GEOPHYSICAL OBSERVATORY REPORTS

OF THE GEODETICAL AND GEOPHYSICAL RESEARCH INSTITUTE OF THE HUNGARIAN ACADEMY OF SCIENCES

YEAR

1974

OBSERVATORY OF NAGYCENK

SOPRON
1975

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OBSERVATORY OF NAGYCENK

REPORT ON

I. EARTH CURRENTS
II. GEOMAGNETISM
III. ATMOSPHERIC ELECTRICITY
IV. IONOSPHERE

EDITED BY THE DIRECTOR
SOPRON
1975

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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:

$$\varphi = 47°38' \qquad \gamma = 16°43'$$

$$\varphi = 47.2° \qquad \Lambda = 98.3°$$

All times are given in this part in CET (i. e. GMT + 1 h), 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 correspond 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	24	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 variations (equally in 10^{-5} V/km).

III. Results of harmonical analysis 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, from this year numerical data shall be presented on 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 μV/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 1974. 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 of days). 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.

I.

Activity indices T and K_1—K_5

January

Day	T	Sum	K_1	K_2	K_3	K_4	K_5
1.	22221525	21	6	2	4	3	5
2.	12112241	14	5	1	5	2	3
3.	22123251	18	5	0	5	3	2
4.	32022283	22	6	0	4	2	3
5.	31122232	16	7	2	6	2	3
6.	52211131	16	7	3	5	2	3
7.	10011000	3	5	1	4	1	0
8.	11101383	18	4	1	5	2	3
9.	01112121	9	3	0	5	1	2
10.	12331592	26	6	1	5	2	5
11.	22111110	9	5	1	4	0	2
12.	11111300	8	4	1	4	1	2
13.	01111102	7	4	1	4	1	1
14.	31022222	14	4	1	4	1	4
15.	01124325	18	6	2	4	3	5
16.	32333224	22	8	3	6	5	4
17.	24222263	23	6	2	5	4	4
18.	11222793	27	6	1	5	2	6
19.	32121143	17	7	2	5	2	3
20.	12222252	18	7	2	5	2	3
21.	22222511	17	4	1	4	2	2
22.	001100	(3)	4	2	4	1	1
23.	01110	(5)	5	0	4	0	1
24.	00010022	5	3	2	4	0	0
25.	82435999	49	7	3	5	6	9
26.	95564758	49	8	5	6	5	8
27.	75352497	42	7	4	6	3	7
28.	42332383	28	7	3	5	2	4
29.	43455991	40	8	4	6	4	6
30.	34223596	33	7	3	4	1	6
31.	52532663	32	7	2	4	2	4

Monthly averages:

T (N)	2,456
T (E)	1,839
K_1	5,74
K_2	1,81
K_3	4,71
K_4	2,16
K_5	3,58

February

Day	T	Sum	K_1	K_2	K_3	K_4	K_5
1.	11222154	19	7	2	3	2	2
2.	33333232	22	8	3	5	1	3
3.	11112112	10	7	1	4	1	1
4.	12111141	12	7	0	4	3	1
5.	11122322	14	7	2	4	1	3
6.	12111112	10	6	2	4	1	2
7.	23122122	15	6	1	4	1	4
8.	00122120	8	6	1	3	0	2
9.	21011002	7	7	3	4	0	2
10.	11021138	17	6	0	5	1	3
11.	32237694	36	8	4	5	5	6
12.	33665434	34	7	4	6	5	6
13.	22532793	33	7	2	5	3	7
14.	32232312	18	7	2	4	2	3
15.	1101111	(6)	6	1	3	0	0
16.	01134	(14)	4	2	5	1	2
17.	22122122	14	4	0	5	2	2
18.	00011000	2	3	0	4	0	0
19.	00121100	5	2	0	4	0	2
20.	22123340	17	4	1	4	3	2
21.	53132225	23	5	0	4	2	4
22.	21120025	23	2	0	4	2	2
23.	42447979	46	7	3	5	3	7
24.	63433375	34	7	2	5	3	6
25.	53254792	37	7	2	5	4	6
26.	64445665	40	8	2	5	5	6
27.	33443276	32	7	3	4	2	6
28.	54656346	39	8	3	5	3	6

Monthly averages:

T (N)	2,505
T (E)	1,837
K_1	6,07
K_2	1,64
K_3	4,35
K_4	2,03
K_5	3,44

March

Day	T	Sum	K_1	K_2	K_3	K_4	K_5
1.	53333282	29	7	1	6	3	5
2.	42121533	21	6	1	5	2	3
3.	21114213	15	3	0	5	1	2
4.	22112221	13	6	0	4	0	1
5.	12112268	23	7	0	5	2	5
6.	32254351	25	6	1	5	3	5
7.	31111252	16	5	0	4	2	4
8.	21322124	17	6	1	4	1	4
9.	32225594	32	6	1	4	3	6
10.	53456454	36	7	1	5	3	4
11.	25556393	38	7	3	6	2	6
12.	32342222	20	7	1	5	1	2
13.	23211101	11	6	0	4	0	1
14.	11121471	18	5	0	4	2	3
15.	00001111	4	5	1	4	0	0
16.	22224993	33	6	1	4	4	6
17.	11101200	6	2	0	5	2	0
18.	11111000	5	4	2	4	0	0
19.	00101002	4	2	0	4	0	0
20.	21112449	24	4	0	4	3	3
21.	65456799	51	7	0	6	8	7
22.	73776454	43	5	2	5	4	5
23.	65246734	37	5	2	5	1	7
24.	43434258	33	6	0	5	3	2
25.	83323232	26	6	2	5	3	5
26.	21126543	24	5	0	5	3	3
27.	42334321	22	5	1	5	2	2
28.	22423225	22	7	2	4	4	2
29.	32327797	40	7	1	6	4	4
30.	52323343	25	6	0	4	2	4
31.	41323355	26	5	0	4	3	3

Monthly averages:

T (N)	2,920
T (E)	2,117
K_1	5,52
K_2	0,78
K_3	4,68
K_4	2,29
K_5	3,36

April

Day	T	Sum	K_1	K_2	K_3	K_4	K_5
1.	11233421	17	5	1	4	1	2
2.	31212224	17	6	0	4	3	2
3.	76339599	51	7	2	5	3	7
4.	54137631	30	5	0	5	5	4
5.	24223232	20	5	1	4	2	3
6.	44553334	31	9	4	7	5	3
7.	22342232	20	7	2	4	3	2
8.	11222123	14	7	1	4	1	2
9.	12332275	25	7	1	5	4	4
10.	32335276	31	7	2	4	2	6
11.	47448300	30	8	3	6	3	3
12.	00101011	4	3	0	4	0	0
13.	02232110	11	6	0	4	1	1
14.	01101111	6	6	1	4	0	0
15.	20112001	7	4	0	4	0	1
16.	10221012	9	4	1	4	0	1
17.	10011213	9	5	1	4	1	2
18.	36844337	38	7	2	5	5	6
19.	23554935	36	7	1	5	4	7
20.	35558867	47	7	3	5	5	6
21.	43546226	28	7	2	5	2	3
22.	42554475	36	7	2	5	5	3
23.	33235666	34	6	1	5	3	6
24.	62322239	29	7	1	4	3	5
25.	23433213	21	6	2	4	2	2
26.	43124238	27	7	2	4	2	5
27.	54334204	25	8	1	5	3	3
28.	32425643	29	7	2	5	2	6
29.	20123436	21	6	0	4	3	5
30.	11112216	15	5	0	4	1	1

Monthly averages:

T (N)	2,938
T (E)	2,146
K_1	6,27
K_2	1,27
K_3	4,13
K_4	2,47
K_5	3,37

May

Day	T	Sum	K_1	K_2	K_3	K_4	K_5
1.	11011142	10	6	0	4	1	2
2.	32332553	26	7	0	5	3	4
3.	79622322	33	7	2	5	4	6
4.	35556529	40	7	3	6	4	5
5.	65556474	42	8	4	6	4	4
6.	44222110	16	7	1	4	2	2
7.	01227501	18	4	0	5	3	2
8.	10141214	14	6	0	5	1	1
9.	32221201	13	5	0	4	1	2
10.	11100010	4	2	0	4	1	0
11.	00132111	9	2	0	3	1	1
12.	31000001	5	3	0	4	0	1
13.	00111111	6	3	0	4	0	1
14.	11112124	13	5	0	4	1	2
15.	44335434	30	7	1	5	4	4
16.	73434332	29	8	0	4	3	6
17.	53653828	40	7	2	5	5	5
18.	43434423	27	7	2	5	3	5
19.	32564432	29	8	3	6	3	4
20.	43224231	21	5	0	5	1	2
21.	22443131	20	7	0	5	1	2
22.	22222135	19	7	0	4	0	2
23.	22433593	31	7	2	5	2	6
24.	55344386	38	7	3	6	5	6
25.	21123111	12	6	0	4	1	1
26.	21111110	8	6	0	4	1	0
27.	42212112	15	6	0	5	0	1
28.	21113101	10	5	0	4	0	1
29.	11121121	10	5	0	4	0	2
30.	11233533	21	6	2	4	1	6
31.	36876649	49	9	7	6	5	5

Monthly averages:

T (N)	2,536
T (E)	1,904
K_1	5,97
K_2	1,03
K_3	4,64
K_4	1,97
K_5	2,94

June

Day	T	Sum	K_1	K_2	K_3	K_4	K_5
1.	64544543	35	7	2	5	3	6
2.	44356523	32	7	3	5	4	5
3.	35433323	26	7	2	5	3	4
4.	33321122	17	7	1	4	2	2
5.	11112210	9	6	1	4	1	1
6.	12212100	9	6	1	4	2	1
7.	01010000	2	4	1	4	0	0
8.	11111210	8	3	0	4	1	1
9.	10101231	9	3	0	4	1	1
10.	32211364	22	5	1	5	3	3
11.	15744449	38	6	2	6	3	6
12.	56574434	38	8	3	5	3	7
13.	24424622	26	7	1	5	2	5
14.	33223333	22	8	5	6	5	6
15.	35559365	41	8	3	5	3	5
16.	53432325	27	8	3	5	3	5
17.	44213323	22	7	2	5	3	4
18.	32212111	13	7	2	5	3	1
19.	21122331	15	6	1	5	1	4
20.	24222426	24	7	3	5	2	4
21.	32201211	12	7	2	4	0	2
22.	14211212	14	7	2	4	1	2
23.	11042222	14	6	1	4	1	1
24.	12222123	15	5	1	4	2	2
25.	11100111	6	3	0	4	0	1
26.	97957854	54	8	6	7	7	8
27.	66576794	50	9	7	7	7	8
28.	74757543	42	9	7	7	6	6
29.	34636632	33	8	5	6	5	5
30.	33232321	19	6	2	5	3	4

Monthly averages:

T (N)	2,700
T (E)	2,279
K_1	6,50
K_2	2,27
K_3	4,93
K_4	2,67
K_5	3,67

July

Day	T	Sum	K_1	K_2	K_3	K_4	K_5
1.	32222132	17	7	2	5	2	2
2.	22322312	17	7	2	5	2	3
3.	12142112	14	4	0	5	1	3
4.	23128962	33	6	0	5	3	4
5.	87535887	51	7	3	7	6	6
6.	99949845	57	9	8	8	8	6
7.	23212234	19	6	0	5	4	2
8.	56545855	43	7	3	5	4	6
9.	34433131	22	7	2	4	2	3
10.	34324233	24	6	2	4	2	4
11.	12323222	17	6	1	4	2	2
12.	32344239	30	7	2	5	4	5
13.	43323222	21	7	1	4	3	2
14.	24325215	24	7	2	5	2	4
15.	32322212	17	7	2	4	3	3
16.	33211211	14	4	1	4	2	2
17.	31111221	12	5	0	4	2	2
18.	13223111	14	8	3	6	2	0
19.	12312312	15	6	2	4	1	2
20.	31213113	15	4	1	4	1	2
21.	21111114	12	4	0	4	0	2
22.	01101212	8	4	2	4	0	1
23.	49979959	61	7	5	6	7	8
24.	55756885	49	7	4	6	6	6
25.	34576534	37	7	4	6	4	3
26.	34454244	30	7	3	5	5	4
27.	24454244	29	6	2	5	2	4
28.	34332130	19	7	1	4	3	3
29.	02333233	19	6	2	5	2	2
30.	22121111	11	5	0	4	1	1
31.	01011110	5	4	0	4	0	1

Monthly averages:

T (N)	2,871
T (E)	2,411
K_1	6,06
K_2	1,94
K_3	4,84
K_4	2,77
K_5	3,16

August

Day	T	Sum	K_1	K_2	K_3	K_4	K_5
1.	11110110	6	4	0	4	0	1
2.	21103585	25	6	2	4	4	6
3.	33344599	40	7	2	5	5	6
4.	64432229	32	7	2	5	4	6
5.	24334334	26	8	2	5	3	5
6.	34344346	31	7	2	4	3	5
7.	54344463	33	7	3	4	1	6
8.	34523222	23	6	2	4	4	3
9.	11332343	20	6	2	5	3	2
10.	52633212	24	7	3	5	2	4
11.	21132112	13	6	0	4	0	1
12.	11111113	10	5	0	3	0	0
13.	11112112	10	5	0	4	1	0
14.	11111101	7	3	0	4	0	0
15.	11111310	9	3	0	4	0	0
16.	01121101	7	3	0	4	2	1
17.	22111201	10	3	0	4	2	1
18.	11224312	16	3	0	4	2	1
19.	43365445	34	7	4	6	5	7
20.	88776775	55	9	7	7	6	6
21.	44565544	37	8	4	6	5	3
22.	35666489	47	8	5	6	4	6
23.	73434572	35	8	4	6	5	5
24.	42254552	29	6	3	6	3	4
25.	22222214	17	6	1	5	3	2
26.	21213221	14	6	1	5	2	1
27.	22224231	18	6	2	5	3	1
28.	62123364	27	6	2	4	2	5
29.	72338543	35	7	2	5	4	5
30.	42223185	27	7	2	4	3	5
31.	33333135	24	7	2	5	5	2

Monthly averages:

T (N)	2,758
T (E)	2,190
K_1	6,03
K_2	1,90
K_3	4,71
K_4	2,77
K_5	3,23

September

Day	T	Sum	K_1	K_2	K_3	K_4	K_5
1.	43457322	30	7	3	5	3	5
2.	53554566	39	8	4	5	3	6
3.	72334332	27	7	3	6	3	3
4.	42423258	30	7	4	5	3	3
5.	35436211	25	7	2	4	2	2
6.	32322133	19	6	2	5	1	3
7.	12222352	19	6	2	4	1	2
8.	31122111	12	8	3	4	1	2
9.	21111220	10	7	2	5	1	2
10.	51112111	13	5	1	4	1	2
11.	11011111	7	6	2	4	1	1
12.	00110161	10	3	0	4	0	1
13.	11146454	26	6	2	5	3	5
14.	22131024	15	3	1	5	2	2
15.	31119999	42	7	3	5	4	7
16.	99679823	53	6	3	5	4	8
17.	22000000	4	3	0	4	0	0
18.	00110933	17	4	1	5	3	2
19.	97733278	46	7	2	6	5	5
20.	53354935	37	7	2	5	3	7
21.	52249696	43	7	2	4	3	7
22.	42125554	28	6	2	4	2	6
23.	31214128	22	6	0	5	2	4
24.	24758441	35	8	4	5	3	4
25.	52235679	39	8	3	6	4	6
26.	54346944	39	7	3	6	3	6
27.	72238262	32	7	3	5	4	6
28.	13134235	22	6	2	5	2	3
29.	22333332	21	7	2	5	2	2
30.	13554434	29	7	3	5	3	2

Monthly averages:

T (N)	3,133
T (E)	2,542
K_1	6,30
K_2	2,20
K_3	4,83
K_4	2,40
K_5	3,80

October

Day	T	Sum	K_1	K_2	K_3	K_4	K_5
1.	83445455	38	6	3	5	3	4
2.	21145599	36	6	2	5	2	6
3.	52233321	21	7	3	5	2	2
4.	12222124	16	7	2	5	2	2
5.	21122212	13	7	1	5	3	1
6.	72333111	21	9	4	5	2	2
7.	00121024	10	7	3	5	0	2
8.	21122157	21	5	2	5	0	4
9.	24546583	37	5	2	5	2	5
10.	21222113	14	6	1	4	2	2
11.	21123112	13	7	1	4	1	2
12.	01129349	29	6	0	6	4	6
13.	86897987	62	5	1	7	6	9
14.	32141399	32	6	0	6	3	7
15.	93654356	41	8	4	6	6	8
16.	72478979	53	7	4	6	4	8
17.	94868887	58	8	7	7	7	7
18.	85446897	51	7	3	6	5	8
19.	43255362	30	6	2	4	4	6
20.	48474976	49	6	2	4	4	6
21.	31233112	16	5	0	4	2	2
22.	21222372	21	6	0	4	3	3
23.	01210013	8	4	0	6	2	0
24.	77553634	40	5	2	6	3	8
25.	32245523	26	8	3	6	3	4
26.	45575745	42	8	5	6	4	5
27.	44434774	37	7	3	5	4	3
28.	43255647	36	7	2	5	4	6
29.	73224423	27	7	2	4	3	5
30.	21245412	21	7	3	5	3	2
31.	22221222	15	7	2	3	2	1

Monthly averages:

T (N)	3,641
T (E)	2,734
K_1	6,52
K_2	2,23
K_3	5,13
K_4	3,06
K_5	4,39

November

Day	T	Sum	K_1	K_2	K_3	K_4	K_5
1.	22110004	10	5	1	4	0	2
2.	11111000	5	6	2	4	1	1
3.	11111003	8	6	2	4	1	1
4.	11110100	5	4	1	4	1	1
5.	01111002	6	4	1	4	2	2
6.	12222110	11	5	0	4	3	2
7.	21252111	15	5	1	4	2	1
8.	11101459	22	6	2	5	3	2
9.	77346541	37	4	2	4	4	6
10.	21110212	10	1	0	4	1	1
11.	51135999	42	6	3	5	5	9
12.	97879998	66	8	6	7	9	9
13.	72434979	45	7	3	5	5	8
14.	59699920	49	7	6	7	7	6
15.	11234124	18	6	2	5	2	1
16.	12233341	19	6	2	6	3	3
17.	44112112	16	3	0	4	2	1
18.	21020121	9	4	1	4	0	2
19.	11122233	15	6	2	4	2	2
20.	33375674	38	7	4	6	4	7
21.	22254743	29	7	3	5	4	4
22.	54534773	38	7	1	5	2	6
23.	44634545	35	6	0	5	3	5
24.	42444999	45	5	0	5	3	8
25.	53242367	32	7	1	5	4	5
26.	22435853	32	6	0	5	2	5
27.	32221113	15	6	0	4	0	2
28.	11111111	8	4	0	3	0	0
29.	10101200	5	3	0	3	0	0
30.	00110010	3	5	1	4	0	0

Monthly averages:

T (N)	2,783
T (E)	2,004
K_1	5,40
K_2	1,57
K_3	4,60
K_4	2,50
K_5	3,40

December

Day	T	Sum	K_1	K_2	K_3	K_4	K_5
1.	10002023	8	3	1	4	0	1
2.	32112143	17	5	2	4	3	2
3.	21312163	19	6	2	5	3	3
4.	33232110	15	7	3	5	2	1
5.	00112252	13	5	1	4	1	2
6.	10100100	3	3	0	4	0	0
7.	10122211	10	5	2	4	2	1
8.	11113238	20	5	2	4	2	3
9.	34257995	44	7	3	4	4	6
10.	54323562	30	7	3	5	7	4
11.	22245174	27	6	2	5	3	4
12.	23445414	27	7	3	5	4	2
13.	32234794	34	8	3	5	4	6
14.	53211231	18	5	2	4	2	2
15.	22233153	21	5	2	4	2	4
16.	10001251	10	4	1	4	1	1
17.	43332355	29	7	2	4	3	2
18.	63434592	36	7	3	5	3	6
19.	64459595	47	7	4	5	3	6
20.	34453552	31	6	2	4	3	2
21.	33434656	34	7	3	5	3	5
22.	33233412	21	5	1	4	2	4
23.	33333587	35	7	2	4	3	6
24.	21324314	20	7	3	4	2	3
25.	11111199	24	4	1	5	3	2
26.	12122231	14	4	0	4	2	2
27.	12323352	21	6	2	4	4	2
28.	31222111	13	7	2	4	2	2
29.	11123213	14	5	1	4	2	2
30.	11111013	9	7	3	4	0	2
31.	33211242	18	7	3	4	2	1

Monthly averages:

