

I. EARTH CURRENTS

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

The coordinates of the Observatory are:

$$\begin{aligned} \varphi & 47^{\circ}38' & \lambda & 16^{\circ}43' \\ \Phi & 47,2^{\circ} & \wedge & 98,3^{\circ} \end{aligned}$$

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:

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

The T-scale is linear; its scale corresponds to 1,8 mV/km. The monthly mean T-values are separately given for the North-South and East-West components. The scales for K_1-K_5 are as follows:

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

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

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

II. Monthly and yearly means, and means for disturbed and quiet days of the amplitudes of the former frequency bands and of the earth current field intensity. D and Q days are the same as in section Geomagnetism. The rows 1–5 contain the average amplitudes of the five bands in 10^{-5} V/km. Row 6 contains the hourly means of the earth current field intensity, corrected for long period 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. Results of rapid-run recording on world days. The figures show the daily frequency distribution of periods 2; 6; 10; 15; 20; 30; 40 sec and 1; 1,5; 2,5 min, the mean amplitudes in the bands 0–1 and 1–2 min, and the estimated spectra for each two month period on world days. In the yearly average the spectra for each three-hour period of the day are given, too. The frequencies are expressed in per mille, the amplitudes in 10^{-6} V/km. For details of the processing see J. VERŐ: Die abgeänderte Methode zur Bearbeitung der tellurischen Schnellregistrierungen, von 1960 an, im Observatorium bei Nagycekk (Acta Technica Hung. 1963. T. 43. 101.)

VI. Micropulsation indices for the years 1966–1971. 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). G indicates days when the indices have been determined from 20 mm/min records, on all other days from 6 mm/min

records. 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. TATRALLYAY and J. VERŐ. Experimental results with the characterization of geomagnetic micropulsations (*Acta Geodaetica, Geophysica et Montanistica Hungarica*, 1972.)

Mrs. J. CZUCZOR, L. HOLLÓ, M. TATRALLYAY 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 T/14 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 K₁—K₅

January

Day	T	Sum	K ₁	K ₂	K ₃	K ₄	K ₅
1.	21110130	9	5	1	4	2	1
2.	22444532	26	7	3	4	3	2
3.	44457894	45	7	4	4	3	7
4.	52353332	26	6	3	5	1	5
5.	21232231	16	5	1	5	2	1
6.	21111110	8	3	0	4	1	0
7.	00011000	2	3	0	3	0	0
8.	00001010	2	4	1	4	0	0
9.	00000010	1	3	0	4	0	0
10.	10011052	10	3	1	4	1	2
11.	11111410	10	4	1	3	1	2
12.	20001100	4	3	1	4	0	0
13.	01114202	11	4	1	5	3	1
14.	11112101	8	0	0	4	2	1
15.	11121102	9	2	0	4	1	1
16.	20022103	10	3	1	4	1	1
17.	00111102	6	3	1	4	1	0
18.	21134533	22	6	2	5	3	2
19.	21222244	19	7	3	5	2	3
20.	43664443	34	5	3	5	3	5
21.	32323322	18	5	2	4	2	2
22.	21111013	10	4	0	4	3	0
23.	31110121	10	4	0	4	2	1
24.	11112024	12	4	0	4	2	1
25.	32111120	11	4	0	4	3	2
26.	00000000	0	3	0	4	0	0
27.	19855574	44	5	4	6	6	5
28.	33232989	39	4	1	4	6	6
29.	53123222	20	4	0	4	3	5
30.	35653227	33	7	4	5	5	4
31.	31333253	23	7	3	5	3	4

Monthly averages: T (N) 1,911
T (E) 1,468
K₁ 4,26
K₂ 1,32
K₃ 4,26
K₄ 2,10
K₅ 2,06

February

Day	T	Sum	K ₁	K ₂	K ₃	K ₄	K ₅
1.	23142921	24	6	3	4	4	2
2.	22023242	17	6	2	4	2	2
3.	21111000	6	5	1	4	0	1
4.	00011020	4	3	0	4	1	1
5.	11011001	5	3	1	4	1	1
6.	20112011	8	2	0	4	3	1
7.	02110112	8	5	2	4	2	2
8.	41133113	18	7	4	5	4	3
9.	22124200	13	5	2	5	3	2
10.	21123414	18	6	2	5	2	3
11.	10031112	9	3	1	5	2	1
12.	11122322	14	4	1	4	3	2
13.	21111000	6	6	1	4	1	1
14.	01244452	22	5	3	5	3	3
15.	43335599	41	7	3	5	5	6
16.	84434535	36	7	4	5	3	6
17.	32233211	17	6	3	5	4	2
18.	22222132	16	4	2	4	3	0
19.	22121111	11	4	1	2	2	0
20.	02132142	15	6	2	5	3	1
21.	11111210	8	2	0	4	1	1
22.	10010000	2	3	0	3	0	0
23.	00112156	16	6	3	5	2	3
24.	50223229	25	6	3	5	3	2
25.	73335789	45	7	4	6	3	7
26.	59444322	33	7	3	6	4	4
27.	51114222	18	7	3	4	2	3
28.	12111100	7	3	0	4	2	0

Monthly averages:

T (N)	2,009
T (E)	1,353
K ₁	4,92
K ₂	1,92
K ₃	4,50
K ₄	2,42
K ₅	2,14

March

Day	T	Sum	K ₁	K ₂	K ₃	K ₄	K ₅
1.	11110101	6	4	1	4	1	0
2.	01001111	5	5	1	4	1	1
3.	21122133	15	5	1	4	1	3
4.	33233340	21	4	1	4	3	4
5.	21111100	7	3	0	4	1	1
6.	11021102	8	5	2	4	1	1
7.	10101111	6	4	1	4	1	0
8.	15223122	18	4	2	6	2	4
9.	10225211	14	5	2	5	2	0
10.	33252241	22	6	3	5	2	3
11.	12132200	11	4	1	4	1	1
12.	11223429	24	6	3	1	4	3
13.	32354897	41	8	6	6	5	6
14.	54533396	38	8	5	6	4	6
15.	75422431	28	7	4	5	3	2
16.	53233313	23	8	3	4	2	4
17.	31212132	15	5	2	4	3	3
18.	31011115	13	4	1	4	2	2
19.	21116328	24	4	1	5	1	3
20.	41222111	14	5	1	4	2	2
21.	10111111	7	5	1	4	0	0
22.	11011111	7	3	0	4	1	0
23.	00211122	9	4	2	4	1	0
24.	11243153	20	6	3	4	3	3
25.	31251222	18	7	4	4	3	2
26.	31254231	21	7	3	5	3	3
27.	21222121	13	6	3	4	2	2
28.	20001131	8	5	2	4	0	1
29.	00110001	3	4	0	4	1	0
30.	01011135	12	4	2	4	3	2
31.	44423683	34	7	3	5	5	5

Monthly averages: T (N) 1,907
T (E) 1,407
K₁ 5,23
K₂ 2,07
K₃ 4,29
K₄ 2,07
K₅ 2,16

April

Day	T	Sum	K ₁	K ₂	K ₃	K ₄	K ₅
1.	23432111	17	6	2	5	1	2
2.	00114311	11	4	1	4	0	2
3.	41131238	23	4	2	4	3	3
4.	55724567	41	5	2	6	7	2
5.	21222363	21	7	3	5	2	4
6.	21221212	13	6	2	4	3	2
7.	11211002	8	6	3	4	2	1
8.	11111113	10	3	0	4	2	1
9.	33879595	49	6	4	5	4	8
10.	45434556	36	7	5	6	5	6
11.	33544415	29	6	3	5	3	4
12.	31223121	15	5	1	5	2	3
13.	11223201	12	4	1	4	2	1
14.	40019549	32	7	3	6	5	4
15.	96334134	34	6	3	5	6	6
16.	42443112	21	6	2	5	4	2
17.	21121104	12	6	2	4	1	1
18.	21112323	15	5	1	5	3	1
19.	22522112	17	7	3	5	2	0
20.	11122031	11	3	0	4	0	1
21.	00113348	20	4	1	5	6	2
22.	52121218	22	3	0	4	0	4
23.	01132124	14	5	1	4	2	3
24.	11011110	6	5	1	4	0	0
25.	00000000	0	3	0	4	0	0
26.	00002212	7	3	1	4	1	1
27.	11111111	8	4	2	4	0	1
28.	22329912	30	5	2	4	3	3
29.	42334125	24	4	3	5	3	3
30.	54211211	17	5	1	4	3	1

Monthly averages: T (N) 2,275
T (E) 1,752
K₁ 5,00
K₂ 1,83
K₃ 4,57
K₄ 2,50
K₅ 2,40

May							
Day	T	Sum	K ₁	K ₂	K ₃	K ₄	K ₅
1.	11112112	10	3	0	4	2	1
2.	72321211	19	5	2	4	0	1
3.	11111223	12	5	2	4	1	1
4.	32012110	10	4	1	4	1	2
5.	21012224	14	5	2	4	2	3
6.	34477596	45	7	4	5	4	6
7.	65655487	46	8	5	6	3	5
8.	23435332	25	6	3	4	2	1
9.	32221311	15	5	2	4	1	1
10.	33112111	13	4	1	6	0	2
11.	12211001	8	4	1	4	0	0
12.	10101001	4	4	0	4	0	0
13.	20101111	7	3	0	4	1	1
14.	12014334	18	4	1	4	1	4
15.	41112422	17	4	1	4	2	2
16.	00100011	3	4	0	4	0	0
17.	75655797	51	6	4	6	6	8
18.	95423444	35	5	2	4	3	6
19.	21112313	14	4	1	5	2	3
20.	20121000	6	5	2	4	0	2
21.	10012110	6	4	1	4	2	1
22.	31211011	10	4	1	4	0	2
23.	42222222	18	5	2	4	2	2
24.	01121222	11	5	2	4	3	2
25.	12212212	13	5	2	5	1	1
26.	21111211	10	3	2	4	1	2
27.	200000	(2)	5	2	4	0	0
28.	002121	(8)	5	1	4	1	2
29.	20111122	10	5	3	4	2	1
30.	41335324	25	5	2	5	5	3
31.	11101110	6	5	2	4	1	0

Monthly averages: T (N) 1,930
T (E) 1,522
K₁ 4,71
K₂ 1,74
K₃ 4,32
K₄ 1,58
K₅ 2,19

June

Day	T	Sum	K ₁	K ₂	K ₃	K ₄	K ₅
1.	01224334	19	4	1	4	2	3
2.	44656539	42	7	4	5	1	5
3.	36433233	27	6	3	5	5	3
4.	21232111	13	5	3	5	2	1
5.	12211111	10	5	2	4	1	1
6.	11211110	8	3	0	4	1	1
7.	01111111	7	3	1	5	2	1
8.	32111011	10	4	1	4	1	2
9.	00111111	6	3	0	4	0	1
10.	01112111	8	2	0	4	1	0
11.	11111101	7	3	1	5	3	1
12.	01111001	5	2	1	4	1	1
13.	00004331	11	2	0	5	2	2
14.	11111101	7	2	0	4	1	0
15.	01111113	9	3	2	5	1	2
16.	11011111	7	3	0	4	1	1
17.	11243211	15	3	0	4	2	1
18.	12222112	13	3	2	4	2	1
19.	12100100	3	4	0	4	1	1
20.	11000010	3	3	1	4	1	0
21.	01112112	9	3	1	5	1	1
22.	12012120	9	4	1	4	0	2
23.	22232420	17	4	1	4	0	2
24.	01102123	10	3	2	4	2	1
25.	22224437	26	4	1	5	2	4
26.	94432121	26	6	3	5	4	2
27.	11101101	6	3	0	4	3	1
28.	01121313	12	2	0	5	2	2
29.	32126445	27	5	2	5	5	5
30.	52223113	19	6	2	5	4	2

Monthly averages: T (N) 1,529
T (E) 1,233
K₁ 3,67
K₂ 1,17
K₃ 4,43
K₄ 1,80
K₅ 1,67

July

Day	T	Sum	K ₁	K ₂	K ₃	K ₄	K ₅
1.	33422112	18	6	3	5	4	2
2.	33225212	20	5	3	5	4	4
3.	31111211	11	4	0	4	1	1
4.	31101112	10	3	0	4	1	2
5.	12222023	14	4	2	5	2	2
6.	32111253	18	3	0	4	2	3
7.	31111111	10	2	1	4	1	1
8.	12111041	11	4	1	4	2	2
9.	32210011	10	3	0	4	2	2
10.	21000012	6	3	2	4	2	1
11.	01112131	10	3	1	5	2	1
12.	21021243	15	2	0	4	2	4
13.	42231121	16	3	1	5	2	2
14.	22312211	14	4	2	4	2	2
15.	13223111	14	4	2	4	2	2
16.	12222111	12	4	1	4	4	2
17.	22111210	10	5	1	5	0	1
18.	01014230	11	3	1	4	3	2
19.	42111111	12	5	1	4	1	1
20.	11102210	8	4	2	4	0	1
21.	10234942	25	5	3	4	3	3
22.	23101002	9	2	0	4	0	1
23.	21124142	17	3	1	5	2	2
24.	32010010	7	4	1	4	0	2
25.	01111100	5	3	1	4	0	0
26.	00011396	20	4	2	4	2	3
27.	43234211	20	6	2	5	3	2
28.	12322101	12	5	2	4	1	2
29.	00011432	11	4	2	4	1	2
30.	61123121	17	3	0	4	1	2
31.	11113122	12	3	0	5	3	1

Monthly averages:

T (N)	1,465
T (E)	1,202
K ₁	3,71
K ₂	1,23
K ₃	4,29
K ₄	1,77
K ₅	1,87

August

Day	T	Sum	K ₁	K ₂	K ₃	K ₄	K ₅
1.	11112113	11	3	0	4	1	2
2.	55522211	23	5	3	5	2	2
3.	10101113	8	4	0	5	1	0
4.	21211121	11	3	0	4	2	0
5.	54211101	15	4	0	4	0	2
6.	01100111	5	3	0	4	0	0
7.	00121312	10	3	0	4	3	1
8.	21122113	13	3	1	4	1	2
9.	21121253	17	4	1	4	0	3
10.	34313421	21	5	3	5	3	3
11.	52443211	22	5	3	6	5	2
12.	11323301	14	5	2	4	3	2
13.	21112112	11	5	2	4	2	0
14.	11111112	9	5	2	4	1	2
15.	11012112	9	4	2	4	1	1
16.	14213211	15	4	1	4	2	2
17.	11121104	11	4	2	5	2	0
18.	54115512	24	4	2	5	4	2
19.	10110101	5	6	3	4	1	0
20.	11000011	4	5	2	4	0	0
21.	11221123	13	3	1	5	2	2
22.	21112112	11	3	0	4	1	2
23.	74432121	24	4	1	4	2	3
24.	11112123	12	4	1	4	0	2
25.	21112112	11	4	0	4	1	2
26.	31121214	15	5	2	4	3	2
27.	11100021	6	4	0	4	1	0
28.	10011421	10	3	0	4	2	1
29.	31125212	17	4	1	5	2	2
30.	30111212	11	3	1	4	2	1
31.	54666339	42	5	3	5	6	4

Monthly averages: T (N) 1,645
T (E) 1,306
K₁ 4,06
K₂ 1,23
K₃ 4,32
K₄ 1,81
K₅ 1,52

September

Day	T	Sum	K ₁	K ₂	K ₃	K ₄	K ₅
1.	52122132	19	4	3	5	2	2
2.	00100001	2	3	0	4	0	0
3.	11111011	7	3	1	4	1	0
4.	00111344	14	4	1	4	1	2
5.	31123215	18	4	2	4	1	3
6.	11222211	12	4	2	4	2	1
7.	42231238	25	6	2	4	2	5
8.	21132 21	(14)	3	1	4	2	2
9.	115412	(18)	5	1	5	1	2
10.	31211112	12	5	2	4	0	2
11.	01111112	8	3	1	4	1	1
12.	12211122	12	4	1	4	1	2
13.	67425321	30	3	3	5	2	4
14.	12121234	16	5	2	5	3	2
15.	31244121	18	6	2	6	3	2
16.	21232212	15	7	3	4	2	3
17.	41133134	20	6	3	5	2	4
18.	96435343	37	6	4	6	5	6
19.	02333331	18	7	3	5	3	2
20.	22323242	20	7	3	5	3	3
21.	21111124	13	7	3	4	1	2
22.	10111002	6	5	1	4	0	1
23.	00111100	4	4	0	4	0	0
24.	00110134	10	3	1	5	1	1
25.	24495312	30	5	2	5	4	6
26.	11132349	24	6	2	4	3	6
27.	66777441	42	9	6	8	5	6
28.	31233133	19	7	4	5	3	2
29.	31112022	12	5	2	4	2	3
30.	21244483	28	7	3	6	3	7

