

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.

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 M | Sum | February M | Sum | March M | Sum |
|-----|--------------|-----|---------------|-----|--------------|-----|
| 1. | 36132181 | 25 | 12235116 | 21 | 42556339 | 37 |
| 2. | 01112824 | 19 | 43255664 | 35 | 33768231 | 33 |
| 3. | 22121123 | 14 | 21133256 | 23 | 20010113 | 8 |
| 4. | 63221237 | 26 | 20011086 | 18 | 23121101 | 11 |
| 5. | 11021232 | 12 | 41625466 | 34 | 13999999 | 58 |
| 6. | 11012332 | 13 | 53179999 | 52 | 22434310 | 19 |
| 7. | 12101102 | 8 | 98311000 | 22 | 23245592 | 32 |
| 8. | 11114232 | 15 | 00016389 | 27 | 21125110 | 13 |
| 9. | 22011002 | 8 | 98324101 | 28 | 00011110 | 4 |
| 10. | 00011186 | 17 | 00100100 | 2 | 11133200 | 11 |
| 11. | 47332433 | 29 | 00113344 | 16 | 01132120 | 10 |
| 12. | 21021000 | 6 | 71231011 | 16 | 00122255 | 17 |
| 13. | 00121010 | 5 | 00112101 | 6 | 51259889 | 47 |
| 14. | 10023300 | 9 | 00010100 | 2 | 77999836 | 58 |
| 15. | 00112032 | 9 | 00002763 | 18 | 35513253 | 27 |
| 16. | 35112121 | 16 | 32124221 | 17 | 31323232 | 19 |
| 17. | 01115213 | 14 | 10122111 | 9 | 94133216 | 29 |
| 18. | 11100000 | 3 | 10012121 | 8 | 33412551 | 24 |
| 19. | 00010000 | 1 | 41111110 | 10 | 21123232 | 16 |
| 20. | 10011001 | 4 | 10133310 | 12 | 11144310 | 15 |
| 21. | 00110002 | 4 | 00112000 | 4 | 00134159 | 23 |
| 22. | 10012332 | 12 | 00011019 | 12 | 01122101 | 8 |
| 23. | 10013222 | 11 | 92112123 | 21 | 00123110 | 8 |
| 24. | 10112212 | 10 | 12223399 | 31 | 00112112 | 8 |
| 25. | 10001231 | 8 | 64334374 | 34 | 31536997 | 43 |
| 26. | 10013131 | 10 | 43154679 | 39 | 84235427 | 35 |
| 27. | 11014101 | 9 | 32233478 | 32 | 72334322 | 26 |
| 28. | 42224025 | 21 | 21221247 | 21 | 20132314 | 16 |
| 29. | 22434232 | 22 | | | 11343432 | 21 |
| 30. | 10012122 | 9 | | | 21222379 | 28 |
| 31. | 17464119 | 33 | | | 88235454 | 39 |
| | $M_H = 1.40$ | | $M_H = 2.15$ | | $M_H = 2.60$ | |
| | $M_D = 1.24$ | | $M_D = 2.06$ | | $M_D = 2.46$ | |
| | $M_Z = 0.15$ | | $M_Z = 0.32$ | | $M_Z = 0.42$ | |

| | April M | Sum | May M | Sum | June M | Sum |
|-----|------------|-----|----------|-----|-----------|-----|
| 1. | 93455543 | 38 | 11435242 | 22 | 10221221 | 11 |
| 2. | 20224231 | 13 | 21211110 | 9 | 11123211 | 12 |
| 3. | 23123433 | 21 | 11122000 | 7 | 12113453 | 20 |
| 4. | 11223155 | 20 | 01111110 | 6 | 11101101 | 6 |
| 5. | 00112011 | 6 | 00211200 | 6 | 31113011 | 11 |
| 6. | 11433211 | 16 | 01111110 | 6 | 21159441 | 27 |
| 7. | 11133242 | 17 | 01212010 | 7 | 33689999 | 56 |
| 8. | 10123242 | 15 | 01122264 | 18 | 93411262 | 28 |
| 9. | 42113101 | 13 | 49954333 | 40 | 11111010 | 6 |
| 10. | 00113102 | 8 | 42222249 | 27 | 01111010 | 5 |
| 11. | 00149969 | 38 | 99997215 | 51 | 11111212 | 10 |
| 12. | 99949999 | 67 | 11222545 | 22 | 01011001 | 4 |
| 13. | 99999999 | 72 | 43312100 | 14 | 11112000 | 6 |
| 14. | 97666511 | 41 | 01264273 | 25 | 00110020 | 4 |
| 15. | 00234212 | 14 | 29944835 | 44 | 02223221 | 14 |
| 16. | 21265331 | 23 | 72979993 | 55 | 34224556 | 31 |
| 17. | 12462347 | 29 | 12121214 | 14 | 62312111 | 17 |
| 18. | 21222554 | 23 | 99985852 | 55 | 13122423 | 18 |
| 19. | 69368744 | 47 | 21544432 | 25 | 11123332 | 16 |
| 20. | 27948439 | 46 | 35934995 | 47 | 22322111 | 14 |
| 21. | 85677647 | 50 | 22221122 | 14 | 12312202 | 13 |
| 22. | 73434584 | 38 | 21222111 | 12 | 11012213 | 11 |
| 23. | 53744236 | 34 | 01534422 | 21 | 11111110 | 7 |
| 24. | 01345543 | 25 | 22233445 | 25 | 11054443 | 22 |
| 25. | 52323326 | 26 | 55175448 | 39 | 12143864 | 29 |
| 26. | 22299999 | 51 | 42211202 | 14 | 21235321 | 19 |
| 27. | 88969626 | 54 | 11221022 | 11 | 22122232 | 16 |
| 28. | 21123633 | 21 | 23525311 | 22 | 21542221 | 19 |
| 29. | 63254223 | 27 | 11111010 | 6 | 11947410 | 27 |
| 30. | 10224011 | 11 | 01111302 | 9 | 22112243 | 17 |
| 31. | | | 11122221 | 12 | | |

