

## 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:

1. 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 main extrapolated ones (in the case of incomplete observations).

II. The list of disturbed (D) and quite (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.

Time 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         |     | February        |     | March           |     |
|-----|-----------------|-----|-----------------|-----|-----------------|-----|
|     | M               | Sum | M               | Sum | M               | Sum |
| 1.  | 34333699        | 40  | 41112843        | 24  | 04631016        | 21  |
| 2.  | 43221129        | 24  | 03111131        | 11  | 51113799        | 36  |
| 3.  | 62011116        | 18  | 20004233        | 14  | 13411224        | 18  |
| 4.  | 51110114        | 14  | 10010000        | 2   | 11111333        | 14  |
| 5.  | 20101113        | 9   | 03424996        | 37  | 53542999        | 46  |
| 6.  | 11110113        | 9   | 95739594        | 51  | 93443637        | 39  |
| 7.  | 10100021        | 5   | 51319516        | 31  | 41221897        | 34  |
| 8.  | 10011299        | 23  | 42043876        | 34  | 66444554        | 38  |
| 9.  | 69559998        | 60  | 22334334        | 24  | 10000101        | 3   |
| 10. | 46236292        | 34  | 33334593        | 33  | 40032128        | 20  |
| 11. | 31353275        | 29  | 11111567        | 23  | 30011201        | 8   |
| 12. | 33323577        | 33  | 61312620        | 21  | 00101226        | 12  |
| 13. | 33223541        | 23  | 00002394        | 18  | 00020000        | 2   |
| 14. | 20121731        | 17  | 41211669        | 30  | 00011245        | 13  |
| 15. | 10111782        | 21  | 54200013        | 15  | 13322011        | 13  |
| 16. | 11111200        | 7   | 00011352        | 12  | 22012404        | 15  |
| 17. | 00021451        | 13  | 22211733        | 21  | 31011117        | 15  |
| 18. | 10011123        | 9   | 01010110        | 4   | 53111026        | 19  |
| 19. | 10021240        | 10  | 00110113        | 7   | 11111373        | 18  |
| 20. | 10001153        | 11  | 12211010        | 8   | 10012200        | 6   |
| 21. | 13612111        | 16  | 00111234        | 12  | 01011101        | 5   |
| 22. | 01111139        | 17  | 21111211        | 10  | 31011101        | 8   |
| 23. | 68798928        | 57  | 12111123        | 12  | 11011011        | 6   |
| 24. | 10100111        | 5   | 35312327        | 26  | 10011115        | 10  |
| 25. | 23122111        | 13  | 11132451        | 18  | 10111141        | 10  |
| 26. | 10011231        | 9   | 32010031        | 10  | 31122121        | 13  |
| 27. | 21100049        | 17  | 11011119        | 15  | 11112323        | 14  |
| 28. | 99439999        | 61  | 98978475        | 57  | 74210243        | 23  |
| 29. | 94111299        | 36  |                 |     | 10021143        | 12  |
| 30. | 92222764        | 34  |                 |     | 81102111        | 15  |
| 31. | 41126243        | 23  |                 |     | 21143021        | 14  |
|     |                 |     |                 |     |                 |     |
|     | $M_{II} = 2.46$ |     | $M_{II} = 2.24$ |     | $M_{II} = 1.72$ |     |
|     | $M_D = 2.23$    |     | $M_D = 1.91$    |     | $M_D = 1.62$    |     |
|     | $M_Z = 0.43$    |     | $M_Z = 0.29$    |     | $M_Z = 0.23$    |     |

