | 340 | 341 | 338 | 360 | 14 | 53 | 499 | 00 | 05 | 335 | 164 | 17 | 336 | 336 | 333 | 341 | 342 | 343 | 345 | 344 | 349 | 354 | 358 | 358 | 358 | 360 | 357 | 358 | 357 | 357 | 348 | 285 | 161 | 160 | 225 | 176 | 318 | 18 | 12 | 364 | 21 | 24 | 106 | 258 | 18 | 279 | 320 | 335 | 339 | 345 | 343 | 340 | 335 | 342 | 345 | 335 | 336 | 341 | 344 | 343 | 343 | 343 | 343 | 341 | 336 | 326 | 316 | 303 | 313 | 333 | 09 | 11 | 351 | 00 | 00 | 242 | 109 | 19 | 323 | 330 | 332 | 331 | 335 | 341 | 340 | 342 | 340 | 341 | 343 | 341 | 344 | 345 | 345 | 350 | 351 | 352 | 350 | 345 | 332 | 313 | 316 | 322 | 338 | 17 | 21 | 354 | 21 | 23 | 312 | 042 | 20 | 324 | 326 | 326 | 326 | 329 | 335 | 334 | 335 | 338 | 338 | 339 | 335 | 335 | 338 | 338 | 339 | 342 | 347 | 347 | 344 | 341 | 337 | 312 | 304 | 334 | 17 | 50 | 352 | 22 | 54 | 294 | 058 | 21 | 316 | 289 | 298 | 300 | 303 | 311 | 313 | 315 | 313 | 386 | 395 | 407 | 393 | 390 | 373 | 379 | 387 | 355 | 325 | 315 | 325 | 331 | 317 | 281 | 339 | 10 | 46 | 432 | 24 | 00 | 255 | 177 | 22 | 231 | 237 | 260 | 289 | 306 | 319 | 326 | 331 | 344 | 346 | 354 | 369 | 389 | 386 | 409 | 439 | 438 | 377 | 357 | 369 | 357 | 354 | 350 | 344 | 345 | 16 | 34 | 471 | 01 | 02 | 216 | 255 | 23 | 342 | 345 | 336 | 330 | 333 | 334 | 332 | 336 | 338 | 343 | 353 | 357 | 361 | 367 | 355 | 351 | 354 | 358 | 351 | 347 | 346 | 344 | 342 | 341 | 346 | 13 | 34 | 373 | 03 | 53 | 325 | 048 | 24 | 339 | 337 | 338 | 338 | 335 | 335 | 332 | 333 | 342 | 348 | 350 | 348 | 355 | 372 | 370 | 379 | 361 | 359 | 355 | 351 | 348 | 348 | 350 | 350 | 349 | 16 | 16 | 390 | 06 | 23 | 329 | 061 | 25 | 345 | 328 | 329 | 329 | 330 | 335 | 334 | 334 | 341 | 348 | 350 | 347 | 351 | 360 | 366 | 374 | 375 | 363 | 359 | 354 | 345 | 338 | 338 | 344 | 347 | 15 | 54 | 383 | 01 | 51 | 325 | 058 | 26 | 347 | 347 | 345 | 344 | 340 | 338 | 335 | 332 | 337 | 352 | 356 | 356 | (4.36) | 461 | 385 | 281 | 241 | 378 | 360 | 297 | 296 | 296 | 296 | 296 | 296 | 21 | 47 | 531 | 19 | 50 | 149 | 382 | 27 | 246 | 304 | 335 | 342 | 336 | 345 | 343 | 346 | 368 | 401 | 382 | 380 | 413 | 396 | 439 | 427 | 433 | 386 | 365 | 297 | 232 | 205 | 241 | 249 | 342 | 12 | 18 | 482 | 21 | 35 | 165 | 317 | 28 | 282 | 280 | 313 | 317 | 331 | 335 | 339 | 339 | 339 | 348 | 351 | 369 | 397 | 388 | 423 | 403 | 354 | 365 | 315 | 285 | 297 | 277 | 282 | 279 | 334 | 15 | 16 | 445 | 19 | 35 | 258 | 187 | 29 | 311 | 335 | 342 | 346 | 349 | 352 | 357 | 351 | 354 | 355 | 352 | 361 | 374 | 402 | 392 | 389 | 392 | 380 | 315 | 303 | 319 | 315 | 316 | 322 | 349 | 13 | 47 | 432 | 18 | 57 | 283 | 149 | 30 | 326 | 321 | 327 | 334 | 340 | 344 | 346 | 345 | 353 | 349 | 345 | 354 | 360 | 363 | 362 | 373 | 364 | 369 | 368 | 346 | 313 | 300 | 297 | 314 | 342 | 15 | 31 | 386 | 22 | 00 | 286 | 100 |
| Mean | 310 | 317 | 323 | 327 | 331 | 334 | 336 | 336 | 340 | 346 | 347 | 350 | 357 | 360 | 367 | 368 | 366 | 360 | 345 | 326 | 309 | 298 | 302 | 305 | 336 | DESIGNATIONS | | | | 138 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean * | 322 | 329 | 331 | 333 | 335 | 337 | 336 | 336 | 337 | 339 | 338 | 337 | 338 | 339 | 339 | 340 | 342 | 346 | 345 | 340 | 335 | 328 | 318 | 320 | 335 | * Ten least disturbed days | | | | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean † | 325 | 329 | 331 | 333 | 335 | 336 | 337 | 339 | 340 | 341 | 339 | 339 | 339 | 337 | 337 | 337 | 341 | 345 | 343 | 338 | 334 | 332 | 328 | 328 | 336 | † Five international quiet days | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean ‡ c | 277 | 291 | 312 | 319 | 325 | 331 | 332 | 334 | 347 | 368 | 369 | 377 | 392 | 384 | 413 | 402 | 399 | 374 | 346 | 305 | 292 | 271 | 273 | 263 | 337 | ‡ Five international disturbed days | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| c Means of 4 values | | | | | | | | | | | | | | | | | | | | | | | | () Approximate | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