Monthly averages: T (N) 2,068
T (E) 1,588
K₁ 5,10
K₂ 2,13
K₃ 4,67
K₄ 1,97
K₅ 2,73

October

Day	T	Sum	K ₁	K ₂	K ₃	K ₄	K ₅
1.	65333414	29	8	3	5	3	5
2.	52244154	27	6	3	6	3	5
3.	64223461	28	6	3	5	2	6
4.	31332126	21	6	2	4	2	4
5.	22144215	21	6	2	4	3	2
6.	64124643	30	7	5	6	4	3
7.	31122249	24	3	1	4	1	4
8.	34224162	24	5	2	5	2	4
9.	24635562	33	6	3	5	3	7
10.	52231213	19	6	3	4	2	3
11.	10118232	18	4	1	5	1	2
12.	10002334	13	5	1	4	1	2
13.	66233422	28	6	3	5	3	4
14.	31212221	14	5	2	4	1	2
15.	42153102	18	6	2	5	3	2
16.	21111130	10	4	1	4	2	2
17.	00121003	7	5	2	4	1	1
18.	11120120	8	6	2	4	0	1
19.	00111001	4	4	1	4	0	0
20.	00112120	7	4	1	4	2	1
21.	10011022	7	4	0	4	1	2
22.	00121121	8	2	0	4	1	1
23.	00113322	12	3	0	4	2	2
24.	11225223	18	6	2	5	3	3
25.	21011212	10	4	0	4	1	2
26.	00000001	1	4	1	4	0	1
27.	11101002	6	4	0	4	1	1
28.	11053455	24	5	3	6	4	4
29.	77353666	43	7	4	6	4	7
30.	43232210	17	5	2	4	2	2
31.	11110120	7	4	2	4	2	1

Monthly averages: T (N) 2,069
T (E) 1,509
K₁ 5,03
K₂ 1,84
K₃ 4,52
K₄ 1,94
K₅ 2,77

November							
Day	T	Sum	K ₁	K ₂	K ₃	K ₄	K ₅
1.	30111011	8	5	2	4	0	1
2.	00110121	6	5	1	4	0	1
3.	00011000	2	2	0	4	0	1
4.	21121111	10	4	0	4	3	1
5.	10111001	5	3	0	4	1	2
6.	10011001	4	3	0	4	1	0
7.	12112100	8	3	0	4	1	2
8.	11122133	14	5	2	4	3	3
9.	10100110	4	4	1	4	0	2
10.	11010121	7	3	1	5	1	2
11.	24143253	24	5	1	5	3	5
12.	31321113	15	6	1	4	1	3
13.	11111100	6	4	0	4	1	1
14.	00000011	2	5	1	4	0	1
15.	10011001	4	3	1	4	0	1
16.	10010000	2	3	0	4	1	0
17.	00000010	1	0	0	4	0	1
18.	12112200	9	3	1	4	1	2
19.	01211212	10	3	0	4	2	2
20.	11111021	8	3	0	4	2	2
21.	11223121	13	3	0	4	2	2
22.	53232259	31	6	2	5	4	6
23.	86774677	52	6	3	5	4	6
24.	84646957	49	7	4	6	5	6
25.	46536693	42	6	3	6	5	5
26.	23543460	27	5	2	5	2	4
27.	11222212	13	4	0	5	2	2
28.	22122132	15	4	1	5	2	2
29.	10001131	7	4	1	4	2	1
30.	20111001	6	5	1	4	1	0

Monthly averages: T (N) 1,809
T (E) 1,062
K₁ 4,07
K₂ 0,97
K₃ 4,37
K₄ 1,67
K₅ 2,23

December

Day	T	Sum	K ₁	K ₂	K ₃	K ₄	K ₅
1.	10101112	7	2	0	4	2	1
2.	01001311	7	5	1	4	1	2
3.	11222191	19	5	1	4	2	5
4.	31222023	15	6	1	5	2	2
5.	10112201	8	4	1	4	2	0
6.	00010001	2	4	0	4	1	0
7.	00000100	1	4	0	4	1	1
8.	20100000	3	4	0	4	0	0
9.	01161012	12	5	3	5	1	1
10.	10011110	5	6	1	3	0	0
11.	10011122	8	2	1	4	0	2
12.	21011443	16	4	1	4	0	3
13.	21111235	16	3	0	5	2	3
14.	00021000	3	3	0	4	1	0
15.	10011010	4	4	0	4	1	1
16.	00010055	11	4	2	4	0	3
17.	64432999	46	7	4	6	5	6
18.	53369133	35	4	2	6	7	4
19.	00334021	13	3	1	5	2	2
20.	00000002	2	3	1	4	0	1
21.	10111235	14	6	2	4	0	2
22.	13234462	25	7	3	5	4	5
23.	32322251	20	6	2	5	3	4
24.	11112012	9	4	0	4	2	1
25.	11111111	8	4	0	4	2	1
26.	32211125	17	4	1	4	3	3
27.	11010000	3	1	0	4	1	0
28.	00011112	6	4	1	4	2	1
29.	11133221	14	3	0	5	3	2
30.	42233222	20	6	2	5	3	5
31.	21111133	13	6	2	4	1	3

Monthly averages: T (N) 1,451
T (E) 0,996
K₁ 4,29
K₂ 1,06
K₃ 4,35
K₄ 1,74
K₅ 2,06

II. Average amplitudes for different periods

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
	January North											
1	8	7	7	9	9	13	15	18	21	19	17	17
2	8	8	2	5	6	11	8	12	14	14	18	16
3	31	31	35	34	34	35	41	38	37	36	38	38
4	48	45	64	65	48	51	42	48	37	50	55	50
5	63	87	67	64	44	48	47	31	52	41	20	47
6	-8	-10	-24	-27	-16	-19	+12	+21	+27	+22	+2	-64
	East											
1	6	9	9	8	11	12	13	19	26	21	24	24
2	8	6	4	2	5	14	11	13	15	12	15	20
3	36	34	35	32	31	32	36	39	37	34	36	34
4	33	55	37	37	34	39	38	44	38	28	47	30
5	61	35	41	46	31	43	38	19	43	39	23	44
6	+12	+7	+10	+4	-9	-17	-5	-6	-20	+38	+41	+1
	February North											
1	10	12	10	12	9	15	14	23	24	23	24	17
2	11	11	9	10	5	8	11	19	18	21	17	17
3	37	33	35	39	35	35	38	36	39	39	41	46
4	50	48	51	42	55	51	53	53	61	84	82	93
5	53	82	83	60	60	41	27	9	28	24	38	32
6	+12	+10	-7	+24	-22	-17	-17	-3	+27	-37	-39	-65
	East											
1	12	11	8	8	6	15	15	25	26	34	33	33
2	13	8	7	5	4	12	10	15	14	23	21	19
3	32	32	35	35	37	37	33	35	37	31	35	35
4	48	31	37	49	42	42	50	46	41	42	50	42
5	48	56	73	30	30	28	19	19	17	32	29	32
6	+16	+12	+15	+12	+3	-12	+13	-19	-9	+9	+21	+6

and hourly means of earth current elements

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
19	20	20	16	10	10	11	8	11	8	8	9	12,7
18	12	12	8	6	8	11	8	10	8	5	8	9,9
35	37	41	34	34	33	32	35	34	34	36	37	35,2
64	72	55	46	55	46	34	34	60	48	61	39	50
52	30	44	60	59	72	74	112	81	48	70	128	59,9
-49	-19	+12	+33	+19	0	+26	+27	+12	+5	+23	+2	
Component												
28	26	25	22	18	13	14	11	12	9	9	12	15,8
17	20	19	16	12	8	12	8	8	8	9	9	11,1
35	33	30	31	29	31	35	35	34	37	32	31	33,8
52	47	42	30	38	24	43	39	45	39	33	36	38,7
26	30	31	63	46	77	57	83	67	71	59	99	48,9
-6	-10	+8	-14	+9	-20	+2	-23	-4	-12	+3	-21	
Component												
21	24	22	18	19	13	14	11	12	10	8	14	15,6
16	21	15	13	14	8	10	10	10	7	9	13	12,6
37	35	39	35	35	33	33	37	37	32	38	33	36,5
63	68	50	52	36	51	39	39	35	36	54	46	53,8
80	41	80	43	101	68	60	95	95	113	83	98	62,1
-98	-42	+11	+51	+60	+10	+5	+15	+21	+49	+42	+9	
Component												
33	33	37	29	29	23	17	11	14	15	10	15	20,5
19	19	18	14	15	12	10	12	13	12	12	13	13,3
33	36	30	37	32	31	33	37	37	37	33	37	34,3
48	40	38	36	37	41	44	59	47	48	53	37	43,5
35	35	58	41	68	62	68	46	61	53	53	108	45,7
-5	-14	0	+28	+10	-1	-2	-14	-20	-5	-5	-12	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
	March North											
1	10	16	10	11	13	15	23	26	22	21	17	18
2	12	9	10	9	9	9	16	24	18	19	13	16
3	34	35	37	35	35	35	34	37	48	40	34	38
4	35	60	53	39	31	39	49	47	62	52	57	66
5	90	63	41	60	73	35	37	27	26	27	42	59
6	-4	-18	0	+5	-3	+5	+10	+50	+50	+11	-55	-16
	East											
1	13	13	9	12	13	15	25	27	27	31	33	31
2	11	12	9	8	9	9	15	16	15	16	20	17
3	33	30	34	36	34	36	34	34	35	35	35	38
4	26	40	39	21	28	39	32	26	27	34	34	34
5	69	69	32	55	42	24	33	30	27	37	36	52
6	+9	+2	+19	+13	+6	+8	-5	+21	+48	+42	+36	-4
	April North											
1	11	14	12	14	14	19	24	25	24	23	19	17
2	13	9	10	8	10	13	25	23	17	16	19	8
3	34	32	37	35	36	40	39	38	43	38	41	40
4	49	35	53	43	47	46	59	67	61	49	46	71
5	71	139	50	60	28	39	34	31	38	52	70	65
6	0	-7	+12	+8	-7	-6	+30	+76	+44	-28	-114	-194
	East											
1	13	13	13	8	15	18	24	29	33	31	29	28
2	15	8	7	3	7	11	11	15	19	20	18	17
3	25	34	38	35	32	30	31	34	38	37	38	38
4	44	44	38	36	35	31	47	31	41	34	40	44
5	76	55	37	50	41	47	27	42	35	34	61	49
6	-4	+8	+4	+13	0	-2	+2	+34	+59	+74	+56	-2

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
17	19	20	15	16	14	11	11	15	9	10	10	15,3
16	19	13	10	10	12	7	14	13	7	11	13	12,9
50	38	37	35	35	38	35	37	33	32	34	37	36,7
55	46	48	64	46	38	35	33	63	56	58	36	48,7
65	53	49	33	29	49	100	95	84	70	74	99	57,6
-90	-51	0	+54	+36	+34	+33	+22	+36	0	+5	-17	
Component												
30	37	33	33	27	21	13	15	17	10	15	16	21,4
19	17	20	17	13	12	8	12	15	11	17	13	13,6
37	32	33	34	34	31	31	31	37	39	37	33	34,3
45	45	43	42	38	40	34	70	63	42	61	48	39,6
37	27	27	44	38	38	86	45	61	90	94	61	48
-31	-29	-6	+6	+2	-13	-41	-11	-28	-9	-41	+5	
Component												
16	17	14	10	11	11	8	11	12	11	10	11	14,7
11	14	13	6	7	8	5	8	10	10	7	13	11,7
40	38	37	36	37	39	37	37	31	40	35	37	37,2
54	53	97	89	62	39	44	31	61	29	86	74	55,9
95	93	77	32	43	61	55	122	104	121	70	141	70,3
-174	-86	+11	+63	+86	+76	+53	+50	+46	+26	+36	-1	
Component												
29	24	28	25	20	17	11	11	12	15	13	14	19,6
16	16	19	14	11	11	4	7	10	8	11	16	12,2
32	31	40	36	35	35	35	34	34	37	35	32	34,3
46	50	79	57	61	41	41	73	50	50	73	70	48,2
64	64	39	30	32	59	50	79	83	76	61	92	53,4
-6	-18	-26	-13	-24	-23	-33	-42	-23	-16	-13	-5	

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
14	14	15	12	11	10	7	11	13	13	7	9	14
8	8	9	9	9	5	4	10	13	10	10	10	11,7
35	34	37	35	35	37	36	37	38	35	32	37	36,3
52	52	60	53	45	54	61	40	36	40	56	62	46,8
52	83	39	46	47	44	44	77	77	91	54	77	58,8
-140	-91	-6	+49	+82	+82	+64	+28	+32	+20	+27	+17	
Component												
25	26	28	20	16	14	12	11	11	13	9	9	17,1
15	16	19	14	12	12	7	11	11	11	8	7	12,4
39	35	31	38	34	38	34	35	33	35	32	33	33,8
51	37	59	48	49	46	56	41	33	29	52	40	40,1
39	71	41	52	75	62	54	85	92	106	59	84	54,5
-5	-1	+5	-8	-25	-19	-20	-43	-35	-17	+11	+2	
Component												
11	10	8	4	4	5	6	4	9	7	9	13	10
10	5	3	6	5	4	5	5	10	9	8	15	9,7
36	34	33	35	35	34	30	36	36	37	37	36	36
59	55	77	46	52	44	43	36	32	38	47	45	46,4
43	57	43	41	37	50	46	42	49	74	48	65	43,0
-127	-86	-34	+16	+65	+72	+37	+25	+20	+22	+40	+14	
Component												
15	17	15	9	10	11	5	6	8	7	8	12	11,1
11	12	13	7	10	6	8	4	10	8	7	13	9
38	35	37	36	35	34	34	32	32	31	41	36	34,9
40	39	55	36	55	42	50	42	31	54	28	38	39,9
54	47	51	71	49	58	52	48	59	79	52	68	44,8
-2	-3	-25	-40	-31	-18	-15	-43	-38	-14	-4	0	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
	July North											
1	9	12	13	13	16	19	20	16	14	12	14	15
2	10	10	14	12	11	13	15	13	11	9	11	8
3	32	36	35	37	39	39	41	37	35	36	35	38
4	39	41	33	40	33	64	68	45	40	45	41	47
5	62	66	57	48	47	40	39	31	23	22	38	38
6	+19	+5	-10	-1	+25	+43	+40	+40	-4	-70	-122	-146
	East											
1	6	10	5	8	10	10	19	19	18	22	20	23
2	8	7	6	5	6	5	9	10	10	12	11	15
3	34	37	33	35	32	31	35	34	34	39	35	35
4	35	38	42	29	28	28	29	34	38	35	35	33
5	59	45	34	44	24	32	33	21	9	26	36	43
6	+8	+18	+1	+12	+18	+43	+62	+72	+74	+51	+12	-12
	August North											
1	9	13	15	13	13	18	19	20	16	12	12	14
2	8	14	16	13	13	15	19	17	11	8	10	11
3	35	37	42	37	35	39	37	41	37	35	36	38
4	42	51	42	42	38	59	48	63	42	45	45	44
5	57	59	35	49	51	26	40	23	30	28	27	55
6	+25	+5	+17	+1	+23	+50	+77	+43	+4	-87	-159	-190
	East											
1	9	12	12	9	12	12	12	21	18	17	17	21
2	8	12	9	9	6	8	6	12	9	14	10	13
3	33	35	35	34	35	34	35	34	36	35	35	38
4	34	46	38	38	23	28	28	32	28	38	41	35
5	60	46	42	37	39	33	33	34	25	20	22	39
6	-21	-9	-4	-9	0	+4	+54	+79	+99	+72	+30	-11

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

Component

12	9	7	7	4	4	5	6	7	9	8	5	10,6
10	8	8	5	7	5	8	6	11	13	9	7	9,9
36	34	37	34	35	37	35	37	34	36	33	35	36
55	46	55	31	59	41	60	37	54	39	41	51	45,9
55	59	54	51	23	36	57	65	57	77	55	38	47,5
-140	-97	-37	+31	+77	+89	+77	+35	+55	+23	+35	+34	