|     | April           |     | May             |      | June            |     |
|-----|-----------------|-----|-----------------|------|-----------------|-----|
|     | M               | Sum | M               | Sum  | M               | Sum |
| 1.  | 01239925        | 31  | 21124412        | 17   | 56213342        | 26  |
| 2.  | 11231393        | 23  | 37782111        | 30   | 30102131        | 11  |
| 3.  | 83122293        | 30  | 11131112        | 11   | 00111221        | 8   |
| 4.  | 21212565        | 24  | 21131320        | 13   | 10011110        | 5   |
| 5.  | 12112000        | 7   | 00111131        | 8    | 10111111        | 7   |
| 6.  | 00122012        | 8   | 43311121        | 16   | 22215938        | 32  |
| 7.  | 00132121        | 10  | 52001012        | 11   | 44389578        | 48  |
| 8.  | 00111265        | 16  | 21121121        | 11   | 54323221        | 22  |
| 9.  | 91247991        | 42  | 41131020        | 12   | 01111069        | 19  |
| 10. | 01132223        | 14  | 00001013        | 5    | 95374251        | 36  |
| 11. | 15113220        | 15  | 41220110        | 11   | 22221322        | 16  |
| 12. | 10111111        | 7   | 00223212        | 12   | 22211212        | 13  |
| 13. | 00012123        | 9   | 41112315        | 18   | 10011112        | 7   |
| 14. | 23202113        | 14  | 41110110        | 9    | 10101101        | 5   |
| 15. | 01001101        | 4   | 33122225        | 20   | 12110010        | 6   |
| 16. | 11022111        | 9   | 21112343        | 17   | 00011001        | 3   |
| 17. | 20011001        | 5   | 1012314         | [13] | 12112431        | 15  |
| 18. | 40001100        | 6   | 23112333        | 18   | 11111110        | 7   |
| 19. | 21132379        | 28  | 22113231        | 15   | 00011101        | 4   |
| 20. | 96771139        | 43  | 21101231        | 11   | 01116934        | 25  |
| 21. | 99998784        | 63  | 10101122        | 8    | 12122020        | 10  |
| 22. | 31151311        | 16  | 11110010        | 5    | 11211101        | 8   |
| 23. | 41132211        | 15  | 11110000        | 4    | 12114110        | 11  |
| 24. | 55532110        | 22  | 01101123        | 9    | 00011111        | 5   |
| 25. | 26345012        | 23  | 00000316        | 10   | 41222244        | 21  |
| 26. | 77443569        | 45  | 51012231        | 15   | 41225574        | 30  |
| 27. | 37236616        | 34  | 01023101        | 8    | 21111455        | 20  |
| 28. | 99977221        | 46  | 02001011        | 5    | 24224232        | 21  |
| 29. | 37722010        | 22  | 12001110        | 6    | 42242216        | 23  |
| 30. | 10159976        | 38  | 00001001        | 2    | 21011236        | 16  |
| 31. |                 |     | 41101111        | 10   |                 |     |
|     | $M_{11} = 2.55$ |     | $M_{11} = 1.28$ |      | $M_{11} = 1.84$ |     |
|     | $M_D = 2.04$    |     | $M_D = 0.92$    |      | $M_D = 1.15$    |     |
|     | $M_Z = 0.39$    |     | $M_Z = 0.16$    |      | $M_Z = 0.32$    |     |

|     | July            |     | August          |     | September       |     |
|-----|-----------------|-----|-----------------|-----|-----------------|-----|
|     | M               | Sum | M               | Sum | M               | Sum |
| 1.  | 76201212        | 21  | 43213834        | 28  | 30101033        | 11  |
| 2.  | 11011111        | 7   | 22221332        | 17  | 01101100        | 4   |
| 3.  | 01011223        | 10  | 31111131        | 12  | 00111101        | 5   |
| 4.  | 41239799        | 44  | 11211211        | 10  | 03100000        | 1   |
| 5.  | 42133314        | 21  | 10001111        | 5   | 00011012        | 5   |
| 6.  | 42332348        | 29  | 10000111        | 4   | 11011243        | 13  |
| 7.  | 55333422        | 27  | 11101001        | 5   | 41101025        | 14  |
| 8.  | 11223557        | 28  | 11101111        | 7   | 10104225        | 15  |
| 9.  | 43211102        | 14  | 21000112        | 7   | 21033334        | 19  |
| 10. | 11111326        | 16  | 10211111        | 8   | 11321176        | 22  |
| 11. | 12221351        | 17  | 52111000        | 10  | 61101064        | 19  |
| 12. | 76386997        | 55  | 00012499        | 25  | 10001241        | 9   |
| 13. | 21125695        | 31  | 99455349        | 48  | 00010100        | 2   |
| 14. | 34322221        | 19  | 22531112        | 17  | 41469913        | 37  |
| 15. | 03211101        | 9   | 21222202        | 13  | 11011196        | 20  |
| 16. | 01100211        | 6   | 11132243        | 17  | 56339335        | 37  |
| 17. | 54156622        | 31  | 13121313        | 15  | 32112144        | 18  |
| 18. | 31113326        | 20  | 22132239        | 24  | 10012100        | 5   |
| 19. | 11122310        | 11  | 34311114        | 18  | 21199959        | 45  |
| 20. | 03012321        | 12  | 22313212        | 16  | 68235427        | 37  |
| 21. | 01020001        | 4   | 11222111        | 11  | 21433473        | 27  |
| 22. | 00111022        | 7   | 43193698        | 43  | 22313231        | 17  |
| 23. | 15533153        | 26  | 64136216        | 29  | 11132010        | 9   |
| 24. | 51013223        | 17  | 31211013        | 12  | 01133369        | 26  |
| 25. | 43221221        | 17  | 13432212        | 18  | 32232766        | 31  |
| 26. | 31321339        | 25  | 32232246        | 24  | 21292067        | 29  |
| 27. | 52446111        | 24  | 53143231        | 22  | 41332159        | 28  |
| 28. | 41122323        | 18  | 11103464        | 20  | 31122211        | 13  |
| 29. | 11101211        | 8   | 42225363        | 27  | 01011111        | 6   |
| 30. | 12118502        | 20  | 12000132        | 9   | 10011114        | 9   |
| 31. | 11286968        | 41  | 42233933        | 29  |                 |     |
|     |                 |     |                 |     |                 |     |
|     | $M_{II} = 2.38$ |     | $M_{II} = 2.05$ |     | $M_{II} = 1.93$ |     |
|     | $M_D = 1.55$    |     | $M_D = 1.45$    |     | $M_D = 1.57$    |     |
|     | $M_Z = 0.34$    |     | $M_Z = 0.28$    |     | $M_Z = 0.23$    |     |