TABLE 41

HOURLY VALUES OF VERTICAL INTENSITY

DECEMBER 1952

46800 plus tabular quantities expressed in gammas

G.M.T. used

| Day | Hour | | | | | | | | | | | | | | | | | | | | | | | | Mean | Maximum | | Minimum | | Range | | | | | | |
|--------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|---------|-----|---------|---------------|---------------|-----------|------|-----|-----|--|--|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | 24 | h | m | h | | m | | | | | |
| 1 | | 321 | 329 | 337 | 338 | 341 | 340 | 339 | 341 | 340 | 347 | 348 | 347 | 348 | 348 | 363 | 408 | 391 | 388 | 354 | 345 | 215 | 182 | 184 | 205 | 325 | 17 | 23 | 426 | 20 | 51 | 081 | 345 | | | |
| 2 | ≠ | 154 | 176 | 267 | 300 | 311 | 327 | 342 | 344 | 343 | 338 | 338 | 355 | 355 | 398 | 445 | 380 | 421 | 435 | 365 | 330 | 278 | 273 | 205 | 202 | 320 | 13 | 58 | 486 | 00 | 41 | 102 | 384 | | | |
| 3 | | 269 | 301 | 326 | 338 | 334 | 351 | 355 | 351 | 348 | 346 | 348 | 348 | 354 | 358 | 383 | 381 | 376 | 364 | 370 | 358 | 330 | 194 | 173 | 162 | 326 | 16 | 19 | 389 | 24 | 00 | 148 | 241 | | | |
| 4 | ≠ | 129 | 401 | 133 | 232 | 284 | 309 | 323 | 338 | 344 | 352 | 360 | 379 | 389 | 386 | 398 | 389 | 398 | 395 | 318 | 306 | 243 | 230 | 305 | 274 | 305 | 17 | 34 | 430 | 01 | 35 | 062 | 368 | | | |
| 5 | | 214 | 255 | 282 | 301 | 319 | 331 | 337 | 340 | 341 | 354 | 357 | 373 | 392 | 371 | 359 | 355 | 360 | 360 | 358 | 311 | 241 | 306 | 326 | 332 | 328 | 12 | 42 | 410 | 20 | 00 | 183 | 227 | | | |
| 6 | * | 317 | 336 | 338 | 339 | 339 | 344 | 347 | 348 | 348 | 350 | 351 | 352 | 352 | 351 | 356 | 360 | 363 | 380 | 352 | 350 | 348 | 345 | 332 | 325 | 348 | 17 | 38 | 392 | 23 | 56 | 323 | 069 | | | |
| 7 | * | 339 | 336 | 327 | 336 | 341 | 341 | 342 | 341 | 344 | 348 | 350 | 354 | 353 | 352 | 351 | 350 | 348 | 355 | 364 | 362 | 357 | 355 | 350 | 345 | 348 | 15 | 32 | 367 | 22 | 47 | 332 | 035 | | | |
| 8 | * | 319 | 336 | 336 | 342 | 342 | 345 | 345 | 351 | 354 | 361 | 352 | 351 | 350 | 348 | 355 | 364 | 362 | 357 | 355 | 350 | 345 | 342 | 335 | 335 | 348 | 15 | 32 | 367 | 22 | 47 | 332 | 035 | | | |
| 9 | * | 341 | 345 | 345 | 346 | 345 | 349 | 352 | 354 | 356 | 354 | 350 | 355 | 354 | 352 | 351 | 349 | 348 | 348 | 349 | 349 | 346 | 340 | 340 | 342 | 348 | 11 | 46 | 357 | 00 | 00 | 337 | 020 | | | |
| 10 | ≠ | 345 | 347 | 346 | 339 | 333 | 335 | 334 | 334 | 340 | 342 | 342 | 351 | 354 | 364 | 364 | 394 | 418 | 442 | 400 | 346 | 322 | 318 | 326 | 333 | 353 | 17 | 40 | 450 | 20 | 47 | 307 | 143 | | | |
| 11 | | 337 | 342 | 346 | 339 | 342 | 336 | 329 | 325 | 329 | 336 | 339 | 349 | 348 | 371 | 378 | 363 | 359 | 370 | 351 | 345 | 343 | 344 | 342 | 340 | 346 | 17 | 56 | 400 | 07 | 18 | 321 | 079 | | | |
| 12 | | 340 | 334 | 336 | 337 | 337 | 334 | 332 | 334 | 336 | 351 | 352 | 363 | 371 | 404 | 423 | 457 | 419 | 378 | 364 | 359 | 352 | 348 | 345 | 341 | 360 | 15 | 34 | 474 | 07 | 36 | 330 | 144 | | | |
| 13 | ≠ | 329 | 306 | 298 | 310 | 313 | 303 | 310 | 315 | 341 | 389 | 357 | 355 | 335 | 420 | 409 | 390 | 382 | 364 | 352 | 349 | 346 | 342 | 343 | 345 | 346 | 13 | 34 | 440 | 12 | 29 | 275 | 165 | | | |
| 14 | * | 350 | 350 | 345 | 345 | 346 | 348 | 351 | 352 | 356 | 357 | 359 | 356 | 357 | 360 | 366 | 367 | 361 | 356 | 352 | 347 | 345 | 343 | 339 | 332 | 352 | 15 | 05 | 376 | 24 | 00 | 328 | 048 | | | |
| 15 | | 323 | 311 | 311 | 324 | 317 | 322 | 331 | 332 | 336 | 345 | 354 | 367 | 367 | 360 | 355 | 349 | 348 | 348 | 348 | 352 | 346 | 345 | 343 | 341 | 341 | 11 | 33 | 373 | 02 | 18 | 305 | 068 | | | |