Component

19	18	16	13	10	8	10	3	8	7	8	5	12,2
11	12	10	9	10	9	12	8	10	7	8	6	9
35	30	33	37	35	34	37	36	31	34	32	34	34,2
38	48	47	32	44	35	43	39	42	31	35	38	36,5
52	48	42	57	42	50	78	74	77	65	51	39	45
-17	-28	-38	-49	-54	-47	-56	-47	-20	-8	-2	+7	

Component

12	10	7	10	9	8	8	8	9	9	8	12	11,8
10	10	7	8	8	6	6	9	9	10	9	16	10,8
39	38	37	37	35	35	35	33	34	36	36	37	36,7
53	60	48	53	46	35	41	44	42	55	35	48	46,8
49	40	41	24	36	41	48	31	32	73	78	48	42,4
-149	-75	+9	+50	+98	+80	+33	+21	+32	+32	+43	+17	

Component

19	17	17	16	15	13	9	6	5	9	15	15	13,6
12	15	9	10	9	9	9	7	8	12	12	15	10
36	38	35	34	34	34	36	34	32	36	34	35	34,9
36	59	44	37	34	41	38	35	44	36	35	53	37,6
42	22	38	25	56	40	42	36	33	73	53	41	38,8
-42	-43	-43	-27	-11	-33	-40	-33	-27	-9	+16	+8	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
	September North											
1	12	10	12	14	14	14	20	21	22	18	20	20
2	13	10	16	15	15	16	20	22	22	17	18	17
3	36	35	35	39	35	43	42	49	50	40	53	42
4	41	45	34	33	41	44	60	52	46	62	65	79
5	89	69	99	94	63	58	25	37	46	61	59	71
6	+12	+3	-6	-4	+5	+20	+63	+76	+45	-54	-136	-180
	East											
1	14	10	13	15	12	16	20	25	29	27	34	37
2	11	7	11	11	6	10	15	17	11	15	21	16
3	32	34	35	34	33	39	39	40	43	37	45	37
4	35	40	33	35	35	39	25	37	47	50	60	47
5	91	58	54	65	49	35	44	32	26	39	28	54
6	-11	+16	+22	+27	+30	+23	+38	+64	+87	+63	+26	-2
	October North											
1	10	10	9	12	17	20	23	25	23	22	20	18
2	10	7	10	12	11	12	19	23	19	15	15	15
3	37	36	44	37	37	36	35	40	39	37	38	39
4	20	38	42	56	40	47	47	48	52	54	54	61
5	157	123	118	67	52	48	45	30	45	38	58	78
6	-10	-39	-26	+3	-26	-9	+21	+74	+81	+9	-88	-154
	East											
1	15	10	13	10	16	17	24	26	30	33	31	33
2	9	8	9	2	4	6	15	16	15	16	19	19
3	34	35	34	35	33	36	31	36	35	34	42	34
4	24	45	39	31	31	31	41	35	32	44	46	45
5	83	60	53	64	65	37	32	19	34	28	30	48
6	+5	+11	-7	+6	-5	+12	+17	+29	+58	+67	+52	+10

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
19	16	13	13	8	10	10	13	12	14	13	10	14,5
19	17	13	12	5	10	14	14	12	14	14	12	14,9
43	37	40	42	31	35	37	40	39	33	34	37	39,4
57	63	52	53	45	41	38	43	45	35	54	40	48,6
72	56	65	44	66	56	77	86	96	122	94	132	72,3
-140	-68	+8	+66	+72	+46	+30	+33	+46	+28	+28	+6	
Component												
35	35	31	30	23	14	7	11	11	19	17	14	20,8
20	18	17	17	12	10	7	11	10	14	13	12	12,9
39	38	38	37	35	36	37	37	35	35	34	32	36,7
37	39	55	33	49	43	38	43	50	40	49	34	41,2
45	49	40	55	35	46	59	85	84	103	73	102	56,3
-26	-50	-37	-19	-13	-43	-54	-48	-32	-33	-5	-23	
Component												
19	15	17	12	11	15	10	10	8	11	12	14	15,1
19	12	18	8	11	15	9	9	7	10	9	9	12,6
43	40	39	35	35	39	36	35	35	33	35	36	37,3
68	57	56	52	49	40	49	40	33	43	53	49	47,8
55	69	58	57	62	66	74	82	103	97	67	86	72,3
-135	-62	+40	+55	+68	+23	+50	+46	+39	+26	+17	0	
Component												
32	29	27	23	17	16	17	12	11	16	12	18	20,3
19	14	17	12	9	9	11	7	8	11	11	13	11,6
37	37	38	34	34	36	35	37	35	37	36	37	35,5
55	42	33	43	48	44	32	48	32	51	35	30	39,0
30	44	60	42	56	59	78	56	76	66	92	121	55,6
-16	-32	-24	-29	-27	-24	-20	-11	-16	-17	-22	-19	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
	November North											
1	10	13	8	8	10	9	14	23	22	17	13	14
2	9	13	7	7	7	5	11	17	15	10	9	11
3	37	36	36	37	39	38	37	36	38	37	36	37
4	31	45	45	52	29	49	44	43	56	43	53	52
5	58	70	88	64	64	50	38	37	31	48	58	64
6	+8	-15	-34	-29	-29	-17	+7	+32	+60	+17	-50	-85
	East											
1	11	10	8	10	10	15	17	23	18	16	15	17
2	8	9	5	4	5	7	8	11	13	10	10	9
3	31	34	34	32	35	35	34	37	34	32	37	34
4	28	28	28	34	26	35	27	31	28	32	42	36
5	56	53	51	60	38	39	41	31	41	41	31	34
6	+8	+8	+11	+1	-7	-11	-15	+6	+44	+63	+53	+24
	December North											
1	4	4	9	3	5	9	11	17	25	21	17	16
2	6	5	8	3	4	6	9	12	16	13	14	14
3	37	36	38	35	37	37	33	39	36	38	37	46
4	39	54	64	46	49	44	41	43	41	49	53	52
5	51	62	59	58	39	42	46	18	35	32	32	44
6	0	-3	-37	-22	-12	-8	-10	0	+48	+35	+4	-43
	East											
1	5	6	10	6	8	13	17	19	26	27	19	24
2	6	6	5	2	4	5	8	6	11	11	10	13
3	34	35	32	34	30	28	32	35	32	37	36	46
4	30	26	33	30	28	34	33	33	31	35	45	38
5	60	52	62	37	37	38	38	21	30	31	17	29
6	+17	+9	+6	-2	+3	-3	-39	-14	+4	+38	+46	+26

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
16	12	14	9	8	8	7	8	10	9	5	8	11,5
11	8	11	10	7	6	5	7	9	9	4	7	8,9
35	37	38	35	35	35	35	37	35	37	34	35	36,3
47	43	32	49	55	34	45	54	41	64	49	51	46,1
67	52	55	34	44	65	46	73	82	58	95	86	59,4
-80	-14	+11	+26	+26	+13	+22	+37	+39	+37	+23	-6	
Component												
22	18	22	19	16	11	10	10	12	10	9	10	14,1
14	12	12	12	10	5	5	8	7	8	6	9	8,6
30	34	31	34	33	37	35	34	33	35	33	34	33,8
39	37	35	37	49	32	39	41	40	36	43	35	34,8
43	47	50	64	36	58	53	48	103	60	76	92	51,9
-9	-13	-12	-10	-27	-29	-22	-23	-26	-4	-20	+8	
Component												
20	16	15	9	9	5	7	10	8	8	7	8	10,9
15	13	10	6	9	7	7	8	7	9	8	8	9,0
37	37	33	37	34	37	38	35	37	33	37	30	36,4
65	35	39	34	41	37	38	44	47	42	67	51	46,4
48	30	55	55	37	57	94	116	93	74	63	92	55,5
-46	-21	+1	+4	+9	+21	+22	+19	+10	+45	+4	-14	
Component												
29	29	26	23	16	31	9	10	10	6	12	9	15,4
13	11	11	12	4	5	6	5	7	7	8	8	7,6
30	28	33	34	34	35	37	35	35	35	34	31	33,8
30	35	34	22	27	39	42	60	34	43	49	51	35,9
43	33	33	45	57	42	80	73	58	78	70	88	48,0
+15	-2	-7	-35	-21	+4	-9	-10	-10	-11	-6	-4	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
	Year 1970. North											
1.	10	11	11	11	13	15	16	21	21	18	17	16
2.	10	11	12	10	10	12	15	18	15	14	14	12
3.	35	35	37	36	36	38	38	39	40	38	39	39
4.	39	45	46	44	41	49	51	50	50	52	55	59
5.	73	80	72	60	52	42	38	27	33	37	41	55
6.	+8	-7	-10	-2	0	+12	+28	+42	+32	-24	-81	-129
	East											
1.	10	10	10	10	11	14	18	23	24	25	25	26
2.	10	9	8	6	6	8	10	13	13	14	15	15
3.	33	34	35	34	33	33	34	34	36	35	37	37
4.	33	41	37	34	31	34	33	35	36	37	45	39
5.	64	52	49	48	39	34	33	26	27	34	33	42
6.	+5	+7	+7	+6	+3	+6	+13	+31	+50	+48	+34	+1
	Quiet days North											
1.	7	11	11	8	12	13	16	18	17	14	13	13
2.	6	10	10	6	8	7	10	13	11	9	9	8
3.	35	33	35	34	34	35	33	34	36	36	35	36
4.	30	42	33	35	33	37	36	39	38	38	39	46
5.	37	32	31	25	30	24	27	15	17	25	28	28
6.	+5	-3	-6	-1	0	+26	+34	+48	+46	-7	-81	-130
	East											
1.	6	8	8	7	8	10	14	20	19	17	17	17
2.	8	8	7	4	4	6	6	8	10	9	9	8
3.	31	33	33	32	32	31	31	33	31	31	36	33
4.	20	26	25	28	24	27	24	29	29	27	30	27
5.	39	32	29	25	28	24	24	16	15	27	18	28
6.	+7	+1	+6	+2	-3	-4	+7	+26	+45	+49	+35	+7

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
16	15	14	11	10	9	9	9	11	10	9	10	13,1
14	12	11	8	8	8	8	9	10	10	9	11	11,2
39	37	37	36	35	36	35	36	35	35	35	35	36,7
58	55	56	52	49	42	44	40	46	44	40	49	48,1
60	55	55	44	49	55	65	68	79	85	86	91	58,4
-114	-59	+2	+41	+58	+45	+38	+30	+33	+26	+27	+5	
Component												
26	26	25	22	18	15	11	10	11	11	11	12	16,8
15	15	15	13	11	9	8	8	10	10	10	11	10,9
35	34	34	35	33	34	35	35	34	36	34	34	34,5
43	43	47	38	44	39	42	49	42	41	46	42	39,6
42	43	42	49	49	54	63	63	71	77	66	83	49,2
-13	-20	-17	-17	-18	-22	-28	-29	-23	-13	-7	-4	
Component												
12	11	10	7	7	6	6	7	6	6	5	8	10,2
7	8	5	5	5	3	4	5	6	7	6	11	7,5
34	33	34	35	33	33	32	35	34	33	32	32	34,0
41	37	39	36	33	31	30	31	34	33	38	41	36,3
30	27	24	20	23	26	33	28	22	25	22	25	26,0
-114	-55	-2	+35	+51	+37	+22	+13	+15	+25	+23	+19	
Component												
17	18	18	15	11	10	8	5	9	8	6	8	11,8
9	9	9	7	5	6	6	5	8	8	8	12	7,5
32	33	33	33	32	32	33	31	33	33	31	30	32,2
32	30	30	30	32	27	32	28	31	26	30	30	28,1
18	23	25	28	25	30	31	32	26	31	27	39	26,7
-14	-21	-19	-17	-15	-22	-27	-24	-17	-6	+4	+0	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
	Disturbed days											
1.	10	17	18	24	25	25	28	36	35	29	29	27
2.	10	17	24	18	19	30	36	42	38	28	35	25
3.	31	35	39	41	52	54	46	68	90	41	73	51
4.	50	41	55	71	65	68	90	73	95	64	105	113
5.	143	180	317	172	140	132	110	97	44	122	45	50
6.	+32	-24	-127	-17	-18	-46	+3	+36	+42	+24	-50	-119
	East											
1.	15	13	26	27	30	33	46	42	41	43	46	47
2.	12	13	19	18	20	15	26	44	38	38	44	33
3.	36	36	42	39	42	42	42	66	68	36	55	52
4.	50	57	77	54	72	74	42	73	46	54	75	45
5.	116	110	153	101	55	70	96	44	79	56	30	90
6.	+45	-7	+12	+1	+8	+19	+24	+13	+37	+77	+83	-22

12	13	14	15	16	17	18	19	20	21	22	23	Averages
North Component												
26	28	28	22	22	21	20	19	17	18	13	15	23,0
27	24	27	25	22	22	18	18	17	15	12	17	23,5
44	43	45	44	41	39	41	44	45	36	34	35	46,3
52	84	75	81	82	82	98	51	70	73	60	70	73,6
189	151	142	114	158	142	163	334	204	177	182	190	154,0
-91	-14	-8	+90	+86	+24	+82	+48	-26	+15	+67	-11	
Component												
45	44	50	35	30	34	28	29	17	24	15	24	32,6
33	27	31	24	26	19	16	19	13	15	12	17	23,8
46	46	28	41	39	37	41	39	37	36	41	31	42,4
53	64	68	46	70	39	83	117	56	36	69	61	61,7
102	124	123	160	161	153	165	181	190	215	153	176	121,7
+19	+16	-8	-7	-44	-47	-68	-60	-21	-20	-38	-15	

III.

Results of harmonical analysis of the daily variations

	A ₁	q ₁	A ₂	q ₂	A ₃	q ₃	A ₄	q ₄	A ₅	q ₅	A ₆	q ₆
North Component												
January	11	173	20	244	18	114	12	308	9	120	5	263
February	32	133	17	286	24	119	23	279	2	351	5	174
March	18	123	41	277	28	108	22	310	6	156	3	117
April	50	124	67	282	49	114	29	311	6	207	4	230
May	49	121	63	287	39	121	7	259	3	135	1	44
June	53	101	62	290	32	130	5	221	4	241	6	28
July	59	118	64	284	34	121	3	172	2	254	4	89
August	59	114	69	297	50	137	9	320	5	297	5	12
September	45	115	62	265	50	133	23	330	2	280	5	113
October	28	137	55	270	44	121	33	314	13	166	6	178
November	20	150	31	245	27	125	21	325	8	149	5	45
December	10	174	22	228	13	93	12	289	8	136	10	12
Year	34	123	45	279	33	122	15	307	3	164	1	63
Q	30	107	42	278	37	123	14	302	5	178	3	16
D	33	175	37	262	45	117	10	265	20	158	6	128
East Component												
January	9	329	8	135	11	37	7	281	3	93	5	314
February	1	310	9	145	9	36	8	237	4	40	2	239
March	21	352	2	198	16	64	12	275	6	80	4	123
April	30	344	14	167	15	59	11	272	3	172	3	16
May	22	350	7	157	17	120	4	7	6	208	2	273
June	37	355	11	196	12	120	3	9	8	242	5	4
July	48	8	18	187	13	133	4	0	1	266	4	31
August	38	356	29	208	23	103	10	276	6	259	2	210
September	47	359	12	223	16	80	13	278	4	299	4	116
October	28	346	17	193	15	44	5	286	6	80	2	21
November	21	339	18	142	15	40	9	271	6	114	1	301
December	9	326	15	122	15	356	4	188	6	142	6	12
Year	25	353	10	176	11	71	6	279	1	151	1	7
Q	21	353	14	170	11	70	7	266	0	170	0	45
D	40	342	17	120	7	86	8	289	13	90	11	17

IV.

