

## I. EARTH CURRENTS

The coordinates of the Observatory are:

$$\begin{aligned} \varphi &= 47^{\circ}38' & \lambda &= 16^{\circ}43' \\ \Phi &= 47.2^{\circ} & A &= 98.3^{\circ} \end{aligned}$$

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

The tables published in this part 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<sub>1</sub>—K<sub>5</sub>.

The T-scale is linear; its steps correspond to 18 mV/km. The monthly mean T-values are separately given for the North-South and East-West components. The scales for K<sub>1</sub>—K<sub>5</sub> 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 mni.	29	43	67	88	110	131	191	234	339

All values in the table are given 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 scalar intensity corrected for long period variation (equally in  $10^{-5}$  V/km).

III. Results of harmonical analyses from monthly means of the earth current scalar intensity.

IV. Time of special events (common table from magnetic and earth current records).

The catalogue of Pc 1 events contains occurrence times, amplitudes and quality. Typical cases for the A, B and C events can be seen in the 1976 Observatory Report.

V. Average amplitudes in 12 pulsation bands. Here 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  $\mu\text{V km}$ ) are published for each month and for the years. As the bands where amplitudes are determined have different bandwidth, amplitudes are comparable in different bands only after a correction for bandwidth. Data for the same band are, however, directly comparable. Basic data are estimated amplitudes in halfhour intervals.

VI. Micropulsation indices for the year 1981. The indices have been determined from occurrence frequency of different period micropulsations, striving at a possibly uniform distribution of days in each of the five possible indices (1—5) in a basic interval.

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 the 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). It must be reminded that mainly in the lowest and highest period 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 Geod., Geoph. Mont. Hung.* 7/1972/15), and A. ADAM, J. VERÓ, J. CZ. MILETITS, L. HOLLÓ and. Á. WALLNER: The geophysical observatory near Nagycenk. I. Electromagnetic measurement and processing of data (*Acta Geod., Geoph. Mont. Hung.* 16/1981/333).

Daily Pc 1 indices are determined on the basis of the duration of the events. The scale of the indices is the following:

- 0 no record
- 1 no Pc activity
- 2 Pc 1 activity during 1—40 minutes
- 3 Pc 1 activity during 41—100 minutes
- 4 Pc 1 activity during 101—160 minutes
- 5 Pc 1 activity during more than 160 minutes

Mrs. J. CZUCZOR, L. HOLLÓ 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 T14/1962, 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. ADÁM, 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.	56225384	35	5	2	4	2	7
2.	33227510	23	6	3	5	3	3
3.	51222623	23	5	3	4	2	4
4.	14763264	33	5	4	5	4	6
5.	58445333	35	6	4	5	3	5
6.	22222612	19	6	3	5	2	3
7.	01111101	6	5	2	4	0	2
8.	10000000	1	5	1	4	0	0
9.	00010102	4	6	3	4	0	0
10.	12111274	79	4	2	4	2	2
11.	31112124	15	4	2	4	2	2
12.	21021101	8	3	1	4	0	2
13.	01021413	12	4	2	4	2	2
14.	11111121	9	4	2	4	1	1
15.	21111111	9	4	2	4	0	1
16.	10111221	9	4	1	4	0	2
17.	33000010	7	4	1	4	1	1
18.	00011122	7	4	1	4	1	1
19.	42223314	21	6	2	5	3	4
20.	22231101	12	5	2	4	2	2
21.	21221023	13	4	1	4	2	2
22.	34112222	17	5	3	5	2	2
23.	22112223	15	5	2	4	1	0
24.	21110000	5	4	2	4	1	0
25.	00111132	9	4	2	4	1	1
26.	33211232	17	3	2	4	1	2
27.	22111223	14	5	2	4	0	3
28.	22343635	28	4	3	5	2	6
29.	63243123	24	6	3	5	2	5
30.	42855878	47	8	5	7	6	6
31.	22455994	40	7	5	6	4	6

Monthly averages: T (N) 2.069  
T (E) 1.468  
 $K_1$  4.84  
 $K_2$  2.35  
 $K_3$  4.42  
 $K_4$  1.68  
 $K_5$  2.68

