

## 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:

$$\varphi = 47^{\circ}38' \quad \gamma = 16^{\circ}43'$$

$$\psi = 47,2^{\circ} \quad \lambda = 98,3^{\circ}$$

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

The tables published are the following:

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

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

Frequency band	limits between K-values								
	0—1	1—2	2—3	3—4	4—5	5—6	6—7	7—8	8—9
1. Period 0— 2 min	2	4	7	13	18	23	29	41	54
2. Period 2— 6 min	9	13	18	23	29	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  $10^{-3}$  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, numerical data are presented on the average amplitudes of pulsations for (nearly complete) months. Averages are derived from manually processed earth-current records (6 mm/min) for three-hour intervals of the day. Such averages (expressed in  $\mu$ V/km) are published for each month and for the full year. As the bands where amplitudes are determined have different bandwidths, amplitudes are comparable in different bands only after a correction for bandwidth. Data for the same band are, however, directly comparable. Initial data are estimated amplitudes in half-hour intervals.

VI. Micropulsation indices for the year 1975. 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 frequen-

cies (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. VERÓ: 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. VERÓ 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. VERÓ, 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.	22221110	11	6	2	4	1	1
2.	11001010	4	4	1	4	0	0
3.	00211122	9	5	2	4	1	1
4.	32345946	36	7	3	6	2	6
5.	43346766	39	7	3	4	4	6
6.	21224469	30	6	2	5	3	5
7.	99733321	37	6	3	6	5	5
8.	45766796	50	9	6	6	3	7
9.	11233201	13	7	4	5	1	2
10.	11111000	5	5	1	4	0	0
11.	10000010	2	3	1	4	0	0
12.	20000012	5	3	0	4	0	1
13.	24423374	29	7	3	4	3	5
14.	33335572	31	7	3	5	5	6
15.	31133326	22	8	2	5	3	3
16.	54236836	37	7	3	5	5	6
17.	42335268	33	7	3	5	6	5
18.	54133724	29	5	2	4	3	5
19.	22233121	16	5	2	4	2	2
20.	22231243	19	6	3	4	1	4
21.	21011130	9	5	0	4	2	1
22.	00110342	11	5	1	4	1	2
23.	21112127	17	4	1	4	1	3
24.	22121121	12	6	1	4	2	2
25.	00010321	7	4	1	4	0	1
26.	21001010	5	4	1	4	0	1
27.	11532341	20	6	1	4	2	3
28.	53111122	16	6	2	4	3	3
29.	11113011	9	5	2	4	1	1
30.	11111114	11	6	1	4	3	3
31.	11022268	22	5	1	4	1	5
Monthly averages:			T (N)	2,306			
			T (E)	1,822			
			$K_1$	5,68			
			$K_2$	1,97			
			$K_3$	4,39			
			$K_4$	2,06			
			$K_5$	3,06			

February							
Day	T	Sum	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>	K <sub>4</sub>	K <sub>5</sub>
1.	46568565	45	7	5	5	4	7
2.	63543452	32	8	4	5	4	5
3.	12323311	16	6	2	4	3	4
4.	12114332	17	6	2	4	2	2
5.	22235384	29	8	3	6	3	7
6.	21 23222	(16)	7	2	3	2	2
7.	12221243	17	4	2	4	3	3
8.	22111101	9	3	0	4	3	2
9.	41101122	12	5	1	4	3	3
10.	63533899	46	8	5	5	6	7
11.	75465597	48	9	5	7	7	7
12.	44447869	46	7	3	6	6	8
13.	44454499	43	7	4	6	4	7
14.	55443646	37	7	4	4	3	6
15.	22245577	34	8	3	5	5	6
16.	32675492	38	7	4	5	6	6
17.	33232333	22	6	1	4	3	3
18.	32312122	16	6	1	4	3	4
19.	21412224	18	7	2	4	1	3
20.	32111113	13	7	2	4	1	3
21.	11012421	12	4	0	4	2	2
22.	23123211	15	6	2	4	1	2
23.	32187735	36	7	2	5	4	6
24.	64335455	35	9	4	5	3	5
25.	45324321	24	7	2	4	3	3
26.	23332110	15	6	0	5	2	2
27.	01211101	7	6	1	4	1	0
28.	21122327	20	7	2	4	3	2
Monthly averages:			T (N)	3,152			
			T (E)	2,547			
			K <sub>1</sub>	6,61			
			K <sub>2</sub>	2,43			
			K <sub>3</sub>	4,57			
			K <sub>4</sub>	3,25			
			K <sub>5</sub>	4,18			

## March

Day	T	Sum	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>	K <sub>4</sub>	K <sub>5</sub>
1.	32333236	25	6	3	5	3	3
2.	32123123	17	6	2	4	2	2
3.	31133434	22	7	1	5	1	3
4.	25332111	18	7	3	4	1	1
5.	23243593	31	6	2	5	3	4
6.	22223654	26	6	1	4	3	2
7.	00000001	1	2	0	4	0	0
8.	00001001	2	4	0	4	0	0
9.	00011114	8	5	1	4	1	1
10.	95558999	59	8	4	6	7	8
11.	99655556	50	7	3	6	4	8
12.	54444759	42	7	1	4	5	6
13.	63245493	36	7	3	5	5	5
14.	22324576	31	7	3	4	2	5
15.	42233553	27	7	2	5	3	5
16.	21232323	18	6	2	5	1	1
17.	22212223	16	7	2	4	1	2
18.	51123634	25	5	1	4	3	4
19.	20112136	16	5	1	4	1	3
20.	22133223	18	6	1	4	1	5
21.	11010000	3	4	0	4	1	0
22.	01262122	16	3	0	4	2	0
23.	52221112	16	6	2	4	2	2
24.	20125553	23	7	3	5	3	5
25.	22112121	12	5	2	4	1	1
26.	01334242	19	7	3	5	3	3
27.	22215864	30	8	3	5	3	5
28.	33447695	41	8	5	6	6	5
29.	22322392	25	7	3	5	3	4
30.	32123212	16	8	2	4	2	2
31.	32323331	20	7	3	4	3	3

Monthly averages:

T (N)	2,778
T (E)	2,234
K <sub>1</sub>	6,16
K <sub>2</sub>	2,00
K <sub>3</sub>	4,52
K <sub>4</sub>	2,45
K <sub>5</sub>	3,16

## April

Day	T	Sum	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>	K <sub>4</sub>	K <sub>5</sub>
1.	21211131	12	6	2	4	1	1
2.	11112113	11	6	3	4	1	0
3.	11111112	9	6	1	4	0	1
4.	11111112	9	5	2	4	1	1
5.	31111143	15	6	2	4	1	2
6.	11112217	16	5	2	5	1	3
7.	11123279	26	7	3	5	3	4
8.	53355994	41	7	4	6	3	6
9.	54576699	51	7	4	5	3	6
10.	43575366	39	7	4	5	3	5
11.	63336542	32	6	1	5	3	5
12.	12343439	29	6	2	5	2	4
13.	52423436	29	7	4	5	5	4
14.	33332422	22	6	2	5	2	3
15.	11111231	11	3	0	4	1	0
16.	21211110	9	5	0	4	0	1
17.	10112120	8	3	0	4	0	0
18.	01022111	8	3	0	4	1	1
19.	21111210	9	3	0	4	1	1
20.	10113378	24	4	0	4	2	5
21.	85238541	36	5	1	5	4	4
22.	22322225	20	5	2	4	2	1
23.	42333844	31	7	3	5	3	6
24.	53334323	26	6	2	5	3	1
25.	22221211	13	5	1	5	1	0
26.	51122122	16	6	1	4	1	2
27.	11220010	7	3	0	4	0	0
28.	31110011	8	4	2	4	1	0
29.	10011100	4	3	1	4	0	0
30.	01211011	7	3	1	4	1	0

Monthly averages:

T (N)	2,271
T (E)	1,862
K <sub>1</sub>	5,17
K <sub>2</sub>	1,67
K <sub>3</sub>	4,47
K <sub>4</sub>	1,67
K <sub>5</sub>	2,23

May							
Day	T	Sum	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>	K <sub>4</sub>	K <sub>5</sub>
1.	11212111	10	2	0	4	1	0
2.	21223343	20	2	1	4	2	3
3.	32223313	19	3	1	4	2	3
4.	32212121	14	5	1	4	1	3
5.	63533366	35	7	2	4	4	6
6.	66534445	37	7	3	5	3	6
7.	32244443	26	6	1	5	3	4
8.	32223324	21	7	1	4	1	3
9.	42223332	21	6	0	4	2	3
10.	54223113	21	4	1	4	2	4
11.	01111100	5	5	2	4	0	0
12.	00000120	3	3	0	4	0	0
13.	01211047	16	4	0	4	2	0
14.	23121012	12	3	0	4	2	2
15.	10110000	3	3	0	4	0	0
16.	03466445	32	6	2	5	3	5
17.	33455420	26	7	2	5	3	3
18.	12331321	16	5	2	5	3	0
19.	32321199	30	6	2	6	3	4
20.	88642321	34	7	3	7	5	3
21.	22224223	19	7	2	5	3	3
22.	23435312	23	6	3	5	4	2
23.	12223111	13	5	1	4	1	2
24.	01112112	9	6	1	4	1	1
25.	11112655	22	5	1	4	3	4
26.	95112111	21	4	0	3	1	4
27.	22356241	25	5	1	4	4	3
28.	31100211	9	4	0	4	1	2
29.	22223333	19	4	0	4	2	2
30.	13111111	10	5	2	4	0	1
31.	12111120	9	6	2	3	0	0

Monthly averages:

T (N) 2,137  
T (E) 1,935  
K<sub>1</sub> 5,00  
K<sub>2</sub> 1,19  
K<sub>3</sub> 4,32  
K<sub>4</sub> 2,00  
K<sub>5</sub> 2,45



## June

Day	T	Sum	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>	K <sub>4</sub>	K <sub>5</sub>
1.	21113695	28	4	1	5	3	4
2.	68666335	43	7	3	5	3	6
3.	43434233	26	7	3	4	1	5
4.	33221222	17	4	1	4	1	2
5.	32122243	19	6	1	4	1	3
6.	22223322	18	5	1	4	2	1
7.	21121117	16	6	1	5	0	2
8.	12111102	9	5	0	4	1	0
9.	03111011	8	5	1	4	1	1
10.	10101101	5	3	0	3	0	1
11.	31123133	17	4	1	4	2	3
12.	23578364	38	7	2	4	4	6
13.	33335343	27	6	2	5	3	4
14.	12323141	17	4	1	4	1	1
15.	11122334	17	4	2	4	2	2
16.	44423343	27	6	2	5	3	3
17.	21243223	19	5	2	4	2	3
18.	23423321	20	5	2	4	3	2
19.	42233232	21	5	1	4	3	3
20.	11221111	10	4	1	4	0	1
21.	12111212	11	5	1	4	1	2
22.	21111001	7	5	0	4	0	0
23.	11101122	9	4	2	4	0	0
24.	01010000	2	3	0	4	0	0
25.	02301112	10	3	1	5	1	0
26.	11222211	12	3	1	4	1	0
27.	11210112	9	4	1	4	1	0
28.	11111101	7	3	1	4	0	1
29.	22132869	33	5	3	4	1	6
30.	65733334	34	6	3	4	2	4

Monthly averages:

T (N)	1,929
T (E)	1,804
K <sub>1</sub>	4,77
K <sub>2</sub>	1,37
K <sub>3</sub>	4,17
K <sub>4</sub>	1,43
K <sub>5</sub>	2,20