|     | October              |     | November             |     | December             |     |
|-----|----------------------|-----|----------------------|-----|----------------------|-----|
|     | M                    | Sum | M                    | Sum | M                    | Sum |
| 1.  | 11001010             | 4   | 20121793             | 25  | 11131249             | 22  |
| 2.  | 20110012             | 7   | 11216999             | 38  | 43212374             | 26  |
| 3.  | 11112332             | 14  | 99263923             | 43  | 11111411             | 11  |
| 4.  | 21111226             | 16  | 45211553             | 26  | 12012273             | 18  |
| 5.  | 48659999             | 59  | 10112118             | 15  | 22111231             | 13  |
| 6.  | 93976964             | 53  | 13312251             | 18  | 00122201             | 8   |
| 7.  | 75413295             | 36  | 11212021             | 10  | 00120132             | 9   |
| 8.  | 52222518             | 27  | 30000153             | 12  | 00010010             | 2   |
| 9.  | 01111140             | 9   | 11022971             | 23  | 11000002             | 4   |
| 10. | 01211014             | 10  | 33113119             | 22  | 22129913             | 29  |
| 11. | 11112656             | 23  | 21011112             | 9   | 52110112             | 13  |
| 12. | 82001233             | 19  | 01000012             | 4   | 11000025             | 9   |
| 13. | 23223666             | 30  | 31127399             | 35  | 65469824             | 44  |
| 14. | 12132211             | 13  | 66112234             | 25  | 73012137             | 24  |
| 15. | 13432223             | 20  | 62027154             | 27  | 43200014             | 14  |
| 16. | 45232402             | 22  | 21122224             | 16  | 40100012             | 8   |
| 17. | 42123162             | 21  | 00112692             | 21  | 62111110             | 13  |
| 18. | 51127447             | 31  | 23212558             | 28  | 00425331             | 18  |
| 19. | 52243310             | 20  | 16011122             | 14  | 34789995             | 54  |
| 20. | 01111020             | 6   | 00000000             | 0   | 42112000             | 10  |
| 21. | 01332955             | 28  | 00010012             | 4   | 11000010             | 3   |
| 22. | 32222164             | 22  | 22011032             | 11  | 02111110             | 7   |
| 23. | 21132136             | 19  | 00011001             | 3   | 00010011             | 3   |
| 24. | 21111141             | 12  | 00111002             | 5   | 31221110             | 11  |
| 25. | 11121121             | 10  | 10111101             | 6   | 00100015             | 7   |
| 26. | 10111001             | 5   | 10111001             | 5   | 52100010             | 9   |
| 27. | 00011001             | 3   | 03324932             | 26  | 01111198             | 22  |
| 28. | 40011000             | 6   | 21121011             | 9   | 57387993             | 51  |
| 29. | 22121110             | 10  | 00024399             | 27  | 11100011             | 5   |
| 30. | 00011021             | 5   | 99559557             | 54  | 76884999             | 60  |
| 31. | 01011130             | 7   |                      |     | 32137592             | 32  |
|     |                      |     |                      |     |                      |     |
|     | $M_{II} = 2.06$      |     | $M_{II} = 2.02$      |     | $M_{II} = 1.97$      |     |
|     | $M_{I\gamma} = 1.69$ |     | $M_{I\gamma} = 1.89$ |     | $M_{I\gamma} = 1.66$ |     |
|     | $M_Z = 0.26$         |     | $M_Z = 0.22$         |     | $M_Z = 0.32$         |     |

## II.

## Disturbed and quiet days for 1985

| Disturbed days |            | Quiet days                        |
|----------------|------------|-----------------------------------|
| January        | 9, 28      | 7, 16, 24                         |
| February       | 6, 28      | 4, 18, 20                         |
| March          | 8          | 9, 13, 20, 21, 23                 |
| April          | 21, 26     | 5, 12, 15, 17                     |
| May            | —          | 8, 21, 22, 30                     |
| June           | 7          | 4, 5, 13, 14, 15, 16, 18, 19, 24  |
| July           | 12         | 2, 16, 21, 22                     |
| August         | 13         | 4, 5, 6, 7, 8, 10                 |
| September      | —          | 2, 3, 4, 5, 13                    |
| October        | 5, 6       | 1, 2, 26, 27, 30                  |
| November       | 30         | 7, 12, 20, 21, 23, 24, 25, 26, 28 |
| December       | 19, 28, 30 | 5, 6, 7, 8, 21, 22, 23, 29        |