*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.	53632142	26	7	5	6	4	3
2.	11111299	25	6	4	5	3	6
3.	53111374	25	4	2	6	3	5
4.	93239979	51	3	4	7	6	8
5.	43122111	15	4	1	4	1	3
6.	11111133	12	5	1	4	2	2
7.	12111112	10	5	0	4	1	2
8.	21132111	12	3	0	4	1	2
9.	21122113	13	6	3	5	2	2
10.	21122299	28	6	1	5	3	6
11.	65232121	22	4	2	4	1	4
12.	11101314	12	3	0	4	2	2
13.	75343393	37	5	2	5	3	6
14.	89323724	38	5	3	5	4	6
15.	73211002	16	5	2	5	1	4
16.	31120021	10	4	2	4	1	2
17.	11111101	7	4	1	4	2	2
18.	33223241	20	6	3	5	4	4
19.	01212121	10	5	2	4	1	1
20.	11121338	20	6	3	4	1	4
21.	63224313	24	6	4	4	3	3
22.	31112131	13	4	2	4	1	2
23.	22243121	17	5	1	4	1	2
24.	21222121	13	5	3	4	0	2
25.	31121003	11	5	2	4	0	1
26.	10144464	20	5	2	4	1	3
27.	59432247	36	6	5	6	4	5
28.	31313211	15	4	2	4	2	2
29.	01125431	17	3	2	4	2	3

Monthly averages: T (N) 2.453  
T (E) 1.728  
K<sub>1</sub> 4.79  
K<sub>2</sub> 2.21  
K<sub>3</sub> 4.55  
K<sub>4</sub> 2.07  
K<sub>5</sub> 3.34

*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.	00146439	27	4	2	5	3	7
2.	54756476	44	5	4	7	4	7
3.	59444376	42	5	4	6	4	6
4.	12111310	10	4	1	4	1	2
5.	00011010	3	3	0	4	1	1
6.	12454399	37	4	1	5	3	6
7.	64232437	31	5	3	5	3	6
8.	23243799	39	6	2	5	3	8
9.	42223212	18	7	3	5	2	1
10.	22222134	18	5	2	4	2	3
11.	60111124	16	4	1	4	1	4
12.	13111122	12	3	0	4	2	3
13.	33129411	24	3	2	5	3	3
14.	11222110	10	5	1	4	1	2
15.	10123105	13	4	2	4	1	3
16.	11314421	17	5	2	4	2	2
17.	13353613	25	5	4	5	2	4
18.	12232442	20	6	4	4	2	3
19.	23333101	16	6	2	4	2	3
20.	21123100	10	6	2	4	0	1
21.	01111232	11	4	2	4	1	2
22.	44320155	24	5	2	6	1	4
23.	52343311	22	5	6	5	1	2
24.	11324412	18	5	2	4	4	2
25.	34355673	36	6	3	5	3	5
26.	41332347	27	7	3	4	2	3
27.	63574277	41	7	4	5	4	4
28.	34347799	46	8	5	6	6	6
29.	57877574	50	7	5	7	5	6
30.	43543345	31	6	3	5	2	3
31.	12333447	27	5	2	4	2	3

Monthly averages: T (N) 2.995  
T (E) 2.242  
K<sub>1</sub> 5.16  
K<sub>2</sub> 2.55  
K<sub>3</sub> 4.74  
K<sub>4</sub> 2.35  
K<sub>5</sub> 3.71