T (N)	2,673
T (E)	2,012
K_1	5,83
K_2	2,06
K_3	4,32
K_4	2,48
K_5	2,87

II. *Average amplitudes for different periods*

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
											January	North
1.	11	12	10	12	13	16	20	24	31	24	18	18
2.	10	10	7	7	8	8	13	19	21	17	14	15
3.	35	38	38	34	36	40	38	38	40	37	40	38
4,	50	47	52	47	48	62	62	38	41	49	85	50
5.	112	133	100	100	62	61	39	64	50	43	37	81
6.	—23	—5	—12	—47	—15	+4	—5	+4	+41	+30	+10	—19
											January	East
1.	13	15	7	16	17	22	25	31	37	33	35	36
2.	6	7	4	2	4	3	7	14	20	18	15	17
3.	32	29	34	36	36	38	45	37	38	34	47	37
4.	31	32	44	34	30	51	44	46	35	43	57	44
5.	137	104	51	68	70	38	35	31	44	25	24	49
6.	—3	+20	+27	+9	—9	—16	—15	—12	+30	+38	+28	+14
											February	North
1.	13	10	8	7	9	14	17	31	33	26	23	22
2.	10	7	7	5	5	3	6	16	22	17	15	12
3.	33	32	35	35	37	31	33	34	39	39	38	37
4.	36	46	43	39	44	56	44	33	39	61	67	61
5.	122	94	58	83	64	27	59	56	92	53	57	74
6.	+1	—8	—37	—7	—32	—17	—28	+15	+29	+25	—24	—56
											February	East
1.	18	15	7	11	13	23	25	40	41	41	39	35
2.	7	3	5	3	1	0	7	9	19	16	22	15
3.	26	28	30	30	30	32	31	35	33	31	37	35
4.	49	49	38	35	40	39	41	25	37	37	55	44
5.	93	75	54	57	41	35	40	44	61	34	21	39
6.	+20	+6	+26	+24	+5	—10	—8	—16	—9	+26	+38	—8

and hourly means of earth current elements

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
19	18	17	18	18	19	17	17	13	11	11	9	16,0
19	16	13	12	17	17	14	16	10	11	9	8	13,0
38	40	41	35	34	40	39	40	36	41	34	34	37,7
44	44	36	41	49	50	42	70	46	61	52	42	50,7
83	72	89	93	144	142	187	167	190	124	145	131	102,0
—58	—22	+5	+33	+37	—4	+30	+37	+16	—5	—11	—22	
Component												
27	41	28	38	35	33	25	19	20	13	17	14	25,7
16	16	14	22	18	14	13	11	15	8	10	11	11,9
31	31	27	34	30	32	37	37	37	38	36	38	35,5
34	45	36	45	36	33	38	49	49	56	46	41	41,6
59	51	70	76	106	139	163	178	172	109	115	84	83,3
+3	+2	—3	+5	+7	—8	0	—27	—27	—16	—22	—27	
Component												
18	21	20	18	17	19	15	19	14	14	16	13	17,4
14	14	10	12	12	10	12	10	7	11	13	10	10,8
37	39	39	37	44	35	33	36	33	31	40	36	36,0
57	65	50	31	42	35	38	75	54	63	56	44	49,1
94	49	82	153	75	111	151	83	147	116	115	157	90,5
—58	—44	—8	+68	+26	+22	+32	+50	+30	+23	+14	—14	
Component												
41	42	49	42	36	28	19	14	17	23	19	16	27,3
25	17	16	16	17	7	9	8	10	13	12	9	11,1
30	32	31	31	28	34	31	32	32	31	28	30	31,2
49	52	29	30	48	29	39	50	44	43	45	37	41,0
53	58	57	105	64	91	111	90	135	133	107	156	73,1
+25	+3	—11	—9	—10	—9	—22	+2	—22	—20	—12	—10	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
												March North
1.	10	13	10	12	12	19	21	28	24	21	22	18
2.	6	7	5	5	4	5	9	17	11	12	13	12
3.	37	35	37	31	37	39	37	44	41	40	38	38
4.	47	45	57	44	42	49	49	46	43	41	66	48
5.	114	138	106	69	84	78	42	37	34	33	35	78
6.	—17	+5	—11	+32	—22	—24	+15	—2	—11	—33	—87	—88
												March East
1.	13	13	9	12	13	18	27	33	33	31	34	32
2.	3	3	1	1	1	3	3	6	6	7	13	11
3.	34	35	29	34	36	40	35	37	35	34	37	33
4.	52	44	46	44	44	38	38	39	30	32	37	35
5.	59	73	57	44	45	39	30	24	34	29	31	46
6.	+5	—15	—2	—17	+5	—24	—13	—8	—12	+31	+36	+11
												April North
1.	11	14	16	18	18	25	28	27	26	25	19	19
2.	10	8	4	8	12	10	18	20	14	16	11	10
3.	36	34	37	35	35	36	41	44	41	41	36	35
4.	43	47	64	50	44	44	38	68	56	58	58	73
5.	78	112	67	70	67	68	65	44	53	37	59	52
6.	—3	—42	—28	—6	—5	+18	+75	+73	+45	—68	—162	—184
												April East
1.	14	13	17	18	25	33	37	37	41	43	38	40
2.	5	4	3	5	8	10	14	13	12	18	10	13
3.	37	33	35	34	38	37	33	41	38	46	42	35
4.	30	47	44	46	42	34	40	35	38	43	47	53
5.	64	77	52	50	16	29	48	46	26	52	55	35
6.	+15	—4	+2	+5	—6	+7	0	+18	+66	+63	+13	—29

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
20	20	23	23	20	12	19	19	12	9	13	13	17,2
14	8	9	8	7	5	5	9	4	2	3	6	7,7
40	38	40	39	39	37	37	34	35	38	39	36	37,8
57	73	55	46	56	48	39	60	49	72	93	65	53,8
81	71	63	74	74	93	172	149	154	69	64	134	85,2
—99	—12	+10	+57	+94	+58	+55	+63	+17	+24	—34	+9	
Component												
37	37	38	34	37	24	20	19	15	12	15	18	23,9
16	14	18	17	9	8	3	3	1	6	3	4	6,7
35	37	30	35	32	33	37	39	37	33	25	31	34,3
44	45	45	44	46	44	51	50	35	54	64	46	43,7
41	39	41	62	60	74	137	95	135	82	85	129	62,1
—24	—1	+9	+5	+38	+31	—46	—18	+20	+11	—12	—9	
Component												
19	16	19	13	12	10	11	16	17	14	13	13	17,5
16	15	8	7	7	7	4	8	12	7	5	6	10,1
36	40	37	36	37	35	34	32	37	31	35	34	36,5
76	62	73	37	67	33	48	63	61	44	86	56	56,2
86	110	102	100	131	101	92	92	137	194	89	118	88,5
—159	—54	+42	+68	+106	+65	+57	+31	+43	+23	+57	+6	
Component												
41	42	40	34	29	29	20	14	20	22	20	16	28.5
16	17	9	16	9	7	7	5	7	8	8	10	9,8
37	39	39	37	33	37	33	31	35	37	31	40	36,6
61	48	47	35	46	43	49	64	49	56	37	55	45,4
61	42	63	75	90	82	70	96	70	93	128	71	62,1
—29	+9	+8	—5	—5	—26	—32	—42	—15	—23	—16	+27	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
												May North
1.	8	12	13	16	21	22	22	21	27	22	16	19
2.	6	7	3	5	6	11	13	15	16	13	16	13
3.	33	33	31	35	37	40	40	45	44	40	40	37
4.	59	49	41	56	50	43	52	44	48	47	47	46
5.	88	92	89	56	52	55	41	44	49	34	56	107
6.	—1	+31	+1	—18	+12	+58	+60	+41	—26	—109	—117	—138
												May East
1.	19	17	19	21	23	26	40	40	49	48	42	39
2.	5	5	3	2	5	12	13	11	19	15	19	19
3.	35	37	34	37	35	29	34	36	32	36	46	39
4.	40	30	46	32	35	29	26	35	34	33	49	33
5.	49	54	40	52	21	26	40	18	30	32	40	63
6.	—10	+2	+20	+1	+14	+6	+29	+47	+52	+27	—6	—46
												June North
1.	16	17	22	25	26	27	33	32	27	26	25	23
2.	16	13	14	15	21	24	23	23	17	19	16	15
3.	40	38	43	40	36	44	47	46	41	40	37	43
4.	61	36	54	46	53	87	56	86	37	47	60	49
5.	153	142	110	92	69	116	100	56	61	74	85	99
6.	+6	+12	+11	+6	+39	+61	+59	+16	—16	—82	—136	—148
												June East
1.	25	26	24	28	30	33	44	41	39	47	49	52
2.	11	10	6	11	10	17	18	18	17	24	22	22
3.	41	38	38	35	37	34	31	39	33	35	34	39
4.	51	49	55	49	41	41	40	49	32	49	33	48
5.	97	67	65	65	60	83	70	43	64	67	86	102
6.	—10	+23	+13	—5	—2	+4	+48	+52	+48	+37	+14	—5

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
16	17	16	13	13	5	6	9	9	10	9	10	14,7
9	9	9	8	3	2	2	5	5	6	5	3	7,9
42	37	41	41	37	37	36	35	33	35	37	37	37,6
40	56	58	71	52	50	30	48	43	46	41	48	48,5
113	62	91	92	74	77	81	85	127	92	131	87	78,1
—111	—51	+21	+82	+64	+82	+41	+32	+2	+10	+9	+26	
Component												
40	44	35	33	27	23	13	13	12	17	15	15	27,9
11	19	20	11	10	3	2	8	7	8	5	3	9,8
34	34	43	42	35	40	35	37	32	37	40	38	36,5
40	38	51	44	49	51	38	41	45	40	42	55	39,8
62	46	49	83	63	87	85	83	84	84	118	60	57,0
—28	—2	+16	—5	—10	—8	—7	—25	—47	—14	—5	—1	
Component												
23	25	20	19	16	16	11	12	20	16	17	13	21,1
14	13	14	12	8	10	7	7	14	9	14	13	14,6
38	48	39	38	40	38	36	37	38	38	35	40	40,0
53	71	71	71	55	51	51	36	41	59	56	53	55,8
128	102	92	86	110	82	86	95	133	98	125	118	100,5
—129	—81	—31	+39	+68	+90	+66	+50	+47	+13	+20	+21	
Component												
52	49	46	38	31	27	25	19	24	20	25	22	34,0
30	25	31	14	15	18	7	8	10	3	10	10	15,3
42	39	36	39	43	45	36	38	36	37	38	41	37,7
35	52	34	63	41	56	50	55	61	61	71	54	48,8
140	98	135	130	182	114	113	100	95	79	128	108	95,5
—4	—6	—24	—26	—38	—29	—36	—45	—15	+12	—20	+14	

Parameter Hour	0	1	2	3	4	5	6	7	8	9	10	11
												July North
1.	12	18	16	23	28	31	33	31	29	23	24	23
2.	16	12	10	16	24	27	27	28	25	19	21	17
3.	33	39	37	42	46	56	46	48	60	41	39	36
4.	48	56	54	64	64	75	74	59	65	56	62	57
5.	77	101	89	59	80	54	66	44	36	73	56	74
6.	+23	+21	—8	+27	+12	+75	+54	+32	—2	—66	—111	—153
												July East
1.	13	20	20	24	33	34	40	44	39	37	41	39
2.	9	6	6	5	18	15	20	23	17	17	15	16
3.	34	49	38	38	52	48	51	44	37	36	36	37
4.	39	48	38	53	35	46	60	74	53	45	46	41
5.	63	37	45	60	75	75	37	29	36	50	71	77
6.	+17	+15	+6	+5	+26	+41	+74	+71	+63	+57	+41	—25
												August North
1.	10	15	12	16	19	25	23	25	23	24	23	21
2.	11	10	9	9	14	16	16	20	21	17	19	19
3.	35	36	35	38	35	37	39	43	41	40	41	39
4.	41	50	60	51	46	59	71	60	55	57	57	69
5.	181	146	110	84	49	60	44	39	23	31	44	49
6.	—15	—9	0	+43	+17	+29	+34	+28	—54	—119	—164	—163
												August East
1.	17	20	17	20	21	28	32	35	41	45	45	42
2.	9	12	8	5	8	9	13	15	18	16	25	23
3.	33	36	36	37	34	34	35	34	31	36	39	40
4.	60	50	38	60	39	37	43	34	47	41	48	57
5.	70	73	68	35	28	43	40	42	28	21	39	51
6.	—18	+17	+20	+53	+17	+37	+55	+62	+69	+51	+17	—26

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
18	18	17	15	13	9	9	9	10	11	15	12	18,6
17	12	12	9	9	6	7	8	7	9	12	10	15,0
42	37	38	37	37	39	32	33	37	35	36	34	40,0
59	65	57	67	48	70	53	46	34	64	81	83	60,9
67	70	66	93	130	77	80	115	117	131	102	84	80,9
—165	—97	—35	+13	+78	+94	+73	+42	+29	+39	+24	+7	
Component												
34	39	38	32	26	20	18	13	12	13	20	16	27,7
16	23	27	16	12	9	6	8	7	6	9	10	13,2
38	35	31	31	34	36	36	34	36	34	41	38	38,5
52	57	33	64	41	46	62	59	53	66	56	66	51,4
106	63	98	78	149	113	72	71	111	87	98	62	73.5
—22	—14	—42	—73	—76	—31	—45	—62	—36	+8	—1	+3	
Component												
21	16	17	13	9	13	11	17	11	12	9	10	16,5
17	15	18	10	9	8	8	10	8	11	5	9	12,9
41	44	43	36	37	34	32	36	33	37	33	38	37,6
64	82	81	66	70	46	42	48	46	51	60	57	57,8
91	71	53	53	57	89	139	142	120	150	118	102	85,2
—123	—59	+17	+73	+104	+98	+64	+53	+43	+16	+44	+46	
Component												
40	38	35	34	27	23	19	17	15	17	17	15	27,5
21	26	17	15	10	10	6	6	5	10	10	12	12,9
37	42	35	38	29	37	39	34	37	37	38	36	36,0
35	69	55	68	54	55	55	46	46	61	54	59	50,5
87	57	56	42	92	104	143	114	69	121	83	79	66.0
—35	—45	—41	—22	—29	—43	—68	—28	—9	—58	+21	+1	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
											September	North
1.	14	16	11	14	16	18	23	25	26	27	21	20
2.	13	11	7	11	13	13	19	20	20	20	17	16
3.	38	39	38	35	34	35	38	43	40	37	40	39
4.	43	65	41	55	46	44	61	62	56	50	58	58
5.	143	141	137	93	107	86	50	38	28	40	49	80
6.	—3	—50	+23	+3	—17	—25	+30	+34	+2	—50	—107	—130
											September	East
1.	19	20	13	19	23	26	33	40	43	46	41	40
2.	8	8	5	5	7	8	17	14	20	22	24	28
3.	32	38	40	32	38	26	30	34	33	29	37	35
4.	43	42	82	43	35	39	43	35	27	40	31	44
5.	102	85	35	50	80	40	38	29	40	33	37	55
6.	—3	—6	—6	+13	—3	+8	+9	+39	+52	+48	+21	—12
											October	North
1.	9	12	15	13	17	20	22	30	25	26	21	24
2.	6	7	11	8	12	13	23	22	26	21	20	19
3.	45	38	35	37	39	38	47	42	45	41	43	41
4.	50	81	60	59	57	45	63	43	64	59	87	60
5.	178	148	166	105	58	70	71	78	57	106	69	107
6.	0	+37	—16	—22	—15	—28	+3	+47	+35	+20	—33	—94
											October	East
1.	18	16	20	22	27	30	34	39	40	38	41	44
2.	8	6	9	6	8	11	21	18	21	17	24	24
3.	45	38	38	39	38	35	41	34	41	37	33	38
4.	30	46	40	45	52	39	48	28	54	47	66	55
5.	132	116	105	65	62	80	68	63	39	52	57	77
6.	—5	+15	+9	—8	+6	—9	—19	—1	+1	+37	+42	+34

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
20	21	19	17	18	14	14	17	13	14	13	9	17,5
19	17	14	13	16	11	14	11	12	13	10	6	14,0
40	45	37	38	41	38	35	41	38	38	37	38	38,4
65	68	51	54	55	43	45	52	50	55	74	65	54,8
97	96	79	65	91	101	152	121	131	149	149	147	98,8
—116	—30	+23	+68	+65	+78	+29	+40	+30	+46	+11	+45	
Component												
40	41	43	41	37	26	20	17	20	20	16	16	29,2
20	20	20	21	22	10	6	10	7	13	7	7	13,7
37	35	38	37	34	37	38	44	37	32	37	38	35,3
59	65	41	51	38	40	42	45	46	65	73	62	47,1
56	53	59	49	134	83	157	88	151	119	86	67	71,9
—34	—24	—19	+1	—11	—4	—34	—10	—20	—8	+7	—5	
Component												
19	21	20	16	17	15	10	10	14	12	9	9	16,9
16	16	15	13	11	9	7	7	10	9	9	5	13,1
35	41	39	41	37	39	38	36	42	42	39	41	40,0
57	78	81	59	62	42	68	58	51	50	64	46	60,5
149	89	64	99	121	197	117	179	179	207	174	254	126,8
—97	—54	+14	+65	+22	+66	+4	+10	+39	+25	—4	—22	
Component												
42	51	45	42	32	26	20	21	26	22	21	21	30,8
23	31	24	20	13	12	10	6	10	12	10	12	14,8
33	35	33	33	34	38	39	36	42	38	40	46	37,7
52	59	35	45	45	41	69	52	69	69	65	60	50,5
88	67	108	90	117	149	89	111	129	146	131	175	96,5
—19	—21	+6	—15	—6	—17	—13	—8	—15	+10	+22	—23	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
											November	North
1.	10	5	8	12	13	14	16	25	24	20	22	22
2.	7	4	5	6	8	10	14	13	21	16	23	17
3.	35	34	37	38	38	41	37	38	43	41	47	62
4.	70	71	51	64	47	63	53	49	49	54	69	62
5.	117	94	111	68	86	53	60	52	25	49	50	35
6.	—33	—25	—37	—30	—48	—4	+3	+56	+48	+23	—26	—48
											November	East
1.	13	9	11	17	21	21	24	35	31	32	35	35
2.	5	4	7	7	7	9	12	11	10	15	16	14
3.	34	34	35	37	35	35	35	35	34	38	40	46
4.	28	43	39	36	32	42	53	36	39	42	48	46
5.	117	72	59	48	67	42	37	32	30	25	24	28
6.	—17	+23	+38	—21	+1	+11	—18	—12	—8	+32	+77	+40
											December	North
1.	14	11	11	11	13	16	17	23	24	23	21	23
2.	12	9	8	9	10	13	15	17	19	18	18	18
3.	35	35	35	36	34	37	37	37	38	37	38	36
4.	44	67	46	53	50	59	59	42	45	55	51	50
5.	85	65	72	51	55	49	39	42	30	23	39	48
6.	—23	—21	—29	—33	—28	—26	—19	—8	—8	—4	—7	—21
											December	East
1.	10	9	11	15	18	24	28	27	31	31	36	39
2.	9	8	8	6	7	10	10	17	13	18	16	24
3.	33	33	34	34	34	34	34	34	35	37	34	34
4.	47	48	39	39	39	52	36	44	41	41	42	31
5.	49	38	30	34	42	17	36	14	28	27	26	42
6.	+5	—14	—11	—24	—31	—36	—23	—29	—7	+19	+28	+20

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
19	17	18	14	17	17	17	10	7	11	9	9	14,8
16	13	14	13	11	15	12	10	6	8	8	10	11,7
39	46	38	41	41	38	38	36	35	35	35	38	39,6
60	45	60	54	51	35	43	91	41	53	64	53	56,3
65	52	91	80	204	216	133	120	165	86	147	128	95,3
—44	—14	+17	+14	—8	—5	+10	+49	+14	+60	+14	+13	
Component												
32	37	32	29	28	22	17	13	9	17	10	11	22,5
10	13	12	14	11	13	9	10	4	10	10	10	10,1
35	33	32	42	37	38	34	35	37	34	35	35	36,0
41	37	26	24	43	44	40	85	43	40	62	46	42,3
43	34	112	71	169	130	106	117	122	97	94	94	73,8
+3	—11	—19	—1	—4	—50	—19	—17	+8	—16	—14	—7	
Component												
24	20	20	17	16	16	16	17	15	13	9	9	16,6
24	17	16	15	15	12	14	17	11	11	7	8	13,9
38	37	35	37	38	37	38	39	37	35	36	35	36,5
62	64	49	44	50	49	69	74	46	56	52	45	53,4
52	36	40	69	61	111	166	89	189	131	116	148	75,3
—5	+6	+8	+32	+7	+25	+49	+27	+30	+6	+31	+10	
Component												
45	40	45	40	31	28	23	17	18	16	13	13	25,3
23	23	22	20	11	13	13	10	7	11	8	6	13,0
34	32	28	31	31	34	35	39	34	34	35	30	33,6
40	37	34	71	37	35	70	71	33	62	47	42	44,9
30	31	33	45	51	125	114	68	188	79	91	91	55,4
+21	+18	+13	+22	+1	—1	—8	+18	—5	+16	+6	+4	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
												Year 1974. North
1.	12	13	13	15	17	21	23	27	26	24	21	21
2.	10	9	8	9	12	13	16	19	19	17	17	15
3.	36	36	37	36	37	40	40	42	43	40	42	42
4.	50	55	52	52	49	58	57	53	50	53	64	58
5.	121	117	102	78	69	65	56	50	44	50	53	74
6.	—7	—4	—12	—4	—8	+10	+24	+28	+7	—36	—80	—104
												Year 1974. East
1.	16	16	15	19	22	26	32	37	39	39	40	39
2.	7	6	5	5	7	9	13	14	16	17	18	19
3.	35	36	35	35	37	35	36	37	35	36	39	37
4.	42	44	47	43	39	41	43	40	39	41	46	44
5.	86	73	55	52	51	46	43	35	38	37	43	55
6.	0	+7	+14	+3	+2	+2	+10	+18	+29	+39	+29	—2
												Quiet days North
1.	8	9	8	10	10	14	17	19	17	14	14	12
2.	8	9	7	4	6	7	7	12	10	7	9	9
3.	30	30	33	33	33	35	36	37	37	36	33	35
4.	35	32	32	41	30	33	31	33	24	27	33	34
5.	25	37	35	13	20	21	31	13	23	19	24	35
6.	+4	+4	+8	+10	+9	+24	+21	+27	+26	—25	—74	—101
												Quiet days East
1.	8	8	4	7	9	12	19	22	26	26	29	23
2.	6	7	3	1	3	3	4	4	9	8	5	9
3.	28	27	29	27	32	28	29	31	30	29	33	32
4.	28	19	27	26	22	23	21	22	18	26	28	27
5.	34	41	25	30	27	25	24	21	20	15	17	29
6.	—1	—5	—1	—12	—16	—11	—1	+1	+23	+26	+14	+4

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
20	19	19	17	15	14	13	14	13	12	12	11	17,2
16	14	13	11	10	9	9	10	9	9	8	8	12,1
39	41	39	38	38	37	36	36	36	36	36	37	38,3
58	65	60	54	55	46	48	60	47	56	65	55	55,0
92	73	76	88	106	117	130	119	149	129	123	133	92,3
—97	—42	+7	+48	+55	+56	+43	+41	+29	+23	+14	+11	
Component												
40	42	41	36	31	26	20	17	17	17	17	16	27,5
19	20	19	17	13	10	8	8	8	8	8	8	11,8
35	35	33	36	33	37	36	37	36	35	35	37	35,8
45	50	39	49	44	43	50	56	48	56	55	52	45,7
69	53	74	75	107	108	113	101	122	102	105	97	72,5
—12	—7	—8	—10	—22	—16	—26	—21	—15	—8	—3	—2	
Component												
15	11	11	12	7	7	6	5	7	5	5	5	10,3
11	7	5	5	5	6	5	5	4	5	5	8	6,9
42	35	33	35	35	32	33	32	31	35	30	34	34,0
37	31	28	31	26	21	30	28	26	28	32	33	30,7
18	31	28	33	25	31	19	21	25	23	34	33	25,7
—90	—57	0	+42	+45	+35	+22	+17	+18	+16	+13	+9	
Component												
27	22	24	22	17	14	7	6	7	7	5	7	14,9
11	6	6	9	6	7	3	5	4	6	8	11	6,0
30	30	31	32	31	33	33	31	32	30	30	31	30,4
23	29	31	32	25	27	24	30	24	30	37	35	26,4
22	24	22	29	33	33	30	24	24	29	28	39	26,9
—11	—14	—7	—3	—11	—12	—9	—6	+7	+18	+12	+17	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
											Disturbed	days
1.	16	18	18	21	27	31	33	39	35	34	31	33
2.	14	11	12	16	25	23	29	33	32	30	29	27
3.	41	41	41	40	45	51	48	53	61	48	50	48
4.	64	91	85	75	79	86	90	77	83	82	113	80
5.	245	241	228	126	125	134	112	115	67	115	94	135
6.	−21	−17	−39	+4	−7	−2	+18	+34	−11	−40	−76	−90
											Disturbed	days
1.	28	23	28	27	36	40	48	53	54	56	56	55
2.	13	9	11	12	20	20	32	31	30	31	39	33
3.	43	47	41	41	50	47	57	46	36	42	52	40
4.	53	62	78	77	69	66	84	74	68	68	74	62
5.	160	156	93	70	83	113	63	72	59	73	90	120
6.	−9	+4	+13	+1	+30	+12	+41	+39	+24	+64	+68	+11

12	13	14	15	16	17	18	19	20	21	22	23	Averages
North Component												
23	25	26	23	20	20	16	18	17	15	15	14	23,7
21	22	21	18	16	14	12	13	12	11	10	7	19,1
43	48	47	41	46	41	36	39	39	42	42	39	44,6
79	93	97	96	79	71	75	99	74	93	112	80	85,5
175	126	126	174	244	227	203	220	278	245	190	212	173,2
—119	—58	+9	+70	+57	+104	+29	+24	+72	+11	+28	+24	
East Component												
51	58	49	46	37	35	28	25	28	23	25	22	38,8
32	36	36	27	22	15	14	12	13	13	10	9	21,7
43	44	45	47	41	43	41	40	40	41	42	42	43,8
54	86	43	81	60	56	70	100	74	83	72	82	70,7
152	100	177	149	266	242	176	171	188	176	176	122	135,3
—19	—13	—5	—15	—51	—24	—40	—55	—49	—6	—6	—13	

III.