July							
Day	T	Sum	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>	K <sub>4</sub>	K <sub>5</sub>
1.	12231311	14	5	2	4	2	0
2.	32211111	12	5	1	4	0	1
3.	12232112	14	5	2	4	1	1
4.	11122125	15	5	2	4	1	0
5.	11212113	12	3	0	4	0	1
6.	11211153	15	3	1	4	2	1
7.	74203211	20	3	0	4	3	2
8.	45445450	31	4	1	4	3	4
9.	14145532	25	6	2	4	2	6
10.	12334433	23	7	2	4	3	3
11.	22946310	27	5	3	5	3	2
12.	11112222	12	5	3	4	0	0
13.	11312324	17	4	1	4	3	2
14.	32123225	20	6	2	4	3	3
15.	23223332	20	6	3	5	3	1
16.	33533232	24	5	2	4	3	2
17.	22233123	18	5	1	5	2	2
18.	32234323	22	6	1	4	2	3
19.	22211212	13	6	2	5	1	1
20.	33121111	13	4	0	4	0	2
21.	11122122	12	6	1	4	1	1
22.	11111223	12	4	2	4	2	2
23.	22211120	11	5	2	4	0	1
24.	20111111	8	3	0	4	0	1
25.	15645657	39	6	2	5	3	6
26.	33434524	28	6	2	5	3	2
27.	23433322	22	6	2	5	2	1
28.	32222122	16	6	2	4	1	1
29.	11221001	8	5	2	4	0	0
30.	11111101	7	4	1	4	0	0
31.	10112104	10	3	1	5	1	1

Monthly averages:

T (N) 1,976  
 T (E) 1,781  
 K<sub>1</sub> 4,90  
 K<sub>2</sub> 1,55  
 K<sub>3</sub> 4,26  
 K<sub>4</sub> 1,61  
 K<sub>5</sub> 1,71

## August

Day	T	Sum	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>	K <sub>4</sub>	K <sub>5</sub>
1.	35231132	20	3	1	5	2	2
2.	22322321	17	4	2	5	2	1
3.	11111111	8	5	2	4	0	0
4.	11111112	9	4	1	4	0	2
5.	45875553	42	7	5	6	4	6
6.	33321111	15	6	2	4	1	1
7.	00111112	7	4	2	4	0	1
8.	29331121	22	3	1	5	2	2
9.	22112456	23	5	1	4	3	4
10.	33231220	16	3	0	4	1	2
11.	02122102	10	4	0	4	1	1
12.	00010100	2	3	0	4	0	0
13.	01011111	6	2	0	4	0	1
14.	14443011	18	4	1	4	2	3
15.	41234325	24	3	0	4	3	2
16.	11122111	10	4	0	4	2	0
17.	22212221	14	4	2	4	2	1
18.	02221021	10	4	1	4	1	0
19.	11111110	7	4	0	4	0	0
20.	00132533	17	4	0	4	2	2
21.	33422546	29	8	3	5	4	4
22.	52332221	20	6	1	5	2	3
23.	42223131	18	7	2	6	2	5
24.	10213122	12	5	0	5	2	3
25.	223 2203	(16)	6	1	5	3	3
26.	11121121	10	4	0	4	2	0
27.	32111001	9	4	0	3	0	1
28.	21111131	11	4	2	4	1	0
29.	69334236	36	7	2	5	4	4
30.	44321322	21	7	3	4	1	3
31.	11222122	13	5	2	4	1	1
Monthly averages:			T (N)	1,891			
			T (E)	1,332			
			K <sub>1</sub>	4,61			
			K <sub>2</sub>	1,19			
			K <sub>3</sub>	4,35			
			K <sub>4</sub>	1,61			
			K <sub>5</sub>	1,87			

## September

Day	T	Sum	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>	K <sub>4</sub>	K <sub>5</sub>
1.	01221141	12	3	0	4	0	1
2.	22111211	11	5	0	5	0	1
3.	10101110	5	4	0	4	1	0
4.	10110011	5	4	0	4	0	0
5.	00001111	4	3	0	4	1	0
6.	41153412	21	4	1	4	2	1
7.	31221101	11	5	1	4	1	0
8.	21011102	8	3	0	4	1	1
9.	21213463	22	4	2	5	2	3
10.	36343412	26	4	2	4	4	3
11.	34434535	31	4	1	4	2	3
12.	53234222	23	5	2	5	2	3
13.	25321105	19	4	1	4	2	1
14.	33233110	16	6	2	4	0	3
15.	11221123	13	5	0	4	0	1
16.	10111110	6	3	0	4	1	0
17.	11411233	16	4	2	4	1	3
18.	12245342	23	6	2	4	3	4
19.	22233211	16	5	2	4	1	2
20.	11112122	11	6	1	4	1	1
21.	31011121	10	4	0	4	1	1
22.	10111111	7	4	0	4	0	0
23.	31110101	8	5	2	4	0	1
24.	00100002	3	3	0	4	0	0
25.	11010010	4	3	0	4	1	0
26.	11223214	16	4	1	4	3	3
27.	73122211	19	4	1	4	1	2
28.	11221210	10	4	1	4	1	1
29.	21111010	7	5	0	4	0	0
30.	00111012	6	4	2	4	0	0

Monthly averages:

T (N) 1,550  
T (E) 1,183  
K<sub>1</sub> 4,23  
K<sub>2</sub> 0,87  
K<sub>3</sub> 4,10  
K<sub>4</sub> 1,07  
K<sub>5</sub> 1,30

## October

Day	T	Sum	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>	K <sub>4</sub>	K <sub>5</sub>
1.	22021101	9	3	1	4	0	1
2.	10000012	4	3	2	3	0	1
3.	20115224	17	4	2	4	1	2
4.	42111031	13	6	1	4	0	3
5.	21111000	6	3	1	3	0	0
6.	22223394	27	4	2	4	2	5
7.	35345358	36	6	2	4	4	6
8.	54324469	37	6	1	5	4	7
9.	83555374	40	6	3	4	3	6
10.	33544353	30	5	1	4	4	3
11.	50112242	17	6	2	5	3	5
12.	12121461	18	4	1	5	2	3
13.	11111323	13	4	1	4	1	1
14.	00132223	13	4	2	3	2	2
15.	10133011	10	5	2	4	1	1
16.	12234251	20	8	4	5	3	1
17.	42121211	14	5	1	4	1	0
18.	00112111	7	4	1	4	1	0
19.	10011011	5	3	0	4	0	0
20.	11011003	7	3	1	4	1	0
21.	31011002	8	4	0	3	1	0
22.	11011102	7	4	1	4	1	0
23.	02011011	6	4	0	4	0	1
24.	11111110	7	6	2	4	0	0
25.	10111100	5	3	1	4	1	0
26.	10011132	9	3	0	4	0	1
27.	12001000	4	3	0	4	0	1
28.	20022353	17	4	0	5	1	1
29.	42220004	14	5	1	4	1	2
30.	30211114	13	4	0	4	1	1
31.	12321240	15	3	0	4	2	1

Monthly averages:

T (N)	1,734
T (E)	1,223
K <sub>1</sub>	4,35
K <sub>2</sub>	1,16
K <sub>3</sub>	4,03
K <sub>4</sub>	1,32
K <sub>5</sub>	1,77

November							
Day	T	Sum	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>	K <sub>4</sub>	K <sub>5</sub>
1.	10011105	9	4	0	4	0	1
2.	21112299	27	4	0	5	1	4
3.	94668996	57	7	4	5	7	9
4.	65667778	47	7	4	6	7	6
5.	42324565	33	7	3	6	6	3
6.	43134410	20	6	2	4	2	3
7.	21132341	17	5	2	6	3	1
8.	10021202	8	5	1	4	1	0
9.	11243488	31	4	0	4	4	5
10.	32115359	29	3	1	5	4	3
11.	73342243	28	7	2	5	2	4
12.	23212211	14	6	2	4	2	0
13.	11120000	5	4	1	4	1	1
14.	01111121	8	7	2	4	0	0
15.	00010110	3	5	1	4	0	0
16.	40110001	7	3	0	4	0	2
17.	11225543	23	6	1	4	3	4
18.	41123101	13	4	0	4	1	0
19.	11211021	9	4	1	4	1	1
20.	21111223	13	7	3	4	1	2
21.	54331143	24	7	3	5	3	3
22.	14555999	47	6	1	4	6	5
23.	40310110	10	3	0	4	1	1
24.	11215662	24	5	2	4	1	3
25.	51213522	21	6	2	4	1	1
26.	11352111	16	5	1	4	1	1
27.	30001111	7	4	1	4	0	0
28.	30112111	10	4	1	4	2	1
29.	12235697	35	5	2	4	3	6
30.	39436695	45	7	3	5	6	5
Monthly averages:			T (N)	2,579			
			T (E)	2,088			
			K <sub>1</sub>	5,10			
			K <sub>2</sub>	1,53			
			K <sub>3</sub>	4,40			
			K <sub>4</sub>	2,33			
			K <sub>5</sub>	2,50			

December							
Day	T	Sum	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>	K <sub>4</sub>	K <sub>5</sub>
1.	43446975	42	7	4	5	3	6
2.	34355466	36	5	2	4	3	3
3.	41233412	20	7	3	4	2	1
4.	21124441	19	5	2	4	1	3
5.	11111132	11	4	1	4	1	0
6.	00013011	6	3	0	4	1	0
7.	20011111	7	4	1	4	0	1
8.	12111447	21	4	0	4	4	2
9.	52126300	19	4	0	4	1	4
10.	00122400	9	6	1	4	0	2
11.	01121112	9	4	1	4	1	1
12.	10011100	4	5	0	4	0	0
13.	00001111	4	4	1	4	1	0
14.	10111112	8	5	0	4	1	1
15.	22212112	13	5	0	4	0	2
16.	22332223	19	7	2	4	3	2
17.	33112213	16	7	2	4	1	1
18.	11112211	10	6	2	5	1	0
19.	12111310	10	5	2	4	0	1
20.	02010001	4	4	0	4	0	0
21.	00012321	9	4	0	4	1	1
22.	23121123	15	4	0	4	3	2
23.	12111123	12	4	0	4	1	0
24.	01000012	4	4	1	3	0	0
25.	23422312	19	5	1	5	4	4
26.	7 33798	(49)	6	2	4	3	8
27.	43343867	38	6	2	6	4	5
28.	52332223	22	6	2	5	2	2
29.	22333252	22	5	2	4	3	3
30.	32132221	16	5	2	4	2	2
31.	11111111	8	5	1	4	0	2
Monthly averages:			T (N)	1,959			
			T (E)	1,512			
			K <sub>1</sub>	5,00			
			K <sub>2</sub>	1,19			
			K <sub>3</sub>	4,16			
			K <sub>4</sub>	1,52			
			K <sub>5</sub>	1,90			