*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.	84443462	35	6	3	5	2	6
2.	55556675	44	7	5	5	2	7
3.	73835599	49	6	4	5	5	7
4.	54478699	52	7	6	7	8	9
5.	72323899	43	6	5	6	6	8
6.	62113111	16	4	1	4	3	3
7.	33256144	28	6	4	6	2	5
8.	84465538	43	5	4	6	3	6
9.	94333373	35	6	5	6	4	5
10.	21221013	12	7	2	4	2	2
11.	41222234	20	7	3	5	3	3
12.	12122215	16	5	1	4	2	2
13.	42324222	21	7	3	5	2	3
14.	22111474	22	7	3	4	3	2
15.	83332110	21	9	6	5	3	2
16.	00132112	10	6	2	4	1	2
17.	10011742	16	4	2	5	3	1
18.	11224222	16	3	2	4	3	1
19.	11254324	22	5	3	5	3	2
20.	23553222	24	7	4	5	2	1
21.	52323212	20	7	3	4	1	2
22.	41222110	13	7	3	4	1	1
23.	11113124	14	4	2	4	2	2
24.	21221111	11	6	2	4	0	1
25.	11435749	34	5	3	5	3	5
26.	85785999	60	7	5	7	5	8
27.	76423225	31	8	4	5	3	6
28.	22434523	25	8	4	5	3	5
29.	12233522	20	6	3	5	2	5
30.	12111005	11	2	1	4	2	2

Monthly averages: T (N) 3.088

T (E) 2.583

K<sub>1</sub> 6.00

K<sub>2</sub> 3.27

K<sub>3</sub> 4.90

K<sub>4</sub> 2.80

K<sub>5</sub> 3.80

*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.	43223611	22	3	2	5	2	2
2.	24443401	22	4	2	4	3	2
3.	11154333	21	6	4	5	2	2
4.	31223223	18	7	4	5	2	3
5.	31224759	33	8	5	5	3	6
6.	72312110	17	4	1	4	2	3
7.	00012000	3	3	1	4	1	1
8.	01111110	6	6	2	4	1	2
9.	12314423	20	5	3	4	2	3
10.	75422732	32	6	4	4	1	5
11.	43322422	22	5	4	5	3	2
12.	21132247	22	7	4	4	2	2
13.	54310100	14	5	2	5	1	2
14.	00014222	11	3	2	3	0	2
15.	33221110	13	3	2	4	1	2
16.	03121102	10	2	1	4	1	2
17.	44389994	50	5	4	6	2	4
18.	27231328	28	5	3	4	1	3
19.	65533132	28	6	3	5	3	5
20.	23333466	30	7	4	5	3	6
21.	66445287	42	7	4	5	3	6
22.	64638677	47	7	4	5	3	5
23.	56445464	38	7	4	5	2	6
24.	22386563	35	7	4	6	3	6
25.	31222233	18	6	4	4	3	3
26.	75522220	25	4	2	5	2	4
27.	01122210	9	3	1	4	1	2
28.	01002113	8	4	2	4	1	2
29.	22112121	12	4	1	4	1	2
30.	31242423	21	5	2	5	2	3
31.	13112107	16	5	2	4	2	3

Monthly averages: T (N) 2.540  
T (E) 2.218  
K<sub>1</sub> 5.13  
K<sub>2</sub> 2.81  
K<sub>3</sub> 4.52  
K<sub>4</sub> 1.90  
K<sub>5</sub> 3.26



*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.	21013321	13	4	2	4	1	2
2.	22122312	15	7	4	4	2	2
3.	21238563	30	6	4	5	3	4
4.	35663452	34	7	5	6	4	5
5.	53734221	27	7	4	5	3	2
6.	35333222	23	7	4	5	2	2
7.	22122211	13	7	3	4	1	1
8.	02011574	20	4	2	5	1	2
9.	43544444	32	6	3	5	4	4
10.	33522324	24	7	4	5	3	4
11.	32	(20)	—	—	—	—	—
12.	12100	(6)	—	—	—	—	—
13.	01211021	8	5	2	4	1	1
14.	12010010	5	3	1	3	1	1
15.	14444656	34	7	4	6	3	6
16.	98865423	45	7	5	6	4	8
17.	22453212	21	6	4	5	2	1
18.	24349772	38	7	5	6	4	5
19.	42444654	33	7	4	5	3	4
20.	56332120	22	6	3	5	3	3
21.	11100102	6	4	2	3	0	0
22.	11101201	7	3	0	4	1	1
23.	11111316	15	4	2	5	2	2
24.	45311221	19	6	3	5	3	4
25.	22122122	14	5	2	5	2	2
26.	11122124	14	5	1	4	2	2
27.	23111001	9	2	0	4	2	1
28.	12113346	21	5	3	5	3	3
29.	52132144	22	6	3	5	2	3
30.	33212331	18	7	3	5	2	4