| 16 | | 342 | 344 | 342 | 342 | 336 | 329 | 327 | 331 | 338 | 345 | 352 | 363 | 383 | 386 | 389 | 401 | 409 | 401 | 370 | 351 | 321 | 264 | 229 | 248 | 343 | 16 | 42 | 417 | 22 | 03 | 220 | 152 | | | |
| 17 | | 272 | 294 | 304 | 310 | 310 | 316 | 321 | 329 | 346 | 358 | 360 | 365 | 359 | 354 | 352 | 354 | 361 | 359 | 354 | 351 | 346 | 328 | 282 | 237 | 330 | 11 | 05 | 367 | 23 | 15 | 215 | 152 | | | |
| 18 | | 294 | 310 | 328 | 326 | 319 | 325 | 323 | 326 | 333 | 342 | 345 | 347 | 344 | 344 | 354 | 361 | 360 | 367 | 342 | 289 | 298 | 325 | 335 | 335 | 332 | -18 | 08 | 412 | 19 | 23 | 250 | 162 | | | |
| 19 | * | 325 | 312 | 319 | 335 | 344 | 349 | 352 | 350 | 351 | 351 | 351 | 351 | 349 | 347 | 348 | 348 | 351 | 353 | 357 | 354 | 351 | 347 | 345 | 344 | 345 | 18 | 34 | 358 | 01 | 36 | 310 | 048 | | | |
| 20 | * | 344 | 342 | 342 | 344 | 342 | 342 | 338 | 340 | 340 | 346 | 347 | 345 | 349 | 354 | 353 | 351 | 355 | 359 | 357 | 352 | 347 | 344 | 342 | 345 | 347 | 17 | 28 | 362 | 06 | 28 | 336 | 026 | | | |
| 21 | * | 345 | 345 | 347 | 345 | 341 | 339 | 337 | 335 | 339 | 342 | 344 | 341 | 342 | 347 | 357 | 361 | 359 | 358 | 360 | 360 | 353 | 345 | 347 | 344 | 347 | 19 | 04 | 363 | 07 | 07 | 333 | 030 | | | |
| 22 | * | 345 | 345 | 340 | 337 | 339 | 340 | 342 | 343 | 344 | 345 | 349 | 353 | 353 | 357 | 379 | 403 | 425 | 430 | 416 | 385 | 369 | 360 | 351 | 341 | 362 | 17 | 56 | 435 | 03 | 37 | 335 | 100 | | | |
| 23 | * | 346 | 351 | 355 | 356 | 353 | 354 | 354 | 359 | 357 | 359 | 357 | 356 | 355 | 354 | 349 | 346 | 344 | 345 | 349 | 361 | 357 | 344 | 342 | 342 | 352 | 19 | 32 | 367 | 23 | 04 | 339 | 028 | | | |
| 24 | | 278 | 269 | 258 | 303 | 310 | 323 | 334 | 344 | 351 | 366 | 401 | 389 | 389 | 398 | 398 | 389 | 383 | 373 | 357 | 338 | 328 | 323 | 315 | 322 | 343 | 10 | 50 | 416 | 02 | 15 | 245 | 171 | | | |
| 25 | | 328 | 323 | 332 | 339 | 339 | 338 | 338 | 336 | 333 | 338 | 345 | 357 | 370 | 367 | 368 | 363 | 369 | 351 | 351 | 350 | 347 | 338 | 336 | 335 | 345 | 16 | 10 | 388 | 01 | 23 | 320 | 068 | | | |
| 26 | | 327 | 333 | 331 | 331 | 335 | 340 | 338 | 341 | 345 | 346 | 352 | 359 | 363 | 363 | 361 | 357 | 354 | 350 | 357 | 359 | 348 | 330 | 442 | 404 | 352 | 23 | 17 | 575 | 23 | 59 | 281 | 294 | | | |
| 27 | | 237 | 274 | 309 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | ≠ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | ≠ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | | 284 | 300 | 299 | 324 | 332 | 338 | 340 | 346 | 346 | 352 | 372 | 402 | 393 | 409 | 411 | 413 | 393 | 356 | 362 | 326 | 245 | 250 | 236 | 244 | 334 | 16 | 25 | 483 | 22 | 34 | 214 | 269 | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | 308 | 310 | 318 | 328 | 331 | 335 | 337 | 340 | 344 | 350 | 352 | 358 | 361 | 368 | 374 | 377 | 376 | 375 | 360 | 343 | 324 | 315 | 315 | 308 | 342 | | | | | | | | 154 | | |
| Mean * | | 339 | 337 | 339 | 342 | 343 | 345 | 346 | 347 | 349 | 351 | 351 | 351 | 351 | 352 | 357 | 360 | 362 | 365 | 362 | 352 | 347 | 343 | 340 | 338 | 349 | * | Ten | least | disturbed | days | | | 49 | | |
| Mean † | | 340 | 339 | 340 | 345 | 345 | 347 | 347 | 348 | 349 | 350 | 350 | 350 | 350 | 351 | 352 | 351 | 351 | 353 | 354 | 355 | 351 | 344 | 343 | 343 | 348 | † | Five | international | quiet | days | | | | | |
| Mean ‡ | | | | | | | | | | | | | | | | | | | | | | | | | | | | ‡ | Five | international | disturbed | days | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | () | Approximate | | | | | | | |