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
						North Component						
January	12	221	22	250	15	77	11	302	13	77	2	302
February	23	168	25	251	20	93	18	297	8	100	7	139
March	39	155	44	302	21	101	14	323	1	176	5	165
April	48	133	73	287	60	140	20	322	10	220	5	197
May	45	126	61	307	41	139	8	60	8	16	7	267
June	59	117	68	294	27	131	4	100	2	30	4	42
July	60	111	70	287	32	116	4	202	3	25	9	348
August	68	133	71	306	37	146	4	282	10	245	11	191
September	45	142	45	292	37	132	18	309	10	234	9	208
October	20	141	31	272	34	100	25	311	8	37	7	11
November	11	178	31	224	20	147	19	331	5	182	5	250
December	28	190	11	226	5	141	2	338	6	174	6	251
Year	35	138	43	286	27	126	10	319	2	151	2	233
Q	29	112	38	290	27	121	13	299	2	149	2	108
D	41	147	47	283	30	126	13	262	3	355	6	178
						East Component						
January	15	315	9	73	17	31	9	292	2	292	5	346
February	11	351	12	76	13	356	3	262	4	124	2	351
March	10	245	4	132	8	65	16	242	10	20	8	41
April	22	350	8	152	20	104	13	297	13	152	7	44
May	21	358	10	287	18	115	10	332	11	200	8	298
June	31	2	14	177	11	122	8	358	7	303	5	344
July	53	10	22	192	11	130	4	61	5	213	15	339
August	48	12	14	232	13	102	12	288	2	245	7	186
September	20	356	13	214	14	91	11	272	3	177	1	166
October	8	338	12	143	9	9	12	247	5	36	8	293
November	16	333	16	20	15	347	9	245	17	37	5	276
December	18	223	16	123	2	12	4	261	4	80	2	247
Year	19	354	8	159	7	70	7	288	2	119	4	312
Q	2	21	14	169	5	98	6	271	1	80	1	273
D	39	348	10	159	6	83	10	240	4	82	13	295

IV.

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

Month	Day	CET (GMT+1h)	Amplitude in E(mV/km)	H(gamma)	Ex	Ey	Hx	Hy		End of Storm
04.	18.	3.30	6.5	12		—	—	—	+ (Si?)	04.18.24.00
05.	31.	5.00	5.5	18		+	+	+	— (?)	06.02.02.00
06.	11.	4.30	5,5	17		+	+	+	— (?)	continued
	12.	9.30	14.5	25		+	+	+	—	06.13.01.00
	23.	10.00	7	22		+	+	+	—	06.23.18.00
	26.	0.30	>18	60		+	+	+	—	06.27.23.00
07.	4.	16.30	14.5	40		+	+	+	—	continued
	6.	4.15	11	80		+	+	+	—	07.07.05.00
08.	2.	13.15	6.5	22		+	+	+	—	08.03.03.15
	22.	3.45	7	16		+	+	+	—	in storm
09.	13.	16.15	2	18		+	+	+	—	09.14.01.00
	15.	14.45	>14.5	80		—	—	+	—	09.16.17.00
	18.	15.30	>9	25		—	—	+	—	09.21.03.00
10.	12.	13.45	18	35		—	—	—	+	continued
		21.15	?	35		?	?	+	—	10.14.01.00
	14.	17.30	5,5	11		+	+	+	—	10.15.14.00
	20.	4.45	13,5	28		+	+	+	—	10.21.00.00
11.	8.	15.15	7	15		+	+	+	—	11.09.19.00
	14.	3.45	9	30		+	+	+	—	11.14.19.00

			Bays						*Pt-s*		
Month	Day	CET (GMT+1h)	Amplitude in E(mV/km)	H(gamma)	Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
01.	1.	15.30	7	40	—	+	—	+	tr		
		21.15	9	45	—	+	+	+	tr		
	2.	3.00	2,5	12	—	—	—	+			
		19.45	11	35	—	+	+	+			
	3.	19.15	9	40	+	+	+	+			
	4.	19.45	12,5	95	—	+	+	+			
	5.	1.15	6,5	30	+	+	+	+	tr		
	6.	0.45	8	30	+	+	+	—	tr		
		20.00	6,5	22	+	+	+	+	tr		
	8.	18.00	11	75	—	+	+	+			
	10.	19.00	16	55	+	+	+	+			
	12.	16.45	4,5	18	+	+	+	+	2	+	+
	14.	2.30	5,5	25	+	+	+	—	tr		
	15.	22.00	11	35	+	+	+	—	tr		
	16.	0.00	7	35	—	+	+	—	tr		
		20.45	6,5	35	—	+	+	+			
	17.	3.45	8	35	+	—	—	—	tr		
		17.45	12,5	18	—	+	+	+	tr		
		20.30	12,5	45	+	+	+	—	tr		
	18.	17.45	20	130	—	+	+	+			
	20.	19.45	13,5	45	+	—	+	+			
	21.	15.45	7	45	—	—	—	+			
	24.	20.30	2,5	12	+	+	+	+	2,5	+	+
		23.00							3,5	+	+
	25.	0.00	15	40	+	+	+	—	3,5	+	+
		16.45	23,5	95	+	+	+	+	tr		
		22.15	21,5	90	+	+	—	+			
	26.	0.30	18	90	+	+	+	—	tr		
		1.15	16	70	—	+	+	+			
		16.00	11	40	—	+	+	+	tr		
		21.00	16	55	+	+	+	+			
	27.	10.30	8	45	—	—	—	+			
		18.30	18	100	—	+	+	+	tr		
		22.15	14,5	50	+	+	+	—			
	28.	18.30	14,5	80	—	+	+	+	tr		
	29.	16.00	14,5	70	—	—	—	+	tr		
		20.15	16	50	+	+	+	—			

			Bays						*Pt-s*		
Month	Day	CET (GMT+1h)	Amplitude in E(mV/km)	H(gamma)	Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
01.	30.	3.00	7	35	+	+	+	—	tr		
		20.30	21.5	85	—	+	+	+	tr		
	31.	0.30	8	30	+	+	+	—			
		19.30	11,5	50	—	+	+	+	tr		
02.	1.	20.15	11	55	—	+	+	+			
	4.	20.45	8	22	—	+	+	+	2	+	+
	6.	23.15	3,5	12	+	+	+	—	2,5	+	+
	7.	2.45	7	25	+	+	+	—	tr		
		19.15							2,5	—	+
	9.	0.15	4,5	12	+	+	+	—	tr		
		1.00	4,5	18	+	+	+	—	2	+	+
		22.30							3,5	+	+
		23.15	5,5	18	+	+	+	—	3,5	+	+
	10.	21.00	14,5	85	—	+	+	+	tr		
	11.	19.15	18	85	—	+	+	+	tr		
	12.	12.00	10	65	—	—	—	—			
		21.00	6,5	30	—	+	+	+	tr		
	13.	15.00	12,5	55	—	+	+	+			
		18.15	14,5	80	—	+	+	+	tr		
		23.00	7	35	+	+	+	—	tr		
	14.	22.30	4,5	18	+	+	+	—	tr		
	16.	20.00	8	35	—	—	—	+	2	+	+
	17.	19.45							4,5	—	+
	20.	0.30	3,5	22	—	+	+	+	3,5	+	+
		17.15	7	45	—	—	—	+			
	21.	2.00	7	45	+	+	—	—	tr		
		22.15	5,5	30	+	+	+	+	tr		
	22.	22.45	9	50	+	+	+	+	tr		
	23.	20.45	11	110	+	+	+	+	tr		
	24.	19.30	14,5	65	+	+	+	+	tr		
	25.	16.00	9	80	—	—	—	+			
		20.00	16	80	+	+	+	+	tr		
	26.	0.30	6,5	35	+	+	+	—	tr		
		21.45	11	55	+	+	+	—	tr		
	27.	18.00	12,5	50	—	—	—	+	tr		
		23.00	12,5	40	+	+	+	—			

		Bays							*Pt-s*		
Month	Day	CET (GMT+1h)	Amplitude in E(mV/km)	H(gamma)	Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
02.	28.	21.15	11	55	+	+	+	+	tr		
03.	1.	19.45	12,5	60	—	+	+	+	tr		
	2.	16.30	5,5	40	—	—	—	+			
	3.	1.30							7	+	+
		23.30	5.5	40	+	+	+	—	2	?	?
	5.	21.15	9	60	—	+	+	+	tr		
	6.	18.00	7	35	—	+	+	+	tr		
	7.	18.15	11	45	—	+	+	+	tr		
		22.45	5,5	35	+	+	+	+	tr		
	8.	23.00	9	55	+	+	+	+	tr		
	9.	19.30	14,5	95	+	+	+	+	tr		
	11.	18.30	18	90	+	+	+	+			
	12.	20.45	55	30	—	+	+	+	2	—	+
	14.	20.00	11,5	60	+	+	+	+	tr		
	16.	2.00	4,5	18	+	+	+	—	tr		
	18.	1.00							2,5	—	—
	20.	22.30	20	65	+	+	+	—	tr		
	22.	20.00	11	60	—	+	+	+	tr		
		23.15	6,5	40	+	+	+	+	tr		
	23.	13.00	9	45	—	—	—	+			
		15.45	12,5	70	—	+	+	+			
		23.00	8	45	+	+	+	—	tr		
	24.	18.45	6,5	45	—	+	+	+	tr		
		22.00	5,5	35	+	+	+	—	tr		
		23.45	13,5	65	+	+	+	—	tr		
	25.	18.45	7	50	—	+	+	+			
	27.	1.30	7	35	+	—	—	—	tr		
	28.	21.45	8	22	+	+	+	—	2,5	+	+
	30.	1.15	6,5	50	+	+	+	—	tr		
		18.00	7	50	—	+	+	+	tr		
	31.	0.30	7	50	+	+	+	0	tr		
		17.45	9	40	—	—	+	+	tr		
		20.45	11,5	50	—	+	+	+	tr		
04.	1.	23.15	3,5	20	+	+	+	—	3,5	+	+
	2.	0.00	5,5	25	+	+	—	—	tr		
	3.	19.30	27	140	+	+	+	—	tr		

			Bays						*Pt-s*		
Month	Day	CET (GMT+1h)	Amplitude in E(mV/km)	H(gamma)	Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
04.	3.	20.30	26	85	+	+	+	—			
	8.	21.30	5,5	20	—	+	+	+	2,5	+	+
	9.	19.00	14,5	80	—	+	+	+			
		21.30	6,5	45	+	+	+	—	tr		
	10.	18.30	11	45	—	—	—	+			
		23.15	11	30	+	+	+	—	2,5	+	+
	11.	14.15	11	45	—	—	—	+			
	15.	1.00	3,5	12	+	+	+	—	2,5	+	+
	16.	22.00	4,5	22	—	+	+	+	3,5	+	+
	17.	23.30	4,5	15	+	+	+	—	2,5	+	+
	18.	22.45	11,5	40	+	+	—	—	tr		
	19.	16.00	18	95	+	+	—	+	tr		
	20.	15.30	18	70	—	+	—	+	tr		
	21.	23.30							9	+	+
	22.	1.30							5.5	+	—
	23.	18.30	8	35	—	+	+	+	2,5	+	+
	24.	21.30	15,5	70	+	+	+	—	tr		
	25.	20.45	6,5	25	+	+	+	—	2,5	+	
	26.	22.30	14,5	55	+	+	+	—	tr		
	27.	22.30	9	18	+	+	+	—	4,5	+	+
	28.	17.45	11	45	—	+	+	+			
	29.	21.15	12,5	40	+	+	+	—	tr		
	30.	23.15	4,5	45	+	+	+	—	2,5	+	+
05.	2.	17.15	11	35	—	—	—	+			
	3.	2.45	12,5	55	+	+	+	—	tr		
	4.	21.30	14,5	70	+	+	+	+	tr		
	5.	12.45	11	12(pg)							
	8.	21.30	5,5	35	+	+	+	—	tr		
	12.	1.15	4,5	14	+	+	+	—	2,5	+	+
	14.	21.00	6,5	35	+	+	+	+	2,5	+	+
	15.	1.15	6,5	25	+	+	+	—			
	16.	0.45	11,5	45	+	+	+	—	tr		
		23.45	4,5	50	+	+	+	—	tr		
	17.	15.15	16	80	—	+	+	+	tr		
		22.15	14,5	45	+	+	+	—	tr		
	20.	1.15	?	40	?	?	+	—			

			Bays						*Pt-s*		
Month	Day	CET (GMT+1h)	Amplitude in E(mV/km)	H(gamma)	Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
05.	22.	20.45	11	55	+	+	+	—	2	—	+
	23.	19.45	25	95	+	+	+	+	tr		
	24.	20.30	9	55	+	+	+	—	9	+	+
	27.	2.00	?	35	?	?	+	+	tr		
	29.	20.15	4,5	20	—	—	—	+	2	+	+
	31.	22.00	20	75	+	+	+	—	tr		
06.	2.	16.15	7	45	—	+	+	+			
		23.00	5,5	18	+	+	+	—	2	+	+
	6.	0.15	2,5	8	+	+	+	0	2	+	+
	9.	20.15	5,5	30	—	+	+	+	2,5	+	+
	10.	2.00	8	35	+	+	+	—	tr		
		19.45	8	30	+	+	+	—	tr		(ssc?)
	11.	22.00	21,5	70	+	+	+	+			
	12.	0.45	4.5	30	+	+	+	—	tr		
	13.	3.15	7	45	+	+	+	—			
		16.30	10	40	—	—	+	+	tr		
	15.	13.30	15,5	75	—	—	—	—			
		18.00	14.5	45	+	+	+	+			
	16.	0.00	6,5	35	+	+	+	—	tr		
	19.	0.15	5,5	30	+	+	+	—	tr		
	20.	22.00	9	50	—	+	+	+			
	23.	22.00	3,5	14	—	+	+	+	2	—	+
	24.	21.30							4,5	+	+
	26.	5.00	13,5	50	+	+	+	—			
	27.	20.15	>18	60	—	+	+	+	tr		
07.	2.	23.45	5,5	15	+	+	+	—	2,5	+	+
	3.	9.30	65	15	—	0	0	+			
	4.	3.15	9	35	—	+	+	+	5.5	—	+
	5.	0.30	15,5	55	+	+	+	—			
		16.15	>12,5	85	—	+	+	+			
		17.15	14,5	50	+	+	+	—			
		20.30	15,5	120	+	+	+	+			
	6.	0.30	15,5	80	+	+	+	—			

			Bays						*Pt-s*		
Month	Day	CET (GMT+1h)	Amplitude in E(mV/km)	H(gamma)	Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
07.	12.	21.30	17	60	+	+	—	+	tr		
	14.	22.15	8	35	—	+	+	+	tr		
	17.	1.00	3,5	25	+	+	+	—	2,5	+	+
		20.00	4	12	+	+	+	—	(si?)		
	20.	1.00							5,5	+	+
	21.	21.45	5,5	25	+	+	+	+	2,5	+	+
	22.	23.30							2,5	+	+
	23.	4.30	>12,5	80	+	+	+	—	tr		
		21.15	>28	160	+	+	+	—	tr		
	24.	16.45	15,5	70	—	+	—	+			
		19.00	13.5	75	+	+	+	+	tr		
	26.	20.00	10	40	+	+	+	+	tr		
	28.	19.15	6,5	35	—	+	+	+	tr		
	29.	22.30	5,5	10	+	+	+	0	3,5	+	+
08.	2.	1.15							2,5	+	+
		2.30							3,5	+	+
		18.00	12,5	45	+	+	—	+	tr		
	3.	18.15	14,5	80	—	+	+	+	tr		
		21.30	>13	60	+	+	+	—	tr		
	4.	21.30	12,5	70	+	+	+	—	tr		
	5.	3.30	5,5	30	—	—	—	—			
		21.15	7	30	—	+	+	+	5,5	+	—
	6.	21.30	7	50	—	+	+	+	tr		
	7.	19.15	12,5	45	—	+	+	+	tr		
	11.	0.00	?	25	?	?	—	+	tr		
	12.	22.00	?	20	?	?	+	+	tr		
	13.	23.00	?	18	?	?	+	—	4,5	+	+
	14.	23.15							?	?	?
	19.	0.00	8	40	+	+	+	+	3,5	+	+
	20.	17.15	11	85	—	+	—	+			
	22.	18.15	>14,5	70	+	+	+	+			
		21.30	>16	85	+	+	+	+	tr		
	23.	19.30	11	55	—	+	+	+			
	24.	19.45	5,5	35	—	+	+	+	tr		
	25.	22.45	7	30	—	+	+	+	tr		
	28.	2.00	10	55	+	—	—	—			

			Bays						*Pt-s*		
Month	Day	CET (GMT+1h)	Amplitude in E(mV/km)	H(gamma)	Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
08.	28.	12.15	4,5	25	+	+	+	—			
		17.45	11	45	+	+	+	+			
	29.	0.00	14,5	80	+	+	+	—			
	30.	20.15	12	50	+	+	—	+	tr		
	31.	23.45	9	45	+	+	+	—	tr		
09.	2.	0.00	8	50	+	+	+	—	tr		
		23.45	7	55	+	+	+	—	tr		
	4.	21.45	14,5	70	—	+	+	+	tr		
	7.	20.30	8	42	+	+	+	+	tr		
	9.	0.30	2,5	15	+	+	+	—	2,5	+	+
	10.	1.15	4,5	18	+	+	+	—	5,5	+	+
	12.	19.45	>7	50	—	+	0	+			
	13.	12.15	9	40	+	+	+	—			
	14.	19.30	4,5	15	—	+	0	+	4,5	+	+
		23.30	6,5	40	+	+	+	+	tr		
	16.	21.15	6,5	25	—	+	+	+	2,5	—	+
	19.	1.15	>12,5	95	+	+	+	—	(ssc?)		
	20.	16.00	>18	125	—	+	+	+			
	21.	17.45	14,5	140	—	+	+	+			
	22.	22.15	6,5	30	—	+	+	+			
	24.	19.30	5,5	35	+	+	+	—			
	25.	2.15	11	45	+	+	+	—	tr		
		18.00	14,5	95	+	+	+	+	tr		
		21.45	20	85	+	+	+	—	tr		
	26.	15.45	18	95	—	+	+	+	tr		
	27.	0.00	12	50	+	+	+	—	tr		
		20.15	13	70	+	+	+	—			
10.	1.	2.15	12,5	65	+	+	+	—			
		17.45	11	55	—	+	+	+			
	2.	19.15	10	85	—	+	+	+	tr		
		21.45	20	100	+	+	+	+			
	4.	23.00	8	40	+	+	+	—	tr		
	6.	1.15	12,5	60	+	+	+	—	tr		
	7.	20.30	5,5	30	+	+	+	+	2,5	+	+
	8.	19.30	8	70	—	+	+	+	tr		
		22.45	11	35	+	+	—	+	tr		