Monthly averages: T (N) 2.268  
T (E) 2.065  
K<sub>1</sub> 5.61  
K<sub>2</sub> 2.93  
K<sub>3</sub> 4.75  
K<sub>4</sub> 2.29  
K<sub>5</sub> 2.82

*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.	32222336	23	6	3	5	2	3
2.	52232353	25	7	5	5	3	4
3.	53434232	26	7	4	6	3	3
4.	11221244	17	6	3	5	3	2
5.	54342111	21	6	3	6	3	3
6.	22322222	17	6	2	4	2	2
7.	23221132	16	4	1	4	1	2
8.	13121211	12	5	2	4	1	3
9.	22112421	15	5	1	5	2	2
10.	13224421	19	6	3	4	2	2
11.	11001323	11	6	2	4	1	2
12.	95413112	26	5	2	5	2	3
13.	14979663	45	6	4	6	4	7
14.	66567753	45	8	5	6	3	6
15.	45554355	36	7	5	5	3	3
16.	43343444	29	7	4	6	3	3
17.	55667854	46	7	4	5	4	5
18.	24435364	31	7	3	5	3	4
19.	43332222	21	7	3	4	2	2
20.	22322213	17	7	3	4	1	2
21.	21121212	12	7	3	4	2	1
22.	22211211	12	5	2	4	2	2
23.	21112111	10	5	2	5	1	2
24.	33331111	16	5	3	4	1	2
25.	22211333	17	4	2	4	1	3
26.	21110011	7	4	2	4	1	1
27.	41112233	17	5	3	4	2	2
28.	26533442	29	7	3	4	3	3
29.	11223461	20	6	3	4	3	4
30.	32121310	13	5	3	5	1	2
31.	21111838	25	4	4	5	2	3

Monthly averages: T (N) 2.460  
T (E) 2.298  
K<sub>1</sub> 5.87  
K<sub>2</sub> 2.97  
K<sub>3</sub> 4.68  
K<sub>4</sub> 2.16  
K<sub>5</sub> 2.84

*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.	58898669	59	6	4	6	4	7
2.	34435521	27	7	4	5	3	2
3.	12232222	16	4	3	5	2	2
4.	32223222	18	6	4	5	3	3
5.	32111121	12	5	2	5	2	2
6.	11111101	7	4	3	4	1	1
7.	11111011	7	6	2	4	1	1
8.	33333113	20	7	4	6	3	3
9.	23323227	24	6	2	5	3	4
10.	22221123	15	5	2	5	2	2
11.	11322113	14	5	3	4	2	2
12.	42333132	21	7	7	5	3	3
13.	22112111	11	6	3	4	2	2
14.	11136545	26	7	4	5	3	4
15.	54544412	29	7	5	6	3	5
16.	34334121	21	7	4	5	2	3
17.	22332122	17	7	3	5	2	2
18.	11121121	10	6	2	4	1	2
19.	11123588	29	5	3	4	2	3
20.	22211140	13	3	2	4	2	2
21.	11013121	10	5	4	5	1	0
22.	10111100	5	5	3	4	0	1
23.	10102324	13	3	2	5	1	2
24.	23444344	28	7	4	6	4	6
25.	41242152	21	7	4	5	2	3
26.	32111211	12	5	2	4	1	3
27.	22115578	31	5	3	5	4	6
28.	93453646	40	7	6	6	5	7
29.	45544332	30	7	4	5	3	3
30.	42233222	20	6	2	5	4	3
31.	24222212	17	6	3	5	2	2

Monthly averages: T (N) 2.379  
T (E) 2.149  
K<sub>1</sub> 5.94  
K<sub>2</sub> 2.68  
K<sub>3</sub> 4.64  
K<sub>4</sub> 2.16  
K<sub>5</sub> 3.45

