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# **GEOFYSICAL OBSERVATORY REPORTS**

**OF THE GEODETICAL AND GEOFYSICAL  
RESEARCH INSTITUTE OF THE HUNGARIAN  
ACADEMY OF SCIENCES**

**YEAR**

**1977**

**OBSERVATORY OF NAGYCENK**

**SOPRON**

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OBSERVATORY OF NAGYCENK

REPORT ON

- I. EARTH CURRENTS
- II. GEOMAGNETISM
- UI. ATMOSPHERIC ELECTRICITY
- IV. IONOSPHERE

EDITED BY THE DIRECTOR  
SOPRON

1978

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## PREFACE

This Report continues the series of Reports on the observation data of the Geophysical Observatory Nagycenk. The first four of them came out in the publication *Acta Technica Hungarica*; all the others in separate booklets.

Here it is worth noting — to sum it up briefly — that the Reports of 1957—1960 comprise the data of the earth current records only. The geomagnetic data were first given in the Report on 1961. In 1962 the observation network was completed by records of the atmospheric electric potential gradient and the point discharge, so that from 1962 on these data have also been published in the Reports. From 1967 on the measurement data of the ionospheric absorption are given as well. Exchange copies of the Reports may be obtained from the Geodetical and Geophysical Research Institute of the Hungarian Academy of Sciences (H—9401 Sopron, Pf. 5. Hungary).

*J. SOMOGYI*

*Director*



## I. EARTH CURRENTS

In the present report of the Observatory, six kinds of tables are published in the section earth currents.

The coordinates of the Observatory are:

$$\begin{aligned} \varphi &= 47^{\circ}38' & \lambda &= 16^{\circ}43' \\ \phi &= 47.2^{\circ} & \lambda &= 98.3^{\circ} \end{aligned}$$

All times are given in this part in CET (i. e. GMT + 1h). nearly (—7 min) corresponding to LT.

The tables published are the following:

I. The activity indices T of the general activity for each three hour interval of the local day, as well as the character figures of single frequency bands for whole days  $K_1$ — $K_5$ .

The T-scale is linear; its scale corresponds to 1.8 mV/km. The monthly mean T-values are separately given for the North-South and East-West components. The scales for  $K_1$ — $K_5$  are as follows:

| Frequency band      | limits between K-values |     |     |     |     |     |     |     |     |
|---------------------|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
|                     | 0—1                     | 1—2 | 2—3 | 3—4 | 4—5 | 5—6 | 6—7 | 7—8 | 8—9 |
| 1. Period 0— 2 min  | 2                       | 4   | 7   | 13  | 18  | 23  | 29  | 41  | 54  |
| 2. Period 2— 6 min  | 9                       | 13  | 18  | 23  | 29  | 34  | 41  | 56  | 90  |
| 3. Period 6—12 min  | 16                      | 22  | 25  | 32  | 38  | 45  | 56  | 83  | 120 |
| 4. Period 12—24 min | 34                      | 43  | 54  | 70  | 85  | 101 | 124 | 151 | 202 |
| 5. Period 24—60 min | 29                      | 43  | 67  | 88  | 110 | 131 | 191 | 234 | 339 |

All these values are given in the table in units of  $10^{-5}$  V km.

Values in brackets mean extrapolated ones from incomplete material, where the lacking hours have been substituted by the average of recorded hours.

II. Monthly and yearly means, and means for disturbed and quiet days of the amplitudes of the former frequency bands and of the earth current field intensity. D and Q days are the same as in section Geomagnetism. The rows 1—5 contain the average amplitudes of the five bands in  $10^{-5}$  V km. Row 6 contains the hourly means of the earth current field intensity corrected for long period variation (equally in  $10^{-5}$  V km).

III. Results of harmonical analyses from monthly means of the earth current field intensity.

IV. Time of special events (common table from magnetic and earth current records).

V. Average amplitudes in 12 pulsation bands. Instead of the graphical representation of world-day averages in previous years, numerical data are presented on the average amplitudes of pulsations for (nearly complete) months. Averages are derived from manually processed earth-current records (6 mm min) for three-hour intervals of the day. Such averages (expressed in  $\mu$ V km) are published for each month and for the full year. As the bands where amplitudes are determined have different bandwidths, amplitudes are comparable in different bands only after a correction for bandwidth. Data for the same band are, however, directly comparable. Initial data are estimated amplitudes in half-hour intervals.

VI. Micropulsation indices for the year 1977. The indices have been determined from the occurrence frequency of different period micropulsations, striving at a possibly uniform distribution of days in each of the five possible indices (1—5).

The determination of these indices can be shortly explained as follows: The days are arranged according to the occurrence frequency of each band. Index 1 is attributed to the days with lowest fifth of occurrence frequencies (0 to 20 per cent), index 2 to days with occurrence frequencies in the second lowest fifth (20 to 40 per cent) etc., index 5 to days with highest occurrence frequencies (80 to 100 per cent). It must be reminded that mainly in the lowest and highest bands the uniform distribution could not be achieved due to insufficient occurrence of these bands on the records.

The bands are the following:

|     |    |    |         |
|-----|----|----|---------|
| P1  | 0  | to | 5 sec   |
| P2  | 5  | to | 10 sec  |
| P3  | 10 | to | 15 sec  |
| P4  | 15 | to | 20 sec  |
| P5  | 20 | to | 25 sec  |
| P6  | 25 | to | 30 sec  |
| P7  | 30 | to | 40 sec  |
| P8  | 40 | to | 60 sec  |
| P9  | 60 | to | 90 sec  |
| P10 | 90 | to | 120 sec |
| P11 | 2  | to | 5 min   |
| P12 | 5  | to | 10 min  |

For a detailed description of the method of determination of these indices, see:

L. HOLLÓ, M. TÁTRALLYAY and J. VERŐ: Experimental results with the characterization of geomagnetic micropulsations (*Acta Geodaetica, Geophysica et Montanistica Hungarica*, 7 1972 155).

Mrs. J. CZUCZOR, L. HOLLÓ, M. TÁTRALLYAY and J. VERŐ took part in the processing and compilation of the data.

Records were taken in the Observatory with three instruments of the types GMG T9 1956 and GMG T14 1961, with small modifications in order to meet the demands of the use in the observatory. A general description of the processing and compilation is found in the report of the Observatory from 1966 in German by A. ÁDÁM, J. VERŐ, A. WALLNER: *Tellurische und erdmagnetische Messungen im Observatorium bei Nagycenk. Observatoriumsberichte des Geophysikalischen Forschungslaboratoriums der Ungarischen Akademie der Wissenschaften vom Jahre 1966. Sopron, 1967.*

Due to renovation works in the Observatory, the data of the second half of the year 1977 are less complete than usual. The experiments with the recording of Pc 1 pulsations were stopped from July 1, 1977, for about 2 years, during which time the final arrangement of the recording apparatus will be installed.

*I. Activity indices T and K<sub>1</sub>—K<sub>5</sub>*

January

| Day | T        | Sum | K <sub>1</sub> | K <sub>2</sub> | K <sub>3</sub> | K <sub>4</sub> | K <sub>5</sub> |
|-----|----------|-----|----------------|----------------|----------------|----------------|----------------|
| 1.  | 31233214 | 19  | 7              | 2              | 5              | 2              | 3              |
| 2.  | 31110011 | 8   | 3              | 0              | 4              | 1              | 0              |
| 3.  | 01110123 | 9   | 3              | 0              | 5              | 0              | 1              |
| 4.  | 10122231 | 12  | 5              | 1              | 4              | 2              | 2              |
| 5.  | 31111145 | 17  | 5              | 2              | 4              | 1              | 3              |
| 6.  | 22111224 | 15  | 6              | 2              | 4              | 2              | 2              |
| 7.  | 41111111 | 11  | 5              | 1              | 4              | 0              | 1              |
| 8.  | 11211311 | 11  | 4              | 1              | 4              | 0              | 0              |
| 9.  | 00112121 | 8   | 4              | 1              | 4              | 0              | 0              |
| 10. | 00111110 | 5   | 5              | 2              | 4              | 0              | 0              |
| 11. | 00012942 | 18  | 5              | 3              | 5              | 1              | 3              |
| 12. | 22222131 | 15  | 6              | 2              | 4              | 2              | 1              |
| 13. | 21212224 | 16  | 4              | 0              | 4              | 0              | 1              |
| 14. | 22222225 | 19  | 4              | 0              | 4              | 2              | 3              |
| 15. | 33322422 | 21  | 6              | 2              | 4              | 1              | 3              |
| 16. | 11111221 | 10  | 4              | 1              | 4              | 1              | 1              |
| 17. | 00011100 | 3   | 3              | 0              | 4              | 0              | 1              |
| 18. | 21432100 | 13  | 4              | 1              | 5              | 2              | 2              |
| 19. | 21110122 | 10  | 4              | 2              | 4              | 1              | 2              |
| 20. | 62211113 | 17  | 4              | 1              | 4              | 1              | 2              |
| 21. | 30121110 | 9   | 5              | 1              | 4              | 0              | 1              |
| 22. | 01001112 | 6   | 4              | 1              | 4              | 0              | 0              |
| 23. | 31010122 | 10  | 4              | 2              | 4              | 1              | 1              |
| 24. | 32111121 | 12  | 5              | 0              | 4              | 0              | 1              |
| 25. | 10112223 | 12  | 4              | 2              | 4              | 1              | 1              |
| 26. | 11001010 | 4   | 4              | 0              | 4              | 0              | 0              |
| 27. | 00023110 | 7   | 4              | 0              | 4              | 0              | 0              |
| 28. | 00011139 | 15  | 3              | 0              | 4              | 1              | 2              |
| 29. | 53322111 | 18  | 3              | 0              | 4              | 2              | 2              |
| 30. | 64124723 | 29  | 4              | 1              | 4              | 2              | 3              |
| 31. | 82124000 | 17  | 4              | 1              | 4              | 1              | 1              |

Monthly averages:

T (N) 1,360  
 T (E) 1,141  
 K<sub>1</sub> 4,35  
 K<sub>2</sub> 1,03  
 K<sub>3</sub> 4,13  
 K<sub>4</sub> 0,87  
 K<sub>5</sub> 1,39

| February          |          |     |                |                |                |                |                |
|-------------------|----------|-----|----------------|----------------|----------------|----------------|----------------|
| Day               | T        | Sum | K <sub>1</sub> | K <sub>2</sub> | K <sub>3</sub> | K <sub>4</sub> | K <sub>5</sub> |
| 1.                | 01111012 | 7   | 3              | 1              | 4              | 0              | 0              |
| 2.                | 21345333 | 24  | 6              | 2              | 5              | 4              | 2              |
| 3.                | 32222312 | 17  | 7              | 3              | 4              | 1              | 1              |
| 4.                | 51221100 | 12  | 6              | 2              | 4              | 1              | 1              |
| 5.                | 00233303 | 14  | 4              | 2              | 4              | 1              | 1              |
| 6.                | 20222248 | 22  | 5              | 2              | 4              | 2              | 4              |
| 7.                | 33223345 | 25  | 5              | 2              | 4              | 1              | 3              |
| 8.                | 31123554 | 24  | 4              | 2              | 4              | 1              | 5              |
| 9.                | 32336735 | 32  | 6              | 2              | 5              | 3              | 3              |
| 10.               | 31123202 | 14  | 5              | 1              | 4              | 2              | 2              |
| 11.               | 21122223 | 15  | 3              | 0              | 4              | 1              | 1              |
| 12.               | 11011112 | 8   | 4              | 0              | 4              | 0              | 1              |
| 13.               | 11111143 | 13  | 4              | 0              | 4              | 0              | 1              |
| 14.               | 11112125 | 14  | 4              | 0              | 4              | 1              | 2              |
| 15.               | 11011123 | 10  | 5              | 0              | 4              | 0              | 1              |
| 16.               | 21111001 | 7   | 2              | 0              | 4              | 0              | 0              |
| 17.               | 11002023 | 9   | 2              | 0              | 4              | 0              | 1              |
| 18.               | 46412232 | 24  | 6              | 1              | 4              | 2              | 2              |
| 19.               | 11122230 | 12  | 6              | 2              | 4              | 1              | 1              |
| 20.               | 01221124 | 13  | 6              | 2              | 4              | 1              | 1              |
| 21.               | 11222211 | 12  | 4              | 0              | 4              | 1              | 2              |
| 22.               | 11111142 | 12  | 5              | 1              | 4              | 0              | 2              |
| 23.               | 22124444 | 23  | 6              | 1              | 5              | 2              | 3              |
| 24.               | 21124392 | 24  | 6              | 2              | 4              | 2              | 3              |
| 25.               | 22421124 | 18  | 7              | 3              | 5              | 2              | 3              |
| 26.               | 11011112 | 8   | 5              | 2              | 4              | 0              | 2              |
| 27.               | 10001111 | 5   | 5              | 0              | 4              | 0              | 0              |
| 28.               | 31121021 | 11  | 4              | 1              | 4              | 0              | 2              |
| Monthly averages: |          |     | T (N)          | 1,799          |                |                |                |
|                   |          |     | T (E)          | 1,509          |                |                |                |
|                   |          |     | K <sub>1</sub> | 4,82           |                |                |                |
|                   |          |     | K <sub>2</sub> | 1,21           |                |                |                |
|                   |          |     | K <sub>3</sub> | 4,14           |                |                |                |
|                   |          |     | K <sub>4</sub> | 1,04           |                |                |                |
|                   |          |     | K <sub>5</sub> | 1,79           |                |                |                |

| March             |          |     |                |                |                |                |                |
|-------------------|----------|-----|----------------|----------------|----------------|----------------|----------------|
| Day               | T        | Sum | K <sub>1</sub> | K <sub>2</sub> | K <sub>3</sub> | K <sub>4</sub> | K <sub>5</sub> |
| 1.                | 30122225 | 17  | 6              | 2              | 4              | 1              | 2              |
| 2.                | 00111112 | 7   | 4              | 1              | 4              | 0              | 0              |
| 3.                | 21010011 | 6   | 3              | 0              | 4              | 0              | 0              |
| 4.                | 00112111 | 7   | 3              | 2              | 3              | 0              | 0              |
| 5.                | 00011010 | 3   | 2              | 0              | 3              | 0              | 0              |
| 6.                | 00012212 | 8   | 3              | 1              | 5              | 0              | 1              |
| 7.                | 21001001 | 5   | 2              | 1              | 4              | 0              | 0              |
| 8.                | 02112227 | 17  | 5              | 2              | 4              | 1              | 2              |
| 9.                | 43447568 | 41  | 6              | 2              | 5              | 2              | 5              |
| 10.               | 63433225 | 28  | 5              | 2              | 5              | 2              | 3              |
| 11.               | 22313459 | 29  | 5              | 1              | 5              | 2              | 2              |
| 12.               | 31323286 | 28  | 4              | 1              | 4              | 2              | 3              |
| 13.               | 41111115 | 15  | 4              | 0              | 4              | 1              | 2              |
| 14.               | 23111111 | 11  | 4              | 0              | 4              | 1              | 1              |
| 15.               | 20112100 | 7   | 5              | 1              | 3              | 0              | 0              |
| 16.               | 11111012 | 8   | 5              | 1              | 4              | 0              | 1              |
| 17.               | 11121131 | 11  | 3              | 0              | 4              | 0              | 1              |
| 18.               | 32112111 | 12  | 5              | 0              | 5              | 0              | 1              |
| 19.               | 00000112 | 4   | 3              | 0              | 4              | 0              | 0              |
| 20.               | 52121214 | 18  | 4              | 0              | 4              | 2              | 3              |
| 21.               | 12012144 | 15  | 4              | 0              | 4              | 1              | 2              |
| 22.               | 21221110 | 10  | 4              | 0              | 4              | 0              | 1              |
| 23.               | 11122123 | 13  | 3              | 0              | 4              | 1              | 2              |
| 24.               | 42112313 | 17  | 4              | 1              | 4              | 1              | 2              |
| 25.               | 31112137 | 19  | 6              | 1              | 4              | 0              | 2              |
| 26.               | 45221210 | 17  | 4              | 1              | 4              | 1              | 0              |
| 27.               | 01233011 | 11  | 4              | 0              | 4              | 1              | 0              |
| 28.               | 22112147 | 20  | 4              | 0              | 4              | 0              | 4              |
| 29.               | 25223111 | 17  | 6              | 0              | 5              | 0              | 2              |
| 30.               | 00131121 | 9   | 4              | 1              | 4              | 0              | 0              |
| 31.               | 30111001 | 7   | 5              | 0              | 4              | 0              | 0              |
| Monthly averages: |          |     | T (N)          | 1,633          |                |                |                |
|                   |          |     | T (E)          | 1,282          |                |                |                |
|                   |          |     | K <sub>1</sub> | 4,16           |                |                |                |
|                   |          |     | K <sub>2</sub> | 0,67           |                |                |                |
|                   |          |     | K <sub>3</sub> | 4,10           |                |                |                |
|                   |          |     | K <sub>4</sub> | 0,61           |                |                |                |
|                   |          |     | K <sub>5</sub> | 1,35           |                |                |                |

| April             |          |     |                |                |                |                |                |
|-------------------|----------|-----|----------------|----------------|----------------|----------------|----------------|
| Day               | T        | Sum | K <sub>1</sub> | K <sub>2</sub> | K <sub>3</sub> | K <sub>4</sub> | K <sub>5</sub> |
| 1.                | 11111100 | 6   | 3              | 1              | 4              | 0              | 0              |
| 2.                | 10011002 | 5   | 3              | 0              | 4              | 0              | 0              |
| 3.                | 63222023 | 20  | 7              | 3              | 4              | 2              | 2              |
| 4.                | 46422225 | 27  | 7              | 3              | 5              | 1              | 5              |
| 5.                | 32222123 | 17  | 6              | 2              | 4              | 1              | 2              |
| 6.                | 52223799 | 39  | 7              | 2              | 5              | 3              | 8              |
| 7.                | 84445499 | 47  | 4              | 0              | 5              | 3              | 5              |
| 8.                | 32344557 | 33  | 7              | 2              | 5              | 2              | 6              |
| 9.                | 32533522 | 25  | 5              | 2              | 5              | 3              | 2              |
| 10.               | 13332442 | 22  | 6              | 1              | 4              | 0              | 2              |
| 11.               | 21212031 | 12  | 5              | 0              | 4              | 0              | 2              |
| 12.               | 31111115 | 14  | 5              | 0              | 4              | 0              | 2              |
| 13.               | 40111113 | 12  | 6              | 1              | 4              | 0              | 0              |
| 14.               | 31121125 | 16  | 6              | 2              | 4              | 1              | 2              |
| 15.               | 22222000 | 10  | 3              | 0              | 4              | 2              | 2              |
| 16.               | 12113574 | 24  | 4              | 0              | 4              | 2              | 3              |
| 17.               | 31111124 | 14  | 6              | 0              | 4              | 0              | 2              |
| 18.               | 10021121 | 8   | 4              | 0              | 4              | 0              | 0              |
| 19.               | 44666442 | 36  | 7              | 2              | 5              | 2              | 6              |
| 20.               | 72333994 | 40  | 6              | 2              | 5              | 2              | 4              |
| 21.               | 11221132 | 13  | 5              | 0              | 4              | 0              | 1              |
| 22.               | 11211021 | 9   | 3              | 0              | 4              | 0              | 1              |
| 23.               | 01112121 | 9   | 3              | 0              | 4              | 0              | 0              |
| 24.               | 20023433 | 17  | 4              | 1              | 5              | 2              | 2              |
| 25.               | 58322111 | 23  | 6              | 0              | 5              | 1              | 4              |
| 26.               | 11111111 | 8   | 5              | 0              | 4              | 1              | 1              |
| 27.               | 11111111 | 8   | 4              | 1              | 4              | 1              | 0              |
| 28.               | 11000113 | 7   | 3              | 0              | 4              | 1              | 0              |
| 29.               | 43543325 | 29  | 6              | 3              | 5              | 4              | 3              |
| 30.               | 22213112 | 14  | 6              | 2              | 4              | 1              | 2              |
| Monthly averages: |          |     | T (N)          | 2,117          |                |                |                |
|                   |          |     | T (E)          | 1,792          |                |                |                |
|                   |          |     | K <sub>1</sub> | 5,07           |                |                |                |
|                   |          |     | K <sub>2</sub> | 1,00           |                |                |                |
|                   |          |     | K <sub>3</sub> | 4,33           |                |                |                |
|                   |          |     | K <sub>4</sub> | 1,17           |                |                |                |
|                   |          |     | K <sub>5</sub> | 2,30           |                |                |                |

| May               |          |     |                |                |                |                |                |
|-------------------|----------|-----|----------------|----------------|----------------|----------------|----------------|
| Day               | T        | Sum | K <sub>1</sub> | K <sub>2</sub> | K <sub>3</sub> | K <sub>4</sub> | K <sub>5</sub> |
| 1.                | 11223226 | 19  | 5              | 0              | 5              | 2              | 2              |
| 2.                | 74439797 | 50  | 5              | 3              | 5              | 6              | 7              |
| 3.                | 53211111 | 15  | 2              | 0              | 4              | 2              | 2              |
| 4.                | 12223792 | 28  | 5              | 2              | 5              | 3              | 3              |
| 5.                | 32111211 | 12  | 4              | 0              | 4              | 2              | 2              |
| 6.                | 12111121 | 10  | 4              | 0              | 4              | 1              | 2              |
| 7.                | 21111002 | 8   | 4              | 0              | 4              | 0              | 0              |
| 8.                | 00101000 | 2   | 2              | 0              | 4              | 0              | 0              |
| 9.                | 11112210 | 9   | 3              | 0              | 5              | 1              | 2              |
| 10.               | 12212212 | 13  | 3              | 0              | 5              | 1              | 2              |
| 11.               | 11122492 | 22  | 4              | 0              | 5              | 2              | 4              |
| 12.               | 25422111 | 18  | 4              | 0              | 4              | 3              | 2              |
| 13.               | 01110033 | 9   | 3              | 0              | 4              | 1              | 2              |
| 14.               | 11211102 | 9   | 4              | 0              | 4              | 0              | 1              |
| 15.               | 41233224 | 21  | 4              | 0              | 4              | 1              | 4              |
| 16.               | 43233244 | 25  | 6              | 0              | 5              | 2              | 4              |
| 17.               | 33232331 | 20  | 6              | 0              | 5              | 2              | 2              |
| 18.               | 22224220 | 16  | 6              | 0              | 5              | 1              | 2              |
| 19.               | 12114210 | 12  | 5              | 0              | 4              | 1              | 0              |
| 20.               | 11112242 | 14  | 4              | 1              | 4              | 2              | 1              |
| 21.               | 11212352 | 17  | 4              | 0              | 4              | 0              | 0              |
| 22.               | 14412352 | 22  | 3              | 0              | 4              | 1              | 1              |
| 23.               | 21110102 | 8   | 6              | 2              | 4              | 1              | 0              |
| 24.               | 22222121 | 14  | 5              | 2              | 4              | 1              | 1              |
| 25.               | 11111211 | 9   | 4              | 1              | 4              | 1              | 0              |
| 26.               | 01100111 | 5   | 4              | 1              | 4              | 0              | 0              |
| 27.               | 11001110 | 5   | 3              | 0              | 4              | 0              | 0              |
| 28.               | 13133121 | 15  | 3              | 1              | 4              | 1              | 0              |
| 29.               | 11001201 | 6   | 5              | 1              | 4              | 1              | 1              |
| 30.               | 12111001 | 7   | 4              | 1              | 4              | 1              | 0              |
| 31.               | 12212211 | 12  | 4              | 2              | 4              | 2              | 1              |
| Monthly averages: |          |     |                | T (N)          | 1,614          |                |                |
|                   |          |     |                | T (E)          | 1,391          |                |                |
|                   |          |     |                | K <sub>1</sub> | 4,16           |                |                |
|                   |          |     |                | K <sub>2</sub> | 0,55           |                |                |
|                   |          |     |                | K <sub>3</sub> | 4,29           |                |                |
|                   |          |     |                | K <sub>4</sub> | 1,35           |                |                |
|                   |          |     |                | K <sub>5</sub> | 1,55           |                |                |

| June              |          |     |                |                |                |                |                |
|-------------------|----------|-----|----------------|----------------|----------------|----------------|----------------|
| Day               | T        | Sum | K <sub>1</sub> | K <sub>2</sub> | K <sub>3</sub> | K <sub>4</sub> | K <sub>5</sub> |
| 1.                | 13112212 | 13  | 5              | 2              | 4              | 2              | 2              |
| 2.                | 23212224 | 18  | 6              | 2              | 5              | 2              | 2              |
| 3.                | 21102101 | 8   | 4              | 1              | 4              | 1              | 0              |
| 4.                | 32111111 | 11  | 4              | 1              | 4              | 2              | 0              |
| 5.                | 12112100 | 8   | 3              | 1              | 4              | 0              | 1              |
| 6.                | 11111011 | 7   | 4              | 1              | 4              | 0              | 0              |
| 7.                | 11122132 | 13  | 4              | 0              | 4              | 1              | 1              |
| 8.                | 01111223 | 11  | 4              | 1              | 4              | 1              | 1              |
| 9.                | 12211011 | 9   | 5              | 2              | 4              | 0              | 1              |
| 10.               | 23121011 | 11  | 5              | 2              | 4              | 0              | 1              |
| 11.               | 11000001 | 3   | 4              | 1              | 4              | 0              | 0              |
| 12.               | 11000011 | 4   | 2              | 0              | 4              | 0              | 1              |
| 13.               | 01110012 | 6   | 2              | 0              | 4              | 0              | 1              |
| 14.               | 42311112 | 15  | 4              | 1              | 4              | 1              | 3              |
| 15.               | 01110021 | 6   | 2              | 0              | 4              | 0              | 1              |
| 16.               | 01115923 | 22  | 4              | 1              | 4              | 2              | 4              |
| 17.               | 24311212 | 16  | 5              | 1              | 4              | 2              | 2              |
| 18.               | 22221221 | 14  | 4              | 2              | 4              | 1              | 2              |
| 19.               | 31211211 | 12  | 4              | 2              | 4              | 1              | 2              |
| 20.               | 43323111 | 18  | 6              | 2              | 5              | 2              | 0              |
| 21.               | 12212210 | 11  | 5              | 2              | 4              | 1              | 0              |
| 22.               | 12111241 | 13  | 5              | 2              | 4              | 1              | 1              |
| 23.               | 24311221 | 16  | 5              | 2              | 4              | 1              | 1              |
| 24.               | 14321322 | 18  | 3              | 1              | 4              | 1              | 1              |
| 25.               | 21011100 | 6   | 4              | 0              | 4              | 1              | 0              |
| 26.               | 11122100 | 8   | 4              | 1              | 4              | 2              | 1              |
| 27.               | 22112121 | 12  | 4              | 1              | 4              | 1              | 2              |
| 28.               | 01443421 | 19  | 4              | 2              | 5              | 2              | 4              |
| 29.               | 21011211 | 9   | 3              | 0              | 4              | 1              | 1              |
| 30.               | 11111122 | 10  | 3              | 0              | 4              | 2              | 1              |
| Monthly averages: |          |     | T (N)          | 1,300          |                |                |                |
|                   |          |     | T (E)          | 1,112          |                |                |                |
|                   |          |     | K <sub>1</sub> | 4,03           |                |                |                |
|                   |          |     | K <sub>2</sub> | 1,13           |                |                |                |
|                   |          |     | K <sub>3</sub> | 4,10           |                |                |                |
|                   |          |     | K <sub>4</sub> | 1,03           |                |                |                |
|                   |          |     | K <sub>5</sub> | 1,23           |                |                |                |

| July              |          |     |                |                |                |                |                |
|-------------------|----------|-----|----------------|----------------|----------------|----------------|----------------|
| Day               | T        | Sum | K <sub>1</sub> | K <sub>2</sub> | K <sub>3</sub> | K <sub>4</sub> | K <sub>5</sub> |
| 1.                | 21241432 | 19  | 3              | 1              | 4              | 1              | 2              |
| 2.                | 42111231 | 15  | 5              | 1              | 4              | 2              | 2              |
| 3.                | 12112211 | 11  | 4              | 0              | 4              | 1              | 2              |
| 4.                | 12111110 | 8   | 3              | 0              | 5              | 1              | 1              |
| 5.                | 30001210 | 7   | 3              | 0              | 4              | 0              | 1              |
| 6.                | 11149934 | 32  | 4              | 2              | 4              | 2              | 3              |
| 7.                | 93432212 | 26  | 6              | 2              | 4              | 3              | 1              |
| 8.                | 12433322 | 20  | 6              | 0              | 4              | 2              | 2              |
| 9.                | 22222324 | 19  | 5              | 0              | 4              | 2              | 2              |
| 10.               | 53332243 | 25  | 6              | 2              | 4              | 2              | 4              |
| 11.               | 42222121 | 16  | 6              | 2              | 4              | 2              | 3              |
| 12.               | 112 003  | (9) | 5              | 1              | 4              | 1              | 0              |
| 13.               | 32212324 | 19  | 5              | 2              | 5              | 1              | 2              |
| 14.               | 24444111 | 21  | 7              | 2              | 5              | 3              | 2              |
| 15.               | 22212122 | 14  | 5              | 2              | 4              | 1              | 2              |
| 16.               | 23345635 | 31  | 7              | 2              | 5              | 2              | 6              |
| 17.               | 44323235 | 26  | 6              | 2              | 5              | 2              | 2              |
| 18.               | 22112201 | 11  | 3              | 0              | 4              | 1              | 1              |
| 19.               | 23223423 | 21  | 6              | 0              | 4              | 1              | 2              |
| 20.               | 43345342 | 28  | 7              | 3              | 4              | 3              | 3              |
| 21.               | 23321322 | 18  | 6              | 2              | 4              | 1              | 1              |
| 22.               | 31221112 | 13  | 4              | 1              | 4              | 1              | 2              |
| 23.               | 22112011 | 10  | 6              | 1              | 4              | 1              | 1              |
| 24.               | 11213122 | 13  | 5              | 0              | 4              | 1              | 2              |
| 25.               | 21111101 | 8   | 5              | 1              | 4              | 0              | 1              |
| 26.               | 01110111 | 6   | 5              | 1              | 4              | 1              | 0              |
| 27.               | 00011102 | 5   | 4              | 2              | 4              | 0              | 0              |
| 28.               | 11011101 | 6   | 4              | 0              | 4              | 0              | 1              |
| 29.               | 97636282 | 43  | 6              | 2              | 5              | 3              | 5              |
| 30.               | 53332111 | 19  | 6              | 0              | 5              | 3              | 4              |
| 31.               | 13221112 | 13  | 6              | 0              | 4              | 2              | 2              |
| Monthly averages: |          |     | T (N)          | 1,955          |                |                |                |
|                   |          |     | T (E)          | 1,710          |                |                |                |
|                   |          |     | K <sub>1</sub> | 5,13           |                |                |                |
|                   |          |     | K <sub>2</sub> | 1,10           |                |                |                |
|                   |          |     | K <sub>3</sub> | 4,23           |                |                |                |
|                   |          |     | K <sub>4</sub> | 1,48           |                |                |                |
|                   |          |     | K <sub>5</sub> | 2,00           |                |                |                |

| August |          |     |                |                |                |                |                |
|--------|----------|-----|----------------|----------------|----------------|----------------|----------------|
| Day    | T        | Sum | K <sub>1</sub> | K <sub>2</sub> | K <sub>3</sub> | K <sub>4</sub> | K <sub>5</sub> |
| 1.     | 11211201 | 9   | 5              | 0              | 5              | 1              | 1              |
| 2.     | 21111100 | 7   | 5              | 0              | 4              | 1              | 1              |
| 3.     | 21111122 | 11  | 5              | 1              | 4              | 2              | 1              |
| 4.     | 22122132 | 15  | 6              | 1              | 5              | 2              | 1              |
| 5.     | 36877564 | 46  | 7              | 4              | 6              | 4              | 4              |
| 6.     | 53454344 | 32  | 7              | 4              | 6              | 3              | 4              |
| 7.     | 41242333 | 22  | 6              | 2              | 5              | 2              | 2              |
| 8.     | 42413222 | 20  | 7              | 4              | 5              | 3              | 1              |
| 9.     | 53214852 | 30  | 7              | 3              | 5              | 4              | 4              |
| 10.    | 44212222 | 19  | 6              | 1              | 5              | 3              | 3              |
| 11.    | 24234547 | 31  | 6              | 2              | 5              | 3              | 4              |
| 12.    | 12222212 | 14  | 6              | 2              | 5              | 2              | 2              |
| 13.    | 23213114 | 17  | 6              | 1              | 5              | 1              | 2              |
| 14.    | 10124241 | 15  | 6              | 1              | 4              | 1              | 1              |
| 15.    | 11323011 | 12  | 6              | 2              | 5              | 1              | 1              |
| 16.    | 12013313 | 14  | 5              | 0              | 4              | 1              | 3              |
| 17.    | 22254524 | 26  | 7              | 4              | 5              | 3              | 4              |
| 18.    | 42334332 | 24  | 8              | 4              | 6              | 3              | 3              |
| 19.    | 35342134 | 25  | 7              | 3              | 5              | 2              | 3              |
| 20.    | 62222211 | 18  | 6              | 1              | 5              | 2              | 2              |
| 21.    | 21211001 | 8   | 5              | 2              | 4              | 1              | 0              |
| 22.    | 00010013 | 5   | 5              | 0              | 4              | 1              | 0              |
| 23.    | 20022321 | 12  | 4              | 0              | 5              | 1              | 1              |
| 24.    | 11122220 | 11  | 4              | 0              | 4              | 1              | 2              |
| 25.    | 01235932 | 25  | 5              | 1              | 5              | 4              | 4              |
| 26.    | 51225211 | 19  | 6              | 2              | 4              | 2              | 3              |
| 27.    | 12221152 | 16  | 6              | 2              | 4              | 3              | 2              |
| 28.    | 22111111 | 10  | 5              | 1              | 5              | 1              | 1              |
| 29.    | 21111000 | 6   | 3              | 1              | 4              | 0              | 0              |
| 30.    | 10111111 | 7   | 4              | 1              | 4              | 0              | 1              |
| 31.    | 12111100 | 7   | 3              | 0              | 4              | 0              | 0              |

Monthly averages:

|                |       |
|----------------|-------|
| T (N)          | 2,049 |
| T (E)          | 1,629 |
| K <sub>1</sub> | 5,61  |
| K <sub>2</sub> | 1,61  |
| K <sub>3</sub> | 4,71  |
| K <sub>4</sub> | 1,87  |
| K <sub>5</sub> | 1,97  |

| September         |          |     |                |                |                |                |                |
|-------------------|----------|-----|----------------|----------------|----------------|----------------|----------------|
| Day               | T        | Sum | K <sub>1</sub> | K <sub>2</sub> | K <sub>3</sub> | K <sub>4</sub> | K <sub>5</sub> |
| 1.                | 11012100 | 6   | 4              | 0              | 4              | 0              | 1              |
| 2.                | 11121232 | 13  | 5              | 1              | 5              | 1              | 2              |
| 3.                | 43112001 | 12  | 6              | 1              | 5              | 1              | 2              |
| 4.                | 11122110 | 9   | 5              | 3              | 4              | 1              | 2              |
| 5.                | 10012001 | 5   | 4              | 1              | 4              | 1              | 0              |
| 6.                | 01112112 | 9   | 5              | 2              | 4              | 1              | 1              |
| 7.                | 00101014 | 7   | 4              | 1              | 4              | 1              | 1              |
| 8.                | 22122013 | 13  | 5              | 1              | 4              | 2              | 2              |
| 9.                | 12111220 | 10  | 3              | 0              | 4              | 1              | 3              |
| 10.               | 33232022 | 17  | 4              | 1              | 4              | 2              | 2              |
| 11.               | 22233261 | 21  | 4              | 0              | 4              | 2              | 4              |
| 12.               | 32001014 | 10  | 4              | 1              | 4              | 0              | 2              |
| 13.               | 21223585 | 28  | 7              | 3              | 5              | 2              | 6              |
| 14.               | 12111111 | 9   | 6              | 1              | 4              | 1              | 2              |
| 15.               | 11231101 | 10  | 5              | 1              | 4              | 1              | 1              |
| 16.               | 00122213 | 11  | 6              | 1              | 4              | 2              | 2              |
| 17.               | 11111201 | 8   | 4              | 1              | 4              | 0              | 2              |
| 18.               | 11122111 | 10  | 5              | 1              | 4              | 2              | 2              |
| 19.               | 00019878 | 33  | 4              | 2              | 5              | 3              | 6              |
| 20.               | 96546589 | 52  | 7              | 2              | 7              | 3              | 8              |
| 21.               | 65688239 | 47  | 7              | 1              | 6              | 3              | 8              |
| 22.               | 96455989 | 55  | 7              | 2              | 7              | 8              | 6              |
| 23.               | 21135665 | 29  | 5              | 2              | 6              | 4              | 6              |
| 24.               | 31211314 | 16  | 4              | 2              | 4              | 0              | 2              |
| 25.               | 11112123 | 12  | 5              | 1              | 4              | 1              | 1              |
| 26.               | 10122443 | 17  | 4              | 2              | 4              | 2              | 3              |
| 27.               | 94542111 | 27  | 4              | 2              | 5              | 2              | 4              |
| 28.               | 11122521 | 15  | 4              | 1              | 4              | 1              | 1              |
| 29.               | 00100010 | 2   | 3              | 0              | 4              | 1              | 0              |
| 30.               | 10123011 | 9   | 5              | 2              | 5              | 1              | 1              |
| Monthly averages: |          |     | T (N)          | 2,058          |                |                |                |
|                   |          |     | T (E)          | 1,717          |                |                |                |
|                   |          |     | K <sub>1</sub> | 4,83           |                |                |                |
|                   |          |     | K <sub>2</sub> | 1,30           |                |                |                |
|                   |          |     | K <sub>3</sub> | 4,53           |                |                |                |
|                   |          |     | K <sub>4</sub> | 1,60           |                |                |                |
|                   |          |     | K <sub>5</sub> | 2,77           |                |                |                |

## October

| Day | T        | Sum | K <sub>1</sub> | K <sub>2</sub> | K <sub>3</sub> | K <sub>4</sub> | K <sub>5</sub> |
|-----|----------|-----|----------------|----------------|----------------|----------------|----------------|
| 1.  | 00011100 | 3   | 4              | 0              | 4              | 1              | 0              |
| 2.  | 30132000 | 9   | 4              | 1              | 5              | 1              | 2              |
| 3.  | 12327320 | 20  | 5              | 2              | 6              | 3              | 2              |
| 4.  | 12112011 | 9   | 4              | 1              | 4              | 0              | 1              |
| 5.  | 22144221 | 18  | 5              | 2              | 5              | 0              | 2              |
| 6.  | 42223222 | 19  | 6              | 2              | 5              | 2              | 1              |
| 7.  | 00111100 | 4   | 5              | 2              | 4              | 0              | 0              |
| 8.  | 10122121 | 10  | 3              | 0              | 4              | 2              | 1              |
| 9.  | 00111001 | 4   | 4              | 1              | 4              | 0              | 0              |
| 10. | 00004111 | 7   | 4              | 1              | 4              | 2              | 2              |
| 11. | 22112136 | 18  | 4              | 0              | 5              | 2              | 2              |
| 12. | 34232312 | 20  | 6              | 3              | 5              | 2              | 2              |
| 13. | 12234213 | 18  | 6              | 3              | 5              | 2              | 3              |
| 14. | 10113217 | 16  | 4              | 1              | 4              | 2              | 3              |
| 15. | 52442243 | 26  | 7              | 2              | 5              | 2              | 5              |
| 16. | 11111222 | 11  | 6              | 1              | 4              | 0              | 1              |
| 17. | 21121232 | 14  | 4              | 0              | 4              | 2              | 2              |
| 18. | 22221166 | 22  | 5              | 2              | 5              | 1              | 4              |
| 19. | 86334430 | 31  | 4              | 2              | 5              | 4              | 6              |
| 20. | 00111201 | 6   | 3              | 0              | 4              | 1              | 0              |
| 21. | 21011112 | 9   | 3              | 0              | 4              | 1              | 1              |
| 22. | 31324435 | 25  | 3              | 1              | 4              | 3              | 2              |
| 23. | 12110002 | 7   | 3              | 0              | 4              | 0              | 0              |
| 24. | 12111010 | 7   | 4              | 1              | 4              | 0              | 0              |
| 25. | 20010012 | 6   | 3              | 1              | 5              | 1              | 0              |
| 26. | 01111001 | 5   | 3              | 0              | 4              | 0              | 0              |
| 27. | 55266699 | 48  | 6              | 3              | 6              | 5              | 7              |
| 28. | 69733382 | 41  | 7              | 2              | 5              | 6              | 6              |
| 29. | 11113220 | 11  | 6              | 2              | 4              | 1              | 0              |
| 30. | 11222661 | 21  | 7              | 3              | 4              | 2              | 2              |
| 31. | 11112221 | 11  | 6              | 2              | 4              | 0              | 1              |