### III.

Hourly averages of magnetic elements  
(H, D, Z)

|          | 0     | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| January  |       |       |       |       |       |       |       |       |       |       |       |       |
| H        | - 1.8 | - 0.5 | - 0.8 | + 1.6 | + 3.8 | + 4.8 | + 8.1 | + 8.0 | + 5.6 | + 4.6 | + 2.6 | + 0.7 |
| D        | + 7.8 | + 5.1 | + 4.1 | + 2.4 | - 0.3 | - 2.8 | - 1.8 | - 1.3 | - 1.2 | - 4.9 | - 8.1 | -11.5 |
| Z        | + 1.8 | + 0.8 | + 0.2 | - 0.5 | - 1.0 | - 1.3 | - 1.5 | - 1.9 | - 2.6 | - 4.4 | - 4.3 | - 5.6 |
| February |       |       |       |       |       |       |       |       |       |       |       |       |
| H        | + 3.7 | + 2.2 | + 1.6 | + 3.3 | + 2.9 | + 5.6 | + 6.1 | + 7.9 | + 5.8 | + 1.5 | - 2.5 | - 4.9 |
| D        | + 6.4 | + 5.6 | + 4.5 | + 1.9 | + 1.2 | - 0.5 | - 1.4 | - 2.8 | + 0.5 | - 1.0 | - 5.0 | -10.6 |
| Z        | + 0.2 | - 0.5 | - 0.8 | - 1.4 | - 1.5 | - 1.6 | - 1.6 | - 1.6 | - 1.5 | - 1.6 | - 2.2 | - 2.5 |
| March    |       |       |       |       |       |       |       |       |       |       |       |       |
| H        | + 0.2 | + 1.0 | + 1.5 | + 0.1 | + 1.0 | + 2.9 | + 4.6 | + 4.9 | + 1.6 | - 3.4 | - 6.3 | - 2.9 |
| D        | + 7.1 | + 4.0 | + 1.6 | + 2.8 | + 2.3 | + 1.7 | + 4.2 | +10.4 | +15.6 | +13.2 | + 4.1 | - 9.5 |
| Z        | + 2.5 | + 1.9 | + 1.2 | + 1.0 | + 1.0 | + 0.9 | + 2.1 | + 3.0 | + 1.9 | - 2.3 | - 7.7 | -10.4 |
| April    |       |       |       |       |       |       |       |       |       |       |       |       |
| H        | +10.3 | +11.6 | + 9.6 | +11.5 | + 8.6 | + 7.1 | + 4.5 | - 0.5 | -10.2 | -17.9 | -15.7 | -10.4 |
| D        | + 7.9 | + 7.0 | + 5.7 | + 3.2 | + 2.3 | + 6.6 | +13.3 | +21.8 | +24.3 | +14.5 | + 0.6 | -17.2 |
| Z        | + 2.2 | + 0.4 | - 0.7 | - 1.7 | - 1.9 | - 0.8 | + 0.8 | + 1.0 | - 2.0 | - 7.4 | -12.5 | -15.2 |
| May      |       |       |       |       |       |       |       |       |       |       |       |       |
| H        | + 3.2 | + 2.9 | + 1.8 | + 2.2 | + 2.5 | + 2.0 | - 2.9 | - 7.9 | -12.2 | -12.9 | -11.0 | - 3.1 |
| D        | + 7.5 | + 9.2 | +10.6 | +11.7 | +14.0 | +20.0 | +23.2 | +23.6 | +20.0 | + 8.4 | - 6.5 | -20.1 |
| Z        | + 5.3 | + 4.8 | + 4.4 | + 4.4 | + 5.1 | + 4.2 | + 3.1 | + 1.4 | - 1.5 | - 6.5 | -11.0 | -14.6 |