*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.	21111132	12	5	3	4	0	2
2.	22221242	15	5	3	5	1	2
3.	12322112	14	7	4	5	1	2
4.	21558962	38	5	4	7	6	4
5.	76847795	53	6	3	6	5	8
6.	31233133	19	6	4	5	3	4
7.	21122111	11	5	2	5	1	3
8.	42121125	18	6	2	5	3	3
9.	42121125	18	7	2	5	1	3
10.	45543355	34	8	5	6	5	4
11.	32423231	20	7	4	6	4	4
12.	23233423	22	7	4	5	2	3
13.	33232211	17	7	4	5	3	2
14.	22244332	22	7	4	5	3	4
15.	32232214	19	6	2	5	2	2
16.	22123330	16	5	2	5	1	2
17.	21121002	9	6	3	4	1	2
18.	01111011	6	6	2	4	0	0
19.	12257398	37	5	4	7	4	7
20.	34342592	32	7	3	5	3	5
21.	01131342	15	7	2	4	2	2
22.	11145046	23	5	2	5	2	3
23.	68889979	64	8	7	7	6	9
24.	96686963	53	8	7	6	6	8
25.	33646494	39	7	5	6	4	6
26.	64455762	39	6	5	6	6	6
27.	43224638	32	6	3	5	3	6
28.	32232286	28	6	4	5	3	6
29.	22322126	20	6	4	6	2	3
30.	42211003	13	4	2	4	0	3

Monthly averages: T (N) 3.037  
T (E) 2.475  
K<sub>1</sub> 6.20  
K<sub>2</sub> 3.39  
K<sub>3</sub> 5.27  
K<sub>4</sub> 2.77  
K<sub>5</sub> 3.03

## 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.	21121311	12	4	1	4	1	1
2.	31121212	13	5	2	5	2	3
3.	54222123	21	4	2	5	1	5
4.	10121212	10	5	2	5	2	2
5.	21112112	11	4	1	4	2	1
6.	15543337	31	7	4	6	4	5
7.	95539453	43	7	4	5	6	7
8.	66453345	36	8	4	5	4	4
9.	32443384	31	7	4	5	2	3
10.	44356962	39	7	4	7	3	4
11.	33455768	41	7	7	6	3	7
12.	65564883	45	7	4	6	3	5
13.	52247211	24	7	3	5	3	3
14.	52422145	25	7	4	5	3	3
15.	22112245	19	8	5	4	2	2
16.	33333143	23	6	3	4	2	4
17.	11110001	5	7	3	4	0	1
18.	12255559	34	4	2	5	4	4
19.	97599998	65	8	6	6	8	7
20.	75588996	57	8	6	7	7	8
21.	45366999	51	7	5	6	6	6
22.	65245679	41	7	4	6	4	6
23.	32253764	32	7	4	6	5	6
24.	53454775	40	8	5	6	3	7
25.	42321239	26	7	4	6	3	5
26.	82221312	21	5	3	4	5	2
27.	22222231	16	7	3	5	2	2
28.	01232032	13	7	3	5	1	1
29.	21222212	14	7	2	4	2	2
30.	12121102	10	7	4	4	1	1
31.	20111125	13	5	3	4	2	1

Monthly averages: T (N) 3.367  
T (E) 2.750  
K<sub>1</sub> 6.48  
K<sub>2</sub> 3.58  
K<sub>3</sub> 5.13  
K<sub>4</sub> 3.10  
K<sub>5</sub> 3.81