TABLE 42

Summary of monthly mean values

| MONTH | H | D | Z | H | D | Z |
|--------|-------|-------------------------------|-------|-----------------------------------|----------------------|-------|
| 1952 | Y | O | Y | Y | O | Y |
| | | All days | | Ten least disturbed days | | |
| March | 18450 | 49 54.4 | 47077 | 18468 | 49 59.5 | 47076 |
| April | 18432 | 49 57.4 | 47081 | 18472 | 49 54.9 | 47089 |
| May | 18445 | 49 57.1 | 47088 | 18474 | 49 54.8 | 47100 |
| June | 18463 | 49 56.0 | 47102 | 18472 | 49 55.6 | 47102 |
| July | 18467 | 49 57.2 | 47109 | 18469 | 49 57.4 | 47111 |
| August | 18470 | 49 58.3 | 47114 | 18477 | 49 58.2 | 47120 |
| Sept. | 18460 | 49 59.8 | 47117 | 18473 | 49 59.0 | 47121 |
| Oct. | 18466 | 49 59.9 | 47120 | 18475 | 49 59.2 | 47126 |
| Nov. | 18477 | 49 60.1 | 47136 | 18484 | 49 59.6 | 47135 |
| Dec. | 18478 | 49 60.7 | 47142 | 18484 | 49 60.7 | 47149 |
| Year | 18461 | 49 58.1 | 47099 | 18475 | 49 57.9 | 47113 |
| | | Five international quiet days | | Five international disturbed days | | |
| March | 18472 | 49 52.9 | 47085 | | Insufficient records | |
| April | 18472 | 49 55.0 | 47090 | 18475 | 49 61.7 | 47071 |
| May | 18473 | 49 54.7 | 47101 | 18494 | 49 61.2 | 47073 |
| June | 18474 | 49 55.4 | 47104 | 18444 | 49 57.1 | 47098 |
| July | 18471 | 49 57.8 | 47110 | 18477 | 49 55.0 | 47106 |
| August | 18477 | 49 58.2 | 47121 | 18462 | 49 58.1 | 47112 |
| Sept. | 18477 | 49 58.8 | 47123 | 18428 | 49 62.5 | 47110 |
| Oct. | 18477 | 49 59.0 | 47129 | 18453 | 49 60.0 | 47103 |
| Nov. | 18482 | 49 59.6 | 47136 | 18470 | 49 61.4 | 47141 |
| Dec. | 18488 | 49 60.7 | 47148 | 18469 | 49 60.5 | 47123 |
| Year | 18476 | 49 57.2 | 47115 | 18457 | 49 53.8 | 47194 |

TABLE 43

Summary of annual mean values

Based on the months March-December 1952

| YEAR | H | D | Z | H | D | Z |
|------|-------|-------------------------------|-------|-----------------------------------|---------|-------|
| | Y | O | Y | Y | O | Y |
| | | All days | | Ten least disturbed days | | |
| 1952 | 18461 | 49 58.1 | 47099 | 18475 | 49 57.9 | 47113 |
| | | Five international quiet days | | Five international disturbed days | | |
| 1952 | 18476 | 49 57.2 | 47115 | 18457 | 49 53.8 | 47194 |

TABLE 44

Principal Magnetic Storms

March-December 1952

| Month | Began at | | | Ended at | | Intensity | Maximum K-Index |
|-----------|----------|----|----|----------|----|-------------------|--------------------|
| | d | h | m | d | hh | | |
| March | 03 | 07 | 29 | 12 | 24 | Severe | 9 |
| | 15 | 14 | 00 | 17 | 19 | Severe | 8 |
| | 21 | 04 | 00 | 26 | 04 | Severe | 9 |
| | 30 | 13 | 00 | 10 | 06 | Severe | 9 |
| April | 18 | 16 | 00 | 20 | 01 | Moderately severe | 7 |
| | 21 | 12 | 00 | 23 | 14 | Severe | 8 |
| | 28 | 00 | 00 | 08 | 22 | Severe | 9 |
| May | 17 | 23 | 59 | 19 | 20 | Moderately severe | 7 |
| | 26 | 08 | 00 | 31 | 24 | Severe | 8 |
| June | 08 | 05 | 00 | 11 | 10 | Moderately severe | 6 |
| | 14 | 04 | 00 | 15 | 09 | Moderately severe | 6 |
| | 22 | 07 | 00 | 25 | 00 | Moderately severe | 7 |
| | 29 | 19 | 01 | 30 | 12 | Severe | 8 |
| July | 05 | 02 | 00 | 06 | 13 | Severe | 8 |
| | 20 | 07 | 00 | 22 | 12 | Moderately severe | 6 |
| August | 17 | 04 | 24 | 19 | 06 | Moderately severe | 6 |
| | 29 | 14 | 00 | 30 | 09 | Moderately severe | 7 |
| | 31 | 18 | 47 | 04 | 06 | Moderately severe | 7 |
| September | 07 | 17 | 00 | 10 | 15 | Moderately severe | 7 |
| | 13 | 22 | 00 | 15 | 03 | Moderate | 5 |
| | 25 | 18 | 00 | 26 | 09 | Moderately severe | 7 |
| | 27 | 03 | 00 | 27 | 18 | Moderate | 5 |
| | 28 | - | - | 01 | 06 | Severe | 8 |
| October | 03 | 14 | 00 | 06 | 19 | Severe | 8 |
| | 21 | 10 | 10 | 22 | 09 | Moderately severe | 7 |
| | 25 | 17 | 00 | 27 | 06 | Moderately severe | 7 |
| | 29 | 11 | 00 | 02 | 03 | Moderately severe | 7 |
| November | 20 | 22 | 00 | 22 | 21 | Moderately severe | 6 |
| | 26 | 09 | 00 | 29 | 21 | Moderately severe | 7 |
| December | 04 | 12 | 00 | 05 | 14 | Moderately severe | 7 |
| | 13 | 00 | 00 | 13 | 15 | Moderately severe | 6 |
| | 24 | 01 | 15 | 26 | 03 | Moderately severe | 7 |
| | 27 | 16 | 00 | 03 | 03 | Severe | 8 |