|           | 0     | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| June      |       |       |       |       |       |       |       |       |       |       |       |       |
| H         | + 7.3 | + 6.9 | + 4.4 | + 4.8 | + 5.6 | + 3.7 | + 0.3 | - 6.0 | -12.1 | -15.2 | -15.0 | -11.0 |
| D         | + 7.8 | + 6.4 | + 8.1 | + 9.8 | +15.1 | +20.4 | +23.3 | +23.9 | +21.9 | +14.3 | + 1.3 | -12.5 |
| Z         | + 2.6 | + 2.0 | + 1.6 | + 2.1 | + 2.7 | + 3.2 | + 2.0 | + 1.6 | + 0.4 | - 3.9 | - 8.7 | -11.7 |
| July      |       |       |       |       |       |       |       |       |       |       |       |       |
| H         | +10.7 | +10.0 | + 8.7 | + 8.2 | + 7.6 | + 5.6 | + 3.8 | - 4.4 | -12.2 | -14.9 | -14.6 | -14.4 |
| D         | + 3.6 | + 4.6 | + 6.0 | + 7.0 | +10.6 | +17.3 | +21.1 | +23.8 | +22.2 | +15.3 | + 2.3 | -12.3 |
| Z         | + 1.4 | + 0.5 | + 0.1 | + 0.5 | + 1.7 | + 2.4 | + 1.0 | + 0.1 | - 1.7 | - 5.3 | - 8.6 | -10.3 |
| August    |       |       |       |       |       |       |       |       |       |       |       |       |
| H         | + 9.2 | + 6.0 | + 7.3 | + 5.4 | + 6.4 | + 4.6 | - 2.3 | - 9.8 | -17.7 | -21.5 | -18.5 | - 8.6 |
| D         | + 7.8 | + 7.2 | + 6.5 | + 7.6 | +10.2 | +17.0 | +22.5 | +24.1 | +21.9 | +10.4 | - 4.6 | -18.4 |
| Z         | + 1.0 | + 0.5 | - 0.1 | + 0.1 | + 1.1 | + 2.0 | + 2.0 | + 2.2 | + 0.9 | - 2.0 | - 5.3 | - 7.7 |
| September |       |       |       |       |       |       |       |       |       |       |       |       |
| H         | + 7.4 | + 5.8 | + 4.8 | + 4.8 | + 5.6 | + 5.4 | + 3.6 | - 3.6 | -11.5 | -14.5 | -14.6 | -11.8 |
| D         | + 6.1 | + 4.4 | + 6.4 | + 6.5 | + 8.0 | + 8.3 | +12.3 | +17.2 | +17.1 | +10.3 | - 2.6 | -16.0 |
| Z         | + 0.7 | + 0.7 | + 0.7 | + 0.7 | + 0.6 | + 1.1 | + 1.9 | + 2.8 | + 1.8 | - 1.0 | - 5.0 | - 8.2 |
| October   |       |       |       |       |       |       |       |       |       |       |       |       |
| H         | + 5.8 | + 4.1 | + 3.5 | + 3.7 | + 5.9 | + 6.9 | + 6.3 | + 2.5 | - 2.1 | - 4.8 | - 8.4 | - 8.3 |
| D         | + 5.8 | + 4.9 | + 3.1 | + 3.3 | + 1.9 | + 0.8 | + 2.0 | + 5.5 | +11.9 | +13.4 | + 3.9 | -10.9 |
| Z         | + 1.3 | + 0.8 | + 0.3 | - 0.1 | - 0.1 | + 0.3 | + 1.0 | + 2.5 | + 2.1 | - 1.3 | - 7.1 | -10.7 |