$M_H = 3.43$

$M_D = 3.04$

$M_Z = 0.59$

$M_H = 2.47$

$M_D = 1.95$

$M_Z = 0.33$

$M_H = 1.87$

$M_D = 1.28$

$M_Z = 0.26$

| | July M | Sum | August M | Sum | September M | Sum |
|-----|--------------|-----|-----------------|-----|-----------------|-----|
| 1. | 34353534 | 30 | 33443243 | 26 | 00123211 | 10 |
| 2. | 22477405 | 31 | 11212637 | 23 | 22332642 | 24 |
| 3. | 21101035 | 13 | 33622331 | 23 | 22233211 | 16 |
| 4. | 71212206 | 21 | 24333011 | 17 | 11034123 | 15 |
| 5. | 52243441 | 25 | 12533242 | 22 | 74441311 | 28 |
| 6. | 33353441 | 26 | 44222111 | 17 | 31222101 | 12 |
| 7. | 23416431 | 24 | 01112252 | 14 | 10112111 | 8 |
| 8. | 32232010 | 13 | 11221100 | 8 | 02212009 | 16 |
| 9. | 01121211 | 9 | 22111133 | 14 | 42132222 | 18 |
| 10. | 10011121 | 7 | 27357611 | 32 | 21244421 | 20 |
| 11. | 12163231 | 19 | 12032344 | 22 | 42544114 | 25 |
| 12. | 23227477 | 34 | 22312221 | 15 | 11203341 | 15 |
| 13. | 61132022 | 17 | 23213113 | 16 | 12212132 | 14 |
| 14. | 21122200 | 10 | 20132212 | 13 | 10114214 | 14 |
| 15. | 01021000 | 4 | 20102229 | 18 | 11312320 | 13 |
| 16. | 22222311 | 15 | 82123211 | 20 | 02111311 | 10 |
| 17. | 12189448 | 37 | 82357356 | 39 | 21102110 | 8 |
| 18. | 91222212 | 21 | 85334278 | 40 | 10111179 | 21 |
| 19. | 11312422 | 16 | 12222212 | 14 | 96959476 | 55 |
| 20. | 13147411 | 22 | 12211121 | 11 | 21111122 | 11 |
| 21. | 12321011 | 11 | 11323424 | 20 | 30111004 | 10 |
| 22. | 12123939 | 30 | 13212252 | 18 | 34242003 | 18 |
| 23. | 33549995 | 47 | 89479959 | 60 | 31002110 | 8 |
| 24. | 21112225 | 16 | 64134945 | 36 | 11122222 | 13 |
| 25. | 63969999 | 60 | 61353323 | 26 | 32224541 | 23 |
| 26. | 99999932 | 59 | 01222322 | 14 | 04357278 | 36 |
| 27. | 87642212 | 32 | 21226973 | 32 | 82323191 | 29 |
| 28. | 32222102 | 14 | 42322428 | 27 | 21112121 | 11 |
| 29. | 01112101 | 7 | 12355422 | 24 | 11115434 | 20 |
| 30. | 11313321 | 15 | 57222315 | 27 | 22134144 | 21 |
| 31. | 12221224 | 16 | 45543210 | 24 | | |
| | $M_H = 2.58$ | | $M_{II} = 2.44$ | | $M_{II} = 2.00$ | |
| | $M_D = 1.90$ | | $M_D = 2.00$ | | $M_D = 1.60$ | |
| | $M_Z = 0.45$ | | $M_Z = 0.33$ | | $M_Z = 0.18$ | |