TABLE 45

Sudden Commencements

March-December 1952

| Date | Time | | Type | Date | Time | | Type |
|----------|------|----|--|---------|------|----|--|
| | h | m | | | h | m | |
| March | | | Nil | 7 Sept. | 07 | 12 | Sudden Impulse |
| 24 April | 16 | 25 | Polar Sudden Commencement | 2 Oct. | 18 | 57 | Polar Sudden Commencement |
| 17 May | 23 | 59 | Storm Sudden Commencement (Small initial impulse) | 10 " | 16 | 37 | Polar Sudden Commencement |
| | | | | 10 " | 19 | 17 | Polar Sudden Commencement |
| 2 June | 18 | 51 | Polar Sudden Commencement | 11 " | 17 | 17 | Polar Sudden Commencement |
| | | | | 21 " | 21 | 21 | Storm Sudden Commencement (Small initial impulse) |
| 29 " | 19 | 01 | Polar Sudden Commencement | 21 " | 10 | 10 | Storm Sudden Commencement (Small initial impulse) |
| 1 July | 20 | 34 | Storm Sudden Commencement | 6 Nov. | 17 | 49 | Polar Sudden Commencement |
| 27 " | 22 | 10 | Polar Sudden Commencement | 5 Dec. | 19 | 30 | Polar Sudden Commencement |
| 2 Aug. | 22 | 40 | Polar Sudden Commencement | 14 " | 21 | 39 | Storm Sudden Commencement |
| | | | | 15 " | 20 | 04 | Storm Sudden Commencement (Small initial impulse) |
| 17 " | 01 | 24 | Storm Sudden Commencement | 24 " | 01 | 15 | Storm Sudden Commencement (Small initial impulse) |
| 31 " | 18 | 47 | Polar Sudden Commencement | | | | |
| 4 Sept. | 18 | 33 | Polar Sudden Commencement | | | | |

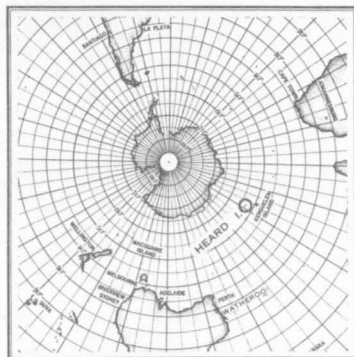
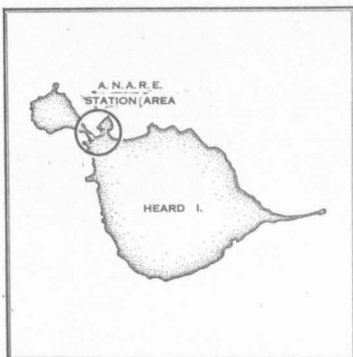
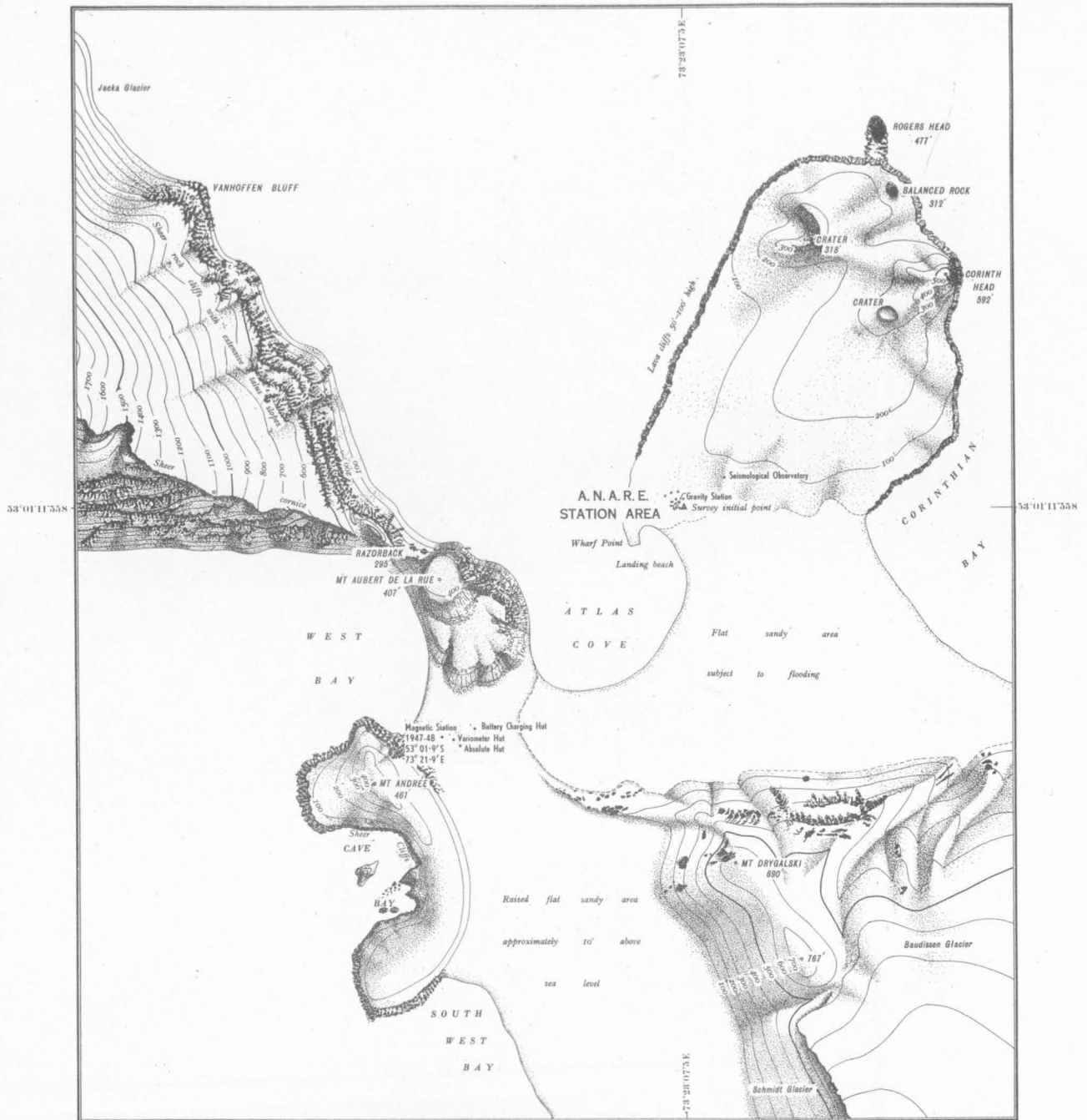
TABLE 46