II. *Average amplitudes for different periods*

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
	January North											
1.	12	10	9	9	12	15	13	23	29	26	22	24
2.	12	10	5	6	8	9	9	16	20	21	20	20
3.	36	36	34	37	37	36	36	37	37	42	38	38
4.	38	57	73	52	62	47	49	41	66	38	44	49
5.	98	77	53	62	53	37	47	36	33	39	52	36
6.	+7	-1	-36	-10	-29	-21	-9	+3	+5	-4	-24	-38
	January East											
1.	16	12	9	9	13	22	23	30	35	37	36	37
2.	10	9	6	7	5	6	8	16	18	24	23	24
3.	31	34	33	34	36	35	31	31	33	41	37	33
4.	28	60	41	35	34	33	26	37	43	33	38	37
5.	87	69	72	56	60	34	34	40	27	34	38	45
6.	+10	+5	-9	+4	+1	-7	-19	-9	-11	+22	+23	+14
	February North											
1.	12	10	14	13	14	17	19	30	28	24	26	26
2.	12	9	10	10	9	13	16	23	21	17	17	19
3.	33	34	39	39	37	39	38	41	46	39	40	40
4.	41	66	62	45	73	65	73	57	59	73	87	96
5.	163	114	134	145	75	47	55	55	57	45	78	51
6.	-27	-8	-14	+3	-3	-15	-34	+3	+32	+30	-5	-21
	February East											
1.	15	18	19	15	22	23	19	30	28	49	53	53
2.	7	7	6	7	7	10	18	22	23	21	21	23
3.	39	34	35	35	37	33	38	39	45	33	36	35
4.	35	40	39	35	54	39	59	31	37	53	57	46
5.	120	94	97	82	70	72	46	47	53	62	53	69
6.	-3	+7	+7	-4	+2	0	-20	-10	+5	+30	+55	+37



*and hourly means of earth current elements*

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
24	21	18	17	16	15	15	16	14	12	12	9	16.4
21	17	12	13	12	12	13	13	11	9	10	8	12.8
40	37	37	37	37	33	34	36	34	37	38	34	36.6
39	52	44	41	47	39	37	51	43	54	77	56	49.8
60	44	35	111	91	82	136	180	133	158	83	82	75.8
-23	+6	+8	+35	+5	+13	+29	+24	+13	+50	-10	+9	
Component												
46	42	38	37	26	20	23	21	15	18	16	14	24.8
32	27	23	20	13	8	7	9	4	10	8	6	13.0
31	26	25	30	35	33	33	34	37	38	33	34	33.3
28	30	26	34	30	38	35	57	46	46	47	56	38.3
41	75	51	88	60	90	78	117	139	177	100	80	70.5
+15	-9	+11	+3	-3	+6	+17	-38	-8	-23	+3	+3	
Component												
27	25	22	19	21	14	21	14	14	13	12	10	18.5
23	19	21	17	19	14	15	14	12	15	11	11	15.3
42	44	47	36	41	34	36	39	41	39	35	38	39.0
95	69	71	39	38	50	54	76	76	69	35	68	64.0
57	66	61	121	109	138	185	98	120	157	213	115	102.5
-23	-29	-1	+27	+29	+32	+15	-19	-9	+29	-3	+12	
Component												
55	57	55	53	43	35	31	16	17	21	18	17	31.7
32	27	32	24	21	13	16	13	12	14	10	11	16.5
36	46	33	31	38	30	39	35	30	34	34	39	36.0
48	41	41	41	48	59	50	51	46	42	59	61	46.3
80	81	94	130	68	105	190	114	159	154	162	77	95.0
+34	-10	-13	-3	-4	-16	-40	-19	-13	-27	-12	+17	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
	March North											
1.	10	9	12	13	16	19	20	25	21	23	20	20
2.	10	6	8	9	12	12	16	18	17	19	16	17
3.	38	37	35	36	36	38	42	35	40	39	37	38
4.	44	55	57	38	44	49	52	47	66	50	51	54
5.	139	96	70	82	56	36	22	45	15	44	63	63
6.	+6	+24	+22	-14	+1	+9	+11	+28	+14	-18	-71	-110
	March East											
1.	17	15	15	18	20	22	30	34	35	37	38	35
2.	5	5	8	7	6	8	10	16	16	14	18	20
3.	36	37	38	35	36	38	35	29	34	30	35	37
4.	50	60	40	33	44	31	31	44	35	33	36	43
5.	73	35	56	52	28	33	35	29	36	34	38	37
6.	+33	+10	+10	+8	+5	-11	-13	-8	+25	+40	+17	+5
	April North											
1.	6	12	14	15	16	16	20	20	19	22	14	16
2.	6	12	11	10	8	14	14	18	15	15	9	8
3.	35	37	37	34	35	37	40	38	38	37	35	35
4.	52	53	48	44	35	36	37	42	43	36	34	62
5.	56	64	92	34	44	37	34	24	28	38	39	46
6.	+20	-10	-10	+10	-4	+4	+35	+49	+22	-46	-85	-127
	April East											
1.	11	13	13	12	16	20	22	29	30	29	25	31
2.	8	10	10	4	8	8	12	10	16	20	19	20
3.	34	32	34	34	35	32	32	32	34	36	35	39
4.	47	40	49	32	39	35	28	29	31	35	35	47
5.	41	59	35	41	22	32	34	33	30	17	47	32
6.	+17	+3	+12	-1	0	+8	+4	+17	+7	+10	+22	-7

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
19	19	18	17	18	15	15	14	13	15	15	14	16,7
17	15	15	11	12	15	9	11	9	10	11	13	12,8
39	39	39	39	38	38	33	37	36	35	35	37	37,3
68	53	56	57	37	69	84	45	63	46	44	64	53,9
44	65	67	75	136	125	125	160	142	110	154	99	84,7
-80	-42	+12	+47	+81	+69	+20	-9	+17	+5	-17	-3	
Component												
40	38	42	39	32	26	21	20	17	20	20	20	27,1
21	19	20	18	17	10	9	11	8	10	10	13	12,5
38	38	39	33	42	34	39	39	37	34	30	35	35,8
35	32	31	50	41	51	55	48	47	42	68	67	43,6
45	57	59	59	95	123	145	121	106	118	92	106	67,2
-5	-26	-19	+10	+7	+9	-17	-31	+1	-5	-20	-23	
Component												
16	17	15	14	13	11	14	13	10	7	11	10	14,2
13	12	9	11	10	7	7	8	7	6	11	9	10,4
36	37	37	38	33	35	37	34	37	36	37	37	36,3
43	53	44	49	47	35	34	49	52	44	49	57	44,9
51	36	25	55	70	93	79	80	67	76	97	109	57,3
-120	-38	-4	+33	+59	+47	+43	+52	+13	+24	+22	+10	
Component												
32	34	28	27	30	23	22	11	8	11	13	16	21,1
20	24	18	15	11	16	12	6	6	10	14	11	12,8
37	36	41	39	35	36	37	37	34	37	37	38	35,5
41	34	36	38	33	37	53	49	44	46	46	65	40,4
52	53	23	40	79	123	79	121	81	69	109	62	54,8
-22	+4	+3	+5	-5	-13	-19	-27	-14	+10	-18	+3	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
	May North											
1.	10	13	15	16	17	22	20	19	16	16	13	11
2.	10	10	12	11	11	20	17	14	15	8	7	5
3.	35	34	43	36	39	45	38	39	37	35	35	34
4.	48	44	59	46	35	52	48	55	54	35	45	43
5.	112	127	64	66	67	56	52	38	26	53	46	62
6.	+10	+6	+14	-14	+9	+39	+21	+25	+7	-69	-100	-122
	May East											
1.	12	15	11	19	17	21	26	26	31	31	33	31
2.	5	7	8	8	7	8	10	15	13	13	16	14
3.	32	34	39	37	40	34	35	35	32	35	35	36
4.	39	52	52	39	27	35	34	30	35	28	54	37
5.	73	70	45	53	64	69	39	46	39	42	19	45
6.	-8	+7	-1	-10	-9	+7	+28	+28	+39	+9	-1	-19
	June North											
1.	11	17	16	19	18	22	20	20	18	15	14	15
2.	9	11	11	14	13	17	17	17	13	14	8	10
3.	34	35	37	32	36	43	38	37	35	35	35	35
4.	23	33	48	37	43	46	49	40	29	45	35	46
5.	79	94	47	45	31	52	60	34	49	18	50	37
6.	+21	+2	+20	+20	+53	+69	+46	+29	-7	-82	-132	-154
	June East											
1.	11	14	16	19	14	16	22	25	28	25	28	33
2.	9	9	5	8	4	5	11	14	16	12	16	17
3.	34	36	33	30	32	35	32	30	30	33	31	31
4.	28	36	32	29	28	34	34	29	22	30	34	43
5.	56	50	35	36	31	30	29	29	33	33	52	40
6.	+10	+4	+5	-6	-10	+16	+38	+43	+43	+64	+26	+6

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
12	10	12	8	5	5	6	12	12	8	8	8	12,3
11	7	6	5	2	3	5	8	12	6	6	5	9,0
39	37	34	34	37	36	35	30	40	38	32	35	36,5
56	53	46	45	42	31	34	42	55	37	85	57	47,8
49	45	57	55	41	62	51	79	47	127	74	114	65,4
-93	-47	+11	+49	+42	+35	+41	+21	+31	+24	+32	+28	
Component												
37	30	29	26	16	19	13	14	13	12	12	10	21,0
16	13	15	9	8	4	5	6	9	7	12	8	9,8
36	36	34	34	34	37	34	35	39	37	34	35	35,4
45	46	46	40	58	50	30	60	52	53	63	43	43,7
42	45	62	54	48	60	66	74	48	69	62	93	55,3
-4	+19	+15	+1	-13	-25	-24	-41	+5	+2	-12	+6	
Component												
15	10	10	8	4	4	6	7	12	14	15	8	13,3
12	11	9	5	3	4	4	3	8	11	13	10	10,3
34	37	35	36	32	35	36	26	32	34	33	34	34,8
35	50	53	40	38	24	37	57	32	33	50	42	40,2
48	57	40	43	46	67	77	56	104	85	70	85	57,3
-111	-54	-36	+29	+35	+57	+34	+64	+25	+5	+31	+37	
Component												
29	29	24	20	18	16	17	11	10	17	17	11	19,3
16	17	15	9	10	8	12	6	9	13	14	10	11,0
38	38	33	31	34	37	30	32	33	35	32	34	33,1
34	43	39	28	31	30	68	35	41	35	37	52	35,5
41	52	65	57	82	87	58	109	80	98	108	60	56,3
-10	-7	-38	-23	-41	-21	-48	-37	-9	-9	-17	+19	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
	July North											
1.	9	12	15	19	20	22	21	20	19	17	16	14
2.	9	10	12	13	16	18	17	17	18	15	11	12
3.	35	34	37	36	37	40	34	38	38	35	35	36
4.	37	37	39	35	36	62	48	46	43	38	41	41
5.	52	74	59	37	44	21	39	26	23	28	34	47
6.	+27	+26	+7	+13	+32	+58	+41	+44	+3	-35	-79	-132
	July East											
1.	8	10	12	18	20	22	26	28	29	31	28	28
2.	5	7	10	10	6	9	8	19	22	16	15	19
3.	33	33	34	32	32	35	32	31	33	32	33	34
4.	40	51	27	30	27	33	25	29	28	28	31	48
5.	46	28	48	29	33	30	31	23	35	39	38	26
6.	+3	-3	-10	-9	-14	-12	+19	+53	+49	+32	+37	+16
	August North											
1.	12	10	14	15	18	21	21	24	23	19	18	16
2.	9	11	8	10	13	16	16	21	16	14	12	11
3.	35	35	36	35	39	37	41	41	40	36	37	37
4.	44	22	55	31	39	43	41	37	44	38	37	56
5.	59	114	50	87	59	41	28	18	25	26	32	42
6.	+21	-6	-9	-1	+12	+17	+41	+57	+8	-55	-105	-144
	August East											
1.	10	9	11	8	15	16	24	28	29	26	29	29
2.	6	8	5	3	9	5	8	14	13	12	14	13
3.	35	33	35	32	33	33	33	34	34	33	34	32
4.	31	38	28	33	28	41	28	26	29	40	29	31
5.	35	35	45	53	37	41	27	19	17	13	32	40
6.	-1	-1	+4	+13	+21	+24	+56	+53	+32	+80	+29	-8