			Bays						*Pt-s*		
Month	Day	CET (GMT+1h)	Amplitude in E(mV/km)	H(gamma)	Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
10.	9.	14.00	9	50	+	+	+	+			
		20.15	18	90	—	+	+	+	tr		
	10.	22.15	5.5	15	+	+	+	+	2.5	+	+
	16.	21.15	20	80	+	+	+	—	tr		
		23.15	25	110	+	+	+	—	tr		
	17.	17.15	13.5	135	+	+	+	+			
	18.	0.00	10	60	+	+	+	—	tr		
		20.15	23.5	70	+	+	+	+			
	20.	16.15	12.5	140	—	+	+	+			
	22.	20.15	9	45	+	+	+	+	tr		
	23.	23.00	7	10(pg)							
	24.	21.45	?	35	?	?	+	+			
	28.	23.00	15.5	60	+	+	+	—	tr		
	29.	21.00	4.5	15	—	+	+	+	3.5	+	+
11.	1.	22.30	7	35	—	+	+	+	2.5	+	+
	3.	23.00	4.5	30	+	+	+	+	2.5	+	+
	11.	0.00	8	45	+	+	+	—	3.5	+	+
		16.15	>14.5	170	—	—	—	+	tr		
		19.00	21.5	120	—	—	—	+	tr		
		21.45	18	130	+	+	+	+	tr		
	12.	19.15	>29	80	+	+	+	—	tr		
	13.	17.30	21.5	90	—	+	+	+	tr		
		23.00	12.5	50	+	—	+	—			
	14.	14.00	20	65	+	+	+	+			
		16.45	16	50	+	+	+	—			
	20.	20.00	7	45	+	+	+	—	tr		
	22.	15.45	11	50	—	+	—	+			
	23.	15.45	11	45	—	+	—	+			
		21.45	7	30	+	—	+	—			
	24.	16.30	18	65	—	+	+	+			
		18.15	?	55	?	?	+	+			
		21.15	?	80	?	?	+	—			

		Bays							*Pt-s*		
Month	Day	CET (GMT+1h)	Amplitude in E(mV/km)	H(gamma)	Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
11.	25.	20.00	5,5	28	+	+	+	—			
		23.30	5,5	35	+	+	+	—	2	+	+
	26.	15.45	11	35	+	+	+	—			
12.	5.	20.00	9	45	—	+	+	+	tr		
	7.	17.15	12	18	—	+	+	+	tr		
	9.	17.00	20	95	—	+	+	+	tr		
		18.45	>25	130	—	+	+	+			
	10.	17.45	11	35	—	+	+	+	tr		
	11.	20.30	>9	70	—	+	+	+	tr		
	12.	22.30	4,5	35	+	+	+	+	2,5	+	+
	13.	20.15	18	85	+	+	+	+			
	15.	18.15	8	45	—	+	+	+			
		23.00	4,5	30	+	+	+	—	tr		
	16.	19.30	6,5	45	—	+	+	+	tr		
	18.	18.00	25	85	+	+	+	+	tr		
	19.	1.30	5,5	45	+	+	+	—			
	20.	20.00	12,5	45	+	+	+	+	tr		
	21.	21.15	13,5	45	+	+	+	—	tr		
	22.	16.30	6,5	35	—	—	—	+			
	23.	20.00	20	50	+	+	+	+			
	24.	17.15	6,5	40	—	+	+	+	tr		
		22.00	7,5	45	+	+	+	+	tr		
	25.	20.45	20	80	+	+	+	—			
	26.	19.30	5,5	18	—	+	+	+	tr		
	27.	20.30	6,5	40	—	+	+	+	tr		

Further pi2-traces (earth currents)

Month	Day	CET
01.	02.	23.45
	04.	0.30
		1.00
	05.	0.45
	08.	21.30
	10.	16.30
	11.	1.30
	12.	1.15
	13.	14.45
	19.	19.15
		20.30
	21.	23.45
	22.	0.30
02.	07.	21.45
	09.	22.15
	10.	3.00
		19.00
	13.	22.15
	14.	21.45
	16.	22.30
	17.	21.00
		21.30
		21.45
	24.	20.45
	26.	19.00
03.	03.	1.00
		1.15
	13.	1.30
		23.30
	28.	21.30
	29.	21.00
	30.	22.30
04.	02.	1.15
	03.	2.00
	07.	8.15
		20.30
	14.	0.15
04.	17.	0.15
		19.15
		22.15
		22.30
	22.	1.15
		2.00
		2.30
	26.	19.45
		20.30
	28.	23.30
	29.	20.45
	30.	22.30
05.	01.	23.15
	02.	0.30
		2.30
	15.	19.15
		22.15
	18.	21.45
	19.	22.15
	22.	20.30
		23.15
	25.	1.45
	26.	0.00
		0.45
	27.	1.45
	28.	22.00
	30.	2.30
		3.45
	12.	2.15
	14.	19.15
	16.	23.30
	17.	0.15
		18.30
		22.00
		23.15
	18.	1.30
		1.45
06.	21.	23.30
	22.	20.45
		23.45
	23.	23.00
	24.	19.45
	25.	22.30
		23.45
07.	01.	20.15
	02.	0.45
	03.	22.45
	10.	21.15
	11.	23.45
	12.	22.15
	14.	0.00
	16.	3.30
	20.	18.45
	21.	23.00
	23.	0.00
08.	01.	12.30
	04.	13.45
	07.	22.45
	13.	21.30
	14.	16.15
	19.	1.15
	28.	22.00
09.	03.	21.45
	06.	0.00
		1.00
		20.00
	08.	1.30
		1.45

Month	Day	CET
		2.15
		19.45
	09.	18.30
		20.45
	11.	23.30
09.	14.	18.45
	23.	23.00
	26.	0.45
	28.	21.15
10.	01.	19.45
	03.	19.45
	04.	20.45
	05.	17.30
	06.	21.45
	25.	22.30
	26.	22.15
	27.	18.30
	30.	16.45
		21.15
	31.	1.30
		17.45
		18.45
11.	04.	23.30
	08.	21.15
	15.	8.00
	25.	18.45
	27.	22.45
12.	07.	0.45
	13.	8.45
	18.	19.45
	26.	18.45
	27.	20.15
	29.	21.30
		22.45
	30.	3.00
		21.30

SI-s

Month	Day	CET (GMT+1 h)	Amplitude in E(mV/km)	H(gamma)	Ex	Ey	Hx	Hy
01.	06.	8.45	3,5	10	+	+	+	—
	16.	19.15	5,5	8	—	—	—	+
02.	12.	9.45	11	18	—	—	—	+
	13.	8.30	9	18	—	—	—	+
	24.	15.45	5.5	8	—	—	—	+
		16.30	5.5	7	—	—	—	+
	26.	10.30	6.5	14	+	+	+	—
03.	19.	23.00	5.5	10	+	+	+	—
	29.	17.15	5.5	12	—	—	—	+
04.	03.	5.30	11.5	25	+	+	+	—
	05.	3.15	8	13	—	—	—	+
	08.	7.15	3,5	8	—	—	+	—
		11.30	3,5	7	+	+	+	—
	11.	1.15	4,5	7	—	—	—	+
	16.	10.00	3,5	8	+	+	+	—
	22.	1.45	3,5	8	+	+	+	—
	28.	6.30	6,5	11	—	—	—	+
05.	01.	0.45	2,5	9	+	+	+	—
	06.	4.30	4,5	14	+	+	+	—
	07.	14.30	11	10(?)	—	—	—	+
	09.	0.30	3,5	8	+	+	+	—
	17.	6.15	8	12	—	—	—	+
	19.	22.00	?	10	?	?	—	—
06.	03.	16.30	6.5	13	—	—	—	+
	29.	13.15	9	14	—	—	—	+
07.	04.	2.15	3,5	12	+	+	+	—
		15.00	14,5	32	+	—	+	—
	08.	3.15	9	22	+	—	—	+
	20.	12.45	5.5	12	—	—	—	+
	25.	0.45	5,5	9	+	+	+	—
	29.	17.00	5,5	7	—	—	—	+
08.	08.	12.15	6,5	11	—	—	—	+

SI-s

Month	Day	CET (GMT+1 h)	Amplitude in E(mV/km)	H(gamma)	Ex	Ey	Hx	Hy
08.	09.	4,45	2,5	?	+	+	?	?
	13.	13.45	2	10	—	—	—	+
		15.00	3.5	12	+	+	+	—
	15.	15.30	6.5	18	—	—	—	+
	19.	22.15	8	13	+	+	+	—
	21.	3.30	8	14	+	+	+	—
	24.	6.30	4.5	10	—	—	—	+
	25.	1.15	2	12	—	—	—	+
	30.	7.45	5,5	8	—	—	—	+
09.	09.	15.15	3,5	12	+	+	+	—
		15.30	3,5	12	+	+	+	—
	14.	2.00	5,5	13	+	+	+	—
	16.	17.15	3,5	12	—	—	—	+
	24.	4.00	3,5	6	+	—	+	—
10.	09.	4.00	3,5	10	—	—	—	+
	11.	12.30	6,5	8	—	—	—	+
	12.	19.00	?	11	?	?	—	+
	16.	7.30	8	15	—	—	—	+
	25.	10.15	7	12	—	—	—	+
	31.	3.30	3,5	7	+	—	—	+
12.	03.	6.45	4,5	10	—	+	+	+
	04.	4.45	6,5	12	+	—	—	—
	14.	5.30	4,5	10	+	—	—	—
	17.	0.45	8	22	—	—	—	+

„Needles"

Month	Day	CET (GMT+1 h)	Amplitude in E(mV/km)	Ex	Ey
01.	26.	8.45	6,5	—	—
02.	03.	21.45	4,5	—	+
	16.	22 30	6,5	—	+
	28.	14.30	7	—	—
03.	29.	18.30	>9	—	—
04.	03.	7.15	6,5	—	—
	10.	7.30	5,5	—	—
		9.30	3,5	+	+
		10.45	4,5	+	—
05.	13.	9.15	2,5	—	—
	16.	14.45	2,5	—	—
06.	05.	1.00	3,5	+	—
	27.	3.15	7	—	—
07.	04.	7.45	5,5	—	+
	23.	7.45	~18	+	+
	29.	14.15	5,5	—	—
08.	11.	10.15	5,5	+	+
	23.	5.30	5,5	+	+
09.	13.	11.15	5,5	—	—
	19.	22.45	9	—	—
	25.	17.15	4,5	+	+
10.	11.	21.45	5,5	+	—
	17.	0.15	7	+	+
	25.	10.00	7	+	+
	27.	8.30	7	+	+
11.	13.	15.30	3,5	—	—
12.	01.	12.30	2,5	—	—
	11.	7.15	4,5	—	—
	19.	16.45	11	+	+
	20.	12.45	10	—	+
	24.	6.45	3,5	—	—
		7.30	4,5	+	+

V.

Average amplitudes in 12 pulsation bands
(monthly averages for 3 hour intervals in μ V/km)

January

LT	Periods in sec											
	1—5	5—10	10—15	15—20	20—25	25—30	30—40	40—60	60—90	90—120	120—200	300—600
0— 3	0	2	14	10	18	29	94	320	112	45	110	19
3— 6	0	0	11	32	62	151	200	89	40	3	50	80
6— 9	0	2	35	117	199	251	222	128	17	23	100	90
9—12	0	7	17	212	354	297	179	143	65	8	146	148
12—15	0	22	3	324	421	349	184	80	46	42	69	46
15—18	4	3	3	161	283	260	306	187	20	37	89	44
18—21	3	1	17	47	75	104	240	283	121	124	69	17
21—24	2	0	2	8	39	68	76	236	307	26	79	33
Averages	1	4	12	114	182	189	189	185	93	39	89	59

February

0— 3	0	0	9	18	16	48	44	241	175	47	79	111
3— 6	0	0	33	47	79	92	99	55	42	5	104	107
6— 9	4	0	75	178	196	213	200	70	27	7	113	97
9—12	0	0	9	294	274	251	242	68	77	5	39	84
12—15	0	0	3	312	466	349	250	128	46	5	12	75
15—18	2	0	0	93	309	298	227	95	30	8	60	76
18—21	2	0	12	40	86	120	244	204	128	78	133	5
21—24	3	0	13	13	44	21	162	252	379	109	68	26
Averages	1	0	18	121	181	171	180	137	111	33	74	71

March

LT	Periods in sec											
	1—5	5—10	10—15	15—20	20—25	25—30	30—40	40—60	60—90	90—120	120—200	300—600
0— 3	0	0	18	41	20	54	149	175	111	36	49	142
3— 6	0	1	31	122	158	105	101	66	38	4	105	105
6— 9	0	0	51	368	355	325	166	116	31	8	219	79
9—12	0	0	7	373	527	307	170	101	43	13	200	33
12—15	0	0	5	392	666	450	253	81	25	10	112	62
15—18	0	7	0	103	490	406	206	161	30	30	132	56
18—21	3	8	4	13	92	179	192	305	151	74	75	92
21—24	2	0	19	13	32	27	142	468	173	37	102	78
Averages	1	2	17	180	298	235	176	188	77	27	126	83

April

0— 3	2	5	9	35	28	164	141	168	60	49	167	196
3— 6	2	0	83	188	140	78	102	58	28	12	142	259
6— 9	0	2	88	508	395	256	142	42	39	6	154	103
9—12	0	1	30	521	412	260	99	72	65	13	116	189
12—15	1	0	23	665	577	223	85	39	24	8	26	134
15—18	1	2	2	146	361	280	175	115	39	23	68	63
18—21	9	0	2	14	31	146	176	252	184	47	153	83
21—24	11	3	9	8	16	26	151	398	199	67	161	216
Averages	3	2	30	254	239	176	132	142	79	28	133	153

May

LT	Periods in sec											
	1—5	5—10	10—15	15—20	20—25	25—30	30—40	40—60	60—90	90—120	120—200	300—600
0— 3	2	1	20	45	30	61	113	196	130	48	67	241
3— 6	0	11	88	173	157	60	76	69	17	17	63	172
6— 9	1	2	119	570	408	206	191	34	26	9	105	88
9—12	0	2	6	711	575	222	96	63	86	3	92	159
12—15	0	0	0	456	547	157	155	91	38	50	427	231
15—18	0	0	0	87	266	147	93	148	95	92	247	121
18—21	3	3	0	17	30	34	74	189	151	96	256	117
21—24	1	8	1	13	22	26	56	221	204	64	179	287
Averages	1	3	29	256	252	113	101	128	95	48	178	179

June

0— 3	7	13	38	49	17	78	104	182	161	40	184	298
3— 6	5	11	37	147	107	91	167	150	60	43	196	207
6— 9	0	3	50	376	358	232	152	117	67	30	229	173
9—12	0	9	12	316	617	274	212	88	37	2	175	203
12—15	0	9	25	301	627	314	137	83	137	47	259	175
15—18	0	24	2	41	225	321	252	200	203	63	257	156
18—21	0	6	2	11	52	98	96	177	161	116	277	229
21—24	4	2	2	20	33	8	11	188	346	121	171	304
Averages	2	10	21	154	249	174	139	146	145	57	215	215

July

LT	Periods in sec											
	1—5	5—10	10—15	15—20	20—25	25—30	30—40	40—60	60—90	90—120	120—200	300—600
0— 3	1	13	15	27	25	21	79	147	110	104	261	410
3— 6	0	36	57	117	134	136	196	114	26	18	379	188
6— 9	0	32	46	275	431	266	134	44	219	120	112	66
9—12	0	6	46	236	311	266	198	96	60	65	133	252
12—15	0	6	9	218	379	232	151	61	96	44	150	142
15—18	1	0	16	53	189	223	182	189	121	61	207	275
18—21	4	2	3	3	13	35	77	161	142	114	246	239
21—24	5	2	2	0	18	28	110	171	285	69	229	367
Averages	1	12	24	115	187	150	141	124	132	74	215	245

August

0— 3	0	1	31	31	33	41	118	160	150	89	247	221
3— 6	0	15	83	147	90	59	133	64	38	25	271	200
6— 9	0	0	108	526	433	195	54	21	22	10	62	34
9—12	0	0	29	712	509	243	82	66	28	35	275	184
12—15	0	0	8	688	608	262	125	72	63	28	177	293
15—18	0	0	4	194	326	230	163	105	62	20	315	120
18—21	0	0	3	19	36	53	98	213	170	65	181	286
21—24	0	4	5	13	21	33	144	390	176	93	310	367
Averages	0	3	34	295	260	141	117	139	90	47	234	219

September

LT	Periods in sec											
	1—5	5—10	10—15	15—20	20—25	25—30	30—40	40—60	60—90	90—120	120—200	300—600
0— 3	0	0	32	34	36	69	98	280	109	54	162	236
3— 6	1	7	76	274	111	41	124	80	40	28	121	153
6— 9	0	8	70	652	567	214	145	55	20	5	54	200
9—12	0	0	11	830	727	299	121	78	46	10	119	212
12—15	0	0	0	619	675	226	152	202	67	29	267	150
15—18	0	0	3	139	542	267	198	139	130	56	256	74
18—21	6	0	2	8	36	76	193	256	173	112	308	237
21—24	3	0	30	27	8	47	238	383	176	120	201	193
Averages	1	2	27	318	334	153	155	179	93	50	183	178

October

0— 3	1	0	12	38	41	39	105	114	73	40	225	434
3— 6	1	4	28	144	158	139	127	47	37	25	237	274
6— 9	1	6	53	326	283	256	284	62	28	12	184	123
9—12	0	4	9	338	539	396	218	86	52	28	189	218
12—15	0	2	18	435	459	340	291	138	43	38	106	72
15—18	0	3	13	112	434	437	225	119	106	35	209	34
18—21	0	2	3	70	112	148	126	250	240	40	181	280
21—24	4	0	3	19	56	68	120	389	277	77	345	317
Averages	1	3	18	188	265	231	190	154	109	36	214	225

November

LT	Periods in sec											
	1—5	5—10	10—15	15—20	20—25	25—30	30—40	40—60	60—90	90—120	120—200	300—600
0— 3	2	2	0	8	16	41	77	132	118	101	138	129
3— 6	3	0	2	64	112	138	116	47	31	21	132	187
6— 9	6	0	3	192	279	151	196	85	22	11	77	146
9—12	0	2	0	214	340	197	171	135	34	35	220	72
12—15	0	0	20	233	327	222	219	150	41	21	130	75
15—18	0	0	3	58	275	151	210	150	67	132	576	75
18—21	0	0	0	18	24	57	75	90	148	96	136	211
21—24	0	5	2	2	2	9	5	190	217	147	177	231
Averages	1	1	4	98	170	120	132	121	84	70	147	139

December

0— 3	0	0	5	20	11	10	23	133	115	55	156	193
3— 6	2	0	3	44	107	89	81	54	23	0	158	256
6— 9	0	0	12	185	288	150	75	28	66	6	265	133
9—12	0	0	12	237	488	183	140	75	42	57	75	62
12—15	0	0	1	136	940	314	114	78	31	38	73	27
15—18	0	0	8	35	379	353	199	112	72	9	148	62
18—21	2	2	3	9	92	136	233	176	260	57	96	73
21—24	1	2	8	2	14	5	23	148	303	81	187	165
Averages	1	1	6	84	293	156	112	101	114	38	144	121

Yearly average

LT	Periods in sec											
	1—5	5—10	10—15	15—20	20—25	25—30	30—40	40—60	60—90	90—120	120—200	300—600
0— 3	1	3	16	28	23	51	91	175	112	56	147	209
3— 6	1	7	42	118	112	92	119	70	33	16	155	172
6— 9	1	4	59	359	350	225	162	66	48	20	139	110
9—12	0	2	15	395	446	250	149	84	49	22	142	143
12—15	0	3	9	375	526	270	165	93	52	28	149	113
15—18	0	3	4	98	324	268	193	137	77	44	174	93
18—21	2	2	4	21	54	94	143	203	161	81	167	151
21—24	3	2	7	11	24	29	96	272	238	79	176	207
Averages	1	3	20	172	228	158	138	137	96	43	155	149

VI.

Micropulsation indices for the year 1974

Activity indices for the micropulsations

(P1 to P12) Year 1974.