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

Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	End of Storm
			E(mV/km)	H(gamma)					
1.	18.	10.00	5,5	11	+	+	+	—	1.18. 24.00
	24.	20.30	5,5	12	+	+	+	— (si?)	1.25. 3.00
	27.	5.30	14,5	55	—	+	+	+	1.29. 2.00
3.	19.	12.45	8	35	+	+	+	—	3.20. 3.00
4.	3.	22.45	12,5	48	+	+	+	— (b?)	4.05. 0.00
	9.	5.30	4,5	12	+	+	+	—	4.12. 4.00
	14.	13.45	20	45	+	+	+	—	4.16. 17.00
	20.	19.15	5,5	16	+	+	+	—	4.20. 23.00
	21.	17.30	7	15	+	+	+	—	4.22. 5.00
	28.	14.00	20	70	+	+	+	—	4.28. 19.00
5.	15.	16.30	>7	15	+	+	+	— (?)	no storm
	17.	7.30	>9	32	+	+	+	+	5.18. 22.00
	29.	19.00	4,5	12	+	+	+	— (pt.b?)	5.30. 3.00
6.	13.	14.30	5,5	14	+	+	+	—	6.13. 22.00
	22.	10.45	3,5	10	+	+	+	— (?)	no storm
	23.	00.00	4,5	13	+	+	+	— (?)	no storm
7.	21.	6.30	3,5	12	+	+	+	— (?)	7.22. 4.00
8.	7.	15.30	3,5	9	+	+	+	—	8.07. 24.00
	17.	21.45	4,5	16	+	+	+	—	8.18. 5.00
9.	4.	17.45	7	18	+	+	+	—	9.05. 2.00
10.	5.	23.45	11,5	30	+	+	+	—	10.06. 20.00
	7.	17.00	3,5	7	+	+	+	— (?)	10.08. 9.00
	8.	18.00	7	28	+	+	+	—	10.09. 17.00
12.	16.	20.00	9	25	+	+	+	—	12.17. 10.00
	17.	15.15	10	29	+	+	+	—	12.18. 4.00
	18.	11.15	12,5	25	+	+	+	— (?)	12.18. 15.00
	19.	7.45	8	6	—	+	+	+	12.19. 14.00

		<i>Bays</i>				<i>Pt-s</i>					
Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
			E(mV/km)	H(gamma)							
1.	1.	2.00	3,5	25	+	+	+	-	2,5	+	+
		18.30	3,5	25	-	+	-	+	2,5	-	-
	2.	1.30							2	+	+
		12.45							8 (pg)		
		14.45	7	55	-	-	-	+			
	3.	17.30	14,5	80	-	+	+	+	tr		
		19.15	17	105	-	+	+	+			
		23.30	8	55	+	+	+	-	tr		
	5.	18.30	4,5	25	-	-	-	+	tr		
	10.	20.00	6	45	-	+	+	+	3,5	-	+
	11.	16.15	4,5	35	-	-	-	+	tr		
	12.	0.15	6,5	22	+	+	+	+	2,5	+	+
	14.	14.00	4,5	9	-	-	-	+			
	15.	0.45	3,5	8	-	-	-	+			
		22.00	5,5	20	-	+	+	+	2,5	+	-
	16.	22.00	3,5	12	-	-	-	+	2,5	-	-
		22.45	6,5	18	-	+	+	+	4,5	-	+
	17.	21.15	4,5	18	-	+	+	+	3,5	-	+
	19.	17.45	6,5	35	+	+	+	+	tr		
		20.45	6,5	45	-	+	+	+			
	20.	10.00	7	50	-	-	-	+			
		12.30							(pg)		
		18.00	8	35	-	-	-	+	tr		
		23.30	4,5	25	+	+	+	-	2	+	+
	22.	22.00	5,5	35	-	+	+	+	tr		
	23.	2.45	6,5	20	+	+	+	-			
	24.	21.15	9	45	+	+	+	-	2,5	+	-
	27.	23.30	6,5	40	+	+	+	-	tr		
	28.	3.30	5,5	50	+	+	+	-	tr		
		16.45	12,5	85	-	+	+	+			
		23.00	21,5	100	+	+	+	-			

		<i>Bays</i>				<i>Pt-s</i>					
Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
			E(mV/km)	H(gamma)							
	30.	5.30	12,5	50	+	+	+	-			
		20.45	9	70	+	+	+	+	2	-	-
	31.	18.45	9	50	-	+	+	+			
2.	1.	16.15	12,5	70	-	+	+	+	tr		
	2.	19.15	7?	30	-	+	+	+			
		22.30	3,5	20	+	+	+	-	2	+	+
	3.	1.15	3,5	14	+	+	+	-	tr		
	6.	1.15	3,5	14	+	+	+	-	tr		
	7.	22.45	3,5	18	+	+	+	+	3,5	-	-
	8.	0.15	3,5	22	+	+	+	-	6,5	+	+
		21.30	6,5	22	+	+	+	- (SSC?)			
	10.	15.30	9	40	-	-	-	+	tr		
		21.15	6,5	45	-	+	+	+	tr		
	15.	2.00	7	30	+	+	+	-	tr		
		16.45	11	65	-	-	-	+			
		18.45	>18	95	+	+	+	+	tr		
		23.15	18	65	+	+	+	-			
	16.	2.15	12,5	60	+	+	+	-			
	18.	23.15	3,5	50	0	+	+	0	tr		
	20.	20.00	5,5	45	+	+	+	-	tr		
	22.	00.30	3,5	10	+	+	+	0	2,5	+	+
	23.	18.30	6,5	22	-	-	-	+	(si?)		
	24.	22.45	16	70	+	+	+	-	tr		
	25.	12.00	11	40	-	-	+	-			
	26.	3.45	18	70	+	+	+	-			
	27.	1.00	9	35	+	+	+	-			
		23.30	7	30	+	+	+	+	tr		
3.	1.	1.00							2,5	+	+
	3.	20.15	8	40	-	+	+	+	tr		
	4.	19.15	6,5	30	+	+	+	+	tr		
	5.	2.15	2,5	14	+	+	+	- (si?)	tr		

		<i>Bays</i>				<i>Pt-s</i>					
Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
			E(mV/km)	H(gamma)							
3.	6.	21.00	2,5	10	+	+	+	-	2,5	+	+
		23.15							2,5		
	7.	2.15		14	+	+	+	-	2	+	+
	8.	3.15	9	55	+	+	+	-	2	+	+
10.		2.00	5,5	25	+	-	-	-	tr		
		4.00	4,5	15	-	-	+	-			
		14.45	6,5	40	-	-	-	+			
		17.30	7	35	-	-	-	+	tr		
11.	11.15	5,5	18	+	+	+	-				
12.		1.15							2	+	+
		22.30	25	70	+	+	+	-			
13.	18.30	16	120	-	+	+	+	2,5	-	+	
14.		19.30	14,5	60	+	+	+	-	tr		
		22.15	12,5	45	+	+	+	-			
15.	0.45	9	60	+	+	+	+				
16.		1.00	8	35	+	+	+	-			
		21.00	4,5	30	-	+	+	+	tr		
		22.00	3,5	25	-	+	+	+			
17.	0.30	7	35	+	+	+	-	2	+	-	
		18.00	4,5	18	-	-	-	+	tr		
		21.15	3,5	18	+	+	+	+	2	+	+
18.	21.15	5,5	18	+	+	+	+	2,5	+	+	
19.	0.45	3,5	10	+	+	+	-	2	+	+	
		22.30	11	65	+	+	+	-	2	+	+
20.	0.15	9	40	+	+	+	-	tr			
21.	23.30	3	7	+	+	+	0	3	+	+	
22.	20.30							2,5	+	+	
24.	20.30	8	55	+	+	+	+	tr			
25.	0.00	4,5	30	+	+	+	-	2	+	+	
		22.00							2,5	+	+
26.	1.15	6,5	20	+	-	-	-	2	+	+	
		22.30							2,5	+	+

		<i>Bays</i>			<i>Pt-s</i>						
Month	Day	CET (GMT+1h)	Amplitude in E(mV/km)	H(gamma)	Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
3.	27.	19.45	5.5	20	+	+	+	+	tr		
	28.	0.15	4.5	18	+	+	+	—	2,5	+	+
		20.45							4,5	—	—
	30.	3.45							2,5	+	—
		19.45	7	25	—	+	+	+	2.5	—	+
		22.15	8	40	—	+	+	+	2.5	+	+
	31.	18.15	10	60	—	+	+	+	tr		
		20.15	11	50	+	+	—	+			
4.	3.	0.45							2.5	+	—
		1.45	6.5	35	+	+	+	—	2	+	—
		19.15	4.5	20	—	+	—	+	tr		
		20.30	7	30	—	+	+	+	3.5	+	+
	4.	7.15							8 (pg)		
		17.30	7	50	+	—	—	+	tr		
		18.45	11	40	—	—	—	0			
		23.15	12.5	40	+	+	+	—			
	5.	0.00	4.5	22	+	+	+	—	2	+	+
		17.00	6.5	30	—	—	—	+	tr		
		20.00	9	65	+	+	+	+			
		23.30	4.5	25	+	+	+	—	2.5	—	+
	7.	23.00	2.5	10	+	+	+	+	2.5	+	+
	8.	0.30							2	+	+
	9.	13.00	16	85	+	+	—	+			
		19.00	21.5	115	—	—	—	+			
	10.	19.15	9	45	+	+	+	—			
		22.15	6.5	55	—	—	+	+			
	11.	20.45	8	35	—	+	+	+	2.5	+	+
	12.	19.15	4.5	30	+	+	+	+	2	—	+
	14.	0.15							2.5	+	—
		1.15	8	28	+	—	—	—	2.5	—	—
		23.45	27	145	+	+	+	+	tr		
	17.	23.00	6.5	22	+	+	+	+	2.5	+	+
		23.45	6.5	30	+	+	+	—	2.5	+	+

		<i>Bays</i>				<i>Pt-s</i>					
Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
			E(mV/km)	H(gamma)							
4.	18.	23.00	4,5	35	—	+	+	+	2	—	+
	19.	12.00							(pg)		
	21.	14.30	7	18	+	+	+	—			
		23.30	14,5	70	+	+	+	—	tr		
	22.	21.00	11	40	—	+	+	+	2,5	+	+
	23.	10.30	6,5	22	+	+	+	— (ssc)			
		20.15	5,5	25	—	+	+	+	3,6	+	+
		21.30	11	35	—	+	+	+	2,5	+	+
	26.	15.15	4,5	13	+	+	—	+	2,5	+	+
	28.	0.00							2,5	+	+
	29.	1.45	8			—	—				
		2.30	8			+	+				
5.	2.	1.00	11	55	+	+	+	—	tr		
	3.	22.15							2,5	+	+
	5.	2.00							2,5	+	+
		21.15	7	35	+	+	+	+			
	6.	22.30	11	60	+	+	+	+			
	10.	21.00	3,5	13	+	—	+	+	2	+	+
	11.	21.30							2	+	+
	14.	4.00							3,5	+	—
		23.15	5,5	35	+	+	+	—	3,5	+	+
	17.	2.15	10	45	+	+	+	—	tr		
		19.30	>13	95	+	+	+	—			
		20.15	20	105	+	+	+	—			
		2.15	>26	125	+	+	+	—	tr		
18.	17.45	9	55	—	+	+	+	tr			
	20.30	6,5	55	—	+	+	+	tr			
	22.45	3,5	30	+	+	+	+	3,5	+	+	
20.	0.45	3,5	10	+	+	+	—	2	+	+	
22.	2.15	5,5	18	+	+	+	—	3,5	+	+	
	1.30	5,5	45	+	+	+	—	3,5	—	—	
23.	21.00	8	30	—	+	—	+	tr			

		<i>Bays</i>			<i>Pt-s</i>						
Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
			E(mV/km)	H(gamma)							
5.	25.	1.15							2,5	+	+
	28.	0.00							2,5	+	+
		20.00	3,5	15	+	+	+	+	3,5	+	+
	29.	0.45	3,5	15	+	+	+	-	2,5	-	+
	30.	1.15	8	22	-	-	-	+			
6.		21.30	5,5	40	+	+	+	-	4,5	+	+
	2.	20.45	6,5	65	+	+	+	-			
	5.	23.00							3,5	+	+
	7.	23.00							3,5	+	+
	8.	0.00	4,5	12	+	+	+	-	4,5	+	+
		20.30							2	-	-
		21.00	2,5	12	+	+	+	+	2,5	+	+
	9.	1.00							2	+	+
	12.	20.15							2	+	+
		21.30							2,5	+	+
	15.	21.45							4,5	+	-
		22.00							2,5	-	+
		23.00	3,5	8	+	+	+	+	2,5	+	+
	18.	22.45	3,5	15	+	+	+	-	3,5	+	+
	22.	4.00	2,5	8	+	+	+	+(pg?)	2,5	+	+
		16.30							3,5 (pg)		
	23.	9.45	5,5	15	+	+	+	-			
		17.45	5,5	22 (ssc?)	+	+	+	-			
29.	0.15	4,5	15	+	+	+	-	2	+	+	
	18.30							2,5	+	+	
7.	1.	6.00							(pg)		
	2.	14.30	5,5	14	+	+	+	-			
	3.	0.00	5,5	25	+	+	+	-	2	+	+
	4.	1.15	7	30	+	-	-	-	tr		
		22.00	3,5	20	-	+	+	-	tr		
	5.	19.15	3,5	16 (si?)	+	+	+	-	tr		
		21.15	7	25	+	+	+	-	2,5	+	+

		<i>Bays</i>			<i>Pt-s</i>							
Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey	
			E(mV/km)	H(gamma)								
7.	6.	1.30	5.5	25	+	+	+	-	tr			
		19.30	7	25 (si?)	-	-	-	+				
		22.00							2.5	+	+	
		8.	18.30	4.5	20 (ssc?)	+	+	+	-	tr		
		9.	2.00	7	35	+	+	+	-	tr		
		10.	1.15	4.5	18	-	-	-	+			
	21.15								3.5	-	+	
		11.	18.15	4.5	18	-	-	-	+			
		12.	11.30	3.5	12	+	+	+	-			
		15.	13.30	7	25	+	+	+	-			
		20.	0.00	2	10	+	+	+	0	tr		
	15.15		3.5	14	-	-	-	+				
		21.	0.15							2	+	+
		22.	21.00	4.5	15	+	+	+	-			
	24.	0.30	5.5	35	+	+	+	-	2	+	+	
	26.	20.00	14.5	75	-	-	-	+	tr			
23.45		11	50	-	+	+	+	tr				
	27.	12.15	7	30	+	+	+	-				
	28.	22.30							2	-	-	
	30.	0.00	9	45	+	+	+	-	tr			
	31.	17.15	3.5	7	+	+	+	-				
8.	1.	21.00	3.5	25	-	+	+	+	2.5	+	+	
		22.00							2.5	+	+	
		2.	15.30	3.5	10 (si?)	+	+	+	-			
		3.	21.15						7	-	+	
		5.	1.30	7	35	+	+	+	-	5.5	+	+
	22.00								2	+	+	
		6.	23.00						2.5	+	+	
		8.	22.15	3.5	22	-	+	+	+	2.5	+	+
		9.	18.00	>9	28	-	+	+	+			
		10.	3.00	6.5	28	+	+	+	-	2	+	+

		<i>Bays</i>			<i>Pt-s</i>						
Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
			E(mV/km)	H(gamma)							
8.	11.	0.15	5.5	22	+	+	+	+	tr		
	12.	13.45	7	32	-	-	-	+			
	13.	23.45							4.5	+	+
	14.	23.15							4.5	+	+
	16.	4.45	6.5	35	+	+	+	-	tr		
	18.	16.15	11	30	+	+	+	-			
		23.45							4.5	-	+
	19.	23.00							3.5	+	+
	20.	23.00	2.5	12	+	+	+	+	2	+	+
	21.	20.45	4.5	15	+	+	+	-	2	+	+
	23.	1.30	9	60	+	+	+	-	tr		
	26.	21.15	6.5	35	-	+	+	+	2	-	+
	27.	20.30							3.5	+	+
	28.	16.30	5.5	30	-	-	-	+			
	29.	1.45	4.5	18	+	+	+	-	3.5	+	+
		22.15							3.5	+	+
	30.	1.00	5.5	25	+	+	+	-	2.5	+	+
		17.30	3.5	13	+	+	+	-			
		21.45							2.5	+	+
	31.	0.00	11	28	+	+	+	-			
		2.00	5.5	50	+	+	+	-			
		21.00	14.5	75	+	+	+	+	tr		
		22.00	12.5	45	+	+	0	+	tr		
9.	1.	1.00	9	45	+	+	+	-			
	4.	20.15	8	20	+	+	+	-			
	5.	0.15	6.5	40	+	+	+	-	tr		
	7.	22.30	8	35	+	+	+	-			
	9.	14.30	6.5	25	+	+	+	-			
		16.45	7	32	-	-	-	+			
	10.	23.15	3.5	9	+	+	+	-	2.5	+	+
	12.	23.00	4.5	8	+	+	+	+	3.5	+	+
	13.	3.00	9	65	+	-	+	-	7	+	-
		23.45							2.5	+	+