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
14	13	12	12	8	6	5	10	11	12	8	9	13,5
14	10	9	6	6	3	5	5	8	10	7	7	10,8
36	35	34	37	34	34	34	35	35	36	37	35	35,7
39	45	49	34	40	44	39	39	44	46	45	62	42,9
51	54	65	46	44	30	53	45	60	73	62	77	47,7
-137	-76	-32	+29	+46	+50	+31	+11	+7	+25	+15	+25	
Component												
27	24	26	24	22	14	11	10	11	12	8	9	19,1
16	18	16	15	11	10	6	9	7	9	7	4	11,4
31	35	34	34	31	34	35	34	34	36	35	33	33,3
34	34	45	24	41	42	45	37	44	49	32	55	36,6
46	70	53	73	52	53	59	67	43	43	72	63	45,8
+8	+14	-14	-16	-22	-30	-21	-35	-20	-11	-10	-3	
Component												
13	12	13	9	8	6	11	12	10	8	6	9	13,7
12	7	6	2	4	3	6	12	10	8	3	7	9,9
35	38	35	35	35	34	35	37	35	35	35	38	36,5
52	50	61	41	48	37	37	31	42	42	53	57	43,3
56	51	39	53	47	59	55	87	65	66	48	61	52,8
-118	-58	-4	+44	+67	+61	+37	+46	+28	+30	+19	+14	
Component												
28	26	23	20	14	10	10	12	9	8	7	9	17,1
10	13	11	8	5	5	5	11	8	6	6	9	8,6
35	34	35	34	34	33	33	36	33	32	31	33	33,5
38	41	36	38	34	55	48	30	41	45	38	51	36,5
50	38	41	45	59	44	34	53	60	47	58	33	39,8
-19	-22	-20	-24	-22	-32	-34	-52	-34	-37	-28	-27	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
	September North											
1.	10	11	11	11	11	14	19	19	18	16	16	16
2.	10	10	8	7	6	6	13	16	11	8	9	10
3.	35	36	35	37	35	36	35	37	36	36	35	36
4.	33	36	43	28	29	32	31	35	41	39	42	51
5.	62	73	31	74	38	25	35	23	14	40	50	36
6.	-16	-10	+13	-41	-4	-3	+41	+62	+29	-28	-93	-152
	September East											
1.	11	11	7	7	8	12	16	22	18	20	25	25
2.	10	10	8	4	3	4	7	10	11	6	11	10
3.	33	31	33	29	36	32	28	32	35	35	36	29
4.	31	28	35	31	31	30	33	32	28	32	34	35
5.	38	64	27	37	22	26	23	17	28	26	25	38
6.	-12	-19	+13	-10	-4	-14	+4	+43	+71	+78	+57	+17
	October North											
1.	9	13	9	12	12	12	15	20	17	16	20	19
2.	11	10	7	8	7	6	8	18	15	12	14	12
3.	34	32	34	33	34	34	34	34	35	33	37	33
4.	37	46	42	32	40	39	34	52	43	39	47	55
5.	66	84	60	56	35	31	21	12	12	46	41	33
6.	0	-12	+3	+1	-3	-30	+17	+36	+72	+19	-78	-131
	October East											
1.	8	12	7	12	9	15	12	14	17	23	32	30
2.	8	5	6	6	3	2	4	7	10	11	10	12
3.	30	31	34	28	33	34	30	32	30	35	27	33
4.	35	41	33	26	28	33	31	34	32	24	37	50
5.	52	46	28	48	30	30	32	28	26	34	30	16
6.	+19	-7	-13	-24	-6	-13	-4	+9	+35	+52	+37	+9



12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
16	13	15	14	12	11	11	9	4	10	11	6	12,7
14	5	8	8	4	5	10	4	5	8	10	6	8,4
37	36	35	35	35	36	35	34	34	37	37	34	35,6
40	43	49	45	41	30	38	37	40	28	44	38	38,0
42	56	20	25	26	35	33	46	36	76	43	35	40,6
--120	-64	+13	+69	+94	+54	+51	+26	+17	+29	+30	+2	
Component												
25	22	20	19	17	10	10	5	4	10	14	8	14,4
9	11	8	8	10	6	7	5	5	5	10	4	7,6
32	34	35	36	34	37	32	32	34	32	28	34	32,9
39	32	41	40	31	32	35	35	35	37	38	36	33,8
28	46	26	30	48	31	46	60	43	49	62	38	36,6
-24	-28	-26	-1	-5	-19	-27	-34	-18	-23	-28	+7	
Component												
17	15	14	14	12	12	9	13	10	8	12	15	13,5
12	10	10	9	7	9	10	12	6	8	9	14	10,2
39	38	35	36	32	34	35	32	31	31	32	33	34,0
38	41	39	33	32	40	38	45	40	34	53	44	41,0
41	28	37	24	39	50	82	120	100	70	116	92	54,0
--107	-49	+32	+66	+46	+17	+43	+51	+3	+6	-4	-1	
Component												
24	20	24	21	19	16	12	12	12	8	15	15	16,2
13	10	10	8	9	6	4	8	5	6	10	12	7,7
28	37	32	29	32	31	30	30	31	31	33	32	31,4
47	41	30	31	34	39	49	34	33	52	38	24	35,7
22	14	34	29	33	34	59	106	73	39	82	97	42,6
-28	-37	-17	-1	-6	-15	-14	-7	+17	+13	-10	+8	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
	November North											
1.	9	10	10	10	16	16	17	25	26	22	17	22
2.	9	8	6	4	7	10	15	20	21	16	15	14
3.	34	36	35	32	37	35	37	35	38	38	37	38
4.	37	47	56	54	46	69	49	38	60	69	49	70
5.	110	68	67	54	37	21	27	44	24	13	50	43
6.	-20	-25	-38	-31	+8	-8	-11	+22	+59	+34	-18	-47
	November East											
1.	9	9	10	11	16	23	25	26	31	27	27	32
2.	7	4	4	4	5	10	11	10	19	19	13	15
3.	31	30	34	30	31	35	35	33	33	35	39	35
4.	45	26	28	40	41	45	35	36	49	33	43	42
5.	63	60	47	46	27	21	31	38	17	28	32	43
6.	+6	+5	+2	-2	-8	-11	-17	+3	+10	+28	+15	+1
	December North											
1.	7	8	4	8	12	10	16	17	25	22	19	23
2.	6	5	2	4	8	6	8	9	17	19	16	19
3.	34	35	35	37	37	38	34	38	36	36	42	39
4.	30	41	43	49	46	46	49	43	54	40	55	36
5.	107	85	51	36	46	29	38	32	8	20	13	37
6.	-19	-23	-19	-22	-17	-3	-12	-8	+22	+30	-10	-29
	December East											
1.	8	8	5	8	14	20	22	22	29	32	34	34
2.	5	2	5	2	4	2	5	8	12	13	16	17
3.	32	31	32	29	34	37	33	33	32	30	32	33
4.	46	30	33	31	29	35	29	38	29	33	34	34
5.	56	63	51	35	32	28	26	22	40	23	30	36
6.	+4	+3	+3	-3	-11	-15	-20	-21	-8	+29	+29	+19

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
23	22	19	18	16	15	16	14	13	10	7	7	15,8
19	17	14	12	11	11	12	7	12	9	7	4	11,7
38	40	32	37	35	34	43	36	37	32	33	38	36,3
62	71	37	76	49	83	56	66	91	59	49	58	58,4
46	22	85	36	65	91	156	116	137	137	88	50	66,1
-57	-5	+16	+18	+29	+37	+45	+13	+23	-16	-2	-23	
Component												
35	38	30	29	25	18	22	16	19	12	8	11	21,2
19	16	14	13	10	7	10	10	11	10	5	6	10,5
34	37	27	32	29	37	37	29	35	34	29	35	33,2
43	39	39	38	43	53	55	59	56	49	41	49	42,8
43	59	73	60	64	97	92	88	114	109	86	103	60,0
-10	+18	-4	+11	+27	-2	-4	-10	-38	-26	+7	-3	
Component												
21	20	16	16	19	16	13	6	13	12	6	10	14,1
21	15	12	13	12	13	9	8	10	9	5	10	10,7
36	38	35	37	37	35	32	34	34	34	37	35	36,0
38	44	45	54	41	48	33	33	38	49	49	45	43,7
46	45	57	60	93	56	96	52	51	99	42	54	52,2
-30	+7	+29	+29	-9	-4	+14	+6	+28	+10	+32	-2	
Component												
38	36	31	29	31	19	16	10	15	13	8	13	20,6
18	17	14	13	13	9	5	5	6	9	6	13	9,1
31	33	28	32	28	33	31	33	35	34	30	31	32,0
27	41	28	31	33	38	34	38	33	33	45	37	34,1
44	33	66	75	98	62	84	45	60	96	63	57	51,0
+9	+16	+4	+20	-5	-4	-26	-4	-9	-16	+15	-9	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
Year 1975. North												
1.	10	11	12	14	15	17	18	22	22	20	18	18
2.	9	9	8	9	10	12	14	17	17	15	13	13
3.	35	35	36	35	37	38	37	37	37	37	37	37
4.	39	45	52	41	44	49	47	44	50	45	47	55
5.	92	89	65	65	49	36	38	32	26	34	46	44
6.	+2	-2	-2	-8	+5	+10	+13	+26	+20	-14	-58	-91
Year 1975. East												
1.	11	12	11	13	15	19	22	26	28	31	32	33
2.	7	7	7	6	6	6	9	14	16	15	16	17
3.	33	35	35	33	35	34	33	32	34	34	34	34
4.	38	42	36	33	34	35	33	33	33	33	39	41
5.	62	56	49	48	38	37	34	31	32	32	36	39
6.	+7	0	0	-3	-3	-3	+7	+19	+30	+35	+20	-3
Quiet days North												
1.	6	7	11	12	13	16	18	19	18	17	15	16
2.	6	6	7	8	8	12	11	14	12	11	10	9
3.	34	36	36	34	35	36	33	35	34	35	34	34
4.	29	30	37	28	28	27	29	31	32	36	35	39
5.	34	28	12	30	20	26	23	17	15	12	20	24
6.	+7	+10	+3	+1	+9	+15	+20	+27	+24	-23	-81	-114
Quiet days East												
1.	6	6	7	8	13	13	16	17	21	25	24	24
2.	5	5	4	5	3	4	5	7	10	10	10	11
3.	30	31	31	27	30	32	29	29	30	30	32	30
4.	28	30	27	28	23	22	21	26	26	28	26	33
5.	30	20	19	17	20	23	23	18	14	15	23	24
6.	+4	+2	+4	-6	-9	-4	+1	+20	+36	+40	+23	+3