HEARD ISLAND MAGNETIC OBSERVATORY

SUMMARY OF VARIOMETER ROOM TEMPERATURE MARCH 1952 - DECEMBER 1952

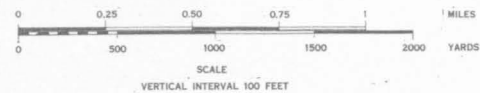
As indicated by H Variometer Thermometer

| Month | Temperatures °C | | | Range |
|-----------|-----------------|---------|------|-------|
| | Maximum | Minimum | Mean | |
| March | 6.0 | 2.4 | 4.0 | 3.6 |
| April | 6.9 | 1.4 | 2.9 | 5.5 |
| May | 4.4 | -1.9 | 1.4 | 6.3 |
| June | 1.5 | -2.4 | -0.3 | 3.9 |
| July | 3.2 | -1.4 | 0.3 | 4.6 |
| August | 4.0 | -3.1 | 0.0 | 7.1 |
| September | 1.0 | -2.1 | 0.1 | 3.1 |
| October | 2.6 | -1.3 | 0.7 | 3.9 |
| November | 3.5 | 0.1 | 1.7 | 3.4 |
| December | 5.0 | 0.8 | 2.9 | 4.2 |
| Year | 6.9 | -3.1 | 1.4 | 10.0 |



LOCALITY DIAGRAMS

Reference: Survey Initial Point (Camp Area) $53^{\circ} 01' 11''$ S
 $73^{\circ} 23' 07''$ E
 Control: Based on Triangulation Control Survey by R. Dovers 1948.
 Detail: Sketched in from uncontrolled ground photography based
 on known stations by K. Summons and I. Mather, 1950.
 Reliability: Reliable sketch.



SKETCH MAP
 SHOWING LOCATION OF
 MAGNETIC AND
 SEISMOLOGICAL OBSERVATORIES,
 AT
 HEARD ISLAND

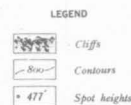
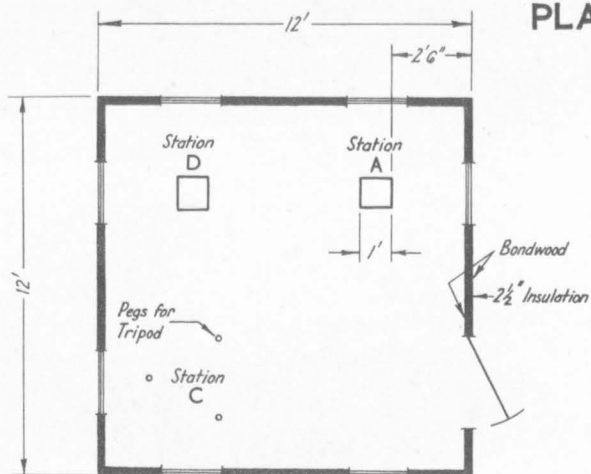




Fig. 1. Absolute hut, looking west.

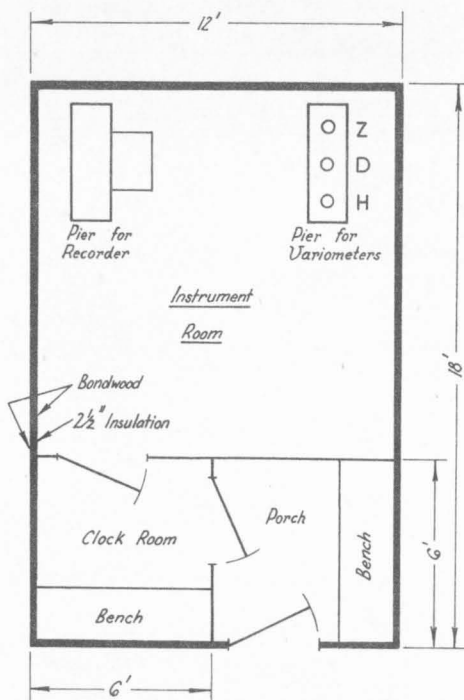
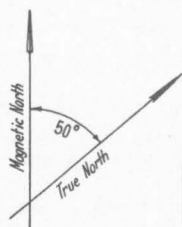


Fig. 2. Variometer hut, looking north-west



FLOOR PLAN
ABSOLUTE HUT

Fig. 1



FLOOR PLAN
VARIOMETER HUT
HEARD ISLAND

Fig. 2

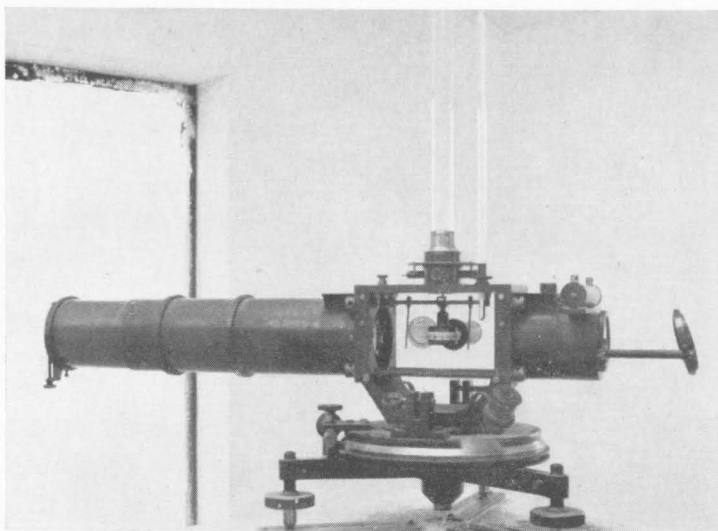


Fig 1 Modified Kew-pattern Magnetometer.