| | October M | Sum | November M | Sum | December M | Sum |
|-----|--------------|-----|---------------|-----|---------------|-----|
| 1. | 21222201 | 12 | 01136112 | 15 | 00012421 | 10 |
| 2. | 52114239 | 27 | 01121111 | 8 | 21034124 | 17 |
| 3. | 21498996 | 48 | 31121042 | 14 | 11013132 | 12 |
| 4. | 33246265 | 31 | 00122123 | 11 | 21323121 | 15 |
| 5. | 10243102 | 13 | 11234322 | 18 | 30111123 | 12 |
| 6. | 10124212 | 13 | 23112222 | 15 | 22100110 | 7 |
| 7. | 33163599 | 39 | 64434313 | 28 | 00111112 | 7 |
| 8. | 74654125 | 34 | 23484952 | 37 | 01311977 | 29 |
| 9. | 54562444 | 34 | 10112001 | 6 | 22212127 | 19 |
| 10. | 11133689 | 32 | 01146123 | 18 | 13111100 | 8 |
| 11. | 88555654 | 46 | 22229989 | 43 | 01010912 | 5 |
| 12. | 52522100 | 17 | 99466210 | 37 | 44216079 | 41 |
| 13. | 01032259 | 22 | 00112004 | 8 | 52323210 | 18 |
| 14. | 99433479 | 48 | 32339797 | 43 | 11121021 | 9 |
| 15. | 53435422 | 28 | 74322622 | 28 | 10111015 | 10 |
| 16. | 34423111 | 19 | 24212118 | 21 | 10121012 | 8 |
| 17. | 00377744 | 32 | 52195688 | 44 | 10011127 | 13 |
| 18. | 41113121 | 14 | 62277594 | 42 | 61032411 | 18 |
| 19. | 12348368 | 35 | 51113632 | 22 | 21103331 | 13 |
| 20. | 54349999 | 52 | 31132125 | 18 | 01129013 | 8 |
| 21. | 98377712 | 44 | 31221159 | 24 | 11011112 | 8 |
| 22. | 40489999 | 52 | 32132200 | 13 | 00000200 | 2 |
| 23. | 93332414 | 29 | 21127292 | 26 | 01112121 | 9 |
| 24. | 00037959 | 33 | 71113120 | 16 | 22111113 | 12 |
| 25. | 14323122 | 18 | 19439413 | 34 | 02001123 | 9 |
| 26. | 10452210 | 15 | 31222210 | 16 | 21111010 | 7 |
| 27. | 21222223 | 16 | 00111000 | 3 | 11000022 | 6 |
| 28. | 33243249 | 30 | 21011102 | 8 | 51121411 | 16 |
| 29. | 22252216 | 22 | 02000000 | 2 | 04796492 | 41 |
| 30. | 72133712 | 26 | 00010000 | 1 | 18659632 | 40 |
| 31. | 20132010 | 9 | | | 12374623 | 28 |

$M_{11} = 3.18$

$M_{10} = 3.01$

$M_z = 0.45$

$M_{11} = 2.27$

$M_{10} = 1.97$

$M_z = 0.20$

$M_{11} = 1.58$

$M_{10} = 1.17$

$M_z = 0.10$

II.

Disturbed and quiet days for 1981

| Disturbed days | | Quiet days |
|----------------|--------------------|--------------------------------------|
| January | — | 7, 9, 12, 13, 18, 19, 20, 21, 24, 30 |
| February | — | 10, 14, 18, 21 |
| March | 14 | 9, 22, 24 |
| April | 12, 13, 19, 21, 22 | 5 |
| May | 20, 25 | 2, 3, 4, 6, 7, 22, 27, 29, 31 |
| June | 7 | 1, 4, 9, 10, 11, 12, 13, 14, 23 |
| July | 23, 25, 26 | 9, 10, 14, 15, 29 |
| August | 17, 23 | 8, 20 |
| September | 19 | 7, 17 |
| October | 9, 11, 14, 20 | — |
| November | 17, 18 | 2, 27, 28, 29, 30 |
| December | — | 6, 7, 11, 14, 16, 21, 22, 23, 26, 27 |

111.

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

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| January | | | | | | | | | | | | |
| H | + 2.3 | + 2.6 | + 2.0 | + 3.3 | + 5.7 | + 8.7 | + 8.8 | +11.2 | +10.6 | + 3.3 | - 5.3 | - 8.8 |
| D | + 8.8 | + 7.7 | + 6.4 | + 4.2 | + 1.6 | + 0.7 | + 1.0 | + 3.6 | +10.5 | +15.3 | + 8.7 | - 1.8 |
| Z | + 1.3 | + 1.2 | + 0.7 | + 0.4 | + 0.1 | - 0.2 | + 0.2 | - 0.1 | - 1.3 | - 4.3 | - 5.7 | - 6.3 |
| February | | | | | | | | | | | | |
| H | + 1.1 | - 1.1 | + 3.8 | + 2.8 | + 4.3 | + 7.7 | +11.1 | +12.7 | +10.0 | + 3.9 | + 0.3 | - 4.6 |
| D | +15.4 | +12.4 | + 8.7 | + 6.5 | + 3.0 | + 1.7 | + 3.4 | + 6.9 | +14.9 | +15.1 | + 4.4 | - 6.3 |
| Z | + 2.0 | + 1.6 | + 0.8 | + 0.5 | + 0.4 | + 0.2 | - 0.1 | + 0.3 | - 0.9 | - 3.7 | - 6.1 | - 7.8 |
| March | | | | | | | | | | | | |
| H | + 6.6 | + 8.3 | + 8.2 | + 7.4 | + 7.8 | + 8.6 | +10.4 | +11.1 | + 5.0 | - 3.0 | - 7.5 | - 8.2 |
| D | + 5.3 | + 5.2 | + 5.7 | +10.5 | + 8.8 | + 6.3 | +10.4 | +18.6 | +29.1 | +25.9 | + 9.9 | -13.0 |
| Z | + 2.6 | + 1.6 | + 0.8 | + 0.5 | + 1.1 | + 1.5 | + 3.1 | + 5.4 | + 3.4 | - 4.2 | -13.1 | -18.7 |
| April | | | | | | | | | | | | |
| H | +11.2 | +10.5 | + 7.1 | + 7.5 | + 5.3 | + 4.1 | + 3.2 | - 2.9 | - 9.7 | -15.7 | -16.8 | -14.5 |
| D | + 8.2 | +10.8 | +12.4 | +10.2 | +11.7 | +12.7 | +22.4 | +32.1 | +39.1 | +32.6 | +12.2 | -14.0 |
| Z | + 5.0 | + 2.8 | + 0.9 | - 0.3 | + 0.2 | + 1.5 | + 3.7 | + 5.0 | + 2.4 | - 2.8 | -11.4 | -21.1 |
| May | | | | | | | | | | | | |
| H | + 9.0 | + 8.9 | + 6.4 | + 8.0 | + 8.2 | + 3.5 | - 1.1 | -11.9 | -17.4 | -17.9 | -13.0 | - 6.0 |
| D | + 4.2 | + 7.1 | + 7.5 | + 8.3 | +14.8 | +23.7 | +34.3 | +36.9 | +32.2 | +18.8 | - 1.8 | -22.5 |
| Z | + 3.7 | + 3.0 | + 2.7 | + 2.7 | + 4.2 | + 6.0 | + 4.8 | + 2.0 | - 1.8 | - 8.5 | -15.4 | -20.5 |