	January	February	March	April
1.	111235544111	113255423123	113554341112	122442142123
2.	111255442112	111445522112	315553223231	111553123113
3.	211454522121	411455513111	114534334123	215522242225
4.	115345521112	111355542211	111224454112	325422111155
5.	111355442111	112345345311	121355432311	115521115354
6.	111345552222	111154343121	111554222211	115553241144
7.	311112552311	111354435121	111255441111	521355422124
8.	312235422521	111444145321	111554121211	112454321233
9.	115544311242	111212555511	122533322132	411554112221
10.	112354333331	311531115531	125452121133	215523332123
11.	111254552111	115531132122	111355421132	114355221245
12.	111222554321	122453223113	112355222132	111123422345
13.	112112335351	112443445211	111334451111	111154332234
14.	113135324411	112443244211	311144124442	111112554431
15.	112444223541	111211553111	111155522112	112221114531
16.	112354314412	112322453423	151311243354	332211344542
17.	111354443111	112433335331	115511111245	433344235531
18.	213444222222	111344421111	111111344221	444443245221
19.	112355222121	111113542141	124212212332	225433111223
20.	111235523413	314321232453	332342123442	112511234114
21.	111135522411	112443244111	334532243114	115532321143
22.		113431114431	333434222224	313544322132
23.	111322522231	115533232123	115532142122	111433541122
24.	111211345332	111335541135	112543222112	225543311115
25.	255322242154	115554321124	115434531134	122532441115
26.	215543133343	113444542112	212534522311	325513422115
27.	123544243223	115545441112	112454221211	115452341114
28.	125552222142	215553421124	111455322111	321541253113
29.	114522342125		115532331332	511344442114
30.	211345541111		115443222124	512224344231
31.	111433542141		115423223421	

	May	June	July	August
1.	121522442232	131354412342	111145424225	112111115534
2.	111452114431	113324333135	112322224154	111122314552
3.	115522222121	121134542114	211311234544	115521122125
4.	125541123133	221233522235	423344211335	122543122135
5.	121554132125	111112552244	252211355543	111522121154
6.	213522211114	112222412444	155211135355	122531122125
7.	111111122555	111111344352	115333211145	125521224145
8.	111113452435	111111232355	145422222344	112353211235
9.	111114432235	521111113555	133444221335	112531122225
10.	111111212444	423511115523	121332242334	113521132132
11.	111111123255	215311114555	212531313154	111323443123
12.	111111531452	235354211325	313552122123	112123533421
13.	132333311331	132543112335	114543411124	111255432441
14.	121353113531	121455311134	131443322234	123333233551
15.	343421145321	114453112235	113433423421	121233345554
16.	213542233211	113544142124	113353344111	111111223355
17.	124553111115	113223443231	112442223212	111211112455
18.	124552211115	112455444111	111343555535	111211124255
19.	112541112215	335423433311	111131123435	125542123255
20.	113334322425	125552112224	112432222524	135353321141
21.	113532234143	111224445212	111333213445	114553322144
22.	211553231124	111153444211	111343222322	112532211251
23.	215533223135	111411355415	155234422335	115434431333
24.	115521221135	115411234535	115511221245	111433242235
25.	111522533115	111112324444	115322233434	111433232324
26.	113354122232	155522114245	111345341135	111453432212
27.	111254444213	155453131142	111334431145	111443232125
28.	111243132433	124542224145	111322421124	113453123223
29.	111144313444	111521232325	111232424134	113522431135
30.	111431113453	111423215135	112344333123	114551121112
31.	155511115445		111213534225	115531112135

	September	October	November	December
1.	115532112135	114522122151	114434421321	111211132455
2.	212552222133	114434411212	511234442233	115451111244
3.	115432131125	115452122133	111133421354	113135124232
4.	212541341114	111235531111	111311411452	111235511323
5.	122542211134	111334521144	111223412444	111122515511
6.	112323343324	111144345323	111531111534	111121345312
7.	111222442112	111114544133	111344112444	111241212412
8.	111342153123	211111244555	131234322425	114341124223
9.	113354323312	213322112355	131211111355	123532233223
10.	111234314531	111135523115	111111322355	112355432211
11.	111224433541	111355324113	113432213332	122355534111
12.	311111114554	111345411235	123445443232	111255532112
13.	111311134454	553211124454	112233221111	111344313133
14.	211411111545	123442133243	111245311111	111135332224
15.		125443114252	111333523313	112333334335
16.	134311125545	115543223243	111233424223	1112112 3352
17.	111111211443	113454322133	111311211455	225351114225
18.	212113433151	123442111133	311212333524	312351114234
19.	114444444143	111442311255	115332343124	111551111131
20.	112431221121	115432343432	111533224323	111154223131
21.	115521221343	122335411145	111434322223	111323344341
22.	111212432123	213434312224	111354113345	112352221155
23.	115332431234	111113542224	111354212134	112554311135
24.	115534312125	155132112245	111243413444	112323241131
25.	213531132124	112554221232	112443443125	121331432125
26.	215441311154	111454311135	111433243145	112222233335
27.	114531212135	115533211245	111135531211	313422442133
28.	111554122133	114443112135	311232342333	111352312332
29.	112531221134	113334421144	111212552531	114431114335
30.	112453121142	111433512134	311111443354	111554343122
31.		112313542215		112343232315

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 7γ.

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 γ for all three magnetic elements. The mounthly 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		February		March	
1.	33311526	24	11002189	22	53222496	33
2.	21202162	16	54112122	18	66141724	31
3.	32113261	19	21211102	10	53326428	33
4.	42112195	25	11111132	11	72012210	15
5.	52322244	24	01012323	12	22112389	28
6.	42221242	19	22101123	12	33153461	26
7.	20000000	2	34022212	16	31112368	25
8.	00003684	21	00011230	7	82535229	36
9.	02112231	12	20001002	5	86323797	45
10.	11221592	23	11010249	18	82447676	44
11.	22101000	6	53128899	45	25636493	38
12.	01111300	7	73949754	48	22123256	23
13.	00110102	5	22232796	33	14321100	12
14.	41011232	14	22041212	14	11132592	24
15.	00126435	21	01010001	3	00001121	5
16.	53314426	28	01111165	16	21325999	40
17.	25001356	22	32122114	16	11210101	7
18.	21332795	32	00021000	3	00100000	1
19.	31010144	14	00011200	4	00000002	2
20.	12221263	19	30022991	26	11001669	24
21.	43322710	22	85274356	40	46399999	58
22.	00011032	7	21221139	21	93395779	52
23.	30000100	4	92435969	47	99249939	54
24.	00010011	3	92453498	44	54835399	46
25.	83537999	53	94353993	45	96434494	43
26.	97453769	50	65297799	54	33424675	34
27.	67362199	43	33422588	35	51345222	24
28.	52321399	34	93437349	42	11316243	21
29.	92135992	40			31349998	46
30.	36114699	39			73423373	32
31.	43222783	31			82436656	40
	$M_H = 2,43$		$M_H = 2,72$		$M_H = 3,63$	
	$M_D = 2,06$		$M_D = 2,20$		$M_D = 2,54$	
	$M_Z = 0,19$		$M_Z = 0,15$		$M_Z = 0,26$	

	April		May		June	
1.	20254622	23	51111242	17	64363545	36
2.	31222429	25	13224673	28	52266842	35
3.	97269897	57	88322222	29	23656334	32
4.	78539972	50	34287839	44	42211122	15
5.	22137342	24	63685685	47	11113210	10
6.	56722335	33	32123110	13	11213200	10
7.	33472353	30	00229811	23	00001010	2
8.	01224133	16	10052226	18	11111320	10
9.	20213298	27	32242210	16	00111442	13
10.	44357285	38	10010000	2	63222574	31
11.	46239300	27	00132211	10	23477969	47
12.	00101000	2	41000001	6	55494632	38
13.	01112210	8	01011112	7	28614932	35
14.	01111201	7	01023137	17	32223553	25
15.	20012101	7	63349445	38	35389477	47
16.	00112013	8	93547544	41	53332323	24
17.	11001222	9	97643947	49	33524432	26
18.	28696748	50	53533526	32	32202201	12
19.	33322949	35	22645533	30	61142442	24
20.	34498999	55	62346253	31	14233539	30
21.	83957257	46	56553453	36	41001221	11
22.	33367794	42	33526339	34	13022322	15
23.	55246844	38	32332893	33	10052322	15
24.	83222359	34	45694599	51	11222222	14
25.	34324225	25	31126222	19	12012111	9
26.	74122388	35	32221220	14	99969994	64
27.	84233204	26	63213223	22	88957999	64
28.	33227963	35	21134001	12	63446444	35
29.	30034646	26	11022222	12	22257665	35
30.	21323327	22	12234933	27	33263541	27
31.			33447549	39		
	$M_H = 3{,}31$		$M_H = 2{,}99$		$M_H = 3{,}12$	
	$M_D = 2{,}53$		$M_D = 1{,}99$		$M_D = 1{,}78$	
	$M_Z = 0{,}30$		$M_Z = 0{,}23$		$M_Z = 0{,}37$	

	July		August		September	
1.	32111332	15	01110210	6	55347331	31
2.	12322321	16	11203996	31	92772495	45
3.	21232124	17	52445699	44	82133342	26
4.	36324962	35	85621237	34	22212249	24
5.	99544999	58	25324425	27	55455321	30
6.	99979844	59	42235269	33	32242367	29
7.	33114524	23	41134655	29	12033474	24
8.	45474998	(26)	7532222	26	31132111	13
9.	36333222	(28)	22574	28	21011201	8
10.	32226435	27	53223224	23	21021111	9
11.	22224331	19	41212123	16	10011100	4
12.	31146679	37	01010112	6	00110271	12
13.	43324331	23	11112202	10	10175546	29
14.	39313426	31	21010010	5	21112135	16
15.	31212312	15	10011310	7	50119999	43
16.	22221210	12	02122111	10	99599923	55
17.	31112231	14	31022200	10	11001000	3
18.	12110011	7	00114432	15	00102983	23
19.	01132322	14	54486576	45	93945396	48
20.	02203215	15	95866988	59	42465947	41
21.	31011123	12	66485666	47	71139999	48
22.	00022212	9	56556599	50	63226654	34
23.	49799979	63	85629793	49	52114249	28
24.	57666995	53	43274562	33	28845861	42
25.	22473444	30	32132214	18	82236699	45
26.	34323363	27	21011222	11	64565957	47
27.	14574266	35	22445331	24	91267295	41
28.	36342260	26	73012656	30	13124246	29
29.	03353342	23	96329692	46	22122541	19
30.	12132211	13	43112263	22	23344345	28
31.	02011121	8	44422259	32		
	$M_H = 3,04$		$M_H = 3,15$		$M_H = 3,26$	
	$M_D = 2,04$		$M_D = 2,11$		$M_D = 2,64$	
	$M_Z = 0,37$		$M_Z = 0,28$		$M_Z = 0,42$	

	October		November		December	
1.	96238973	52	31011005	11	00101134	10
2.	30237999	42	02010000	3	34122254	23
3.	85222432	28	11122004	11	32221293	24
4.	11121236	17	21011010	6	22111100	8
5.	20113115	14	01100014	7	00001372	14
6.	8222?002	20	22123310	14	20100100	4
7.	00011024	8	11131140	12	10224322	16
8.	20011196	20	11100379	22	11223579	30
9.	36448998	51	99677841	51	69349999	58
10.	32312005	16	22011212	11	56513672	35
11.	21011102	8	72339999	51	22249199	38
12.	01116339	24	99869999	68	33254514	27
13.	99989999	71	81465999	51	33122898	36
14.	32232?99	32	78689940	51	63210123	18
15.	95373366	47	00024124	13	11133265	22
16.	93499999	61	12223573	25	20000263	13
17.	94577997	57	85403123	26	44311999	40
18.	98736996	57	30020231	11	63327594	39
19.	43259464	37	11123454	21	63454579	43
20.	47894998	58	73229673	39	86364663	42
21.	41322122	17	12265957	37	33223487	32
22.	41324392	35	53422852	31	33222412	19
23.	11111003	8	32213635	25	32212996	34
24.	78653678	50	54424999	46	32223539	29
25.	42325934	32	54221574	30	21111599	29
26.	64547885	47	21113766	27	12152162	20
27.	73213996	40	31111125	15	12325454	26
28.	63222859	37	11201000	5	31212222	15
29.	92433422	29	10100000	2	12124324	19
30.	32124403	19	00000000	0	01000014	6
31.	31120122	12			35511242	23
	$M_H = 3,75$		$M_H = 2,77$		$M_H = 3,03$	
	$M_D = 3,27$		$M_D = 2,33$		$M_D = 2,40$	
	$M_Z = 0,41$		$M_Z = 0,25$		$M_Z = 0,11$	

II.

Disturbed and quiet days for 1974.

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

III.

Hourly averages of magnetic elements

(H, D, Z)

	0	1	2	3	4	5	6	7	8	9	10	11	12
													January
H	+4.0	+1,8	—1,3	—1,0	+1,6	+4,6	+6,6	+8,8	+6,6	+4,5	+0,4	—0,6	—0,2
D	+5.9	+2,3	+1,8	—2,4	—2,9	—1,3	—1,8	—0,5	+1,4	+0,6	—1,7	—4,5	—9,9
Z	+0,7	—0,5	—0,9	—1,2	—1,5	—1,4	—1,3	—1,3	—1,0	—2,5	—2 5	—2,7	—3,4
													February
H	+4,0	+4,5	+2,8	+1,5	+1,9	+4.5	+6,0	+9,8	+8,9	+3,5	—1 3	—3,4	—8,3
D	+7,6	+6,9	+2,0	+1,7	—0,8	—0,7	—0,8	+2,0	+7,6	+6,0	+0.5	—8,9	—15,2
Z	+0,4	—0,6	—1,1	—1,4	—0,9	—0,9	—0,8	—1,0	—1,0	—2,6	—4,7	—5,6	—4,4
													March
H	+8,2	+7,4	+5,5	+6,1	+3,3	+5,3	+5,5	+4,9	+1,5	—1.6	—5.6	—5,5	—3,0
D	+4.5	+6,5	+1.5	+5,8	+4.6	+2,2	+5,5	+8,5	+10,2	+5,8	—5,4	—17,1	—24,3
Z	+0.3	—0,9	—1,5	—2,3	—1,9	—1,6	—1,0	—0,7	—1,6	—4,3	—7.2	—8,8	—8.3
													April
H	+6.8	+6,7	+5,8	+5,7	+5,3	+3,0	+0.3	—2,7	—12,6	—19,0	—14,4	—5,8	+0,7
D	+10.8	+6.6	+1,1	+4,4	+6,3	+8,2	+16,2	+24,2	+25,4	+14 0	—4,6	—21,2	—34,2
Z	+1.6	+0,9	+0,1	—0,1	+0,4	+1,2	+2,2	+3,1	+0,7	—3,8	—9,7	—13,4	—13,9

13	14	15	16	17	18	19	20	21	22	23	Monthly Average
—1,6	—2,4	—3,7	—6,3	—6,2	—6,6	—4,9	—2,8	—0,3	—1,4	+0,4	21041γ
—11,3	—8,9	—6,2	—2,3	+0,3	—1,5	+6,1	+9.9	+10,8	+8,0	+8,1	+0°11,9'
—2,3	+0,1	+1,6	+2,1	+2,7	+3,1	+3,3	+3,3	+2,7	+2,0	+0,9	42330γ
—9,6	—6,7	—7,1	—5,5	—5,9	—4,7	—3,7	+0,1	+2,7	+4,7	+6,3	21042γ
—17,7	—15,6	—8,6	—6,2	—5,3	+1,0	+3,0	+9,5	+11,0	+10,8	+10,2	+0°12,4'
—2,3	+0,6	+2,4	+3,6	+3,5	+3,5	+3,9	+3,8	+3,0	+2,0	+0,6	42335γ
—4,3	—3,5	—5,5	—13,1	—14,7	—10,0	—3,1	+1,7	+2,6	+7,3	+10,6	21040γ
— 3,9	—20,5	—13,6	—6,3	—0,1	+5,8	+12,5	+14,2	+9,8	+6,4	+7,4	+0°13,0'
—5,9	—2,0	+1,9	+5,4	+7,1	+8,0	+7,6	+6,3	+5,5	+4,1	+2,3	42336γ
—1,3	—5,0	—7,1	—7,8	—5,7	—0,9	+4,3	+7,5	+11,3	+13,0	+11,9	21043γ
—35,8	—30,5	—21,4	—10,3	—3,7	—0,6	+4,3	+5,2	+10,6	+13,2	+11,8	+0°13,3'
—9,2	—3,6	+1,7	+6,2	+6,8	+6,5	+6,3	+5,7	+4,8	+3,3	+2,2	42337γ

	0	1	2	3	4	5	6	7	8	9	10	11	12
													May
H	+9,5	+9,6	+7,4	+5.5	+2,1	+0,6	—5,6	—12,2	—19,2	—15,9	—12,0	—1,3	+1,7
D	+6.0	+9.2	+9,0	+9,0	+12,8	+19,4	+24,0	+25,4	+18,4	+4.5	—10 9	—21,7	—29,8
Z	+1,7	+0,3	+0,1	+0,1	+0,9	+1,8	+1,6	+1,2	—1,3	—5,2	—8,2	—9,9	—9,9
													June
H	+11,1	+10,3	+7,0	+7,4	+7,9	+7,1	—1,4	—11,0	—17,3	—18,1	—16,0	—10,6	—7,9
D	+4,7	+5,8	+5,2	+8,2	+14,8	+21,7	+27,2	+27,6	+25,7	+15,2	—0,6	—14,1	—25,3
Z	+2,1	+0,4	+0,2	+0,8	+1,9	+2,3	+1,2	+1,2	+0,4	—3,7	—9,0	—14,2	—14.6
													July
H	+10.8	+9,9	+10,8	+11,3	+9,6	+5,6	—7,3	—12,5	—19,6	—22,7	—21,5	—18,0	—9,9
D	+5,6	+5,9	+5,1	+8,2	+11,2	+19,1	+25,0	+25,3	+24,9	+15,7	+2,2	—11,6	—24.1
Z	+1,0	+0,1	—0,3	—0,9	—0,9	—0,9	—1,5	—1,7	—2,5	—6,4	—8,4	—11.4	—11,1
													August
H	+11.7	+12.6	+14,8	+6,6	+3,0	+2,2	—3,8	—12,1	—19,9	—21,3	—17,6	—13,3	—6.3
D	+7,5	+6,9	+7,7	+11,2	+14,2	+17,6	+21,7	+22,4	+18,4	+5,7	—9,0	—22,4	—29.9
Z	+0,8	—0,5	—1,9	—1,9	—0,4	+0,8	+1,6	+1,4	—0,3	—3,9	—7,8	—9,8	—8,4

13	14	15	16	17	18	19	20	21	22	23	Monthly Average
+3,6	—4,2	—4,7	—2,3	—3,2	—0,3	+2,7	+8,5	+9,0	+9,6	+8,1	21050γ
—32,2	—29,4	—19,2	—12,7	—5,6	—2,2	+0,5	+4,2	+4,8	+6,8	+9,7	+0°13,0'
—7,9	—4,1	+0,4	+4,0	+5,9	+6,2	+5,9	+5,2	+4,4	+3,6	+3,2	42343γ
—8,3	—6,6	—5,2	—0,6	+0,4	+3,0	+7,6	+9,2	+10,0	+12,6	+9,4	21054γ
—33,3	—33,8	—28,4	—17,8	—9,5	—4,2	—1,3	+2,9	+2,8	+3,0	+3,8	+0°12,9'
—13,3	—8,1	—0,1	+5,7	+7,9	+8,8	+8,0	+7,4	+5,8	+5,7	+3,2	42347γ
—8,9	—5,9	—1,4	+1,8	+4,1	+3,4	+7,5	+13,8	+13,1	+12,8	+13,2	21043γ
—31,4	—33,2	—30,0	—19,1	—8,1	—2,4	—0,5	+1,8	+3,1	+4,3	+3,0	+0°13,8'
—9,5	—5,6	+2,1	+9,2	+11,7	+10,8	+8,6	+7,0	+5,3	+3,6	+2,0	42357γ
—1,4	+0,6	—1,3	—4,2	—2,3	+3,0	+5,4	+7,9	+14,2	+12,4	+9,1	21051γ
—30,3	—27,3	—20,0	—13,0	—5,0	+1,6	+2,4	+2,7	+5,4	+4,6	+6,9	+0°13,6'
—5,3	—2,5	+1,1	+4,8	+6,4	+6,4	+6,3	+5,3	+4,0	+2,2	+1,6	42357γ

	0	1	2	3	4	5	6	7	8	9	10	11	12
													September
H	+8,4	+10,5	+10,2	+5,6	+4,3	+3,0	+1,2	—4,7	—10,8	—14,5	—15 1	—11,5	—3,7
D	+7,3	+6,3	+8,2	+8,9	+7,8	+6,4	+11,9	+17,6	+15,4	+8,4	—5,5	—20,6	—30,0
Z	+1,0	—1,1	—3,3	—2,7	—2,0	—0,3	+1,3	+2,4	+0,2	—3,4	—8.1	—11,2	—10,2
													October
H	+12,8	+8,6	+8,5	+9,3	+8,0	+9,6	+7,4	+5,5	—3,0	—9,7	—13,9	—13,3	—9,3
D	+8,7	+10,2	+6 6	+3,0	+2,3	—1,7	—2,6	+2 0	+11,2	+9,6	—0 6	—14,0	—23,3
Z	—1,3	—2,3	—2.7	—3,4	—4,0	—3,5	—1,0	+1,0	+0,6	—2,5	—7,8	—9,9	—7,3
													November
H	+3,3	+2,8	+2,6	+2,5	+6.8	+8,1	+11,1	+8,0	+5.1	+0,2	—4 4	—6,3	—6 6
D	+10,9	+8,0	+1,2	—2,1	—5.9	—6.6	—4,7	—1,8	+3.6	+3,0	—3,7	—10,7	—15,6
Z	—0,1	—1,2	—1,7	—1,7	—1,6	—1,9	—1,7	—1,5	—2,5	—4,1	—6,2	—6,0	—3,7
													December
H	—3,5	—2,1	—1,0	—0,3	+3,1	+5,1	+8,7	+9,9	+10,0	+7,4	+4,4	+5,1	+0,8
D	+8,2	+5,0	+2,0	—1,7	—3,7	—4,2	—4,2	—3,9	—3,2	—4,6	—7 2	—9,4	—10,7
Z	+0,3	+0.2	—0,2	—0,7	—1,5	—1,9	—1,6	—2,5	—3,8	—4,7	—4,5	—4,2	—2,2

13	14	15	16	17	18	19	20	21	22	23	Monthly Average
+0,1	+0,6	—1,3	—4,3	—6,0	—1,0	+1,0	+6,2	+7,3	+7,9	+6,6	21047γ
—29,8	—23,6	—17,4	—7,3	—2,3	+3,3	+2,9	+5,8	+9,2	+7,3	+9,8	+0°15,0'
—5,6	—2,9	+3,7	+6,9	+8,0	+7,5	+6,8	+5,5	+4,0	+2,5	+1,0	42364γ
—7,8	—10,0	—12,2	—7,7	—7,0	—1,8	—2,4	+1,2	+6,0	+8,8	+12,4	21041γ
—25,4	—22,4	—12,6	—8,6	+1,3	+6,3	+3,5	+11,3	+13,3	+11,5	+11,0	+0°14,8'
—3,2	+2,3	+5,6	+6,7	+7,2	+7,6	+7,2	+5,4	+3,7	+1,7	—0,1	42366γ
—6,3	—8,1	—8,8	—10,2	—4,3	—1,1	+0,1	+0,3	—0,6	+3,3	+2,5	21047γ
—15,1	—9,8	—7,5	—1,3	—0,9	—0,2	+7,8	+8,3	+15,0	+13,3	+14,8	+0°14,6'
—0,6	+3,0	+4,0	+5,0	+5,2	+4,6	+4,2	+3,3	+3,0	+1,7	+0,5	42365γ
—1,6	—2,5	—7,0	—7,9	—6,0	—6,4	—5,1	—3,0	—1,8	—2,8	—3,5	21051γ
—8,8	—6,9	—4,6	—3,2	—1,0	+6,6	+8,4	+13,1	+11,3	+12,0	+10,7	+0°14,5'
—0,4	+0,8	+1,5	+2,4	+2,8	+4,3	+4,3	+4,2	+3,0	+2,4	+1,5	42369γ