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
18	16	15	14	13	11	12	12	11	11	10	11	14,6
16	12	11	9	8	8	9	9	9	9	9	9	11,0
38	38	36	36	35	35	36	34	35	35	35	37	36,2
51	50	50	46	42	44	43	48	51	45	53	54	47,3
49	47	49	58	67	74	94	93	89	103	91	81	63,0
-77	-35	+4	+37	+38	+34	+28	+22	+14	+17	+9	+8	
Component												
34	32	31	28	24	19	17	13	13	14	13	13	21,0
18	18	16	13	12	8	8	8	7	9	9	9	10,9
34	36	33	33	34	34	34	34	34	34	32	35	33,9
38	38	37	36	38	44	46	44	43	44	46	50	38,9
44	52	54	62	66	76	82	90	84	89	88	73	56,4
-13	-9	-10	+1	-2	-8	-16	-21	-9	-12	-8	+1	
Component												
14	11	11	10	8	7	6	9	10	9	6	7	11,5
11	7	6	6	4	5	6	7	9	8	6	7	8,2
34	36	34	33	33	33	33	32	34	34	33	33	34,1
32	34	34	33	33	29	26	32	33	29	33	35	31,8
23	17	15	18	16	22	22	26	21	28	22	23	21,4
-97	-45	+12	+40	+48	+32	+20	+16	+18	+23	+22	+13	
Component												
23	22	20	17	15	12	10	9	10	8	7	9	14,3
11	11	10	10	8	5	3	7	8	7	7	8	7,3
31	33	32	33	30	32	32	32	30	33	32	31	30,9
31	30	28	21	31	32	27	30	35	32	30	31	28,2
16	16	19	25	22	20	21	22	21	29	31	30	21,6
-14	-18	-12	-8	-8	-11	-16	-18	-4	-5	-1	+1	



12	13	14	15	16	17	18	19	20	21	22	23	Averages
North Component												
28	27	25	21	24	21	15	15	17	16	18	10	21,3
28	27	24	17	20	16	12	15	14	14	13	9	18,5
48	47	41	42	39	38	35	35	36	39	34	33	40,3
87	86	78	81	63	103	71	98	105	77	69	86	79,5
101	92	126	212	216	234	250	277	257	245	245	220	160,5
-52	-2	+3	+38	+45	+56	+21	-17	+2	+10	-24	+1	
East Component												
51	49	46	42	41	29	31	28	24	33	21	21	33,4
35	34	28	26	21	14	16	19	10	13	12	11	19,8
45	53	34	36	39	41	40	36	39	35	34	36	40,0
62	49	55	53	39	73	70	77	76	70	60	89	60,7
76	142	119	203	178	200	223	250	259	218	247	153	139,6
+25	-11	-22	-12	-5	-23	-24	-45	-5	-26	-16	+18	

## III.

*Results of harmonical analysis of the daily variations*

	A <sub>1</sub>	$\varphi_1$	A <sub>2</sub>	$\varphi_2$	A <sub>3</sub>	$\varphi_3$	A <sub>4</sub>	$\varphi_4$	A <sub>5</sub>	$\varphi_5$	A <sub>6</sub>	$\varphi_6$
North Component												
January	20	172	10	243	10	136	9	341	4	128	2	45
February	8	200	9	254	15	81	17	252	8	225	4	50
March	24	132	39	305	33	106	12	310	5	331	10	30
April	37	124	346	284	32	124	12	336	6	190	4	193
May	42	121	40	296	31	141	8	335	2	142	1	274
June	56	105	58	297	26	148	5	50	8	168	5	118
July	46	96	49	290	33	118	6	252	5	80	5	355
August	43	122	53	287	36	130	10	334	1	211	4	125
September	36	136	54	284	45	122	18	310	5	289	5	282
October	22	134	41	282	37	108	30	320	15	155	6	182
November	13	220	28	261	17	95	11	306	14	159	7	38
December	12	199	11	217	11	157	14	296	10	140	6	306
Year	23	127	31	285	23	121	10	310	4	151	1	27
Q	31	117	35	291	30	127	15	307	3	158	3	24
D	12	217	23	274	25	106	10	276	8	214	5	96
East Component												
January	6	284	9	82	8	34	8	182	4	149	2	308
February	17	321	17	109	10	4	9	198	5	45	5	128
March	9	350	3	111	16	45	9	258	5	27	10	63
April	10	1	3	85	73	111	5	284	5	50	3	327
May	15	343	3	162	14	155	10	346	2	303	5	5
June	31	357	18	173	11	99	2	350	2	32	4	21
July	26	331	16	161	9	104	5	14	4	262	1	163
August	46	348	13	227	15	86	8	300	3	151	5	19
September	30	332	18	187	21	64	13	267	2	123	4	162
October	7	348	20	183	13	66	9	259	10	69	4	91
November	9	290	6	61	13	73	4	230	4	182	1	315
December	9	270	14	97	5	18	7	249	4	80	2	294
Year	13	342	6	182	11	83	5	275	2	103	2	62
Q	13	349	11	178	11	72	6	281	1	73	1	27
D	20	353	9	126	6	99	9	163	8	109	12	81



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

Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	End of Storm
			E(mV/km)	H(gamma)					
01.	08.	0.30	9.0	22	+	+	+	-	01.08. 22.00
03.	09.	23.45	12,0	50	+	+	+	- (b?)	03.15. 22.00
04.	11.	13.30	12,0	42	-	-	-	+	03.21. 21.00
05.	16.	4.15	6,5	18	+	+	+	-	05.17. 19.00
	19.	20.45	20,0	45	+	+	+	-	20. 19.00
	27.	7.30	4,0	18	+	+	+	-	28. 04.00
07.	06.	18.30	10,0	22	+	+	+	-	07.07. 03.00
	31.	23.15	8,0	22	+	+	+	-	08.01. 10 00
08.	08.	4.15	14,5	32	+	+	+	-	08. 12.00
10.	03.	12.15	11,0	14	+	+	+	-	10.04. 03.30
	14.	7.15	2,0	10	+	+	+	- (?)	no storm
11.	03.	18.45	22,0	110	-	+	+	+	11.05. 05.00 (in storm)
	23.	7.30	7,0	16	+	+	+	- (si?)	no storm

		<i>Bays</i>			<i>Pi-s</i>							
Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey	
			E(mV/km)	H(gamma)								
01.	02.	20.30	2,5	12	+	+	+	+	2,5	+	+	
	04.	15.00	12	85	—	+	—	+	tr			
		16.30	23	140	—	+	+	+	tr			
	05.	16.30	13,5	80	—	—	—	+				
		19.00	10	65	—	+	+	+	tr			
		21.15	12,5	50	+	+	+	—	tr			
	06.	23.00	23	145	—	+	+	+	tr			
	07.	1.30	>27	180	—	+	+	+	tr			
	08.	20.00	25	160	+	+	+	—				
	09.	22.15	2,5	10	—	+	+	+	2	+	+	
	12.	0.45	2,5	15	+	+	+	—	2,5	+	+	
	13.	23.00	7	50	+	+	+	—	tr			
	14.	14.45	12	85	—	—	—	+	tr			
		19.15	18	70	+	+	+	+				
	16.	0.30	8	40	—	+	+	+	tr			
		16.00	12	85	—	+	+	+				
	17.	18.15	10	70	—	+	+	+	tr			
	18.	15.00	9	70	—	—	—	+				
		20.45	8	60	+	+	+	—	tr			
	20.	2.45	3,5	23	+	+	+	—	2,5	+	+	
		19.00	7	32	—	+	+	+	tr			
	22.	22.30	6,5	32	—	+	+	+	tr			
	23.	21.00	10	80	—	+	+	+	tr			
	26.	0.45	3,5	18	+	+	+	+	2	+	+	
	28.	2.00	10	60	+	+	+	—	tr			
	29.	23.15							2	+	+	
	30.	21.15	8	35	—	+	+	+	tr			
	31.	17.30	9	65	—	—	—	+	tr			
		21.00	10	75	—	+	+	+	tr			
	02.	01.	0.45	4,5	12	—	—	—	+			
		02.	0.00	10	90	+	+	+	—	tr		
20.15			11	80	—	+	+	+	tr			
04.		23.30	3,5	18	+	+	+	—	2,5	+	+	
05.		18.15	18	80	—	+	+	+				
		22.00	9	30	+	+	+	—	2,5	—	+	
07.		21.30	6,5	30	—	+	+	+	2	+	+	

		<i>Bays</i>		<i>Pi-s</i>							
Month	Day	CET (GMT+1h)	Amplitude in E(mV/km)	H(gamma)	Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
02.	09.	2.15	6,5	42	+	+	+	-	tr		
	10.	0.15	9	35	+	+	-	-	3,5	+	+
		15.15	>15	90	-	-	+	-	tr		
		17.45	12	90	-	-	-	+			
	11.	18.30	25	170	+	+	+	+			
	12.	17.30	18	120	-	+	+	+	tr		
	13.	20.45	20	85	+	+	+	+			
	15.	19.45	16	70	-	+	+	+			
		23.30	9	40	+	+	+	-	2	+	+
	19.	23.00	6.5	22	+	+	+	-	2.5	+	+
	20.	22.30	6.5	22	+	+	+	-	2.5	+	+
	22.	1.15	3,5	12	+	+	+	-	2,5	+	+
		2.15	4,5	14	+	+	+	-	2	+	+
		3.00	6,5	17	+	+	+	-	2,5	+	+
	23.	2.15	3,5	30	+	+	+	-	2	+	+
		23.45	6,5	30	-	+	+	+	2,5	+	+
	24.	2,30	6,5	40	+	-	-	-	3.5	+	+
		22.00	8	50	+	+	+	+	tr		
	28.	21.15	12	75	-	+	+	+	tr		
03.	01.	22.30	7	50	+	+	+	-	2.5	+	+
	02.	23.15	6.5	22	+	+	+	-	2.5	+	+
	05.	17.45	20	30	+	+	+	+	tr		
	10.	0.00						(pg)	5		
		19.30	>30	220	-	+	+	+	tr		
	12.	21.15	16	95	+	+	+	-	tr		
	13.	19.15	>30	220	+	+	+	+	tr		
	14.	23.30	11	75	-	+	+	+	tr		
	16.	23.45	3,5	18	+	+	+	-	2.5	+	+
	17.	23.45	8	60	+	+	+	-	3,5	+	+
	18.	17.00	9	70	-	-	-	+			
	19.	20.15	6.5	35	+	+	+	+	tr		
		22.00	12,5	75	+	+	+	+	tr		
	23.	0.45	6,5	25	+	+	+	-	4,5	+	+
		23.00	4,5	15	+	+	+	-			
	28.	19.15	16	85	-	+	+	+			
	29.	18.15	14,5	65	+	+	-	+			