Monthly averages:

T (N) 1,815  
 T (E) 1,331  
 K<sub>1</sub> 4,65  
 K<sub>2</sub> 1,32  
 K<sub>3</sub> 4,45  
 K<sub>4</sub> 1,61  
 K<sub>5</sub> 1,87

| November          |          |     |                |                |                |                |                |
|-------------------|----------|-----|----------------|----------------|----------------|----------------|----------------|
| Day               | T        | Sum | K <sub>1</sub> | K <sub>2</sub> | K <sub>3</sub> | K <sub>4</sub> | K <sub>5</sub> |
| 1.                | 11121112 | 10  | 6              | 1              | 4              | 1              | 0              |
| 2.                | 11211002 | 8   | 5              | 2              | 4              | 1              | 1              |
| 3.                | 00110010 | 3   | 4              | 0              | 4              | 0              | 1              |
| 4.                | 01102531 | 13  | 4              | 2              | 4              | 0              | 1              |
| 5.                | 32100110 | 8   | 4              | 0              | 4              | 1              | 2              |
| 6.                | 10111101 | 6   | 3              | 0              | 4              | 1              | 1              |
| 7.                | 01012001 | 5   | 3              | 1              | 4              | 1              | 1              |
| 8.                | 00001020 | 3   | 3              | 1              | 4              | 0              | 0              |
| 9.                | 10000010 | 2   | 3              | 0              | 4              | 1              | 0              |
| 10.               | 10012321 | 10  | 3              | 1              | 4              | 1              | 2              |
| 11.               | 30112101 | 9   | 5              | 2              | 4              | 1              | 0              |
| 12.               | 15323221 | 19  | 4              | 2              | 5              | 2              | 3              |
| 13.               | 53242912 | 28  | 4              | 1              | 5              | 3              | 4              |
| 14.               | 44255994 | 42  | 5              | 3              | 5              | 3              | 5              |
| 15.               | 82444541 | 32  | 5              | 2              | 5              | 3              | 6              |
| 16.               | 41224232 | 20  | 3              | 0              | 4              | 2              | 3              |
| 17.               | 12121003 | 10  | 4              | 0              | 4              | 2              | 2              |
| 18.               | 10101111 | 6   | 2              | 0              | 4              | 1              | 1              |
| 19.               | 11111022 | 9   | 4              | 0              | 4              | 1              | 0              |
| 20.               | 11011001 | 5   | 4              | 0              | 4              | 0              | 1              |
| 21.               | 31101001 | 7   | 6              | 2              | 4              | 1              | 1              |
| 22.               | 01120000 | 4   | 3              | 0              | 4              | 0              | 0              |
| 23.               | 11010002 | 5   | 3              | 0              | 4              | 0              | 0              |
| 24.               | 00000000 | 0   | 2              | 0              | 4              | 0              | 0              |
| 25.               | 00005264 | 17  | 4              | 2              | 5              | 3              | 3              |
| 26.               | 42111142 | 16  | 3              | 0              | 5              | 3              | 3              |
| 27.               | 91233111 | 20  | 6              | 2              | 5              | 2              | 3              |
| 28.               | 11221101 | 9   | 6              | 2              | 4              | 1              | 1              |
| 29.               | 11100101 | 5   | 3              | 0              | 4              | 1              | 1              |
| 30.               | 22352012 | 17  | 4              | 1              | 5              | 2              | 3              |
| Monthly averages: |          |     | T (N)          | 1,312          |                |                |                |
|                   |          |     | T (E)          | 0,929          |                |                |                |
|                   |          |     | K <sub>1</sub> | 3,93           |                |                |                |
|                   |          |     | K <sub>2</sub> | 0,90           |                |                |                |
|                   |          |     | K <sub>3</sub> | 4,27           |                |                |                |
|                   |          |     | K <sub>4</sub> | 1,27           |                |                |                |
|                   |          |     | K <sub>5</sub> | 1,63           |                |                |                |

| December          |          |      |                |                |                |                |                |
|-------------------|----------|------|----------------|----------------|----------------|----------------|----------------|
| Day               | T        | Sum  | K <sub>1</sub> | K <sub>2</sub> | K <sub>3</sub> | K <sub>4</sub> | K <sub>5</sub> |
| 1.                | 10000124 | 8    | 3              | 0              | 4              | 1              | 0              |
| 2.                | 28645899 | 51   | 7              | 4              | 6              | 6              | 8              |
| 3.                | 11221112 | 11   | 6              | 2              | 4              | 1              | 1              |
| 4.                | 11100256 | 16   | 3              | 0              | 4              | 2              | 4              |
| 5.                | 42221211 | 15   | 5              | 0              | 4              | 2              | 2              |
| 6.                | 30110000 | 5    | 4              | 1              | 4              | 1              | 1              |
| 7.                | 00000000 | 0    | 3              | 0              | 3              | 0              | 0              |
| 8.                | 00000000 | 0    | 2              | 0              | 3              | 0              | 0              |
| 9.                | 00000    | (0)  | 2              | 0              | 2              | 0              | 0              |
| 10.               |          |      |                |                |                |                |                |
| 11.               | 45534    | (34) | 3              | 0              | 4              | 2              | 6              |
| 12.               | 33313111 | 16   | 3              | 0              | 4              | 1              | 1              |
| 13.               | 321111   | (12) | 2              | 0              | 4              | 0              | 0              |
| 14.               | 11210    | (8)  | 3              | 0              | 4              | 1              | 0              |
| 15.               | 000      | (0)  | 3              | 0              | 4              | 0              | 0              |
| 16.               | 113      | (13) | 3              | 0              | 4              | 1              | 2              |
| 17.               | 34210101 | 12   | 2              | 0              | 4              | 1              | 2              |
| 18.               | 01010000 | 2    | 3              | 0              | 4              | 0              | 0              |
| 19.               | 00000020 | 2    | 3              | 1              | 3              | 0              | 0              |
| 20.               | 00010010 | 2    | 3              | 0              | 4              | 0              | 0              |
| 21.               | 00110103 | 6    | 3              | 0              | 4              | 1              | 0              |
| 22.               | 21000000 | 3    | 4              | 0              | 4              | 0              | 0              |
| 23.               | 20000001 | 3    | 3              | 0              | 4              | 1              | 0              |
| 24.               | 10011111 | 6    | 4              | 0              | 4              | 0              | 0              |
| 25.               | 00002121 | 6    | 5              | 1              | 4              | 0              | 0              |
| 26.               | 21212131 | 13   | 5              | 0              | 4              | 0              | 2              |
| 27.               | 11121100 | 7    | 4              | 0              | 4              | 1              | 0              |
| 28.               | 00101018 | 10   | 5              | 1              | 3              | 1              | 2              |
| 29.               | 31111013 | 11   | 4              | 0              | 4              | 1              | 1              |
| 30.               | 11111112 | 9    | 7              | 1              | 4              | 0              | 1              |
| 31.               | 10021002 | 6    | 6              | 2              | 3              | 1              | 1              |
| Monthly averages: |          |      | T (N)          | 1,106          |                |                |                |
|                   |          |      | T (E)          | 0,884          |                |                |                |
|                   |          |      | K <sub>1</sub> | 3,77           |                |                |                |
|                   |          |      | K <sub>2</sub> | 0,43           |                |                |                |
|                   |          |      | K <sub>3</sub> | 3,83           |                |                |                |
|                   |          |      | K <sub>4</sub> | 0,83           |                |                |                |
|                   |          |      | K <sub>5</sub> | 1,13           |                |                |                |

## II. Average amplitudes for different periods

| Hour<br>Parameter | 0   | 1   | 2   | 3  | 4  | 5   | 6   | 7   | 8   | 9   | 10  | 11  |
|-------------------|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|
| January North     |     |     |     |    |    |     |     |     |     |     |     |     |
| 1.                | 8   | 6   | 7   | 6  | 6  | 8   | 10  | 17  | 20  | 17  | 14  | 15  |
| 2.                | 10  | 8   | 5   | 6  | 3  | 5   | 6   | 12  | 18  | 16  | 12  | 12  |
| 3.                | 36  | 34  | 36  | 34 | 35 | 37  | 37  | 35  | 35  | 37  | 37  | 33  |
| 4.                | 33  | 39  | 41  | 41 | 33 | 35  | 40  | 44  | 30  | 35  | 30  | 47  |
| 5.                | 85  | 69  | 62  | 24 | 29 | 27  | 15  | 25  | 24  | 27  | 37  | 24  |
| 6.                | -25 | -15 | -6  | -8 | -2 | -9  | -11 | +1  | +19 | -13 | -30 | -57 |
| January East      |     |     |     |    |    |     |     |     |     |     |     |     |
| 1.                | 9   | 8   | 7   | 5  | 5  | 10  | 17  | 23  | 23  | 28  | 24  | 20  |
| 2.                | 8   | 8   | 3   | 3  | 2  | 5   | 6   | 10  | 12  | 14  | 15  | 17  |
| 3.                | 35  | 36  | 35  | 34 | 34 | 33  | 34  | 35  | 34  | 36  | 34  | 35  |
| 4.                | 31  | 27  | 27  | 33 | 34 | 26  | 27  | 31  | 31  | 31  | 37  | 33  |
| 5.                | 57  | 47  | 48  | 39 | 23 | 31  | 32  | 23  | 15  | 25  | 17  | 19  |
| 6.                | -10 | -6  | +6  | -5 | -6 | -22 | -31 | -25 | 0   | +15 | +19 | 0   |
| February North    |     |     |     |    |    |     |     |     |     |     |     |     |
| 1.                | 8   | 8   | 7   | 6  | 6  | 8   | 10  | 15  | 20  | 15  | 16  | 12  |
| 2.                | 8   | 8   | 6   | 3  | 8  | 5   | 6   | 14  | 16  | 13  | 11  | 13  |
| 3.                | 36  | 35  | 36  | 36 | 37 | 35  | 35  | 37  | 37  | 36  | 35  | 38  |
| 4.                | 38  | 33  | 34  | 38 | 37 | 30  | 34  | 38  | 35  | 46  | 44  | 41  |
| 5.                | 46  | 66  | 39  | 42 | 32 | 35  | 24  | 28  | 20  | 16  | 36  | 41  |
| 6.                | +35 | +14 | -9  | 0  | -2 | -9  | -12 | -17 | -3  | -17 | -60 | -59 |
| February East     |     |     |     |    |    |     |     |     |     |     |     |     |
| 1.                | 11  | 8   | 5   | 7  | 10 | 12  | 15  | 23  | 27  | 29  | 32  | 32  |
| 2.                | 8   | 7   | 3   | 3  | 5  | 4   | 8   | 10  | 14  | 21  | 15  | 17  |
| 3.                | 35  | 31  | 33  | 32 | 31 | 33  | 36  | 34  | 33  | 28  | 34  | 33  |
| 4.                | 23  | 50  | 33  | 30 | 30 | 27  | 24  | 33  | 29  | 36  | 32  | 25  |
| 5.                | 48  | 48  | 30  | 38 | 23 | 30  | 28  | 24  | 25  | 23  | 23  | 31  |
| 6.                | +17 | +18 | +12 | +8 | +7 | -6  | -20 | -12 | -9  | +25 | +12 | -4  |

*and hourly means of earth current elements*

| 12        | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | Averages |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|
| Component |     |     |     |     |     |     |     |     |     |     |     |          |
| 17        | 15  | 10  | 10  | 11  | 11  | 10  | 9   | 7   | 9   | 6   | 5   | 10,6     |
| 15        | 12  | 10  | 10  | 8   | 9   | 9   | 6   | 7   | 8   | 6   | 6   | 9,0      |
| 35        | 35  | 39  | 37  | 36  | 37  | 36  | 35  | 34  | 34  | 36  | 34  | 35,6     |
| 34        | 37  | 35  | 36  | 31  | 31  | 34  | 34  | 37  | 39  | 37  | 44  | 36,5     |
| 33        | 25  | 17  | 27  | 48  | 55  | 50  | 31  | 52  | 57  | 91  | 56  | 41,2     |
| —44       | —2  | +19 | +4  | +17 | +2  | +23 | +16 | +33 | +51 | +21 | +19 |          |
| Component |     |     |     |     |     |     |     |     |     |     |     |          |
| 26        | 28  | 23  | 21  | 16  | 14  | 16  | 12  | 11  | 13  | 14  | 9   | 16,1     |
| 16        | 16  | 12  | 13  | 10  | 6   | 6   | 6   | 7   | 8   | 9   | 6   | 9,1      |
| 37        | 34  | 35  | 37  | 35  | 37  | 32  | 34  | 35  | 35  | 37  | 33  | 34,8     |
| 26        | 21  | 29  | 29  | 31  | 34  | 37  | 38  | 34  | 32  | 25  | 35  | 31,0     |
| 26        | 21  | 29  | 29  | 31  | 34  | 37  | 38  | 34  | 32  | 25  | 35  | 31,0     |
| 24        | 40  | 28  | 31  | 44  | 50  | 29  | 37  | 48  | 55  | 93  | 55  | 37,9     |
| —14       | +1  | +3  | +12 | +17 | +17 | +2  | +12 | +5  | +1  | —13 | +19 |          |
| Component |     |     |     |     |     |     |     |     |     |     |     |          |
| 16        | 14  | 9   | 8   | 6   | 9   | 11  | 8   | 8   | 12  | 6   | 8   | 6,1      |
| 14        | 10  | 7   | 8   | 5   | 6   | 9   | 6   | 7   | 10  | 4   | 5   | 4,3      |
| 35        | 36  | 35  | 35  | 36  | 35  | 36  | 36  | 35  | 35  | 37  | 35  | 35,8     |
| 36        | 50  | 41  | 33  | 35  | 36  | 40  | 39  | 57  | 36  | 40  | 43  | 38,9     |
| 50        | 48  | 42  | 41  | 41  | 56  | 41  | 89  | 73  | 64  | 82  | 57  | 46,2     |
| —68       | —33 | +23 | +34 | +18 | +43 | +27 | +45 | +21 | +21 | +28 | —12 |          |
| Component |     |     |     |     |     |     |     |     |     |     |     |          |
| 34        | 30  | 26  | 31  | 24  | 23  | 21  | 18  | 14  | 16  | 12  | 13  | 19,7     |
| 21        | 15  | 16  | 15  | 12  | 8   | 8   | 9   | 6   | 7   | 5   | 9   | 10,3     |
| 37        | 36  | 37  | 33  | 35  | 34  | 33  | 36  | 36  | 33  | 37  | 34  | 33,9     |
| 31        | 39  | 44  | 32  | 28  | 27  | 34  | 28  | 37  | 39  | 35  | 23  | 32,0     |
| 39        | 42  | 33  | 35  | 55  | 70  | 59  | 82  | 66  | 56  | 87  | 73  | 44,5     |
| —19       | —9  | +29 | +3  | +6  | +8  | —18 | 0   | —20 | —24 | —5  | 0   |          |

| Hour<br>Parameter | 0   | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10   | 11   |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| March North       |     |     |     |     |     |     |     |     |     |     |      |      |
| 1.                | 8   | 9   | 10  | 8   | 8   | 9   | 16  | 17  | 14  | 13  | 13   | 15   |
| 2.                | 10  | 10  | 9   | 4   | 4   | 5   | 9   | 13  | 10  | 9   | 6    | 10   |
| 3.                | 33  | 32  | 33  | 33  | 33  | 34  | 34  | 33  | 36  | 35  | 33   | 38   |
| 4.                | 26  | 30  | 28  | 34  | 34  | 24  | 30  | 41  | 39  | 32  | 31   | 42   |
| 5.                | 42  | 63  | 41  | 63  | 24  | 42  | 19  | 18  | 17  | 21  | 31   | 24   |
| 6.                | -6  | -17 | -11 | +5  | +1  | -6  | +19 | +45 | +37 | -8  | -79  | -126 |
| March East        |     |     |     |     |     |     |     |     |     |     |      |      |
| 1.                | 9   | 10  | 10  | 7   | 6   | 9   | 16  | 20  | 19  | 24  | 24   | 24   |
| 2.                | 11  | 6   | 5   | 2   | 2   | 3   | 6   | 8   | 10  | 9   | 11   | 13   |
| 3.                | 30  | 29  | 29  | 33  | 33  | 28  | 30  | 34  | 36  | 29  | 34   | 33   |
| 4.                | 27  | 31  | 37  | 23  | 25  | 27  | 22  | 28  | 27  | 30  | 38   | 33   |
| 5.                | 43  | 41  | 24  | 45  | 25  | 37  | 26  | 17  | 21  | 25  | 21   | 24   |
| 6.                | -12 | +4  | -2  | +10 | +2  | -15 | -8  | +4  | +53 | +57 | +45  | +21  |
| April North       |     |     |     |     |     |     |     |     |     |     |      |      |
| 1.                | 9   | 8   | 12  | 16  | 13  | 19  | 19  | 19  | 17  | 18  | 16   | 14   |
| 2.                | 10  | 10  | 11  | 8   | 8   | 13  | 16  | 14  | 9   | 14  | 8    | 5    |
| 3.                | 36  | 36  | 39  | 37  | 36  | 38  | 37  | 37  | 37  | 35  | 37   | 37   |
| 4.                | 39  | 42  | 41  | 29  | 34  | 44  | 47  | 47  | 32  | 34  | 36   | 37   |
| 5.                | 83  | 98  | 60  | 86  | 55  | 21  | 29  | 31  | 23  | 26  | 41   | 50   |
| 6.                | +13 | +5  | +14 | +11 | +25 | +17 | +40 | +68 | +11 | -46 | -102 | -139 |
| April East        |     |     |     |     |     |     |     |     |     |     |      |      |
| 1.                | 13  | 13  | 14  | 13  | 11  | 14  | 26  | 27  | 26  | 35  | 34   | 31   |
| 2.                | 8   | 5   | 7   | 4   | 3   | 5   | 9   | 12  | 11  | 12  | 14   | 19   |
| 3.                | 33  | 32  | 32  | 35  | 35  | 36  | 31  | 34  | 35  | 34  | 33   | 34   |
| 4.                | 28  | 40  | 37  | 29  | 32  | 21  | 28  | 23  | 17  | 34  | 40   | 27   |
| 5.                | 82. | 71  | 59  | 41  | 46  | 41  | 36  | 53  | 36  | 31  | 19   | 48   |
| 6.                | +1  | +7  | +10 | +11 | +19 | +7  | +8  | +44 | +32 | +40 | +7   | -15  |

| 12        | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | Averages |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|
| Component |     |     |     |     |     |     |     |     |     |     |     |          |
| 12        | 9   | 8   | 9   | 7   | 9   | 8   | 5   | 8   | 6   | 8   | 8   | 9,7      |
| 8         | 6   | 2   | 6   | 5   | 6   | 8   | 5   | 8   | 5   | 6   | 6   | 7,2      |
| 37        | 34  | 36  | 34  | 34  | 34  | 33  | 35  | 31  | 35  | 37  | 34  | 34,2     |
| 37        | 42  | 37  | 30  | 34  | 25  | 27  | 35  | 26  | 28  | 27  | 37  | 32,2     |
| 39        | 39  | 24  | 24  | 19  | 41  | 62  | 31  | 61  | 60  | 110 | 56  | 40,5     |
| —111      | —50 | —12 | +37 | +66 | +52 | +21 | +21 | +41 | +43 | +30 | +6  |          |
| Component |     |     |     |     |     |     |     |     |     |     |     |          |
| 26        | 22  | 23  | 22  | 19  | 16  | 8   | 5   | 10  | 13  | 11  | 8   | 15,0     |
| 13        | 9   | 12  | 11  | 7   | 3   | 5   | 5   | 7   | 8   | 8   | 9   | 7,6      |
| 34        | 34  | 34  | 34  | 32  | 31  | 34  | 34  | 32  | 28  | 33  | 31  | 32,0     |
| 32        | 39  | 29  | 33  | 25  | 30  | 25  | 32  | 28  | 30  | 35  | 33  | 30,0     |
| 29        | 33  | 27  | 24  | 28  | 37  | 46  | 45  | 60  | 75  | 77  | 70  | 37,5     |
| —18       | —17 | —33 | —12 | +10 | +4  | —11 | —24 | —14 | —29 | —32 | +16 |          |
| Component |     |     |     |     |     |     |     |     |     |     |     |          |
| 15        | 10  | 11  | 11  | 8   | 8   | 8   | 13  | 11  | 7   | 9   | 10  | 12,4     |
| 13        | 5   | 6   | 6   | 3   | 7   | 6   | 6   | 10  | 4   | 8   | 7   | 8,6      |
| 37        | 37  | 37  | 37  | 35  | 39  | 34  | 34  | 34  | 36  | 37  | 36  | 36,5     |
| 29        | 47  | 41  | 41  | 33  | 40  | 29  | 41  | 35  | 53  | 52  | 50  | 39,7     |
| 40        | 58  | 31  | 32  | 57  | 45  | 76  | 49  | 95  | 59  | 56  | 146 | 56,1     |
| —112      | —46 | +28 | +52 | +55 | +66 | +34 | +14 | —7  | +8  | —6  | —4  |          |
| Component |     |     |     |     |     |     |     |     |     |     |     |          |
| 34        | 33  | 28  | 29  | 24  | 17  | 14  | 10  | 14  | 10  | 13  | 16  | 20,8     |
| 17        | 13  | 13  | 8   | 10  | 8   | 5   | 7   | 4   | 6   | 7   | 8   | 9,0      |
| 35        | 34  | 32  | 34  | 34  | 41  | 35  | 37  | 34  | 37  | 35  | 35  | 34,5     |
| 32        | 34  | 32  | 37  | 34  | 47  | 31  | 44  | 43  | 38  | 43  | 38  | 33,7     |
| 35        | 55  | 36  | 39  | 55  | 44  | 100 | 74  | 73  | 100 | 97  | 86  | 56,5     |
| —19       | —28 | —14 | —9  | +5  | —10 | —13 | —19 | —23 | —19 | —14 | —10 |          |

| Hour<br>Parameter | 0   | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10   | 11   |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| May North         |     |     |     |     |     |     |     |     |     |     |      |      |
| 1.                | 8   | 10  | 11  | 15  | 16  | 17  | 20  | 18  | 19  | 15  | 13   | 13   |
| 2.                | 6   | 8   | 5   | 7   | 8   | 8   | 13  | 14  | 10  | 8   | 7    | 5    |
| 3.                | 35  | 36  | 35  | 36  | 35  | 38  | 37  | 39  | 38  | 36  | 37   | 35   |
| 4.                | 39  | 33  | 35  | 42  | 42  | 49  | 42  | 46  | 44  | 42  | 32   | 45   |
| 5.                | 47  | 73  | 56  | 29  | 26  | 34  | 27  | 31  | 20  | 16  | 39   | 39   |
| 6.                | +3  | +7  | -10 | -7  | +28 | +62 | +53 | +42 | +7  | -81 | -131 | -139 |
| May East          |     |     |     |     |     |     |     |     |     |     |      |      |
| 1.                | 8   | 8   | 12  | 12  | 8   | 13  | 18  | 24  | 24  | 23  | 24   | 22   |
| 2.                | 5   | 4   | 3   | 5   | 2   | 1   | 8   | 9   | 12  | 12  | 10   | 11   |
| 3.                | 34  | 36  | 36  | 33  | 36  | 34  | 34  | 33  | 37  | 32  | 34   | 37   |
| 4.                | 31  | 33  | 33  | 36  | 23  | 27  | 30  | 31  | 33  | 26  | 27   | 43   |
| 5.                | 54  | 56  | 25  | 26  | 23  | 30  | 20  | 22  | 16  | 27  | 30   | 24   |
| 6.                | -10 | +3  | +1  | -14 | -26 | +15 | +33 | +61 | +48 | +24 | -9   | -23  |
| June North        |     |     |     |     |     |     |     |     |     |     |      |      |
| 1.                | 7   | 14  | 14  | 12  | 15  | 16  | 22  | 17  | 17  | 11  | 14   | 13   |
| 2.                | 7   | 14  | 13  | 8   | 10  | 16  | 19  | 14  | 16  | 10  | 8    | 9    |
| 3.                | 35  | 34  | 37  | 35  | 37  | 36  | 36  | 35  | 36  | 35  | 35   | 37   |
| 4.                | 38  | 37  | 35  | 29  | 37  | 45  | 43  | 37  | 48  | 40  | 37   | 35   |
| 5.                | 30  | 53  | 55  | 51  | 30  | 41  | 37  | 30  | 16  | 7   | 25   | 43   |
| 6.                | +22 | +10 | +20 | +29 | +51 | +70 | +65 | +26 | -2  | -50 | -107 | -146 |
| June East         |     |     |     |     |     |     |     |     |     |     |      |      |
| 1.                | 7   | 11  | 14  | 10  | 11  | 14  | 21  | 23  | 24  | 20  | 25   | 23   |
| 2.                | 6   | 10  | 10  | 7   | 7   | 8   | 13  | 13  | 13  | 14  | 16   | 16   |
| 3.                | 35  | 34  | 35  | 31  | 36  | 31  | 31  | 30  | 33  | 34  | 35   | 37   |
| 4.                | 38  | 37  | 41  | 26  | 28  | 29  | 28  | 31  | 32  | 40  | 29   | 41   |
| 5.                | 37  | 50  | 26  | 32  | 24  | 26  | 28  | 28  | 28  | 19  | 34   | 32   |
| 6.                | +2  | -3  | -9  | 0   | -21 | +9  | +53 | +51 | +40 | +24 | -3   | -23  |

| 12        | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | Averages |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|
| Component |     |     |     |     |     |     |     |     |     |     |     |          |
| 12        | 10  | 9   | 5   | 6   | 8   | 6   | 10  | 6   | 8   | 7   | 9   | 11,3     |
| 10        | 3   | 3   | 3   | 3   | 3   | 6   | 9   | 6   | 9   | 4   | 6   | 6,8      |
| 39        | 36  | 38  | 36  | 37  | 36  | 36  | 37  | 35  | 31  | 34  | 37  | 36,1     |
| 29        | 41  | 46  | 51  | 39  | 35  | 27  | 33  | 46  | 56  | 41  | 41  | 40,6     |
| 42        | 46  | 55  | 45  | 60  | 60  | 98  | 95  | 63  | 56  | 49  | 51  | 48,2     |
| —95       | —39 | +22 | +48 | +32 | +55 | +60 | +34 | +21 | +12 | +10 | +5  |          |
| Component |     |     |     |     |     |     |     |     |     |     |     |          |
| 23        | 21  | 19  | 17  | 14  | 15  | 10  | 10  | 7   | 8   | 9   | 12  | 15,0     |
| 12        | 8   | 7   | 9   | 8   | 5   | 8   | 6   | 6   | 7   | 4   | 4   | 7,3      |
| 38        | 34  | 37  | 36  | 35  | 37  | 37  | 35  | 38  | 34  | 35  | 37  | 35,4     |
| 41        | 38  | 42  | 42  | 46  | 44  | 30  | 31  | 36  | 34  | 38  | 45  | 35,5     |
| 23        | 37  | 41  | 35  | 58  | 55  | 89  | 95  | 73  | 57  | 45  | 62  | 42,6     |
| —10       | +5  | +15 | —14 | —22 | —28 | —35 | —26 | +6  | +1  | +6  | +4  |          |
| Component |     |     |     |     |     |     |     |     |     |     |     |          |
| 11        | 7   | 7   | 5   | 3   | 4   | 3   | 4   | 7   | 6   | 6   | 7   | 10,0     |
| 8         | 4   | 4   | 2   | 1   | 3   | 4   | 7   | 7   | 9   | 7   | 7   | 8,6      |
| 35        | 37  | 35  | 35  | 33  | 35  | 34  | 34  | 34  | 35  | 35  | 35  | 35,2     |
| 38        | 44  | 37  | 36  | 33  | 35  | 34  | 32  | 32  | 29  | 29  | 35  | 36,3     |
| 29        | 32  | 51  | 38  | 34  | 30  | 28  | 28  | 32  | 41  | 47  | 62  | 36,3     |
| —122      | —87 | —32 | +27 | +58 | +61 | +34 | +10 | +17 | +12 | +20 | +13 |          |
| Component |     |     |     |     |     |     |     |     |     |     |     |          |
| 17        | 18  | 14  | 16  | 14  | 10  | 8   | 7   | 9   | 6   | 4   | 8   | 13,9     |
| 13        | 13  | 13  | 9   | 8   | 7   | 8   | 7   | 10  | 8   | 5   | 11  | 10,2     |
| 36        | 35  | 35  | 36  | 32  | 36  | 32  | 34  | 35  | 35  | 36  | 33  | 34,2     |
| 37        | 35  | 32  | 38  | 29  | 46  | 32  | 31  | 35  | 32  | 34  | 42  | 34,4     |
| 23        | 38  | 55  | 29  | 61  | 53  | 41  | 37  | 46  | 40  | 56  | 62  | 37,7     |
| —19       | —22 | —15 | —21 | —12 | —18 | —21 | —20 | —3  | —11 | —15 | —4  |          |



| 12        | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22 | 23 | Averages |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----------|
| Component |     |     |     |     |     |     |     |     |     |    |    |          |
| 13        | 8   | 10  | 7   | 10  | 6   | 5   | 6   | 6   | 7   | 8  | 11 | 12,9     |
| 10        | 6   | 8   | 3   | 4   | 2   | 2   | 3   | 3   | 7   | 8  | 9  | 9,0      |
| 37        | 38  | 35  | 36  | 35  | 35  | 35  | 36  | 34  | 36  | 35 | 37 | 36,0     |
| 44        | 50  | 39  | 39  | 38  | 41  | 40  | 38  | 27  | 41  | 38 | 42 | 42,6     |
| 35        | 47  | 48  | 40  | 75  | 31  | 42  | 49  | 69  | 69  | 57 | 74 | 52,7     |
| —93       | —73 | —18 | +14 | +51 | +46 | +41 | +5  | +11 | +6  | +9 | —2 |          |
| Component |     |     |     |     |     |     |     |     |     |    |    |          |
| 29        | 27  | 25  | 22  | 21  | 14  | 13  | 11  | 7   | 12  | 11 | 12 | 20,3     |
| 14        | 12  | 9   | 11  | 7   | 6   | 7   | 4   | 3   | 6   | 6  | 11 | 8,8      |
| 35        | 39  | 34  | 37  | 34  | 37  | 35  | 33  | 33  | 38  | 38 | 35 | 35,2     |
| 40        | 45  | 41  | 43  | 41  | 42  | 38  | 40  | 45  | 33  | 44 | 42 | 39,6     |
| 43        | 47  | 40  | 40  | 63  | 52  | 67  | 76  | 53  | 73  | 43 | 60 | 46,6     |
| —17       | —10 | —21 | —15 | —31 | —44 | —29 | —42 | —9  | —12 | —9 | —2 |          |
| Component |     |     |     |     |     |     |     |     |     |    |    |          |
| 14        | 15  | 14  | 12  | 9   | 8   | 10  | 12  | 10  | 9   | 8  | 8  | 14,9     |
| 11        | 13  | 9   | 11  | 9   | 7   | 7   | 8   | 7   | 9   | 5  | 6  | 11,1     |
| 42        | 43  | 37  | 39  | 39  | 37  | 36  | 37  | 37  | 39  | 35 | 36 | 38,8     |
| 51        | 44  | 55  | 70  | 44  | 44  | 38  | 45  | 43  | 48  | 52 | 43 | 47,2     |
| 35        | 52  | 42  | 49  | 33  | 45  | 64  | 64  | 83  | 57  | 80 | 82 | 50,5     |
| —132      | —70 | —25 | +29 | +42 | +52 | +31 | +5  | +5  | +13 | +9 | +4 |          |
| Component |     |     |     |     |     |     |     |     |     |    |    |          |
| 34        | 34  | 32  | 25  | 24  | 20  | 18  | 15  | 15  | 12  | 9  | 12 | 23,7     |
| 14        | 19  | 13  | 15  | 8   | 8   | 5   | 10  | 9   | 7   | 6  | 5  | 10,8     |
| 39        | 39  | 36  | 37  | 33  | 33  | 37  | 34  | 38  | 36  | 34 | 37 | 36,1     |
| 49        | 48  | 50  | 73  | 44  | 39  | 47  | 37  | 45  | 46  | 53 | 42 | 42,8     |
| 16        | 33  | 35  | 66  | 48  | 59  | 64  | 80  | 59  | 59  | 52 | 51 | 43,0     |
| —39       | —27 | —45 | —26 | —46 | —46 | —64 | —52 | —32 | —8  | +1 | +8 |          |

| Hour<br>Parameter | 0   | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10   | 11   |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| September North   |     |     |     |     |     |     |     |     |     |     |      |      |
| 1.                | 8   | 10  | 10  | 9   | 14  | 17  | 21  | 22  | 21  | 19  | 16   | 18   |
| 2.                | 5   | 7   | 10  | 9   | 8   | 11  | 16  | 13  | 14  | 13  | 12   | 13   |
| 3.                | 35  | 37  | 39  | 41  | 38  | 40  | 40  | 46  | 40  | 39  | 40   | 50   |
| 4.                | 34  | 49  | 41  | 39  | 41  | 46  | 35  | 46  | 41  | 50  | 50   | 42   |
| 5.                | 101 | 88  | 116 | 79  | 58  | 59  | 34  | 14  | 30  | 41  | 43   | 88   |
| 6.                | +22 | +24 | +20 | +16 | +13 | +15 | +37 | +61 | +31 | -59 | -117 | -142 |
| September East    |     |     |     |     |     |     |     |     |     |     |      |      |
| 1.                | 10  | 11  | 8   | 9   | 13  | 19  | 22  | 27  | 28  | 29  | 29   | 30   |
| 2.                | 6   | 8   | 7   | 5   | 5   | 5   | 10  | 8   | 10  | 14  | 16   | 14   |
| 3.                | 35  | 34  | 35  | 38  | 36  | 37  | 38  | 34  | 32  | 35  | 39   | 37   |
| 4.                | 44  | 38  | 36  | 38  | 31  | 33  | 26  | 30  | 29  | 31  | 34   | 43   |
| 5.                | 76  | 66  | 56  | 55  | 55  | 43  | 44  | 24  | 43  | 35  | 38   | 65   |
| 6.                | +12 | +21 | +5  | +7  | +10 | +21 | +34 | +52 | +81 | +55 | +20  | -15  |
| October North     |     |     |     |     |     |     |     |     |     |     |      |      |
| 1.                | 8   | 10  | 9   | 10  | 10  | 13  | 19  | 23  | 21  | 15  | 15   | 15   |
| 2.                | 8   | 10  | 6   | 8   | 9   | 13  | 17  | 20  | 16  | 16  | 13   | 10   |
| 3.                | 38  | 35  | 37  | 38  | 35  | 37  | 38  | 38  | 36  | 38  | 39   | 37   |
| 4.                | 36  | 44  | 35  | 68  | 36  | 37  | 33  | 50  | 55  | 54  | 46   | 60   |
| 5.                | 93  | 77  | 73  | 63  | 82  | 48  | 24  | 19  | 19  | 17  | 28   | 52   |
| 6.                | +12 | -2  | -14 | -21 | -16 | -9  | +23 | +59 | +79 | +30 | -61  | -117 |
| October East      |     |     |     |     |     |     |     |     |     |     |      |      |
| 1.                | 12  | 10  | 8   | 11  | 10  | 15  | 19  | 21  | 23  | 24  | 26   | 24   |
| 2.                | 10  | 6   | 6   | 4   | 3   | 10  | 9   | 13  | 14  | 13  | 16   | 17   |
| 3.                | 34  | 35  | 34  | 39  | 33  | 35  | 35  | 33  | 33  | 36  | 38   | 30   |
| 4.                | 40  | 39  | 24  | 34  | 30  | 40  | 30  | 31  | 29  | 39  | 41   | 53   |
| 5.                | 92  | 64  | 70  | 71  | 58  | 23  | 32  | 33  | 32  | 18  | 31   | 36   |
| 6.                | +21 | +16 | +14 | +19 | +13 | +10 | +7  | +18 | +42 | +49 | +46  | +33  |

| 12        | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | Averages |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|
| Component |     |     |     |     |     |     |     |     |     |     |     |          |
| 13        | 12  | 14  | 11  | 11  | 9   | 9   | 7   | 9   | 8   | 8   | 13  | 12,9     |
| 10        | 8   | 13  | 7   | 8   | 8   | 7   | 7   | 9   | 8   | 9   | 12  | 9,9      |
| 38        | 39  | 38  | 37  | 35  | 38  | 31  | 36  | 36  | 38  | 33  | 38  | 38,3     |
| 56        | 66  | 53  | 48  | 40  | 39  | 53  | 77  | 43  | 65  | 41  | 50  | 47,7     |
| 61        | 40  | 62  | 59  | 81  | 92  | 89  | 75  | 133 | 133 | 124 | 125 | 76,1     |
| -121      | -45 | +28 | +48 | +67 | +40 | +9  | +25 | +15 | +6  | +7  | -1  |          |
| Component |     |     |     |     |     |     |     |     |     |     |     |          |
| 29        | 23  | 30  | 23  | 23  | 18  | 9   | 9   | 14  | 12  | 11  | 16  | 18,9     |
| 14        | 14  | 15  | 11  | 12  | 10  | 5   | 7   | 7   | 10  | 10  | 13  | 9,7      |
| 40        | 36  | 35  | 38  | 35  | 37  | 35  | 36  | 35  | 34  | 37  | 38  | 36,2     |
| 49        | 56  | 53  | 40  | 38  | 27  | 33  | 68  | 41  | 31  | 47  | 50  | 39,4     |
| 52        | 38  | 55  | 49  | 73  | 113 | 131 | 64  | 104 | 137 | 101 | 88  | 66,7     |
| -27       | -35 | -29 | -17 | -15 | -28 | -35 | -31 | -34 | -25 | -22 | -17 |          |
| Component |     |     |     |     |     |     |     |     |     |     |     |          |
| 17        | 15  | 12  | 12  | 10  | 9   | 11  | 9   | 7   | 8   | 9   | 10  | 12,2     |
| 16        | 15  | 12  | 10  | 7   | 8   | 8   | 3   | 7   | 6   | 8   | 9   | 10,6     |
| 38        | 38  | 39  | 35  | 37  | 35  | 34  | 35  | 34  | 34  | 37  | 35  | 36,7     |
| 45        | 57  | 43  | 41  | 30  | 46  | 37  | 29  | 39  | 46  | 42  | 55  | 44,2     |
| 58        | 31  | 42  | 35  | 51  | 35  | 73  | 67  | 98  | 71  | 55  | 118 | 55,2     |
| -121      | -56 | -9  | +35 | +30 | +34 | +8  | +14 | +30 | +25 | +48 | +2  |          |
| Component |     |     |     |     |     |     |     |     |     |     |     |          |
| 25        | 24  | 25  | 21  | 19  | 15  | 9   | 6   | 8   | 12  | 14  | 15  | 16,5     |
| 16        | 17  | 15  | 12  | 6   | 8   | 5   | 6   | 8   | 8   | 5   | 8   | 9,9      |
| 38        | 36  | 38  | 39  | 35  | 37  | 37  | 33  | 34  | 34  | 35  | 36  | 35,6     |
| 40        | 42  | 40  | 35  | 32  | 49  | 34  | 41  | 35  | 52  | 54  | 36  | 33,5     |
| 34        | 50  | 39  | 42  | 48  | 37  | 57  | 50  | 103 | 45  | 63  | 97  | 51,1     |
| -5        | -25 | -24 | -25 | -33 | -28 | -46 | -28 | -35 | -15 | -19 | -3  |          |

| Hour<br>Parameter | 0   | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| November North    |     |     |     |     |     |     |     |     |     |     |     |     |
| 1.                | 7   | 7   | 7   | 8   | 4   | 8   | 10  | 16  | 22  | 17  | 14  | 17  |
| 2.                | 6   | 5   | 4   | 4   | 2   | 5   | 7   | 12  | 17  | 14  | 13  | 11  |
| 3.                | 37  | 37  | 36  | 35  | 37  | 37  | 37  | 37  | 35  | 37  | 37  | 37  |
| 4.                | 40  | 44  | 37  | 40  | 40  | 34  | 37  | 35  | 44  | 44  | 51  | 40  |
| 5.                | 89  | 95  | 72  | 43  | 28  | 41  | 31  | 24  | 30  | 20  | 22  | 58  |
| 6.                | -24 | -7  | -6  | -25 | -12 | -7  | +4  | +25 | +41 | +1  | -34 | -54 |
| November East     |     |     |     |     |     |     |     |     |     |     |     |     |
| 1.                | 12  | 9   | 6   | 6   | 8   | 15  | 14  | 17  | 23  | 20  | 19  | 22  |
| 2.                | 9   | 7   | 3   | 4   | 2   | 5   | 7   | 10  | 10  | 10  | 13  | 13  |
| 3.                | 32  | 34  | 36  | 34  | 34  | 36  | 35  | 34  | 35  | 31  | 37  | 33  |
| 4.                | 41  | 37  | 33  | 36  | 31  | 29  | 29  | 26  | 46  | 32  | 37  | 37  |
| 5.                | 52  | 43  | 54  | 29  | 31  | 24  | 30  | 27  | 14  | 26  | 31  | 35  |
| 6.                | +11 | +15 | +12 | +3  | -12 | -15 | -6  | +3  | +38 | +39 | +39 | +25 |
| December North    |     |     |     |     |     |     |     |     |     |     |     |     |
| 1.                | 7   | 6   | 0   | 1   | 3   | 7   | 7   | 9   | 15  | 15  | 11  | 14  |
| 2.                | 4   | 3   | 1   | 0   | 3   | 4   | 4   | 7   | 11  | 9   | 6   | 12  |
| 3.                | 33  | 31  | 31  | 30  | 34  | 32  | 33  | 35  | 36  | 34  | 36  | 37  |
| 4.                | 29  | 37  | 31  | 48  | 27  | 28  | 24  | 36  | 33  | 35  | 37  | 40  |
| 5.                | 55  | 66  | 51  | 33  | 29  | 53  | 62  | 9   | 27  | 17  | 18  | 30  |
| 6.                | -19 | -8  | -19 | -18 | -20 | -31 | -10 | -1  | +13 | +10 | -11 | -34 |
| December East     |     |     |     |     |     |     |     |     |     |     |     |     |
| 1.                | 9   | 7   | 3   | 7   | 8   | 9   | 13  | 15  | 17  | 19  | 16  | 17  |
| 2.                | 9   | 5   | 2   | 2   | 1   | 3   | 8   | 4   | 7   | 8   | 7   | 8   |
| 3.                | 29  | 30  | 29  | 28  | 30  | 31  | 30  | 30  | 37  | 35  | 34  | 35  |
| 4.                | 26  | 26  | 13  | 28  | 31  | 32  | 35  | 26  | 27  | 28  | 34  | 32  |
| 5.                | 51  | 43  | 41  | 22  | 23  | 55  | 24  | 29  | 21  | 18  | 17  | 21  |
| 6.                | -8  | -9  | +6  | -13 | -6  | -15 | 0   | -61 | -49 | -13 | 0   | +4  |

| 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Averages |
|----|----|----|----|----|----|----|----|----|----|----|----|----------|
|----|----|----|----|----|----|----|----|----|----|----|----|----------|