| 12        | 13        | 14        | 15        | 16        | 17        | 18        | 19        | 20       | 21       | 22       | 23     | Monthly<br>Averages |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|--------|---------------------|
| -- 7.3 -- | 6.9 --    | 6.7 --    | 4.2 --    | 0.8 --    | 0.6 +     | 3.0 +     | 9.3 +     | 11.7 +   | 11.7 +   | 8.5 +    | 8.6    | 21 082 nT           |
| --22.6--  | --28.9--  | --29.8--  | --26.4--  | --20.7--  | --11.2--  | -- 6.8 -- | -- 5.8 -- | -- 1.5 + | -- 2.1 + | -- 4.3 + | -- 7.5 | 1°11.9'             |
| --12.2--  | --10.7--  | -- 7.3 -- | -- 1.7 +  | -- 2.4 +  | -- 4.7 +  | -- 6.1 +  | -- 5.8 +  | -- 5.6 + | -- 5.0 + | -- 4.6 + | -- 3.8 | 42 606 nT           |
| --10.8--  | -- 7.4 -- | -- 8.5 -- | -- 8.5 -- | -- 4.6 -- | -- 3.3 +  | -- 0.5 +  | -- 5.7 +  | --10.0 + | --10.9 + | --12.0 + | --10.1 | 21 077 nT           |
| --21.4--  | --27.1--  | --26.3--  | --21.9--  | --15.4--  | -- 8.2 -- | -- 6.1 -- | -- 3.1 -- | -- 0.5 + | -- 0.5 + | -- 3.5 + | -- 4.5 | 1°12.9'             |
| --10.6--  | -- 9.1 -- | -- 4.9 +  | -- 0.8 +  | -- 5.5 +  | -- 7.5 +  | -- 7.5 +  | -- 6.3 +  | -- 5.0 + | -- 3.9 + | -- 3.5 + | -- 2.8 | 42 623 nT           |
| -- 2.6 -- | -- 0.4 +  | -- 0.4 -- | -- 1.4 -- | -- 1.3 -- | -- 1.8 +  | -- 2.7 +  | -- 6.3 +  | -- 9.2 + | -- 9.2 + | --10.5 + | -- 8.7 | 21 080 nT           |
| --27.9--  | --28.9--  | --25.2--  | --18.7--  | --11.9--  | -- 5.5 -- | -- 3.7 -- | -- 2.0 -- | -- 0.8 + | -- 2.1 + | -- 5.1 + | -- 5.2 | 1°13.0'             |
| -- 8.2 -- | -- 6.8 -- | -- 3.8 -- | -- 0.5 +  | -- 2.5 +  | -- 3.7 +  | -- 3.4 +  | -- 3.6 +  | -- 3.3 + | -- 3.1 + | -- 2.8 + | -- 2.2 | 42 628 nT           |
| -- 8.7 -- | -- 3.0 -- | -- 0.1 -- | -- 0.3 -- | -- 1.1 -- | -- 3.4 +  | -- 0.4 +  | -- 3.0 +  | -- 4.4 + | -- 5.5 + | --10.6 + | --11.3 | 21 074 nT           |
| --24.0--  | --26.3--  | --21.9--  | --13.7--  | -- 9.0 -- | -- 3.5 -- | -- 1.9 +  | -- 1.2 +  | -- 6.6 + | -- 7.0 + | -- 3.6 + | -- 3.9 | 1°13.5'             |
| -- 7.6 -- | -- 5.0 -- | -- 3.0 -- | -- 0.8 +  | -- 1.0 +  | -- 2.4 +  | -- 2.9 +  | -- 3.6 +  | -- 3.5 + | -- 3.4 + | -- 2.2 + | -- 0.6 | 42 637 nT           |
| -- 5.9 -- | -- 1.2 -- | -- 1.5 -- | -- 3.9 -- | -- 7.7 -- | -- 7.8 -- | -- 3.7 -- | -- 1.8 +  | -- 0.4 + | -- 6.7 + | -- 6.0 + | -- 5.3 | 21 071 nT           |
| --21.9--  | --22.2--  | --18.1--  | --10.3--  | -- 6.7 -- | -- 1.7 +  | -- 2.3 +  | -- 4.3 +  | -- 5.9 + | -- 7.6 + | -- 7.7 + | -- 7.5 | 1°14.4'             |
| -- 8.7 -- | -- 5.4 -- | -- 2.0 +  | -- 0.8 +  | -- 2.2 +  | -- 3.7 +  | -- 4.7 +  | -- 4.6 +  | -- 4.4 + | -- 3.1 + | -- 1.9 + | -- 1.7 | 42 638 nT           |

|                     | 0     | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| November            |       |       |       |       |       |       |       |       |       |       |       |       |
| H                   | + 2.4 | + 2.7 | + 5.6 | + 3.6 | + 5.0 | + 6.8 | + 9.2 | +11.1 | + 6.8 | + 2.9 | - 2.9 | - 6.7 |
| D                   | + 7.6 | + 2.7 | + 0.9 | - 3.8 | - 5.0 | - 4.2 | - 3.6 | - 0.4 | + 5.4 | + 5.9 | - 0.9 | - 9.4 |
| Z                   | + 0.3 | - 1.1 | - 2.4 | - 2.4 | - 2.3 | - 1.6 | - 1.3 | - 0.9 | - 1.0 | - 3.9 | - 6.8 | - 5.1 |
| December            |       |       |       |       |       |       |       |       |       |       |       |       |
| H                   | - 1.3 | - 0.9 | - 0.1 | + 1.0 | + 2.0 | + 4.4 | + 7.9 | +10.3 | + 9.4 | + 4.9 | + 0.9 | - 0.2 |
| D                   | + 6.6 | + 3.3 | + 0.1 | - 1.9 | - 2.1 | - 5.8 | - 5.3 | - 3.8 | - 1.3 | + 0.1 | - 2.7 | - 6.7 |
| Z                   | + 0.4 | - 0.1 | - 0.8 | - 1.6 | - 1.8 | - 1.4 | - 1.8 | - 2.3 | - 2.7 | - 3.5 | - 3.5 | - 3.9 |
| 1985 Yearly means   |       |       |       |       |       |       |       |       |       |       |       |       |
| H                   | + 4.7 | + 4.2 | + 4.0 | + 4.1 | + 4.7 | + 4.9 | + 4.1 | + 1.0 | - 4.1 | - 7.6 | - 8.9 | - 6.9 |
| D                   | + 6.8 | + 5.4 | + 4.8 | + 4.2 | + 4.9 | + 6.6 | + 9.1 | +11.8 | +13.2 | + 8.3 | - 1.5 | -12.9 |
| Z                   | + 1.6 | + 0.9 | + 0.3 | + 0.1 | + 0.3 | + 0.6 | + 0.6 | + 0.7 | - 0.5 | - 3.6 | - 6.9 | - 8.3 |
| 1985 Quiet days     |       |       |       |       |       |       |       |       |       |       |       |       |
| H                   | - 0.3 | - 1.2 | - 1.3 | - 0.3 | + 1.4 | + 1.8 | + 0.9 | - 0.4 | - 3.9 | - 6.5 | - 7.5 | - 6.0 |
| D                   | + 5.7 | + 5.2 | + 4.8 | + 4.3 | + 6.1 | + 9.4 | +12.1 | +15.4 | +16.5 | +11.6 | + 1.0 | -11.1 |
| Z                   | + 2.8 | + 2.5 | + 2.1 | + 2.3 | + 2.7 | + 3.3 | + 3.0 | + 2.8 | + 1.0 | - 2.4 | - 6.2 | - 8.6 |
| 1985 Disturbed days |       |       |       |       |       |       |       |       |       |       |       |       |
| H                   | +15.5 | +17.2 | +21.2 | +25.8 | +24.8 | +15.2 | +10.8 | + 3.5 | - 5.8 | -15.3 | -13.5 | -15.5 |
| D                   | +18.7 | +15.6 | + 8.6 | + 1.3 | - 3.9 | -12.6 | - 9.4 | - 7.6 | - 4.0 | - 3.1 | - 5.5 | -10.4 |
| Z                   | - 4.2 | - 7.2 | -10.0 | -11.3 | -11.7 | - 9.8 | - 8.9 | - 7.2 | - 6.2 | - 4.7 | - 4.6 | - 4.4 |