	0	1	2	3	4	5	6	7	8	9	10	11	12
													1974. Yearly
H	+7,3	+6,9	+6,1	+5,0	+4,7	+4,9	+2,4	—0,7	—5,9	—8,5	—9,8	—7,5	—4,0
D	+7.3	+6,6	+4,3	+4,5	+5,1	+6,7	+9,8	+12,4	+13,3	+7,0	—3,9	—14,7	—22,7
Z	+0,8	—0,4	—1,1	—1,3	—1,0	—0,5	—0,1	+0,1	—1,0	—3,9	—7,0	—8 9	—8 2
													Quiet
H	—2,3	—1,3	—3,0	—1,1	—0,7	+0,2	—0,2	—1,0	—3,0	—4,2	—5,1	—4,0	—1,1
D	+4,7	+3,1	+3,2	+4,1	+5,4	+8,3	+11,8	+15,0	+16,3	+11,2	+1,5	—9,2	—16,4
Z	+3,7	+3,1	+2,9	+2,6	+2,6	+2,9	+2.9	+2,8	+1,2	—2,1	—5,6	—8,1	—8,6
													Disturbed
H	+17,4	+18,3	+17,1	+15,2	+12,1	+9,8	+2,3	—2,6	—11,4	—18,8	—22,0	—18,3	—10,5
D	+12,3	+12,6	+7,0	+6,4	+6,6	+4,9	+7,2	+9,4	+12,0	+2,0	—9,4	—18,4	—27,0
Z	—3,4	—6,1	—7,7	—7,9	—6,7	—5,5	—3,8	—3,9	—3,0	—4,7	—7,9	—11,1	—7,8

13	14	15	16	17	18	19	20	21	22	23	Monthly Average
means											
—4,0	—4,5	—5,4	—5,7	—4,7	—2,0	+0,8	+4,2	+6,1	+7,4	+7,3	21046γ
—24,6	—21,8	—15,8	—9,0	—3,3	+1,1	+4,1	+7,4	+8,9	+8,4	+8,9	+0°13,6'
—5,5	—1,8	+2,2	+5,2	+6,3	+6,3	+6,0	+5,2	+4,1	+2,9	+1,6	42350γ
days											
+1,4	+1,3	—0,1	+0,3	+1,0	+2,8	+3,9	+4,7	+4,6	+3,6	+3,3	21053γ
—19,5	—17,6	—12,1	—7,7	—4,2	—2,6	—1,5	—0,5	+1,1	+2,2	+3,4	+0°13,0'
—7,0	—4,1	—1,2	+0,2	+0,8	+1,5	+1,6	+2,0	+2,2	+2,1	+1,6	42345γ
days											
—12,6	—14,2	—15,0	—9,4	—8,3	—4,6	+3,9	+10,4	+11,9	+15,3	+14,0	21036γ
—30,2	—28,7	—21,7	—7,3	+2,1	+6,0	+6,8	+12,8	+13,9	+10,3	+10,4	+0°14,3'
—2,8	+3,0	+9,2	+10,7	+14,1	+14,9	+13,6	+8,3	+5,4	+2,8	+0,3	42356γ

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	4,9	5	1,8	180	2,0	149	1,1	39	0,4	52	0,7	63
February	6,7	46	3,3	209	3,0	120	0,9	319	0,3	228	0,1	13
March	8,2	54	2,8	122	3,1	188	1,6	2	0,7	108	1,1	183
April	9,8	103	2,0	71	5,3	233	2,1	84	1,6	277	0,9	174
May	9,0	119	5,1	62	4,6	260	2,0	101	1,5	323	0,8	56
June	12,8	109	2,8	356	3,2	248	1,9	138	1,0	29	0,5	45
July	15,9	114	4,7	353	3,3	241	1,0	199	0,3	303	1,2	86
August	13,3	115	4,9	31	3,8	236	1,5	26	1,0	346	1,6	209
September	8,9	101	3,6	26	3,5	215	2,1	18	0,6	343	0,5	322
October	11,9	73	1,0	303	2,8	181	1,9	82	1,2	228	0,3	82
November	7,0	44	3,3	241	1,2	181	1,6	67	0,7	169	0,4	292
December	6,8	345	2,9	200	0,7	208	0,5	18	0,4	293	0,2	335
Year	7,6	87	0,8	36	2,4	217	1,0	62	0,3	308	0,1	51
Q	3,0	152	1,1	252	2,0	213	0,4	35	0,5	198	0,1	295
D	18,3	86	2,0	12	3,2	234	1,6	47	1,2	296	1,3	78
						Declination						
January	6,4	105	4,7	193	1,1	76	1,1	259	1,0	18	0,5	83
February	8,8	83	6,7	195	2,9	66	2,2	266	1,7	81	0,4	80
March	11,5	81	10,2	231	3,5	50	2,1	306	1,1	122	0,8	108
April	17,0	58	14,8	225	7,6	89	1,8	272	1,0	198	0,7	105
May	19,1	52	12,4	244	4,8	104	0,6	19	0,8	301	0,3	156
June	20,3	37	14,5	232	3,6	75	0,5	110	0,2	312	0,9	49
July	19,2	37	14,0	236	3,9	60	0,8	106	0,4	258	0,8	356
August	18,1	52	12,3	246	4,1	91	0,7	351	0,8	186	0,1	108
September	15,0	63	10,8	235	5,5	76	2,2	284	1,0	213	0,3	221
October	12,2	84	8,5	209	5,7	49	3,1	264	0,8	161	1,2	9
November	9,7	108	6,0	182	3,8	86	1,9	277	0,5	99	0,4	53
December	9,5	119	3,7	190	0,6	107	0,9	341	0,6	109	0,2	225
Year	12,6	64	9,4	225	3,7	76	1,1	283	0,2	160	0,3	62
Q	10,4	37	7,6	228	4,1	77	0,9	264	0,3	151	0,3	85
D	16,4	78	10,3	228	4,7	55	0,4	294	0,9	277	1,8	54

	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	2,7	153	1,1	260	0,5	110	0,3	288	0,2	50	0,2	189
February	3,2	151	1,9	278	0,9	131	0,5	309	0,2	106	0,2	59
March	5,7	145	3,8	266	1,4	106	0,3	307	0,2	226	0	108
April	5,7	121	5,4	274	2,7	108	0,9	305	0	44	0,2	65
May	5,3	122	4,2	273	1,5	114	0,1	178	0,1	265	0,2	139
June	7,1	117	6,1	265	2,3	87	1,0	237	0,2	174	0,3	174
July	7,2	140	5,3	276	2,2	71	0,7	200	0,5	292	0,3	67
August	4,5	136	4,2	271	1,6	119	0,4	24	0,1	170	0,4	54
September	4,9	145	4,9	270	2,6	111	0,4	343	0	132	0,4	70
October	5,0	166	3,9	274	2,3	114	1,5	332	0,4	185	0,1	180
November	4,0	165	2,1	300	1,2	143	0,5	329	0,3	187	0,1	38
December	3,7	152	1,0	300	0,4	204	0,4	24	0	213	0,1	235
Year	4,7	140	3,6	273	1,5	108	0,4	305	0,1	197	0,2	77
Q	4,3	84	2,6	277	1,4	105	0,5	324	0,2	49	0,1	67
D	9,4	178	5,0	270	2,0	105	0,4	328	0,9	145	0,3	274

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 of 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 vom Jahre 1966, Sopron, 1967.

I.

Hourly means of the potential gradient

January

Hour GMT / Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	—10	—10	0	0	0	0	0	0	0	10	10	30	30
2.	—50	50	110	+S	+S	30	40	70	40	30	100	90	110
3.	0	0	10	—10	0	10	10	10	10	10	10	20	20
4.	0	0	0	0	0	0	0	0	0	0	0	0	—10
5.	30	50	50	20	60	30	20	40	30	40	20	10	30
6.	—	—	—	—	—	—	0	0	0	10	20	30	30
7.	70	60	30	130	+S	+S	40	40	10	—	—	100	110
8.	—10	—10	—10	+S	20	10	10	0	30	50	20	—20	50
9.	—30	—50	—30	0	0	0	0	0	0	0	0	0	0
10.	—10	—10	0	0	0	10	10	—	—	10	20	30	30
11.	60	0	40	20	0	—10	30	—20	—50	—60	—60	—90	—60
12.	10	—10	20	40	90	100	30	+S	100	140	100	90	120
13.	+S	130	100	90	40	80	40	10	—10	10	—10	—10	—20
14.	—30	—30	—40	—40	—40	—20	—20	—30	—	—40	—50	—50	—50
15.	—50	—80	—60	—40	—10	—20	—30	—100	—50	—40	—60	—70	—60
16.	—	—	20	20	20	20	20	10	20	20	40	40	0
17.	—20	—30	—20	—20	—10	—10	—20	—30	—10	0	—10	10	—S
18.	—240	—140	—190	—140	—90	—100	—110	—S	—110	—110	—	—	—
19.	—140	—210	—240	—290	—200	—130	—S	—130	—40	—40	—70	—260	—S
20.	—30	—10	—20	—40	—30	—40	0	—20	—S	—120	—S	—S	—
21.	—	—	—	—	—	—	—	—	—	—	—	—	—
22.	—	—	—	—	—	—	—	—	—	—	—	—	—
23.	—	—	—	—	—	—	—	—	—	—	—	120	80
24.	70	70	50	60	60	60	70	60	100	120	170	150	110
25.	—30	0	70	90	80	90	130	110	100	+S	170	130	90
26.	+S	120	100	110	150	100	70	160	130	+S	110	90	80
27.	—10	—40	—30	—30	—30	—40	—60	40	50	120	110	60	110
28.	20	60	50	70	70	90	130	+S	—	150	160	160	130
29.	30	—30	—60	—40	—40	0	—10	0	20	20	—20	—40	—30
30.	110	60	70	60	70	70	150	160	+S	60	90	20	0
31.	—10	—30	—40	—40	—40	—70	—70	—90	—80	—50	—80	—40	—10
Means	—11	—3	—1	1	7	10	18	12	13	14	32	22	36
Number of days	24	26	27	25	25	26	27	24	23	25	25	27	25

13	14	15	16	17	18	19	20	21	22	23	Daily means
60	70	80	140	140	130	190	+S	70	0	30	42
20	30	20	—10	—10	10	0	—10	0	—30	—20	—
20	0	0	0	0	0	0	0	0	0	0	5
—10	—10	—10	—10	20	20	30	50	80	60	50	11
—	—	—	—	—	—	—	—	—	—	—	—
30	30	50	50	70	100	100	80	90	80	130	—
140	130	—10	0	10	—20	0	—20	—10	—10	—10	—
100	130	120	50	70	80	70	0	10	—10	—10	33
0	0	0	0	0	0	0	0	0	—10	—10	—5
30	40	50	40	40	30	60	110	100	50	50	—
—60	—60	—60	—50	—	—10	—10	—10	—10	0	10	—20
80	70	130	180	+S	+S	+S	+S	+S	100	+S	—
—10	—10	—10	—10	—10	—10	—10	—10	—10	—10	—20	14
—50	—50	—50	—50	—30	—50	—50	—60	—20	—40	—50	—41
—40	—10	40	30	30	20	10	10	0	0	0	—24
—10	—10	—10	—10	—10	—10	—10	—10	—10	—10	—10	—
—S	—S	—S	—30	—30	—80	—S	—90	—S	—140	—180	—
—	—S	—S	—S	—S	—260	—150	—40	—20	—30	—20	—
—S	—100	—50	—40	—30	—S	—S	—50	—50	—20	—20	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—30	—190	+S	—S	—	—	90	110	120	160	120	—
110	120	90	70	70	100	120	120	130	100	60	93
40	50	100	100	100	120	150	100	100	80	60	88
110	120	100	100	100	40	20	100	80	30	30	—
+S	160	130	+S	+S	100	60	140	170	110	70	—
110	90	100	110	120	100	100	100	50	20	—10	—
—60	—50	20	—10	20	+S	50	80	80	90	90	5
—20	—40	—20	—80	—100	—90	—80	—30	0	—30	—20	18
30	70	110	130	150	180	200	200	+S	+S	180	—
26	23	38	29	33	22	39	35	40	21	19	
23	25	24	24	22	23	24	25	24	26	26	

February

Hour GMT / Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	+S	180	180	160	+S	+S	+S	+S	+S	|+S|	80	60	80
2.	50	40	60	130	160	150	150	40	110	|110|	190	160	80
3.	—30	—50	—100	—30	10	10	20	|20|	—90	—80	20	20	30
4.	50	60	70	60	90	100	+S	100	—	10	10	10	10
5.	50	60	80	70	70	80	80	90	100	|90|	80	90	80
6.	—10	—20	20	20	20	30	—110	—90	—	|—30|	30	40	—40
7.	20	40	50	70	70	60	70	80	100	|90|	80	110	110
8.	80	60	60	60	50	70	90	100	80	|100|	90	110	110
9.	80	70	20	—30	—30	—S	—50	0	50	|70|	100	70	120
10.	90	60	+S	±S	—S	60	80	100	80	|70|	100	130	130
11.	100	90	60	70	70	70	120	130	—	130	120	130	140
12.	100	110	110	110	110	120	140	110	130	|180	170	150	|130
13.	90	+S	+S	+S	+S	+S	+S	+S	+S	|190|	100	100	90
14.	30	50	50	60	50	60	30	60	120	|120|	|100|	110	120
15.	70	80	80	80	80	90	70	|70|	80	70	|70|	30	20
16.	50	50	30	30	40	30	10	—10	—50	—30	—50	—30	—50
17.	—10	—20	0	—30	0	40	|30|	|—20|	—60	—50	—50	—10	20
18.	20	20	30	20	10	10	30	50	—	—40	—30	—50	—10
19.	50	70	80	70	80	90	70	50	70	|50|	30	0	20
20.	70	80	40	50	40	60	60	60	0	|—10|	|—20|	—20	—10
21.	70	70	110	120	120	110	140	110	120	|130|	150	150	170
22.	80	70	40	60	90	80	0	100	—	—	—	140	160
23.	80	60	70	70	100	40	|50|	+S	+S	220	190	130	130
24.	—20	—10	—10	—20	—10	—30	10	—20	—20	—10	20	70	80
25.	30	10	30	30	30	50	30	|40|	—	|80|	20	—30	20
26.	100	90	80	80	90	90	80	60	|50|	30	30	50	30
27.	40	50	80	100	100	100	150	|170|	160	100	100	110	110
28.	100	100	80	60	100	100	120	|80|	—	50	100	100	80
Means	53	54	54	57	62	67	59	59	54	63	68	69	70
Number of days	27	27	26	26	25	25	25	25	19	26	27	28	28

13	14	15	16	17	18	19	20	21	22	23	Daily means
70	40	20	10	20	—70	—10	30	10	0	30	—
130	130	110	110	120	130	130	120	80	30	—10	105
70	70	60	50	40	40	10	50	90	80	110	18
10	10	—30	—50	—30	20	30	20	10	—10	0	—
80	70	80	60	10	20	—100	—60	0	—50	0	47
0	—40	—20	—S	±S	±S	±S	±S	+S	50	50	—
140	120	70	90	80	60	±S	90	70	90	±S	—
110	90	110	110	110	110	100	90	90	90	90	90
120	120	130	180	150	150	140	130	120	120	110	84
120	150	170	130	130	140	140	140	120	80	80	—
130	100	100	100	80	30	30	0	30	50	80	85
140	160	160	100	100	110	120	70	80	90	90	120
90	90	100	100	90	30	30	60	80	70	50	—
120	100	110	120	100	100	100	90	70	70	80	84
—50	—50	—10	0	—30	—50	—10	30	—40	20	50	31
—50	30	—10	—50	—30	0	—40	60	30	30	20	0
30	30	20	—30	0	—10	0	0	—30	—50	10	—8
30	30	50	30	20	0	30	40	90	50	100	23
20	20	30	30	50	100	60	10	10	90	80	51
—20	0	10	—10	10	30	30	50	60	40	70	28
170	170	160	180	200	190	170	100	110	100	60	133
110	170	150	110	130	160	110	100	80	40	50	—
130	150	160	90	—120	90	60	—30	—70	—20	—10	—
90	80	70	90	60	70	30	40	70	70	60	32
110	80	100	90	80	130	130	110	150	110	90	66
50	100	120	130	120	110	90	80	90	70	30	77
110	80	60	80	100	120	110	90	100	100	90	100
100	80	90	70	80	100	120	90	80	30	30	81
77	78	78	71	62	71	62	59	58	51	55	
28	28	28	27	27	27	26	27	27	28	27	

March

Hour GMT / Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	30	30	20	10	20	60	70	80	90	100	110	100	110
2.	30	40	40	30	40	40	50	20	20	80	110	110	110
3.	100	100	100	90	100	80	60	100	110	60	50	60	70
4.	60	30	30	30	20	30	30	30	—	20	40	40	70
5.	40	30	30	30	0	20	30	20	—170	—40	0	—90	—10
6.	30	30	20	—30	—100	80	0	10	10	—20	—20	40	50
7.	50	50	40	60	60	50	60	50	60	90	70	100	100
8.	—40	—70	—60	—60	—90	—80	—30	—50	—20	—10	30	40	30
9.	30	50	60	30	50	70	10	0	30	30	30	30	30
10.	40	30	40	40	30	30	30	130	110	70	70	60	60
11.	100	60	30	30	50	90	50	60	—	40	70	40	60
12.	30	10	60	60	60	—10	0	—30	—40	—40	—30	—30	0
13.	—40	30	10	40	30	30	20	30	50	80	90	80	90
14.	100	120	120	110	110	90	90	100	90	110	90	110	140
15.	80	90	100	70	70	90	50	30	30	60	100	100	100
16.	20	30	30	40	60	80	60	80	90	60	70	80	90
17.	50	30	40	60	60	50	70	80	90	—S	+S	30	50
18.	40	—S	10	30	30	50	50	50	—	100	100	100	110
19.	40	40	60	40	40	90	100	110	100	100	100	100	110
20.	40	70	30	10	10	—30	—30	—10	40	60	90	70	80
21.	60	60	50	70	30	50	100	100	120	120	140	130	140
22.	80	50	60	80	50	60	50	80	110	80	70	70	90
23.	60	50	70	50	60	70	100	100	100	100	110	90	70
24.	10	20	30	50	60	60	90	110	80	170	200	160	130
25.	50	60	60	50	60	50	90	70	—	70	50	±S	20
26.	50	70	50	60	70	70	70	40	30	50	70	100	100
27.	20	20	40	70	60	30	10	30	70	60	80	90	100
28.	40	50	40	50	40	80	100	100	90	90	100	70	70
29.	50	40	30	30	50	40	20	30	60	60	60	70	70
30.	60	60	50	70	60	50	70	80	90	80	70	90	120
31.	100	100	70	80	100	90	110	110	110	70	80	110	120
Means	45	46	44	45	42	50	51	56	57	63	73	72	80
Number of days	31	30	31	31	31	31	31	31	27	30	30	30	31

13	14	15	16	17	18	19	20	21	22	23	Daily means
100	100	100	100	100	90	80	80	80	50	30	73
110	100	100	100	130	130	130	170	130	120	140	87
60	40	50	50	50	40	30	40	60	70	50	68
60	60	50	40	70	80	70	60	50	30	40	45
—S	—S	—140	—S	—S	—S	—S	—S	—S	40	20	—
80	80	70	80	90	90	40	30	50	70	50	35
100	100	80	70	70	50	30	10	10	—30	—10	55
30	30	10	40	30	0	—30	10	30	10	30	—9
60	50	50	60	80	100	100	60	40	50	50	48
20	30	40	50	50	60	50	80	70	60	70	55
80	80	80	90	80	40	40	20	10	30	0	54
30	50	30	50	20	30	30	10	10	40	0	14
100	100	100	80	80	100	50	40	80	50	50	57
150	120	90	50	80	110	120	80	80	70	80	100
100	100	90	70	30	30	10	30	30	20	20	63
100	70	50	70	80	130	170	110	90	70	0	72
100	80	90	60	60	60	90	80	40	40	—S	—
100	80	80	50	40	80	80	70	60	30	50	—
120	140	150	100	40	20	—10	10	60	20	30	71
70	70	90	70	70	70	70	80	80	60	70	51
100	90	80	40	70	70	50	50	50	60	80	80
80	70	60	40	80	80	100	60	60	70	60	70
60	+S	+ S	50	30	130	90	110	80	70	40	—
130	110	80	100	100	70	80	50	40	30	40	83
±S	±S	±S	60	70	70	70	70	50	60	70	—
110	100	130	150	150	140	120	110	90	70	30	85
100	110	110	100	80	90	60	60	60	60	40	65
80	90	90	90	100	70	70	80	70	50	70	74
90	80	90	90	80	80	80	80	70	70	70	62
120	120	130	110	130	140	100	80	80	70	80	88
110	110	120	100	100	70	50	30	—20	20	30	82
88	84	74	74	75	77	67	62	56	49	46	
29	28	29	30	30	30	30	30	30	31	30	