		<i>Bays</i>				<i>Pt-s</i>							
Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey		
			E(mV/km)	H(gamma)									
9.	16.	1.30	4,5	12	+	+	+	-	2	+	+		
		3.30							2,5			+	-
		23.45							7			40	+
	18.	12.00	7	50	-	-	-	+					
		22.30	3,5	18	-	+	+	+	2	+	-		
	20.	19.45	9	55	-	+	+	+	tr				
	21.	21.00	3,5	14	+	+	+	-	2,5	+	+		
		24.	20.45						3,5	+	+		
		21.15	8	45	-	+	+	+					
	26.	22.45	>18	100	+	+	+	+	tr				
	27.	18.15	5,5	60	+	+	+	+	tr				
	28.	20.15							4,5	-	+		
	29.	2.00	5,5	15	+	+	+	-	2,5	+	+		
	30.	18.45	12,5	55	+	+	+	-					
10.	1.	15.30	9	30	-	-	-	+					
		22.30	6,5	22	+	+	+	-	tr				
		23.15	8	40	+	+	+	-	tr				
	2.	18.30	6,5	35	-	+	+	+					
		23.00	7	45	+	+	+	+	tr				
	3.	2.00	9	70	+	+	+	-					
		18.15	10	40	-	+	+	+	tr				
	4.	0.30	4,5	30	-	+	+	+	tr				
	5.	2.00	4,5	35	+	+	+	-	tr				
	6.	17.30	7	60	+	-	-	-	tr				
	7.	21.30	13,5	60	-	-	+	+	tr				
	8.	4.00	9	45	+	+	+	-					
	10.	0.00	7	35	+	+	+	-	tr				
	15.	0.15	6,5	40	+	+	+	+	tr				
	16.	19.15	4,5	20	-	+	+	+	tr				
	17.	22.00	2,5	10	+	+	+	-	2,5	+	+		
	21.	19.15	3,5	20	-	+	+	+	2,5	+	+		
		23.00	4,5	22	+	+	+	+	2	+	+		

		<i>Bays</i>				<i>Pt-s</i>					
Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
			E(mV/km)	H(gamma)							
10.	24.	13.30	5.5	50	0	-	-	-			
	25.	0.45	3.5	25	+	+	+	-	tr		
	26.	23.30	3.5	20	+	+	+	-	2.5	+	+
	27.	23.00							2.5	+	+
	28.	20.15	7	50	-	-	-	+			
	29.	0.15	12.5	65	-	+	+	-	tr		
		17.15	8	40	+	+	+	+	tr		
		20.00	11	55	-	+	+	-	tr		
		22.00	9	45	-	+	+	+	tr		
11.	1.	1.00	7	22	+	+	+	-	2.5	+	+
	2.	19.30	2.5	15	+	+	+	0	2	+	+
	4.	1.15	4.5	12	+	+	+	-	3.5	+	+
	7.	0.00							2.5	+	+
	8.	1.00							2.5	+	+
		20.00	8	30	-	+	+	+			
		23.45	4.5	22	+	+	+	-	2	+	+
	10.	2.00							2	+	+
	11.	20.15	8	45	+	+	+	-	2	+	+
	12.	21.00	4.5	12	+	+	+	-	3.5	+	+
	14.	23.30	3.5	10	+	+	+	-	2.5	+	+
	16.	22.30							2.5	+	+
	18.	3.00	3.5	18	+	-	+	-	2.5	+	+
	20.	18.45	3.5	18	-	+	-	+	3.5	-	+
		0.30	7	45	-	+	+	+			
		21.45	14.5	85	+	+	+	-			
	23.	19.00	11	85	-	-	-	+	tr		
		22.00	9	65	+	+	+	+	tr		
25.	4.00								(pg)		
	23.00	8	32	+	+	+	+				
26.	19.15	10	32	-	+	+	+	2	-	+	
27.	21.00	3.5	14	-	+	+	+				
28.	20.15	5.5	32	-	+	+	+	2	-	+	

<i>Bays</i>					<i>Pt-s</i>						
Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
			E(mV/km)	H(gamma)							
11.	29.	19.45	4,5	28	-	+	+	+	tr		
	30.	1.15	3.5	12	+	+	+	-	tr		
		22.15	2.5	18	-	+	+	+	1	+	+
12.	1.	23.15	4.5	10	+	+	+	-			
	2.	16.00	4.5	22	-	-	-	+			
	3.	18.30	12.5	60	-	-	-	+	tr		
		20.00	12.5	50	+	+	+	-	tr		
	4.	2.00	3.5	13	+	+	+	-	2.5	+	+
		22.00	6.5	25	+	+	+	+	2.5	+	+
	6.	21.15	3.5	8	+	-	+	+	tr		
	8.	1.45	3.5	14	+	+	+	-	2	+	+
		13.45							3.5	+	+
12.	12.	23.00	9	35	-	+	+	+	2.5	-	+
	13.	19.45	5.5	30	-	-	+	+			
		22.30	10	35	+	+	+	+			
	16.	23.15	8	40	-	+	+	+	tr		
	17.	2.00	12.5	55	+	+	+	+	tr		
	21.	20.15	7	60	-	+	-	+			
	23.	20.00	12	45	-	+	+	-	tr		
	24.	20.45	3,5	14	-	+	+	+	2	-	-
	25.								2	+	+
	26.	0.00	3,5	30	+	+	+	+	3,5	+	+
	28.	22.30	3,5	8	-	-	+	+	2	-	-
	29.	2.00	3,5	12	-	+	+	+	2	+	+
	30.	0.15	10	45	-	+	+	+	tr		
		21.00	5.5	25	-	+	+	+	2	-	+
	31.	19.15	5,5	16	-	+	+	+	tr		
		23.30	7	28	-	+	+	+	tr		

Further pt-traces (earth currents)

Month	Day	CET	Month	Day	CET	Month	Day	CET
1.	1.	19.30	3.	2.	14.45	3.		19.15
		20.00			20.15			20.30
	4.	23.45		3.	2.15	29.		1.30
	5.	1.30		4.	1.00			2.30
	8.	18.45		6.	2.00			13.00
	9.	14.45			20.15	30.		0.30
		18.30		7.	17.00			23.15
	11.	23.45			19.45	31.		0.00
	12.	1.15			20.00			1.00
	13.	0.15			20.15			3.45
		1.15			20.45	4.	1.	2.45
	16.	23.45			22.15		3.	20.15
	17.	20.45		8.	14.45		4.	0.15
	18.	0.30		9.	0.15		6.	17.30
		0.45		11.	4.45		11.	22.30
	21.	22.30		13.	21.30			23.15
		23.30		14.	0.00		12.	23.30
	22.	0.00		16.	20.30		17.	0.30
	28.	2.45			20.45			1.30
	30.	23.45		17.	21.45		18.	22.30
2.	2.	22.00			22.15		19.	0.15
	3.	0.30		19.	21.15			1.30
	5.	1.30		20.	22.30			2.15
	8.	23.30		21.	20.45			22.15
		23.45			22.15			22.30
	10.	2.15		22.	0.30			22.45
	11.	0.00			16.00			23.30
	12.	21.00			20.00		22.	21.45
	13.	1.15			21.00		25.	17.15
	14.	20.15		23.	20.15		26.	19.00
	16.	21.00		24.	21.45			19.30
	17.	21.15		25.	19.45			20.00
	18.	0.00			21.30			22.45
	19.	23.15			23.15			23.15
	21.	21.15		26.	23.30		27.	0.30
		21.45		27.	2.15			21.00
		23.30			3.45		5.	2.00
	22.	0.00			10.15		2.	20.30
	23.	2.45			23.30			21.15
	24.	0.45		28.	0.30			23.30
		22.15			17.15		3.	1.00
	25.	21.30			18.00			15.45
3.	1.	2.00			18.45			21.45

Month	Day	CET	Month	Day	CET	Month	Day	CET
5.	4.	0.30	6.	3.	22.30	7.	9.	0.45
		1.30			23.15			1.30
		2.15			23.30			21.00
		2.30		5.	18.30		10.	20.45
		2.45			22.45		11.	19.30
	5.	2.30			23.30		14.	20.15
		20.30			23.45		15.	19.15
	6.	1.30		8.	0.45			22.30
		1.45		9.	20.45		16.	1.30
		3.00		11.	16.15		17.	0.30
		3.15			17.15			1.30
		19.45			22.15			2.30
		20.30		13.	3.45			18.15
	8.	23.30			8.15		18.	4.15
		0.30		15.	20.45		19.	23.45
	9.	0.45		16.	10.45		20.	16.45
		3.30		18.	23.15			17.00
		20.00		19.	0.30			17.30
	10.	2.30		20.	0.15			17.45
		2.45			20.15		21.	1.45
		3.30		21.	12.00			20.45
		20.15			22.30		28.	20.45
	11.	1.30			23.00		29.	21.45
		2.15			23.30		30.	20.00
		19.30		22.	2.30	8.	2.	21.30
		21.00		24.	21.15		3.	1.45
	14.	21.15		26.	20.45		4.	20.00
	16.	19.30			23.00			20.30
	21.	1.45		27.	1.15		5.	22.45
	22.	3.45		28.	23.00		8.	21.45
	24.	16.30			23.30		9.	2.15
		19.45		7.	1.45			21.45
		20.15			22.00		10.	16.30
	25.	3.45		2.	21.30			17.15
	26.	0.45			22.00		11.	2.00
		1.00		3.	21.15			22.15
		4.15		5.	1.30			23.15
		16.30			21.30			23.30
		16.45		6.	21.30		12.	2.45
		22.30		7.	22.45		13.	0.30
		23.00			23.15			1.15
	29.	1.30		8.	13.15			23.45
		19.00			19.15			
	30.	22.00			22.45			
					23.15			

Month	Day	CET	Month	Day	CET	Month	Day	CET
8.	15.	0.30	9.	12.	2.15	10.	14.	1.30
		1.30			2.45		15.	23.15
		4.15			23.30		16.	1.15
		22.30		13.	22.45			21.00
		23.00			23.45		17.	21.30
		23.00		14.	11.00			22.45
16.	17.30				18.30		18.	18.45
	2.45				19.15		19.	1.45
	3.15				23.00			20.30
	16.15				23.15		20.	18.45
19.	1.30				23.30			19.00
	2.00			15.	2.15		24.	19.30
	2.15			16.	1.00		26.	22.45
20.	0.00			17.	20.30		27.	3.15
	0.30			18.	22.15			20.00
22.	23.15			19.	22.00			22.00
	23.30			21.	20.00			23.00
23.	20.30			22.	2.30		30.	20.30
24.	4.45				21.15			21.00
	18.30				22.00		31.	19.00
26.	0.15			25.	21.45			23.30
	1.45			27.	21.30	11.	1.	18.45
	19.45				22.15		2.	15.30
27.	2.30			28.	22.45		4.	22.45
	20.45			29.	0.30		8.	21.30
	23.00				18.45		10.	1.30
	23.30		10.	4.	0.15			7.15
	23.45				1.30		14.	0.30
	1.45				2.00		15.	0.00
29.	20.15				22.45			0.30
30.	17.30			5.	1.45			1.00
9.	18.45				20.30		16.	23.15
	21.45				21.45		18.	0.30
2.	2.45			8.	20.30			2.15
	3.30				21.15	12.	5.	23.30
	20.00			9.	21.15		7.	16.15
	21.00				21.45		8.	1.30
4.	21.45			10.	20.30			2.30
	20.45				21.45		9.	22.30
5.	22.00				22.15			23.45
7.	0.30				22.45		11.	1.30
10.	18.45				23.30		21.	23.00
	3.00				23.15		25.	2.15
	3.30			11.	23.45		26.	21.00
11.	1.30			12.	23.00			21.45
	2.00				0.15			22.45

SI-s

Month	Day	Amplitude in (GMT+1 h)	Amplitude in		Ex	Ey	Hx	Hy
			E(mV/km)	H(gamma)				
1.	5.	7.30	3,5	8,5	—	+	—	+
	6.	5.45	2,5	6,5	—	—	—	—
2.	2.	10.00	5,5	8,5	+	+	+	—
	11.	11.15	7	13	+	+	+	—
	23.	6.15	2,5	5,5	+	+	+	— (ssc?)
3.	17.	10.45	?	6	?	?	—	+
	26.	9.45	7	12	—	0	0	+
		10.30	6,5	13	—	0	—	+
4.	6.	15.30	4,5	8	+	+	+	—
	19.	7.00	4,5	8	+	0	+	—
	20.	10.45	3,5	10	—	—	—	+
		12.30	3,5	11	+	+	+	—
	23.	13.15	4,5	14	+	+	+	— (b?)
	29.	9.15	4,5	13	—	+	+	+
		10.30	5,5	10	—	—	—	+
5.	10.	11.30	3,5	8	—	—	—	+
	30.	2.30	5,5	8	—	—	—	+
6.	3.	5.00	5,5	15	+	+	+	—
		17.30	2,5	6,5	—	—	—	+
	7.	14.30	3,5	8	—	—	—	+
	11.	1.45	3,5	6,5	+	+	+	+
	18.	5.45	4,5	7	—	—	—	+
	25.	22.30	12,5	30	—	—	—	+
	28.	16.45	5,5	10	—	—	+	—
7.	5.	6.00	4,5	6,5	+	+	+	—
	13.	1.00	8	16	+	+	+	—
	20.	12.00	3,5	7	+	+	+	—
	22.	13.45	3,5	8	—	—	—	+
	23.	1.00	3,5	8,5	—	—	—	+

Month	Day	(GMT+1 h)	Amplitude in		Ex	Ey	Hx	Hy
			E(mV/km)	H(gamma)				
8.	7.	11.15	3.5	8	-	-	-	+ (?)
	8.	16.45	2.5	7	-	-	-	+
	11.	7.30	6.5	9	-	-	-	+
	21.	10.30	3.5	8	-	-	-	+
	23.	4.30	5.5	8,5	+	+	-	+
		5.45	9	10	-	-	-	+
	29.	13.15	8	22	+	+	+	-
	31.	11.30	11	18	-	-	-	+
9.	9.	12.30	6.5	14	+	+	+	-
	13.	6.30	9	18	+	+	-	- (?)
	14.	16.45	3.5	10	+	+	+	-
	17.	10.45	6.5	11	+	+	+	-
10.	11.	13.15	6.5	14	+	+	+	-
	15.	11.30	8	14	+	+	+	-
	28.	22.30	5.5	11	-	-	-	+

„Needles”

Month	Day	CET (GMT+1 h)	Amplitude in E(mV/km)	Ex	Ey
1.	25.	18.30	5,5	+	—
3.	11.	3.45	2,5	—	—
4.	19.	19.30	2,5	—	—
	22.	4.00	2	+	—
	29.	10.15	5,5	+	+
5.	8.	5.45	5,5	—	—
	14.	14.30	5,5	—	—
	30.	8.45	2,5	+	+
		12.00	7	—	—
		13.00	7	—	—
6.	7.	18.15	2	0	+
	10.	18.15	2	+	—
	14.	15.30	2,5	+	+
	28.	9.45	2,5	—	—
7.	14.	1.45	7	+	—
	29.	17.30	11	+	+
	30.	10.30	2	—	—
8.	22.	8.45	2,5	—	—
	23.	10.30	2,5	0	—
10.	20.	19.15	3,5	—	+
11.	19.	8.30	2,5	—	—
	22.	5.45	2,5	+	+
	25.	7.15	7	—	—
12.	9.	12.00	15,5	+	+

v.