## IV.

*Results of harmonical analysis of the daily variations*

|                      | $A_1$ | $q_1$ | $A_2$ | $q_2$ | $A_3$ | $q_3$ | $A_4$ | $q_4$ | $A_5$ | $q_5$ | $A_6$ | $q_6$ |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Horizontal Intensity |       |       |       |       |       |       |       |       |       |       |       |       |
| January              | 5.8   | 351   | 1.1   | 176   | 2.0   | 195   | 0.7   | 359   | 0.1   | 111   | 0.3   | 179   |
| February             | 5.5   | 32    | 1.3   | 193   | 2.1   | 161   | 1.1   | 13    | 0.6   | 164   | 0.4   | 138   |
| March                | 2.1   | 47    | 0.4   | 271   | 2.5   | 195   | 1.5   | 24    | 1.1   | 277   | 0.3   | 16    |
| April                | 11.1  | 86    | 2.8   | 14    | 4.1   | 234   | 2.7   | 51    | 0.4   | 310   | 0.8   | 162   |
| May                  | 7.3   | 125   | 1.4   | 72    | 4.5   | 250   | 1.8   | 98    | 0.6   | 255   | 0.5   | 91    |
| June                 | 11.0  | 112   | 1.8   | 307   | 3.0   | 239   | 0.8   | 82    | 0.9   | 11    | 0.8   | 101   |
| July                 | 12.8  | 97    | 1.5   | 325   | 2.9   | 229   | 0.9   | 73    | 0.5   | 359   | 0.4   | 347   |
| August               | 10.9  | 118   | 4.1   | 16    | 5.0   | 234   | 1.6   | 87    | 0.4   | 352   | 0.5   | 145   |
| September            | 9.1   | 104   | 2.8   | 355   | 4.0   | 195   | 0.8   | 101   | 0.6   | 104   | 1.0   | 229   |
| October              | 6.4   | 68    | 0.3   | 344   | 3.6   | 196   | 0.9   | 14    | 0.5   | 137   | 0.7   | 318   |
| November             | 6.7   | 30    | 2.9   | 257   | 1.3   | 107   | 1.5   | 23    | 0.3   | 228   | 0.2   | 247   |
| December             | 5.3   | 2     | 3.0   | 218   | 0.8   | 138   | 1.1   | 37    | 0.6   | 230   | 0.4   | 151   |
| Year                 | 6.0   | 83    | 0.8   | 324   | 2.5   | 214   | 1.1   | 52    | 0.2   | 282   | 0.1   | 150   |
| Q                    | 3.8   | 131   | 1.6   | 280   | 2.4   | 206   | 0.3   | 52    | 0.3   | 212   | 0.2   | 156   |
| D                    | 21.4  | 65    | 1.9   | 332   | 4.0   | 262   | 0.5   | 287   | 1.2   | 343   | 2.0   | 142   |
| Declination          |       |       |       |       |       |       |       |       |       |       |       |       |
| January              | 9.0   | 109   | 2.5   | 223   | 1.8   | 94    | 0.8   | 298   | 0.5   | 177   | 0.6   | 194   |
| February             | 8.7   | 103   | 3.7   | 226   | 2.4   | 50    | 0.8   | 249   | 0.9   | 123   | 0.1   | 184   |
| March                | 10.4  | 61    | 9.9   | 210   | 5.4   | 67    | 3.4   | 245   | 0.1   | 14    | 0.7   | 91    |
| April                | 14.6  | 54    | 13.3  | 225   | 7.9   | 72    | 1.6   | 291   | 0.3   | 219   | 0.4   | 178   |
| May                  | 19.2  | 45    | 10.9  | 247   | 5.2   | 90    | 0.4   | 316   | 0.2   | 144   | 0.3   | 205   |
| June                 | 20.2  | 36    | 11.0  | 226   | 3.3   | 80    | 0.7   | 164   | 0.6   | 177   | 0.6   | 357   |
| July                 | 17.0  | 33    | 11.2  | 228   | 4.0   | 80    | 0.5   | 246   | 0.2   | 206   | 0.4   | 342   |
| August               | 17.2  | 43    | 11.3  | 239   | 5.7   | 94    | 0.5   | 321   | 0.2   | 221   | 0.4   | 344   |
| September            | 13.0  | 52    | 10.0  | 233   | 4.3   | 76    | 2.4   | 291   | 0.2   | 13    | 0.7   | 83    |
| October              | 9.0   | 68    | 8.3   | 213   | 5.1   | 55    | 3.1   | 260   | 1.4   | 120   | 0.4   | 310   |
| November             | 8.4   | 106   | 7.6   | 194   | 2.8   | 79    | 2.6   | 269   | 0.4   | 66    | 0.9   | 13    |
| December             | 7.3   | 122   | 3.6   | 188   | 1.7   | 72    | 1.4   | 256   | 0.7   | 116   | 0.1   | 62    |
| Year                 | 11.4  | 59    | 8.3   | 224   | 4.0   | 76    | 1.3   | 267   | 0.4   | 133   | 0.1   | 35    |
| Q                    | 11.5  | 41    | 7.8   | 230   | 4.8   | 78    | 1.2   | 266   | 0.5   | 98    | 0.3   | 23    |
| D                    | 14.3  | 117   | 4.8   | 203   | 6.9   | 20    | 2.3   | 13    | 1.3   | 95    | 0.9   | 320   |