| 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Monthly Averages |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------------|
| - 9.7 | - 7.5 | - 9.6 | - 8.5 | - 5.3 | - 4.5 | - 2.2 | - 1.5 | + 1.3 | + 1.3 | + 0.2 | + 1.9 | 21 124 nT |
| -11.9 | -18.1 | -18.8 | -17.1 | -11.9 | -10.4 | - 7.0 | - 3.4 | + 2.9 | +10.2 | + 9.7 | + 9.1 | 0°49.3' |
| - 6.9 | - 4.4 | - 0.8 | + 2.5 | + 2.6 | + 2.4 | + 3.0 | + 3.6 | + 3.7 | + 3.4 | + 2.9 | + 2.0 | 42 482 nT |
| - 3.8 | - 4.2 | - 4.8 | - 6.4 | - 7.7 | - 8.6 | - 9.8 | - 5.9 | - 1.9 | + 1.8 | + 0.4 | - 1.1 | 21 115 nT |
| -15.7 | -20.3 | -21.0 | -18.4 | -16.5 | -16.2 | - 7.3 | - 5.0 | + 1.9 | + 8.1 | +10.1 | +14.2 | 0°50.4' |
| - 8.0 | - 7.1 | - 3.8 | - 0.3 | + 0.6 | + 2.2 | + 4.7 | + 6.2 | + 6.4 | + 4.8 | + 3.9 | + 3.2 | 42 483 nT |
| - 7.5 | - 7.4 | - 8.9 | -12.3 | -13.3 | -12.4 | - 9.8 | - 4.3 | + 0.1 | + 4.1 | + 8.2 | + 8.8 | 21 113 nT |
| -30.5 | -40.7 | -37.8 | -25.4 | -12.9 | - 2.6 | - 0.2 | + 3.2 | + 4.4 | + 3.9 | + 7.9 | + 8.0 | 0°50.8' |
| -18.5 | -14.5 | - 8.0 | - 1.1 | + 6.6 | + 8.6 | + 8.6 | + 8.6 | + 7.9 | + 7.3 | + 5.9 | + 4.6 | 42 484 nT |
| -11.7 | -12.0 | - 8.9 | - 6.2 | - 4.2 | - 2.1 | + 2.4 | + 7.0 | + 9.7 | +10.7 | +10.9 | +15.1 | 21 110 nT |
| -39.8 | -48.4 | -49.9 | -38.5 | -21.3 | - 7.7 | - 0.2 | + 0.8 | + 2.2 | + 2.6 | + 5.7 | + 4.1 | 0°51.3' |
| -24.3 | -19.7 | -11.7 | - 1.5 | + 6.8 | +11.2 | +10.9 | +10.3 | + 9.5 | + 8.6 | + 7.6 | + 6.4 | 42 482 nT |
| - 5.8 | - 6.2 | - 5.8 | - 6.7 | - 1.3 | + 1.4 | + 5.0 | + 7.7 | + 8.4 | + 8.8 | + 8.1 | + 9.7 | 21 121 nT |
| -36.1 | -40.4 | -35.1 | -26.9 | -16.8 | - 5.7 | + 0.3 | - 0.1 | - 1.8 | - 1.8 | + 0.8 | + 2.1 | 0°52.2' |
| -15.1 | -16.8 | - 9.4 | - 1.4 | + 5.2 | + 8.5 | + 9.4 | + 8.8 | + 8.2 | + 7.4 | + 6.9 | + 5.4 | 42 488 nT |