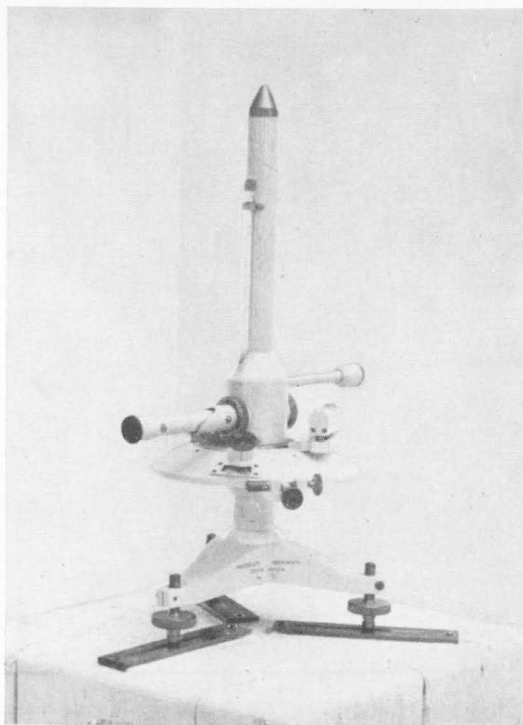


Fig 2. Quartz Horizontal Magnetometer

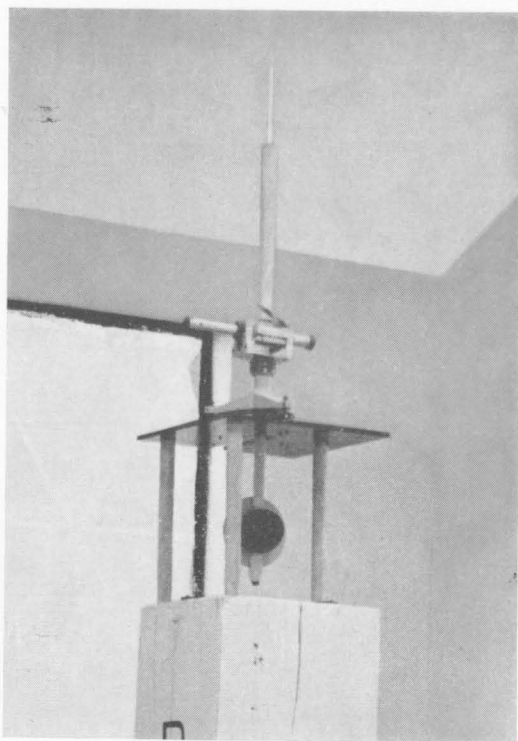


Fig 1 Magnetometric Zero Balance

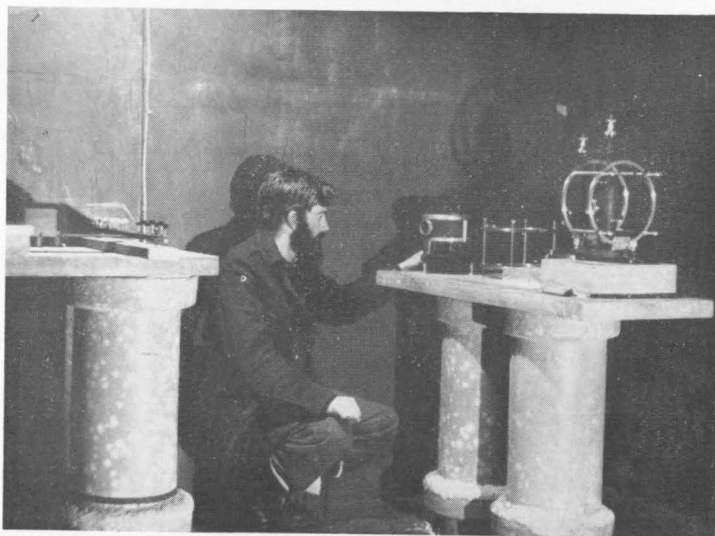
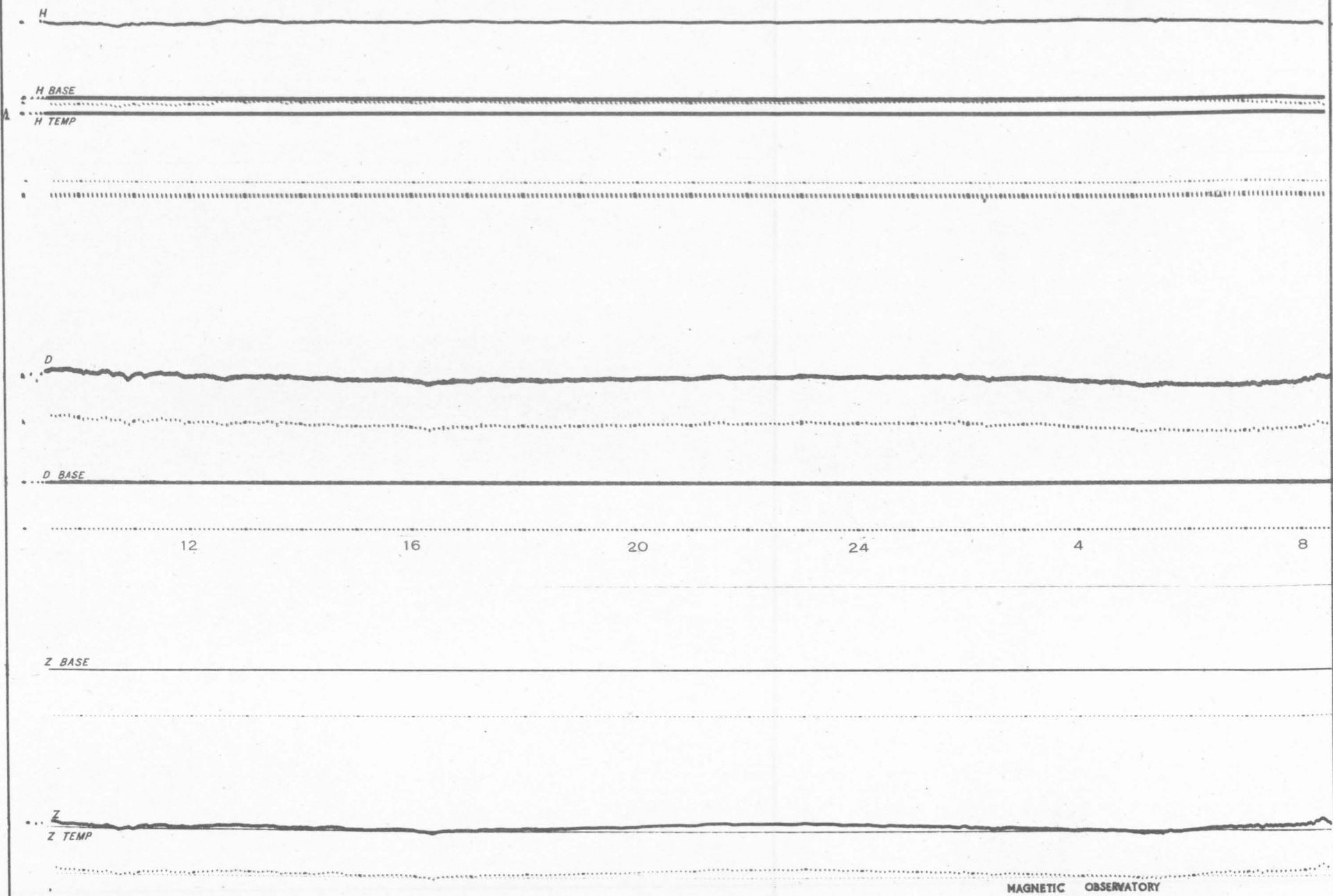