		<i>Bays</i>			<i>Pi-s</i>						
Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
			E(mV/km)	H(gamma)							
03.	30.	1.30	4,5	20	+	0	+	-	tr		
	31.	17.00	5,5	30	-	-	-	+	tr		
04.	05.	21.45	5,5	18	+	+	+	-	3,5	+	+
	06.	22.15	>11	80	-	+	+	+	tr		
	07.	23.30	25	85	+	+	+	-	tr		
	08.	15.45	22	70	+	+	+	+	tr		
		17.30	>22	110	-	+	+	+	tr		
		20.30	>18	75	-	+	+	+	tr		
	09.	18.15	>18	85	-	+	+	+			
		22.15	18	90	+	+	+	-	tr		
	10.	19.00	12,5	55	+	+	+	+			
		22.30	12	70	+	+	+	-	tr		
	11.	2.00	10	50	+	-	+	-			
	13.	23.15	13,5	45	+	+	+	-	tr		
	18.	11.30	4	13	-	-	-	+			
	19.	0.15							2,5	+	-
	21.	2.30	16	85	+	-	+	-			
	22.	22.45	10	40	-	+	+	+	tr		
	23.	17.00	12,5	80	-	+	-	+	tr		
		21.15	9	42	+	+	+	-	tr		
	26.	0.45	3,5	40	+	+	+	-	3,5	+	+
		22.45							4,5	+	+
	28.	0.15	3,5	8	+	+	+	-	3,5	+	+
05.	02.	20.45	10	50	-	+	+	+	tr		
	03.	23.00	5,5	18	+	+	+	-	2	+	+
	05.	0.45	12,5	50	+	-	-	-	tr		
	06.	17.00	8	45	+	+	+	+			
	08.	21.30	7	32	+	+	+	-	2	+	+
	10.	0.15	9	45	+	+	+	-	tr		
		22.30	6,5	32	+	+	+	-	2,5		
	13.	20.30	4,5	18	-	+	+	+	4,5	-	+
		21.45							12,5	-	-
	14.	22.15	5,5	22	+	+	+	-	tr		
	16.	23.30	12	60	+	+	+	-	tr		
	18.	0.30							3,5	+	+
	24.	23.00							2,5	+	+

		<i>Bays</i>			<i>Pi-s</i>							
Month	Day	CET (GMT+1h)	Amplitude in E(mV/km)	H(gamma)	Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey	
05.	26.	2.45	12,5	45	+	+	+	-	tr			
	27.	2.30	5,5	14	-	-	+	-				
		14.30	11,5	22	-	-	-	+				
		19.30	6,5	22	+	+	+	-				
		22.45								2,5	+	+
	31.	19.30							3,5	+	+	
06.	01.	1.15	3,5	14	+	+	+	-	2,5	+	+	
	02.	22.30	7	45	+	+	+	-	tr			
	05.	19.00	5,5	30	-	+	+	+	2,5	+	+	
	07.	22.30	8	22	+	+	+	+	3,5	+	+	
	08.	23.15							2,5	+	+	
	09.	3.30							3,5	+	+	
	11.	0.45	4,5	14	+	+	+	-	3,5	+	+	
		13.00	7	22	-	-	+	-				
		20.45	6,5	18	+	+	+	-	3,5	+	+	
	12.	22.00	8	45	+	+	+	+	tr			
	17.	21.30	5.5	20	-	+	+	+	2	+	+	
	19.	1.45							2,5	+	+	
	21.	22.15							4,5	+	+	
	22.	0.15	3,5	22	+	+	+	-	2	+	+	
	23.	20.15								3,5	+	+
		20.45								3,5	+	+
		22.15								4,5	+	+
		23.45								2,5	+	+
	25.	5.30							(pg)	3,5		
		23.00								2,5	+	+
	27.	23.15	3,5	14	+	+	+	-	2,5	+	+	
	28.	22.45	3,5	10	+	+	+	-				
	29.	21.15	18	95	+	+	+	-	tr			
30.	23.00	8	42	+	+	+	-	tr				
07.	05.	21.30							4,5	+	+	
	06.	22.30							3,5	+	+	
	07.	1.30	12	50	+	+	+	-	2,5	+	+	
	08.	11.45	11,5	30	+	+	+	-				
	10.	21.45	7	32	+	+	+	-				
	12.	19.00							2,5	+	+	

		<i>Bays</i>			<i>Pi-s</i>						
Month	Day	CET (GMT+1h)	Amplitude in E(mV/km)	H(gamma)	Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
07.	13.	21.30	6,5	28	--	--	+	+	tr		
	17.	11.45	6,5	25	--	--	--	+			
	22.	19.30							5,5	+	+
	24.	1.15	4,5	18	+	+	+	--	2,5	+	+
	25.	23.15	12,5	38	--	--	+	--	tr		
	26.	21.45	8	42	--	+	+	+	tr		
	29.	23.15							2,5	+	+
08.	30.	22.45	3,5	10	+	+	+	--	2	+	+
	01.	20.30	5,5	12	--	--	--	+			
	03.	20.15							2	+	+
	05.	2.00	7	30	+	+	+	--	2	+	+
	10.	18.30	3,5	18	--	+	--	+	tr		
	11.	21.30	2,5	15	+	+	+	0	2	+	+
	14.	3.00	9	35	+	+	+	--	tr		
	15.	21.00	5,5	40	--	+	+	+	tr		
	17.	17.30	4,5	22	--	+	+	+			
	18.	20.00	3,5	14	+	+	+	+	tr		
	23.	19.15	5,5	?	--	+	?	?	4,5	--	+
	24.	19.30	6,5	?	--	+	?	?	tr		
		23.15	3,5	?	+	+	?	?	4,5	+	+
	25.	21.30	5,5	22	--	+	+	+	2,5	+	+
	27.	0.15	4,5	16	+	+	+	--	tr		
	28.	0.45	4,5	12	+	+	+	--	2,5	+	+
		19.45							3,5	+	+
	29.	1.00	9	55	+	+	+	--	tr		
		22.45	9	38	--	+	+	+	3,5	+	+
09.	01.	18.15	6,5	40	--	+	+	+	tr		
	04.	2.15							2,5	+	+
	05.	20.15							2,5	+	+
	07.	21.15							2	+	+
	07.	23.45	3,5	10	+	+	+	+	2,5	+	+
	08.	0.15	5,5	18	+	+	+	--	2,5	+	+
	09.	1,00	3,5	32	--	+	+	--	tr		
		18.30	8	45	--	--	--	+	tr		
	11.	0.45	5,5	45	+	+	+	--	tr		
	12.	1.00	5,5	45	+	+	+	--	tr		

		<i>Bays</i>			<i>Pi-s</i>						
Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
			E(mV/km)	H(gamma)							
09.	13.	22.30	4,5	28	—	+	+	+	tr		
	15.	21.30	6,5	35	—	+	+	+	tr		
	18.	21.45	6,5	45	+	+	+	—	tr		
	20.	22.00	4,5	35	—	+	+	+	tr		
	21.	1.00	5,5	16	+	0	+	—	2,5	+	+
	23.	1.30	3,5	22	+	+	+	—	2	+	+
	26.	0.00							2,5	+	+
		21.00	7	50	—	+	+	+	tr		
	27.	0.30	10	65	+	+	+	—	tr		
	28.	18.15	4,5	15	—	—	—	+			
	29.	0.00	3,5	20	—	+	+	+	2,5	+	+
	30.	23.45	4,5	20	+	+	+	—	2,5	+	+
10.	02.	22.15	4,5	18	+	+	+	—	4,5	+	+
		23.30							2,5	+	+
	03.	1.30							3,5	—	—
	04.	19.30	5,5	22	—	+	+	+	tr		
	06.	19.30	15,5	90	+	+	+	+	tr		
		23.15	5,5	22	+	+	+	—	tr		
	07.	2.30	5,5	60	+	+	+	—	tr		
		22.15	>18	80	+	+	+	+	tr		
	08.	22.00	>20	125	+	+	+	—	tr		
	09.	0.45	11	50	+	—	—	—	2,5	+	+
		23.15	7	55	+	+	+	—	tr		
	11.	20.00	12,5	22	+	—	+	+	3,5	+	+
	12.	16.15	8	40	—	+	+	+	tr		
		19.00	6,5	55	—	+	+	+	tr		
	13.	14.45	4,5	25	—	—	—	+			
		21.30	6,5	35	+	+	+	+	2,5	+	+
	20.	23.30	4,5	40	+	+	+	—	4,5	+	+
	23.	3.30	3,5	25	+	+	+	—	tr		
		20.45							3,5	—	—
	26.	17.45	4,5	32	—	+	+	+	tr		
	28.	20.00	5,5	60	—	+	+	+	tr		
	29.	23.00	4,5	45	+	+	+	—	2	+	+
	30.	22.00	3,5	30	+	+	+	+	2,5	+	+

		<i>Bays</i>			<i>Pi-s</i>						
Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
			E(mV/km)	H(gamma)							
11.	01.	23.45	4,5	45	+	+	+	-	2.5	+	+
	02.	20.30	>23,5	160	+	-	-	-	tr		
		23.45	>18	105	+	+	+	-	tr		
	04.	18.30	12.5	75	+	+	+	+			
	05.	2.00	6.5	25	+	+	+	-	tr		
	06.	16.30	6.5	22	-	-	-	+	tr		
	07.	2.30							2.5	+	+
		18.00	4.5	50	-	+	+	+	tr		
	10.	23.00	12.5	100	+	+	+	-	tr		
	16.	0.15	8	30	+	+	+	-	2.5	+	+
	20.	1.00	2.5	14	+	+	+	-	2	+	+
	21.	2.00	8	75	+	+	+	-	tr		
		11.00	7	14	+	-	-	+	(si?)		
		20.30	7	50	-	+	+	+	tr		
	22.	17.30	>18	145	+	+	+	+	tr		
	23.	1.00	9	55	+	+	+	+	tr		
	27.	1.00	5,5	18	+	+	+	-	2,5	+	+
	28.	1.30	3,5	15	+	0	+	-	2.5	+	+
	29.	3.00	3,5	16	+	+	+	-	2	+	+
		20.45	14,5	80	+	+	+	+	tr		
	30.	3.15	12,5	60	+	+	+	-			
12.	01.	16.15	16	85	-	+	+	+	tr		
		20.45	14,5	65	+	+	+	-	tr		
	02.	20.00	6,5	60	-	+	+	+	tr		
		22.00	7	65	-	+	+	+	tr		
	05.	18.15	4,5	18	-	+	+	+	2.5	+	+
		20.45	3,5	30	-	+	+	+	tr		
	07.	0.00	3,5	22	+	+	+	-	2	+	+
	10.	15.00	6,5	45	-	-	-	+			
	16.	22.15	4,5	18	+	+	+	-	tr		
	17.	22.45	4,5	22	+	+	+	-	2.5	+	+
	20.	23.45							2.5	+	+
	23.	21.45	3,5	22	-	+	+	+	4.5	+	+
	25.	2.00	4,5	15	0	+	+	-	3.5	+	+
	26.	0.15	7	40	+	+	+	-	tr		
		0.45	18	60	+	+	+	-			
		18.30	>9	95	-	+	+	+	tr		
		21.00	18	100	+	+	+	-	tr		
	27.	16.45	14,5	110	-	+	+	+	tr		
		20.45	12,5	75	+	+	+	-	tr		
	29.	19.45	9	72	-	+	+	+	tr		



*Further Pi-traces (earth currents)*

Month	Day	CET	Month	Day	CET	Month	Day	CET
01.	02.	19.45	03.	21.	0.45	05.	18.	19.30
	11.	18.45		23.	19.45		20.	23.45
	17.	21.30		25.	22.00		24.	9.45
	18.	12.15			22.45			19.15
	19.	14.30		26.	23.15			19.30
		22.45			23.30			22.30
	20.	18.30		27.	0.45		29.	2.30
	23.	0.30		29.	20.00			17.45
		1.15		31.	1.00			22.30
	24.	21.45	04.	01.	22.15	06.	02.	21.30
	27.	0.15		02.	3.15		03.	1.30
	28.	21.30			19.30			20.45
	30.	0.00			22.15		04.	0.00
		1.00		03.	1.15			0.45
02.	04.	22.30			1.30			21.30
		23.00			2.00			21.45
	06.	0.45			21.30		05.	0.00
		1.45		04.	1.45			22.00
		15.00			21.00		07.	0.00
		22.00			21.30			21.15
	09.	23.45		05.	1.30			21.30
	11.	2.00		14.	2.00		10.	6.00
	14.	20.45		16.	0.45			16.45
		21.30		17.	1.30		15.	2.45
	16.	18.00		19.	0.30			22.15
		20.00		23.	19.00		20.	21.15
	19.	1.15			19.30		21.	1.00
		20.45		25.	22.45		22.	0.30
	20.	20.15			22.30			0.45
		23.30		23.	1.30			21.45
	22.	23.30			22.00			22.00
	24.	0.30			23.15		23.	1.15
	25.	21.30		28.	21.30			21.45
	27.	23.00			22.00		24.	10.00
		23.45			22.30		25.	21.30
	28.	1.45		30.	20.15			22.45
03.	02.	1.45			21.15		26.	0.45
	05.	22.45			22.45		28.	0.15
		23.15	05.	01.	22.00			0.30
	08.	21.15		04.	19.00		29.	1.15
	09.	20.45		05.	22.00		30.	18.45
	16.	23.30		06.	22.15			20.30
	17.	0.00		17.	0.15			22.30
		19.30			1.30	07.	03.	8.45