Results of rapid-run records (for explanations see pp. 6 and 64)

JAN-FEBR 1971

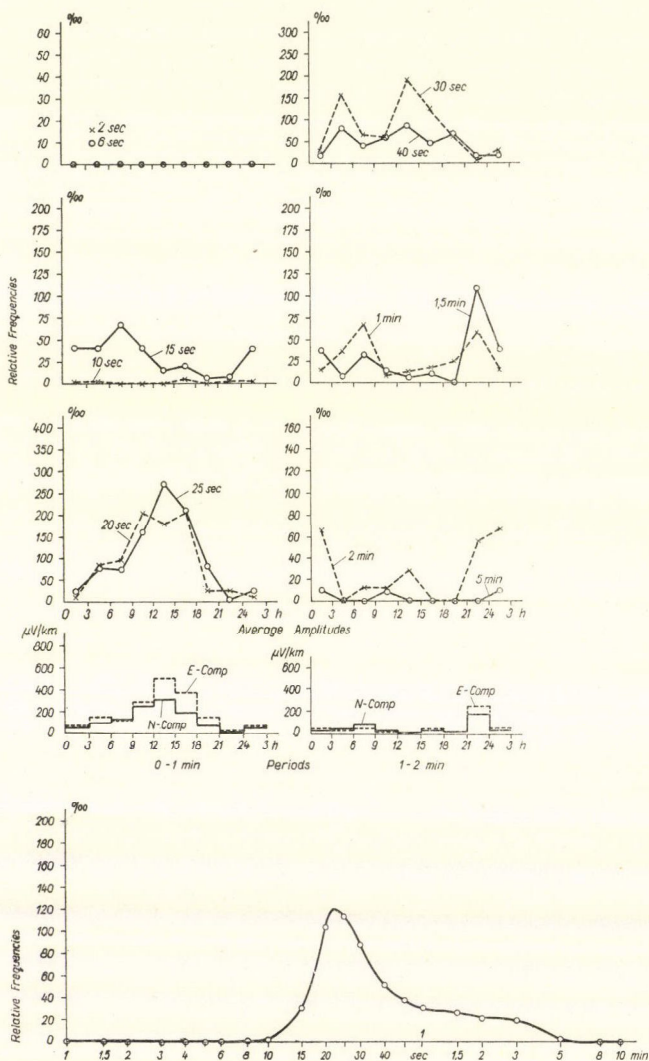


Fig. 1a.

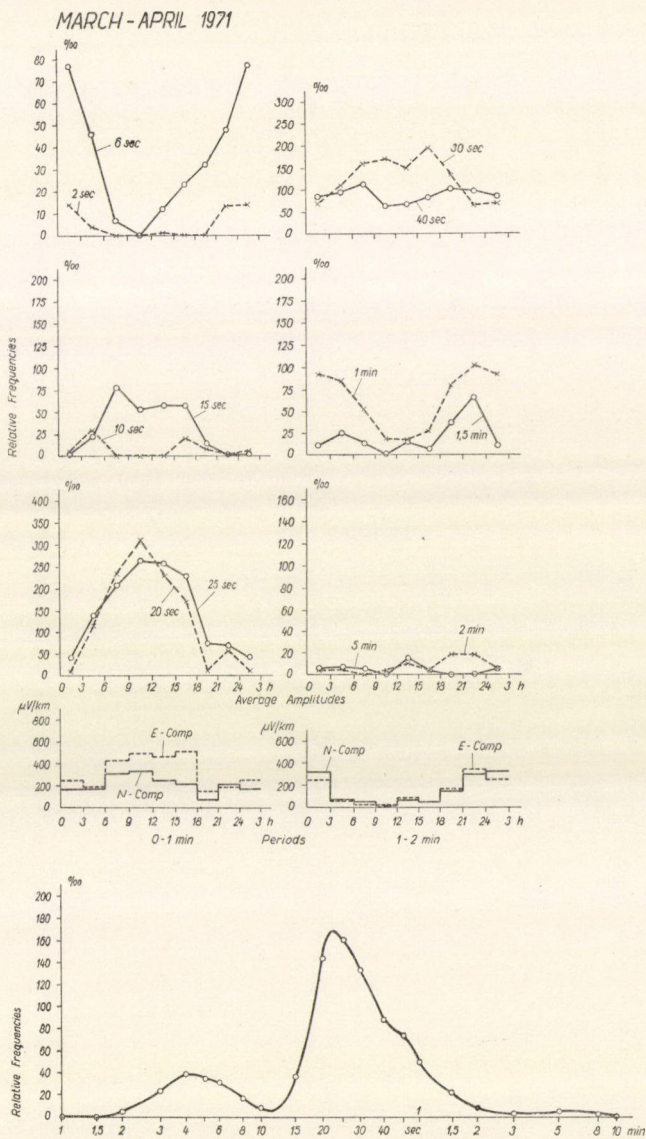


Fig. 1b.

MAY-JUNE 1971

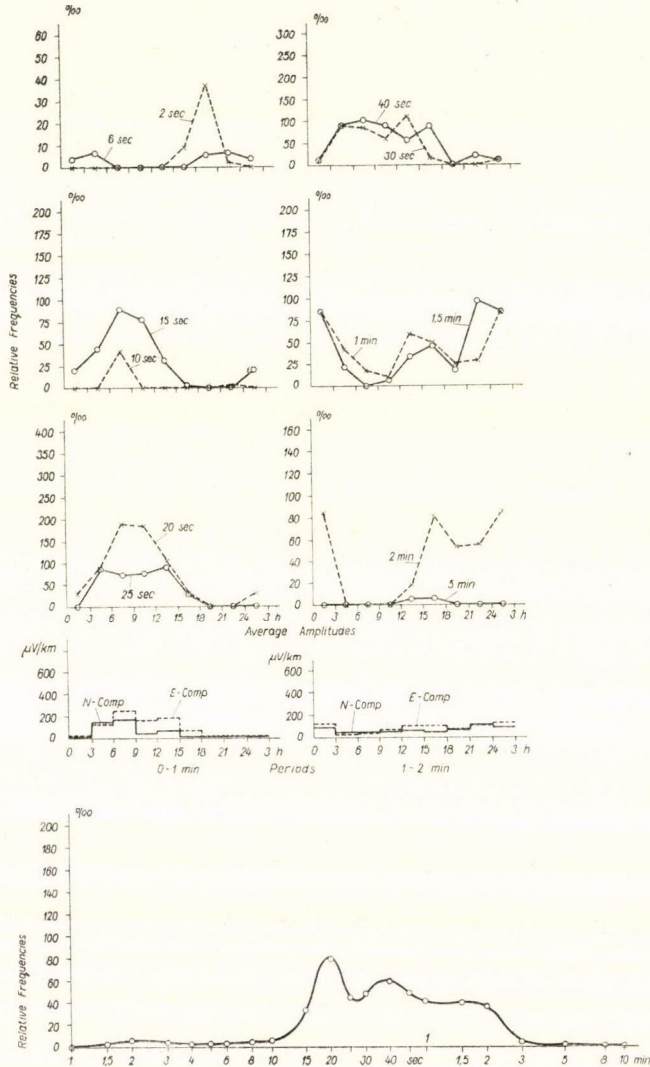


Fig. 1c.

JULY-AUG 1971

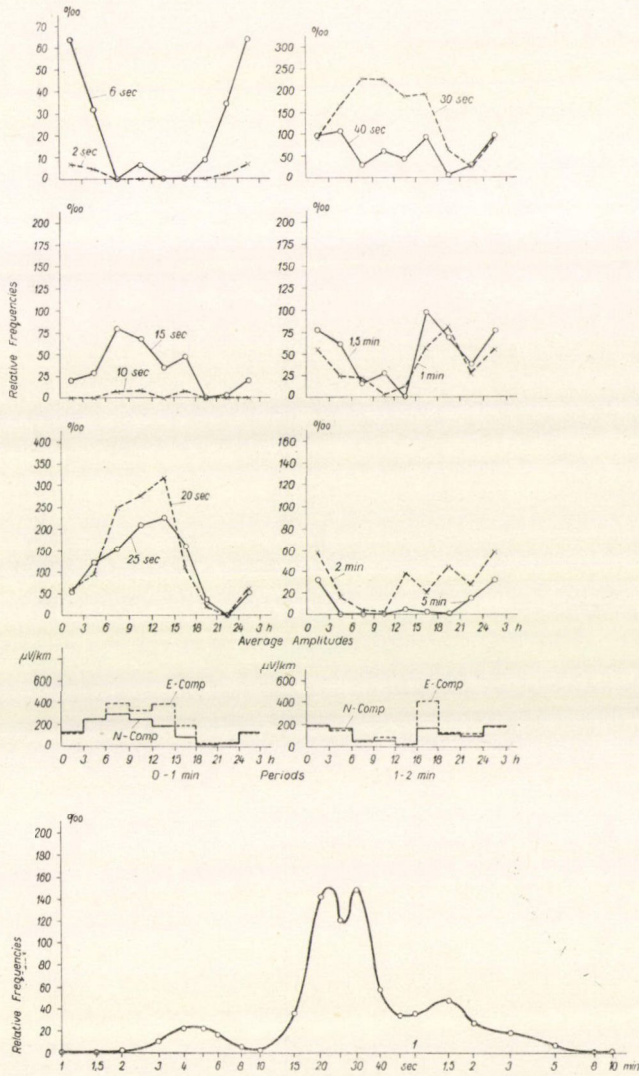


Fig. 1d.

SEPT-OCT 1971

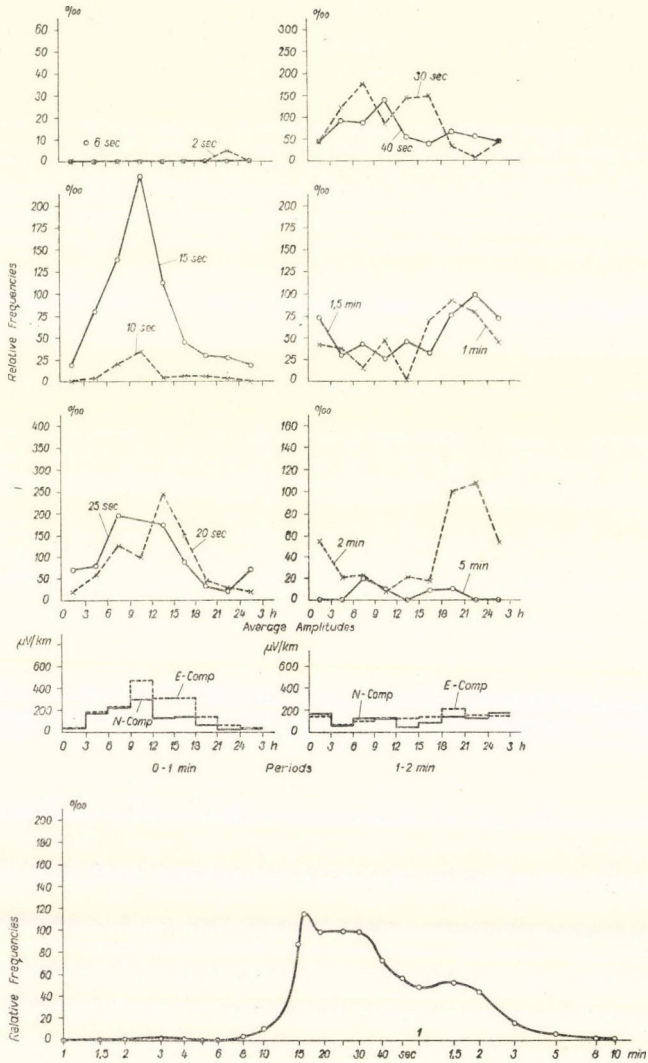


Fig. 1e.

NOV-DEC 1971

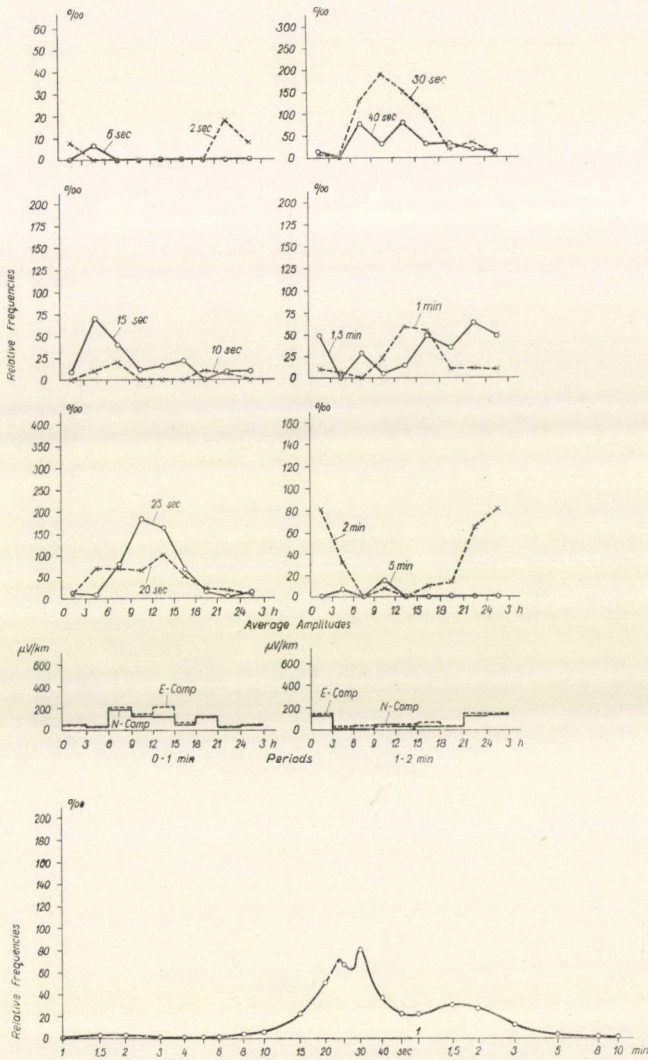


Fig. 1f.

YEARLY AVERAGE 1971

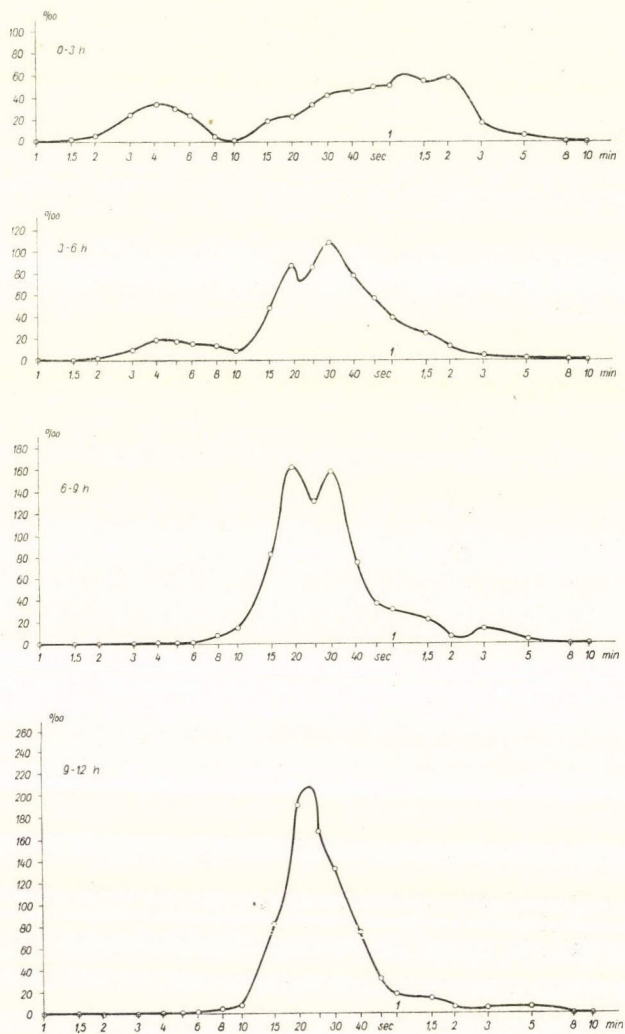


Fig. 1g.

YEARLY AVERAGE 1971

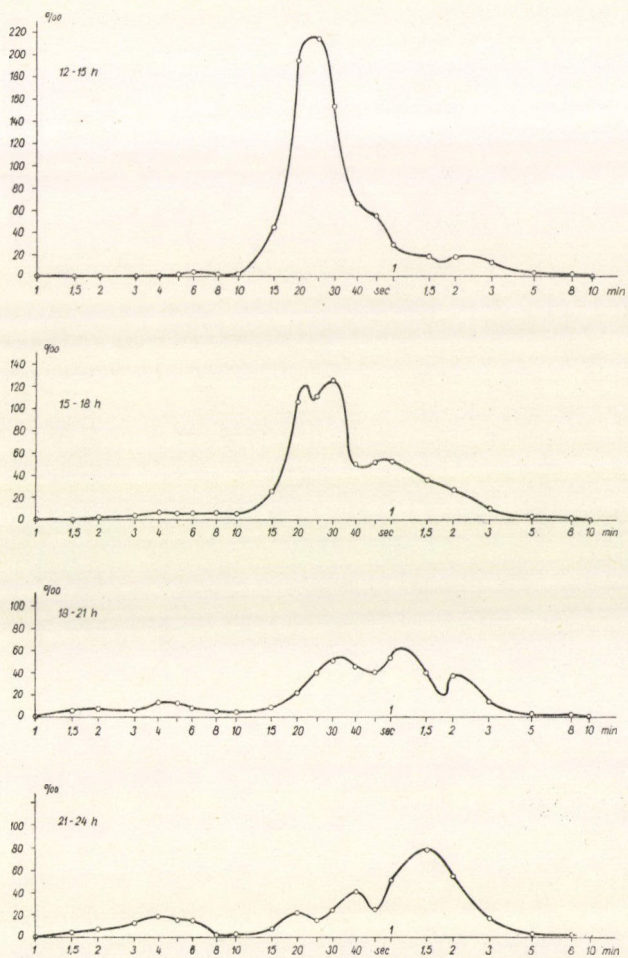


Fig. 19.