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| June | | | | | | | | | | | | |
| H | + 6.0 | + 5.0 | + 5.5 | + 6.1 | + 9.1 | + 8.3 | + 0.9 | - 9.6 | -17.3 | -18.0 | -14.0 | - 7.8 |
| D | + 1.1 | + 4.0 | + 3.8 | + 7.1 | +14.7 | +23.5 | +33.6 | +35.4 | +34.8 | +23.0 | + 5.2 | -13.3 |
| Z | + 4.0 | + 3.3 | + 5.0 | + 6.0 | + 8.3 | + 7.6 | + 6.4 | + 4.2 | + 0.9 | - 5.4 | -13.2 | -20.3 |
| July | | | | | | | | | | | | |
| H | + 9.2 | + 4.7 | + 6.6 | + 7.5 | +11.5 | +12.4 | + 2.9 | - 9.9 | -19.7 | -26.2 | -22.9 | -15.1 |
| D | + 2.1 | + 9.8 | + 8.2 | +11.4 | +16.9 | +29.1 | +36.8 | +39.4 | +35.6 | +23.1 | + 2.5 | -18.5 |
| Z | + 2.2 | + 1.9 | + 1.7 | + 1.7 | + 3.7 | + 5.1 | + 4.2 | + 2.1 | - 1.1 | - 5.5 | -12.6 | -19.0 |
| August | | | | | | | | | | | | |
| H | + 8.7 | + 8.9 | + 9.9 | +11.5 | +10.4 | + 9.7 | + 1.5 | -11.9 | -26.5 | -32.2 | -24.4 | -13.3 |
| D | + 6.0 | + 6.0 | + 5.9 | + 7.2 | +13.2 | +25.0 | +36.9 | +39.3 | +32.2 | +14.7 | - 6.0 | -24.4 |
| Z | + 3.4 | + 2.8 | + 2.2 | + 2.1 | + 3.7 | + 5.1 | + 4.7 | + 4.0 | + 0.7 | - 5.2 | -11.9 | -17.2 |
| September | | | | | | | | | | | | |
| H | + 8.3 | +10.3 | + 9.8 | +12.0 | +11.5 | +11.0 | + 6.5 | - 1.7 | -15.0 | -20.5 | -20.6 | -15.8 |
| D | + 7.5 | + 7.9 | + 9.7 | +11.2 | +11.3 | +16.8 | +24.5 | +32.6 | +35.2 | +22.0 | + 3.6 | -17.8 |
| Z | + 4.2 | + 3.2 | + 2.7 | + 2.0 | + 2.2 | + 3.3 | + 4.8 | + 5.0 | + 3.9 | + 0.3 | - 8.4 | -14.1 |
| October | | | | | | | | | | | | |
| H | +13.9 | +10.7 | + 8.8 | + 8.8 | + 8.7 | +11.4 | +13.0 | + 9.5 | + 0.8 | -10.0 | -18.2 | -19.1 |
| D | +12.9 | +10.7 | + 8.6 | + 7.3 | + 6.4 | + 2.9 | + 7.4 | +18.4 | +29.0 | +27.9 | +12.8 | -13.1 |
| Z | + 1.9 | + 0.8 | + 0.9 | - 0.2 | - 0.7 | - 0.5 | + 0.9 | + 3.8 | + 3.5 | - 2.2 | -10.8 | -15.5 |

| 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Monthly Averages |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|-------|------------------|
| - 1.9 - | 5.2 - | 6.1 - | 3.5 - | 0.1 + | 3.0 + | 5.0 + | 9.0 + | 9.4 + | 6.3 + | 4.9 + | 5.0 | 21 110 nT |
| -29.5 | -37.6 | -36.7 | -34.2 | -22.4 | -11.8 | - 4.7 | - 0.4 | + 0.8 | + 0.5 | + 1.9 | + 1.2 | 0°51.6' |
| -21.1 | -19.3 | -14.0 | - 2.7 | + 5.6 | + 7.7 | + 8.9 | + 7.7 | + 7.1 | + 6.3 | + 3.8 | + 3.2 | 42 486 nT |
| - 5.8 - | 2.6 - | 1.5 + | 2.8 - | 1.7 + | 1.8 + | 3.7 + | 6.5 + | 8.1 + | 8.0 + | 9.1 + | 10.6 | 21 129 nT |
| -35.3 | -42.7 | -42.0 | -35.0 | -22.0 | -11.4 | - 1.0 | + 0.1 | - 3.2 | - 2.3 | - 1.3 | - 0.3 | 0°52.7' |
| -21.9 | -19.8 | -12.1 | + 1.0 | + 8.1 | +11.5 | +11.6 | + 9.8 | + 8.4 | + 7.8 | + 6.6 | + 4.6 | 42 497 nT |
| - 4.7 + | 1.5 + | 1.5 - | 2.2 - | 2.4 - | 0.8 + | 3.5 + | 7.8 + | 9.8 + | 10.7 + | 12.9 + | 10.1 | 21 117 nT |
| -35.7 | -41.3 | -38.3 | -28.1 | -15.2 | - 2.5 | + 0.6 | - 0.3 | - 0.9 | - 0.5 | + 2.6 | + 3.8 | 0°52.9' |
| -19.4 | -16.0 | - 9.6 | - 2.0 | + 7.0 | + 9.6 | + 7.7 | + 6.5 | + 6.8 | + 6.1 | + 5.0 | + 4.0 | 42 512 nT |
| -12.2 - | 8.1 - | 4.5 - | 3.6 - | 2.8 - | 2.2 + | 1.6 + | 5.0 + | 8.6 + | 7.6 + | 7.0 + | 8.0 | 21 121 nT |
| -34.0 | -39.8 | -35.5 | -25.4 | -16.7 | -10.8 | - 9.2 | - 4.6 | - 4.0 | + 1.5 | + 6.3 | + 7.7 | 0°53.4' |
| -14.7 | -12.0 | - 6.6 | - 5.0 | + 0.4 | + 2.6 | + 3.5 | + 5.1 | + 5.0 | + 4.9 | + 5.0 | + 2.7 | 42 514 nT |
| -18.7 | -10.7 | - 9.4 | -10.8 | -11.1 | - 4.4 | - 3.3 | - 0.2 | + 1.6 | + 7.3 | + 8.5 | +12.9 | 21 104 nT |
| -29.2 | -39.4 | -33.7 | -25.2 | -17.0 | -11.0 | - 7.2 | - 2.8 | + 3.8 | + 9.2 | +10.7 | +10.6 | 0°55.0' |
| -14.7 | -11.6 | - 6.2 | + 0.8 | + 0.6 | + 6.5 | + 7.3 | + 7.6 | + 7.8 | + 6.6 | + 4.7 | + 3.3 | 42 526 nT |