## Component

|     |     |    |     |     |     |     |     |     |     |     |    |      |
|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|----|------|
| 16  | 14  | 11 | 10  | 10  | 8   | 7   | 6   | 8   | 8   | 5   | 7  | 10,0 |
| 13  | 8   | 7  | 10  | 7   | 4   | 7   | 6   | 7   | 7   | 6   | 6  | 7,9  |
| 37  | 35  | 36 | 35  | 35  | 35  | 34  | 35  | 38  | 35  | 35  | 37 | 36,0 |
| 41  | 40  | 36 | 29  | 33  | 41  | 50  | 40  | 35  | 34  | 38  | 38 | 39,0 |
| 35  | 37  | 21 | 38  | 74  | 44  | 48  | 58  | 44  | 43  | 41  | 51 | 45,3 |
| -56 | -17 | +9 | +28 | +17 | +27 | +20 | +13 | +22 | +19 | +17 | -1 |      |

## Component

|    |     |    |    |     |     |     |     |    |     |    |    |      |
|----|-----|----|----|-----|-----|-----|-----|----|-----|----|----|------|
| 22 | 22  | 18 | 11 | 14  | 11  | 11  | 8   | 8  | 8   | 10 | 8  | 13,5 |
| 14 | 12  | 11 | 7  | 8   | 5   | 7   | 6   | 9  | 7   | 8  | 5  | 7,9  |
| 36 | 31  | 36 | 32 | 31  | 35  | 37  | 31  | 40 | 36  | 35 | 35 | 34,3 |
| 28 | 38  | 30 | 29 | 32  | 35  | 36  | 38  | 41 | 32  | 36 | 29 | 34,0 |
| 31 | 20  | 23 | 41 | 64  | 41  | 48  | 53  | 46 | 46  | 50 | 71 | 38,7 |
| -4 | -19 | -8 | -1 | -16 | -23 | -43 | -13 | -4 | -14 | -5 | -2 |      |

## Component

|     |     |     |     |     |     |     |     |     |     |     |    |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|------|
| 14  | 10  | 5   | 6   | 6   | 4   | 4   | 6   | 5   | 8   | 4   | 6  | 7,2  |
| 14  | 8   | 4   | 3   | 2   | 5   | 1   | 5   | 3   | 7   | 4   | 7  | 5,2  |
| 33  | 35  | 32  | 31  | 32  | 35  | 34  | 37  | 35  | 35  | 33  | 36 | 38,8 |
| 35  | 37  | 35  | 28  | 32  | 28  | 27  | 44  | 33  | 42  | 52  | 54 | 35,5 |
| 23  | 18  | 24  | 53  | 23  | 39  | 60  | 36  | 59  | 69  | 80  | 48 | 40,8 |
| -34 | -15 | +14 | +15 | +10 | +26 | +16 | +30 | +44 | +24 | +11 | +8 |      |

## Component

|    |     |     |    |     |     |     |     |     |     |     |     |      |
|----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 25 | 21  | 20  | 25 | 21  | 13  | 10  | 8   | 8   | 11  | 9   | 11  | 13,5 |
| 14 | 14  | 6   | 7  | 4   | 4   | 2   | 6   | 7   | 7   | 8   | 8   | 6,4  |
| 31 | 33  | 29  | 28 | 27  | 3   | 36  | 35  | 34  | 37  | 29  | 36  | 31,8 |
| 33 | 26  | 31  | 27 | 30  | 29  | 35  | 44  | 46  | 30  | 41  | 44  | 31,5 |
| 13 | 19  | 19  | 46 | 37  | 37  | 37  | 26  | 55  | 76  | 92  | 66  | 36,9 |
| +8 | +10 | +24 | -2 | +13 | +28 | +24 | +43 | +20 | -21 | -21 | +21 |      |

| Hour<br>Parameter | 0  | 1  | 2  | 3  | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11   |
|-------------------|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|------|
| Year 1977 North   |    |    |    |    |     |     |     |     |     |     |     |      |
| 1.                | 8  | 10 | 10 | 10 | 11  | 14  | 17  | 18  | 19  | 16  | 15  | 15   |
| 2.                | 8  | 9  | 8  | 7  | 7   | 10  | 12  | 14  | 15  | 12  | 10  | 11   |
| 3.                | 35 | 35 | 36 | 36 | 36  | 37  | 38  | 38  | 37  | 37  | 36  | 38   |
| 4.                | 38 | 38 | 38 | 41 | 37  | 37  | 36  | 41  | 44  | 41  | 41  | 41   |
| 5.                | 71 | 75 | 60 | 53 | 42  | 39  | 33  | 38  | 40  | 24  | 33  | 43   |
| 6.                | +3 | +5 | +5 | +4 | +10 | +18 | +24 | +21 | +22 | -30 | -77 | -106 |
| Year 1977 East    |    |    |    |    |     |     |     |     |     |     |     |      |
| 1.                | 11 | 11 | 10 | 10 | 11  | 15  | 19  | 24  | 25  | 26  | 27  | 20   |
| 2.                | 8  | 7  | 5  | 4  | 4   | 5   | 9   | 10  | 12  | 15  | 15  | 16   |
| 3.                | 31 | 29 | 30 | 34 | 34  | 33  | 34  | 34  | 35  | 34  | 35  | 35   |
| 4.                | 33 | 36 | 33 | 32 | 32  | 31  | 29  | 30  | 31  | 34  | 35  | 30   |
| 5.                | 60 | 52 | 44 | 40 | 32  | 33  | 30  | 28  | 26  | 24  | 28  | 33   |
| 6.                | +2 | +8 | +8 | +6 | +1  | +3  | +12 | +21 | +35 | +35 | +18 | -2   |

| 12        | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23 | Averages |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----------|
| Component |     |     |     |     |     |     |     |     |     |     |    |          |
| 14        | 12  | 10  | 9   | 8   | 8   | 8   | 8   | 8   | 8   | 7   | 8  | 11,1     |
| 12        | 8   | 7   | 6   | 5   | 6   | 6   | 6   | 7   | 7   | 6   | 7  | 8,4      |
| 37        | 37  | 37  | 35  | 35  | 35  | 34  | 36  | 35  | 35  | 35  | 36 | 36,0     |
| 39        | 46  | 42  | 40  | 35  | 37  | 36  | 41  | 38  | 43  | 41  | 44 | 39,7     |
| 40        | 39  | 39  | 40  | 50  | 48  | 61  | 56  | 72  | 65  | 73  | 77 | 50,4     |
| —93       | —44 | +9  | +31 | +38 | +42 | +27 | +19 | +21 | +20 | +17 | +3 |          |
| Component |     |     |     |     |     |     |     |     |     |     |    |          |
| 27        | 25  | 23  | 22  | 20  | 15  | 12  | 10  | 10  | 11  | 11  | 13 | 16,9     |
| 16        | 16  | 14  | 11  | 8   | 7   | 6   | 6   | 7   | 7   | 7   | 8  | 9,3      |
| 36        | 35  | 35  | 35  | 33  | 35  | 35  | 34  | 35  | 35  | 35  | 35 | 34,2     |
| 37        | 39  | 38  | 38  | 34  | 37  | 34  | 39  | 39  | 35  | 41  | 40 | 35,1     |
| 30        | 37  | 36  | 40  | 53  | 54  | 61  | 60  | 65  | 68  | 71  | 71 | 44,8     |
| —15       | —15 | —10 | —10 | —10 | —14 | —24 | —17 | —12 | —13 | —8  | —3 |          |

| Hour<br>Parameter    | 0   | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11   |
|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| Quiet days North     |     |     |     |     |     |     |     |     |     |     |     |      |
| 1.                   | 7   | 9   | 8   | 9   | 12  | 12  | 15  | 16  | 17  | 15  | 14  | 15   |
| 2.                   | 7   | 8   | 5   | 5   | 7   | 9   | 10  | 12  | 12  | 10  | 8   | 9    |
| 3.                   | 34  | 34  | 34  | 35  | 34  | 34  | 35  | 35  | 36  | 35  | 36  | 35   |
| 4.                   | 32  | 34  | 30  | 31  | 31  | 32  | 33  | 35  | 34  | 33  | 34  | 33   |
| 5.                   | 27  | 27  | 28  | 26  | 22  | 20  | 19  | 9   | 8   | 13  | 18  | 30   |
| 6.                   | +3  | +10 | +11 | +5  | +14 | +23 | +33 | +42 | +33 | -22 | -74 | -107 |
| Quiet days East      |     |     |     |     |     |     |     |     |     |     |     |      |
| 1.                   | 8   | 8   | 8   | 9   | 12  | 13  | 17  | 17  | 18  | 19  | 22  | 21   |
| 2.                   | 8   | 8   | 4   | 5   | 5   | 3   | 5   | 8   | 8   | 8   | 9   | 12   |
| 3.                   | 32  | 32  | 32  | 32  | 32  | 32  | 32  | 31  | 33  | 32  | 34  | 33   |
| 4.                   | 24  | 28  | 21  | 26  | 26  | 21  | 26  | 25  | 26  | 32  | 32  | 33   |
| 5.                   | 33  | 25  | 30  | 24  | 22  | 24  | 20  | 17  | 19  | 17  | 15  | 21   |
| 6.                   | +6  | +11 | +11 | +9  | -2  | +1  | +12 | +31 | +40 | +38 | +26 | -5   |
| Disturbed days North |     |     |     |     |     |     |     |     |     |     |     |      |
| 1.                   | 7   | 16  | 22  | 14  | 20  | 29  | 31  | 36  | 31  | 29  | 25  | 29   |
| 2.                   | 5   | 7   | 16  | 9   | 9   | 20  | 29  | 23  | 29  | 31  | 23  | 23   |
| 3.                   | 40  | 43  | 49  | 58  | 41  | 47  | 63  | 67  | 58  | 49  | 43  | 61   |
| 4.                   | 49  | 67  | 83  | 108 | 68  | 67  | 38  | 61  | 45  | 63  | 72  | 59   |
| 5.                   | 247 | 290 | 95  | 103 | 76  | 151 | 117 | 54  | 110 | 54  | 52  | 121  |
| 6.                   | -22 | -96 | +66 | -1  | -10 | -10 | -64 | -31 | -67 | -58 | -37 | -69  |
| Disturbed days East  |     |     |     |     |     |     |     |     |     |     |     |      |
| 1.                   | 14  | 25  | 18  | 20  | 22  | 31  | 40  | 54  | 38  | 38  | 41  | 47   |
| 2.                   | 9   | 9   | 5   | 9   | 7   | 23  | 31  | 25  | 31  | 31  | 25  | 20   |
| 3.                   | 38  | 36  | 38  | 43  | 40  | 47  | 40  | 49  | 45  | 45  | 41  | 41   |
| 4.                   | 59  | 61  | 59  | 54  | 50  | 58  | 63  | 45  | 40  | 40  | 29  | 49   |
| 5.                   | 272 | 184 | 121 | 68  | 79  | 92  | 68  | 97  | 72  | 79  | 85  | 72   |
| 6.                   | -55 | -8  | -4  | +57 | +62 | +44 | +50 | +48 | +64 | +17 | +3  | +29  |

| 12        | 13  | 14  | 15  | 16  | 17   | 18  | 19  | 20  | 21  | 22  | 23  | Averages |
|-----------|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|----------|
| Component |     |     |     |     |      |     |     |     |     |     |     |          |
| 12        | 10  | 10  | 8   | 6   | 5    | 5   | 5   | 6   | 6   | 5   | 6   | 9,7      |
| 11        | 7   | 5   | 5   | 3   | 2    | 3   | 4   | 6   | 6   | 5   | 6   | 6,8      |
| 35        | 35  | 35  | 34  | 33  | 34   | 33  | 34  | 34  | 33  | 32  | 35  | 34,2     |
| 35        | 36  | 32  | 25  | 28  | 26   | 25  | 24  | 28  | 32  | 33  | 33  | 31,1     |
| 25        | 23  | 22  | 23  | 20  | 17   | 23  | 24  | 27  | 27  | 26  | 30  | 22,1     |
| -91       | -46 | +2  | +34 | +36 | +30  | +14 | +5  | +9  | +13 | +16 | +9  |          |
| Component |     |     |     |     |      |     |     |     |     |     |     |          |
| 22        | 19  | 20  | 18  | 16  | 11   | 9   | 7   | 7   | 7   | 6   | 8   | 13,3     |
| 11        | 11  | 8   | 9   | 7   | 4    | 5   | 7   | 6   | 7   | 6   | 8   | 7,2      |
| 35        | 33  | 33  | 33  | 31  | 34   | 33  | 32  | 34  | 34  | 33  | 33  | 32,6     |
| 30        | 32  | 29  | 28  | 29  | 28   | 25  | 27  | 28  | 30  | 28  | 31  | 27,7     |
| 16        | 20  | 20  | 20  | 24  | 23   | 26  | 31  | 32  | 29  | 32  | 37  | 24,1     |
| -12       | -16 | -35 | -18 | -16 | -29  | -25 | -21 | -10 | -3  | -10 | +6  |          |
| Component |     |     |     |     |      |     |     |     |     |     |     |          |
| 27        | 18  | 20  | 18  | 14  | 18   | 7   | 9   | 13  | 4   | 4   | 9   | 18,7     |
| 32        | 16  | 22  | 16  | 11  | 13   | 5   | 7   | 5   | 5   | 3   | 4   | 15,1     |
| 50        | 45  | 41  | 40  | 34  | 43   | 34  | 45  | 38  | 41  | 34  | 38  | 45,9     |
| 58        | 65  | 76  | 92  | 65  | 88   | 58  | 205 | 185 | 176 | 61  | 104 | 83,9     |
| 137       | 133 | 86  | 104 | 178 | 146  | 445 | 149 | 202 | 288 | 313 | 115 | 156,9    |
| -37       | -3  | +7  | +57 | +55 | +119 | +77 | +17 | +81 | +23 | -5  | -15 |          |
| Component |     |     |     |     |      |     |     |     |     |     |     |          |
| 36        | 31  | 32  | 25  | 25  | 22   | 20  | 23  | 18  | 7   | 16  | 7   | 27,0     |
| 29        | 20  | 25  | 22  | 14  | 9    | 0   | 18  | 11  | 5   | 9   | 2   | 16,2     |
| 41        | 38  | 43  | 41  | 34  | 27   | 47  | 45  | 40  | 43  | 41  | 40  | 41,0     |
| 68        | 61  | 68  | 58  | 65  | 61   | 67  | 106 | 137 | 49  | 61  | 74  | 61,7     |
| 119       | 88  | 74  | 124 | 171 | 227  | 302 | 297 | 103 | 261 | 234 | 108 | 141,5    |
| +24       | -5  | +1  | -16 | -27 | -55  | -37 | -39 | -63 | -37 | -77 | +29 |          |

## III.

*Results of harmonical analysis of the daily variations*

|                 | A <sub>1</sub> | q <sub>1</sub> | A <sub>2</sub> | q <sub>2</sub> | A <sub>3</sub> | q <sub>3</sub> | A <sub>4</sub> | q <sub>4</sub> | A <sub>5</sub> | q <sub>5</sub> | A <sub>6</sub> | q <sub>6</sub> |
|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| North Component |                |                |                |                |                |                |                |                |                |                |                |                |
| January         | 20             | 146            | 15             | 252            | 12             | 168            | 15             | 301            | 7              | 195            | 4              | 335            |
| February        | 32             | 140            | 19             | 295            | 14             | 108            | 9              | 316            | 8              | 154            | 2              | 8              |
| March           | 33             | 126            | 44             | 274            | 32             | 123            | 21             | 293            | 7              | 259            | 5              | 67             |
| April           | 30             | 113            | 54             | 302            | 37             | 124            | 14             | 336            | 5              | 211            | 2              | 275            |
| May             | 39             | 119            | 58             | 298            | 33             | 151            | 13             | 27             | 6              | 155            | 3              | 315            |
| June            | 50             | 96             | 59             | 296            | 29             | 128            | 6              | 227            | 1              | 61             | 5              | 23             |
| July            | 44             | 95             | 51             | 305            | 19             | 115            | 5              | 323            | 6              | 308            | 6              | 327            |
| August          | 45             | 89             | 57             | 298            | 28             | 125            | 7              | 311            | 5              | 304            | 5              | 256            |
| September       | 37             | 109            | 50             | 303            | 40             | 127            | 22             | 336            | 2              | 261            | 4              | 121            |
| October         | 24             | 108            | 39             | 254            | 42             | 115            | 23             | 306            | 6              | 181            | 4              | 21             |
| November        | 13             | 156            | 22             | 261            | 18             | 122            | 13             | 313            | 4              | 215            | 3              | 321            |
| December        | 20             | 172            | 16             | 232            | 7              | 107            | 12             | 308            | 3              | 133            | 1              | 311            |
| Year            | 30             | 117            | 37             | 290            | 25             | 126            | 12             | 312            | 3              | 175            | 3              | 351            |
| Q               | 27             | 99             | 36             | 290            | 30             | 126            | 13             | 313            | 3              | 211            | 2              | 6              |
| D               | 52             | 171            | 35             | 310            | 9              | 320            | 14             | 253            | 11             | 256            | 4              | 231            |
| East Component  |                |                |                |                |                |                |                |                |                |                |                |                |
| January         | 11             | 199            | 3              | 106            | 10             | 28             | 8              | 252            | 5              | 128            | 1              | 139            |
| February        | 2              | 2              | 10             | 42             | 10             | 53             | 6              | 263            | 9              | 110            | 3              | 302            |
| March           | 19             | 330            | 10             | 180            | 22             | 41             | 10             | 233            | 4              | 164            | 5              | 100            |
| April           | 20             | 0              | 8              | 261            | 13             | 73             | 6              | 281            | 2              | 203            | 3              | 99             |
| May             | 18             | 355            | 12             | 200            | 19             | 150            | 15             | 352            | 4              | 277            | 4              | 326            |
| June            | 21             | 1              | 15             | 229            | 14             | 121            | 8              | 16             | 4              | 330            | 0              | 217            |
| July            | 32             | 2              | 9              | 187            | 7              | 107            | 10             | 309            | 3              | 212            | 2              | 134            |
| August          | 49             | 10             | 15             | 192            | 16             | 104            | 13             | 291            | 3              | 227            | 4              | 4              |
| September       | 38             | 359            | 13             | 225            | 20             | 85             | 7              | 323            | 1              | 69             | 5              | 67             |
| October N       | 32             | 356            | 14             | 137            | 12             | 33             | 6              | 238            | 4              | 67             | 2              | 105            |
| November        | 16             | 344            | 15             | 135            | 11             | 46             | 9              | 285            | 6              | 40             | 3              | 143            |
| December*       | 21             | 186            | 8              | 11             | 12             | 317            | 8              | 111            | 10             | 98             | 5              | 253            |
| Year            | 18             | 356            | 6              | 187            | 9              | 74             | 6              | 294            | 1              | 90             | 1              | 29             |
| Q               | 22             | 6              | 12             | 176            | 10             | 66             | 6              | 301            | 1              | 318            | 2              | 90             |
| D               | 50             | 345            | 10             | 331            | 7              | 229            | 1              | 166            | 9              | 194            | 14             | 156            |

\* disturbed

## IV.

*Special phenomena*  
*(magnetic and earth current date)*  
 SSC-s

| Month | Day | CET<br>(GMT+1h) | Amplitude in<br>E(mV km) H(gamma) |    | Ex | Ey | Hx | Hy | End of Storm         |
|-------|-----|-----------------|-----------------------------------|----|----|----|----|----|----------------------|
| 03.   | 27. | 07.15           | 4                                 | 13 | +  | +  | +  | —  | (no storm, only Pc5) |
| 04.   | 02. | 23.00           | 5                                 | 18 | +  | +  | +  | —  | (03. 14.00)          |
|       | 06. | 14.00           | 2                                 | 8  | 0  | +  | +  | —  | (?)                  |
|       |     | 17.30           | 11                                | 18 | +  | +  | +  | —  | (si?) continues      |
|       | 07. | 19.45           | 13                                | 40 | +  | +  | +  | —  | (10. 00.00)          |
|       | 19. | 02.00           | 5                                 | 25 | +  | +  | +  | —  | (19. 22.00)          |
| 05.   | 04. | 05.15           | 2,5                               | 6  | +  | +  | +  | —  | (05. 02.00)          |
|       | 28. | 05.30           | 5                                 | 12 | —  | +  | +  | +  | (no storm)           |
| 07.   | 06. | 11.30           | 9                                 | 30 | +  | +  | +  | —  | (07. 04.00)          |
|       | 29. | 01.30           | 10                                | 95 | +  | +  | +  | —  | (29. 17.00)          |
| 09.   | 19. | 12.45           | 8                                 | 30 | +  | +  | +  | —  | (21. 15.00)          |
|       | 21. | 21.45           | 15                                | 35 | +  | +  | +  | —  | (23. 00.00)          |
| 10.   | 03. | 13.45           | 10                                | 30 | +  | +  | +  | —  | (03. 19.15)          |
|       | 14. | 12.45           | 11                                | 45 | +  | +  | +  | —  | (15. 03.30)          |
|       | 27. | 00.30           | 8                                 | 30 | +  | +  | +  | —  | (20. 09.00)          |
| 11.   | 25. | 13.30           | 9                                 | 25 | +  | +  | +  | —  | (26. 07.00)          |
|       | 26. | 18.15           | 7                                 | 22 | +  | +  | +  | —  | (27. 03.00)          |
| 12.   | 02. | 03.15           | 9                                 | 20 | +  | +  | +  | —  | (03. 00.30)          |
|       | 04. | 15.30           | 3                                 | 7  | +  | +  | +  | —  | (05. 03.00)          |

| Bays  |     |                 |              |          | Pt-s |    |    |    |          |    |    |   |
|-------|-----|-----------------|--------------|----------|------|----|----|----|----------|----|----|---|
| Month | Day | CET<br>(GMT+1h) | Amplitude in |          | Ex   | Ey | Hx | Hy | E(mV km) | Ex | Ey |   |
|       |     |                 | E(mV km)     | H(gamma) |      |    |    |    |          |    |    |   |
| 01.   | 01. | 00.30           | 5            | 25       | —    | +  | +  | +  | tr       |    |    |   |
|       |     | 21.45           | 4            | 40       | —    | +  | +  | +  |          |    |    |   |
|       | 03. | 22.30           | 6            | 30       | +    | +  | +  | —  | 2,5      | +  | +  |   |
|       | 05. | 18.00           | 6            | 80       | —    | 0  | 0  | +  | 3,5      | +  | +  |   |
|       |     | 22.00           | 6            | 65       | —    | +  | +  | +  | 2,5      | —  | +  |   |
|       | 06. | 20.30           | 5            | 15       | —    | —  | —  | +  |          |    |    |   |
|       | 07. | 02.15           | 6            | 25       | +    | +  | +  | —  | tr       |    |    |   |
|       | 11. | 16.15           | 14           | 150      | +    | +  | —  | +  | tr       |    |    |   |
|       | 14. | 22.00           | 8            | 70       | +    | +  | +  | —  |          |    |    |   |
|       | 18. | 01.00           | 4            | 25       | +    | +  | +  | +  | 2        | +  | +  |   |
|       | 20. | 00.00           | 9            | 65       | +    | +  | +  | —  | tr       |    |    |   |
|       |     | 23.45           | 5            | 35       | +    | +  | +  | —  | 2        | +  | +  |   |
|       | 22. | 21.15           | 4            | 18       | —    | +  | +  | +  | 2        | +  | +  |   |
|       | 23. | 00.00           | 4            | 20       | +    | 0  | 0  | —  | 4        | +  | +  |   |
|       | 24. | 23.30           |              |          |      |    |    |    | 3        | +  | +  |   |
|       | 26. | 20.30           | 5            | 15       | —    | +  | +  | +  | 2        | +  | +  |   |
|       | 28. | 22.00           | 18           | 150      | +    | +  | +  | —  | tr       |    |    |   |
|       | 31. | 13.00           | 4            | 35       | 0    | —  | —  | —  |          |    |    |   |
|       | 02. | 01.             | 23.30        | 5        | 22   | —  | +  | +  | +        | 3  | +  | + |
|       |     | 04.             | 00.15        | 5        | 32   | +  | +  | +  | —        | 3  | +  | + |
| 05.   |     | 22.30           |              |          |      |    |    |    | 5        | +  | +  |   |
| 06.   |     | 02.00           |              |          |      |    |    |    | 3        | +  | +  |   |
|       |     | 21.45           | 17           | 80       | +    | +  | +  | —  | tr       |    |    |   |
| 07.   |     | 01.45           | 8            | 45       | +    | +  | +  | —  | tr       |    |    |   |
| 11.   |     | 22.45           | 3            | 30       | +    | +  | +  | —  | 3        | +  | +  |   |
| 13.   |     | 18.45           | 4            | 35       | —    | +  | +  | +  | 3        |    |    |   |
| 14.   |     | 20.45           | 12           | 50       | +    | +  | +  | —  | tr       |    |    |   |
| 17.   |     | 01.30           | 4            | 12       | —    | —  | —  | +  |          |    |    |   |
| 18.   |     | 05.00           | 11           | 55       | +    | +  | +  | —  | tr       |    |    |   |
|       |     | 21.45           | 4            | 22       | —    | +  | +  | +  | tr       |    |    |   |
| 19.   |     | 19.00           | 6            | 22       | —    | 0  | —  | +  | 2        | +  | +  |   |
|       |     | 23.30           | 5            | 10       | +    | +  | +  | —  | 3        | +  | +  |   |
| 22.   |     | 19.45           | 8            | 45       | —    | +  | +  | +  | tr       |    |    |   |
| 23.   |     | 17.15           | 10           | 75       | —    | +  | +  | +  |          |    |    |   |
|       |     | 23.15           | 6            | 30       | +    | +  | +  | —  | tr       |    |    |   |

| Bays  |     |                 |              |          | Pt-s |    |    |    |                   |    |    |   |
|-------|-----|-----------------|--------------|----------|------|----|----|----|-------------------|----|----|---|
| Month | Day | CET<br>(GMT+1h) | Amplitude in |          | Ex   | Ey | Hx | Hy | E(mV km)          | Ex | Ey |   |
|       |     |                 | E(mV km)     | H(gamma) |      |    |    |    |                   |    |    |   |
| 02.   | 24. | 19.30           | 15           | 110      | —    | +  | +  | +  | tr                |    |    |   |
|       |     | 23.45           | 4            | 10       | —    | +  | +  | —  |                   |    |    |   |
|       | 25. | 21.45           | 7            | 35       | +    | +  | +  | —  | 3                 | +  | +  |   |
|       | 28. | 00.45           | 5            | 35       | +    | +  | +  | —  | 3                 | +  | +  |   |
|       |     | 20.15           | 5            | 22       | —    | +  | +  | +  | 2                 | +  | +  |   |
| 03.   | 01. | 22.00           | 11           | 55       | —    | +  | +  | +  | 3                 | +  | +  |   |
|       | 07. | 23.00           |              |          |      |    |    |    | 2                 | +  | +  |   |
|       | 08. | 21.30           | 11           | 80       | —    | +  | —  | +  | tr                |    |    |   |
|       | 09. | 12.15           | 6            | 70       | +    | —  | —  | —  |                   |    |    |   |
|       |     | 21.45           | 18           | 75       | +    | +  | +  | —  | tr                |    |    |   |
|       | 10. | 23.45           | 9            | 40       | +    | +  | +  | —  | 5                 | +  | +  |   |
|       | 11. | 21.30           | 15           | 55       | +    | +  | +  | —  | tr                |    |    |   |
|       | 12. | 20.45           | 14           | 40       | +    | +  | +  | —  | 3                 | +  | +  |   |
|       | 13. | 22.30           | 6            | 45       | —    | +  | +  | +  | tr                |    |    |   |
|       | 15. | 00.45           |              |          |      |    |    |    | 3                 | +  | +  |   |
|       | 16. | 01.15           |              |          |      |    |    |    | 3                 | +  | +  |   |
|       | 18. | 01.45           | 3            | 30       | +    | +  | +  | —  | 3                 | +  | +  |   |
|       | 20. | 01.15           | 5            | 40       | +    | +  | +  | —  | tr                |    |    |   |
|       | 21. | 20.00           | 7            | 35       | —    | +  | +  | +  | tr                |    |    |   |
|       | 23. | 23.45           | 5            | 35       | +    | +  | +  | —  | tr                |    |    |   |
|       | 24. | 21.45           | 5            | 28       | —    | +  | +  | +  |                   |    |    |   |
|       | 27. | 08.30           |              |          |      |    |    |    | Pc5 (3mV/km, 5nT) |    |    |   |
|       | 28. | 18.30           | 7            | 35       | —    | +  | +  | +  | tr                |    |    |   |
|       |     | 22.30           | 9            | 40       | +    | +  | +  | —  | tr                |    |    |   |
|       | 29. | 03.15           | 11           | 40       | +    | +  | +  | —  |                   |    |    |   |
|       | 31. | 00.30           |              |          |      |    |    |    | 4                 | +  | +  |   |
|       | 04. | 01.             | 02.00        |          |      |    |    |    |                   | 1  | +  | + |
|       |     | 03.             | 00.30        |          |      |    |    |    |                   | 5  | +  | + |
| 01.30 |     |                 | 7            | 45       | +    | +  | +  | —  |                   |    |    |   |
|       |     | 20.30           | 3            | 20       | —    | +  | +  | +  | 3                 | +  | +  |   |
| 04.   |     | 03.15           | 9            | 40       | +    | +  | +  | —  | tr                |    |    |   |
|       |     | 21.30           | 6            | 45       | +    | +  | +  | —  | tr                |    |    |   |
| 05.   |     | 22.00           |              |          |      |    |    | 4  | +                 | +  |    |   |
| 06.   |     | 01.15           | 10           | 30       | —    | —  | +  | —  |                   |    |    |   |
|       |     | 18.00           | 24           | 75       | +    | +  | +  | +  |                   |    |    |   |
| 08.   |     | 01.15           | 8            | 45       | +    | +  | +  | —  | tr                |    |    |   |
|       |     | 21.30           | 6            | 35       | —    | +  | +  | +  |                   |    |    |   |



| Bays  |     |                 |              |          | Pt-s |    |    |    |          |    |    |
|-------|-----|-----------------|--------------|----------|------|----|----|----|----------|----|----|
| Month | Day | CET<br>(GMT+1h) | Amplitude in |          | Ex   | Ey | Hx | Hy | E(mV km) | Ex | Ey |
|       |     |                 | E(mV km)     | H(gamma) |      |    |    |    |          |    |    |
| 05.   | 28. | 11.30           | 8            | 20       | —    | —  | —  | +  |          |    |    |
|       | 30. | 21.15           | 4            | 12       | —    | —  | —  | +  |          |    |    |
| 06.   | 02. | 23.15           | 6            | 30       | —    | +  | +  | +  | 2        | +  | +  |
|       | 03. | 13.30           | 5            | 20       | +    | +  | +  | —  |          |    |    |
|       | 04. | 00.30           | 5            | 12       | —    | —  | —  | +  |          |    |    |
|       |     | 23.00           |              |          |      |    |    |    | 2        | +  | +  |
|       | 06. | 20.45           |              |          |      |    |    |    | 2        | +  | +  |
|       | 07. | 20.45           |              |          |      |    |    |    | 7        | —  | +  |
|       | 08. | 23.45           |              |          |      |    |    |    | 6        | +  | +  |
|       | 12. | 19.45           | 3            | 16       | —    | +  | —  | +  | 2        | —  | —  |
|       | 13. | 23.00           | 5            | 18       | +    | +  | +  | —  |          |    |    |
|       | 14. | 01.45           | 5            | 35       | +    | +  | +  | —  | tr       |    |    |
|       |     | 22.15           | 4            | 12       | +    | +  | +  | —  | 4        | +  | +  |
|       | 15. | 21.15           |              |          |      |    |    |    | 3        | +  | +  |
|       | 25. | 00.30           |              |          |      |    |    |    | 3        | +  | +  |
|       | 26. | 01.15           |              |          |      |    |    |    | 2        | +  | —  |
|       | 29. | 02.30           | 4            | 18       | +    | +  | +  | —  | 3        | —  | —  |
|       | 30. | 20.45           |              |          |      |    |    |    | 2        | +  | +  |
| 07.   | 01. | 11.00           | 9            | 20       | +    | +  | +  | —  |          |    |    |
|       | 02. | 01.30           | 5            | 22       | +    | +  | +  | —  | 4        | +  | +  |
|       | 03. | 23.15           |              |          |      |    |    |    | 2        | +  | +  |
|       | 05. | 00.00           | 5            | 24       | +    | +  | +  | +  | 3        | —  | —  |
|       | 06. | 02.00           |              |          |      |    |    |    | 3        | —  | —  |
|       | 10. | 00.30           | 7            | 35       | +    | +  | +  | —  | tr       |    |    |
|       | 12. | 21.00           |              |          |      |    |    |    | 2        | +  | +  |
|       | 13. | 20.45           | 5            | 25       | —    | +  | +  | +  | 3        | +  | —  |
|       | 19. | 02.45           | 4            | 30       | +    | +  | +  | —  | 2        | +  | +  |
|       | 21. | 20.45           | 3            | 22       | +    | +  | +  | —  | tr       |    |    |
|       | 22. | 00.45           | 6            | 25       | +    | 0  | +  | —  | tr       |    |    |
|       | 26. | 21.00           |              |          |      |    |    |    | 2        | +  | +  |
|       | 27. | 23.30           |              |          |      |    |    |    | 3        | +  | +  |
|       | 28. | 17.15           |              |          |      |    |    |    | 3        | +  | +  |
|       | 29. | 18.45           | 16           | 50       | +    | +  | +  | —  |          |    |    |
|       | 31. | 03.30           | 4            | 18       | +    | +  | +  | —  | tr       |    |    |
|       |     | 22.30           | 4            | 15       | +    | +  | +  | +  | 2        | +  | +  |

| Bays  |     |                 |              |          | Pt-s |    |    |    |                    |    |    |   |
|-------|-----|-----------------|--------------|----------|------|----|----|----|--------------------|----|----|---|
| Month | Day | CET<br>(GMT+1h) | Amplitude in |          | Ex   | Ey | Hx | Hy | E(mV km)           | Ex | Ey |   |
|       |     |                 | E(mV km)     | H(gamma) |      |    |    |    |                    |    |    |   |
| 08.   | 05. | 15.15           | 9            | 45       | —    | —  | —  | +  | tr                 |    |    |   |
|       | 06. | 07.30           |              |          |      |    |    |    | Pc5 (7mV km, 14nT) |    |    |   |
|       | 09. | 01.30           | 6            | 35       | +    | +  | +  | —  | tr                 |    |    |   |
|       |     | 19.15           | 8            | 42       | —    | —  | —  | +  | tr                 |    |    |   |
|       | 11. | 17.00           | 8            | 22       | —    | —  | —  | +  |                    |    |    |   |
|       | 13. | 23.15           | 5            | 32       | —    | +  | +  | +  | tr                 |    |    |   |
|       | 14. | 19.45           | 5            | 18       | —    | +  | +  | +  | 2                  | +  | +  |   |
|       | 15. | 22.30           | 4            | 12       | +    | +  | +  | —  | tr                 |    |    |   |
|       | 16. | 21.15           | 5            | 22       | +    | +  | +  | —  |                    |    |    |   |
|       | 19. | 21.45           | 6            | 30       | —    | +  | +  | +  | tr                 |    |    |   |
|       | 20. | 00.15           | 11           | 45       | +    | +  | +  | —  | tr                 |    |    |   |
|       | 22. | 22.30           | 4            | 10       | +    | +  | +  | —  | 3                  | +  | +  |   |
|       | 23. | 00.30           | 3            | 16       | +    | +  | +  | —  | 2                  | +  | +  |   |
|       | 25. | 17.00           | 15           | 70       | —    | +  | +  | +  | tr                 |    |    |   |
|       | 26. | 00.30           | 8            | 30       | +    | +  | +  | —  | tr                 |    |    |   |
|       | 27. | 20.15           | 8            | 42       | —    | +  | +  | +  | tr                 |    |    |   |
|       | 09. | 01.             | 01.00        |          |      |    |    |    |                    | 2  | +  | + |
|       |     | 02.             | 02.15        |          |      |    |    |    |                    | 2  | —  | — |
|       |     | 04.             | 00.30        |          |      |    |    |    |                    | 3  | +  | + |
| 05.   |     | 22.00           |              |          |      |    |    |    | 3                  | +  | +  |   |
| 06.   |     | 22.15           | 4            | 15       | —    | +  | +  | +  | 3                  | +  | +  |   |
| 07.   |     | 23.00           | 5            | 15       | +    | +  | +  | —  |                    |    |    |   |
|       |     | 23.00           | 8            | 35       | +    | +  | +  | —  | tr                 |    |    |   |
| 10.   |     | 19.30           | 5            | 30       | —    | +  | +  | +  | tr                 |    |    |   |
|       |     | 22.45           | 6            | 35       | +    | +  | +  | +  | tr                 |    |    |   |
| 11.   |     | 19.15           | 11           | 65       | —    | +  | —  | +  |                    |    |    |   |
|       |     | 23.45           | 5            | 22       | +    | +  | +  | +  | 4                  | +  | +  |   |
| 12.   |     | 05.00           | 3            | 18       | +    | —  | +  | —  | tr                 |    |    |   |
|       |     | 22.15           | 6            | 25       | +    | +  | +  | +  | tr                 |    |    |   |
| 13.   |     | 17.30           | 15           | 100      | —    | +  | +  | +  |                    |    |    |   |
|       |     | 20.15           | 15           | 60       | —    | +  | +  | +  | tr                 |    |    |   |
| 15.   |     | 10.45           | 5            | 18       | —    | —  | —  | +  | tr                 |    |    |   |
| 16.   |     | 20.45           | 6            | 35       | —    | +  | +  | +  | 4                  | —  | —  |   |
| 18.   |     | 21.45           |              |          |      |    |    |    | 2                  | +  | +  |   |
| 19.   |     | 20.15           | 16           | 80       | —    | +  | +  | +  |                    |    |    |   |

| <i>Bays</i> |     |                 |              |          | <i>Pt-s</i> |    |    |    |          |    |    |
|-------------|-----|-----------------|--------------|----------|-------------|----|----|----|----------|----|----|
| Month       | Day | CET<br>(GMT+1h) | Amplitude in |          | Ex          | Ey | Hx | Hy | E(mV km) | Ex | Ey |
|             |     |                 | E(mV km)     | H(gamma) |             |    |    |    |          |    |    |
| 09.         | 20. | 18.00           | 15           | 75       | —           | +  | +  | +  |          |    |    |
|             |     | 21.30           | 22           | 80       | +           | +  | +  | +  | tr       |    |    |
|             | 21. | 02.15           | 11           | 50       | +           | —  | —  | +  | tr       |    |    |
|             | 22. | 00.30           | 20           | 95       | +           | +  | +  | —  |          |    |    |
|             |     | 16.45           | 20           | 130      | —           | +  | +  | +  | tr       |    |    |
|             | 23. | 16.30           | 14           | 65       | —           | +  | +  | +  | tr       |    |    |
|             |     | 23.45           | 7            | 30       | +           | +  | +  | —  | tr       |    |    |
|             | 24. | 21.00           | 6            | 35       | +           | +  | +  | +  | tr       |    |    |
|             | 25. | 20.45           | 5            | 25       | —           | 0  | +  | +  | tr       |    |    |
|             | 26. | 17.30           | 6            | 22       | +           | +  | +  | +  | tr       |    |    |
|             | 27. | 01.45           | 20           | 65       | +           | +  | +  | —  | tr       |    |    |
|             | 28. | 16.00           | 8            | 42       | —           | +  | +  | +  | tr       |    |    |
|             | 30. | 23.00           |              |          |             |    |    |    | 3        | —  | —  |
| 10.         | 02. | 00.00           |              |          |             |    |    |    | 3        | +  | +  |
|             |     | 01.15           | 5            | 12       | +           | +  | +  | —  | 5        | +  | +  |
|             | 06. | 02.45           |              |          |             |    |    |    | 4        | +  | +  |
|             |     | 03.30           |              |          |             |    |    |    | 3        | +  | +  |
|             |     | 18.00           |              |          |             |    |    |    | 2        | +  | +  |
|             | 08. | 00.15           |              |          |             |    |    |    | 2        | +  | +  |
|             |     | 19.30           | 4            | 8        | +           | +  | +  | 0  |          |    |    |
|             | 10. | 12.15           | 8            | 22       | +           | +  | +  | —  |          |    |    |
|             | 11. | 00.15           | 4            | 15       | +           | +  | +  | —  | tr       |    |    |
|             | 12. | 17.00           | 5            | 28       | —           | —  | —  | +  |          |    |    |
|             | 14. | 22.45           | 12           | 50       | +           | +  | +  | +  | tr       |    |    |
|             | 15. | 02.00           | 7            | 35       | +           | +  | +  | —  | tr       |    |    |
|             |     | 20.00           | 15           | 30       | +           | —  | +  | +  | tr       |    |    |
|             | 16. | 19.30           | 4            | 15       | —           | +  | +  | +  |          |    |    |
|             | 18. | 19.30           | 8            | 80       | —           | —  | —  | +  | tr       |    |    |
|             |     | 22.45           | 12           | 55       | +           | +  | +  | —  | tr       |    |    |
|             | 19. | 00.15           | 15           | 45       | +           | —  | —  | —  |          |    |    |
|             |     | 16.15           | 9            | 22       | +           | +  | +  | +  |          |    |    |
|             |     | 20.30           | 6            | 30       | —           | +  | +  | +  |          |    |    |
|             | 20. | 17.15           | 5            | 22       | +           | +  | +  | +  | tr       |    |    |
|             | 22. | 01.00           | 6            | 35       | +           | +  | +  | —  | tr       |    |    |



| Bays  |     |                 |              |          | Pt-s |    |    |    |          |    |    |
|-------|-----|-----------------|--------------|----------|------|----|----|----|----------|----|----|
| Month | Day | CET<br>(GMT+1h) | Amplitude in |          | Ex   | Ey | Hx | Hy | E(mV km) | Ex | Ey |
|       |     |                 | E(mV km)     | H(gamma) |      |    |    |    |          |    |    |
| 11.   | 29. | 20.00           |              |          |      |    |    |    | 2        | +  | +  |
|       | 30. | 21.45           | 5            | 18       | +    | +  | +  | +  | 3        | +  | +  |
| 12.   | 01. | 21.30           | 6            | 35       | —    | +  | +  | +  | 3        | —  | +  |
|       | 02. | 16.15           | 8            | 35       | +    | —  | —  | —  |          |    |    |
|       |     | 17.30           | 18           | 125      | —    | 0  | 0  | +  | tr       |    |    |
|       | 03. | 21.30           | 4            | 22       | +    | +  | +  | +  | tr       |    |    |
|       | 04. | 20.30           | 8            | 30       | —    | —  | —  | +  |          |    |    |
|       |     | 23.00           | 12           | 35       | —    | —  | —  | +  | tr       |    |    |
|       | 05. | 00.30           |              |          |      |    |    |    | 2        | +  | +  |
|       |     | 01.30           | 6            | 30       | —    | +  | +  | +  | tr       |    |    |
|       | 06. | 01.00           | 5            | 25       | +    | +  | +  | —  | 3        | +  | +  |
|       | 11. | 22.00           | 8            | 40       | +    | +  | +  | +  |          |    |    |
|       | 17. | 05.30           | 8            | 55       | —    | +  | +  | +  | tr       |    |    |
|       | 19. | 18.00           | 4            | 10       | +    | +  | ?  | +  |          |    |    |
|       | 20. | 19.30           | 4            | 18       | —    | +  | +  | +  | tr       |    |    |
|       | 21. | 22.30           | 5            | 25       | —    | +  | +  | +  | 3        | +  | +  |
|       | 22. | 01.00           | 4            | 25       | +    | +  | +  | —  | tr       |    |    |
|       | 23. | 00.30           | 4            | 12       | +    | +  | +  | —  | 3        | +  | +  |
|       | 26. | 20.00           | 7            | 30       | —    | +  | +  | +  | 2        | +  | +  |
|       | 28. | 21.00           | 14           | 70       | +    | +  | +  | +  | 6        | +  | +  |
|       | 29. | 23.45           | 5            | 18       | 0    | +  | +  | +  | tr       |    |    |
|       | 30. | 23.15           | 4            | 8        | +    | +  | +  | 0  | tr       |    |    |
|       | 31. | 22.00           | 4            | 30       | —    | +  | +  | +  | 3        | +  | +  |