Month	Day	CET	Month	Day	CET	Month	Day	CET
07.	04.	21.15	08.	25.	1.00	09.	22.	20.00
		21.30		26.	0.45		23.	21.45
	05.	21.15			1.30			22.30
	09.	22.00			19.30			23.45
	12.	0.30		27.	1.15		24.	21.30
		4.15			23.45		25.	19.00
		21.30		28.	0.00		27.	2.45
	14.	21.30			2.15			23.30
	15.	23.15			2.30		28.	1.45
	16.	20.45			20.15		29.	18.15
	19.	20.15		29.	0.00			23.15
	20.	19.15			23.45		30.	1.15
		20.15		30.	4.30			21.15
	23.	18.45			23.45			21.45
		19.30		31.	1.15			22.45
	24.	0.30			19.45	10.	01.	0.30
		20.00	09.	02.	1.45		02.	19.00
		21.30			2.30		03.	23.30
	26.	20.45			2.45		04.	0.15
	28.	21.15			17.45			0.30
		21.45		04.	1.45			18.45
	30.	0.30			21.00			19.30
		21.45			22.00			20.15
		22.45		05.	5.00		05.	0.30
	31.	2.15			19.45			1.15
		2.45		06.	0.15			20.00
		15.15			0.30		06.	0.00
		22.30			0.45			0.45
08.	04.	2.45			22.15		09.	20.00
		20.45		08.	22.30		11.	19.45
	06.	23.45		10.	0.30			22.00
	09.	18.30			17.00			22.15
		22.15		13.	22.00		12.	1.00
		22.30			23.30		13.	17.45
	12.	21.15		14.	0.00		14.	22.15
	15.	1.15			0.15			22.30
	17.	2.30			2.15			22.45
		4.15			2.45			23.00
		4.30			3.15			23.15
	20.	17.30		15.	0.30		15.	19.00
		23.30			3.00			22.45
	21.	22.00		17.	2.15		16.	1.45
	23.	3.30		19.	23.45		20.	0.45
		4.00		21.	0.45			13.30
		20.15			18.45			22.30
	25.	0.30			19.30		21.	23.15

EARTH CURRENTS

Month	Day	CET	Month	Day	CET	Month	Day	CET
10.	22.	21.30	11.	01.	23.30	12.	04.	0.45
		22.15		06.	0.30			22.30
		23.30		07.	3.00		07.	20.30
	24.	20.30		08.	21.15			21.00
		21.45		10.	23.45			23.45
	25.	0.30		11.	23.30		08.	23.00
		2.00		13.	0.30		12.	17.45
	26.	1.00		15.	19.45		13.	23.45
		23.30		19.	20.30		14.	0.00
	27.	3.00		20.	14.00		15.	2.45
		23.00			16.45		16.	21.15
	28.	1.30			21.15		18.	22.15
	29.	0.30		21.	21.00		20.	23.15
		1.00		25.	1.00		22.	0.30
		1.45			1.30		23.	21.15
		23.30		28.	0.00		24.	21.00
	30.	21.45			2.30			22.30
	31.	17.45		29.	2.15		25.	0.45
11.	01.	23.00		30.	19.30		30.	23.45
		23.15	12.	03.	23.45			

		<i>SI-s</i>						
Month	Day	CET (GMT+1 h)	Amplitude in		Ex	Ey	Hx	Hy
			E(mV/km)	H(gamma)				
01.	07.	16.15	5,5	12	—	—	—	+
	08.	0.45	6,5	14	+	—	—	—
	27.	6.45	6,5	12	+	+	+	—
02.	11.	6.00	6,5	12	+	—	—	—
	24.	4.30	3,5	12	+	+	+	—
	25.	19.30	4,5	10	+	+	+	—
03.	09.	17.45	3,5	12	—	—	—	+
	11.	4.30	12,5	30	+	+	+	—
	22.	10.15	5,0	12	+	+	+	—
		11.15	11,0	25	—	—	—	+
		22.15	2,5	10	—	—	—	+
04.	30.	6.45	2,5	5	—	0	—	+
05.	01.	6.00	4,5	8	+	+	+	—
	06.	2.30	6,5	9	+	—	—	—
	12.	19.45	3,5	10	+	—	+	+
	25.	17.45	8,0	14	—	—	—	+
06.	06.	12.15	7,0	10	—	—	—	+
	13.	22.45	5,5	12	—	—	—	+
	14.	19.00	5,5	10	+	+	+	—
	16.	1.00	6,5	12	—	—	—	+
07.	07.	5.45	7,0	10	+	0	—	+
	10.	6.00	7,0	10	+	+	+	—
	15.	3.30	5,5	12	+	+	+	—
	25.	3.30	5,5	18	+	+	+	— (ssc?)
	27.	4.45	4,5	8	+	+	+	+
	28.	18.00	5,5	10	—	—	—	+
	31.	14.30	5,5	10	+	+	+	—
08.	01.	9.45	5,5	14	+	+	+	—
	08.	9.00	6,5	14	+	0	+	—
	20.	11.00	6,5	14	—	—	—	+
	25.	6.30	4,5	?	—	—	?	?
	29.	4.15	9,0	18	—	—	—	+
09.	06.	11.45	9,0	20	—	—	—	+
	14.	13.30	4,5	6	—	—	—	+
10.	03.	22.45	2,5	8	—	—	—	+

<i>SI-s</i>								
Month	Day	CET (GMT+1 h)	Amplitude in		Ex	Ey	Hx	Hy
			E(mV/km)	H(gamma)				
10.	11.	18.00	7.0	10	—	—	—	+
	17.	5.45	3.5	12	+	+	+	—
	21.	23.00	2.5	8	—	—	—	+
11.	07.	9.45	5.5	13	+	+	+	—
	10.	12.00	9.0	18	—	—	—	+
	22.	0.00	7.0	22	+	+	+	—
	24.	6.30	3.5	8	—	—	—	+
	25.	16.00	6.5	20	—	—	—	+
12.	09.	6.45	3.5	7	—	—	—	+
	15.	7.45	3.5	7	—	—	—	+
	27.	4.15	6.5	14	—	—	—	+

## „Needles”

Month	Day	CET (GMT+1 h)	Amplitude in E(mV/km)	Ex	Ey
01.	03.	8.45	2,5	+	—
	15.	0.15	2,5	+	+
	27.	0.45	2,5	—	—
02.	01.	16.15	5,5	—	—
	10.	8.30	7,0	—	—
	11.	9.15	4,5	—	0
	14.	8.30	6,5	—	—
	19.	7.45	7,0	+	—
	25.	19.30	4,5	+	+
	28.	16.30	3,5	—	—
03.	05.	18.30	5,5	+	+
04.	18.	20.15	2,5	+	+
	19.	10.45	3,5	+	+
05.	01.	7.15	3,5	—	+
	22.	14.15	4,5	—	+
06.	08.	5.15	2,5	—	—
	25.	13.30	2,5	—	—
07.	04.	18.45	3,5	+	—
	07.	8.45	2,5	+	—
	09.	9.15	2,5	—	—
	14.	15.00	3,5	+	+
	21.	19.15	3,5	—	—
	23.	6.30	3,5	—	—
08.	17.	8.30	2,5	+	—
	28.	4.45	2,5	—	+
09.	17.	7.45	6,5	—	—
10.	03.	14.00	3,5	—	—
		15.45	2,5	—	—
	09.	17.45	3,5	—	—
11.	03.	7.15	5,5	—	—
12.	08.	15.15	2,5	+	+
	31.	18.30	2,5	+	—

V.

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

## January

LT	Periods											300—600 sec
	1—5	5—10	10—15	15—20	20—25	25—30	30—40	40—60	60—90	90—120	120—200	
0—3	2	2	7	9	11	12	35	103	182	255	136	163
3—6	2	2	1	24	33	46	131	99	42	29	119	104
6—9	0	0	6	193	76	108	240	77	27	14	280	167
9—12	0	0	11	240	221	115	225	121	104	22	88	103
12—15	0	0	0	164	326	237	364	92	105	40	30	0
15—18	0	0	0	72	159	136	147	143	60	45	106	120
18—21	0	1	2	15	40	42	145	95	158	84	140	53
21—24	0	0	14	14	15	16	68	157	315	157	95	93
Average	1	1	5	90	109	88	163	111	125	82	126	101

## February

0—3	0	0	10	24	9	9	47	267	249	72	83	129
3—6	2	0	50	133	106	56	93	79	39	11	95	123
6—9	0	0	70	278	380	194	110	64	11	29	175	104
9—12	0	1	26	457	672	222	158	86	12	29	159	163
12—15	1	6	8	446	929	370	260	84	12	6	124	76
15—18	0	0	0	222	506	426	215	48	96	51	209	68
18—21	0	1	0	23	105	176	110	183	136	47	170	153
21—24	1	0	7	15	18	20	58	320	380	147	158	98
Average	1	1	21	200	342	185	132	142	117	49	147	115



## March

LT	Periods											
	1—5	5—10	10—15	15—20	20—25	25—30	30—40	40—60	60—90	90—120	120—200	300—600 sec
0—3	2	1	9	19	25	11	42	148	230	55	62	341
3—6	1	0	20	74	98	76	63	68	54	19	149	192
6—9	0	0	34	190	277	153	151	90	16	5	80	46
9—12	0	0	27	277	257	173	163	105	40	8	47	137
12—15	0	0	8	431	311	191	146	113	52	58	207	37
15—18	1	0	0	132	195	198	323	182	41	29	106	175
18—21	2	1	0	11	33	47	160	248	83	42	175	187
21—24	0	0	23	22	90	4	30	366	279	69	109	180
Average	1	0	15	145	161	107	136	166	99	36	117	163

## April

0—3	0	3	5	15	12	20	79	94	184	83	108	191
3—6	2	5	12	53	51	70	109	77	101	24	113	210
6—9	0	5	63	130	189	131	235	100	39	6	94	29
9—12	0	2	20	282	210	146	168	60	98	55	75	131
12—15	0	1	18	275	370	146	95	88	173	60	131	134
15—18	0	2	4	122	240	121	213	166	140	68	225	123
18—21	1	1	0	6	23	26	99	225	198	66	255	194
21—24	2	0	0	2	9	10	66	168	246	202	169	303
Average	1	2	15	107	133	82	132	123	148	71	147	163