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| November | | | | | | | | | | | | |
| H | + 5.3 | + 5.5 | + 6.2 | + 8.5 | + 10.6 | + 14.3 | + 16.7 | + 15.1 | + 8.3 | - 3.3 | - 10.4 | - 15.4 |
| D | + 11.3 | + 10.5 | + 5.9 | + 1.6 | + 0.3 | - 0.6 | + 1.8 | + 6.8 | + 17.4 | + 19.2 | + 10.7 | - 5.0 |
| Z | + 2.5 | + 1.0 | + 0.4 | - 0.1 | - 1.0 | - 1.2 | - 1.6 | - 0.2 | - 0.5 | - 3.7 | - 8.0 | - 9.4 |
| December | | | | | | | | | | | | |
| H | + 1.6 | + 0.3 | + 0.7 | + 2.5 | + 6.9 | + 10.7 | + 12.6 | + 13.8 | + 11.7 | + 4.6 | - 3.8 | - 9.6 |
| D | + 8.7 | + 7.4 | + 3.8 | + 0.8 | - 0.1 | - 0.4 | - 0.1 | + 3.3 | + 9.5 | + 12.1 | + 5.8 | - 2.6 |
| Z | + 1.9 | + 1.4 | + 1.2 | + 0.8 | + 0.2 | - 0.2 | - 0.3 | - 1.0 | - 2.0 | - 5.2 | - 6.6 | - 6.5 |
| 1981 Yearly means | | | | | | | | | | | | |
| H | + 6.9 | + 6.2 | + 6.3 | + 7.2 | + 8.3 | + 9.2 | + 7.2 | + 2.1 | - 4.9 | - 11.2 | - 13.1 | - 11.5 |
| D | + 7.6 | + 8.3 | + 7.2 | + 7.2 | + 8.5 | + 11.8 | + 17.7 | + 22.8 | + 26.6 | + 20.8 | + 5.7 | - 12.7 |
| Z | + 2.9 | + 2.1 | + 1.7 | + 1.3 | + 1.8 | + 2.3 | + 2.6 | + 2.5 | + 0.6 | - 4.2 | - 10.3 | - 14.7 |
| 1981 Quiet days | | | | | | | | | | | | |
| H | + 0.1 | - 0.1 | + 0.2 | + 1.4 | + 3.3 | + 4.8 | + 4.0 | + 1.1 | - 3.7 | - 8.5 | - 9.5 | - 8.6 |
| D | + 4.3 | + 3.5 | + 3.8 | + 6.4 | + 7.3 | + 13.0 | + 18.2 | + 22.7 | + 25.3 | + 21.0 | + 6.9 | - 8.9 |
| Z | + 4.7 | + 4.3 | + 4.0 | + 4.1 | + 5.1 | + 5.8 | + 5.1 | + 4.1 | + 1.4 | - 3.7 | - 9.1 | - 12.9 |
| 1981 Disturbed days | | | | | | | | | | | | |
| H | + 30.4 | + 22.9 | + 21.0 | + 21.3 | + 14.8 | + 16.2 | + 11.5 | - 1.0 | - 8.8 | - 14.3 | - 14.7 | - 15.3 |
| D | + 4.1 | + 14.3 | + 14.5 | + 13.8 | + 16.4 | + 10.1 | + 15.4 | + 24.0 | + 28.0 | + 18.0 | + 2.8 | - 18.1 |
| Z | - 4.1 | - 6.4 | - 7.9 | - 11.8 | - 12.2 | - 11.0 | - 8.7 | - 6.3 | - 7.0 | - 9.7 | - 14.4 | - 17.9 |