YEARLY MEAN 1971

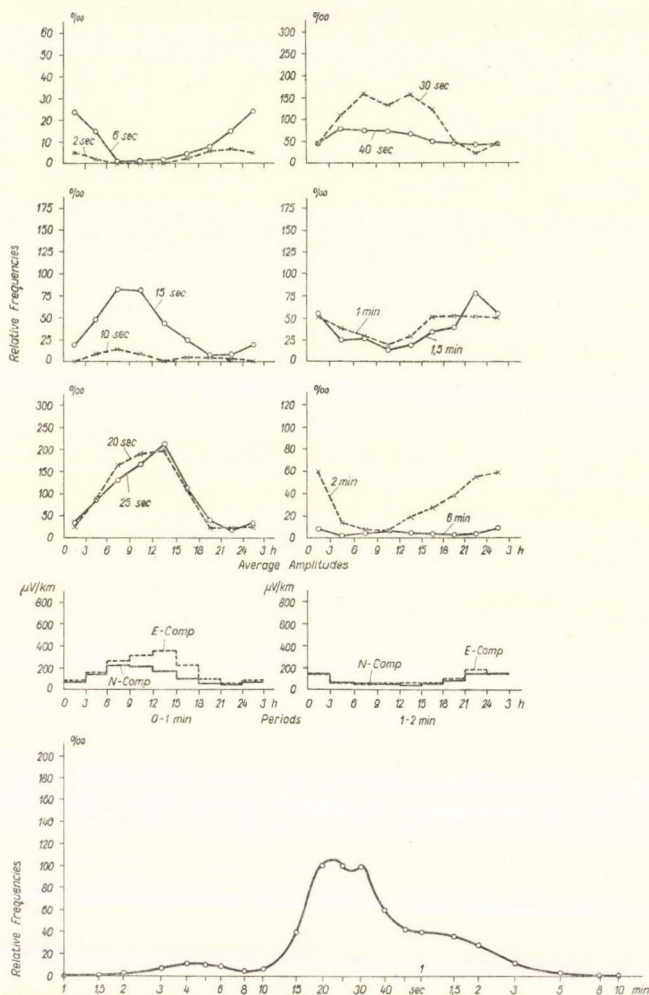


Fig. 1h.

Results of rapid-run records for the year 1971. The daily variations of the relative average occurrence frequencies of some selected pulsation periods are represented on the top of the figures 1a—1f in two-month intervals, and of figure 1h in the whole year; at the middle of these figures the daily variations of the amplitudes in the bands 0—1 and 1—2 min are drawn, at the bottom the approximate spectra for the same intervals. For the whole year, the spectra for each 3 hour interval of the day is given at fig. 1g.

VI.

Micropulsation indices for the years 1966—1971.

Activity indices
(P1 to P12)

Day	January	February	March
1.	111445411411	111343541431	215433442121
2.	313554312441	511343422441	111432343341
3.	111144542111	311353121431	514445111342
4.	+21155322421	113555111311	531454232311
5.	111121454221	435445314231	511121154411
6.	114333212321	111135322111	531134331311
7.	212444413521	111121253311	511323211541
8.	112355311411	111113553221	511124441121
9.	111454422211	112222431531	511122244151
10.	111455311111	112522323531	511452414121
11.	112235534211 G	312343125332	211312345221
12.	112124553521 G	111123315441	211344532112
13.	312235531421 G	111144522331	111133234133
14.	511453431351	111111354311	155421232121
15.	111355331351	313224544442 G	511344343111 G
16.	111113423131	111354334531 G	511245331211 G
17.	111122314451	411342353421 G	52134444211 G
18.	111122411553	111233422411	111144141111
19.	111144211131	511352113551	113455211211
20.	512443314523		111354322112
21.	412553312123	111123352111	111123531113
22.	325523423125	111454322311	552432153112
23.	111245512211	511554211121	523232322132 G
24.	112255512111	112555231111	545121521111
25.	311145531311	311454141211	525531411255
26.	311345512312	511134352111	155543411155
27.	111123454111	521144332231	132453431113
28.	111531544213	121233152221	125555231451
29.	111455114111		115445511111 G
30.	412442221112		111243441111
31.	111111433351		112221451321

the micropulsations

Year 1966

April	May	June
113533352141	111133244312	
115511251111	112332425421	
113344542111	111111554321	
112543243111	111124235311	
111543512111	111111155221	
131454411121	112212552331	
111145511211	111111155511	
113434253111	111122135511	
111344153111	113521243321	
111122242531	111211323411	
111112552111	112533223441	111211124551
111122244531 G	111453113431	111122444352
541321134551 G	111122341112	111123344351
113321115211 G	111111131111	311111314551 G
111124521111	111111112121	421111245251 G
111134541351	111111124551	433222143552 G
111144322421	551243113541 G	112211153521
111111154121	321124435421 G	111122532351
111111154232	131113552431 G	111552111455
111132225321		111111442541
111112335411		111111452551
113552213411		114311344341
111454313122		113421112555
111111155411		114511125455
111111245411		114543224541
111111155311	355432223355 G	111543235511
111111452221	111111251155	
111122543242	111111253332	
111133533421	111111154421	
111431125411	111111214351	
	115532143351	

Activity indices
(P1 to P12)

Day	July	August	September
1.			
2.		111111135451	
3.	111123422551	111424214331	
4.	113533433351	111334215511	
5.	113555411211	111322153431	
6.	111133255441	111111235521	
7.	111111145551	111112435421	
8.	113521125551	111422234541	
9.	115524442114	111321145421	
10.	125433442111	112211245512	
11.	111135551111	112521355411	
12.	553123543112 G	111444234113	
13.	511111255541 G	113522144211	111112344551 G
14.	512221145541 G	111424253111	522234432421 G
15.	111221145444		414542224111 G
16.	111555211422	112211345331 G	
17.	115524214311	511111253321 G	
18.	111334344431	531111125353 G	
19.	111123253311		
20.	111534333331		
21.	111445514211		
22.	111111145521		121234313111 G
23.	111113553231		
24.	111111553331		
25.			
26.	331112455432 G		
27.	334422112452 G		
28.	432112455552 G		
29.	121134325322 G		
30.	111453222451 G		
31.			

the micropulsations

Year 1966

October	November	December
		11155511311
		111133115441
	111133552111	115545522455
	111335515511	
	511422555411	
	111111425531	111112543421
	111134543221	111112455441
	111135344422	111133334441
	111455221541	511125313441
511111455221 G	111155315531	
511243232341 G	111145312451	
511234443441 G	111143141551	111333235455
	111124545411	444433134455
521122322134 G	111112433241 G	331554133453
	111113221231 G	111145444112
	512531113431 G	113322255521
	111111135555	111455222341
	111155335521	111135542321
	111554112411	111145514431
	111455243111	112335335421
	111435533111	111555211121
	111124543251	111155321321
	111234125451	111213455111
	111311342352	111555312111
	111121155131	113555433231
	111111234551	115555112212
	111554123322	111334353131
	411545224441	111125543321
	111543115433	111122355111

Activity indices
(P1 to P12)

Day	January	February	March
1.	111434543242	111125521111	111133551311
2.		111112334551	111145411541
3.		111113452351	111145134433
4.		111145413552	111155112341
5.		413145334241	
6.		111122544541	
7.		25543444455	
8.		445533212552	
9.		11111455321	
10.		111123551221	
11.	111534554231	511345521241	
12.	111111345441	111145542431	111111125551
13.	122444422254		111332134541
14.	441312124551	511113343121	121155214431 G
15.	111113544331	111111133511 G	111111134521 G
16.	511122443451	554311144355 G	311111245431 G
17.	511124243421 G	111443453111 G	111145533441
18.	111433423531 G	111111551131	111344115541
19.	311112353331 G	111333252121	231554114211
20.	411134144521	111244343311	111255232112
21.	111111455541	111145215231	111333435321
22.	511135143231	511355312242	111111245341
23.	111355514441	511354232111	111112423241
24.	111112345441	111345512111	111145442231
25.	111123442451	115454111211	111134124552
26.	111112544142	111155521111	111113244251
27.	111132542441	111123552111	113344122541
28.	111145314231	111122552121	111134553331
29.	111145414541		111113534341
30.	111111155241		111122533521
31.			111112542341

the micropulsations

Year 1967

April	May	June
111122244541	113122115533	
115124344311	155533113541	111123135531
111135511331	155312223553	122111453341
115155123443	112511155331	111431115411
111155222141	111155224411	
111154114441		543451111235 G
111345315441		
111125115321		111532411111
111114345521	331355321111 G	
111122245541	121355333531 G	121521234211
111113554531 G	452355123311 G	111333125531
341122245421 G	112454213321	111135541311
331111255541 G	112442125511	223443345521 G
111353113551	221521115311	554353224531 G
111223243242	111111154431	542353233411 G
111442123551	113422135531	111144142541
121155123211	121455112421	111444531331
111143115551	111143213311	
111455114311	111133122541	111144344111
	111111155251	111522124521
	111133253541	
111133125551	111532432141	111212235451
155542213541	112344115251	111111115551
	114443224433	111111125351
	145432212434	
111111155111		111435541341
	135532222245	115522125321
	455411122351	113553212511
		113521145222

Activity indices
(P1 to P12)

Day	July	August	September
1.	113511145211	111111243554	113524523241
2.	111411155231	111111142131	111445421321
3.	111111134331	111121144551	111144252421
4.	111311232221	111111144551	111122453321
5.	111133135521	111443324211	111111254121
6.	221111125421	111155453331	111111135551
7.	111532143311	111322244241	111122154431
8.	111112445211	113422235421	111422133541
9.	111111125541	111421211111	111155324331
10.	111111155351	111131135341	111334235311
11.	224544111341	123522311313	111122345251
12.		112411155311	
13.	111111215531	111122455221	
14.	111532223511	111144442211	
15.	111111155111	121343245421 G	
16.		343433445542 G	
17.		434552112424 G	
18.	112542211233 G	115553332211	
19.	121113555541 G	122544531221	342223445444 G
20.	111134534542 G	111432433311	245532124454 G
21.	111132314541	111135555412 G	554433244242 G
22.	111111145451	111144254211	
23.	221322444321	111113442521	
24.	115531433121	331135324432 G	111124453311
25.	132132253211	111131242531	111135541221
26.	112454133311	111553225221	131122252541
27.	111121254451	231355225111	111111154411
28.	133442422152	111144452121	
29.	115544322441	111333253221	121555341111
30.	131111115451	121132254311	231124552111
31.	111111132241	111122415311	

the micropulsations

Year 1967

October	November	December
111122553111	111122155451	114533135211
111123152111	112211145421	221134144121
	112555133211	111123253211
	111355221411	111154153221
111144352211	111135444111	111541252111
	111135444211	111554321111
111112145441	111155531111	113555211111
111454252111	115554231121	113555311111
125555223211	111355212211	
113543252112	111144453111	
111355411111	113554341111	
111355441111	111554211111	111111134231 G
111155533441		311134542211 G
112455431111	111454224211 G	111121455411 G
111455431121	311125553211 G	511135425321
111155433411 G	111455322213 G	111432233251
321355325311 G	111112551221	111111434541
311255422322 G	111122554211	155423124332
311124555311 G	111135551121	113334452111
	111122253311	114355224231
111112454221	111122254451	135145232232
111122255315	111444313321	112355431111
111234434322	111455241331	111145541111
111123443411	112333435411	111111153121
111122155221	111111453421	111111254111
111122354341	111111155213	111111354431
111111244541	111112445431	111112442421
111245233225	111111245541	
115534423355	115545241221	
131323344242	112554232311	
111145442231		

Activity indices
(P1 to P12)

Day	January	February	March
1.		111344132411	111443142111
2.	115411233141	111134115521	111144523111
3.	111342114511	111124144321	111434324421
4.	111111242431	115522115541	112233235321
5.	111331125411	111111144311	112531135531
6.	215444113421	111111135511	111333344111
7.	111112533121	111111235331	111312544411
8.	111111144311	111345112421	113321145411
9.	111111145211	111111135511	111111245311
10.	111113232411	222235123433	111355322111
11.	113313224411	235111135553	
12.	111311115553	111333114231	344444213311 G
13.		133354422132 G	112345313421 G
14.		544552111132 G	554432113434 G
15.		145534433143 G	113553111113
16.	533332224442 G	111344123221	111354142111
17.	134552111332 G	111454113121	111245531111
18.	322355332111 G	111551112121	111354223111
19.	111155113211		111554223232
20.	111355111441		111324434212
21.	111234134211	111145431111	111321344211
22.	111144133311	111344421111	111323345311
23.	111144134121	111324441111	112331254324
24.	111145223311	111112541111	111453212211
25.	111122135511	121111352131	111223334111
26.	111111135554	111312442311	111123532111
27.	111444112422	133122234431	111145431111
28.	111111145411	115531111111	111155222111
29.			111112542121
30.			111343122342
31.	111145132111		111555211111

the micropulsations

Year 1968.

April	May	June
111135511121	111321453112	111453231124
111111254331	123552211112	111352224122
111111453221	124543222142	111542112122
111123534311	111341441321	111333144313
143533224445	111121351231	111121254321
125553112155	111321341131	111111453111
111554234411	114532225555	113443221141
112333342341		115553111232
111111214341	354111252311	112553311211
111123433141	133542112132	
111134332113	115541112254	355411123241 G
111443321231	111354311221	154111244433 G
112554111141	112552211144	155232341111 G
112245212131	131454443112 G	125522333244
111554212455	143455443433 G	113532231112
342553232212 G	143355114211 G	124532222111
131133113111 G	111122253131	113532221131
121122422211 G	112552112122	111122431132
111111355441	114551124121	111111551111
111111155111	111554211121	111132251111
	114345122122	111122531111
111122323441	255311442111	111322531141
121154211331	111145421111	11132333121
	123212454311	111111252231
111213521121	111123334111	111111252111
	111111155111	
131551111111	111211254122	
111122533121	111121454341	121321332431
111123521113	122353221221	111343224221
	111353232421	121111245321
	111432333331	

Activity indices
(P1 to P12)

Day	July	August	September
1.	111422443111	133422455542	111455323322
2.	111333521122	113323355551	112555445421
3.	112442212333	125454445455	115554212313
4.	111233341111	112445552231	122555324332
5.	111122442111	121543355452	111544434323
6.	113333332331	115544212212	122444443434
7.	111531242121	122555433322	114553234445
8.	111111154222	111544443431	332331554422
9.	111111343322	112455435321	115332442345
10.	112542114455	111123555431	112444434421
11.	111531222121	111234544111	113455313421
12.	111111552111	111344444432	113455322222
13.	122111234343	132355521215 G	113543222124
14.		111122353211	113445512113
15.	133333244332	543355345311 G	111323554422
16.	123235555313 G	115555411112	111355511133
17.	121112555311 G	115554331121	111113552111 G
18.	143133423311 G	111555321132	111123432211 G
19.	153234533441	115544543112	521133112211 G
20.	112422532311	111345432232	
21.	233322354443	111222555321	
22.	114555312222	111234345542	
23.	122345432222	112223455322	
24.	112111255542	113433335442	111134454311
25.	111343355454	111111355541	111111255441
26.	223455424441	111122554342	111124355431
27.	111445433212	111112555531	111222355551
28.	121311554422	112222455541	111312355552
29.	111135544322	111211455441	221234455441
30.	112234543441	111111455551	111234454321
31.	122222434541	122333345552	

the micropulsations

Year 1968.