*Further Pt-traces (earth currents)*

| Month Day CET |     |       | Month Day CET |     |       | Month Day CET |     |       |
|---------------|-----|-------|---------------|-----|-------|---------------|-----|-------|
| 01.           | 01. | 00.15 | 02.           | 18. | 18.15 | 03.           | 26. | 01.30 |
|               | 02. | 00.30 |               |     | 19.15 |               |     | 01.45 |
|               | 03. | 22.15 |               |     | 19.30 |               | 27. | 23.45 |
|               | 06. | 21.15 |               | 20. | 00.30 |               | 29. | 01.45 |
|               | 09. | 20.15 |               |     | 19.30 |               | 30. | 19.15 |
|               |     | 20.30 |               |     | 23.15 |               | 31. | 23.45 |
|               | 10. | 17.45 |               | 21. | 22.30 | 04.           | 01. | 01.30 |
|               | 17. | 09.15 |               | 22. | 01.45 |               |     | 01.45 |
|               | 19. | 01.45 |               | 23. | 01.30 |               |     | 03.45 |
|               |     | 02.15 | 03.           | 01. | 01.15 |               |     | 15.30 |
|               |     | 19.30 |               | 02. | 23.45 |               |     | 15.45 |
|               |     | 22.30 |               | 03. | 20.00 |               | 02. | 01.45 |
|               | 20. | 00.15 |               |     | 22.15 |               |     | 02.30 |
|               |     | 00.30 |               |     | 22.45 | 03.           | 03. | 00.15 |
|               | 22. | 22.45 |               | 04. | 15.45 |               |     | 02.45 |
|               |     | 23.30 |               |     | 22.45 |               |     | 03.30 |
|               | 23. | 01.30 |               | 06. | 22.45 |               | 06. | 00.30 |
|               |     | 02.00 |               |     | 23.45 |               |     | 00.45 |
|               |     | 20.45 |               | 07. | 00.45 |               | 09. | 19.45 |
|               |     | 22.45 |               |     | 01.45 |               | 10. | 17.30 |
|               | 24. | 23.15 |               |     | 21.15 |               |     | 20.15 |
|               | 25. | 00.30 |               | 08. | 03.30 |               |     | 23.45 |
|               |     | 21.15 |               | 12. | 18.00 | 11.           | 11. | 02.15 |
|               | 26. | 19.30 |               |     | 22.30 |               |     | 18.45 |
|               | 27. | 18.30 |               | 13. | 01.45 |               | 13. | 22.30 |
|               | 30. | 16.00 |               |     | 02.15 |               |     | 23.45 |
|               |     |       |               |     | 23.15 |               | 17. | 23.15 |
| 02.           | 02. | 22.30 | 14.           |     | 22.45 | 18.           | 18. | 01.15 |
|               |     | 23.30 |               |     | 23.15 |               |     | 11.00 |
|               | 06. | 00.30 |               | 16. | 00.00 |               | 19. | 01.45 |
|               | 07. | 23.15 |               | 17. | 02.15 |               | 20. | 21.00 |
|               |     | 23.30 |               |     | 02.45 |               | 21. | 22.00 |
|               |     | 23.45 | 18.           | 18. | 01.30 | 23.           | 23. | 16.00 |
|               | 10. | 22.45 |               |     | 17.45 |               |     | 20.45 |
|               |     | 23.00 |               | 20. | 21.45 |               |     | 21.30 |
|               | 11. | 23.30 |               |     | 02.15 |               | 24. | 01.45 |
|               | 12. | 20.00 |               | 23. | 20.45 |               | 26. | 18.30 |
|               |     | 20.45 |               |     | 23.15 | 29.           |     | 22.00 |
|               | 13. | 18.30 |               | 24. | 02.30 |               | 29. | 20.45 |
|               |     | 24.45 |               |     | 23.30 |               | 30. | 13.45 |
|               | 15. | 18.15 |               | 25. | 00.30 |               |     | 20.45 |
|               |     | 20.45 |               |     | 01.15 |               |     | 21.45 |
|               |     | 22.15 |               |     | 02.15 | 05.           | 02. | 01.15 |
|               | 17. | 21.45 |               |     |       |               |     |       |

| Month | Day   | CET   | Month | Day   | CET   | Month | Day | CET   |
|-------|-------|-------|-------|-------|-------|-------|-----|-------|
| 05.   | 02.   | 01.45 | 07.   | 04.   | 22.30 | 07.   | 31. | 19.15 |
|       | 05.   | 21.00 |       | 05.   | 22.15 |       |     | 21.15 |
|       |       | 21.30 |       | 06.   | 00.30 |       |     | 21.45 |
|       |       | 22.45 |       |       | 01.00 | 08.   | 02. | 01.45 |
|       |       | 23.30 |       |       | 01.30 |       |     | 02.30 |
| 06.   | 03.30 |       | 07.   | 23.00 |       |       |     | 03.30 |
|       | 22.45 |       |       | 23.45 |       | 03.   |     | 01.30 |
| 07.   | 00.30 |       | 10.   | 18.45 |       |       |     | 01.45 |
|       | 02.30 |       |       | 19.30 |       |       |     | 02.30 |
| 12.   | 22.45 |       |       | 19.45 |       |       |     | 04.30 |
|       | 23.15 |       | 10.   | 21.45 |       |       |     | 04.45 |
| 13.   | 19.45 |       | 11.   | 00.15 |       |       |     | 14.45 |
| 14.   | 21.00 |       |       | 00.45 |       | 04.   |     | 20.30 |
| 15.   | 02.15 |       |       | 20.15 |       | 06.   |     | 19.30 |
|       | 18.45 |       | 12.   | 21.30 |       | 07.   |     | 00.00 |
| 17.   | 19.15 |       |       | 22.15 |       | 09.   |     | 00.15 |
| 21.   | 23.45 |       |       | 22.45 |       | 11.   |     | 22.00 |
| 24.   | 00.15 |       | 13.   | 00.30 |       | 12.   |     | 20.45 |
| 26.   | 19.45 |       |       | 00.45 |       |       |     | 21.30 |
| 28.   | 03.30 |       |       | 01.00 |       | 14.   |     | 19.30 |
| 06.   | 01.   | 19.30 | 14.   | 03.45 |       | 15.   |     | 22.15 |
|       | 04.   | 01.00 |       | 04.30 |       | 20.   |     | 21.15 |
|       | 08.   | 12.30 | 17.   | 20.45 |       | 21.   |     | 01.30 |
|       | 09.   | 19.15 |       | 23.30 |       |       |     | 22.45 |
|       |       | 23.45 | 19.   | 21.15 |       |       |     | 23.15 |
|       | 10.   | 00.45 |       | 21.30 |       | 22.   |     | 22.15 |
|       |       | 22.30 | 21.   | 20.15 |       | 23.   |     | 00.15 |
| 11.   | 21.15 |       | 22.   | 23.15 |       | 25.   |     | 20.45 |
|       | 21.45 |       | 23.   | 23.30 |       | 27.   |     | 23.15 |
|       | 23.30 |       | 25.   | 00.30 |       | 28.   |     | 00.00 |
| 14.   | 19.30 |       |       | 01.15 |       | 29.   |     | 01.30 |
|       | 21.00 |       |       | 01.30 |       |       |     | 02.45 |
|       | 21.30 |       |       | 01.45 |       | 30.   |     | 02.00 |
| 05.   | 05.30 |       |       | 02.15 |       |       |     | 02.30 |
|       | 20.45 |       |       | 06.15 |       |       |     | 17.45 |
| 19.   | 01.00 |       |       | 22.15 |       |       |     | 21.15 |
| 21.   | 01.30 |       |       | 22.30 |       |       |     | 21.45 |
| 30.   | 01.30 |       |       | 22.45 |       | 31.   |     | 16.30 |
|       | 21.30 |       | 26.   | 18.30 |       | 09.   | 01. | 04.45 |
| 07.   | 01.   | 01.15 | 27.   | 15.30 |       |       | 02. | 01.30 |
|       | 02.   | 01.45 |       | 23.00 |       |       |     | 18.45 |
|       | 03.   | 23.30 | 28.   | 01.30 |       |       |     |       |
|       | 04.   | 22.00 |       | 23.45 |       |       |     |       |

| Month | Day   | CET   | Month | Day   | CET   | Month | Day   | CET   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 09.   | 03.   | 01.15 | 09.   | 20.   | 01.00 | 11.   | 17.   | 22.15 |
|       |       | 01.45 |       |       | 01.30 |       |       | 22.45 |
|       | 04.   | 19.45 |       |       | 02.30 |       | 19.   | 02.00 |
| 05.   | 00.15 |       | 10.   | 01.   | 13.00 |       |       | 02.15 |
|       |       | 02.15 |       | 02.   | 02.30 |       |       | 20.45 |
|       |       | 20.15 |       | 04.   | 20.45 |       | 20.   | 21.45 |
| 06.   | 22.00 |       | 05.   | 23.15 |       |       |       | 22.15 |
| 07.   | 19.30 |       | 06.   | 22.30 |       |       | 20.   | 23.15 |
|       |       | 23.30 |       |       | 22.45 |       | 23.   | 01.00 |
| 08.   | 21.45 |       | 09.   | 21.30 |       |       |       | 01.30 |
|       |       | 22.15 |       |       | 22.30 |       |       | 13.00 |
|       |       | 23.00 | 10.   | 22.00 |       |       | 30.   | 00.15 |
| 10.   | 00.45 |       |       |       | 22.30 |       | 04.   | 00.00 |
|       | 01.15 |       | 12.   | 23.15 |       |       | 06.   | 21.00 |
|       | 18.30 |       |       | 23.45 |       |       |       | 22.15 |
| 12.   | 04.45 |       | 13.   | 21.30 |       |       | 07.   | 23.00 |
|       |       | 16.30 |       |       | 21.45 |       |       | 23.30 |
|       |       | 21.45 |       |       | 22.30 |       | 08.   | 00.30 |
| 14.   | 01.15 |       | 14.   | 00.30 |       |       |       | 19.00 |
|       |       | 20.15 | 15.   | 22.30 |       |       |       | 21.00 |
|       |       | 23.45 | 16.   | 23.30 |       | 09.   | 01.30 |       |
| 15.   | 22.45 |       | 20.   | 21.45 |       | 17.   | 00.30 |       |
| 17.   | 03.15 |       | 24.   | 02.45 |       | 22.   | 21.30 |       |
|       |       | 15.15 | 31.   | 18.15 |       | 23.   | 01.00 |       |
|       |       | 16.45 |       |       | 19.30 |       |       | 01.45 |
|       |       | 22.15 | 11.   | 02.   | 01.45 |       |       | 22.00 |
|       |       | 22.45 |       | 03.   | 18.30 |       | 24.   | 22.45 |
| 18.   | 21.00 |       | 05.   | 20.15 |       |       |       | 23.30 |
|       |       | 21.15 | 08.   | 19.45 |       | 26.   | 00.15 |       |
|       |       | 21.30 | 09.   | 01.15 |       |       |       | 00.45 |
| 19.   | 00.15 |       |       |       | 01.30 | 27.   | 00.15 |       |
|       |       | 23.45 |       |       | 22.15 | 28.   | 01.00 |       |
| 21.   | 21.30 |       |       |       | 22.30 | 29.   | 00.00 |       |
| 22.   | 19.15 |       | 10.   | 00.30 |       |       |       | 00.15 |
| 25.   | 18.00 |       | 11.   | 22.00 |       |       |       | 23.30 |
|       |       | 23.15 | 13.   | 00.45 |       | 31.   | 21.30 |       |
|       |       |       |       |       | 01.00 |       |       |       |

*SI-s*

| Month | Day | CET<br>(GMT+1h) | Amplitude in<br>E(mV km) H(gamma) |    | Ex | Ey | Hx | Hy |
|-------|-----|-----------------|-----------------------------------|----|----|----|----|----|
| 01.   | 12. | 06.30           | 5                                 | 6  | —  | +  | +  | —  |
|       | 15. | 15.00           | 6                                 | 10 | —  | —  | —  | +  |
|       | 18. | 07.30           | 6                                 | 18 | —  | —  | —  | +  |
|       | 21. | 01.00           | 4                                 | 8  | —  | —  | —  | +  |
|       | 28. | 21.15           | 5                                 | 10 | —  | —  | —  | +  |
| 02.   | 03. | 18.00           | 7                                 | 10 | +  | +  | +  | —  |
|       | 07. | 05.45           | 5                                 | 6  | —  | —  | —  | +  |
| 04.   | 07. | 09.30           | 5                                 | 12 | —  | —  | —  | +  |
|       |     | 17.00           | 4                                 | 10 | —  | —  | —  | +  |
|       |     | 21.00           | 18                                | 50 | —  | —  | —  | +  |
|       | 15. | 12.30           | 5                                 | 10 | +  | +  | +  | —  |
|       | 24. | 13.30           | 5                                 | 18 | —  | —  | —  | +  |
|       | 27. | 23.30           | 4                                 | 7  | +  | +  | —  | +  |
|       | 29. | 16.00           | 5                                 | 12 | —  | —  | —  | +  |
| 05.   | 01. | 10.45           | 3                                 | 7  | +  | +  | +  | —  |
|       | 04. | 11.30           | 5                                 | 7  | —  | —  | —  | +  |
|       |     | 18.15           | >27                               | 55 | —  | —  | —  | +  |
|       | 07. | 12.30           | 2                                 | 7  | +  | +  | +  | —  |
|       | 10. | 05.30           | 5                                 | 10 | —  | +  | —  | +  |
|       | 18. | 17.45           | 4                                 | 10 | +  | +  | +  | —  |
|       | 28. | 13.30           | 5                                 | 12 | —  | —  | —  | +  |
|       | 29. | 15.15           | 4                                 | 7  | —  | —  | —  | +  |
| 06.   | 24. | 22.45           | 5                                 | 10 | —  | —  | —  | +  |
| 07.   | 22. | 02.00           | 3                                 | 6  | +  | +  | +  | —  |
|       | 24. | 13.45           | 8                                 | 12 | —  | —  | —  | +  |
|       | 31. | 11.30           | 3                                 | 7  | +  | +  | +  | —  |
| 08.   | 12. | 17.00           | 4                                 | 7  | +  | +  | +  | —  |
|       | 21. | 06.30           | 4                                 | 6  | —  | —  | —  | +  |
|       | 28. | 16.15           | 3                                 | 6  | —  | —  | —  | +  |
| 09.   | 08. | 10.45           | 5                                 | 8  | +  | +  | +  | —  |
|       | 23. | 02.45           | 5                                 | 13 | +  | +  | +  | —  |
|       | 24. | 15.45           | 4                                 | 12 | +  | +  | +  | —  |
|       | 27. | 00.15           | >13                               | 32 | —  | —  | —  | +  |

*SI-s*

| Month | Day | CET<br>(GMT+1h) | Amplitude in<br>E(mV km) H(gamma) |    | Ex | Ey | Hx | Hy       |
|-------|-----|-----------------|-----------------------------------|----|----|----|----|----------|
| 09.   | 27. | 01.00           | 14                                | 22 | +  | +  | +  | —        |
| 10.   | 13. | 04.30           | 6                                 | 9  | —  | —  | —  | +        |
|       | 27. | 06.30           | 4                                 | 7  | —  | —  | —  | +        |
| 11.   | 14. | 00.00           | 3                                 | 8  | +  | +  | +  | —        |
|       | 22. | 11.00           | 4                                 | 10 | —  | —  | —  | 0 (sfe?) |
|       | 30. | 08.00           | 6                                 | 8  | —  | —  | +  | —        |
| 12.   | 04. | 19.30           | 6                                 | 15 | +  | +  | +  | —        |
|       | 27. | 11.45           | 5                                 | 12 | —  | —  | —  | +        |

## „Needles”

| Month | Day | CET<br>(GMT+1h) | Amplitude in<br>E(mV/km) | Ex | Ey |
|-------|-----|-----------------|--------------------------|----|----|
| 01.   | 01. | 10.30           | 6                        | —  | —  |
|       | 19. | 00.15           | 4                        | +  | +  |
| 02.   | 03. | 23.30           | 2                        | —  | —  |
|       | 05. | 16.30           | 4                        | +  | —  |
| 03.   | 02. | 21.30           | 3                        | +  | 0  |
|       | 12. | 08.45           | 5                        | +  | +  |
| 04.   | 10. | 17.30           | 3                        | —  | —  |
|       | 16. | 20.30           | 4                        | +  | +  |
|       | 20. | 02.45           | 3                        | —  | —  |
| 05.   | 10. | 23.15           | 4                        | —  | +  |
|       | 25. | 14.15           | 3                        | 0  | —  |
|       |     | 19.30           | 4                        | —  | —  |
| 06.   | 01. | 12.30           | 3                        | —  | —  |
|       | 28. | 08.00           | 5                        | +  | —  |
| 07.   | 12. | 09.30           | 3                        | +  | +  |
|       | 15. | 18.15           | 2                        | —  | —  |
| 09.   | 02. | 10.45           | 4                        | —  | —  |
|       |     | 15.15           | 5                        | —  | —  |
|       | 06. | 12.30           | 3                        | —  | +  |
|       | 15. | 15.30           | ?                        | +  | —  |
|       | 18. | 09.15           | 3                        | —  | —  |
|       | 23. | 07.45           | 4                        | —  | +  |
|       | 27. | 13.30           | 4                        | —  | —  |
|       |     |                 |                          |    |    |
| 11.   | 04. | 17.15           | 5                        | —  | —  |
|       | 10. | 15.45           | 4                        | +  | +  |
|       |     | 17.15           | 4                        | +  | +  |
|       | 16. | 14.30           | 5                        | +  | +  |



## V.

*Average amplitudes in 12 pulsation bands*  
(monthly averages for 3 hour intervals in  $\mu$  V km)

| LT      | January |      |       |       |       |       |       |       |       |        |         |                |
|---------|---------|------|-------|-------|-------|-------|-------|-------|-------|--------|---------|----------------|
|         | Periods |      |       |       |       |       |       |       |       |        |         |                |
|         | 1—5     | 5—10 | 10—15 | 15—20 | 20—25 | 25—30 | 30—40 | 40—60 | 60—90 | 90—120 | 120—200 | 300—600<br>sec |
| 0— 3    | 0       | 2    | 5     | 19    | 24    | 19    | 19    | 48    | 42    | 101    | 126     | 77             |
| 3— 6    | 0       | 0    | 5     | 25    | 49    | 52    | 48    | 19    | 7     | 20     | 49      | 45             |
| 6— 9    | 0       | 0    | 6     | 44    | 77    | 58    | 76    | 48    | 18    | 10     | 69      | 116            |
| 9—12    | 0       | 1    | 4     | 69    | 106   | 66    | 72    | 65    | 23    | 9      | 116     | 111            |
| 12—15   | 0       | 0    | 5     | 60    | 133   | 96    | 72    | 48    | 38    | 24     | 73      | 93             |
| 15—18   | 1       | 2    | 1     | 24    | 91    | 121   | 65    | 57    | 19    | 15     | 109     | 40             |
| 18—21   | 0       | 2    | 4     | 23    | 40    | 43    | 40    | 40    | 31    | 68     | 92      | 128            |
| 21—24   | 0       | 3    | 9     | 24    | 21    | 17    | 17    | 39    | 56    | 184    | 98      | 43             |
| Average | 0       | 1    | 5     | 36    | 67    | 59    | 51    | 46    | 23    | 54     | 91      | 82             |

| February |   |   |    |     |     |     |     |     |     |     |     |     |
|----------|---|---|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0— 3     | 0 | 0 | 6  | 24  | 33  | 21  | 32  | 43  | 52  | 130 | 135 | 54  |
| 3— 6     | 0 | 0 | 12 | 46  | 66  | 48  | 38  | 16  | 29  | 22  | 79  | 111 |
| 6— 9     | 0 | 0 | 12 | 150 | 223 | 133 | 74  | 68  | 26  | 61  | 144 | 139 |
| 9—12     | 0 | 0 | 12 | 148 | 221 | 131 | 73  | 67  | 26  | 61  | 142 | 167 |
| 12—15    | 0 | 0 | 21 | 99  | 179 | 172 | 111 | 109 | 87  | 52  | 121 | 219 |
| 15—18    | 0 | 0 | 15 | 81  | 153 | 145 | 122 | 137 | 35  | 28  | 95  | 96  |
| 18—21    | 0 | 1 | 6  | 30  | 51  | 81  | 67  | 82  | 119 | 192 | 56  | 86  |
| 21—24    | 0 | 1 | 15 | 43  | 41  | 26  | 34  | 65  | 117 | 283 | 179 | 94  |
| Average  | 0 | 0 | 12 | 70  | 107 | 89  | 68  | 75  | 60  | 102 | 115 | 121 |

| March   |         |      |       |       |       |       |       |       |       |        |         |                |
|---------|---------|------|-------|-------|-------|-------|-------|-------|-------|--------|---------|----------------|
| LT      | Periods |      |       |       |       |       |       |       |       |        |         |                |
|         | 1—5     | 5—10 | 10—15 | 15—20 | 20—25 | 25—30 | 30—40 | 40—60 | 60—90 | 90—120 | 120—200 | 300—600<br>sec |
| 0— 3    | 0       | 1    | 1     | 16    | 21    | 23    | 58    | 194   | 78    | 86     | 71      | 85             |
| 3— 6    | 0       | 0    | 3     | 40    | 53    | 44    | 60    | 56    | 12    | 16     | 59      | 135            |
| 6— 9    | 0       | 0    | 8     | 62    | 118   | 131   | 86    | 34    | 33    | 26     | 73      | 133            |
| 9—12    | 0       | 0    | 1     | 53    | 210   | 159   | 97    | 42    | 38    | 61     | 107     | 143            |
| 12—15   | 0       | 0    | 4     | 65    | 204   | 108   | 97    | 66    | 44    | 85     | 228     | 126            |
| 15—18   | 0       | 0    | 5     | 52    | 131   | 111   | 100   | 98    | 31    | 66     | 69      | 110            |
| 18—21   | 0       | 1    | 5     | 13    | 21    | 46    | 82    | 120   | 110   | 77     | 90      | 76             |
| 21—24   | 1       | 0    | 3     | 17    | 20    | 28    | 39    | 269   | 79    | 185    | 132     | 32             |
| Average | 0       | 0    | 4     | 40    | 97    | 81    | 77    | 110   | 53    | 76     | 104     | 106            |

| April   |   |   |    |    |     |     |     |     |     |    |     |     |
|---------|---|---|----|----|-----|-----|-----|-----|-----|----|-----|-----|
| 0— 3    | 0 | 3 | 3  | 13 | 21  | 40  | 78  | 109 | 129 | 90 | 44  | 225 |
| 3— 6    | 0 | 6 | 8  | 29 | 32  | 63  | 41  | 64  | 61  | 10 | 111 | 150 |
| 6— 9    | 0 | 1 | 13 | 55 | 55  | 157 | 97  | 56  | 20  | 27 | 155 | 121 |
| 9—12    | 0 | 3 | 4  | 57 | 101 | 205 | 136 | 72  | 29  | 41 | 271 | 304 |
| 12—15   | 0 | 0 | 10 | 48 | 137 | 185 | 145 | 96  | 74  | 6  | 165 | 262 |
| 15—18   | 0 | 7 | 11 | 91 | 79  | 166 | 97  | 110 | 160 | 76 | 106 | 220 |
| 18—21   | 1 | 5 | 10 | 14 | 16  | 33  | 79  | 212 | 80  | 65 | 94  | 191 |
| 21—24   | 2 | 4 | 6  | 15 | 20  | 48  | 122 | 318 | 47  | 42 | 33  | 225 |
| Average | 1 | 4 | 8  | 33 | 59  | 114 | 100 | 130 | 75  | 44 | 124 | 214 |

| May     |         |      |       |       |       |       |       |       |       |        |         |                |
|---------|---------|------|-------|-------|-------|-------|-------|-------|-------|--------|---------|----------------|
| LT      | Periods |      |       |       |       |       |       |       |       |        |         |                |
|         | 1—5     | 5—10 | 10—15 | 15—20 | 20—25 | 25—30 | 30—40 | 40—60 | 60—90 | 90—120 | 120—200 | 300—600<br>sec |
| 0— 3    | 0       | 0    | 0     | 6     | 13    | 29    | 44    | 92    | 56    | 59     | 51      | 157            |
| 3— 6    | 0       | 0    | 1     | 18    | 57    | 45    | 106   | 75    | 39    | 10     | 45      | 153            |
| 6— 9    | 0       | 0    | 2     | 18    | 159   | 250   | 64    | 39    | 11    | 19     | 68      | 60             |
| 9—12    | 0       | 0    | 1     | 21    | 112   | 222   | 106   | 41    | 28    | 29     | 139     | 160            |
| 12—15   | 0       | 1    | 2     | 27    | 123   | 176   | 98    | 54    | 62    | 43     | 230     | 240            |
| 15—18   | 0       | 0    | 3     | 5     | 23    | 91    | 83    | 71    | 68    | 46     | 249     | 190            |
| 18—21   | 0       | 1    | 2     | 9     | 17    | 30    | 64    | 122   | 112   | 42     | 133     | 214            |
| 21—24   | 1       | 1    | 7     | 2     | 6     | 13    | 12    | 152   | 228   | 71     | 127     | 160            |
| Average | 0       | 0    | 2     | 14    | 67    | 112   | 75    | 78    | 70    | 39     | 131     | 160            |
| June    |         |      |       |       |       |       |       |       |       |        |         |                |
| 0— 3    | 0       | 0    | 0     | 7     | 9     | 18    | 43    | 53    | 176   | 61     | 111     | 131            |
| 3— 6    | 0       | 0    | 0     | 12    | 22    | 73    | 99    | 46    | 39    | 37     | 96      | 93             |
| 6— 9    | 0       | 0    | 1     | 15    | 135   | 146   | 123   | 80    | 11    | 15     | 64      | 56             |
| 9—12    | 0       | 0    | 0     | 25    | 157   | 184   | 91    | 93    | 41    | 24     | 203     | 90             |
| 12—15   | 0       | 1    | 0     | 10    | 110   | 108   | 73    | 68    | 81    | 39     | 281     | 204            |
| 15—18   | 0       | 0    | 0     | 8     | 31    | 51    | 74    | 43    | 57    | 51     | 254     | 285            |
| 18—21   | 0       | 0    | 1     | 9     | 14    | 21    | 26    | 26    | 119   | 198    | 145     | 122            |
| 21—24   | 0       | 0    | 2     | 5     | 10    | 17    | 15    | 34    | 144   | 116    | 96      | 126            |
| Average | 0       | 0    | 1     | 12    | 61    | 78    | 68    | 56    | 83    | 67     | 154     | 139            |

| LT      | July    |      |       |       |       |       |       |       |       |        |         |                |
|---------|---------|------|-------|-------|-------|-------|-------|-------|-------|--------|---------|----------------|
|         | Periods |      |       |       |       |       |       |       |       |        |         |                |
|         | 1—5     | 5—10 | 10—15 | 15—20 | 20—25 | 25—30 | 30—40 | 40—60 | 60—90 | 90—120 | 120—200 | 300—600<br>sec |
| 0— 3    | 0       | 0    | 2     | 25    | 14    | 20    | 42    | 170   | 153   | 98     | 159     | 227            |
| 3— 6    | 0       | 0    | 1     | 94    | 37    | 60    | 58    | 120   | 18    | 36     | 182     | 167            |
| 6— 9    | 0       | 0    | 4     | 137   | 113   | 81    | 101   | 59    | 34    | 14     | 225     | 63             |
| 9—12    | 0       | 0    | 0     | 242   | 120   | 74    | 66    | 100   | 17    | 36     | 183     | 151            |
| 12—15   | 0       | 0    | 1     | 180   | 183   | 52    | 129   | 116   | 8     | 31     | 227     | 265            |
| 15—18   | 0       | 0    | 0     | 55    | 70    | 37    | 127   | 153   | 60    | 72     | 224     | 132            |
| 18—21   | 0       | 0    | 1     | 22    | 20    | 22    | 47    | 135   | 72    | 45     | 172     | 277            |
| 21—24   | 0       | 0    | 1     | 9     | 18    | 16    | 28    | 164   | 171   | 156    | 113     | 232            |
| Average | 0       | 0    | 1     | 95    | 72    | 45    | 74    | 128   | 68    | 62     | 184     | 192            |

| August  |   |   |    |     |     |     |     |     |     |    |     |     |
|---------|---|---|----|-----|-----|-----|-----|-----|-----|----|-----|-----|
| 0— 3    | 0 | 0 | 2  | 39  | 34  | 48  | 137 | 144 | 77  | 22 | 89  | 89  |
| 3— 6    | 2 | 0 | 14 | 105 | 86  | 92  | 51  | 30  | 19  | 23 | 141 | 104 |
| 6— 9    | 0 | 0 | 20 | 328 | 148 | 132 | 13  | 61  | 0   | 28 | 82  | 123 |
| 9—12    | 0 | 0 | 3  | 360 | 262 | 63  | 64  | 35  | 12  | 49 | 295 | 120 |
| 12—15   | 0 | 0 | 18 | 269 | 140 | 132 | 77  | 54  | 32  | 51 | 233 | 352 |
| 15—18   | 0 | 0 | 0  | 58  | 120 | 110 | 100 | 100 | 16  | 4  | 128 | 237 |
| 18—21   | 0 | 0 | 2  | 17  | 35  | 57  | 57  | 182 | 65  | 20 | 93  | 228 |
| 21—24   | 0 | 0 | 2  | 17  | 25  | 22  | 28  | 180 | 106 | 36 | 48  | 220 |
| Average | 0 | 0 | 8  | 149 | 106 | 82  | 66  | 98  | 41  | 29 | 139 | 193 |

| September |         |      |       |       |       |       |       |       |       |        |         |                |
|-----------|---------|------|-------|-------|-------|-------|-------|-------|-------|--------|---------|----------------|
| LT        | Periods |      |       |       |       |       |       |       |       |        |         |                |
|           | 1—5     | 5—10 | 10—15 | 15—20 | 20—25 | 25—30 | 30—40 | 40—60 | 60—90 | 90—120 | 120—200 | 300—600<br>sec |
| 0— 3      | 1       | 0    | 11    | 26    | 21    | 17    | 43    | 53    | 37    | 57     | 102     | 207            |
| 3— 6      | 2       | 8    | 78    | 52    | 52    | 31    | 69    | 33    | 37    | 52     | 116     | 90             |
| 6— 9      | 0       | 2    | 108   | 157   | 195   | 91    | 53    | 6     | 3     | 9      | 83      | 52             |
| 9—12      | 0       | 1    | 43    | 158   | 215   | 152   | 53    | 13    | 17    | 82     | 253     | 85             |
| 12—15     | 0       | 0    | 22    | 224   | 218   | 124   | 101   | 26    | 9     | 33     | 211     | 188            |
| 15—18     | 2       | 0    | 3     | 53    | 79    | 103   | 111   | 52    | 37    | 49     | 237     | 81             |
| 18—21     | 1       | 2    | 2     | 22    | 21    | 39    | 54    | 119   | 82    | 91     | 129     | 112            |
| 21—24     | 0       | 1    | 12    | 29    | 14    | 17    | 30    | 148   | 169   | 133    | 164     | 171            |
| Average   | 1       | 2    | 35    | 90    | 102   | 72    | 64    | 56    | 49    | 63     | 162     | 123            |

| October |   |   |    |     |     |     |     |     |     |     |     |     |
|---------|---|---|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0— 3    | 0 | 1 | 4  | 22  | 35  | 33  | 30  | 100 | 50  | 115 | 55  | 49  |
| 3— 6    | 0 | 1 | 4  | 41  | 59  | 95  | 48  | 43  | 22  | 10  | 74  | 127 |
| 6— 9    | 0 | 1 | 10 | 107 | 96  | 57  | 89  | 26  | 11  | 12  | 194 | 78  |
| 9—12    | 0 | 1 | 9  | 82  | 189 | 111 | 111 | 86  | 20  | 58  | 203 | 177 |
| 12—15   | 0 | 1 | 16 | 77  | 120 | 110 | 100 | 79  | 191 | 53  | 140 | 242 |
| 15—18   | 0 | 1 | 13 | 44  | 79  | 87  | 82  | 149 | 33  | 48  | 228 | 80  |
| 18—21   | 0 | 0 | 3  | 21  | 24  | 57  | 80  | 192 | 36  | 39  | 104 | 61  |
| 21—24   | 0 | 1 | 6  | 30  | 32  | 38  | 56  | 209 | 129 | 72  | 79  | 75  |
| Average | 0 | 1 | 8  | 52  | 77  | 73  | 74  | 113 | 63  | 51  | 133 | 110 |

| LT      | November |      |       |       |       |       |       |       |       |        |         |                |
|---------|----------|------|-------|-------|-------|-------|-------|-------|-------|--------|---------|----------------|
|         | Periods  |      |       |       |       |       |       |       |       |        |         |                |
|         | 1—5      | 5—10 | 10—15 | 15—20 | 20—25 | 25—30 | 30—40 | 40—60 | 60—90 | 90—120 | 120—200 | 300—600<br>sec |
| 0— 3    | 0        | 1    | 3     | 18    | 19    | 36    | 52    | 85    | 61    | 45     | 18      | 115            |
| 3— 6    | 0        | 0    | 14    | 38    | 71    | 55    | 43    | 46    | 14    | 17     | 45      | 113            |
| 6— 9    | 1        | 0    | 18    | 54    | 117   | 105   | 62    | 25    | 14    | 22     | 88      | 151            |
| 9—12    | 0        | 1    | 6     | 57    | 115   | 116   | 93    | 41    | 12    | 30     | 120     | 138            |
| 12—15   | 0        | 1    | 3     | 69    | 170   | 86    | 79    | 87    | 45    | 35     | 197     | 36             |
| 15—18   | 0        | 1    | 4     | 49    | 90    | 58    | 113   | 58    | 32    | 33     | 90      | 61             |
| 18—21   | 0        | 0    | 8     | 22    | 17    | 50    | 50    | 86    | 82    | 133    | 75      | 122            |
| 21—24   | 0        | 0    | 4     | 29    | 28    | 29    | 44    | 109   | 100   | 182    | 42      | 70             |
| Average | 0        | 1    | 7     | 42    | 78    | 66    | 67    | 68    | 46    | 63     | 84      | 100            |

| December |   |   |   |     |    |     |     |     |     |     |     |     |
|----------|---|---|---|-----|----|-----|-----|-----|-----|-----|-----|-----|
| 0— 3     | 0 | 1 | 6 | 14  | 12 | 3   | 34  | 171 | 78  | 78  | 31  | 19  |
| 3— 6     | 0 | 0 | 6 | 19  | 19 | 19  | 86  | 83  | 19  | 8   | 73  | 17  |
| 6— 9     | 0 | 2 | 8 | 25  | 25 | 52  | 80  | 93  | 28  | 6   | 46  | 63  |
| 9—12     | 0 | 1 | 4 | 30  | 63 | 101 | 138 | 84  | 41  | 34  | 157 | 103 |
| 12—15    | 0 | 1 | 7 | 101 | 68 | 115 | 117 | 45  | 61  | 64  | 62  | 46  |
| 15—18    | 0 | 3 | 3 | 41  | 60 | 128 | 94  | 95  | 32  | 35  | 67  | 41  |
| 18—21    | 0 | 6 | 9 | 20  | 18 | 41  | 53  | 80  | 19  | 39  | 117 | 145 |
| 21—24    | 0 | 4 | 4 | 19  | 12 | 24  | 56  | 147 | 157 | 159 | 120 | 107 |
| Average  | 0 | 2 | 6 | 33  | 34 | 60  | 82  | 100 | 55  | 54  | 84  | 68  |

| LT      | Yearly average |      |       |       |       |       |       |       |       |        |         |                |
|---------|----------------|------|-------|-------|-------|-------|-------|-------|-------|--------|---------|----------------|
|         | Periods        |      |       |       |       |       |       |       |       |        |         |                |
|         | 1—5            | 5—10 | 10—15 | 15—20 | 20—25 | 25—30 | 30—40 | 40—60 | 60—90 | 90—120 | 120—200 | 300—600<br>sec |
| 0—3     | 0              | 1    | 4     | 19    | 21    | 26    | 51    | 105   | 82    | 78     | 83      | 120            |
| 3—6     | 0              | 1    | 12    | 43    | 50    | 57    | 62    | 53    | 26    | 22     | 87      | 117            |
| 6—9     | 0              | 1    | 18    | 96    | 125   | 116   | 76    | 50    | 17    | 21     | 109     | 100            |
| 9—12    | 0              | 1    | 7     | 108   | 156   | 132   | 92    | 62    | 25    | 43     | 182     | 145            |
| 12—15   | 0              | 0    | 9     | 102   | 149   | 122   | 100   | 71    | 61    | 43     | 180     | 179            |
| 15—18   | 0              | 2    | 5     | 42    | 85    | 100   | 97    | 94    | 48    | 44     | 154     | 133            |
| 18—21   | 0              | 2    | 4     | 18    | 24    | 63    | 58    | 116   | 77    | 84     | 108     | 147            |
| 21—24   | 0              | 2    | 6     | 20    | 21    | 25    | 40    | 153   | 125   | 135    | 102     | 131            |
| Average | 0              | 1    | 8     | 56    | 79    | 81    | 72    | 83    | 58    | 59     | 126     | 131            |

VI.