| 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Monthly Averages |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------------------|
| -15.8 | -11.6 | -10.8 | -10.2 | - 8.3 | - 6.1 | - 4.2 | - 1.8 | - 0.4 | + 1.1 | + 0.9 | + 5.8 | 21 109 nT |
| -19.7 | -23.7 | -22.1 | -19.2 | -15.5 | -11.3 | - 7.2 | - 2.3 | + 4.2 | + 9.3 | +13.2 | +14.4 | 0°54.8' |
| - 8.1 | - 5.3 | - 1.8 | + 1.3 | + 3.0 | + 3.7 | + 4.6 | + 5.5 | + 5.6 | + 5.3 | + 4.8 | + 3.2 | 42 528 nT |
| - 9.4 | - 7.6 | - 8.5 | - 7.4 | - 7.1 | - 7.3 | - 4.7 | - 1.8 | - 0.3 | + 0.6 | + 0.2 | + 1.3 | 21 121 nT |
| -11.6 | -16.3 | -16.6 | -13.5 | -10.7 | - 9.7 | - 5.2 | - 1.0 | + 3.2 | + 9.7 | +12.3 | +11.2 | 0°54.4' |
| - 6.8 | - 4.5 | - 1.3 | + 1.9 | + 3.0 | + 3.1 | + 3.6 | + 3.9 | + 3.8 | + 3.7 | + 3.4 | + 2.5 | 42 522 nT |
| - 8.9 | - 6.8 | - 6.4 | - 6.3 | - 5.4 | - 3.5 | - 1.1 | + 2.3 | + 4.5 | + 5.7 | + 5.9 | + 7.3 | 21 119 nT |
| -27.4 | -34.1 | -32.3 | -25.7 | -16.6 | - 9.3 | - 4.0 | - 1.3 | + 1.1 | + 4.2 | + 6.7 | + 7.2 | 0°52.4' |
| -15.0 | -12.6 | - 7.1 | - 0.5 | + 4.6 | + 6.5 | + 7.0 | + 7.0 | + 6.8 | + 6.0 | + 5.0 | + 3.7 | 42 500 nT |
| - 4.1 | - 2.6 | - 2.0 | - 2.5 | - 1.1 | + 0.2 | + 2.4 | + 4.8 | + 5.7 | + 5.2 | + 4.6 | + 5.0 | 21 131 nT |
| -21.6 | -27.4 | -25.9 | -20.9 | -13.2 | - 7.3 | - 4.4 | - 3.2 | - 1.5 | - 0.2 | + 0.7 | + 1.4 | 0°51.7' |
| -14.4 | -12.5 | - 8.3 | - 2.5 | + 1.4 | + 2.9 | + 3.4 | + 3.4 | + 3.5 | + 3.7 | + 3.4 | + 3.1 | 42 494 nT |
| -13.2 | -17.5 | -13.2 | - 7.1 | -16.2 | - 6.5 | - 5.9 | - 5.5 | - 2.0 | - 0.3 | - 0.8 | + 4.2 | 21 094 nT |
| -38.8 | -41.3 | -39.0 | -33.4 | -19.6 | -13.3 | - 0.9 | + 3.8 | + 7.6 | +10.6 | +10.2 | +10.8 | 0°54.0' |
| -16.8 | -12.6 | - 2.2 | +13.8 | +20.6 | +21.4 | +20.3 | +19.3 | +17.4 | +15.0 | +11.8 | + 9.4 | 42 510 nT |

IV.

Results of harmonical analysis of the daily variations

| | A_1 | φ_1 | A_2 | φ_2 | A_3 | φ_3 | A_4 | φ_4 | A_5 | φ_5 | A_6 | φ_6 |
|----------------------|-------|-------------|-------|-------------|-------|-------------|-------|-------------|-------|-------------|-------|-------------|
| Horizontal Intensity | | | | | | | | | | | | |
| January | 7.0 | 38 | 4.7 | 245 | 1.7 | 132 | 1.2 | 355 | 0.7 | 217 | 0.9 | 54 |
| February | 7.5 | 14 | 2.8 | 222 | 2.5 | 170 | 1.5 | 329 | 0.9 | 299 | 0.2 | 357 |
| March | 10.8 | 48 | 2.0 | 203 | 3.1 | 193 | 1.5 | 358 | 1.5 | 262 | 0.8 | 243 |
| April | 12.5 | 101 | 2.4 | 287 | 2.6 | 220 | 0.4 | 53 | 1.0 | 293 | 1.1 | 219 |
| May | 10.6 | 113 | 2.8 | 350 | 4.4 | 271 | 1.8 | 145 | 0.8 | 320 | 0.7 | 253 |
| June | 9.1 | 115 | 4.2 | 330 | 4.9 | 264 | 2.2 | 126 | 1.0 | 353 | 0.3 | 86 |
| July | 11.6 | 114 | 6.7 | 340 | 6.6 | 228 | 1.8 | 123 | 0.2 | 218 | 0.6 | 232 |
| August | 13.5 | 116 | 7.1 | 358 | 8.2 | 238 | 1.9 | 93 | 1.2 | 297 | 1.6 | 257 |
| September | 12.1 | 95 | 5.9 | 325 | 4.5 | 229 | 0.8 | 44 | 1.1 | 332 | 0.9 | 240 |
| October | 13.0 | 71 | 4.5 | 277 | 4.1 | 174 | 1.7 | 17 | 1.6 | 239 | 1.5 | 280 |
| November | 11.3 | 47 | 6.1 | 269 | 3.1 | 158 | 1.5 | 18 | 0.7 | 235 | 0.4 | 242 |
| December | 7.9 | 28 | 5.2 | 244 | 2.7 | 152 | 1.2 | 353 | 0.6 | 163 | 0.5 | 65 |
| Year | 8.7 | 81 | 3.1 | 299 | 3.1 | 217 | 0.7 | 52 | 0.7 | 281 | 0.5 | 254 |
| Q | 4.8 | 108 | 2.6 | 279 | 2.8 | 210 | 0.9 | 69 | 0.4 | 225 | 0.2 | 170 |
| D | 15.8 | 61 | 6.4 | 342 | 2.2 | 289 | 1.0 | 7 | 2.0 | 345 | 2.0 | 279 |
| Declination | | | | | | | | | | | | |
| January | 9.7 | 47 | 8.3 | 179 | 3.1 | 28 | 3.6 | 253 | 0.5 | 291 | 1.2 | 321 |
| February | 13.0 | 48 | 8.4 | 181 | 3.2 | 52 | 3.3 | 275 | 0.8 | 209 | 0.9 | 285 |
| March | 16.6 | 44 | 15.7 | 220 | 8.9 | 45 | 4.6 | 247 | 1.5 | 198 | 0.4 | 142 |
| April | 24.1 | 36 | 20.4 | 221 | 11.0 | 45 | 3.0 | 264 | 1.3 | 247 | 1.1 | 306 |
| May | 22.5 | 35 | 18.3 | 242 | 7.1 | 79 | 0.9 | 15 | 0.5 | 227 | 1.2 | 293 |
| June | 23.0 | 28 | 18.3 | 229 | 4.7 | 70 | 0.4 | 29 | 0.2 | 192 | 0.6 | 321 |
| July | 26.0 | 31 | 19.3 | 237 | 6.5 | 63 | 1.0 | 45 | 0 | 337 | 1.2 | 207 |
| August | 22.3 | 37 | 19.4 | 243 | 7.4 | 89 | 1.3 | 70 | 1.6 | 273 | 0.7 | 296 |
| September | 22.3 | 34 | 15.2 | 228 | 7.9 | 78 | 3.1 | 271 | 1.3 | 250 | 0.8 | 231 |
| October | 17.6 | 42 | 14.7 | 205 | 8.2 | 53 | 5.9 | 265 | 0.7 | 211 | 0.6 | 312 |
| November | 11.8 | 50 | 11.1 | 185 | 4.8 | 53 | 4.1 | 260 | 0.5 | 158 | 1.4 | 294 |
| December | 8.3 | 57 | 8.0 | 179 | 2.4 | 51 | 2.9 | 252 | 0.3 | 249 | 0.9 | 295 |
| Year | 17.9 | 38 | 13.7 | 220 | 6.0 | 60 | 2.3 | 265 | 0.6 | 234 | 0.8 | 296 |
| Q | 15.4 | 26 | 11.9 | 225 | 5.3 | 63 | 1.6 | 263 | 0.3 | 199 | 0.5 | 330 |
| D | 22.8 | 50 | 15.7 | 222 | 6.4 | 43 | 4.2 | 283 | 1.2 | 220 | 0.8 | 255 |