October	November	December
115544432333	155533224555	122231511531
112222444491	222433554455	113455412253
112433431213	255543413555	142455213455
111211455541	132345232344	243555412455
111111255521	111211552331	115555211153
111442135552	111123552345	112345521432
112531245551	142345411353	112222554413
111244554331	11123323453	324423422554
111112454221	112445424342	113322435544
112334542121	111111534542	135325513443
114445531244	111111244452	112245512435
555554111355	411122442211 G	111345511553
252334344245	111344234431 G	111235541552
351235531141	111355443411 G	111112551412
111255453211 G	111242214552	111332324554
233332321221 G	114423322555	111323312354
321355432213 G	111211112555	111112323212 G
331145512441	111112234542	
531355311421	111111442453	111225511551
211335521125	135421112555	111435552231
111111553341	111111113555	
111111134451	111122241551	111555511244
111122135451	112325512322	111455521233
211145114555	111232212455	
111455323552	111445212355	
115333214554	111345225541	
331455213542	111323515552	111321111355
212334322453	111124534544	111125523551
155531111555	111245323451	111335534452
111555211145	111111451451	111134511355
555411115555		

Activity indices
(P1 to P12)

Day	January	February	March
1.		111112524541	143112345212
2.	111111134311	154115525441	111113455111
3.	111123441241	255323532344	111111455531
4.	111111131353	113432132445	241111135551
5.	111111455541	232432255222	111453111254
6.	111111155551	212335532311	231135522531
7.	113312244551	111224534421	351235225511
8.	111235521111	511234335411	431125533331
9.	111112455311	111113554111	111134344321
10.	111112453311	111124534311	111155322111
11.	111113451251	155311112454 G	151133334531
12.	111155314521	321111121121 G	154212334111
13.	111111355111	112234433111 G	111113552111
14.	111354214521 G	113211455111	121355311111
15.	112452113211 G	111354121311	221235523111
16.	112245534111 G	112354342111	123235333412
17.	111445423111	111111355211	155524314341
18.	111245523111	111111454421	131145421111 G
19.	111433552211	111234432332	142135532113 G
20.	111245433111	112355111231	154322112442 G
21.	111113355511	211135542111	143135533111
22.	111212355411	111112535521	251115544311
23.	111223233411	311255311552	155334333211
24.	111232245331	111255511231	555312125451
25.	115523233211	111112334541	124322115543
26.	113345422211	113224322353	141235512212
27.	111125535411	145323232233	132225411211
28.	111114554111	135335422421	132135411111
29.	111111454411		133355111542
30.	112223532331		151115522311
31.	111113334551		152135454111

the micropulsations
Year 1969.

April	May	June
124135521111	121112543111	111145212321
154352111111	134433214331	111213225551
151134313112	111234432113	111112333541
151114544211	131254213211	111133313531
151114523111	142324524211	111243322531
152143443111	132224421111	111143224541
151223224311	131232134311	133531113511
131125423111	132354114551	115323213531
152123124212	141353112411	111342115511
111255212531	133355111111	122444111213
122353211211	111134332531	121442112244
133145411112	111155112411	155324422422
155444113112	143245123354 G	122235312521
151454122111	353353222122 G	122543113125
124443323222 G	453221135553 G	112353112441
112454211111 G	111224332322	111112311111
132355311143 G	145323522331	243255322211 G
131144211111	155521113312	111115543331 G
131134325211	111552113312	111113432341 G
152143414411	132333112432	111121132541
142332314432	144223335422	121111144441
154532113231	121134331123	111111155431
121554211111	112555311113	111211114552
131553111121	112335422313	121211113221
133454111321	132112442211	111211113151
132124513421	111133224522	111134213321
142245212414	111123442241	111111332311
135322211255	111121114551	111112232111
141134223454	111112225551	111111111121
142344123343	111431115531	111111444411
	111334112541	

Activity indices
(P1 to P12)

Day	July	August	September
1.	122322112313		111111354311
2.	111111124212		
3.	111111135551		
4.	111111245541		
5.	111111122453		111155511131
6.	111111121153		121343112311
7.	111233111155		141233335311
8.	111112331142		553223334312
9.	111234321321		312232213231 G
10.		111211111155	111121233211 G
11.	111111124441	114323212321	131133431211 G
12.	111333113411	111113533321	111111553311
13.	115542212112	111323134411	111111455421
14.	111111344151	111111125541	341111135552
15.	111112555411 G		451123341341
16.	131221114331 G	111231124411	111112444332
17.	111113553211 G	111521115111	125343114412
18.	113321114513	111423325511	114455332113
19.	111111145551	122235533311	111255424312
20.	111111125553	111112435231	121125534411
21.	112311112451	111133224551	111112555511
22.		112543233421	111111544351
23.	111112135421	111532124421	451134354121
24.	111111333311	331112455552 G	111355411121
25.	111111433351	533322145555 G	111235523411
26.	113311112555	542112553542 G	111112553321
27.	155331114241	111112255411	121114443541
28.		111112335112	355323114355
29.		111123422323	455122223134
30.		111111233551	254312435332
31.			

the micropulsations

Year 1969.

October	November	December
122335533111	111111245451	111211355321
153223433131	111123112452	111111155111
121112553112	112135314311	111111552111
111111554111	111111455321	411221114553
111114552111	111115453111	112452113244
111134534111	111111255521	211225521111
111112453111	111112223552	111112433411
111113554311	112112125551	111113542211
211111555211	124345211254	
444354212125	131335433312	
111235554113	112333443113	
111114522311	123222553111	
111113432121	111123432331	111111132541
411123442111 G	111111154321	111131352251
111111454221 G	111111155351	511123421211
511111112331 G	111111252352	113343114311 G
321242211531	111111232114	112113334411 G
111553112212	111113521421 G	111114323211 G
111245134451	111125321311 G	111155111131
221155412511	111125313311 G	111135511211
121453222341	111111132453	
111114443341	111224215452	
111113554312	111323222551	111223124551
222213542122	111112323551	111223222111
111115511132	111133231341	111124511312
111113354352	111212523441	211223333311
111112555441	111323325445	111111551121
111124523531	112112454342	111111155312
111114452311	121215533311	311111153111
111111155241	132215435432	111211153351
111112232551		111111354211

Activity indices
(P1 to P12)

Day	January	February	March
1.	511133113343	111111234433	113332211241
2.	335513312231	312343111231	231224221112
3.	111122534112	311235212131	131115323211
4.	111111454422	311124323452	231124434211
5.	111122235422	213111452121	255332114222
6.	111114511111	111111155311	351144112132
7.	111125111521	111111155551	351123432133
8.	511133222441	111111113552	555322123321
9.	112123134411	111112344331 G	541133421152
10.	111111155421	111114211132 G	111113531111 G
11.	111111135512	111125311111 G	111111111121 G
12.	111123422211	111114411332 G	122222431122 G
13.	111211135541 G	111124111145	111123323312
14.	111114553211 G	112113111153	211123531231
15.	411123445542 G	111111533452	221113533342
16.	133111112151	111113331351	111111234151
17.	151113422321	231113321451	121233111152
18.		111125322111	121125311312
19.		111124454211	
20.		111111552241	111111123541
21.		111112233431	111111243421
22.	111113234331	111111254252	111112542152
23.	111124532221	111111112143	111115511343
24.	123111123554	422214112155	111112312152
25.	111111155531	111222114442	111113111132
26.	111111135551	111111112552	112112111155
27.	111111132552	111111112452	145322112155
28.	411113123341	441125322311	152333125311
29.	221333112453		151135113122
30.	311123111252		141234124111
31.	111112544311		145323212155

the micropulsations

Year 1970.

April	May	June
11111113555	122354111111	134323114551
111114553114	111345112111	124255212111
111322112224	232144321111	151113521151
131235321511	114243111121	141111543321
115531111135	113235111431	131111453422
113323124142	131111114553	111112135122
111125532112	112123135431	121121112455
131123424312	111121113551	155353112121
111334131154	111111353531	131223112441
121122111255	111111145421	111112325421
111113111151	111111145551	131112212521
121134131151	353411113451 G	131112453531
131123411321	242234542311 G	122232123222
231122343211 G	142443123221 G	141112124322
142112433431 G	132134122311	141334212121
352235214413 G	121222312441	111124312331
151115522111	111352112122	445421113441 G
131235412111	131333311111	554332125322 G
151221113232	122334111421	151213323253
134323111142	131332113552	153211135541
153211114422	132132122541	155311111251
153132111113	131123113221	132323224111
141332113211	121112124331	111111132121
142421111321	131322211231	132112111351
151422111141	151112125521	122111113551
141232111321	121112343131	133211125551
141112352321	253321113453	143421122212
131122212421	151311113511	142111145541
131111134551	111125112113	121111352511
132341112311	131133112321	111122322111
	111124323111	

Activity indices
(P1 to P12)

Day	July	August	September
1.	122232111242	121322135511	132531111131
2.	111331113131	131232111113	132531122111
3.	133221322331	111342111151	231332232111
4.	253235221112	121122222452	131552111111
5.	134442112111	111111244441	121112335311
6.	125421111332	131332311352	111232233121
7.	111111125552	245511112331	122224324311
8.	152111114551	123511114132	111334211211
9.	155211211142	111332223112	131325211111
10.	133521114231	111234421112	131111333111
11.	132522222111	121222323112	111111121134
12.	155532112113	141221354111	311224432114
13.	111353121111	131123533111	155331124533
14.	111242323421	121113523211	353322322113 G
15.	131222554331 G	131121112421	531254443112 G
16.	331222443411 G	131243221221	321125542111 G
17.	141211112322	555521322554	531144222111 G
18.	131111231452	552352243211 G	
19.	121111145551	531333221111 G	441145114111
20.	133112435511	111233222211 G	231245222111
21.	145442113121	111111223141	251135223111
22.	122453212111	121121111451	131112455111
23.	141552112112	312212212311	131113353111
24.	153331112411	111112245551	131123424321
25.	155211222155	111111113552	221213322341
26.	153211332351	142311135421	112124435411
27.	132112355122	151223322111	351134124123
28.	131123532121	111342111222	331345212111
29.	255211124554	111213325311	111354211311
30.	131122231152	121213313411	113223212151
31.	152111124452	131331114311	

the micropulsations

Year 1970.

October	November	December
131143113511	111111355121	111111133341
141453114211	111113222144	111111322151
141354113111	122112112551	111124421431
441325532141	122112432511	111323433311
111235514111	111123213241	112222213452
211113534311	132323212551	
111112542311	455311222351	
11111223541	111113531132	
11111221351	111113533212	111125552111
121211112351	111125413412	111113333532
152212114451	122235322111	111111235422
332233223211 G	121213532111	111111212351
212353121221 G	111112442551	111123422332
122112555211 G	112225553211	345411114554 G
111111155311 G	111111532211	253111135532 G
132123221332 G	122333343222	111111131211 G
153211114455	112132223211 G	111111322211 G
252232113352	134123344433 G	111111132322 G
221122212331	154322112222 G	111233112352
112111144421	111121111111 G	111122114455
111111225221	155211112452	111111421341
143111125551	121222113452	111112112552
151112223253	124112111151	111125411121
131223422122	112431113133	111112122351
111122335111	112553113111	111111232441
111122124341	111123523322	111111332251
111133323421	111223223321	111211115543
121323114342	111123233531	311333222332
241245113211	111111253214	114512254111
131125211122	111111444531	111245321111
111113422121		111135211111

Activity indices
(P1 to P12)

Day	January	February	March
1.	111145111541	113444411124	111114321435
2.	111254212315	111111354113	111111551432
3.	121345531114	111235422211	112343324412
4.	113355431113	111121252232	131321244343
5.	111155521223	111134211444	211124441212
6.	111122444431	111112413254	111111443543
7.	111111243541	111134323521	111111124532
8.	111111145521	111255334313	211133112354
9.	111122245342	113542112211 G	111352112232
10.	111122431352	112124522331 G	212432213445
11.	111143212521 G	111122232211 G	111133212535
12.	111111354311 G	111343113424	141234211255
13.	111342112131 G	111112541112	255521211145
14.	111111111151 G	221153222345	422541122122
15.	111111125554	234455212211	443334543133
16.	121144311332	411454432313	321355434211 G
17.	112333322341	112523433325	332322233111 G
18.	114134311534	111224342315	211245255111 G
19.	111135432113	112135432243	551331233245
20.	111352112245	111115543334	432134312245
21.	111132333233	111111221453	111112421441
22.	112234231113	111112341322	111111454341
23.	111121113452	422142123525	111421111455
24.	111144341532	512235112245	521453112335
25.	121111423423	555442113225	221245323335
26.	111122531115	332133323235	141433213434
27.	151353211445	111135422225	311322224342
28.	254421123252	111142311135	111311345521
29.	141442122354		111111144331
30.	122552111115		211112332352
31.	112454311215		452531124223

the micropulsations

Year 1971.

April	May	June
111235432213	221332212455	335555334242
124425532235	235143112421	155554223322
323421255412	131352423313	245555322245
545532221355	551143241115	422555442145
115533242125	152454333112	112322455533
145444551115	355454222132	112223554312
244543542333	353552331125	111112555432
153422454543	135355431111	242312455532
545531333524	254422352121	111323555541
155554421133	542112325421 G	124332123455
255434441133	232111455311 G	112111125555
131123554211	111322345211 G	111312454532
321122554211 G	111111211551 G	122111345553
553432234432 G	151321122555	123111134542
453453122313 G	252331113344	322221113421 G
555433332111	124453111215	112211134441 G
332554533225	355421121235	312541111121 G
235554441115	551441112131	411121125332
235531455323	112554542215	211111451132
125412332235	111455543422	121111132354
252432112555	133554213355	111111233444
255433233421	212214552542	211111132453
225543342231	313555434214	112211221255
112235424522	125555533111	331111121555
111123443522	125545445424	232111125545
241332244551	132432454232	215443233225
125433444551	122225542311	111111254134
125541124445	111123555552	211311122455
125542121345	122455245533	355542114225
225545421155	155543324445	122134341125
	111335555211	

Activity indices
(P1 to P12)

Day	July	August	September
1.	113452132315	111324344254	111224415312
2.	152343422225	1255211135555	111311344411
3.	121132333443	112324554312	111111135551
4.	121123433224	113543334333	121111154232
5.	121132433323	125555223322	325532112132
6.	112432123235	111125532431	111543111242
7.	111321321444	213224433355	211552124213
8.	122111242531	212321255553	113411352111
9.	211332113511	214544134334	111333421222
10.	111111255422	112554344433	113433153111
11.	221111222552	113545553215	114221113552
12.	111211222445	124444453113	112434311322
13.	112411111355	113234555112	132321224553
14.	111442112355	111111455221	424421245532 G
15.	111434423434	111323555531	214532245542 G
16.	111123454451	112343335341	113433445541 G
17.	111113555521	111344223334 G	112433445323
18.	114542433552	433343212443 G	531324444345
19.	312552134322	111125525521 G	212552232112
20.	111225415431 G	111123432342	113543443234
21.	454331434341 G	211111114554	113325545211
22.	351211111221 G	121231114432	111124554211
23.	122532331555	414441143122	111111455312
24.	213434512245	111123235311	221122244545
25.	111113552251	121134433222	553213355445
26.	111114552221	121321145331	432555334211
27.	111542253434	112222423511	551555223125
28.	111135534232	111422311335	112455551113
29.	121113555422	111411111355	111335553213
30.	211442235343	211343111511	523542333235
31.	114432235355	155411332125	

the micropulsations

Year 1971.

October	November	December	
33255521224	112114435321	111155421213	
112553322114	111111254221	511154211121	
211345522113	111121232321		
413324443331	111252212532		
111124553112	111122312352	111121254235	
113553111335	111134331233	111111345512	
211322335552	111145111531	111111144542	
321335243535		112224411442	
215535432132	111111155111		
113422555212	111332124312	111132314431	
111322455422		111332111453	
111124555313			
212553433125	111134542111	213111111111	G
121555234222	111111552311	111113522111	G
113335543212	112222211421	111255421111	G
113314555211	111111222311	411124444541	G
112211355533	111111112221		G
411112445521	121221113551		G
111111251331	112321114453		G
122122411131	111424312353	111343543222	
111111112451	112431125553		
111111114441			
314532213452			
114541124523		312443344521	
111111555431		111345443441	
111115555311			
111223444551	112445442123	111111133352	
213312113552	112345542112	111322555323	
115444314125	112323555311		
111335553213	522214553311		
111112455531			