## May

LT	Periods											
	1—5	5—10	10—15	15—20	20—25	25—30	30—40	40—60	60—90	90—120	120—200	300—600 sec
0—3	3	8	12	18	9	16	78	154	160	70	130	463
3—6	3	12	57	78	59	42	85	151	119	24	168	185
6—9	0	1	56	155	305	182	140	161	18	54	156	63
9—12	1	0	55	292	308	204	120	85	63	30	133	62
12—15	0	1	9	179	286	170	151	159	59	40	163	361
15—18	1	1	2	35	130	154	170	206	120	59	197	168
18—21	1	3	4	15	20	34	45	160	244	135	174	380
21—24	10	14	3	21	6	8	74	159	229	81	130	293
Average	2	5	24	97	137	100	108	155	128	62	156	248

## June

0—3	1	4	9	10	6	10	35	208	148	154	105	313
3—6	0	4	45	76	63	76	109	129	91	47	36	204
6—9	0	2	81	204	125	62	206	131	84	32	127	109
9—12	0	0	13	130	222	198	170	131	72	55	140	275
12—15	1	0	12	102	129	234	209	282	78	21	234	176
15—18	0	1	2	19	43	41	147	209	185	128	310	232
18—21	0	4	3	0	18	13	57	122	160	195	205	477
21—24	9	16	1	6	15	3	15	150	410	155	194	255
Average	1	4	21	69	79	80	119	170	153	98	168	255

## July

LT	Periods											
	1—5	5—10	10—15	15—20	20—25	25—30	30—40	40—60	60—90	90—120	120—200	300—600 sec
0—3	0	1	4	5	14	15	33	155	220	86	75	215
3—6	4	2	37	48	82	82	109	159	91	32	44	196
6—9	0	16	4	210	180	149	145	77	94	36	73	52
9—12	0	1	12	188	248	180	196	196	69	32	169	142
12—15	0	1	1	87	148	152	123	204	138	74	237	162
15—18	1	2	1	28	66	79	186	220	116	86	190	135
18—21	0	2	1	1	44	8	49	168	119	178	225	333
21—24	0	0	6	3	1	1	9	112	279	254	185	279
Average	1	3	8	74	101	86	108	162	139	95	150	187

## August

0—3	4	0	0	19	15	6	17	133	167	175	90	220
3—6	5	2	6	30	72	67	73	165	92	38	86	210
6—9	0	0	4	187	239	183	225	114	57	34	84	83
9—12	0	0	0	157	295	155	168	71	86	43	132	121
12—15	0	0	6	67	253	226	183	107	82	57	130	116
15—18	0	4	0	35	86	65	104	129	81	38	131	148
18—21	7	0	0	3	10	3	37	109	176	173	209	209
21—24	1	2	3	6	12	8	22	106	187	107	138	258
Average	2	1	2	61	119	87	102	118	116	84	125	172

## September

LT	Periods											300—600 sec
	1—5	5—10	10—15	15—20	20—25	25—30	30—40	40—60	60—90	90—120	120—200	
0—3	1	1	2	12	16	18	33	193	178	112	113	109
3—6	4	0	0	37	44	59	108	92	67	29	96	62
6—9	6	0	1	34	172	243	158	77	46	42	27	41
9—12	0	0	7	46	234	248	176	116	84	47	102	147
12—15	0	0	1	34	254	193	170	99	81	71	146	124
15—18	1	2	1	7	50	120	193	116	103	69	192	97
18—21	4	2	2	4	11	24	43	72	173	81	180	132
21—24	1	0	6	0	9	2	20	143	129	256	277	136
Average	2	1	2	21	96	110	111	114	108	89	143	106

## October

0—3	2	7	6	13	11	6	39	94	133	135	150	150
3—6	0	4	24	34	43	53	60	27	62	41	79	73
6—9	0	0	12	99	114	101	71	48	49	23	109	137
9—12	0	0	4	120	195	126	148	111	25	46	103	73
12—15	1	0	0	89	203	126	75	111	48	53	190	97
15—18	0	0	0	27	114	128	170	120	38	56	149	73
18—21	1	1	7	11	31	67	76	125	138	112	160	137
21—24	0	1	9	8	4	5	33	204	156	207	156	146
Average	0	2	8	50	89	76	84	105	82	85	137	111

## November

LT	Periods											
	1—5	5—10	10—15	15—20	20—25	25—30	30—40	40—60	60—90	90—120	120—200	300—600 sec
0—3	0	1	10	8	7	29	67	66	30	129	163	235
3—6	3	0	32	76	72	70	77	75	21	25	137	295
6—9	1	0	38	207	240	177	87	61	19	57	236	271
9—12	1	1	28	263	149	116	87	90	35	44	408	242
12—15	0	0	12	297	228	191	234	140	78	117	112	104
15—18	6	0	1	43	187	177	229	159	143	79	110	229
18—21	10	10	5	30	23	85	163	265	131	132	145	139
21—24	0	0	3	5	6	13	63	91	196	92	204	245
Average	3	2	16	114	113	106	125	118	88	85	189	220

## December

0—3	0	0	5	11	15	14	58	50	148	79	77	110
3—6	1	0	2	43	54	69	93	102	59	16	43	150
6—9	3	0	4	77	154	138	184	70	29	34	133	191
9—12	0	2	2	191	228	245	269	118	41	27	91	149
12—15	0	0	3	224	287	252	176	173	132	37	114	43
15—18	1	0	15	53	137	161	287	202	120	48	80	68
18—21	0	0	3	24	20	84	109	174	106	120	138	116
21—24	1	0	4	37	1	3	13	128	215	236	138	139
Average	1	0	5	81	109	118	146	128	109	77	102	120

## Yearly average

LT	Periods											300—600 sec
	1—5	5—10	10—15	15—20	20—25	25—30	30—40	40—60	60—90	90—120	120—200	
0—3	1	2	7	14	13	14	47	137	172	116	108	223
3—6	2	2	24	59	65	64	91	102	71	28	98	169
6—9	1	2	31	164	205	152	162	90	41	31	129	107
9—12	0	1	17	221	270	178	170	108	59	36	138	147
12—15	0	1	6	200	307	206	179	139	86	53	155	121
15—18	1	1	2	65	158	150	200	159	103	63	166	137
18—21	2	2	2	12	31	51	91	163	152	114	181	209
21—24	2	3	6	12	16	8	39	176	250	163	163	203
Average	1	2	12	92	131	102	122	134	117	76	142	165

VI.

*Micropulsation indices for the year  
1975.*

*Activity indices for the micropulsations  
(P1 to P12) Year 1972.*

	January	February	March	April
1.		215343214453	112552334223	111433443113
2.		112553211244	111433552113	311223444513
3.		111155411233	111344432111	113423325422
4.		112353212314	112543231223	211333235421
5.		111253324111	122332453212	112233245311
6.		111134343112	112434152132	111332114343
7.	222521211345	111121432154	112532111244	211553111245
8.	135542341233	111431241334	111354311242	124542333125
9.	112434511121	111124412441	112132441442	153453231124
10.	112733543231	115544444233	435544343124	123541231123
11.	111111555211	112211111111	555554233232	115333433113
12.	111133451341	124555352112	123444311111	133543312114
13.	125554212223	144555441111	334545542112	135454311233
14.	113554344211	123532232112	113544321111	223455432111
15.	113554341112	124553231131	115444541112	122345543111
16.	233554232112	112543122142	115512342112	113455452111
17.	112543221211	112542312111	111421454113	123453235533
18.	111432333241	111443332232	112323335221	
19.	111332534313	113453231214	112433341122	312421112453
20.	111323553112	414443245211	113522233121	241433213444
21.	111112554221	113521144233	112121454224	155412331144
22.	112223344431	212432324411	112211112455	112423543122
23.	111422234223	143553224212	211424422333	112543232132
24.	112433444221	111553131111	212551111454	114444522144
25.	111123235521	111554321122	215433444221	111532334423
26.	511211244451	115544421214	111522342223	112222355412
27.	112521315442	111125531312	312542332232	111111245534
28.	111334425331	113542211431	115533233154	111331135342
29.	111124343332		115544341123	111111134245
30.	111332234531		115344541122	112111222454
31.	114322324443		111355353112	



	May	June	July	August
1.	111322234544	252321245545	112433354121	112142113455
2.	122422214451	245455311235		111352111255
3.	112353234214	111255342414	111344222424	111223322451
4.	111345313133	111332354233	111214534224	111121113551
5.	545543241125	114421354112	112111144535	114541113444
6.	144445321214	112522254215	111211115554	111233535213
7.	225423341124	111433354213	111212115355	111122345543
8.	125534351112	111112554342	555122234343	211122211255
9.	112453332124	111321443343	125522143313	222433343214
10.	232224442244	244211255541	113523441134	312312344452
11.	111332355421	555531111321		442133322111
12.	111222454411	245545433214	111112345431	453211555211
13.	433555533311	114421234214	111234324433	553224442111
14.	124333245211	115411541145	232444311123	
15.	142212443111	211122224453	542354445212	111231134444
16.	144433214333	115522133235	342355345211	311354311124
17.	125552241112	423434333244	343255414211	111342244533
18.	111111255344	112432534115	111133143342	111222343444
19.	243533124224	111323522335	111332224225	411112453333
20.	135224413245	112323355223	112134534232	531321442442
21.	112354242214	111113334334	111533454343	223551232113
22.	111454333145	221112533313	111511454423	111453232133
23.	111144452324	111111353522	111244342432	211444443412
24.	111132443331	111111132553	112112244352	111124533323
25.	511421124453	113311133552	141552131344	111223542314
26.	555531111145	112411334424	122444341124	111145424243
27.	115511111255	111111355343	111533352134	111123335511
28.	111123344333	113111324444	122334433312	213322314544
29.	311421324352	254422223343	111111554222	255454233241
30.	111112454333	255411344245	112223445431	111125544211
31.	112123354514		112112125553	111353444412

	September	October	November	December
1.	211223311245	111133242552	111112345414	112543431144
2.	111155332333	111211113551	213542132443	133554332445
3.	111133444531	114411422551	315532111352	111235531124
4.	111111125553	211454443214	115533222354	212354522331
5.	111122344455	111122254432	115533111133	111114553334
6.	511321124453	121344124443	112324531233	511122334153
7.	111243413421	114543221213	111223541414	211122235344
8.	321112534451	225532221234	112111355212	112334315143
9.	213321235552	145553321135	515432232445	111443131344
10.	222253122242	114443311144	134431113242	211134552411
11.	113355232225	111344443212	124554232113	112144331235
12.	234335422133	111144411135	123455421111	111113441242
13.	111324541114	33222231232	133355311111	111123553431
14.	211325531224	144532211111	122223552211	111532212441
15.	433543344222	123454332111	111234543111	111221113451
16.	354323554111	132553213111	111111254455	111553313533
17.	343552112211	112444312212	112434211355	112343344311
18.	233553221111	111113535344	112521111145	122221354311
19.	222354332312	111111113555	111531211444	111333354431
20.	112255522334	112122211352	112455133412	111113554511
21.	112145425422	111145223421	125355422215	111343513442
22.	111244342415	112321113554	544532132455	111145324524
23.	112121343352	123321224353	115512111155	111113555421
24.	111111242552	111334533521	111344332255	112113544521
25.	111111122455	111222333435	114545521114	113531123144
26.	111243311553	112211231554	112323441145	115312344412
27.	121442234334	112243113534	111111155452	112453222144
28.		112224123454	111322222452	115541221124
29.	111112352251	132233244242	522442213554	
30.	111111155541	111133434344	113532233323	
31.		211152113454		111133544111