|                    | $A_1$ | $\varphi_1$ | $A_2$ | $\varphi_2$ | $A_3$ | $\varphi_3$ | $A_4$ | $\varphi_4$ | $A_5$ | $\varphi_5$ | $A_6$ | $\varphi_6$ |
|--------------------|-------|-------------|-------|-------------|-------|-------------|-------|-------------|-------|-------------|-------|-------------|
| Vertical Intensity |       |             |       |             |       |             |       |             |       |             |       |             |
| January            | 4.1   | 138         | 1.5   | 269         | 0.3   | 98          | 0.2   | 19          | 0.1   | 212         | 0.1   | 346         |
| February           | 2.4   | 161         | 0.8   | 260         | 0.2   | 118         | 0.3   | 318         | 0.1   | 125         | 0.1   | 302         |
| March              | 4.8   | 105         | 3.5   | 265         | 2.1   | 110         | 0.8   | 318         | 0.2   | 212         | 0.4   | 114         |
| April              | 7.8   | 135         | 5.3   | 277         | 3.1   | 119         | 0.6   | 318         | 0.3   | 260         | 0.1   | 189         |
| May                | 8.3   | 99          | 4.8   | 281         | 1.7   | 102         | 0.3   | 287         | 0.1   | 130         | 0.2   | 70          |
| June               | 6.4   | 105         | 4.7   | 267         | 1.5   | 96          | 0.4   | 248         | 0.2   | 196         | 0.3   | 83          |
| July               | 5.7   | 124         | 4.7   | 278         | 1.5   | 96          | 0.6   | 186         | 0.1   | 233         | 0.2   | 96          |
| August             | 3.5   | 109         | 3.3   | 265         | 1.5   | 109         | 0.3   | 249         | 0.0   | 221         | 0.1   | 69          |
| September          | 3.1   | 105         | 3.1   | 262         | 1.2   | 111         | 0.9   | 325         | 0.2   | 210         | 0.2   | 6           |
| October            | 3.8   | 119         | 3.5   | 263         | 1.9   | 109         | 1.2   | 335         | 0.6   | 169         | 0.3   | 45          |
| November           | 3.6   | 168         | 1.7   | 296         | 1.7   | 152         | 0.8   | 348         | 0.3   | 168         | 0.1   | 105         |
| December           | 3.2   | 156         | 0.9   | 290         | 0.5   | 149         | 0.2   | 353         | 0.2   | 173         | 0.4   | 325         |
| Year               | 4.4   | 123         | 3.1   | 273         | 1.4   | 113         | 0.4   | 314         | 0.1   | 183         | 0.1   | 72          |
| Q                  | 4.2   | 88          | 2.9   | 278         | 1.4   | 114         | 0.4   | 324         | 0.1   | 116         | 0.2   | 57          |
| D                  | 11.7  | 189         | 2.9   | 250         | 1.3   | 96          | 0.5   | 160         | 0.5   | 176         | 0.3   | 269         |