| | A_1 | φ_1 | A_2 | φ_2 | A_3 | φ_3 | A_4 | φ_4 | A_5 | φ_5 | A_6 | φ_6 |
|-----------|--------------------|-------------|-------|-------------|-------|-------------|-------|-------------|-------|-------------|-------|-------------|
| | Vertical Intensity | | | | | | | | | | | |
| January | 5.6 | 123 | 2.2 | 284 | 1.1 | 132 | 0.7 | 298 | 0.2 | 2 | 0.4 | 208 |
| February | 4.8 | 119 | 3.0 | 257 | 0.5 | 111 | 0.7 | 315 | 0.1 | 82 | 0.4 | 192 |
| March | 8.0 | 113 | 7.6 | 265 | 3.5 | 103 | 1.3 | 300 | 0.8 | 243 | 0.3 | 73 |
| April | 9.8 | 113 | 9.1 | 259 | 4.4 | 89 | 1.5 | 265 | 0.3 | 269 | 0.9 | 297 |
| May | 9.6 | 109 | 7.7 | 276 | 2.0 | 119 | 0.4 | 226 | 0.7 | 269 | 0.3 | 33 |
| June | 9.8 | 95 | 9.1 | 275 | 2.4 | 81 | 1.3 | 245 | 0.4 | 291 | 0.4 | 62 |
| July | 9.7 | 113 | 9.0 | 271 | 3.2 | 87 | 1.7 | 224 | 0.5 | 349 | 0.2 | 290 |
| August | 8.2 | 105 | 7.7 | 272 | 3.0 | 96 | 1.0 | 237 | 0.6 | 299 | 0.4 | 8 |
| September | 6.3 | 39 | 5.5 | 257 | 2.2 | 102 | 1.4 | 310 | 0.4 | 211 | 0.7 | 328 |
| October | 6.5 | 120 | 6.1 | 262 | 3.0 | 99 | 1.7 | 305 | 0.6 | 245 | 0.4 | 92 |
| November | 5.1 | 131 | 2.7 | 267 | 1.3 | 123 | 1.1 | 308 | 0.5 | 220 | 0.1 | 130 |
| December | 4.2 | 128 | 2.2 | 289 | 0.9 | 133 | 0.6 | 290 | 0.3 | 304 | 0.3 | 209 |
| Year | 7.0 | 111 | 5.9 | 268 | 2.2 | 100 | 0.9 | 279 | 0.3 | 274 | 0.1 | 353 |
| Q | 6.8 | 86 | 5.3 | 275 | 1.7 | 102 | 0.8 | 271 | 0.4 | 306 | 0.2 | 309 |
| D | 16.7 | 163 | 7.5 | 258 | 4.6 | 103 | 1.8 | 237 | 0.4 | 333 | 0.9 | 162 |