*Micropulsation indices for the year  
1977.*

*Activity indices for the micropulsations  
(P1 to P12)*

1976 September—December

|     | September    | October      | November     | December     |
|-----|--------------|--------------|--------------|--------------|
| 1.  | 154544435512 | 111254441423 | 225245441311 | 122223454541 |
| 2.  | 235555324233 | 454334543522 | 555522234311 | 111114545522 |
| 3.  | 233445335222 | 232343355422 | 253223144221 | 113223551552 |
| 4.  | 223445454421 | 555121451532 | 135331255513 | 111145544555 |
| 5.  | 213434545125 | 454531122521 | 245532213221 | 112235455322 |
| 6.  | 555422244123 | 555331114542 | 211232544421 | 111234541531 |
| 7.  | 113434424434 | 243244553511 | 113533121321 | 211444332455 |
| 8.  | 115235215522 | 525443423421 | 455311245542 | 112244415355 |
| 9.  | 255311112542 | 543312445511 | 132452213543 | 122353343354 |
| 10. | 345421233551 | 555421134541 | 124353225545 | 111154555335 |
| 11. | 213452211524 | 455521155112 | 111253355344 | 123255311155 |
| 12. | 453532125522 | 535531125515 | 112134555445 | 111134542545 |
| 13. | 241231553552 | 114443344211 | 111255544445 | 111224542142 |
| 14. | 555521121455 | 144323354332 | 121254353445 | 111223555241 |
| 15. | 445552112533 | 525552222125 | 112134541142 | 111124553221 |
| 16. | 155423432322 | 223554312125 | 311245434221 | 113234442354 |
| 17. | 355323224521 | 535541132123 | 512155444421 | 112454224542 |
| 18. | 552423144212 | 532354241411 | 111112555311 | 111355213554 |
| 19. | 525552222231 | 335413531121 | 111355221252 | 141235542234 |
| 20. | 325531321134 | 555432341211 | 311254545545 | 111235543531 |
| 21. | 355542231245 | 553552111114 | 111122332311 | 113233445554 |
| 22. | 545532243124 | 355431125121 | 111125443542 | 123253232354 |
| 23. | 555433141224 | 355442223551 | 111112555552 | 143223552334 |
| 24. | 533222442321 | 325412124511 | 112112445511 | 114444222453 |
| 25. | 554522333123 | 544242451531 | 113223545355 | 123354434152 |
| 26. | 552552152223 | 523432222351 | 111133445541 | 112135525341 |
| 27. | 455412344123 | 555423243541 | 113134444433 | 111134544441 |
| 28. | 134335312521 | 545333422542 | 111114543111 | 114354112454 |
| 29. | 135333333524 | 532422155521 | 111154422344 | 155333241255 |
| 30. | 552225444514 | 455421144543 | 111144435552 | 155443212355 |
| 31. |              | 445532124123 |              | 124551212234 |

*Activity indices for the micropulsations  
(P1 to P12)*

1977. January—December

|     | January      | February     | March        | April        |
|-----|--------------|--------------|--------------|--------------|
| 1.  | 131355423245 | 115553211423 | 125454213544 | 114321535452 |
| 2.  | 112334554424 | 115541233555 | 115323554524 | 111353323342 |
| 3.  | 123344334243 | 115455433424 | 125443334523 | 111112125224 |
| 4.  | 132443344553 | 112245535522 | 11443333552  | 111225252134 |
| 5.  | 114554324414 | 115542422355 | 112322331552 | 112343454252 |
| 6.  | 114455422345 | 125531334553 | 125322354445 | 435542344335 |
| 7.  | 111245524234 | 115552224355 | 115432223552 | 255312231555 |
| 8.  | 112334454144 | 115553123155 | 123351435554 | 155212455255 |
| 9.  | 112344334444 | 115245534355 | 111454235555 | 124234533345 |
| 10. | 113232554433 | 125443325555 | 122254552155 | 255255421335 |
| 11. | 112452443445 | 115443322555 | 115454344555 | 114135554321 |
| 12. | 115453334344 | 124444233521 | 113344541145 | 114435444135 |
| 13. | 112235533523 | 315543334242 | 114444344125 | 111125423111 |
| 14. | 114555211244 | 115554214243 | 114444424544 | 154412144534 |
| 15. | 114445523325 | 135543215521 | 111354442524 | 135443123125 |
| 16. | 111332555432 | 115543312344 | 112155554342 | 235344235435 |
| 17. | 112244534122 | 125552112542 | 113443135552 | 112323551114 |
| 18. | 112554111145 | 114433445355 | 112551235225 | 132234533345 |
| 19. | 112554312552 | 114454444222 | 112444314553 | 135432433555 |
| 20. | 135434434555 | 114333455523 | 115434235353 | 134425531145 |
| 21. | 121345543121 | 113554235545 | 111514442454 | 114434554125 |
| 22. | 133442323541 | 113445412542 | 112223553124 | 513324352322 |
| 23. | 135533323551 | 115455314555 | 315422355532 | 135222535322 |
| 24. | 113443324553 | 112455244534 | 111355242325 | 112111123111 |
| 25. | 113454214443 | 111244555424 | 111455342221 | 122113542125 |
| 26. | 113323455431 | 111334552521 | 111543541435 | 135424435335 |
| 27. | 113441235452 | 114332554322 | 112532324544 | 112224313544 |
| 28. | 154421125554 | 113354344532 | 122455254421 | 154222334542 |
| 29. | 255531223355 |              | 112434554135 | 154334341455 |
| 30. | 125553122444 |              | 111335434222 | 111235445324 |
| 31. | 445541123522 |              | 113541344422 |              |

|     | May          | June         | July         | August       |
|-----|--------------|--------------|--------------|--------------|
| 1.  | 113235545335 | 115424325555 | 122331322454 | 312444333123 |
| 2.  | 111145454335 | 111145425354 | 122231222542 | 112423345222 |
| 3.  | 224422334545 | 111145515443 | 111131544142 | 112112323211 |
| 4.  | 125431224555 | 111135545533 | 111111124313 | 113522113224 |
| 5.  | 122224555335 | 122323352353 | 111121325344 | 114552224455 |
| 6.  | 133322455245 | 111111455443 | 112411223555 | 111445341155 |
| 7.  | 112123555322 | 111121514454 | 112133444425 | 113543232254 |
| 8.  | 111221354222 | 111222553544 | 112552225445 | 115543251335 |
| 9.  | 11222445551  | 111252255523 | 111542234155 | 115532432125 |
| 10. | 211332254554 | 111243445352 | 112532352245 | 114533333155 |
| 11. | 113333255554 | 111112555421 | 112412455212 | 113532143345 |
| 12. | 114145145345 | 111113435551 | 111112355511 | 111455434223 |
| 13. | 111112555241 | 122122134554 | 111412355541 | 112354325241 |
| 14. | 111145435222 | 111134325532 | 111532234354 | 111544434342 |
| 15. | 114255443255 | 111112542542 | 111551245342 | 114424455343 |
| 16. | 111245524135 | 112132444455 | 111543444355 | 111543134242 |
| 17. | 111333544215 | 112355223455 | 111323552155 | 313522242445 |
| 18. | 112144555124 | 111224525555 | 111134552432 | 113552222145 |
| 19. | 112114454221 | 113344434254 | 112531244245 | 112535513255 |
| 20. | 113233535425 | 112255424554 | 111552341155 | 111523352144 |
| 21. | 112123545441 | 111125554344 | 111312554354 | 112213554222 |
| 22. | 113135534434 | 111254433555 | 111522553355 | 113114554121 |
| 23. | 124145515434 | 111344525525 | 111332443324 | 515412344511 |
| 24. | 112245424544 | 111223455545 | 111423453443 | 111531243244 |
| 25. | 112144414555 | 121112552555 | 111211455531 | 115541131254 |
| 26. | 111111554542 | 111135535254 | 111212554523 | 111541231124 |
| 27. | 111222554342 | 112355324353 | 122212555524 | 111552125223 |
| 28. | 113213124555 | 112124445355 | 112312244551 | 113451251335 |
| 29. | 112145412244 | 111134245544 | 112412344555 | 113421455141 |
| 30. | 122254413544 | 111111242212 | 113553141244 | 112423144542 |
| 31. | 112445114553 |              | 211435444232 | 111242445521 |

|     | September     | October      | November     | December     |
|-----|---------------|--------------|--------------|--------------|
| 1.  | 111552312542  |              | 111445434221 | 113211455541 |
| 2.  | 114521344544  |              | 112325534512 | 112323451155 |
| 3.  | 113544422343  |              | 112335443221 | 112221234154 |
| 4.  | 111353322433  |              | 125211455552 | 134221332424 |
| 5.  | 111433541541  | 111131222544 | 513353224131 | 113211132122 |
| 6.  | 112213542543  | 111232432453 | 112334324531 | 111224321423 |
| 7.  | 121433435541  | 111135344443 | 112321425522 | 121223554542 |
| 8.  | 115442425424  | 111232354551 | 135211245521 | 121113534321 |
| 9.  | 111434111544  | 111115531131 | 235421234522 | 111211441521 |
| 10. | 111113225121  | 115211111121 | 132432434554 |              |
| 11. | 111115543345  |              | 115552222521 |              |
| 12. | 115421255112  | 112212132221 | 111221111425 |              |
| 13. | 112445552244  | 112524313355 | 115253121243 |              |
| 14. | 113553432221  | 115441324525 | 115453221155 |              |
| 15. | 111352323521  | 112542321144 | 114535431325 | 141111231223 |
| 16. | 113521533542  | 113325533212 | 135223544354 | 153223435352 |
| 17. | 425214325542  | 112222131121 | 111214543314 | 121432542335 |
| 18. | 114413245521  | 115553221245 | 123223552141 | 111135511141 |
| 19. | 525421224544  | 113353252554 | 114254354322 | 111113552431 |
| 20. | 155521113455  | 114313335241 | 412345513142 | 152221544241 |
| 21. | 115541122154  | 155212355241 | 112112422111 | 135412355231 |
| 22. | 23.5512222355 | 111532442543 |              | 121225542111 |
| 23. | 115544242145  | 113145442122 |              | 115521445521 |
| 24. | 125224524253  | 112123542221 | 112111421123 | 155321554452 |
| 25. | 112435522152  | 225521235522 | 111222135554 | 124333523541 |
| 26. | 525523324355  | 114532433441 | 114332435245 | 125311123312 |
| 27. | 115411342555  | 115513344455 | 115442524445 | 113323555323 |
| 28. | 315411254552  | 115432344354 | 111335544511 | 135431454342 |
| 29. |               | 114533331313 | 113332445422 | 115521443333 |
| 30. |               | 122552421144 | 225422323553 | 111124554511 |
| 31. |               | 111123554121 |              | 112335345524 |



## II. GEOMAGNETISM

Processing of the geomagnetic records of the Observatory near Nagycenk is similar to that of the earth currents. (For details see Á. Wallner: „Über die erdmagnetischen Arbeiten im Observatorium bei Nagycenk und über deren Auswertung” *Acta Techn. Hung. T. 47.* 431—444; and „Observatoriumsberichte des Geophysikalischen Forschungslaboratoriums der Ungarischen Akademie der Wissenschaften vom Jahre 1966” Sopron, 1967). The following four kinds of tables are published:

I. The activity indices  $M$  of the general activity for each three-hour interval. The  $M$ -scale is linear, corresponding to 7 nT.

Values in brackets mean extrapolated ones (in the case of incomplete observations).

II. The list of disturbed (D) and quiet (Q) days selected by the following rule: A day is taken as disturbed on the basis of all magnetic and earth current activity indices, if the greatest of the simultaneous character figures decreases only in one of the three hour intervals to 3, in the other intervals they are greater. A day is taken as quiet, if the greatest of all activity indices has not reached 3. Five activity indices (two of the earth currents and three of the magnetism) are always taken into account.

III. Differences of hourly means from monthly averages in nT for all three magnetic elements. The monthly averages are given as absolute values (therefore as minutes of arc in D).

IV. Results of harmonical analysis from the monthly, yearly, Q and D day means of the daily variations.

Times are given throughout in this part in CET. Recording of magnetic variations in the observatory is made with two sets of LaCour-variometers.

The data of the tables were collected by Á. WALLNER.

I.  
Three-hour magnetic activity indices (M)

|     | January<br>M | Sum | February<br>M | Sum | March<br>M | Sum |
|-----|--------------|-----|---------------|-----|------------|-----|
| 1.  | 52255207     | 26  | 03211002      | 9   | 40112248   | 22  |
| 2.  | 40010010     | 6   | 72435025      | 28  | 00001112   | 5   |
| 3.  | 01011154     | 13  | 62000112      | 12  | 30011000   | 5   |
| 4.  | 00112333     | 13  | 51011000      | 8   | 00001001   | 2   |
| 5.  | 41510267     | 26  | 01332201      | 12  | 00001110   | 3   |
| 6.  | 53111234     | 20  | 20013279      | 24  | 00114222   | 12  |
| 7.  | 31011121     | 10  | 82123475      | 32  | 21002121   | 9   |
| 8.  | 00001400     | 5   | 31221989      | 35  | 01112449   | 22  |
| 9.  | 00011021     | 5   | 93227838      | 41  | 62639999   | 53  |
| 10. | 00010100     | 2   | 40122504      | 18  | 83332456   | 34  |
| 11. | 60022994     | 26  | 41226324      | 24  | 72121869   | 36  |
| 12. | 32123231     | 17  | 21011112      | 9   | 43261286   | 32  |
| 13. | 22000213     | 10  | 11011083      | 15  | 51111148   | 22  |
| 14. | 22412658     | 30  | 21104127      | 18  | 25111011   | 12  |
| 15. | 84121223     | 23  | 11101125      | 12  | 10111000   | 4   |
| 16. | 10112132     | 11  | 22220011      | 10  | 11111112   | 9   |
| 17. | 00100300     | 4   | 11012044      | 13  | 12111291   | 18  |
| 18. | 42342100     | 16  | 49311223      | 25  | 42212121   | 15  |
| 19. | 21010133     | 11  | 01102221      | 9   | 00011122   | 7   |
| 20. | 62411225     | 23  | 00111012      | 6   | 71021127   | 21  |
| 21. | 50010110     | 8   | 10223230      | 13  | 11012284   | 19  |
| 22. | 00114212     | 11  | 00011164      | 13  | 31121200   | 10  |
| 23. | 20010344     | 14  | 32123985      | 33  | 11112235   | 16  |
| 24. | 22113110     | 11  | 20024292      | 21  | 73103323   | 22  |
| 25. | 00227423     | 20  | 24121127      | 20  | 12112049   | 20  |
| 26. | 20000021     | 5   | 41001112      | 10  | 57211331   | 21  |
| 27. | 00112110     | 6   | 00001000      | 1   | 00222022   | 10  |
| 28. | 00021129     | 15  | 31121022      | 12  | 43222147   | 25  |
| 29. | 84222211     | 22  |               |     | 37123332   | 24  |
| 30. | 66427964     | 46  |               |     | 00111020   | 5   |
| 31. | 92228000     | 23  |               |     | 20011001   | 5   |

Monthly  
means:

$M_H = 1,74$   
 $M_D = 1,24$   
 $M_Z = 0,17$

$M_H = 1,95$   
 $M_D = 1,26$   
 $M_Z = 0,20$

$M_H = 1,33$   
 $M_D = 1,49$   
 $M_Z = 0,13$

|                   | April<br>M                                                              | Sum | May<br>M                                                                | Sum | June<br>M                                                               | Sum |
|-------------------|-------------------------------------------------------------------------|-----|-------------------------------------------------------------------------|-----|-------------------------------------------------------------------------|-----|
| 1.                | 00201101                                                                | 5   | 11112233                                                                | 14  | 12123223                                                                | 16  |
| 2.                | 00020103                                                                | 6   | 94349999                                                                | 56  | 32215434                                                                | 24  |
| 3.                | 53212023                                                                | 18  | 93122012                                                                | 20  | 31103101                                                                | 10  |
| 4.                | 56623238                                                                | 35  | 01133993                                                                | 29  | 21102101                                                                | 8   |
| 5.                | 42122145                                                                | 21  | 41212321                                                                | 16  | 01133100                                                                | 9   |
| 6.                | 52412799                                                                | 39  | 22022230                                                                | 13  | 11112101                                                                | 6   |
| 7.                | 96728348                                                                | 52  | 10001003                                                                | 5   | 10022112                                                                | 9   |
| 8.                | 81263678                                                                | 41  | 00010000                                                                | 1   | 00111321                                                                | 9   |
| 9.                | 53433323                                                                | 26  | 10022321                                                                | 11  | 11011021                                                                | 7   |
| 10.               | 12122563                                                                | 22  | 11112312                                                                | 12  | 32121110                                                                | 11  |
| 11.               | 32214254                                                                | 23  | 20223792                                                                | 27  | 01020122                                                                | 8   |
| 12.               | 60111127                                                                | 19  | 27823111                                                                | 25  | 11021011                                                                | 7   |
| 13.               | 50002101                                                                | 9   | 00021033                                                                | 9   | 01011023                                                                | 8   |
| 14.               | 30231234                                                                | 18  | 11221112                                                                | 11  | 64112113                                                                | 19  |
| 15.               | 32211010                                                                | 10  | 52232323                                                                | 22  | 01011001                                                                | 4   |
| 16.               | 11213796                                                                | 30  | 76344267                                                                | 39  | 00114933                                                                | 21  |
| 17.               | 42222121                                                                | 16  | 34342441                                                                | 25  | 22212422                                                                | 17  |
| 18.               | 11122331                                                                | 14  | 22115220                                                                | 15  | 11221232                                                                | 14  |
| 19.               | 76968662                                                                | 50  | 01002110                                                                | 5   | 31221411                                                                | 15  |
| 20.               | 72451994                                                                | 41  | 11012353                                                                | 16  | 53233111                                                                | 19  |
| 21.               | 11341143                                                                | 18  | 10011112                                                                | 7   | 11112210                                                                | 9   |
| 22.               | 11121021                                                                | 9   | 23401101                                                                | 12  | 11002661                                                                | 17  |
| 23.               | 00111112                                                                | 7   | 21010401                                                                | 9   | 14121141                                                                | 15  |
| 24.               | 00152562                                                                | 21  | 21122131                                                                | 13  | 01220222                                                                | 11  |
| 25.               | 69332101                                                                | 25  | 11111210                                                                | 8   | 00112200                                                                | 6   |
| 26.               | 00021201                                                                | 6   | 00000010                                                                | 1   | 12112200                                                                | 9   |
| 27.               | 00001001                                                                | 2   | 10021110                                                                | 6   | 31112121                                                                | 12  |
| 28.               | 00011122                                                                | 7   | 01032131                                                                | 11  | 01244522                                                                | 20  |
| 29.               | 62334425                                                                | 29  | 00021200                                                                | 5   | 21001210                                                                | 7   |
| 30.               | 11102112                                                                | 9   | 01111102                                                                | 7   | 11111132                                                                | 11  |
| 31.               |                                                                         |     | 12102311                                                                | 11  |                                                                         |     |
| Monthly<br>means: | M <sub>H</sub> = 2,43<br>M <sub>D</sub> = 1,70<br>M <sub>Z</sub> = 0,33 |     | M <sub>H</sub> = 1,75<br>M <sub>D</sub> = 1,04<br>M <sub>Z</sub> = 0,25 |     | M <sub>H</sub> = 1,44<br>M <sub>D</sub> = 0,57<br>M <sub>Z</sub> = 0,15 |     |

|                | July<br>M                                                               | Sum | August<br>M                                                             | Sum | September<br>M                                                          | Sum |
|----------------|-------------------------------------------------------------------------|-----|-------------------------------------------------------------------------|-----|-------------------------------------------------------------------------|-----|
| 1.             | 21252543                                                                | 24  | 11121401                                                                | 11  | 20011010                                                                | 5   |
| 2.             | 32131431                                                                | 18  | 20010200                                                                | 5   | 00111333                                                                | 12  |
| 3.             | 11234511                                                                | 18  | 10001243                                                                | 11  | 44211100                                                                | 13  |
| 4.             | 03312111                                                                | 12  | 23122124                                                                | 17  | 10021210                                                                | 7   |
| 5.             | 40122320                                                                | 14  | 43984999                                                                | 55  | 10022000                                                                | 5   |
| 6.             | 00056967                                                                | 33  | 45332585                                                                | 35  | 00021102                                                                | 6   |
| 7.             | 66222221                                                                | 23  | 21142553                                                                | 23  | 00101024                                                                | 8   |
| 8.             | 22344431                                                                | 23  | 33213223                                                                | 19  | 33112103                                                                | 14  |
| 9.             | 33142446                                                                | 27  | 62214972                                                                | 33  | 12133230                                                                | 15  |
| 10.            | 63212333                                                                | 23  | 32211223                                                                | 16  | 33133146                                                                | 24  |
| 11.            | 42222121                                                                | 16  | 34347779                                                                | 44  | 42723384                                                                | 33  |
| 12.            | 01001101                                                                | 4   | 11132312                                                                | 14  | 42100015                                                                | 13  |
| 13.            | 32222414                                                                | 20  | 13113215                                                                | 17  | 31244998                                                                | 40  |
| 14.            | 19574111                                                                | 29  | 20136232                                                                | 19  | 34021120                                                                | 12  |
| 15.            | 13122233                                                                | 17  | 14322013                                                                | 16  | 11232101                                                                | 11  |
| 16.            | 22957838                                                                | 44  | 01016413                                                                | 16  | 00022123                                                                | 10  |
| 17.            | 82312335                                                                | 27  | 22199964                                                                | 42  | 11401201                                                                | 10  |
| 18.            | 11112212                                                                | 11  | 41113331                                                                | 17  | 01102101                                                                | 6   |
| 19.            | 13745936                                                                | 38  | 57451246                                                                | 34  | 10029999                                                                | 39  |
| 20.            | 43389453                                                                | 39  | 71211201                                                                | 15  | 97667689                                                                | 58  |
| 21.            | 22212223                                                                | 16  | 10002100                                                                | 4   | 67798139                                                                | 50  |
| 22.            | 41141322                                                                | 18  | 00101022                                                                | 6   | 99477999                                                                | 63  |
| 23.            | 22002001                                                                | 7   | 30121331                                                                | 14  | 40026996                                                                | 36  |
| 24.            | 11023332                                                                | 15  | 11222340                                                                | 15  | 42122406                                                                | 21  |
| 25.            | 20011002                                                                | 6   | 01259953                                                                | 34  | 11121115                                                                | 13  |
| 26.            | 11111110                                                                | 7   | 51128211                                                                | 21  | 00152548                                                                | 25  |
| 27.            | 00001101                                                                | 3   | 04331373                                                                | 24  | 95641101                                                                | 27  |
| 28.            | 00000001                                                                | 1   | 20111122                                                                | 10  | 00042621                                                                | 15  |
| 29.            | 99949493                                                                | 56  | 21112000                                                                | 7   | 00000010                                                                | 1   |
| 30.            | 65242111                                                                | 22  | 00011022                                                                | 6   | 00022011                                                                | 6   |
| 31.            | 13112112                                                                | 12  | 11111000                                                                | 5   |                                                                         |     |
| Monthly means: | M <sub>H</sub> = 2,33<br>M <sub>D</sub> = 1,37<br>M <sub>Z</sub> = 0,32 |     | M <sub>H</sub> = 2,26<br>M <sub>D</sub> = 1,38<br>M <sub>Z</sub> = 0,19 |     | M <sub>H</sub> = 2,31<br>M <sub>D</sub> = 1,73<br>M <sub>Z</sub> = 0,27 |     |

|     | October<br>M | Sum | November<br>M | Sum | December<br>M | Sum  |
|-----|--------------|-----|---------------|-----|---------------|------|
| 1.  | 00122100     | 6   | 00111002      | 5   | 00000126      | 9    |
| 2.  | 10122000     | 6   | 21001012      | 7   | 39935999      | 56   |
| 3.  | 00255420     | 18  | 00120010      | 4   | 21011103      | 9    |
| 4.  | 02112000     | 6   | 01012742      | 17  | 10000487      | 20   |
| 5.  | 30033210     | 12  | 52111120      | 13  | 73421211      | 21   |
| 6.  | 12212222     | 14  | 20212210      | 10  | 31110000      | 6    |
| 7.  | 00011000     | 2   | 00011002      | 4   | 10010003      | 5    |
| 8.  | 00113132     | 11  | 00001020      | 3   | 10001000      | 2    |
| 9.  | 00001100     | 2   | 00000010      | 1   | 00000         | (0)  |
| 10. | 00003002     | 5   | 00112721      | 14  | 0001          | (2)  |
| 11. | 21121149     | 21  | 30111611      | 8   | 3 88988       | (58) |
| 12. | 55436623     | 34  | 25323341      | 23  | 54702223      | 25   |
| 13. | 22326404     | 23  | 55392933      | 39  | 2322382       | (25) |
| 14. | 10017329     | 23  | 84377997      | 54  | 21201         | (8)  |
| 15. | 83972164     | 40  | 92384642      | 38  | 12100         | (6)  |
| 16. | 21111222     | 12  | 51224352      | 24  | 00000243      | 9    |
| 17. | 21122454     | 21  | 11122003      | 10  | 36800011      | 19   |
| 18. | 42422299     | 34  | 20111111      | 8   | 01000000      | 1    |
| 19. | 99333740     | 38  | 11010133      | 10  | 0001001       | (2)  |
| 20. | 00121411     | 10  | 10010001      | 3   | 020           | (4)  |
| 21. | 21001112     | 8   | 40000000      | 4   | 00011113      | 7    |
| 22. | 74223448     | 34  | 00020000      | 2   | 41100001      | 7    |
| 23. | 11110003     | 7   | 00000901      | 1   | 10002001      | 4    |
| 24. | 02111010     | 6   | 00010000      | 1   | 10010000      | 2    |
| 25. | 20011022     | 8   | 00004297      | 22  | 00001021      | 4    |
| 26. | 00220100     | 5   | 93203151      | 24  | 31112042      | 14   |
| 27. | 66196999     | 55  | 91121011      | 16  | 21121110      | 9    |
| 28. | 99742691     | 47  | 01111000      | 4   | 00011079      | 18   |
| 29. | 11126311     | 16  | 11100112      | 7   | 51101023      | 13   |
| 30. | 10122561     | 18  | 12331123      | 16  | 20011012      | 7    |
| 31. | 01111011     | 6   |               |     | 10021002      | 6    |

|                   |            |            |            |
|-------------------|------------|------------|------------|
| Monthly<br>means: | M H = 1,96 | M H = 1,47 | M H = 1,47 |
|                   | M D = 1,54 | M D = 1,11 | M D = 1,00 |
|                   | M Z = 0,20 | M Z = 0,15 | M Z = 0,13 |

## II.

*Disturbed and quiet days for 1977*

| Disturbed days |        | Quiet days                                         |
|----------------|--------|----------------------------------------------------|
| January        | —      | 9, 10, 26                                          |
| February       | —      | 12, 16, 27                                         |
| March          | 9      | 2, 4, 5, 7, 15, 16, 19                             |
| April          | 7      | 1, 22, 23, 26, 27                                  |
| May            | 2      | 8, 14, 19, 21, 25, 26, 27, 29, 30                  |
| June           | —      | 6, 9, 11, 12, 15, 21, 25, 26, 29                   |
| July           | 29     | 18, 23, 25, 26, 27, 28                             |
| August         | 5, 6   | 2, 21, 28, 29, 30, 31                              |
| September      | 20, 22 | 1, 4, 5, 6, 18, 29                                 |
| October        | —      | 1, 4, 7, 9, 16, 21, 24, 25, 26, 31                 |
| November       | 14     | 1, 2, 3, 6, 7, 8, 9, 18, 20, 22,<br>23, 24, 28, 29 |
| December       | 2      | 8, 9, 18, 19, 20, 23, 24, 25, 27, 30, 31           |

### III.

*Hourly averages of magnetic elements*

*(H, D, Z)*

|          | 0     | 1    | 2    | 3    | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    |
|----------|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| January  |       |      |      |      |       |       |       |       |       |       |       |       |       |
| H        | -4,3  | -2,2 | -1,7 | -0,9 | +1,1  | +3,1  | +7,4  | +8,6  | +8,0  | +5,3  | +2,1  | +3,1  | +5,4  |
| D        | +7,8  | +5,2 | +2,5 | +1,2 | +0,3  | -0,1  | -0,7  | -0,1  | +1,2  | -0,1  | -3,6  | -9,0  | -12,3 |
| Z        | +1,2  | +0,6 | +0,1 | -0,1 | -0,3  | -0,3  | -0,5  | -0,9  | -1,3  | -1,5  | -2,0  | -3,3  | -3,3  |
| February |       |      |      |      |       |       |       |       |       |       |       |       |       |
| H        | +1,6  | -0,9 | -1,0 | -0,6 | -0,9  | +0,8  | +4,0  | +5,6  | +4,5  | +1,8  | +1,6  | +2,2  | +5,3  |
| D        | +10,5 | +9,3 | +6,4 | +4,5 | +4,9  | +2,5  | +3,5  | +2,9  | +5,5  | +3,6  | -2,9  | -10,6 | -16,0 |
| Z        | +0,4  | +0,2 | +0,1 | -0,1 | -0,2  | -0,3  | -0,7  | -1,0  | -1,3  | -1,8  | -2,8  | -3,2  | -2,5  |
| March    |       |      |      |      |       |       |       |       |       |       |       |       |       |
| H        | +2,7  | +2,6 | +3,2 | +1,8 | +1,4  | +3,2  | +4,2  | +2,9  | -2,7  | -6,1  | -7,1  | -3,7  | -0,3  |
| D        | +8,4  | +6,8 | +2,2 | +4,5 | +4,7  | +5,2  | +8,8  | +15,6 | +19,5 | +15,7 | +2,6  | -13,6 | -24,9 |
| Z        | +0,9  | +0,6 | +0,2 | -0,1 | +0,1  | +0,2  | +0,9  | +1,5  | +0,8  | -1,1  | -4,4  | -6,4  | -6,6  |
| April    |       |      |      |      |       |       |       |       |       |       |       |       |       |
| H        | +9,2  | +7,5 | +7,3 | +4,1 | +3,0  | +2,1  | +1,6  | -5,6  | -11,8 | -14,8 | -11,6 | -5,3  | -0,3  |
| D        | +8,1  | +7,2 | +6,5 | +7,4 | +10,9 | +12,7 | +14,8 | +20,9 | +20,1 | +14,1 | -3,9  | -20,0 | -32,7 |
| Z        | +1,4  | +0,8 | +0,2 | +0,2 | +0,6  | +1,8  | +2,6  | +3,2  | +0,1  | -3,3  | -7,9  | -12,2 | -12,4 |

| 13    | 14    | 15    | 16    | 17   | 18   | 19   | 20   | 21    | 22    | 23    | Monthly<br>Averages |
|-------|-------|-------|-------|------|------|------|------|-------|-------|-------|---------------------|
| +4,3  | +1,9  | -0,6  | -3,4  | -5,1 | -6,3 | -5,7 | -6,2 | -5,6  | -2,8  | -5,5  | 21 094 nT           |
| -11,1 | -6,6  | -6,0  | -3,8  | -4,0 | -2,0 | +0,7 | +4,3 | +10,6 | +13,5 | +12,1 | 0°26,0'             |
| -1,9  | -1,0  | -0,3  | +0,4  | +1,2 | +2,0 | +2,5 | +2,7 | +2,6  | +2,0  | +1,4  | 42 447 nT           |
| +6,5  | +0,6  | -2,7  | -5,0  | -6,8 | -5,3 | -6,5 | -5,1 | -2,0  | +0,2  | +2,5  | 21 098 nT           |
| -17,5 | -14,0 | -7,7  | -7,5  | -5,0 | -2,4 | +0,8 | +5,2 | +7,4  | +9,3  | +7,3  | 0°26,6'             |
| -1,7  | -0,2  | +0,7  | +1,0  | +1,3 | +2,1 | +2,3 | +2,5 | +2,3  | +1,8  | +1,3  | 42 449 nT           |
| +0,6  | +3,6  | +3,2  | -0,7  | -3,9 | -4,4 | -3,0 | -1,4 | -0,1  | +2,3  | +1,5  | 21 102 nT           |
| -28,5 | -26,0 | -18,4 | -9,5  | -4,5 | -2,3 | -0,7 | +3,5 | +7,5  | +13,2 | +10,2 | 0°27,0'             |
| -5,6  | -3,4  | -0,4  | +1,7  | +2,3 | +2,9 | +3,3 | +3,5 | +3,6  | +3,0  | +2,5  | 42 449 nT           |
| +1,2  | +1,1  | +0,1  | -2,0  | -3,9 | -0,6 | -1,0 | +3,2 | +2,9  | +6,3  | +7,3  | 21 099 nT           |
| -33,4 | -27,1 | -17,9 | -11,5 | -3,7 | +2,3 | +4,4 | +4,2 | +5,8  | +5,8  | +5,0  | 0°28,2'             |
| -8,5  | -4,2  | -0,1  | +3,4  | +5,0 | +5,6 | +5,9 | +5,4 | +4,8  | +4,2  | +3,4  | 42 454 nT           |

|        | 0     | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| May    |       |       |       |       |       |       |       |       |       |       |       |       |       |
| H      | +6,2  | +6,1  | +5,1  | +5,6  | +6,8  | +3,5  | -2,6  | -8,2  | -15,3 | -15,0 | -9,7  | -2,5  | +0,8  |
| D      | +6,9  | +7,2  | +6,4  | +7,2  | +12,8 | +19,3 | +23,4 | +24,4 | +19,4 | +9,9  | -7,3  | -21,6 | -32,1 |
| Z      | +3,1  | +2,6  | +2,4  | +2,7  | +3,4  | +4,7  | +4,0  | +2,8  | -1,9  | -6,4  | -11,6 | -15,3 | -15,2 |
| June   |       |       |       |       |       |       |       |       |       |       |       |       |       |
| H      | +5,7  | +6,3  | +6,2  | -5,5  | +6,5  | +5,2  | -2,2  | -10,3 | -15,6 | -17,2 | -15,2 | -8,2  | -3,1  |
| D      | +4,9  | +5,0  | +6,6  | +11,5 | +17,2 | +22,6 | +27,0 | +26,2 | +22,6 | +14,5 | +0,8  | -15,4 | -27,0 |
| Z      | +2,4  | +2,2  | +1,9  | +2,3  | +3,8  | +4,1  | +3,4  | +3,5  | +0,2  | -3,5  | -7,9  | -11,8 | -13,8 |
| July   |       |       |       |       |       |       |       |       |       |       |       |       |       |
| H      | +10,7 | +12,0 | +11,4 | +8,2  | +6,1  | +4,8  | +1,0  | -5,6  | -13,3 | -16,7 | -15,7 | -11,3 | -7,5  |
| D      | +1,9  | +3,3  | +7,5  | +9,4  | +12,2 | +20,0 | +23,6 | +24,4 | +23,1 | +13,4 | +1,4  | -13,5 | -23,5 |
| Z      | +1,7  | +0,7  | -0,1  | +0,3  | +1,9  | +2,4  | +1,7  | +0,5  | -1,8  | -3,3  | -6,4  | -9,9  | -10,2 |
| August |       |       |       |       |       |       |       |       |       |       |       |       |       |
| H      | +10,0 | +9,2  | +8,0  | +6,9  | +6,9  | +5,2  | +0,2  | -5,3  | -14,8 | -16,9 | -16,4 | -12,6 | -5,6  |
| D      | +3,9  | +5,0  | +6,3  | +10,1 | +12,2 | +17,5 | +22,0 | +24,2 | +21,0 | +19,8 | -2,1  | -16,3 | -27,3 |
| Z      | +0,6  | -0,1  | -0,5  | -0,3  | +0,8  | +1,6  | +1,4  | +1,2  | -0,2  | -2,2  | -5,1  | -7,6  | -7,5  |

| 13    | 14    | 15    | 16    | 17   | 18   | 19   | 20   | 21    | 22   | 23   | Monthly<br>Averages |
|-------|-------|-------|-------|------|------|------|------|-------|------|------|---------------------|
| —0,1  | —3,3  | —4,0  | —2,2  | —1,0 | +3,1 | +6,6 | +5,7 | +5,3  | +5,1 | +4,0 | 21 108 nT           |
| —33,2 | —28,0 | —19,6 | —11,8 | —4,9 | —0,4 | +3,8 | +2,7 | +4,3  | +5,6 | +5,6 | 0° 28,7'            |
| —11,4 | —6,2  | —0,8  | +3,6  | +6,0 | +6,6 | +6,4 | +6,2 | +5,5  | +4,6 | +4,2 | 42 453 nT           |
| —0,3  | +0,4  | +0,1  | +0,2  | +1,0 | +3,8 | +5,9 | +7,4 | +6,3  | +5,6 | +5,7 | 21 119 nT           |
| —31,7 | —31,3 | —25,3 | —16,1 | —8,1 | —3,9 | —2,9 | —1,2 | —0,5  | +1,7 | +2,8 | 0° 28,8'            |
| —12,3 | —7,5  | —1,4  | +3,0  | +4,5 | +5,3 | +4,9 | +4,4 | +4,3  | +4,1 | +3,9 | 42 456 nT           |
| —6,8  | —6,7  | —6,4  | —4,2  | —0,7 | +1,7 | +5,2 | +6,8 | +9,3  | +9,5 | +8,2 | 21 118 nT           |
| —28,5 | —27,4 | —21,5 | —13,0 | —6,7 | —3,2 | —3,1 | —2,2 | —0,2  | +1,5 | +1,1 | 0° 29,4'            |
| —9,7  | —6,0  | —0,4  | +4,4  | +5,8 | +6,3 | +5,6 | +5,2 | +4,4  | +3,7 | +3,2 | 42 463 nT           |
| —5,4  | —3,5  | —4,9  | —3,3  | —2,4 | +1,0 | +6,3 | +8,5 | +10,7 | +9,3 | +9,4 | 21 112 nT           |
| —29,7 | —27,1 | —21,9 | —14,8 | —6,4 | —1,7 | —0,4 | +2,1 | +3,4  | +4,5 | +4,7 | 0° 29,8'            |
| —5,3  | —2,6  | +0,5  | +3,3  | +4,2 | +4,0 | +3,8 | +3,4 | +2,5  | +2,2 | +1,9 | 42 463 nT           |