April

Hour GMT / Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	30	50	50	50	50	70	70	70	—	50	30	40	30
2.	60	70	60	60	40	20	30	30	50	50	60	70	70
3.	40	40	40	50	40	60	70	90	100	80	70	60	60
4.	50	40	40	50	50	50	70	70	60	60	70	70	70
5.	30	30	20	40	40	50	60	60	70	70	70	70	50
6.	30	30	40	30	50	60	60	60	80	100	90	90	100
7.	60	60	40	20	20	40	50	50	—	80	80	80	80
8.	80	100	80	70	70	80	100	110	120	100	70	70	—
9.	40	50	40	30	60	80	110	120	130	130	140	140	150
10.	20	30	20	20	30	60	70	70	80	90	70	70	50
11.	40	30	30	30	30	50	70	70	—	60	70	60	50
12.	20	20	30	40	50	40	30	20	30	40	50	50	50
13.	100	80	60	30	30	70	70	20	0	—30	—20	20	20
14.	70	50	50	60	60	50	30	40	70	70	90	90	80
15.	70	50	40	40	50	60	50	70	40	60	30	50	50
16.	10	10	20	20	20	40	20	60	—	—	+S	60	70
17.	40	40	30	40	30	40	40	70	70	90	90	70	70
18.	10	20	20	20	40	30	40	60	70	100	100	80	70
19.	50	40	40	50	40	50	60	70	70	70	70	50	30
20.	50	50	30	40	40	70	70	60	70	70	70	60	50
21.	40	0	+S	+S	+S	+S	+S	—110	40	90	70	90	80
22.	40	30	30	30	20	30	40	20	—	+S	+S	—S	+S
23.	20	30	30	30	30	60	60	60	100	—	—	—	—
24.	30	20	20	30	20	20	—	—	—	—	70	70	—10
25.	30	20	20	20	20	50	20	50	60	—80	—S	—S	40
26.	10	20	20	20	40	50	20	20	60	70	0	—10	0
27.	40	20	20	30	30	30	50	60	60	50	50	50	50
28.	50	60	—10	—10	10	10	10	40	50	50	40	30	30
29.	+S	0	60	40	60	60	60	+S	—	30	50	60	60
30.	30	50	50	—	—	—	—	—	—	—	—	20	20
Means	41	38	35	35	38	49	53	52	67	62	63	61	54
Number of days	29	30	29	28	28	28	27	27	22	25	25	27	27

13	14	15	16	17	18	19	20	21	22	23	Daily means
30	40	40	40	50	60	40	30	20	30	40	44
80	70	60	60	60	60	40	50	40	30	30	52
70	80	80	60	80	90	100	90	70	60	60	68
80	90	90	90	100	100	90	70	50	40	30	66
60	60	40	60	90	80	60	60	60	40	40	55
110	100	110	120	110	100	70	70	80	60	60	75
70	50	70	70	70	100	110	100	90	70	70	67
—	—	110	140	120	120	120	80	70	60	50	—
130	120	100	80	60	70	90	60	50	40	30	85
40	40	60	50	50	50	40	30	30	30	30	47
50	60	60	60	70	80	90	110	70	50	50	58
60	50	60	60	40	40	70	90	70	60	80	48
20	40	70	70	110	110	130	130	120	100	60	59
90	80	100	110	100	60	60	70	80	60	60	70
60	50	40	50	40	40	40	40	30	10	—10	44
70	70	70	90	80	70	60	50	50	50	40	—
80	70	90	100	130	120	70	40	—30	—20	—10	57
80	70	60	40	60	50	50	50	50	50	50	53
60	40	50	60	70	70	70	70	60	50	50	56
50	50	60	50	30	30	50	40	30	30	70	50
100	80	70	+S	20	30	30	30	30	30	30	—
40	40	70	70	80	70	70	60	30	20	20	—
—	—	60	50	50	40	40	50	40	30	40	—
0	+S	+S	—60	—90	0	0	20	20	—30	20	—
30	0	20	40	40	20	10	0	10	0	10	—
40	40	20	30	—10	20	40	40	40	50	40	28
50	40	40	40	30	30	30	40	50	50	40	41
20	30	30	30	0	10	10	30	40	30	—40	23
40	70	+S	—S	+S	50	80	50	30	40	30	—
+S	+S	—S	+S	+S	+S	+S	+S	+S	+S	+S	—
60	59	64	61	59	61	61	57	48	39	37	
27	26	27	27	28	29	29	29	29	29	29	

May

Hour GMT / Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	+S	—50	—40	—30	—10	0	+S	—S	0	10	20	10	—10
2.	50	20	20	20	20	—10	20	30	60	70	60	50	40
3.	0	0	—	—	—	—	—	—	—	—	—	—	—
4.	—	—	—	—	—	—	—	—	—	—20	0	10	—10
5.	0	30	50	70	70	70	70	50	70	70	80	70	70
6.	—S	—S	—240	0	—10	20	30	50	60	70	100	—	90
7.	60	30	30	30	30	50	—	—	40	80	80	80	90
8.	30	40	50	40	40	40	70	90	110	140	130	100	110
9.	30	30	30	20	30	50	70	100	110	120	100	90	90
10.	60	50	50	40	50	50	70	90	60	70	60	60	40
11.	20	20	30	30	30	60	60	60	60	70	50	80	60
12.	50	30	—20	0	30	30	20	+S	50	40	40	40	0
13.	30	30	30	30	40	40	50	80	—	100	110	100	90
14.	10	0	10	10	10	20	30	40	60	80	60	±S	±S
15.	50	30	10	20	10	60	130	70	50	60	20	20	10
16.	—10	10	20	10	20	30	40	40	20	10	0	—20	30
17.	70	80	60	20	—10	+S	0	100	30	130	100	100	110
18.	10	30	20	20	30	50	60	—	90	100	120	130	200
19.	100	90	80	60	60	70	80	130	140	120	130	130	120
20.	50	50	50	40	50	80	—	80	100	100	100	—	—
21.	20	20	30	20	20	—	—	—	—	40	30	50	40
22.	10	20	0	0	—10	10	+S	—10	10	—60	+S	+S	±S
23.	40	50	40	40	50	60	70	70	60	50	+S	+S	+S
24.	20	20	20	30	30	30	50	80	70	80	90	90	90
25.	10	—90	—S	+S	+S	+S	—50	130	160	70	50	10	+S
26.	10	20	30	30	50	80	80	90	70	70	70	60	60
27.	30	30	30	30	30	50	90	100	—	—	60	50	50
28.	40	30	20	50	40	—10	30	30	60	60	50	40	40
29.	50	40	50	50	40	40	40	50	50	50	30	50	50
30.	20	10	20	50	40	30	50	80	100	100	110	90	50
31.	20	20	10	10	10	0	30	50	60	50	30	30	50
Means	30	24	18	26	28	38	50	70	67	67	67	61	62
Number of days	28	29	28	28	28	26	24	24	26	29	28	25	25

13	14	15	16	17	18	19	20	21	22	23	Daily means
—30	—20	30	40	30	20	10	20	20	10	10	—
10	—10	—10	—20	0	—10	—10	20	10	10	20	18
—	—	—	—	—	—	—	—	—	—	—	—
0	30	40	30	30	40	70	40	20	0	—50	—
70	20	50	70	60	40	60	70	40	0	—240	42
60	50	40	40	50	40	40	70	40	30	30	—
100	100	100	120	110	100	70	60	90	80	50	—
110	100	100	110	110	90	50	30	30	30	30	74
70	60	40	50	70	50	50	60	70	60	50	63
40	50	50	50	40	30	30	30	30	30	20	48
80	70	60	60	40	30	30	40	40	50	50	49
40	30	20	30	30	50	60	40	40	40	30	31
80	80	80	80	60	60	50	40	20	20	20	57
±S	±S	±S	±S	±S	±S	—S	20	40	40	40	—
+S	+S	0	—S	20	40	40	30	20	—10	10	—
40	50	70	110	110	100	110	110	100	90	80	49
100	90	90	100	100	90	80	40	30	30	30	68
130	140	130	110	170	170	140	120	100	100	100	99
120	120	110	100	100	80	90	90	80	80	80	98
—	60	60	30	20	40	50	50	40	30	20	—
70	50	50	40	60	50	50	50	30	20	20	—
±S	±S	+S	30	+S	+S	50	60	70	40	30	—
+S	10	40	30	30	40	50	40	30	30	30	—
90	80	90	100	100	70	50	50	40	40	30	60
+S	10	—30	10	—S	+S	30	30	20	10	10	—
60	60	60	60	60	70	60	50	30	30	30	54
70	80	90	90	70	50	50	50	40	20	30	—
50	50	50	60	70	60	50	50	60	50	50	45
70	70	80	100	110	80	60	50	40	40	30	55
50	40	50	50	50	50	50	40	30	10	20	50
50	40	—S	±S	20	30	20	0	30	40	40	—
64	56	57	62	64	58	53	48	43	35	23	
24	27	27	27	27	27	29	30	30	30	30	

June

Hour GMT / Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	40	—20	+S	—30	20	40	+S	±S	+S	10	+S	110	50
2.	0	—10	0	—20	10	30	10	0	0	|10|	20	30	30
3.	40	40	50	50	50	60	80	80	—	'100'	—	110	100
4.	30	40	40	30	30	40	'60'	110	100	100	100	100	110
5.	50	100	80	90	50	70	|70|	100	80	120	110	110	120
6.	50	40	50	40	30	0	20	10	30	90	+S	—	—
7.	—10	—10	±S	+S	0	30	±S	+S	+S	+S	+S	—S	80
8.	30	20	30	30	40	60	'80'	100	100	110	70	60	40
9.	30	30	50	40	50	70	'80'	90	100	100	90	100	90
10.	30	30	30	0	20	—	80	—	—	140	100	70	70
11.	—20	—10	—10	10	30	20	'30'	20	30	—10	+S	±S	±S
12.	40	50	50	70	70	60	+S	|20'	60	40	—S	±S	+S
13.	—30	—100	—150	—120	—30	0	—10	30	0	—30	10	60	30
14.	—S	—40	30	30	30	70	'80'	±S	+S	+S	+S	120	+S
15.	40	40	30	30	30	70	90	|80|	100	80	80	—S	90
16.	30	40	40	50	40	60	50	90	|110|	100	100	90	80
17.	30	30	30	30	30	40	50	40	—	|60|	—S	10	+S
18.	30	30	30	30	50	30	|60'	70	70	70	80	100	±S
19.	30	30	20	20	30	50	|50|	20	40	50	60	60	80
20.	40	40	30	30	40	70	'80'	100	100	110	100	100	100
21.	70	50	40	40	70	+S	'100'	120	110	100	120	110	100
22.	40	40	40	30	40	50	30	|50|	50	50	50	70	30
23.	30	20	20	20	30	100	+S	+S	90	70	80	90	70
24.	40	40	40	—S	±S	±S	—90	0	±S	—	+S	+S	80
25.	30	30	40	30	30	50	|50|	80	70	70	80	80	90
26.	40	30	70	50	60	100	100	100	'100'	100	70	100	90
27.	+S	30	30	30	40	40	40	90	+S	±S	|70|	60	50
28.	10	—20	—20	10	30	50	50	30	50	50	60	70	50
29.	60	60	30	30	60	80	60	40	90	90	|90|	'70'	50
30.	0	10	10	10	10	30	40	|50|	50	50	40	50	60
Means	29	22	26	24	34	51	52	61	70	70	75	80	73
Number of days	28	30	28	28	29	27	26	25	22	26	21	24	24

13	14	15	16	17	18	19	20	21	22	23	Daily means
60	—40	—40	—20	—30	—20	—30	—10	0	0	30	—
20	20	30	50	50	50	50	50	50	40	40	23
100	110	110	130	90	60	50	40	40	30	30	—
120	100	100	100	100	100	100	60	50	70	100	79
120	140	140	120	100	50	50	60	50	40	30	85
+S	±S	±S	±S	20	30	0	0	0	—10	—10	—
10	50	50	50	50	60	70	70	60	50	40	—
60	60	50	60	60	60	50	60	70	70	40	54
40	60	±S	±S	+S	30	20	30	—20	100	—10	—
50	30	—120	—60	60	80	40	30	—60	—50	—20	—
+S	±S	20	20	10	30	30	40	50	40	50	—
+S	30	40	—S	±S	30	30	60	0	—20	30	—
±S	0	30	0	10	30	50	60	70	60	60	1
±S	20	30	60	40	40	40	30	40	60	40	—
90	±S	+S	100	100	50	30	30	30	30	40	—
60	90	+S	0	40	40	50	40	30	40	30	57
±S	—S	+S	60	60	50	20	10	20	30	20	—
±S	±S	—S	100	80	50	40	50	40	40	50	—
80	90	100	100	110	120	80	70	50	50	40	60
100	30	60	100	100	±S	±S	—40	20	30	60	—
100	110	100	100	60	60	50	40	30	30	30	76
+S	±S	±S	—S	60	50	30	—30	—60	—30	30	—
70	80	+S	80	40	±S	±S	20	10	20	30	—
70	30	30	30	30	40	30	30	30	30	30	—
100	90	80	80	70	60	60	40	30	40	30	59
70	80	80	90	90	100	100	100	+S	10	+S	—
50	60	60	70	70	80	±S	±S	40	40	30	—
60	70	70	80	+S	±S	±S	0	40	70	60	—
70	70	80	90	80	90	50	+S	+S	40	0	—
50	40	+S	50	50	50	80	80	70	90	70	45
70	59	52	63	59	54	45	36	28	35	34	
22	24	21	26	27	27	26	28	28	30	29	

July

Hour GMT / Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	60	+S	40	50	60	50	30	—	—	—	+S	60	60
2.	30	30	30	30	50	60	40	50	—	—	40	30	30
3.	40	30	20	50	40	50	50	50	70	60	70	60	70
4.	50	40	40	40	30	50	70	40	30	40	40	50	60
5.	30	30	30	30	30	40	40	50	50	70	60	60	70
6.	40	50	40	50	50	60	60	70	70	60	60	50	±S
7.	—50	±S	—40	—20	40	40	50	50	—	—	—	—	—
8.	—	—	—	—	—	—	—	—	—	—	70	60	70
9.	30	20	10	10	20	30	50	30	40	50	30	30	+S
10.	30	—100	—120	—40	60	70	100	—	—	40	30	40	40
11.	30	30	30	30	30	30	0	30	50	30	100	110	+S
12.	±S	+S	10	—70	—S	—	±S	±S	+S	20	±S	+S	30
13.	—50	—100	—10	40	30	70	70	70	70	70	50	60	70
14.	30	30	20	30	30	50	50	70	80	80	90	70	60
15.	40	40	30	30	20	20	20	30	20	—	—20	30	50
16.	100	70	70	90	60	70	40	40	50	40	40	50	50
17.	50	50	50	50	60	50	—	—	—	—	—	—	110
18.	+S	+S	±S	±S	50	60	+S	+S	80	70	10	40	—20
19.	50	30	40	30	40	60	60	70	70	100	110	100	110
20.	70	80	100	80	80	80	100	120	100	130	130	120	110
21.	0	—S	±S	30	100	120	120	60	40	0	50	80	120
22.	70	70	70	70	60	90	110	130	—	—	60	100	80
23.	30	30	30	30	20	20	30	30	30	60	50	80	80
24.	30	30	30	30	30	40	60	70	70	100	120	110	100
25.	40	0	10	0	—S	—S	+S	+S	—20	90	+S	±S	40
26.	20	20	10	0	0	30	40	60	50	50	50	60	60
27.	30	30	30	30	30	30	50	70	80	80	70	70	60
28.	10	20	10	0	10	50	60	50	50	70	60	60	60
29.	0	0	0	—10	0	20	30	30	—	50	50	50	60
30.	30	30	10	0	0	10	40	60	50	60	70	70	110
31.	20	20	10	10	30	30	60	70	110	100	100	120	+S
Means	31	23	21	24	38	49	55	58	56	63	61	67	67
Number of days	28	25	28	29	28	28	26	24	22	24	26	27	26

13	14	15	16	17	18	19	20	21	22	23	Daily means
70	60	70	90	60	30	30	0	—30	—40	30	—
40	40	50	70	80	90	70	60	50	50	40	—
70	50	50	±S	±S	±S	±S	±S	—S	50	50	—
70	80	70	80	90	80	80	70	60	50	40	56
70	60	70	60	50	60	70	80	50	40	40	52
—S	40	+S	±S	±S	—S	20	20	—50	—50	—60	—
—	—	—	—	—	—	—	—	—	—	—	—
60	60	+S	60	50	70	70	60	50	40	30	—
—90	—20	20	0	—60	—170	—50	+S	±S	30	30	2
50	50	50	60	70	60	40	40	30	40	30	—
70	40	120	100	70	70	—140	—S	+S	±S	—40	—
—20	50	70	100	100	90	80	70	50	20	0	—
60	70	+S	70	70	70	60	60	40	30	30	44
60	70	60	60	60	60	60	40	50	50	50	55
50	80	100	80	60	70	80	70	80	90	70	50
60	70	60	60	60	70	60	70	70	60	60	61
120	120	+S	±S	±S	100	+S	—S	+S	—S	+S	—
30	80	80	60	50	50	50	60	50	50	50	—
110	80	50	100	80	60	80	80	90	90	80	74
90	90	70	90	80	50	—	—	—	70	40	—
100	70	—20	40	40	20	50	40	50	50	50	—
70	50	30	30	30	30	30	30	30	30	30	—
90	90	100	100	70	60	80	100	70	50	30	57
100	90	70	70	80	60	50	60	20	50	60	64
50	50	60	60	50	50	50	50	30	30	30	—
90	90	100	90	50	50	50	40	30	30	40	46
50	50	50	50	50	40	40	30	30	20	30	46
60	70	±S	—S	60	30	30	—	—	10	10	—
70	60	60	40	40	30	40	40	40	40	40	34
±S	—S	70	30	30	30	30	0	30	20	20	—
±S	±S	±S	70	60	40	30	30	20	30	+S	—
61	64	63	66	57	52	42	50	39	37	33	
27	28	24	26	27	28	27	24	24	28	28	

August

Hour GMT / Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	+S	±S	—S	—10	10	30	100	80	70	70	70	80	70
2.	10	30	20	20	30	30	30	60	70	90	110	120	110
3.	±S	±S	±S	—20	—10	—S	±S	+S	+S	130	110	110	100
4.	0	0	0	—10	—20	—10	10	30	40	50	50	40	40
5.	30	30	10	30	30	30	40	50	—	+S	±S	+S	90
6.	50	50	50	50	50	60	50	50	80	90	100	100	70
7.	30	20	20	10	30	40	40	40	40	50	60	70	70
8.	30	40	30	30	30	50	40	40	60	50	40	60	70
9.	10	10	10	10	10	30	30	—	—	—	80	70	±S
10.	30	40	30	30	50	50	80	60	80	70	70	40	50
11.	40	—90	10	30	40	60	120	100	70	70	60	30	10
12.	30	30	30	30	30	30	40	30	—	20	0	30	40
13.	30	30	20	10	10	30	50	60	70	80	70	70	70
14.	30	30	30	30	30	30	30	50	60	70	60	70	70
15.	10	0	0	0	10	20	30	40	60	60	70	70	70
16.	0	0	—10	—10	0	30	40	60	100	90	70	60	60
17.	30	20	10	0	30	60	50	30	—	—	—	—	—
18.	—	—	—	—	—	—	—	50	70	70	70	70	70
19.	0	10	10	10	20	30	30	40	50	50	60	80	100
20.	0	10	30	30	10	20	10	20	30	30	60	70	90
21.	30	30	30	30	30	70	80	30	—	—	80	100	100
22.	±S	±S	±S	±S	—10	40	—10	40	50	50	—10	—10	0
23.	30	40	70	40	20	60	140	+S	+S	+S	130	140	120
24.	50	50	60	70	70	120	130	90	90	110	110	110	110
25.	70	60	50	40	60	70	130	100	80	80	100	130	110
26.	0	+S	+S	30	—S	±S	50	110	—	0	90	60	+S
27.	40	50	90	70	60	±S	±S	±S	—S	90	120	100	160
28.	70	50	50	40	—40	0	50	50	40	50	50	110	120
29.	—	—	—	—	80	110	110	100	120	140	130	120	130
30.	110	110	100	90	100	90	+S	110	100	130	100	100	100
31.	40	40	40	50	50	70	80	60	60	70	60	50	50
Means	31	28	32	26	28	46	59	59	68	72	75	78	80
Number of days	26	25	25	28	29	27	27	27	22	26	29	29	28

13	14	15	16	17	18	19	20	21	22	23	Daily means
70	130	110	70	60	50	40	50	40	30	30	—
90	80	100	90	+S	—20	±S	±S	—S	—30	—S	—
100	100	100	100	60	30	40	30	0	0	10	—
50	50	30	30	40	50	50	30	30	30	20	26
100	110	110	120	80	70	40	+S	30	60	60	—
80	70	60	70	60	50	60	50	60	60	40	63
70	70	70	60	50	60	50	30	40	30	30	45
70	80	80	70	+S	±S	±S	±S	—S	—S	±S	—
+S	+S	50	30	50	70	70	40	40	40	30	—
40	40	40	40	±S	±S	±S	±S	30	30	50	—
50	50	50	40	50	60	50	40	30	40	30	43
30	20	20	20	30	30	30	40	30	30	30	28
60	50	50	60	50	50	50	40	30	30	30	46
70	70	60	50	30	30	30	20	10	20	30	42
70	80	—140	30	30	20	20	10	0	10	10	24
50	60	70	50	40	50	50	30	30	30	30	41
—	—	—	—	—	—	—	—	—	—	—	—
70	70	70	60	60	60	40	30	30	20	20	—
90	100	100	80	50	40	30	10	30	20	0	43
100	120	110	100	60	40	50	40	40	40	40	48
100	120	110	80	70	70	70	70	60	60	—S	—
20	50	50	50	60	70	70	50	70	30	20	—
150	120	110	80	60	70	70	70	70	70	70	—
110	110	130	130	140	120	120	110	90	70	60	98
100	100	90	80	90	70	70	60	40	30	40	77
+S	130	110	110	100	—S	±S	+S	+S	50	60	—
150	100	160	50	50	90	120	120	130	110	100	—
160	110	70	50	—	—	—	—	—	—	—	—
110	100	110	70	60	80	100	110	130	120	130	—
80	80	80	70	60	70	70	50	50	50	40	84
50	60	60	60	60	70	70	70	70	50	50	58
82	84	74	67	60	56	58	50	47	40	41	
28	29	30	30	26	26	25	24	26	28	26	