Fig 2 La Cour Magnetograph

22 MAY 1952

23 MAY 1952

PLATE 6

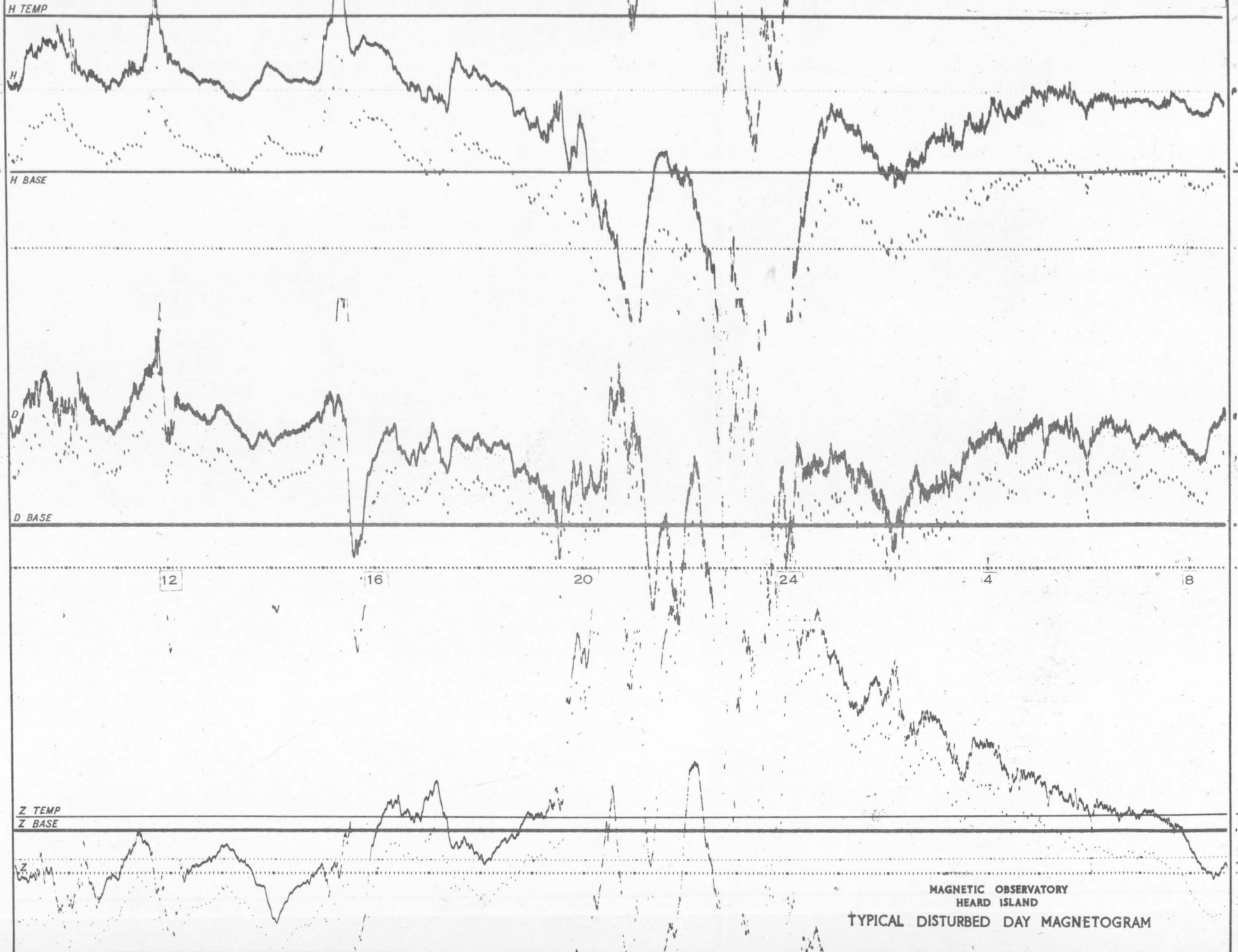


MAGNETIC OBSERVATORY
HEARD ISLAND
TYPICAL QUIET DAY MAGNETOGRAM

3 APR. 1952

4 APR. 1952

PLATE 7



MAGNETIC OBSERVATORY
HEARD ISLAND
TYPICAL DISTURBED DAY MAGNETOGRAM