|           | 0     | 1    | 2    | 3     | 4    | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    |
|-----------|-------|------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| September |       |      |      |       |      |       |       |       |       |       |       |       |       |
| H         | +6,7  | +6,6 | +7,1 | +7,9  | +6,3 | +7,0  | +3,4  | -2,2  | -12,7 | -16,5 | -13,4 | -9,4  | -1,7  |
| D         | +5,7  | +7,5 | +9,2 | +10,9 | +9,3 | +10,0 | +14,5 | +20,1 | +19,6 | +9,7  | -5,9  | -21,6 | -31,4 |
| Z         | +0,2  | -0,4 | -0,3 | -0,9  | -0,9 | -0,6  | +0,4  | +0,9  | +0,8  | -1,7  | -5,0  | -7,1  | -6,6  |
| October   |       |      |      |       |      |       |       |       |       |       |       |       |       |
| H         | +5,7  | +5,1 | +5,6 | +7,0  | +8,0 | +7,3  | +7,9  | +5,8  | -1,7  | -6,2  | -10,1 | -13,3 | -10,4 |
| D         | +11,7 | +9,7 | +7,9 | +4,3  | +3,3 | +1,7  | +3,5  | +10,3 | +16,5 | +14,0 | +2,4  | -14,6 | -26,5 |
| Z         | +0,7  | +0,3 | -0,2 | -1,0  | -1,2 | -0,7  | +0,8  | +2,1  | +1,8  | -1,9  | -6,5  | -8,1  | -6,9  |
| November  |       |      |      |       |      |       |       |       |       |       |       |       |       |
| H         | +1,2  | +2,9 | +0,6 | +1,8  | +4,6 | +6,9  | +8,3  | +8,1  | +4,2  | -1,2  | -5,0  | -7,9  | -5,6  |
| D         | +7,5  | +3,9 | +2,4 | -0,2  | -1,0 | -0,2  | +1,3  | +4,7  | +7,6  | +5,5  | -2,3  | -11,0 | -17,4 |
| Z         | +1,2  | +0,2 | -0,1 | -0,2  | -0,1 | -0,1  | -0,2  | -0,5  | -0,4  | -2,2  | -4,0  | -4,0  | -2,9  |
| December  |       |      |      |       |      |       |       |       |       |       |       |       |       |
| H         | -2,9  | -0,4 | -0,1 | +0,9  | +3,3 | +3,9  | +5,6  | +4,8  | +5,5  | +3,1  | -1,7  | -2,3  | -1,1  |
| D         | +7,4  | +5,6 | +4,2 | +2,4  | +0,4 | -1,5  | -0,3  | +1,1  | +1,0  | -0,1  | -3,7  | -8,5  | -11,7 |
| Z         | +0,5  | -0,1 | -0,5 | -0,4  | -0,7 | -0,8  | -0,9  | -1,2  | -1,3  | -1,7  | -2,2  | -2,1  | -1,3  |

| 13    | 14    | 15    | 16    | 17   | 18   | 19   | 20   | 21   | 22    | 23    | Monthly<br>Averages |
|-------|-------|-------|-------|------|------|------|------|------|-------|-------|---------------------|
| +2,7  | -0,4  | -2,1  | -7,6  | -5,5 | -1,6 | -0,6 | +3,0 | +5,5 | +8,4  | +9,1  | 21 105 nT           |
| -32,9 | -25,6 | -18,7 | -10,6 | -2,2 | -0,5 | +2,5 | +6,9 | +9,1 | +7,4  | +7,0  | 0° 29,7'            |
| -4,4  | -1,0  | +1,9  | +4,1  | +4,4 | +4,0 | +4,1 | +3,5 | +2,4 | +1,4  | +0,5  | 42 456 nT           |
| -6,6  | -5,0  | -4,9  | -4,5  | -3,5 | -0,2 | -0,1 | +2,3 | +1,9 | +3,4  | +6,5  | 21 105 nT           |
| -28,1 | -24,5 | -16,2 | -9,8  | -5,7 | -0,8 | -0,1 | +6,6 | +8,7 | +12,1 | +13,6 | 0° 29,8'            |
| -4,5  | -1,0  | +1,5  | +2,9  | +3,3 | +3,6 | +3,8 | +3,7 | +3,3 | +2,7  | +1,5  | 42 458 nT           |
| -3,2  | -2,5  | -5,2  | -4,7  | -4,2 | -0,3 | +0,2 | +0,2 | +0,8 | +0,1  | -0,1  | 21 109 nT           |
| -16,7 | -12,5 | -7,2  | -4,1  | -2,1 | +2,0 | +3,7 | +6,6 | +8,8 | +11,1 | +9,4  | 0° 30,8'            |
| -1,2  | +0,2  | +1,0  | +1,9  | +2,1 | +1,9 | +1,3 | +2,0 | +1,8 | +1,2  | +0,6  | 42 467 nT           |
| -1,1  | -1,1  | +0,4  | +0,6  | -0,3 | -0,2 | -2,8 | -4,8 | -4,5 | -2,7  | -2,1  | 21 108 nT           |
| -13,3 | -9,7  | -6,6  | -5,2  | -2,6 | +0,7 | +3,0 | +6,5 | +7,5 | +11,7 | +11,6 | 0° 30,8'            |
| -0,2  | +0,7  | +0,8  | +0,8  | +1,1 | +1,6 | +1,6 | +1,8 | +1,9 | +1,6  | +1,0  | 42 468 nT           |

|             | 0    | 1    | 2    | 3    | 4    | 5    | 6     | 7     | 8     | 9    | 10   | 11    | 12    |
|-------------|------|------|------|------|------|------|-------|-------|-------|------|------|-------|-------|
| 1977 Yearly |      |      |      |      |      |      |       |       |       |      |      |       |       |
| H           | +4,4 | +4,6 | +4,3 | +4,0 | +4,4 | +4,4 | +3,2  | −0,1  | −5,5  | −8,4 | −8,5 | −5,9  | −2,0  |
| D           | +7,1 | +6,3 | +5,7 | +6,1 | +7,3 | +9,1 | +11,8 | +14,6 | +14,8 | +9,2 | −2,0 | −14,5 | −23,6 |
| Z           | +1,2 | +0,6 | +0,3 | +0,2 | +0,6 | +1,0 | +1,1  | +1,0  | −0,4  | −2,5 | −5,5 | −7,6  | −7,4  |
| Quiet       |      |      |      |      |      |      |       |       |       |      |      |       |       |
| H           | +0,2 | +0,2 | +0,1 | +0,1 | +0,4 | +0,7 | +0,4  | −0,2  | −1,3  | −2,1 | −2,1 | −1,4  | −0,5  |
| D           | +1,0 | +0,9 | +1,0 | +1,0 | +1,4 | +1,8 | +2,2  | +2,8  | +2,8  | +2,0 | −0,1 | −2,3  | −3,8  |
| Z           | +0,3 | +0,3 | +0,3 | +0,3 | +0,3 | +0,4 | +0,4  | +0,4  | +0,2  | −0,3 | −0,8 | −1,3  | −1,4  |
| Disturbed   |      |      |      |      |      |      |       |       |       |      |      |       |       |
| H           | +5,4 | +7,7 | +8,3 | +6,2 | +4,4 | +3,2 | +2,3  | +0,8  | −1,3  | −2,5 | −2,6 | −2,8  | −2,7  |
| D           | +1,5 | +0,3 | +2,4 | +2,3 | +0,5 | +0,9 | +1,1  | +1,0  | +1,0  | −0,5 | −2,0 | −4,4  | −5,7  |
| Z           | −0,5 | −1,1 | −1,4 | −1,3 | −1,1 | −1,0 | −0,9  | −0,7  | −1,0  | −1,3 | −1,6 | −1,7  | −1,3  |

| 13    | 14    | 15    | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | Monthly<br>Averages |
|-------|-------|-------|------|------|------|------|------|------|------|------|---------------------|
| means |       |       |      |      |      |      |      |      |      |      |                     |
| −0,7  | −1,2  | −2,2  | −3,1 | −3,0 | −0,8 | +0,4 | +1,6 | +2,5 | +3,7 | +3,9 | 21 106 nT           |
| −25,4 | −21,7 | −15,6 | −9,8 | −4,7 | −1,0 | +1,0 | +3,8 | +6,0 | +8,1 | +7,5 | 0° 28,8'            |
| −5,6  | −2,7  | +0,3  | +2,6 | +3,4 | +3,8 | +3,8 | +3,7 | +3,3 | +2,7 | +2,1 | 42 457 nT           |
| days  |       |       |      |      |      |      |      |      |      |      |                     |
| +0,1  | +0,1  | +0,1  | +0,1 | +0,2 | +0,4 | +0,8 | +1,0 | +1,0 | +1,0 | +0,7 | 21 113 nT           |
| −4,1  | −3,3  | −2,2  | −1,3 | −0,8 | −0,4 | −0,3 | +0,1 | +0,3 | +0,6 | +0,7 | 0° 28,9'            |
| −1,1  | −0,6  | −0,1  | +0,2 | +0,3 | +0,4 | +0,4 | +0,4 | +0,4 | +0,3 | +0,3 | 42 458 nT           |
| days  |       |       |      |      |      |      |      |      |      |      |                     |
| −4,4  | −5,0  | −5,3  | −4,6 | −2,7 | −2,7 | −1,7 | −0,7 | −0,3 | +0,1 | +1,1 | 21 088 nT           |
| −5,5  | −5,7  | −4,3  | −3,0 | +0,2 | +3,6 | +2,3 | +3,9 | +4,6 | +3,2 | +2,3 | 0°30,8'             |
| −0,5  | +0,5  | +1,6  | +2,4 | +2,5 | +2,5 | +2,0 | +1,5 | +1,1 | +0,8 | +0,5 | 42 460 nT           |

IV.  
Results of harmonical analysis of the daily variations

|                      | A <sub>1</sub> | q <sub>1</sub> | A <sub>2</sub> | q <sub>2</sub> | A <sub>3</sub> | q <sub>3</sub> | A <sub>4</sub> | q <sub>4</sub> | A <sub>5</sub> | q <sub>5</sub> | A <sub>6</sub> | q <sub>6</sub> |
|----------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Horizontal Intensity |                |                |                |                |                |                |                |                |                |                |                |                |
| January              | 6,3            | 323            | 0,4            | 194            | 1,6            | 175            | 1,1            | 21             | 0,8            | 261            | 0,1            | 360            |
| February             | 3,8            | 337            | 2,5            | 113            | 2,1            | 177            | 1,3            | 59             | 1,1            | 224            | 0,1            | 165            |
| March                | 2,1            | 65             | 2,4            | 14             | 2,9            | 179            | 1,0            | 21             | 0,7            | 338            | 0,6            | 204            |
| April                | 6,7            | 106            | 4,3            | 35             | 2,9            | 215            | 1,8            | 76             | 0,8            | 350            | 0,4            | 211            |
| May                  | 7,3            | 115            | 3,0            | 22             | 4,2            | 269            | 2,0            | 105            | 0,5            | 10             | 0,4            | 122            |
| June                 | 8,9            | 120            | 4,4            | 2              | 3,8            | 246            | 1,2            | 94             | 0,5            | 55             | 0,3            | 41             |
| July                 | 11,9           | 100            | 2,7            | 1              | 2,3            | 246            | 1,5            | 73             | 1,0            | 325            | 0,4            | 324            |
| August               | 11,5           | 105            | 2,6            | 1              | 3,6            | 232            | 1,4            | 67             | 0,5            | 5              | 0,2            | 77             |
| September            | 8,1            | 93             | 3,8            | 24             | 5,0            | 220            | 1,8            | 70             | 0,5            | 238            | 0,8            | 253            |
| October              | 8,0            | 71             | 3,1            | 297            | 2,2            | 171            | 1,0            | 34             | 0,6            | 162            | 0,3            | 216            |
| November             | 4,6            | 43             | 2,9            | 265            | 1,8            | 173            | 1,7            | 29             | 0,4            | 147            | 0,4            | 346            |
| December             | 3,1            | 343            | 2,2            | 293            | 1,3            | 114            | 0,2            | 59             | 0,6            | 209            | 0,2            | 24             |
| Year                 | 4,8            | 87             | 1,9            | 2              | 2,2            | 215            | 1,2            | 63             | 0,2            | 296            | 0,1            | 232            |
| Q                    | 1,0            | 125            | 0,4            | 319            | 0,6            | 210            | 0,2            | 66             | 0,1            | 290            | 0              | —              |
| D                    | 5,3            | 57             | 1,2            | 24             | 1,0            | 350            | 0,7            | 39             | 0,6            | 335            | 0,2            | 358            |
| Declination          |                |                |                |                |                |                |                |                |                |                |                |                |
| January              | 8,0            | 92             | 3,5            | 179            | 2,4            | 127            | 1,8            | 248            | 0,5            | 152            | 0,5            | 285            |
| February             | 10,2           | 72             | 4,1            | 207            | 2,7            | 76             | 1,7            | 271            | 0,9            | 67             | 0,3            | 41             |
| March                | 13,6           | 54             | 11,0           | 213            | 6,1            | 76             | 2,7            | 245            | 0,9            | 194            | 0,5            | 35             |
| April                | 16,3           | 53             | 12,8           | 236            | 6,0            | 72             | 2,0            | 286            | 1,2            | 128            | 0,2            | 14             |
| May                  | 18,0           | 50             | 13,5           | 243            | 5,1            | 92             | 0,5            | 320            | 0,7            | 88             | 0,3            | 327            |
| June                 | 20,2           | 35             | 13,0           | 239            | 3,9            | 73             | 0,9            | 181            | 0,4            | 135            | 0,4            | 354            |
| July                 | 17,4           | 33             | 12,0           | 239            | 4,0            | 74             | 0,6            | 226            | 0,5            | 267            | 0,6            | 313            |
| August               | 17,5           | 42             | 12,4           | 237            | 3,8            | 82             | 0,6            | 284            | 0,5            | 213            | 0,4            | 272            |
| September            | 16,6           | 57             | 12,0           | 237            | 5,3            | 76             | 2,9            | 290            | 0,8            | 242            | 0,1            | 22             |
| October              | 13,9           | 64             | 9,5            | 205            | 6,6            | 67             | 3,1            | 264            | 0,9            | 142            | 0,3            | 22             |
| November             | 8,2            | 85             | 6,3            | 209            | 3,7            | 86             | 1,8            | 270            | 0,6            | 133            | 0,2            | 266            |
| December             | 8,4            | 91             | 3,7            | 191            | 1,8            | 89             | 1,0            | 255            | 0,4            | 173            | 0,7            | 211            |
| Year                 | 13,4           | 55             | 9,1            | 227            | 4,2            | 79             | 1,5            | 265            | 0,4            | 151            | 0,2            | 319            |
| Q                    | 2,1            | 44             | 1,4            | 235            | 0,8            | 79             | 0,3            | 269            | 0,1            | 109            | 0              | —              |
| D                    | 3,6            | 90             | 2,4            | 228            | 0,5            | 360            | 0,3            | 298            | 0,5            | 229            | 0,4            | 280            |

|           | A <sub>1</sub>     | q <sub>1</sub> | A <sub>2</sub> | q <sub>2</sub> | A <sub>3</sub> | q <sub>3</sub> | A <sub>4</sub> | q <sub>4</sub> | A <sub>5</sub> | q <sub>5</sub> | A <sub>6</sub> | q <sub>6</sub> |
|-----------|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|           | Vertical Intensity |                |                |                |                |                |                |                |                |                |                |                |
| January   | 2,2                | 127            | 0,9            | 250            | 0,2            | 123            | 0,2            | 307            | 0,2            | 102            | 0,2            | 319            |
| February  | 2,1                | 136            | 0,8            | 273            | 0,3            | 159            | 0,3            | 302            | 0,1            | 135            | 0              | —              |
| March     | 3,2                | 113            | 2,5            | 254            | 1,2            | 106            | 0,5            | 287            | 0,1            | 244            | 0,1            | 108            |
| April     | 5,4                | 114            | 4,7            | 266            | 2,1            | 114            | 0,6            | 305            | 0,2            | 158            | 0,2            | 276            |
| May       | 7,6                | 106            | 5,7            | 278            | 2,0            | 118            | 0,2            | 292            | 0,1            | 79             | 0,1            | 323            |
| June      | 6,3                | 98             | 5,1            | 269            | 2,0            | 98             | 0,7            | 227            | 0,1            | 39             | 0,2            | 162            |
| July      | 5,3                | 117            | 4,3            | 268            | 1,4            | 92             | 0,8            | 196            | 0,2            | 51             | 0,2            | 63             |
| August    | 3,3                | 121            | 3,2            | 272            | 1,3            | 112            | 0,3            | 244            | 0,2            | 134            | 0,1            | 40             |
| September | 3,0                | 139            | 2,9            | 273            | 1,5            | 192            | 0,7            | 311            | 0              | —              | 0,1            | 79             |
| October   | 3,2                | 129            | 2,8            | 266            | 1,9            | 118            | 1,0            | 330            | 0,3            | 226            | 0,1            | 93             |
| November  | 2,0                | 137            | 1,2            | 292            | 0,7            | 136            | 0,3            | 341            | 0,1            | 190            | 0,3            | 55             |
| December  | 1,7                | 151            | 0,3            | 283            | 0,4            | 178            | 0,2            | 328            | 0,1            | 169            | 0,1            | 315            |
| Year      | 3,7                | 118            | 2,8            | 270            | 1,2            | 112            | 0,3            | 287            | 0,1            | 144            | 0,1            | 53             |
| Q         | 0,6                | 93             | 0,5            | 272            | 0,2            | 103            | 0,1            | 300            | 0              | —              | 0              | —              |
| D         | 1,8                | 175            | 0,8            | 276            | 0,4            | 120            | 0,1            | 195            | 0,1            | 189            | 0,1            | 172            |



### III. ATMOSPHERIC ELECTRICITY

Atmospheric electricity data have been published since 1962. Table I contains the hourly average values of the potential gradient expressed in V/m. Hourly averages have been taken only from hours having a recording period of 30 minutes or more. If values were available only for part of an hour the average is entered in square brackets [ ]. These data have been used in the determination of the monthly and daily means. Values uncertain for some reason are entered in round brackets ( ) and have not been used in calculating the monthly and daily means. Daily means of each day with 24 hours of recording are entered. However, loss of a maximum of one hour's data out of twelve (for example, on account of instrument maintenance or calibration) has not precluded entering this mean value. In hours marked by S the value of the potential gradient exceeded permanently or several times the measuring limits of the equipment making the determination of an hourly average impossible. The directions of the deviations are marked by signs.

Table II gives the hourly means of the quantities of positive and negative charges transported by point-discharge for each month. The values are expressed in  $10^{-6}$  Asec hour.

All data are presented in universal time (GMT).

Tables were compiled by F. MÄRCZ. Both the equipments and the methods of measurement of potential gradient and point-discharge have been described in the paper by P. BENCZE and F. MÄRCZ: „Atmosphärisch-elektrische und ionosphärische Messungen im Observatorium bei Nagycenk”, Observatoriumsberichte des Geophysikalischen Forschungslaboratoriums der Ungarischen Akademie der Wissenschaften von Jahre 1966, Sopron, 1967.



I.

*Hourly means of the potential gradient*

| Hour GMT<br>—<br>Day |      |      |     |      |      |     |     |      |      |      |      | January |      |
|----------------------|------|------|-----|------|------|-----|-----|------|------|------|------|---------|------|
|                      | 0    | 1    | 2   | 3    | 4    | 5   | 6   | 7    | 8    | 9    | 10   | 11      | 12   |
| 1.                   | —100 | —59  | —60 | —30  | —140 | —70 | 20  | 120  | 120  | 140  | 90   | 40      | 60   |
| 2.                   | —90  | —90  | —70 | —10  | —40  | —40 | —40 | —30  | —30  | 10   | 20   | 50      | 70   |
| 3.                   | 20   | +S   | 40  | 180  | 230  | +S  | 80  | 160  | —    | 100  | 100  | 100     | 70   |
| 4.                   | +S   | 170  | +S  | 120  | +S   | 100 | 70  | 100  | 10   | 20   | 100  | 70      | 80   |
| 5.                   | —    | —    | —   | —    | —    | —   | —   | —    | —    | —    | —    | —       | —    |
| 6.                   | —    | —    | —   | —    | —    | —   | —   | —    | —    | —    | —    | —       | —    |
| 7.                   | —    | —    | —   | —    | —    | —   | —   | —    | —    | 70   | (60) | 40      | 40   |
| 8.                   | 30   | 60   | —10 | —10  | 0    | —30 | 30  | +S   | +S   | 50   | 100  | 110     | 100  |
| 9.                   | 50   | 20   | 50  | 50   | 50   | 30  | 50  | 70   | 110  | 120  | 110  | 100     | 100  |
| 10.                  | 0    | 0    | 30  | 0    | —20  | —60 | —90 | —50  | —    | —70  | —100 | —150    | —120 |
| 11.                  | 50   | 70   | 40  | 40   | 80   | —40 | 20  | (30) | —140 | —90  | 0    | 10      | 10   |
| 12.                  | —30  | —20  | —60 | —20  | 50   | 20  | 30  | 30   | 20   | 10   | —S   | +S      | 0    |
| 13.                  | 130  | 160  | 140 | 130  | 100  | 70  | 30  | 40   | 0    | —50  | —10  | 20      | 0    |
| 14.                  | 40   | 70   | 100 | 60   | 100  | 120 | 100 | +S   | 120  | 50   | 40   | —100    | —70  |
| 15.                  | 70   | +S   | +S  | +S   | +S   | +S  | +S  | +S   | +S   | +S   | +S   | +S      | +S   |
| 16.                  | +S   | +S   | 40  | 30   | 70   | 60  | 80  | 100  | 100  | 140  | 210  | 160     | +S   |
| 17.                  | +S   | 210  | 100 | 90   | 30   | 70  | 40  | —    | —    | 10   | 100  | 100     | 70   |
| 18.                  | —70  | —100 | —70 | 0    | 70   | 70  | 80  | 100  | 0    | 120  | 110  | 120     | 150  |
| 19.                  | 40   | 90   | 110 | +S   | 90   | 80  | 40  | —    | 10   | 30   | —50  | —100    | —120 |
| 20.                  | —150 | —100 | —60 | —140 | —110 | —90 | 50  | 70   | 80   | 120  | 80   | +S      | 100  |
| 21.                  | —30  | 20   | 120 | 130  | 10   | —60 | 50  | 160  | 180  | +S   | +S   | +S      | —    |
| 22.                  | 70   | —10  | —10 | —60  | —30  | 10  | —70 | —    | 40   | 10   | —80  | —20     | —10  |
| 23.                  | —10  | 40   | 70  | +S   | +S   | +S  | 60  | 130  | +S   | (+S) | +S   | 130     | +S   |
| 24.                  | —40  | 80   | 30  | 20   | —20  | 40  | 20  | —    | —    | 60   | —40  | 80      | 30   |
| 25.                  | 110  | 50   | 20  | —50  | 50   | 130 | 160 | 150  | 0    | 0    | 120  | 120     | 10   |
| 26.                  | +S   | 10   | 50  | —S   | 20   | 90  | 120 | 140  | 220  | 160  | 150  | 120     | 50   |
| 27.                  | 180  | 100  | 60  | —S   | +S   | —10 | 10  | 30   | 50   | 90   | 100  | 100     | 100  |
| 28.                  | 100  | 50   | 50  | 70   | 100  | 80  | 150 | 110  | —    | 130  | 160  | 160     | 180  |
| 29.                  | 50   | 10   | —20 | 10   | 10   | 50  | 60  | 10   | —80  | 40   | 40   | 110     | 110  |
| 30.                  | 40   | —20  | —20 | 0    | 50   | 10  | —20 | 0    | 70   | 120  | 100  | 90      | 70   |
| 31.                  | 50   | 70   | 100 | 70   | 60   | 80  | 70  | 60   | —    | 70   | 100  | 70      | 100  |
| Means                | 21   | 36   | 30  | 30   | 34   | 28  | 44  | 75   | 46   | 56   | 65   | 61      | 47   |
| Number<br>of days    | 24   | 25   | 26  | 23   | 24   | 25  | 27  | 20   | 19   | 26   | 24   | 25      | 25   |

| 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | Daily means |
|------|------|------|------|------|------|------|------|------|------|------|-------------|
| 40   | 70   | 70   | 50   | 60   | 60   | -30  | -120 | -110 | -50  | -80  | 4           |
| 80   | 150  | 40   | 40   | -10  | 90   | 80   | 100  | 20   | 70   | 100  | 20          |
| -90  | -100 | -120 | -S   | -S   | ±S   | +S   | +S   | +S   | 80   | 100  | —           |
| 20   | 20   | —    | —    | —    | —    | —    | —    | —    | —    | —    | —           |
| —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —           |
| —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —           |
| 70   | 30   | 0    | 30   | 100  | 70   | 70   | 60   | 80   | 80   | 70   | —           |
| 110  | 100  | 100  | ±S   | ±S   | +S   | -S   | ±S   | ±S   | ±S   | -S   | —           |
| 40   | 80   | 100  | 110  | 120  | 100  | 60   | 70   | 60   | 40   | -20  | 70          |
| 10   | -70  | 20   | 0    | 50   | 30   | 70   | 30   | 20   | 20   | 0    | -20         |
| 10   | -40  | -40  | 40   | 40   | 10   | -20  | -20  | 30   | -10  | -80  | -1          |
| -60  | -30  | -30  | 30   | 70   | 110  | 160  | +S   | +S   | 180  | 190  | —           |
| 10   | 0    | -60  | -40  | -50  | -50  | -30  | -30  | -20  | -30  | -10  | 19          |
| -120 | -60  | -50  | -30  | -30  | -70  | -180 | -150 | -70  | -130 | -50  | -14         |
| ±S   | ±S   | +S   | +S   | 210  | 150  | 170  | +S   | 150  | +S   | +S   | —           |
| 130  | 110  | 100  | 120  | 100  | 160  | 170  | 130  | 170  | 200  | 160  | —           |
| 70   | 60   | 30   | -20  | 30   | 60   | 90   | 30   | -30  | -30  | -30  | —           |
| 170  | 200  | 190  | 180  | 160  | 150  | 150  | 170  | 120  | 70   | 30   | 90          |
| -90  | -100 | -80  | -110 | -160 | -170 | -150 | -170 | -130 | -110 | -130 | —           |
| +S   | 130  | -20  | +S   | +S   | 50   | 10   | 80   | 150  | 180  | 130  | —           |
| —    | —    | 160  | 140  | 80   | 70   | 50   | 100  | 90   | 180  | 100  | —           |
| 50   | 40   | -50  | -100 | -60  | -50  | -10  | 10   | 140  | +S   | 70   | -6          |
| 80   | 50   | 70   | 40   | -20  | -50  | 50   | 40   | -80  | -30  | 50   | —           |
| 50   | -10  | 80   | 40   | 80   | 160  | 60   | 20   | 40   | 130  | 90   | —           |
| 20   | -40  | -90  | 50   | -10  | 80   | -20  | 110  | 90   | 180  | +S   | 54          |
| -40  | -40  | -150 | -40  | 100  | +S   | +S   | 180  | +S   | +S   | 150  | —           |
| 100  | 110  | 120  | 110  | 90   | 80   | 80   | 70   | 70   | 60   | 100  | —           |
| 180  | 140  | 90   | 100  | 90   | 50   | 50   | 40   | 40   | 30   | 30   | 95          |
| 140  | 50   | 20   | -90  | ±S   | ±S   | 20   | 10   | -30  | 50   | 30   | —           |
| 90   | 70   | 70   | 60   | 50   | 70   | 50   | 50   | 50   | 40   | 50   | 48          |
| 100  | 50   | 30   | 60   | 100  | 80   | 50   | 60   | 110  | 50   | 80   | 73          |
| 45   | 36   | 22   | 32   | 50   | 52   | 40   | 36   | 38   | 52   | 45   |             |
| 26   | 27   | 27   | 24   | 24   | 24   | 25   | 24   | 24   | 24   | 25   |             |

|                   |     |     |     |     |     |     |      |     |      |      |      | February |     |
|-------------------|-----|-----|-----|-----|-----|-----|------|-----|------|------|------|----------|-----|
| Hour GMT<br>Day   | 0   | 1   | 2   | 3   | 4   | 5   | 6    | 7   | 8    | 9    | 10   | 11       | 12  |
| 1                 | 80  | 60  | 50  | 80  | 80  | 90  | 110  | 110 | 50   | —10  | 0    | —20      | 70  |
| 2.                | —50 | —20 | 10  | 40  | 120 | 150 | 150  | 150 | 170  | +S   | 220  | 240      | 240 |
| 3.                | 50  | 60  | 100 | 10  | —20 | 0   | 60   | —70 | 200  | 250  | 240  | 250      | 250 |
| 4.                | 60  | 30  | —70 | —10 | 10  | —50 | 20   | 60  | 0    | 120  | 110  | 110      | 110 |
| 5.                | 190 | 190 | +S  | 200 | 150 | 160 | +S   | 200 | 150  | 120  | —20  | 20       | —S  |
| 6.                | +S  | +S  | 170 | 180 | 50  | —S  | —S   | —S  | +S   | —S   | —S   | —S       | —S  |
| 7.                | 120 | 70  | 60  | 50  | 70  | 80  | 80   | —   | —    | 180  | 70   | —S       | +S  |
| 8.                | 120 | 140 | +S  | 200 | +S  | 100 | 100  | 120 | 220  | +S   | 150  | +S       | 220 |
| 9.                | 30  | 20  | 30  | 40  | 50  | 40  | 50   | —   | 90   | 110  | 100  | 120      | 150 |
| 10.               | 70  | 50  | 60  | 60  | 60  | 30  | 40   | 10  | (30) | (0)  | —50  | —40      | —20 |
| 11.               | +S  | +S  | +S  | —30 | —20 | 0   | 0    | 0   | 80   | 90   | 90   | 100      | 80  |
| 12.               | 100 | 50  | 70  | 60  | —10 | +S  | +S   | +S  | +S   | —30  | +S   | 60       | 10  |
| 13.               | —10 | 0   | 60  | 70  | 50  | 50  | 50   | 70  | 50   | —130 | —100 | 70       | 70  |
| 14.               | 110 | 130 | 110 | 100 | 80  | 90  | 140  | 90  | —    | 130  | 140  | 90       | 120 |
| 15.               | —60 | 10  | 50  | 60  | 30  | 30  | 20   | 30  | 10   | 20   | 10   | 50       | 70  |
| 16.               | 60  | 40  | 40  | 40  | 40  | 60  | 80   | 130 | 160  | 140  | 130  | 100      | 90  |
| 17.               | 80  | 90  | 100 | 120 | 120 | 130 | 120  | —   | 130  | 130  | 130  | 150      | 160 |
| 18                | 10  | 10  | 40  | 30  | 100 | 110 | 130  | 160 | 0    | 160  | 100  | 190      | 200 |
| 19.               | 100 | 40  | 140 | +S  | +S  | +S  | +S   | +S  | +S   | +S   | 120  | 120      | 130 |
| 20.               | 60  | 120 | 140 | 120 | 120 | 130 | 120  | 110 | 110  | 120  | 120  | 100      | 90  |
| 21.               | 70  | 70  | 70  | 50  | 60  | 70  | 60   | —   | —    | 70   | 50   | 30       | 20  |
| 22                | 20  | 10  | —50 | 0   | —10 | 10  | 20   | 50  | 90   | 130  | 90   | 70       | 90  |
| 23.               | 30  | 20  | —10 | 10  | 0   | 30  | 70   | 0   | +S   | 40   | —60  | 20       | 70  |
| 24.               | 70  | 70  | 70  | 70  | 70  | 90  | 100  | 100 | 120  | 130  | 150  | 140      | 130 |
| 25.               | 70  | 70  | 70  | 70  | 70  | 70  | (70) | 70  | 100  | 110  | 100  | 90       | 70  |
| 26.               | 30  | 40  | 30  | 40  | 40  | 50  | 70   | 140 | 130  | 70   | 70   | 60       | 50  |
| 27.               | 20  | 30  | 30  | 30  | 30  | 50  | 70   | 90  | 100  | 90   | 100  | 120      | 130 |
| 28.               | 50  | 70  | 60  | 70  | 70  | 90  | —10  | —40 | —    | 100  | +S   | +S       | 80  |
| Means             | 57  | 57  | 57  | 65  | 54  | 66  | 72   | 75  | 103  | 93   | 82   | 93       | 107 |
| Number<br>of days | 26  | 26  | 25  | 27  | 26  | 25  | 23   | 21  | 19   | 23   | 25   | 24       | 25  |

| 13  | 14      | 15      | 16      | 17      | 18  | 19      | 20      | 21      | 22      | 23      | Daily means |
|-----|---------|---------|---------|---------|-----|---------|---------|---------|---------|---------|-------------|
| 170 | 200     | 150     | 140     | 10      | 10  | 0       | 10      | -10     | -50     | -20     | 57          |
| 250 | +S      | 210     | 200     | 240     | 160 | 60      | 60      | 50      | 40      | 130     | 128         |
| +S  | 250     | 190     | 190     | 190     | 150 | 160     | 130     | 110     | 80      | 100     | 127         |
| 120 | 130     | 150     | 220     | +S      | 170 | 130     | 150     | 160     | 200     | 190     | 92          |
| -S  | -S      | 70      | 60      | 100     | +S  | +S      | $\pm$ S | $\pm$ S | $\pm$ S | $\pm$ S | —           |
| 110 | +S      | +S      | $\pm$ S | +S      | +S  | +S      | +S      | +S      | +S      | +S      | —           |
| -70 | 10      | 60      | 60      | 90      | 70  | 100     | 150     | 140     | 130     | 140     | —           |
| +S  | 160     | 130     | 10      | 0       | 50  | 50      | 70      | 110     | 100     | 60      | —           |
| 120 | 100     | 80      | 120     | 110     | 70  | 100     | 160     | 190     | 130     | 50      | 90          |
| 0   | -60     | 10      | 100     | 70      | -S  | -S      | -50     | 70      | 100     | $\pm$ S | —           |
| 80  | 80      | 80      | 110     | $\pm$ S | 110 | 80      | 70      | 90      | 70      | 70      | —           |
| 80  | 140     | 70      | 150     | 100     | 60  | 70      | 140     | 10      | -110    | -40     | —           |
| 60  | 110     | 140     | 130     | 140     | 160 | 180     | 170     | 150     | 120     | 110     | 75          |
| 110 | 140     | 130     | 80      | 30      | 30  | 30      | 10      | -40     | -60     | -50     | 76          |
| 90  | 120     | 110     | 100     | 100     | 100 | 110     | 110     | 120     | 80      | 70      | 60          |
| 100 | 120     | 130     | 120     | 120     | 90  | 120     | 130     | 130     | 80      | 50      | 96          |
| 140 | 120     | 130     | 90      | 70      | 70  | 10      | 50      | 40      | 20      | -10     | 95          |
| 180 | 170     | 180     | 150     | 150     | 130 | 160     | 180     | 230     | +S      | 160     | 127         |
| 110 | 110     | 120     | 100     | 90      | 90  | 90      | 100     | 90      | 80      | 60      | —           |
| 90  | 90      | 100     | 90      | 110     | 100 | 100     | 110     | 100     | 90      | 70      | 106         |
| 50  | 20      | -70     | -80     | -30     | 0   | 70      | 80      | 100     | 110     | 30      | —           |
| 120 | 110     | 110     | 100     | 80      | 70  | 70      | 20      | 10      | -40     | -50     | 47          |
| 80  | 70      | 70      | 70      | 70      | 90  | 130     | 110     | 110     | 100     | 90      | 53          |
| 120 | 110     | 120     | 120     | 100     | 120 | 120     | 100     | 100     | 90      | 70      | 103         |
| -20 | $\pm$ S | $\pm$ S | $\pm$ S | 20      | 50  | 50      | 60      | 50      | 30      | 30      | —           |
| 60  | 90      | 100     | 90      | 90      | 80  | 90      | 70      | 60      | +S      | 70      | 70          |
| 130 | 120     | 130     | 120     | 120     | 40  | $\pm$ S | 30      | 20      | 70      | 70      | 75          |
| 100 | 90      | 110     | 110     | 100     | 120 | 150     | 160     | 130     | 110     | 80      | —           |
| 95  | 108     | 108     | 106     | 91      | 88  | 93      | 92      | 69      | 65      | 61      |             |
| 25  | 24      | 26      | 26      | 25      | 25  | 24      | 26      | 26      | 24      | 24      |             |

|                   |     |     |     |     |     |     |     |      |     |       |      | March |     |
|-------------------|-----|-----|-----|-----|-----|-----|-----|------|-----|-------|------|-------|-----|
| Hour GMT<br>Day   | 0   | 1   | 2   | 3   | 4   | 5   | 6   | 7    | 8   | 9     | 10   | 11    | 12  |
| 1.                | 80  | 70  | 60  | 70  | 60  | 90  | 100 | 80   | 70  | 70    | 70   | 70    | 80  |
| 2.                | 80  | 60  | 70  | 60  | 60  | 50  | 80  | 120  | 100 | 100   | 70   | 70    | 70  |
| 3.                | -40 | 10  | 50  | 90  | 70  | 50  | 50  | (50) | 50  | 100   | 100  | 90    | 140 |
| 4.                | ±S  | ±S  | ±S  | ±S  | 40  | 40  | 40  | 10   | +S  | +S    | +S   | 10    | 50  |
| 5.                | ±S  | ±S  | 60  | 50  | 60  | 90  | 90  | 100  | 100 | 80    | (80) | 120   | 130 |
| 6.                | 70  | 50  | 50  | 60  | 90  | 90  | 100 | 90   | 100 | 100   | 120  | 160   | 180 |
| 7.                | 50  | 10  | 0   | 40  | 50  | 70  | 110 | 120  | —   | (130) | 130  | 120   | 110 |
| 8.                | -10 | -20 | -40 | -30 | -30 | -40 | -30 | -20  | -20 | -40   | 10   | 50    | 50  |
| 9.                | 60  | 60  | 80  | 60  | 50  | 40  | 60  | 70   | 130 | 140   | 130  | 130   | 120 |
| 10.               | 90  | 60  | 40  | 40  | 50  | 70  | -50 | -50  | 120 | 150   | 150  | 150   | 130 |
| 11.               | -20 | -20 | -30 | -10 | 10  | 20  | 20  | 10   | 50  | 50    | 70   | 70    | 100 |
| 12.               | 0   | 40  | 10  | 10  | 30  | -50 | -40 | -70  | -40 | 0     | 40   | 60    | 50  |
| 13.               | 70  | 50  | -30 | 10  | 50  | 40  | 50  | 70   | 100 | 60    | -10  | +S    | +S  |
| 14.               | 50  | 50  | 60  | 50  | 60  | 100 | 140 | 150  | —   | 160   | 140  | 80    | 70  |
| 15.               | 20  | 40  | 50  | 50  | 50  | 50  | 70  | 90   | 110 | 110   | 120  | 110   | 100 |
| 16.               | 50  | 60  | 70  | 70  | 70  | 60  | 60  | 70   | 0   | 80    | 80   | 70    | 90  |
| 17.               | 40  | 50  | 40  | 50  | 60  | 50  | 60  | 60   | 70  | 70    | 70   | 80    | 70  |
| 18.               | 20  | 30  | 30  | 30  | 40  | 30  | 50  | 30   | 30  | 60    | 70   | 70    | 70  |
| 19.               | 50  | 30  | 40  | 40  | 30  | 40  | 40  | 20   | —   | —     | —    | —     | —   |
| 20.               | ±S  | ±S  | -20 | 20  | 20  | 30  | 50  | 10   | 10  | 50    | 80   | 110   | 100 |
| 21.               | 40  | 70  | 60  | 20  | 50  | 30  | 40  | 70   | —   | 70    | 70   | 70    | 70  |
| 22.               | 70  | 60  | 70  | 60  | 90  | 70  | 70  | 90   | 0   | 10    | 80   | 90    | 100 |
| 23.               | 60  | 70  | 70  | 70  | 50  | 60  | 100 | —    | 10  | 100   | 90   | 80    | 100 |
| 24.               | 60  | 70  | 70  | 70  | 70  | 60  | 70  | 90   | 100 | 120   | 100  | 100   | 80  |
| 25.               | 40  | 50  | 50  | 70  | 50  | 50  | 70  | 70   | 110 | 100   | 100  | 110   | 110 |
| 26.               | 30  | 0   | 10  | 10  | 10  | 0   | 20  | 40   | 50  | 70    | 110  | 130   | 150 |
| 27.               | 30  | 40  | 30  | -10 | 20  | 60  | 60  | 90   | 100 | 110   | 120  | 70    | ±S  |
| 28.               | ±S  | 20  | 40  | 40  | 30  | 0   | -10 | 0    | —   | 80    | 70   | 80    | 90  |
| 29.               | -30 | -10 | -10 | -20 | 0   | 40  | 20  | 20   | 20  | 20    | 50   | 70    | 70  |
| 30.               | 60  | 70  | 70  | 60  | 50  | 60  | 80  | 80   | 0   | 10    | 120  | 50    | 0   |
| 31.               | ±S  | ±S  | ±S  | ±S  | +S  | 80  | 110 | 100  | 70  | 80    | 70   | 100   | 70  |
| Means             | 39  | 40  | 36  | 39  | 45  | 46  | 54  | 56   | 58  | 75    | 86   | 89    | 91  |
| Number<br>of days | 26  | 27  | 29  | 29  | 30  | 31  | 31  | 29   | 25  | 28    | 28   | 29    | 28  |