September

Hour GMT / Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	50	+S	30	50	40	+S	—S	70	[+S]	140	130	110	90
2.	50	60	90	+S	80	140	110	130	—	150	160	140	130
3.	100	+S	120	30	30	140	+S	+S	150	100	70	110	130
4.	70	30	70	40	30	40	40	60	60	70	70	60	—S
5.	50	40	30	40	30	40	60	100	100	90	100	100	100
6.	70	60	70	60	60	80	90	100	100	100	90	100	100
7.	30	20	30	40	30	30	—	60	50	50	40	40	50
8.	30	30	30	30	30	30	70	100	110	90	70	70	70
9.	70	60	50	60	100	80	100	130	—	130	100	80	70
10.	60	60	60	60	80	80	100	80	50	50	30	10	40
11.	70	60	60	50	70	100	150	150	190	180	170	190	170
12.	30	30	20	20	30	30	50	60	60	80	80	70	70
13.	50	40	40	50	50	80	100	100	100	100	100	100	100
14.	30	30	20	30	30	30	70	80	100	90	110	110	130
15.	50	50	40	50	40	30	50	110	130	160	120	100	120
16.	30	30	30	40	30	40	—	40	0	20	30	50	30
17.	50	50	50	50	50	50	50	50	50	50	50	70	50
18.	60	60	70	60	70	60	70	60	60	60	70	60	50
19.	70	60	50	60	50	60	120	110	120	80	70	80	90
20.	50	40	30	30	40	60	70	60	50	50	40	40	60
21.	10	50	60	100	90	90	120	200	140	100	90	60	100
22.	50	60	50	20	40	40	20	80	120	110	30	40	50
23.	—20	—20	+S	—S	—20	+S	50	70	—	110	130	110	150
24.	20	30	30	30	30	10	—20	20	40	70	±S	—S	20
25.	—10	—50	—10	30	30	20	30	+S	40	30	+S	+S	+S
26.	70	70	100	100	100	120	160	+S	+S	+S	+S	70	60
27.	30	30	30	40	70	70	70	80	80	80	70	60	70
28.	90	80	100	80	100	100	+S	+S	120	100	120	+S	130
29.	100	70	60	80	80	130	+S	+S	120	50	0	—80	±S
30.	±S	—S	50	120	±S	+S	70	30	—	—S	—S	—S	—S
Means	49	44	50	52	52	66	75	85	89	89	82	75	86
Number of days	29	27	29	28	29	27	24	25	24	28	26	26	26

13	14	15	16	17	18	19	20	21	22	23	Daily means
110	90	110	90	100	100	90	—40	50	50	50	—
110	100	100	100	110	110	100	80	80	80	80	—
140	140	160	160	120	120	120	100	90	70	60	—
±S	—S	140	+S	130	100	100	100	90	80	70	—
100	100	+S	100	100	120	110	100	110	100	90	83
90	100	100	100	100	80	70	70	100	30	50	82
60	40	40	50	70	100	100	—	—	—	—	—
70	70	50	50	50	40	30	50	40	50	70	55
80	70	80	80	70	50	40	50	60	60	70	76
50	—S	±S	40	80	100	—	—	100	80	70	—
160	140	120	100	70	60	60	50	60	50	30	105
60	70	70	60	70	60	40	70	60	50	50	54
100	100	90	50	50	40	40	50	30	50	40	69
120	120	100	100	100	100	100	80	60	50	50	77
130	110	100	80	70	60	60	60	60	40	40	78
10	10	40	60	50	50	60	50	60	60	50	38
50	70	60	70	70	80	70	50	50	50	60	56
50	50	70	50	80	80	80	80	90	70	70	66
110	110	100	90	70	80	70	70	50	40	30	77
50	50	50	50	60	50	10	0	—50	—10	30	38
60	60	80	60	70	50	+S	50	70	50	50	79
50	30	50	50	50	80	80	70	20	—40	±S	50
140	110	100	80	60	70	80	70	30	30	—10	—
±S	+S	±S	±S	—S	—S	—90	—S	—S	—170	—50	—
70	50	70	60	70	70	90	100	70	80	60	—
50	40	40	30	40	50	40	30	30	30	30	—
80	100	110	110	+S	120	120	90	80	70	90	76
130	110	100	100	80	100	130	120	120	120	120	—
100	80	70	90	100	100	90	70	100	30	—S	—
—30	40	100	120	120	100	100	80	60	80	60	—
82	80	85	78	79	80	71	65	63	46	52	
28	27	27	28	28	29	28	27	28	29	27	

October

Hour GMT / Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	50	60	80	60	80	90	100	130	100	90	—	—	+S
2.	30	50	30	30	20	30	60	+S	+S	100	100	100	70
3.	±S	—S	+S	10	10	30	50	60	60	60	60	60	60
4.	20	40	50	50	50	+S	±S	+S	20	±S	+S	—S	20
5.	40	40	40	50	40	40	60	40	70	60	60	30	20
6.	60	60	70	100	70	70	80	70	60	60	70	60	30
7.	30	30	30	50	60	50	20	30	—	80	70	70	50
8.	20	0	30	10	20	0	0	20	—30	—S	±S	±S	20
9.	20	20	30	40	30	30	40	70	80	70	40	70	50
10.	70	30	20	20	20	20	20	30	30	30	40	70	70
11.	40	60	70	60	70	60	80	110	120	30	20	20	20
12.	70	60	50	50	50	30	60	70	70	70	70	60	0
13.	—S	—S	—S	—80	30	70	—	80	90	70	70	70	70
14.	70	70	70	80	70	90	100	90	—	70	60	70	80
15.	50	50	50	60	60	70	70	70	70	80	90	80	70
16.	—40	—10	10	10	20	30	+S	70	70	70	30	40	70
17.	30	10	50	60	60	100	90	70	60	70	—	—	90
18.	70	70	60	50	70	70	100	90	90	70	70	70	70
19.	30	30	30	30	30	30	70	60	60	0	10	20	30
20.	70	70	80	70	60	50	20	20	20	10	50	+S	±S
21.	50	50	60	60	30	30	20	—100	—	10	—40	—S	±S
22.	30	40	50	40	30	30	30	70	70	70	70	60	50
23.	70	70	70	50	70	70	80	110	90	—	90	80	70
24.	60	50	50	20	40	30	30	—10	0	20	30	20	40
25.	10	40	20	20	20	30	60	50	60	70	70	70	80
26.	30	50	40	110	30	20	—10	90	70	70	30	20	—S
27.	90	80	70	70	50	40	50	50	30	0	+S	+S	40
28.	—S	—S	—S	—S	+S	30	120	100	—	60	70	+S	±S
29.	110	110	120	130	120	120	110	80	70	80	70	70	80
30.	80	70	70	80	70	100	90	110	100	90	70	70	70
31.	30	30	30	30	30	50	50	50	70	70	70	60	90
Means	46	48	51	47	47	50	59	61	62	58	55	58	54
Number of days	28	28	28	30	30	30	28	29	26	28	26	23	26

13	14	15	16	17	18	19	20	21	22	23	Daily means
—30	—S	—S	30	80	100	100	90	60	50	30	—
100	100	+S	70	40	+S	—S	±S	+S	±S	±S	—
60	60	60	50	40	20	20	50	40	20	—10	—
80	20	—20	20	20	30	30	30	30	20	20	—
20	70	80	70	70	90	80	110	80	70	60	58
50	—S	—S	40	40	60	70	50	50	40	40	—
40	40	50	50	50	20	30	20	—20	20	20	39
60	20	60	90	100	50	30	20	—10	—10	0	—
20	±S	±S	10	20	20	30	30	30	40	50	—
70	80	60	70	60	70	70	70	60	60	50	50
50	70	70	70	70	90	80	90	80	70	80	66
—S	+S	—30	—30	+S	—S	—S	—S	—S	±S	—S	—
80	90	100	100	110	120	100	100	90	70	70	—
60	80	80	40	60	60	70	80	100	70	70	74
50	30	30	—30	±S	—S	—S	—S	±S	—S	—S	—
70	70	40	+S	+S	—40	+S	+S	—S	—S	30	—
90	80	70	50	60	100	130	100	70	70	60	—
60	70	70	80	90	100	70	60	40	40	30	69
50	50	40	10	20	70	90	80	50	70	70	43
±S	±S	±S	±S	±S	20	60	20	40	50	70	—
±S	±S	±S	±S	±S	+S	—40	—140	40	50	40	—
50	70	70	90	70	80	70	70	70	70	60	59
90	100	110	100	90	130	140	110	100	120	90	91
30	70	70	120	120	120	80	60	20	0	10	45
90	80	70	70	60	70	90	70	70	40	20	55
±S	70	±S	50	30	80	140	120	80	90	90	—
+S	10	70	50	90	100	130	120	120	+S	100	—
+S	—20	60	70	70	70	70	90	90	110	100	—
70	70	70	90	140	180	190	150	130	120	120	108
60	70	70	70	90	80	70	70	60	60	40	75
70	70	80	100	100	80	80	80	100	100	90	67
58	61	60	57	69	73	77	67	62	58	54	
25	25	24	28	26	27	27	27	27	26	28	

November

Hour GMT / Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	70	60	60	70	70	40	60	60	50	60	60	60	70
2.	60	60	70	50	50	60	80	100	100	90	80	70	70
3.	+S	30	10	0	10	30	30	40	50	70	70	50	50
4.	30	30	30	30	20	20	30	50	—	60	70	100	90
5.	60	40	60	20	—50	—190	—60	—20	—110	—80	—140	—230	—150
6.	30	0	30	20	50	50	60	100	80	10	—40	—90	—60
7.	30	30	20	10	10	40	40	20	50	20	20	30	50
8.	50	60	60	40	60	90	60	100	100	100	130	130	120
9.	60	60	50	50	50	50	80	120	140	—	80	110	130
10.	100	70	100	120	160	+S	±S	+S	+S	+S	+S	90	80
11.	60	60	30	70	130	130	70	+S	—	150	100	110	100
12.	—50	—40	—20	0	10	50	+S	60	100	50	30	50	120
13.	+S	70	50	60	100	110	100	90	80	100	+S	80	70
14.	70	50	80	+S	+S	+S	+S	+S	+S	+S	130	100	100
15.	60	70	120	90	90	+S	+S	+S	+S	100	90	70	70
16.	50	40	0	10	40	40	50	70	80	70	70	70	70
17.	50	40	40	50	60	70	70	100	90	90	100	100	100
18.	+S	+S	40	70	200	+S	130	100	—	140	170	170	200
19.	80	50	40	20	30	50	70	110	70	50	—S	±S	+S
20.	100	60	70	70	90	90	140	160	200	180	140	130	130
21.	130	200	±S	40	110	70	170	+S	40	170	120	—50	—30
22.	90	90	70	60	110	+S	+S	+S	200	130	60	—	40
23.	120	—160	+S	10	—20	—100	30	—80	—10	0	40	30	60
24.	90	—10	—30	0	20	10	0	0	20	0	—30	—70	—130
25.	—90	—140	—140	—70	—60	—90	—80	—	—	—90	—100	—70	—60
26.	60	50	40	40	70	70	130	150	—	—	100	—S	70
27.	100	80	110	110	90	70	90	90	100	110	100	100	110
28.	—10	—10	—30	—50	0	40	—S	±S	—S	60	70	60	60
29.	—S	30	40	30	40	20	30	30	30	—10	30	40	30
30.	30	30	30	100	+S	30	60	70	100	60	80	70	70
Means	55	34	37	39	55	34	60	69	74	65	60	49	53
Number of days	26	29	28	29	28	25	24	22	21	26	27	27	29

13	14	15	16	17	18	19	20	21	22	23	Daily means
70	80	90	100	100	80	80	70	60	60	50	68
80	100	90	120	100	70	+S	50	20	20	+S	—
60	60	60	90	100	120	110	90	70	60	40	57
80	70	60	60	60	60	60	80	80	100	90	59
—50	—30	—40	20	10	40	60	30	30	40	40	—29
—10	—20	—50	—180	—150	—70	—10	0	20	—20	—50	—13
60	40	20	70	60	60	90	100	90	60	60	45
120	130	130	160	170	140	110	100	100	100	80	102
70	110	80	90	100	100	110	90	100	80	80	87
100	110	100	90	60	60	40	60	70	40	50	—
100	70	90	60	70	40	—20	0	—10	—30	—50	—
140	120	100	80	90	150	30	50	70	30	70	56
60	80	70	40	70	100	100	40	90	100	70	—
100	110	120	100	70	70	90	80	70	70	60	—
70	70	70	70	70	70	70	60	50	50	40	—
70	70	80	90	80	100	+S	160	120	80	60	68
130	120	130	140	140	150	150	170	150	+S	+S	—
190	140	130	130	130	110	—30	—30	110	90	80	—
±S	±S	±S	±S	±S	100	110	120	90	90	90	—
130	130	120	130	140	150	170	170	140	110	20	124
—20	40	120	200	150	120	180	130	130	90	50	—
60	40	80	200	150	+S	130	+S	100	80	80	—
100	80	100	80	120	140	60	20	50	80	30	35
—100	—90	—90	—80	—100	—130	—140	—130	—90	—80	—80	—52
—50	—40	—60	—S	—S	—S	30	90	80	70	70	—
100	100	70	40	—20	70	50	40	90	100	100	—
100	90	100	110	80	70	100	80	60	0	0	85
70	100	100	40	80	60	30	20	30	30	—S	—
40	60	60	60	50	60	—S	+S	50	30	30	—
50	60	50	90	100	110	100	110	110	80	70	72
66	69	68	79	74	79	69	66	71	56	46	
29	29	29	28	28	28	27	28	30	29	27	

December

Hour GMT / Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	80	80	100	90	50	+S	±S	±S	±S	30	20	110	80
2.	—S	—S	±S	±S	—S	—10	50	70	—	70	90	80	100
3.	70	70	70	60	50	50	60	70	80	80	100	90	110
4.	50	50	50	40	50	60	140	110	110	140	100	100	150
5.	+S	150	50	80	20	40	60	50	60	60	60	80	60
6.	40	50	50	70	70	90	80	140	90	70	±S	±S	—20
7.	±S	20	—S	±S	20	—S	±S	+S	+S	+S	90	100	70
8.	40	50	50	50	30	30	60	70	90	—40	20	0	—S
9.	20	20	10	0	10	—20	—10	0	—	40	80	70	80
10.	70	—40	—50	—90	—10	—50	—30	0	—10	0	20	70	70
11.	+S	+S	+S	+S	+S	+S	100	20	40	60	20	40	—20
12.	+S	—S	—S	30	50	70	80	100	110	120	130	110	110
13.	30	—30	40	20	40	60	50	+S	30	70	70	70	40
14.	0	10	30	20	20	0	—20	—20	30	20	20	50	80
15.	80	70	60	140	110	150	100	160	110	110	100	110	100
16.	70	70	80	70	60	60	80	70	—	120	90	110	100
17.	70	70	60	50	80	70	50	60	70	60	50	30	—30
18.	30	50	90	100	90	70	90	+S	140	100	140	110	140
19.	50	30	50	60	90	40	70	90	100	90	120	90	70
20.	50	60	20	—10	—10	0	—10	20	20	70	130	100	90
21.	40	60	50	70	100	70	90	50	+S	140	170	150	140
22.	100	110	100	100	100	190	190	+S	—	210	160	140	150
23.	110	100	140	140	+S	+S	+S	+S	—	+S	+S	+S	+S
24.	20	—30	—10	10	—20	10	—40	20	—10	—10	40	50	70
25.	80	70	50	90	50	—20	40	50	80	50	50	40	80
26.	40	0	—10	30	70	—10	10	10	—10	50	90	80	140
27.	80	50	50	50	50	60	90	90	120	130	150	140	170
28.	80	70	80	60	90	120	120	120	120	180	140	130	150
29.	80	70	70	90	80	—	50	90	90	160	130	—	+S
30.	±S	40	50	70	60	60	70	70	—	—	110	90	90
31.	90	90	30	80	60	+S	100	+S	+S	100	40	110	160
Means	55	50	50	56	52	48	61	63	70	81	87	88	90
Number of days	25	28	27	28	28	25	28	24	21	28	29	28	28

13	14	15	16	17	18	19	20	21	22	23	Daily means
90	90	60	100	150	80	90	110	40	50	±S	—
90	100	40	20	130	110	30	120	60	70	70	—
100	140	110	110	40	40	40	50	60	60	40	73
110	150	140	110	50	120	110	110	40	+S	+S	—
60	+S	70	80	70	70	70	70	—S	±S	+S	—
50	100	50	+S	±S	±S	±S	±S	±S	—S	±S	—
70	70	70	100	120	140	110	70	70	40	60	—
—S	±S	+S	+S	+S	—50	—10	—S	—30	—90	—20	—
110	0	—10	60	60	80	120	150	130	120	150	55
60	70	80	70	0	100	60	140	190	160	170	44
—20	—50	—80	—50	—60	—50	—40	—40	40	±S	±S	—
100	110	120	120	120	170	160	180	70	70	50	—
30	60	±S	40	120	70	40	10	—40	—50	—30	34
90	110	110	130	150	150	150	140	120	120	110	68
140	150	150	110	120	110	140	110	70	80	70	110
100	120	140	120	170	150	110	100	100	120	80	100
10	—50	—40	30	—S	±S	30	—30	—30	30	40	—
150	200	100	100	110	110	100	70	70	60	50	95
70	80	70	70	70	90	100	90	70	60	60	74
110	120	140	140	100	120	180	200	190	140	160	85
150	140	140	+S	+S	150	200	180	140	170	140	—
160	140	140	140	150	160	140	140	190	170	110	—
+S	+S	+S	+S	+S	+S	+S	+S	80	—10	30	—
10	80	140	0	70	40	10	30	0	40	50	24
150	210	200	150	210	+S	150	70	30	130	100	92
—20	50	40	+S	80	80	50	60	+S	40	60	—
160	150	160	110	150	160	150	+S	0	40	50	103
110	200	50	—50	—30	10	110	110	150	120	100	98
+S	110	110	110	+S	+S	+S	50	±S	±S	±S	—
80	90	+S	90	110	130	120	120	60	30	70	—
150	190	180	160	170	90	120	110	100	90	80	—
88	105	92	83	97	93	94	93	73	72	74	
28	28	27	26	25	26	28	27	27	26	25	

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

Hour GMT / Month		0	1	2	3	4	5	6	7	8	9	10	11
January	+	0	2	1	5	0	0	0	0	4	0	4	5
	—	0	0	6	0	0	1	3	0	2	3	0	0
February	+	0	0	0	0	0	0	0	0	0	0	0	0
	—	0	0	0	2	0	0	0	0	0	0	0	0
March	+	0	0	0	0	0	0	0	0	0	0	0	0
	—	0	0	0	0	0	0	0	0	0	0	0	0
April	+	0	0	3	0	2	0	4	0	0	0	25	0
	—	0	0	0	0	0	0	6	0	0	0	2	1
May	+	0	0	0	5	6	0	1	0	0	0	2	31
	—	0	0	0	6	11	0	0	0	0	0	0	58
June	+	16	1	10	1	0	0	1	7	27	20	0	113
	—	0	18	1	0	0	0	0	41	23	11	0	20
July	+	7	2	21	20	0	0	0	57	0	0	54	16
	—	3	11	53	47	2	1	0	7	1	0	17	7
August	+	66	85	40	0	0	7	10	4	5	0	12	0
	—	107	36	43	0	0	1	21	15	4	0	17	0
September	+	0	0	0	0	0	0	0	0	0	0	0	0
	—	0	0	0	0	0	0	0	0	0	0	0	0
October	+	0	0	0	0	0	0	2	0	0	0	2	0
	—	0	0	0	0	0	0	0	0	0	0	15	0
November	+	0	0	0	0	0	0	0	11	0	0	0	0
	—	3	0	0	0	0	0	1	10	0	0	0	1
December	+	5	0	0	0	0	0	1	0	0	0	0	0
	—	17	0	0	0	0	0	0	0	0	0	0	0

charges transported by point-discharge for each month

12	13	14	15	16	17	18	19	20	21	22	23	Means
1	0	5	2	3	0	0	2	2	0	2	2	1,7
0	0	0	2	0	0	2	0	0	8	4	1	1,3
0	0	0	0	0	14	31	61	8	0	0	0	4,8
0	0	0	0	0	0	92	39	16	0	0	0	6,2
0	0	3	0	0	0	0	0	0	0	0	0	0,1
0	0	0	1	0	0	0	0	0	0	0	0	0,0
6	0	28	19	0	15	22	17	47	50	34	0	11,3
11	11	38	1	0	0	14	37	73	67	54	0	13,1
80	60	70	13	20	27	15	0	0	0	0	0	13,8
167	60	43	55	85	35	60	0	0	0	0	0	24,2
147	85	60	13	0	46	35	90	8	0	0	2	28,4
68	100	73	17	50	43	17	87	12	0	0	0	24,2
32	71	0	22	163	108	37	9	23	15	4	0	27,5
2	14	0	23	150	100	28	32	1	14	1	0	21,4
3	0	0	0	0	54	37	33	68	0	0	0	17,7
0	0	0	0	0	7	160	193	127	3	4	39	32,4
0	66	2	80	0	0	0	0	0	0	0	0	6,2
145	8	0	13	9	0	0	0	0	0	0	0	7,3
20	8	73	34	61	5	1	0	0	9	0	5	9,2
57	28	16	93	27	26	0	0	6	13	0	8	12,0
16	29	9	1	11	0	0	0	7	0	0	0	3,5
13	39	21	1	12	0	0	0	1	0	0	0	4,3
0	0	2	1	1	5	5	1	14	44	56	55	7,9
0	0	1	3	0	0	9	0	11	59	86	76	10,9

IV. IONOSPHERE

The following tables give the values of mean ionospheric absorption at oblique incidence (A3) for certain zenith distances of the Sun ($\varkappa$) expressed in declibels (dB). The sky wawe of the transmitter Československo (f = 272 kc/s) has been recorded since January 1967. The geographical coordinates of the reflection point are 48,4°N, 17,1°E. Individual values have been determined by taking the average of 20 minute intervals, centered on the times of ground sunset (SS) and ground sunrise (SR) in the reflection point, as well as the average of the period ranging from $\varkappa$ = 100° to 23 00 GMT (Night).

The tables were compiled by F. MÄRCZ. The equipment and the method 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 vom Jahre 1966, Sopron, 1967. (The publication of absorption data was suspended during the years 1972—1973).