| 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | Daily means |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|
| 70  | 80  | 70  | 70  | 60  | 70  | 80  | 70  | 70  | 70  | 70  | 73          |
| 70  | 80  | 80  | 70  | 70  | +S  | 50  | -S  | -40 | -20 | 10  | —           |
| 150 | 80  | 90  | 70  | 120 | +S  | +S  | +S  | +S  | +S  | +S  | —           |
| +S  | 50  | +S  | -40 | 10  | 80  | 120 | 80  | +S  | 50  | +S  | —           |
| 120 | 90  | 90  | 100 | 110 | 130 | 120 | 110 | 90  | 80  | 80  | —           |
| 150 | 140 | 120 | 110 | 130 | 110 | 130 | 120 | 120 | 60  | 40  | 104         |
| 130 | 120 | 90  | 60  | 50  | 60  | 50  | 40  | 0   | -30 | 0   | —           |
| 60  | 50  | 50  | 10  | 10  | 50  | 50  | 30  | -50 | 30  | 10  | 5           |
| 120 | 100 | 60  | 60  | 70  | 90  | 50  | 20  | 50  | 70  | 60  | 78          |
| 110 | 100 | 80  | 70  | 60  | 40  | 20  | 30  | 20  | -20 | -10 | 60          |
| 100 | 70  | 50  | 0   | 10  | -20 | -50 | -80 | 0   | 30  | 40  | 20          |
| 10  | 40  | 50  | 30  | -S  | -40 | 40  | 50  | 80  | 70  | 70  | 19          |
| 60  | -50 | -30 | 20  | 30  | 40  | 50  | 50  | 40  | 50  | 50  | 35          |
| 70  | 70  | 90  | 100 | 110 | 110 | 70  | +S  | -S  | -20 | -20 | —           |
| 100 | 100 | 80  | 90  | 120 | +S  | 140 | 70  | 70  | 60  | 70  | 81          |
| 110 | 90  | 80  | 70  | 80  | 70  | 70  | 60  | 70  | 50  | 50  | 68          |
| 70  | 80  | 80  | 70  | 70  | 70  | 70  | 60  | 40  | 30  | 20  | 60          |
| 70  | 70  | 80  | 70  | 70  | 90  | 90  | 70  | 60  | 50  | 70  | 56          |
| —   | —   | —   | —   | —   | —   | —   | 50  | 40  | 40  | 60  | —           |
| 110 | 100 | 90  | 70  | -10 | 20  | 50  | 90  | 100 | 70  | 70  | —           |
| 70  | 70  | 70  | 70  | 60  | 50  | 30  | 30  | 70  | 70  | 110 | 59          |
| 90  | 80  | 100 | 70  | 70  | 100 | 100 | 90  | 80  | 120 | 120 | 78          |
| 100 | 100 | 100 | 70  | 80  | 90  | 110 | 110 | 90  | 70  | 60  | 80          |
| 80  | 70  | 70  | 70  | 70  | 70  | 70  | 70  | 60  | 50  | 30  | 74          |
| 100 | 110 | 120 | 130 | 110 | 70  | 30  | 20  | 40  | 20  | 20  | 73          |
| 150 | 120 | 110 | 80  | 70  | 70  | 70  | 50  | 20  | 20  | -10 | 58          |
| 130 | 100 | 140 | 40  | -10 | 0   | 20  | -20 | -10 | 20  | 20  | 50          |
| 100 | 110 | 100 | 90  | 120 | 110 | 150 | 50  | 60  | 30  | -10 | —           |
| 70  | 70  | 80  | 110 | 140 | 140 | 120 | 110 | 100 | 100 | 80  | 57          |
| -70 | -80 | -40 | -20 | -80 | +S  | +S  | +S  | +S  | +S  | +S  | —           |
| 70  | 60  | 90  | 80  | 60  | 80  | 90  | 60  | 40  | 20  | 30  | —           |
| 89  | 76  | 77  | 63  | 64  | 67  | 71  | 55  | 49  | 43  | 43  |             |
| 29  | 30  | 29  | 30  | 29  | 26  | 28  | 27  | 27  | 29  | 28  |             |

| April             |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Hour GMT<br>Day   | 0   | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  |
| 1.                | 10  | —10 | 60  | 30  | 60  | 60  | 70  | 110 | —   | 160 | 170 | 160 | 160 |
| 2.                | —10 | 10  | 40  | 50  | 40  | 80  | 100 | 100 | 110 | 110 | 150 | 140 | 140 |
| 3.                | 10  | 0   | 30  | —20 | —10 | —20 | 50  | +S  | 20  | —20 | —30 | —40 | 40  |
| 4.                | 30  | —20 | —   | —   | —   | —   | —   | —   | —   | 150 | 110 | 80  | 70  |
| 5.                | 140 | 100 | 10  | 20  | —20 | ±S  | ±S  | —S  | —   | 100 | 110 | 90  | 70  |
| 6.                | 60  | 60  | 70  | 70  | 60  | 50  | 70  | 90  | —   | 70  | 70  | 70  | 70  |
| 7.                | 70  | 80  | 70  | 60  | 60  | 100 | 80  | 100 | 100 | 120 | 100 | 90  | 100 |
| 8.                | —30 | —50 | —90 | —90 | —90 | +S  | +S  | ±S  | +S  | 10  | 40  | 100 | 120 |
| 9.                | —30 | 0   | —30 | +S  | ±S  | +S  | +S  | +S  | +S  | +S  | 0   | 20  | 20  |
| 10.               | 50  | 50  | 50  | 50  | 60  | 60  | 70  | 70  | 90  | 100 | 100 | 110 | 100 |
| 11.               | 50  | 60  | 70  | 50  | 60  | 70  | 70  | 50  | —   | 60  | 60  | 60  | 70  |
| 12.               | 30  | 30  | 40  | 30  | 20  | 30  | 60  | 50  | —   | 70  | 50  | 80  | 60  |
| 13.               | 20  | 30  | 80  | 40  | 30  | 30  | 70  | 30  | 30  | 20  | 20  | 40  | 70  |
| 14.               | 30  | —20 | 10  | 30  | 50  | +S  | ±S  | 120 | 100 | 80  | 70  | 80  | 70  |
| 15.               | 40  | 40  | 40  | 30  | 30  | 30  | 50  | 40  | —   | 60  | 70  | 110 | 70  |
| 16.               | 40  | 50  | 40  | 40  | 50  | 40  | +S  | 100 | 80  | ±S  | ±S  | ±S  | ±S  |
| 17.               | 50  | 50  | 50  | 50  | 50  | 70  | 70  | 110 | 120 | 100 | 110 | 110 | 130 |
| 18.               | 60  | 60  | 70  | 100 | 100 | 100 | 100 | 120 | —   | 100 | 70  | 60  | 50  |
| 19.               | —10 | —10 | 20  | 20  | ±S  | ±S  | ±S  | ±S  | 0   | —30 | —10 | 10  | 70  |
| 20.               | —20 | 10  | 40  | 30  | 30  | 40  | 60  | 70  | 70  | 80  | 70  | 70  | 80  |
| 21.               | 50  | 50  | 40  | 30  | 20  | 30  | 60  | 70  | 70  | 90  | 90  | 80  | 70  |
| 22.               | 20  | 20  | 20  | 20  | 20  | 30  | 50  | 70  | 50  | 40  | 40  | 20  | 50  |
| 23.               | 20  | 20  | 20  | 20  | 20  | ±S  | ±S  | —90 | 30  | 50  | 70  | 70  | 40  |
| 24.               | 10  | 30  | 20  | 0   | —S  | ±S  | ±S  | ±S  | 20  | ±S  | ±S  | 10  | 20  |
| 25.               | —   | —   | —   | —   | —   | —   | —   | —   | 80  | 70  | 30  | 70  | 60  |
| 26.               | 50  | 40  | 30  | 40  | 30  | 30  | 20  | 10  | 40  | 100 | 110 | 100 | 60  |
| 27.               | 30  | 20  | 30  | 30  | 50  | 70  | 90  | 90  | 70  | 70  | 70  | 90  | 80  |
| 28.               | —50 | —80 | —70 | —10 | —20 | 20  | 30  | 50  | 40  | 40  | 50  | 40  | 10  |
| 29.               | 30  | 0   | 20  | 60  | 50  | 50  | 70  | 100 | 70  | 70  | 60  | 50  | 50  |
| 30.               | 50  | 40  | 40  | 30  | 40  | 50  | 70  | 70  | 90  | 70  | 70  | 70  | 60  |
| Means             | 28  | 23  | 29  | 30  | 32  | 49  | 66  | 70  | 64  | 72  | 69  | 70  | 72  |
| Number<br>of days | 29  | 29  | 28  | 27  | 25  | 21  | 20  | 22  | 20  | 27  | 28  | 29  | 29  |

| 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21   | 22  | 23  | Daily means |
|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-------------|
| 160 | 140 | 130 | 130 | 80  | 80  | 70  | 30  | -10  | -20 | -40 | 78          |
| 110 | 110 | 110 | 80  | 70  | 50  | 30  | 10  | 30   | 30  | -10 | 70          |
| 70  | 60  | 50  | 30  | 50  | 20  | 30  | 50  | 70   | 70  | 70  | 25          |
| 70  | 70  | 50  | 50  | 40  | 50  | 30  | 20  | 20   | 70  | +S  | —           |
| 70  | 60  | 50  | 50  | 80  | 80  | 70  | 50  | 50   | 60  | 70  | —           |
| 76  | 70  | 80  | 90  | 80  | 70  | 70  | 70  | 70   | 70  | 70  | 70          |
| 90  | 70  | 70  | 60  | 70  | 40  | 20  | -10 | 10   | +S  | -60 | 65          |
| 150 | 150 | 130 | 10  | -20 | 20  | -30 | -20 | -140 | 30  | 20  | —           |
| 50  | -30 | 70  | 70  | 50  | 70  | 70  | 60  | +S   | +S  | +S  | —           |
| 100 | 70  | 70  | 60  | 70  | 80  | 100 | 90  | 80   | 70  | 60  | 75          |
| 70  | 60  | 40  | 50  | 50  | 50  | 60  | 70  | 70   | 60  | 30  | 58          |
| +S  | +S  | +S  | -40 | +S  | -10 | 30  | 40  | 30   | 40  | 30  | —           |
| 80  | +S  | -S  | +S  | -S  | -S  | -S  | -S  | -S   | -10 | 20  | —           |
| 70  | 60  | 60  | 50  | 40  | 30  | 40  | 50  | 50   | 50  | 40  | —           |
| 70  | 30  | +S  | 50  | +S  | 60  | 50  | 60  | 60   | 50  | 50  | —           |
| +S  | -S  | 60  | 60  | 70  | 60  | 50  | 50  | 50   | 50  | 50  | —           |
| 140 | 160 | 160 | 140 | 100 | 70  | 90  | 70  | 60   | 50  | 60  | 90          |
| 50  | 60  | 70  | 70  | 70  | 60  | 50  | +S  | 10   | -40 | -S  | —           |
| 70  | 70  | 70  | 20  | -10 | 30  | 20  | 10  | 30   | 50  | -50 | —           |
| 90  | 90  | 80  | 90  | 90  | 90  | 100 | 110 | 90   | 80  | 60  | 67          |
| 70  | 60  | 60  | 60  | 50  | 40  | 30  | 30  | 20   | 20  | 20  | 50          |
| 70  | 70  | 70  | 50  | 60  | 50  | 50  | 40  | 20   | 10  | 20  | 40          |
| 40  | 60  | 80  | -S  | 10  | 70  | 10  | 30  | +S   | 20  | 30  | —           |
| 40  | 60  | 30  | +S  | +S  | —   | —   | —   | —    | —   | —   | —           |
| 60  | 60  | 60  | 60  | 70  | 70  | 70  | 70  | 60   | 50  | 60  | —           |
| 90  | 100 | 100 | 80  | 80  | 70  | 60  | 30  | 30   | 20  | 30  | 57          |
| +S  | +S  | 90  | 70  | 70  | 70  | 20  | 80  | -S   | +S  | +S  | —           |
| -10 | 10  | 30  | 40  | 30  | 50  | 50  | 20  | 30   | -10 | 20  | 13          |
| 60  | 60  | 60  | 50  | 50  | 50  | 50  | 40  | 40   | 50  | 40  | 51          |
| 60  | 70  | 50  | 50  | 40  | 40  | 40  | 40  | 40   | 40  | 50  | 53          |
| 76  | 71  | 73  | 59  | 55  | 54  | 48  | 41  | 35   | 37  | 30  |             |
| 27  | 26  | 27  | 27  | 26  | 28  | 28  | 27  | 25   | 26  | 25  |             |

|                |     |     |     |     |    |     |     |     |     |        |     |     | May  |
|----------------|-----|-----|-----|-----|----|-----|-----|-----|-----|--------|-----|-----|------|
| Hour GMT       | 0   | 1   | 2   | 3   | 4  | 5   | 6   | 7   | 8   | 9      | 10  | 11  | 12   |
| Day            |     |     |     |     |    |     |     |     |     |        |     |     |      |
| 1.             | 40  | 30  | 20  | 30  | 20 | 40  | 30  | 30  | 50  | 50     | 60  | 50  | 40   |
| 2.             | 20  | 20  | 20  | 30  | 50 | 70  | 80  | 90  | —   | 130    | 110 | 80  | 70   |
| 3.             | 50  | 50  | 40  | 40  | 40 | 50  | 60  | 60  | 60  | 60     | 70  | 70  | 70   |
| 4.             | 30  | 30  | 30  | 20  | 40 | 40  | 50  | 70  | 60  | 50     | 40  | 50  | 40   |
| 5.             | 40  | 50  | 50  | 50  | ±S | +S  | ±S  | ±S  | 40  | 40     | 50  | 60  | 70   |
| 6.             | —20 | 30  | 20  | 20  | 30 | 40  | 50  | 30  | 50  | 50     | 50  | 60  | 90   |
| 7.             | 20  | 20  | 20  | 40  | 20 | 40  | 50  | 40  | 50  | 40     | 50  | 50  | +S   |
| 8.             | 30  | 30  | 40  | 40  | 40 | 50  | 50  | 50  | 50  | 60     | 50  | 50  | 30   |
| 9.             | —10 | 20  | 20  | 20  | 20 | 40  | 40  | 50  | 60  | —      | 50  | 50  | 50   |
| 10.            | 20  | 10  | 0   | —20 | —  | —   | —   | —   | —   | —      | —   | —   | —    |
| 11.            | —   | —   | —   | —   | —  | —   | —   | —   | —   | —      | —   | —   | —    |
| 12.            | —   | —   | —   | —   | —  | —   | —   | —   | —   | —      | —   | —   | —    |
| 13.            | —   | —   | —   | —   | —  | —   | —   | —   | —   | —      | —   | —   | —    |
| 14.            | —   | —   | —   | —   | —  | —   | —   | —   | —   | —      | 20  | —S  | ±S   |
| 15.            | 80  | 60  | 70  | 60  | 50 | 60  | 60  | 50  | 30  | —30    | 70  | 100 | 140  |
| 16.            | 70  | 60  | 60  | 70  | 70 | 100 | 100 | 90  | —   | ( 40 ) | 100 | 100 | 90   |
| 17.            | —10 | 50  | 30  | 30  | 30 | 30  | 30  | 70  | 80  | 90     | 110 | ±S  | (±S) |
| 18.            | —30 | —20 | —10 | 20  | 40 | 50  | 70  | 70  | 110 | 110    | 90  | 80  | 100  |
| 19.            | 70  | 50  | 30  | 20  | 40 | 30  | 50  | 50  | 40  | 40     | 50  | 60  | 70   |
| 20.            | 50  | 60  | 40  | 30  | 50 | 50  | 40  | 30  | 30  | 30     | 30  | 30  | 30   |
| 21.            | 30  | 20  | 10  | 20  | 30 | 50  | 50  | 70  | 100 | (100)  | 100 | 100 | 90   |
| 22.            | 10  | 10  | 20  | 10  | 30 | 40  | 50  | 40  | 60  | 30     | 60  | 60  | 60   |
| 23.            | 30  | 10  | 30  | 30  | 40 | 50  | 70  | 70  | —   | 100    | 90  | 90  | 80   |
| 24.            | 40  | 40  | 40  | 30  | 30 | 40  | 50  | 70  | 90  | 70     | 70  | —   | —    |
| 25.            | —   | —   | —   | —   | —  | —   | —   | —   | —   | —      | —   | —   | —    |
| 26.            | —   | —   | —   | —   | —  | —   | —   | —   | —   | 150    | 150 | 130 | 130  |
| 27.            | 50  | 50  | 40  | 40  | 50 | 60  | 70  | 70  | 90  | 80     | 70  | 50  | 60   |
| 28.            | 40  | 40  | 20  | 20  | 50 | 60  | 80  | 120 | 130 | 120    | 110 | 120 | 110  |
| 29.            | 40  | 30  | 20  | 30  | 30 | 50  | 60  | 80  | 90  | 90     | 80  | 80  | 90   |
| 30.            | 20  | 20  | 10  | 0   | 0  | 10  | 20  | 40  | —   | 50     | —S  | ±S  | +S   |
| 31.            | ±S  | 50  | 30  | 20  | 40 | 90  | 90  | 50  | 50  | 50     | 70  | 80  | 80   |
| Means          | 30  | 33  | 28  | 28  | 37 | 50  | 57  | 60  | 66  | 66     | 72  | 73  | 77   |
| Number of days | 24  | 25  | 25  | 25  | 23 | 23  | 23  | 23  | 20  | 22     | 25  | 22  | 21   |

| 13          | 14      | 15      | 16   | 17      | 18      | 19      | 20      | 21   | 22   | 23      | Daily means |
|-------------|---------|---------|------|---------|---------|---------|---------|------|------|---------|-------------|
| 50          | 50      | 50      | 40   | 40      | 40      | 30      | 30      | 20   | 20   | 20      | 37          |
| 70          | 70      | 70      | 60   | 50      | 50      | 60      | 50      | 50   | 50   | 40      | 60          |
| 60          | 50      | 60      | 60   | 60      | 50      | 50      | 50      | 50   | 40   | 40      | 54          |
| 40          | 50      | 50      | 50   | 50      | 50      | 50      | 40      | 50   | 50   | 50      | 45          |
| $\pm S$     | $\pm S$ | $\pm S$ | $+S$ | $+S$    | 70      | 50      | 30      | $-S$ | $+S$ | $+S$    | —           |
| 110         | 110     | 110     | 60   | 50      | 60      | 50      | 40      | 40   | 20   | 20      | 49          |
| $\pm S$     | $-S$    | $+S$    | 50   | 50      | 50      | 50      | 50      | 50   | 50   | 50      | —           |
| 60          | 60      | 60      | 70   | 60      | 60      | 50      | 50      | 30   | 30   | 10      | 47          |
| 60          | 70      | 70      | 100  | 80      | 50      | 30      | 30      | 30   | 20   | 20      | 42          |
| —           | —       | —       | —    | —       | —       | —       | —       | —    | —    | —       | —           |
| —           | —       | —       | —    | —       | —       | —       | —       | —    | —    | —       | —           |
| —           | —       | —       | —    | —       | —       | —       | —       | —    | —    | —       | —           |
| —           | —       | —       | —    | —       | —       | —       | —       | —    | —    | —       | —           |
| 30          | 10      | 70      | 80   | 80      | 80      | 80      | 100     | 100  | 80   | 60      | —           |
| 140         | 120     | 120     | 140  | 100     | 110     | 110     | 120     | 140  | 110  | 100     | 88          |
| 80          | 50      | $+S$    | 30   | 30      | 50      | 60      | 60      | 30   | 50   | 40      | —           |
| ( $\pm S$ ) | 100     | 120     | 100  | 80      | 60      | 100     | 70      | 30   | 10   | $-10$   | —           |
| 100         | 80      | 70      | 30   | 40      | 70      | 0       | $-10$   | 30   | 30   | 70      | 50          |
| 89          | —       | —       | —    | —       | (30)    | 60      | 70      | 70   | 70   | 60      | —           |
| 30          | 10      | 0       | 20   | 30      | 30      | 30      | 30      | 30   | 30   | 30      | 32          |
| 90          | 90      | 100     | 70   | 40      | $+S$    | $-40$   | 30      | 30   | 10   | 10      | 50          |
| 40          | 40      | 30      | 30   | 20      | 30      | 30      | 30      | 20   | 10   | 10      | 32          |
| 70          | 70      | 70      | 70   | 60      | 90      | 70      | 50      | 60   | 50   | 50      | 61          |
| —           | —       | —       | —    | —       | —       | —       | —       | —    | —    | —       | —           |
| —           | —       | —       | —    | —       | —       | —       | —       | —    | —    | —       | —           |
| 130         | 140     | 150     | 150  | 150     | 130     | 120     | 10      | 100  | 90   | 60      | —           |
| 60          | 70      | 60      | 70   | 70      | 50      | 50      | 40      | 40   | 40   | 40      | 57          |
| 100         | 100     | 100     | 90   | 90      | 70      | 50      | 40      | 40   | 40   | 40      | 74          |
| 100         | 100     | 110     | 130  | 110     | 60      | 50      | 20      | 20   | 20   | 20      | 63          |
| $\pm S$     | $+S$    | 60      | $+S$ | $\pm S$ | $\pm S$ | $\pm S$ | $\pm S$ | 20   | 30   | $\pm S$ | —           |
| 90          | 60      | 50      | 50   | 50      | 60      | 70      | 70      | 60   | 40   | 50      | 59          |
| 76          | 71      | 75      | 70   | 63      | 62      | 53      | 50      | 48   | 41   | 38      |             |
| 20          | 21      | 21      | 22   | 22      | 22      | 24      | 24      | 24   | 24   | 23      |             |

| June              |     |     |     |     |    |     |     |     |        |     |     |     |     |
|-------------------|-----|-----|-----|-----|----|-----|-----|-----|--------|-----|-----|-----|-----|
| Hour GMT<br>Day   | 0   | 1   | 2   | 3   | 4  | 5   | 6   | 7   | 8      | 9   | 10  | 11  | 12  |
| 1.                | 30  | 20  | 20  | 30  | 50 | 60  | 80  | 90  | 90     | 90  | 80  | 60  | 60  |
| 2.                | 40  | 40  | 50  | 50  | 30 | 40  | 60  | 80  | 90     | 110 | 90  | 90  | 90  |
| 3.                | 30  | 30  | 30  | 40  | 50 | 70  | 70  | 80  | 80     | 80  | 70  | 60  | 50  |
| 4.                | 30  | 30  | 30  | 40  | 50 | 50  | 40  | 50  | ( 50 ) | —   | 70  | 60  | 70  |
| 5.                | 10  | 30  | 60  | 40  | 40 | 60  | 100 | 60  | 50     | 50  | 70  | +S  | —S  |
| 6.                | 20  | 30  | 20  | 20  | 30 | 40  | 30  | 60  | —      | 50  | 50  | 40  | 50  |
| 7.                | —10 | 50  | 40  | 30  | 20 | 10  | 40  | 50  | 40     | 50  | 70  | 50  | 50  |
| 8.                | 50  | 40  | 40  | 50  | 60 | 60  | 80  | 130 | 130    | 100 | 80  | 80  | 70  |
| 9.                | 50  | 40  | 60  | 70  | 70 | 60  | 70  | 80  | 90     | 110 | 120 | 110 | 120 |
| 10.               | 60  | 70  | 60  | 60  | 50 | 60  | 70  | 80  | 90     | 100 | 110 | 100 | 110 |
| 11.               | 50  | 50  | 50  | 50  | 70 | 70  | 50  | 50  | 80     | 110 | 120 | 140 | 160 |
| 12.               | —40 | —20 | —60 | —30 | 50 | 40  | 50  | 70  | 90     | 120 | 160 | 110 | 120 |
| 13.               | 40  | 20  | 20  | 10  | 40 | 40  | 40  | 40  | —      | 40  | 50  | 50  | 60  |
| 14.               | 20  | 20  | 30  | 30  | 30 | 50  | 50  | 70  | 90     | 80  | 80  | 100 | —S  |
| 15.               | 40  | 40  | 40  | 50  | 60 | 50  | 50  | 60  | 50     | 60  | 70  | 70  | 70  |
| 16.               | 30  | 20  | +S  | ±S  | ±S | +S  | 100 | 60  | 80     | 50  | 50  | 50  | 50  |
| 17.               | 30  | 20  | 10  | 10  | 20 | 30  | 30  | 50  | 50     | 50  | 60  | 50  | 50  |
| 18.               | 20  | 20  | 10  | 10  | 20 | 30  | 30  | 40  | 70     | 110 | 120 | 140 | 140 |
| 19.               | 40  | 40  | 40  | 50  | 30 | 30  | 60  | 50  | ±S     | ±S  | ±S  | 90  | 90  |
| 20.               | 0   | 0   | 10  | 0   | 30 | 40  | 50  | 90  | —      | 30  | 10  | 10  | 20  |
| 21.               | 40  | 50  | 40  | 40  | 50 | 50  | 50  | 50  | 80     | 100 | 80  | 80  | 110 |
| 22.               | ±S  | ±S  | ±S  | 40  | —S | —70 | —50 | —70 | 0      | 20  | —30 | —50 | —50 |
| 23.               | 10  | 20  | 10  | 10  | 30 | 50  | 70  | 70  | 70     | 70  | 60  | 50  | 60  |
| 24.               | 40  | 30  | 40  | 40  | 40 | 50  | 50  | 50  | 80     | 100 | 110 | 100 | 100 |
| 25.               | —10 | 0   | 0   | 0   | 0  | 40  | 40  | 40  | 70     | 70  | 60  | 60  | 60  |
| 26.               | —10 | —50 | 0   | 30  | 40 | 50  | 60  | 50  | 60     | 70  | 80  | ±S  | —S  |
| 27.               | 0   | —20 | —20 | —30 | +S | ±S  | ±S  | ±S  | ±S     | —   | —30 | —10 | 30  |
| 28.               | —10 | 10  | 0   | —10 | 0  | 20  | 30  | 50  | 60     | 60  | 60  | 50  | 70  |
| 29.               | 20  | 0   | —40 | 0   | 20 | 30  | 30  | 50  | 40     | 40  | 50  | 50  | 50  |
| 30.               | +S  | 30  | 30  | 30  | 10 | 20  | 30  | 90  | 90     | 40  | 10  | 50  | 40  |
| Means             | 22  | 23  | 22  | 26  | 37 | 40  | 50  | 59  | 72     | 73  | 68  | 66  | 70  |
| Number<br>of days | 28  | 29  | 28  | 29  | 27 | 28  | 29  | 29  | 24     | 27  | 29  | 28  | 27  |

| 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22   | 23  | Daily means |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-------------|
| 60  | 70  | 80  | 80  | 70  | 90  | 80  | 90  | 60  | 60   | 50  | 65          |
| 90  | 90  | 90  | 90  | 70  | 70  | 60  | 60  | 20  | 30   | 20  | 65          |
| 60  | 50  | 60  | 70  | 60  | 60  | 40  | 50  | 50  | 50   | 40  | 55          |
| 50  | 20  | 20  | 30  | 50  | 40  | 40  | 10  | 0   | -60  | -50 | —           |
| 40  | 50  | 50  | 50  | 40  | +S  | -S  | 20  | 20  | 20   | 20  | —           |
| +S  | ±S  | ±S  | ±S  | ±S  | ±S  | +S  | 180 | 90  | (20) | -20 | —           |
| 50  | 50  | 50  | 50  | 60  | 70  | 70  | 50  | 50  | 50   | 50  | 45          |
| 70  | 80  | 80  | 80  | 80  | 70  | 60  | 50  | 50  | 50   | 60  | 71          |
| 120 | 120 | 120 | 120 | 80  | 70  | 50  | 50  | 50  | 50   | 50  | 80          |
| 110 | 110 | 110 | 110 | 80  | 70  | 60  | 50  | 50  | 50   | 50  | 76          |
| 160 | 140 | 150 | 160 | 150 | 120 | 60  | 60  | 50  | -10  | -40 | 85          |
| 130 | 120 | 110 | 110 | 100 | 80  | 90  | 70  | 40  | 40   | 30  | 66          |
| 70  | 70  | 80  | 70  | 60  | 50  | 40  | 50  | 40  | 20   | 20  | 44          |
| ±S  | ±S  | -S  | 40  | 50  | 50  | 50  | 50  | 50  | 70   | 60  | —           |
| 70  | 70  | 60  | 50  | 50  | 50  | 50  | 40  | 80  | 40   | 30  | 54          |
| 40  | 40  | 30  | 20  | 30  | 30  | 30  | 30  | 30  | 30   | 40  | —           |
| 60  | 50  | 50  | 50  | 50  | 50  | 50  | 40  | 40  | 40   | 40  | 41          |
| 140 | 130 | 120 | 100 | 60  | 50  | 60  | 60  | 50  | 50   | 40  | 68          |
| 120 | 110 | 100 | 120 | ±S  | ±S  | 70  | 50  | 10  | 10   | 10  | —           |
| 20  | 20  | 10  | 30  | 40  | 50  | 50  | 50  | 50  | 40   | 40  | 30          |
| 90  | 90  | +S  | 40  | ±S  | +S  | 70  | 60  | 110 | 70   | 100 | —           |
| -50 | 30  | -10 | -20 | -10 | -10 | -10 | -20 | -10 | -20  | 10  | —           |
| 70  | 70  | 60  | 70  | 50  | 50  | 40  | 40  | 50  | 60   | 50  | 50          |
| 100 | 90  | 100 | 70  | 50  | 30  | 20  | 0   | 0   | 0    | -10 | 53          |
| 50  | 50  | 50  | ±S  | ±S  | 40  | -10 | -10 | 0   | 20   | 0   | —           |
| 10  | 30  | 40  | 40  | ±S  | ±S  | 50  | 30  | 10  | 0    | -10 | —           |
| 50  | 40  | 20  | 10  | 20  | 0   | 0   | 10  | 10  | 0    | -10 | —           |
| 70  | 60  | 50  | 50  | 50  | 50  | 50  | 40  | 30  | 30   | 30  | 38          |
| 50  | 50  | 50  | 50  | 50  | 40  | 40  | 40  | 40  | 40   | 40  | 35          |
| 50  | 50  | 30  | 10  | 10  | -50 | -60 | -80 | -60 | -40  | -20 | 14          |
| 70  | 70  | 65  | 63  | 56  | 49  | 43  | 41  | 35  | 27   | 24  |             |
| 28  | 28  | 27  | 28  | 25  | 25  | 28  | 30  | 30  | 29   | 30  |             |

|                |     |     |     |     |     |     |     |     |     |     |    |    | July |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|------|
| Hour GMT       | 0   | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10 | 11 | 12   |
| Day            |     |     |     |     |     |     |     |     |     |     |    |    |      |
| 1.             | —10 | 0   | 10  | 30  | 30  | 40  | 50  | 60  | 70  | 50  | 50 | 50 | 60   |
| 2.             | 40  | 30  | 20  | 20  | 30  | 50  | 50  | 50  | 50  | 60  | 50 | 50 | 60   |
| 3.             | 20  | 10  | 0   | 10  | 0   | 20  | 40  | 50  | 50  | 70  | 80 | 70 | 70   |
| 4.             | 10  | —10 | —20 | 0   | 10  | 0   | 10  | 30  | —   | 90  | 80 | 70 | 90   |
| 5.             | 40  | 30  | 50  | 40  | 40  | 50  | 50  | 70  | 80  | 70  | 70 | 80 | 80   |
| 6.             | 10  | 10  | 10  | 20  | 30  | 60  | 80  | 70  | 60  | 40  | 50 | 50 | 50   |
| 7.             | 0   | 0   | 0   | 10  | 10  | 10  | 30  | 40  | 50  | 60  | 50 | 50 | 60   |
| 8.             | 0   | 30  | 30  | ±S  | 50  | 50  | 40  | 50  | 60  | 70  | 70 | 80 | 60   |
| 9.             | 30  | 30  | 20  | 30  | 20  | 20  | 20  | 10  | —   | —   | 30 | 50 | 50   |
| 10.            | 30  | 20  | 20  | 20  | 30  | 40  | 40  | 50  | 60  | 50  | 60 | 60 | 40   |
| 11.            | 10  | 10  | ±S  | 0   | 40  | 40  | 50  | 50  | —   | —   | 70 | 50 | 50   |
| 12.            | 20  | 30  | 30  | 10  | 20  | 40  | 50  | 60  | 70  | 70  | 70 | 50 | 70   |
| 13.            | 30  | 20  | 10  | 30  | 20  | 50  | 60  | 50  | —   | —   | —  | —  | 70   |
| 14.            | 0   | 0   | 0   | —10 | ±S  | ±S  | 90  | 40  | 80  | 70  | —S | ±S | ±S   |
| 15.            | —50 | 0   | 0   | 20  | —10 | —S  | —S  | —50 | —50 | —30 | 80 | 70 | 80   |
| 16.            | 30  | 20  | 30  | 20  | 30  | 50  | 70  | 90  | 110 | 110 | 80 | 70 | 60   |
| 17.            | 20  | 20  | 30  | 10  | —60 | 0   | 40  | 50  | 50  | 60  | 70 | 60 | 50   |
| 18.            | 30  | 20  | 30  | 30  | 20  | 20  | 10  | 10  | —   | 30  | 50 | 60 | 50   |
| 19.            | 40  | 50  | 40  | 40  | 50  | 40  | 30  | 10  | +S  | —   | ±S | +S | 10   |
| 20.            | +S  | +S  | +S  | +S  | +S  | +S  | 150 | 50  | 50  | 60  | 50 | 50 | 40   |
| 21.            | 100 | 100 | +S  | +S  | 90  | ±S  | ±S  | ±S  | ±S  | ±S  | +S | 90 | 30   |
| 22.            | 80  | 10  | 60  | 30  | 30  | 30  | 20  | 40  | 60  | 60  | 60 | 50 | 50   |
| 23.            | 110 | 130 | 160 | 180 | +S  | +S  | +S  | +S  | +S  | 80  | 60 | 50 | 30   |
| 24.            | 70  | 80  | 90  | 80  | 50  | 30  | 40  | 10  | 30  | 30  | 20 | 30 | 20   |
| 25.            | 40  | 50  | 60  | 110 | 180 | 160 | 130 | 50  | —   | 30  | 40 | 30 | 10   |
| 26.            | —40 | —40 | —50 | —30 | +S  | +S  | 10  | 30  | 80  | 70  | +S | +S | +S   |
| 27.            | 40  | 40  | 30  | 30  | 30  | 40  | 40  | 100 | 90  | 90  | 80 | 80 | 60   |
| 28.            | 50  | 50  | 50  | 50  | 40  | 40  | 10  | 40  | 50  | 80  | 70 | 70 | 70   |
| 29.            | 40  | 30  | 30  | 20  | 30  | 40  | 60  | 40  | 10  | —   | —  | —  | —    |
| 30.            | —10 | 0   | 0   | —   | —   | 10  | 10  | —10 | 0   | 0   | —  | —  | —    |
| 31.            | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | +S | +S | —    |
| Means          | 27  | 27  | 27  | 31  | 32  | 39  | 47  | 41  | 53  | 57  | 60 | 59 | 53   |
| Number of days | 29  | 29  | 27  | 26  | 25  | 24  | 27  | 28  | 21  | 24  | 23 | 24 | 26   |

| 13 | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | Daily means |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|
| 60 | 50  | 50  | 50  | 40  | 30  | 40  | 40  | 40  | 40  | 40  | 40          |
| 60 | 60  | 70  | 70  | 50  | 40  | 30  | 20  | 10  | 10  | 10  | 41          |
| 70 | 70  | 80  | 70  | 30  | 10  | 20  | 20  | 10  | 20  | 30  | 39          |
| 80 | 80  | 90  | 90  | 50  | 50  | 40  | 40  | 30  | 30  | 20  | 42          |
| 70 | —S  | ±S  | ±S  | ±S  | ±S  | 10  | 30  | 50  | 0   | 0   | —           |
| 50 | 70  | 80  | 70  | 60  | 30  | 0   | 10  | 10  | 10  | 10  | 39          |
| 70 | 70  | +S  | 100 | 50  | +S  | 40  | 30  | 20  | 20  | 10  | —           |
| 90 | 170 | 40  | 50  | 50  | 70  | 60  | 60  | 60  | 50  | 60  | 59          |
| 50 | 40  | 90  | 50  | 50  | 40  | 40  | 30  | 30  | 30  | 30  | —           |
| 40 | 40  | 40  | 50  | 40  | 30  | 10  | 20  | 40  | 20  | 30  | 37          |
| 40 | 20  | 30  | 30  | 20  | 20  | 30  | 30  | 30  | 20  | 20  | —           |
| 70 | 70  | 70  | 70  | 60  | 50  | 40  | 40  | 30  | 40  | 40  | 49          |
| 60 | 40  | 0   | 20  | —10 | 30  | ±S  | ±S  | —50 | 10  | —10 | —           |
| ±S | ±S  | ±S  | ±S  | ±S  | —10 | —70 | —20 | 0   | —30 | —30 | —           |
| +S | 40  | 40  | —S  | 0   | 10  | 20  | 30  | 40  | 40  | 40  | —           |
| 50 | 50  | 50  | 40  | 40  | 40  | 30  | 20  | 20  | 20  | 20  | 48          |
| 40 | 40  | 40  | 40  | 50  | 40  | 40  | 50  | 40  | 40  | 30  | 35          |
| 60 | 50  | 50  | 70  | 50  | 40  | 40  | 30  | 30  | 30  | 40  | 37          |
| 50 | 50  | 50  | 50  | 40  | 90  | 170 | 150 | 130 | 140 | 190 | —           |
| 30 | 20  | 10  | 10  | 20  | 10  | 160 | 170 | 170 | 150 | 120 | —           |
| 40 | 30  | 10  | 30  | 30  | 50  | 120 | 130 | +S  | +S  | +S  | —           |
| 60 | 40  | 20  | 20  | 40  | 40  | 30  | 10  | 10  | 30  | 50  | 39          |
| 20 | 0   | 10  | 0   | —10 | 0   | 0   | 0   | 30  | 30  | 40  | —           |
| 10 | 10  | 0   | —10 | —10 | —10 | 10  | 20  | 10  | —10 | 20  | 26          |
| 10 | 0   | 0   | —20 | —20 | —10 | —10 | —10 | —30 | —40 | —40 | 31          |
| +S | 210 | 40  | 30  | 30  | 50  | 60  | 50  | 40  | 30  | 30  | —           |
| 70 | 80  | 80  | 60  | 40  | 40  | 40  | 40  | 50  | 50  | 50  | 56          |
| 40 | 50  | 60  | 30  | 30  | 10  | 0   | 40  | 40  | 30  | 30  | 43          |
| —  | —   | —10 | —10 | —   | —20 | —   | —20 | —20 | —10 | —10 | —           |
| —  | —10 | —10 | —   | —   | —   | —   | —   | —   | —   | —   | —           |
| —  | —   | —   | —   | —   | —   | —   | —   | 70  | +S  | +S  | —           |
| 52 | 53  | 40  | 41  | 32  | 29  | 37  | 38  | 32  | 29  | 31  |             |
| 25 | 27  | 27  | 26  | 26  | 27  | 27  | 28  | 29  | 28  | 28  |             |

|                   |     |     |     |     |     |     |     |     |      |     |     | August |     |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|--------|-----|
| Hour GMT<br>Day   |     | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8    | 9   | 10  | 11     | 12  |
| 1.                | —   | 40  | 30  | —   | 40  | 50  | 40  | 50  | —    | —   | 40  | 30     | 70  |
| 2.                | 60  | 50  | 60  | 50  | 20  | 10  | —10 | 20  | 10   | 40  | 50  | 40     | 20  |
| 3.                | 10  | 20  | 10  | 20  | 20  | 40  | 50  | 50  | 50   | 50  | 60  | 70     | 70  |
| 4.                | 10  | 20  | 20  | 10  | 10  | 20  | 0   | 70  | (80) | 70  | 80  | 70     | 90  |
| 5.                | —10 | —10 | —10 | —10 | 10  | 30  | 40  | 30  | —    | —   | 40  | 30     | 40  |
| 6                 | —10 | —10 | —10 | —10 | 10  | 20  | 10  | —10 | —10  | 10  | 10  | 10     | 10  |
| 7.                | —20 | —10 | —10 | —10 | 0   | 0   | 50  | 70  | 20   | 30  | 30  | 30     | 30  |
| 8.                | —20 | —10 | —10 | —20 | —10 | —10 | 50  | 50  | —    | 60  | 70  | 90     | 80  |
| 9.                | 0   | 10  | 10  | 10  | 10  | 20  | 40  | 40  | 100  | 130 | 120 | 120    | 120 |
| 10.               | 110 | 100 | 120 | 110 | 120 | 120 | 0   | 190 | 200  | 220 | 180 | 160    | 140 |
| 11.               | 40  | 30  | 30  | 20  | 30  | 40  | 30  | +S  | 130  | 130 | 110 | 80     | ±S  |
| 12.               | 160 | 150 | 140 | 140 | 140 | 140 | 0   | 110 | 130  | 140 | 130 | 110    | 100 |
| 13.               | 80  | 80  | 80  | 90  | 100 | 90  | 80  | —10 | ±S   | 10  | 40  | —30    | 40  |
| 14.               | 30  | 20  | 20  | 30  | 20  | 40  | 50  | 100 | 80   | 90  | 90  | 80     | 80  |
| 15.               | 40  | —10 | 20  | 30  | 60  | 70  | 0   | —   | —    | 90  | 90  | 90     | 70  |
| 16.               | 110 | 110 | 110 | 110 | 110 | 120 | 10  | 80  | 110  | 110 | 120 | 100    | 100 |
| 17.               | 70  | 70  | 80  | 80  | 60  | 40  | 60  | 30  | 30   | 60  | 60  | 80     | 80  |
| 18.               | 60  | 70  | 70  | 70  | 60  | 50  | (0) | 60  | 50   | 70  | 60  | 40     | 50  |
| 19.               | 150 | 120 | +S  | —S  | 30  | 20  | 0   | 50  | 50   | 110 | 110 | 100    | +S  |
| 20.               | 10  | 0   | 0   | 10  | 20  | 40  | 50  | 100 | 120  | 110 | 80  | 70     | 50  |
| 21.               | 60  | 50  | 50  | 50  | 50  | 50  | 50  | 60  | 70   | 50  | 60  | 50     | 50  |
| 22.               | 20  | 0   | 10  | 10  | 0   | 30  | 40  | 40  | —    | 90  | 60  | 10     | +S  |
| 23.               | 50  | 50  | 50  | 60  | 60  | 60  | 0   | 40  | 30   | 30  | 50  | 70     | 80  |
| 24.               | 30  | 40  | 50  | 40  | 50  | 60  | 70  | 80  | 100  | 120 | 100 | 80     | 80  |
| 25.               | 20  | 20  | 30  | 30  | 30  | 30  | 40  | 70  | 90   | 110 | 110 | 100    | 100 |
| 26.               | 20  | 20  | 20  | 20  | 20  | 30  | 30  | 60  | 60   | 70  | 60  | 50     | 50  |
| 27.               | 0   | 10  | 10  | 10  | 10  | 30  | 50  | 60  | 80   | 80  | 90  | 100    | 80  |
| 28.               | 10  | 10  | 10  | 10  | 20  | 30  | 20  | —10 | —10  | 0   | 10  | 10     | 0   |
| 29.               | —20 | —20 | —20 | —10 | —10 | —20 | —   | —   | +S   | 100 | 100 | 60     | 30  |
| 30.               | 40  | 40  | 60  | 60  | 70  | 60  | —   | 30  | 30   | 40  | 40  | 50     | 50  |
| 31.               | 50  | 50  | 40  | 60  | 60  | 60  | 40  | —   | 50   | 70  | 60  | 60     | 30  |
| Means             | 39  | 36  | 36  | 37  | 39  | 44  | 32  | 56  | 68   | 79  | 75  | 65     | 64  |
| Number<br>of days | 30  | 31  | 30  | 29  | 31  | 31  | 28  | 27  | 23   | 29  | 31  | 31     | 28  |

| 13  | 14  | 15   | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | Daily means |
|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-------------|
| 110 | 80  | 60   | 60  | 70  | 60  | 50  | 60  | 60  | 60  | 60  | —           |
| 40  | 40  | 20   | —10 | —30 | 50  | 50  | 50  | 30  | 10  | 20  | 29          |
| 80  | 70  | 60   | 50  | 50  | 60  | 50  | 50  | 40  | 20  | 20  | 45          |
| 70  | 70  | 70   | 30  | 10  | 10  | 20  | 20  | 30  | 10  | —10 | 35          |
| —50 | —50 | 20   | 30  | 20  | 20  | 40  | 10  | 0   | 10  | 0   | —           |
| 10  | 0   | 0    | 0   | —10 | —20 | —30 | —30 | —30 | —30 | —20 | —6          |
| 30  | 20  | 10   | 0   | —30 | —30 | —30 | —30 | —30 | —30 | —20 | 3           |
| 80  | 80  | 70   | 50  | 20  | 30  | 0   | 10  | 20  | 10  | —10 | 30          |
| 100 | ±S  | (±S) | +S  | +S  | +S  | 200 | 170 | 100 | 170 | 60  | —           |
| ±S  | ±S  | ±S   | ±S  | —S  | —S  | 70  | 60  | 50  | 50  | 50  | —           |
| ±S  | ±S  | 90   | 100 | 100 | 120 | 180 | 200 | 210 | 180 | 160 | —           |
| 100 | 90  | 80   | 70  | 70  | 80  | 80  | 80  | 60  | 60  | 70  | 101         |
| 70  | 40  | 20   | 40  | 30  | 30  | 40  | 20  | 20  | 40  | 30  | 45          |
| 70  | 60  | 50   | 50  | 50  | 50  | 60  | ±S  | ±S  | —10 | 30  | —           |
| 70  | 60  | 60   | 50  | 50  | 60  | 70  | 70  | 80  | 100 | 100 | —           |
| 80  | 80  | 70   | 70  | 60  | 60  | 50  | 60  | 60  | 60  | 70  | 84          |
| 100 | 80  | 60   | 70  | 60  | 60  | 60  | 50  | 50  | 50  | 60  | 63          |
| 50  | 50  | 50   | 40  | ±S  | ±S  | 70  | 50  | 50  | 60  | 130 | —           |
| +S  | 40  | 50   | 40  | 30  | 30  | 40  | 30  | 20  | 10  | 20  | —           |
| 50  | 40  | 40   | 30  | 20  | 30  | 40  | 40  | 50  | 50  | 50  | 46          |
| 40  | 30  | 40   | 40  | ±S  | ±S  | ±S  | ±S  | 30  | 40  | —80 | —           |
| ±S  | 60  | +S   | 50  | 40  | 30  | 40  | 60  | 70  | 60  | 50  | —           |
| 70  | 70  | 60   | 40  | 30  | 70  | 50  | 50  | 40  | 40  | 40  | 50          |
| 80  | 80  | 70   | 60  | 80  | 80  | 50  | 50  | 40  | 30  | 30  | 65          |
| 100 | 100 | 80   | 40  | 30  | 30  | 30  | 10  | 20  | 20  | 20  | 53          |
| 50  | 40  | 30   | 30  | 20  | 10  | 10  | 10  | 10  | 10  | 0   | 30          |
| 80  | 70  | 40   | 40  | 40  | 20  | 30  | 10  | 0   | 0   | 10  | 40          |
| 0   | 0   | 0    | —10 | —10 | —10 | —10 | —20 | —10 | —20 | —10 | 0,4         |
| 30  | 30  | 30   | 30  | 40  | 40  | 40  | 30  | 30  | 50  | 40  | —           |
| 50  | 40  | 20   | 20  | 10  | 20  | 20  | 20  | 30  | 30  | 40  | 38          |
| 20  | 30  | 20   | 10  | 10  | 10  | 10  | 10  | 20  | 20  | 30  | 36          |
| 59  | 50  | 45   | 39  | 32  | 37  | 46  | 41  | 38  | 37  | 34  |             |
| 27  | 28  | 28   | 29  | 27  | 27  | 30  | 29  | 30  | 31  | 31  |             |

| September         |     |     |     |     |     |     |     |    |    |      |      |      |    |
|-------------------|-----|-----|-----|-----|-----|-----|-----|----|----|------|------|------|----|
| Hour GMT<br>Day   | 0   | 1   | 2   | 3   | 4   | 5   | 6   | 7  | 8  | 9    | 10   | 11   | 12 |
| 1.                | 30  | 40  | 50  | 50  | 60  | —   | —   | 10 | 10 | 10   | 10   | 0    | 0  |
| 2.                | —10 | 0   | 0   | 10  | 20  | 20  | —   | 20 | 20 | 40   | 20   | 20   | 20 |
| 3.                | 30  | 30  | 30  | 40  | 50  | 60  | 50  | 30 | 30 | 30   | 50   | 30   | 30 |
| 4.                | —10 | 0   | 20  | 20  | —   | —   | 60  | 30 | 50 | 60   | 60   | 50   | 50 |
| 5.                | 70  | 80  | 100 | 100 | 110 | 100 | —   | 30 | —  | (60) | 70   | 80   | 80 |
| 6.                | 60  | 70  | 70  | 80  | 80  | 90  | 100 | 70 | —  | (60) | 70   | 70   | 80 |
| 7.                | 60  | 70  | 80  | 80  | 90  | 120 | 110 | 80 | 0  | 70   | 80   | 80   | 70 |
| 8.                | 40  | 50  | 60  | 60  | 70  | 40  | 30  | 50 | 70 | 70   | 70   | 80   | 70 |
| 9.                | 30  | 40  | 50  | 80  | —   | 110 | ±S  | ±S | ±S | (±S) | (±S) | ±S   | ±S |
| 10.               | —   | —   | —   | —   | —   | —   | —   | —  | —  | —    | —    | —    | —  |
| 11.               | —   | —   | —   | —   | —   | —   | —   | —  | —  | +S   | 160  | 90   | 60 |
| 12.               | 150 | 120 | 80  | 80  | 80  | 70  | 70  | 90 | —  | 70   | 70   | 50   | 50 |
| 13.               | 70  | 80  | 130 | 150 | 150 | 130 | 60  | 50 | 60 | 50   | 50   | 60   | +S |
| 14.               | —   | —   | —   | —   | —   | —   | —   | —  | —  | —    | —    | —    | —  |
| 15.               | —   | —   | —   | —   | —   | —   | —   | —  | —  | —    | —    | —    | —  |
| 16.               | —   | —   | —   | —   | —   | —   | —   | —  | —  | —    | —    | —    | —  |
| 17.               | —   | —   | —   | —   | —   | —   | —   | —  | —  | —    | —    | —    | —  |
| 18.               | —   | —   | —   | —   | —   | —   | —   | —  | —  | —    | —    | —    | —  |
| 19.               | —   | —   | —   | —   | —   | —   | —   | —  | —  | 30   | 50   | (40) | —  |
| 20.               | —   | —   | —   | —   | —   | —   | —   | —  | —  | —    | —    | —    | —  |
| 21.               | —   | —   | —   | —   | —   | —   | —   | —  | —  | —    | —    | —    | —  |
| 22.               | —   | —   | —   | —   | —   | —   | —   | —  | —  | —    | —    | —    | —  |
| 23.               | —   | —   | —   | —   | —   | —   | —   | —  | —  | —    | —    | —    | —  |
| 24.               | —   | —   | —   | —   | —   | —   | —   | —  | —  | —    | —    | —    | —  |
| 25.               | —   | —   | —   | —   | —   | —   | —   | —  | —  | —    | —    | —    | —  |
| 26.               | —   | —   | —   | —   | —   | —   | —   | —  | —  | —    | —    | —    | —  |
| 27.               | —   | —   | —   | —   | —   | —   | —   | —  | —  | —    | —    | —    | —  |
| 28.               | —   | —   | —   | —   | —   | —   | —   | —  | —  | —    | —    | —    | —  |
| 29.               | —   | —   | —   | —   | —   | —   | —   | —  | —  | —    | —    | —    | —  |
| 30.               | —   | —   | —   | —   | —   | —   | —   | —  | —  | —    | —    | —    | —  |
| Means             | 47  | 53  | 61  | 68  | 79  | 82  | 69  | 46 | 34 | 48   | 63   | 55   | 51 |
| Number<br>of days | 11  | 11  | 11  | 11  | 9   | 9   | 7   | 10 | 7  | 9    | 12   | 11   | 10 |

[illegible]

|                   |     |     |     |     |     |     |      |     |     | October |     |     |     |
|-------------------|-----|-----|-----|-----|-----|-----|------|-----|-----|---------|-----|-----|-----|
| Hour GMT<br>Day   | 0   | 1   | 2   | 3   | 4   | 5   | 6    | 7   | 8   | 9       | 10  | 11  | 12  |
| 1.                | —   | —   | —   | —   | —   | —   | —    | —   | —   | —       | —   | —   | —   |
| 2.                | —   | —   | —   | —   | —   | —   | —    | —   | —   | —       | —   | —   | —   |
| 3.                | —   | —   | —   | —   | —   | —   | —    | —   | —   | 60      | 40  | 30  | 30  |
| 4.                | 80  | 90  | 90  | 90  | 90  | 100 | 100  | —   | 20  | 10      | 10  | 10  | 10  |
| 5.                | 50  | 40  | 30  | 50  | 60  | 60  | 80   | —   | 50  | 30      | 30  | 0   | 0   |
| 6.                | 20  | 30  | 10  | 20  | 30  | 50  | 70   | —   | —   | —       | —   | —   | —   |
| 7.                | —   | —   | —   | —   | —   | —   | —    | —   | —   | —       | —   | —   | —   |
| 8.                | —   | —   | —   | —   | —   | —   | —    | —   | 40  | 40      | 30  | 40  | 40  |
| 9.                | 10  | 20  | 20  | 20  | 40  | 50  | 60   | 50  | 50  | 50      | 50  | 50  | 60  |
| 10.               | 40  | 30  | 40  | 30  | 50  | 50  | 50   | 50  | —   | 50      | 50  | 50  | —   |
| 11.               | —   | —   | —   | —   | —   | —   | —    | —   | —   | —       | —   | —   | —   |
| 12.               | —   | —   | —   | —   | —   | —   | —    | —   | —   | —       | —   | —   | —   |
| 13.               | 160 | 150 | 140 | 130 | 110 | 120 | 100  | 60  | 50  | 70      | 50  | 50  | 50  |
| 14.               | 20  | 20  | 10  | 30  | 20  | 30  | 40   | 40  | 50  | 30      | 60  | 90  | 90  |
| 15.               | 10  | 30  | 30  | 0   | —20 | —30 | —10  | 20  | 50  | 60      | 70  | 70  | 70  |
| 16.               | 30  | 20  | 20  | 30  | 30  | 20  | 30   | 30  | —   | 30      | 40  | 40  | 40  |
| 17.               | —10 | 0   | 0   | 10  | 10  | 10  | —    | —   | —   | —       | —   | —   | —   |
| 18.               | 20  | 30  | 20  | 30  | 20  | 30  | 30   | 30  | 30  | 70      | 90  | 100 | 100 |
| 19.               | 40  | 30  | 0   | 40  | 30  | 30  | 100  | 140 | 120 | 100     | 100 | 130 | 130 |
| 20.               | 120 | 70  | 30  | 70  | 110 | 190 | 210  | +S  | 170 | 120     | 120 | 70  | 100 |
| 21.               | +S  | +S  | 160 | 70  | 50  | 80  | 80   | 100 | 60  | 50      | 30  | 10  | 10  |
| 22.               | 40  | 50  | 60  | 90  | 30  | 30  | 30   | 10  | —10 | 10      | 30  | 30  | 40  |
| 23.               | 30  | 10  | 20  | 30  | 20  | 10  | 30   | 30  | 30  | 60      | 70  | 90  | 70  |
| 24.               | 20  | 10  | 30  | 0   | 10  | 30  | 30   | 30  | —   | 80      | 80  | 80  | 100 |
| 25.               | 10  | 10  | 10  | 10  | 30  | 40  | 50   | 50  | 60  | 60      | 70  | 70  | 80  |
| 26.               | 90  | 30  | 30  | 110 | 150 | 170 | 140  | 170 | 200 | 190     | 140 | 110 | 110 |
| 27.               | 120 | 160 | 210 | +S  | 130 | 200 | 170  | 140 | 80  | 30      | 20  | 20  | 10  |
| 28.               | 110 | 80  | 70  | 150 | +S  | 200 | —    | —   | —   | 70      | 90  | 70  | 50  |
| 29.               | 20  | 20  | 30  | 30  | 30  | 30  | (40) | 50  | 60  | 60      | 50  | 40  | 50  |
| 30.               | 110 | 80  | 90  | 80  | 110 | 110 | 130  | 80  | 40  | 30      | 50  | 40  | 30  |
| 31.               | 90  | 120 | 170 | +S  | +S  | +S  | —    | —   | —   | 40      | 0   | 10  | 10  |
| Means             | 53  | 49  | 55  | 51  | 52  | 70  | 76   | 64  | 64  | 58      | 57  | 54  | 56  |
| Number<br>of days | 23  | 23  | 24  | 22  | 22  | 23  | 20   | 17  | 18  | 24      | 24  | 24  | 23  |

| 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | Daily means |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|
| —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —           |
| —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —           |
| 30  | 30  | 20  | 30  | 20  | 30  | 40  | 10  | 30  | 40  | 70  | —           |
| 0   | —20 | —20 | —10 | —10 | 10  | 20  | 10  | 10  | 40  | 30  | 33          |
| —10 | 0   | —30 | —30 | —50 | —70 | —70 | —80 | —60 | —40 | —30 | 0,4         |
| —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —           |
| —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —           |
| 30  | 30  | 20  | 30  | 40  | 40  | 30  | 20  | 10  | 0   | 10  | —           |
| 60  | 50  | 30  | 30  | 40  | 30  | 20  | 10  | 10  | 20  | 30  | 36          |
| —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —           |
| —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —           |
| 50  | 30  | 20  | 40  | 70  | 90  | 120 | 130 | 140 | 160 | 160 | —           |
| 50  | 50  | 60  | 70  | 60  | 40  | 30  | 30  | 20  | 10  | 10  | 70          |
| 100 | 90  | 80  | 70  | 50  | 50  | 0   | 0   | —40 | 0   | —20 | 38          |
| 70  | 80  | 60  | 80  | 80  | 80  | 70  | 60  | 40  | 30  | 20  | 43          |
| 40  | 30  | 20  | 20  | 30  | 30  | —10 | 10  | —10 | 10  | —10 | 23          |
| —   | —   | —   | —   | 40  | 50  | 30  | 30  | 20  | 10  | 10  | —           |
| 90  | 70  | 50  | 50  | 40  | 30  | —10 | 10  | 30  | 30  | 30  | 43          |
| 130 | 100 | 90  | 110 | 160 | 160 | 130 | 110 | 130 | 140 | 130 | 99          |
| 110 | 90  | 120 | 130 | 160 | +S  | +S  | +S  | 130 | 110 | 120 | —           |
| 10  | 30  | 30  | 50  | 60  | 70  | 70  | 140 | 90  | 80  | 60  | —           |
| 50  | 60  | 70  | 50  | 40  | 40  | 50  | 40  | 40  | 40  | 30  | 40          |
| 50  | 40  | 40  | 60  | 80  | 90  | 100 | 90  | 60  | 60  | 40  | 50          |
| 90  | 80  | 60  | 60  | 70  | 60  | 40  | 30  | 30  | 30  | 30  | 47          |
| 90  | 80  | 80  | 80  | 90  | 70  | 80  | 40  | 80  | 70  | 80  | 58          |
| 90  | 80  | 70  | 110 | 100 | 40  | 30  | 30  | 80  | 50  | 80  | 100         |
| 20  | 30  | 10  | 30  | 50  | 50  | 40  | 30  | 30  | 50  | 50  | 73          |
| 60  | 40  | 50  | 70  | 50  | 40  | 60  | 80  | 60  | 30  | 20  | —           |
| 60  | 70  | 90  | 120 | 180 | 200 | 170 | 110 | 120 | 100 | 120 | 79          |
| 30  | 40  | 30  | 40  | 50  | 80  | 70  | 60  | 60  | 80  | 80  | 67          |
| 10  | 0   | 10  | 10  | 10  | 20  | 0   | —10 | —10 | 10  | 20  | —           |
| 55  | 49  | 44  | 54  | 60  | 55  | 46  | 41  | 44  | 46  | 47  |             |
| 24  | 24  | 24  | 24  | 25  | 24  | 24  | 24  | 25  | 25  | 25  |             |

| November          |     |      |     |     |     |     |     |        |        |     |     |     |     |
|-------------------|-----|------|-----|-----|-----|-----|-----|--------|--------|-----|-----|-----|-----|
| Hour GMT<br>Day   | 0   | 1    | 2   | 3   | 4   | 5   | 6   | 7      | 8      | 9   | 10  | 11  | 12  |
| 1.                | 20  | 10   | 10  | 20  | 40  | 50  | 80  | 80     | —      | 60' | 70  | 30  | +S  |
| 2.                | 70  | 30   | 10  | 10  | 20  | 30  | 60  | 50     | 0      | 20  | 10  | —10 | —10 |
| 3.                | —80 | —120 | +S  | +S  | +S  | +S  | +S  | +S     | 0      | 0   | —20 | +S  | ±S  |
| 4.                | 70  | 110  | 100 | 120 | +S  | +S  | 140 | 70     | 10     | —   | —   | —   | —   |
| 5.                | —   | —    | —   | —   | —   | —   | —   | —      | —      | —   | —   | —   | —   |
| 6.                | —   | —    | —   | —   | —   | —   | —   | —      | —      | —   | —   | —   | —   |
| 7.                | —   | —    | —   | —   | —   | —   | —   | —      | —      | —   | —   | —   | —   |
| 8.                | —   | —    | —   | —   | —   | —   | —   | —      | —      | 10  | 20  | 20  | 30  |
| 9.                | —10 | 10   | 80  | 0   | 30  | 50  | 30  | 60     | 70     | 60  | 70  | 80  | 70  |
| 10.               | 30  | 30   | 30  | 30  | 10  | 30  | 40  | ( 30 ) | —      | —   | 20  | 30  | 40  |
| 11.               | 20  | 10   | 10  | 10  | 20  | 30  | 60  | 150    | 70     | 60  | 90  | 100 | 120 |
| 12.               | 20  | 50   | 30  | 30  | 20  | 30  | 100 | +S     | +S     | 90  | 110 | 90  | 50  |
| 13.               | 90  | 20   | 0   | 10  | 0   | 10  | 20  | 40     | ±S     | ±S  | ±S  | ±S  | 20  |
| 14.               | +S  | 200  | 180 | 130 | 110 | 100 | 110 | (110)  | —      | 70  | 70  | 70  | 60  |
| 15.               | 20  | 10   | 20  | 50  | 50  | 60  | 50  | 50     | 30     | 50  | 90  | 80  | 80  |
| 16.               | 0   | —S   | ±S  | —10 | 0   | —10 | +S  | —S     | 40     | 50  | 50  | 70  | 70  |
| 17.               | 40  | 50   | 40  | 40  | 40  | 50  | 60  | 70     | ( 70 ) | 80  | 110 | 90  | 60  |
| 18.               | 40  | 40   | 40  | 40  | 50  | 50  | 50  | 50     | 50     | 60  | 50  | 60  | 70  |
| 19.               | 40  | 20   | 20  | 10  | 20  | 30  | 40  | 50     | 80     | 90  | 80  | 70  | 70  |
| 20.               | 50  | 50   | 50  | 50  | 50  | 50  | 50  | 50     | 70     | 110 | 120 | 100 | 110 |
| 21.               | —20 | 0    | 0   | 10  | —30 | —30 | —60 | —50    | —      | —10 | 50  | 60  | 80  |
| 22.               | 10  | 20   | +S  | —10 | —20 | —S  | —S  | 40     | 70     | 80  | 90  | 70  | 30  |
| 23.               | 40  | 30   | 30  | 30  | 50  | 70  | 50  | 70'    | +S     | +S  | +S  | 110 | 110 |
| 24.               | 40  | 30   | 40  | 50  | 50  | 50  | 60  | 80     | 90     | 90  | 110 | 110 | 110 |
| 25.               | 70  | 70   | 80  | 80  | 70  | 80  | 80  | 90     | 90     | 150 | 140 | 120 | 110 |
| 26.               | 50  | 60   | 50  | 60  | 40  | 20  | 40  | 50     | 50     | 50  | 30  | 50  | 60  |
| 27.               | —   | —    | —   | —   | —   | —30 | —80 | —70    | 0      | —30 | —S  | —S  | —10 |
| 28.               | 50  | 40   | 30  | 30  | 20  | 10  | 0   | 20     | —      | 80  | 80  | 70  | 70  |
| 29.               | 50  | 40   | 50  | 50  | 60  | 50  | 70  | 80     | '110'  | 100 | —   | —   | —   |
| 30.               | 0   | 10   | 0   | —30 | —50 | —40 | —20 | 10     | 60     | 30  | 80  | 80  | 100 |
| Means             | 30  | 34   | 41  | 34  | 28  | 32  | 45  | 50     | 52     | 59  | 69  | 70  | 65  |
| Number<br>of days | 24  | 24   | 22  | 24  | 23  | 23  | 23  | 21     | 17     | 23  | 22  | 22  | 23  |

| 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22   | 23  | Daily means |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-------------|
| +S  | +S  | +S  | +S  | +S  | +S  | +S  | +S  | 160 | 120  | 120 | —           |
| 0   | —10 | —10 | —10 | —20 | —40 | —70 | —80 | —50 | —110 | —80 | —8          |
| 90  | +S  | +S  | 90  | 100 | 100 | 50  | 40  | 60  | 40   | 50  | —           |
| —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | —   | —           |
| —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | —   | —           |
| —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | —   | —           |
| —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | —   | —           |
| 10  | 20  | 20  | 10  | —10 | —10 | 0   | 0   | 0   | —30  | 0   | —           |
| 70  | 90  | 70  | 40  | 50  | 60  | 40  | 30  | 40  | 30   | 30  | 48          |
| 50  | 60  | 60  | 60  | 60  | 60  | 50  | 50  | 30  | 30   | 20  | —           |
| 100 | 50  | 40  | 70  | 80  | 40  | 50  | 50  | 30  | 50   | 40  | 56          |
| 60  | 70  | 60  | 70  | 60  | 60  | 170 | 120 | 110 | 150  | +S  | —           |
| 40  | 30  | 0   | 120 | 40  | 70  | 150 | 220 | +S  | +S   | +S  | —           |
| 60  | 50  | 50  | 40  | 50  | 70  | 60  | 40  | 10  | 30   | 40  | —           |
| 70  | 50  | 50  | 60  | 60  | 50  | 40  | +S  | +S  | +S   | 50  | —           |
| 80  | 80  | 80  | 70  | 60  | 100 | 80  | 80  | 60  | 50   | 40  | —           |
| 70  | 100 | 90  | 80  | —S  | 110 | 70  | 90  | 70  | 50   | 50  | 69          |
| 70  | 70  | 80  | 80  | 90  | 60  | 80  | 60  | 50  | 30   | 30  | 56          |
| 90  | 100 | 110 | 120 | 100 | 120 | 90  | 80  | 50  | 50   | 40  | 65          |
| 100 | 100 | 50  | 30  | 20  | —50 | —20 | —10 | —20 | 0    | 0   | 46          |
| 70  | 50  | 40  | 50  | 30  | 50  | 70  | 50  | 0   | —20  | —30 | 16          |
| 40  | 40  | 50  | 50  | 70  | 70  | 100 | 60  | 40  | 30   | 30  | —           |
| 70  | 100 | 110 | 120 | 140 | 150 | 120 | 100 | 100 | 80   | 60  | —           |
| 90  | 80  | 90  | 80  | 90  | 90  | 80  | 80  | 70  | 70   | 80  | 75          |
| 110 | 90  | 100 | 60  | 50  | 60  | 60  | 70  | 90  | 80   | 60  | 86          |
| +S  | +S  | +S  | +S  | +S  | +S  | +S  | +S  | +S  | +S   | +S  | —           |
| 30  | 40  | 40  | 40  | 50  | 50  | 50  | 50  | 50  | 40   | 30  | —           |
| 60  | 40  | 60  | 50  | 100 | 100 | 90  | 80  | 70  | 70   | 70  | 56          |
| —   | 50  | 80  | 80  | 90  | 90  | 50  | 30  | 30  | 20   | 30  | —           |
| 100 | 80  | 50  | 70  | 80  | 80  | 50  | 70  | 80  | 60   | 30  | 42          |
| 67  | 62  | 60  | 64  | 63  | 64  | 63  | 59  | 49  | 40   | 34  |             |
| 23  | 23  | 23  | 24  | 23  | 24  | 24  | 23  | 23  | 23   | 23  |             |

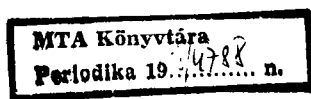
| December          |     |      |     |      |     |     |     |     |     |     |     |     |     |
|-------------------|-----|------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Hour GMT<br>Day   | 0   | 1    | 2   | 3    | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  |
| 1.                | 20  | 30   | 10  | 60   | 80  | 90  | 80  | 50  | 50  | 40  | 30  | 80  | 110 |
| 2.                | 60  | 50   | 40  | 20   | 20  | 0   | 10  | -20 | -50 | -20 | -20 | 50  | 50  |
| 3.                | -50 | -50  | -50 | -50  | -50 | -10 | 0   | 40  | 50  | 40  | 30  | —   | —   |
| 4.                | —   | —    | —   | —    | —   | —   | —   | —   | —   | —   | 100 | 100 | 120 |
| 5.                | 40  | 40   | 20  | 30   | 60  | 80  | 80  | 80  | —   | —   | —   | —   | 50  |
| 6.                | -80 | -50  | -10 | -10  | 50  | 110 | 130 | 50  | 90  | 120 | 90  | 90  | 120 |
| 7.                | -50 | -60  | -70 | -100 | -70 | -90 | -70 | -40 | -80 | -70 | -60 | 0   | -20 |
| 8.                | -70 | -70  | -70 | -70  | -50 | -60 | -50 | 0   | 0   | 10  | 10  | 0   | —   |
| 9.                | —   | —    | —   | —    | —   | —   | —   | —   | —   | —   | —   | —   | —   |
| 10.               | —   | —    | —   | —    | —   | —   | —   | —   | —   | —   | —   | —   | —   |
| 11.               | —   | —    | —   | —    | —   | —   | —   | —   | —   | —   | —   | —   | —   |
| 12.               | —   | —    | —   | —    | —   | —   | —   | —   | —   | —   | —   | —   | —   |
| 13.               | —   | —    | —   | —    | —   | —   | —   | —   | —   | —   | —   | —   | —   |
| 14.               | —   | —    | —   | —    | —   | —   | —   | —   | —   | —   | —   | —   | —   |
| 15.               | —   | —    | —   | —    | —   | —   | —   | —   | —   | —   | —   | —   | —   |
| 16.               | 40  | 40   | 50  | 50   | 50  | 50  | 60  | 30  | 30  | 30  | 20  | 40  | 40  |
| 17.               | 30  | 50   | 50  | 50   | 40  | 30  | 50  | 50  | 70  | 30  | 10  | 20  | 30  |
| 18.               | -30 | -20  | 0   | -10  | -40 | -20 | 0   | -20 | -10 | 20  | 40  | 40  | 30  |
| 19.               | -30 | -10  | -10 | 20   | 0   | -20 | -30 | -20 | —   | -30 | -30 | -10 | -30 |
| 20.               | 20  | 20   | 20  | 30   | 30  | 20  | 30  | 20  | 30  | 20  | 40  | 40  | 40  |
| 21.               | -20 | -20  | 20  | 40   | 0   | 0   | 0   | -20 | -30 | -30 | -20 | -10 | 10  |
| 22.               | 30  | 10   | 30  | -10  | -10 | -40 | -50 | -30 | -60 | -60 | -20 | -10 | -10 |
| 23.               | 20  | -40  | -30 | 10   | 10  | -20 | -20 | -60 | -30 | -50 | -50 | -30 | 20  |
| 24.               | 0   | -30  | -30 | -40  | -40 | -40 | -40 | -04 | -70 | -70 | -70 | -50 | -50 |
| 25.               | ±S  | ±S   | -60 | 0    | 20  | -90 | 10  | 40  | -10 | 260 | 250 | 160 | 140 |
| 26.               | 40  | 40   | 40  | 60   | 40  | 60  | 40  | 70  | 80  | 90  | 80  | 110 | 120 |
| 27.               | 60  | 70   | 80  | 100  | 70  | 60  | 90  | 110 | —   | 70  | 70  | 80  | 90  |
| 28.               | -10 | -10  | -10 | +S   | 50  | -40 | +S  | ±S  | —   | -S  | -S  | -10 | 30  |
| 29.               | 160 | 160  | 130 | 120  | 150 | 90  | 80  | 60  | 130 | 40  | 30  | 40  | 60  |
| 30.               | 0   | -10  | 0   | 10   | 10  | 30  | 40  | 10  | 40  | 50  | 60  | 60  | 80  |
| 31.               | —   | (30) | 40  | 40   | 40  | 40  | 50  | 40  | 50  | 40  | ±S  | ±S  | ±S  |
| Means             | 9   | 7    | 8   | 16   | 20  | 10  | 22  | 18  | 15  | 25  | 28  | 38  | 49  |
| Number<br>of days | 21  | 21   | 23  | 22   | 23  | 23  | 22  | 22  | 19  | 21  | 21  | 21  | 21  |

| 13  | 14  | 15  | 16  | 17  | 18  | 19   | 20  | 21   | 22  | 23   | Daily means |
|-----|-----|-----|-----|-----|-----|------|-----|------|-----|------|-------------|
| 110 | 180 | 180 | 160 | 130 | 130 | 90   | —20 | 80   | 30  | 80   | 78          |
| 30  | 40  | —30 | —50 | —50 | —40 | —40  | 0   | 50   | 10  | —50  | 3           |
| —   | —   | —   | —   | —   | —   | —    | —   | —    | —   | —    | —           |
| 130 | 120 | 90  | 90  | 90  | 60  | 50   | 50  | 40   | 30  | 30   | —           |
| 90  | 90  | 90  | 30  | —10 | 0   | —10  | —30 | 0    | 10  | —20  | —           |
| 70  | 70  | 80  | —10 | 0   | +S  | +S   | —20 | —10  | —30 | —20  | —           |
| —30 | 0   | 0   | —20 | —40 | —40 | —70  | —30 | —10  | —50 | —40  | —46         |
| —   | —   | —   | —   | —   | —   | —    | —   | —    | —   | —    | —           |
| —   | —   | —   | —   | —   | —   | —    | —   | —    | —   | —    | —           |
| —   | —   | —   | —   | —   | —   | —    | —   | —    | —   | —    | —           |
| —   | —   | —   | —   | —   | —   | —    | —   | —    | —   | —    | —           |
| —   | —   | —   | —   | —   | —   | —    | —   | —    | —   | —    | —           |
| —   | —   | —   | —   | —   | —   | —    | —   | —    | —   | —    | —           |
| —   | —   | —   | —   | —   | —   | —    | —   | —    | —   | —    | —           |
| —   | —   | 90  | 70  | 50  | 40  | 50   | 60  | 60   | 60  | 50   | —           |
| 70  | 90  | 90  | 80  | 60  | 70  | 40   | 30  | (50) | 40  | 40   | 50          |
| 40  | 10  | —20 | —20 | 10  | —30 | —60  | —50 | —40  | —30 | —20  | 13          |
| 70  | 50  | 30  | 30  | 40  | 0   | —10  | 0   | 10   | —20 | 0    | 8           |
| —20 | 0   | —20 | —30 | —30 | —10 | 30   | 10  | 10   | 30  | 10   | —10         |
| 60  | 70  | 60  | 60  | 60  | 80  | 20   | 10  | 10   | 20  | 10   | 34          |
| 0   | 0   | —10 | 20  | —30 | —50 | 80   | 70  | 20   | 40  | 40   | 4           |
| 20  | 20  | 30  | 20  | —20 | —50 | —40  | —20 | —20  | 10  | 10   | —11         |
| 100 | 110 | 90  | 80  | 70  | 10  | 0    | 30  | —10  | —10 | —10  | 8           |
| —60 | —60 | 10  | 40  | 90  | 120 | 100  | 40  | +S   | —S  | +S   | —           |
| 160 | 160 | 110 | 90  | 40  | 20  | 40   | 70  | 60   | 30  | 60   | —           |
| 110 | 120 | 90  | 110 | 80  | 60  | 60   | 40  | 40   | 60  | 60   | 71          |
| 80  | 80  | 60  | 30  | 10  | 40  | 0    | —10 | —30  | —S  | —S   | —           |
| 20  | 20  | +S  | +S  | +S  | +S  | +S   | 30  | 30   | 40  | 40   | —           |
| 50  | 50  | 30  | 70  | 110 | 80  | 0    | 30  | 10   | 20  | 10   | 71          |
| 90  | 100 | +S  | +S  | 50  | 70  | 60   | 70  | 50   | 60  | (+S) | —           |
| +S  | 10  | 20  | 0   | 10  | 30  | (30) | 20  | 10   | +S  | —    | —           |
| 57  | 60  | 51  | 41  | 32  | 27  | 20   | 17  | 17   | 18  | 15   |             |
| 21  | 22  | 21  | 21  | 22  | 21  | 20   | 23  | 21   | 20  | 19   |             |

## II. Hourly means of the quantities of positive and negative

| Hour GMT<br>Month |   | 0  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 |
|-------------------|---|----|----|----|----|----|----|----|----|----|----|----|----|
| January           | + | 0  | 0  | 2  | 0  | 1  | 0  | 0  | 4  | 2  | 2  | 0  | 21 |
|                   | — | 0  | 0  | 0  | 0  | 2  | 0  | 0  | 13 | 2  | 2  | 0  | 7  |
| February          | + | 33 | 18 | 0  | 0  | 0  | 1  | 0  | 0  | 19 | 0  | 0  | 0  |
|                   | — | 7  | 5  | 0  | 0  | 0  | 0  | 1  | 6  | 11 | 2  | 2  | 3  |
| March             | + | 91 | 4  | 20 | 8  | 0  | 0  | 0  | 0  | 0  | 4  | 4  | 0  |
|                   | — | 38 | 10 | 20 | 24 | 0  | 0  | 0  | 0  | 0  | 6  | 0  | 0  |
| April             | + | 0  | 0  | 0  | 1  | 11 | 32 | 16 | 8  | 5  | 2  | 2  | 11 |
|                   | — | 0  | 0  | 0  | 3  | 13 | 22 | 32 | 1  | 0  | 3  | 1  | 14 |
| May               | + | 9  | 0  | 0  | 0  | 0  | 3  | 2  | 0  | 0  | 0  | 0  | 14 |
|                   | — | 2  | 0  | 0  | 0  | 1  | 0  | 1  | 0  | 0  | 0  | 0  | 10 |
| June              | + | 0  | 6  | 0  | 26 | 14 | 0  | 0  | 0  | 4  | 4  | 1  | 7  |
|                   | — | 0  | 8  | 2  | 89 | 14 | 0  | 0  | 0  | 31 | 20 | 1  | 0  |
| July*             | + | 0  | 0  | 3  | 2  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
|                   | — | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |

\* Values given for July are not complete since the recording has been stopped on



*charges transported by point-discharge for each month*

| 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Means |
|----|----|----|----|----|----|----|----|----|----|----|----|-------|
| 57 | 5  | 1  | 0  | 1  | 14 | 17 | 0  | 2  | 0  | 0  | 0  | 5,4   |
| 43 | 23 | 0  | 0  | 0  | 22 | 21 | 0  | 0  | 0  | 0  | 0  | 5,8   |
| 0  | 11 | 11 | 20 | 11 | 8  | 0  | 0  | 4  | 1  | 2  | 6  | 6,0   |
| 2  | 1  | 6  | 4  | 25 | 5  | 0  | 0  | 5  | 4  | 1  | 8  | 4,1   |
| 0  | 0  | 0  | 0  | 0  | 0  | 8  | 19 | 0  | 5  | 17 | 22 | 8,4   |
| 0  | 0  | 0  | 0  | 0  | 0  | 1  | 24 | 0  | 34 | 14 | 32 | 8,4   |
| 3  | 4  | 4  | 6  | 16 | 9  | 0  | 0  | 0  | 1  | 15 | 0  | 6,1   |
| 6  | 18 | 13 | 6  | 19 | 65 | 0  | 0  | 3  | 23 | 18 | 0  | 10,8  |
| 29 | 43 | 0  | 7  | 10 | 7  | 25 | 0  | 5  | 0  | 4  | 3  | 6,7   |
| 27 | 0  | 0  | 20 | 31 | 11 | 6  | 34 | 15 | 0  | 0  | 4  | 7,1   |
| 0  | 5  | 32 | 1  | 0  | 12 | 23 | 4  | 0  | 0  | 0  | 0  | 5,8   |
| 7  | 17 | 56 | 10 | 0  | 30 | 63 | 0  | 0  | 0  | 0  | 0  | 14,5  |
| 0  | 0  | 0  | 0  | 3  | 16 | 35 | 0  | 0  | 0  | 0  | 0  | 2,5   |
| 0  | 0  | 0  | 0  | 0  | 13 | 10 | 0  | 0  | 0  | 0  | 0  | 1,0   |

July 11 because of renovations works in the observatory.



#### IV. IONOSPHERE

Since the location of transmitter Ceskoslovensko has unfavourably been changed, the absorption measurement at 272 kc/s and the publication of data are suspended from April 1975.