<i>November</i>							
Day	T	Sum	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>	K <sub>4</sub>	K <sub>5</sub>
1.	21697322	32	5	3	5	5	4
2.	21233373	24	5	3	5	3	3
3.	21335547	30	8	5	6	2	5
4.	44563344	33	9	6	6	6	6
5.	23334421	22	7	8	6	4	5
6.	22334442	24	8	4	5	3	2
7.	12233687	32	7	4	5	2	6
8.	55244432	29	8	5	5	3	4
9.	12222463	22	8	4	5	2	4
10.	32315328	27	7	3	5	2	4
11.	22344528	30	8	4	6	3	3
12.	12321100	10	5	3	5	2	1
13.	11143235	20	6	3	4	2	2
14.	11134122	15	4	2	5	3	2
15.	58357599	51	5	4	5	3	7
16.	99799897	67	5	6	6	4	9
17.	53544934	37	5	4	6	4	6
18.	43444233	27	5	4	5	2	3
19.	35342564	32	6	4	5	3	4
20.	42345244	28	6	3	5	3	4
21.	24475564	37	7	5	6	3	4
22.	22333362	24	7	4	5	3	5
23.	24423210	18	7	3	4	2	2
24.	12332133	18	5	2	5	1	1
25.	32211344	20	6	2	4	1	2
26.	31221130	13	5	1	4	2	2
27.	10111330	10	5	3	4	1	1
28.	11111111	8	7	3	4	1	1
29.	00232132	13	6	3	4	2	2
30.	29957337	45	6	5	6	6	6

Monthly averages: T (N) 3.121  
 T (E)\* 2.675  
 K<sub>1</sub> 6.26  
 K<sub>2</sub> 3.77  
 K<sub>3</sub> 5.03  
 K<sub>4</sub> 2.77  
 K<sub>5</sub> 3.67

*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.	22334213	20	7	3	5	3	2
2.	44633666	38	6	3	5	3	6
3.	42233367	30	7	5	5	2	6
4.	23244796	37	7	3	5	3	6
5.	73353695	41	7	4	5	2	2
6.	32245635	30	7	4	5	2	4
7.	42333552	27	6	3	4	3	5
8.	32233211	20	7	3	4	1	2
9.	21011112	9	6	1	4	0	1
10.	12222251	17	5	2	5	2	2
11.	11112349	22	5	2	5	1	4
12.	96322411	28	6	2	5	2	3
13.	39444554	38	6	3	5	3	6
14.	10011313	10	3	0	4	1	1
15.	21112129	19	3	1	4	1	4
16.	54465999	51	7	4	5	5	8
17.	33466596	42	6	4	5	3	6
18.	23344432	25	7	3	5	3	3
19.	21112122	12	7	3	4	1	1
20.	21211221	12	6	3	4	0	0
21.	01111294	19	6	3	4	2	1
22.	31121324	17	6	2	5	3	2
23.	22362443	26	5	3	5	2	2
24.	11110211	8	4	1	4	1	0
25.	21211001	8	4	0	4	1	0
26.	13423346	26	4	2	4	3	3
27.	21124624	22	6	2	4	2	6
28.	42544858	40	7	3	5	3	6
29.	54346555	37	7	4	5	3	4
30.	32443284	30	7	3	5	2	5
31.	64346764	40	7	4	5	4	6

Monthly averages: T (N) 3.040  
T (E) 2.452  
K<sub>1</sub> 5.94  
K<sub>2</sub> 2.68  
K<sub>3</sub> 4.64  
K<sub>4</sub> 2.16  
K<sub>5</sub> 3.45

*II. Average amplitudes for different periods*

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
	January North											
1.	6	7	7	6	9	12	14	17	23	16	15	16
2.	9	9	8	9	9	13	12	14	26	16	18	15
3.	33	37	35	35	37	38	37	39	39	39	41	37
4.	40	39	40	35	40	45	54	59	53	57	61	51
5.	88	83	86	89	74	49	40	38	52	23	56	63
6.	-27	-26	-29	-49	-25	-19	-6	-7	+40	+12	-12	-35
	January East											
1.	10	9	11	9	12	13	15	20	27	22	26	32
2.	12	11	8	10	10	13	11	13	21	18	20	20
3.	36	35	36	38	36	33	37	34	38	38	38	40
4.	30	35	39	37	36	36	40	35	42	44	45	42
5.	74	44	42	46	42	33	35	49	28	28	38	38
6.	-2	+13	+2	+1	0	-11	-11	-10	+8	+27	+24	+17
	February North											
1.	9	7	10	9	9	12	11	19	22	19	17	14
2.	12	13	10	10	8	10	12	20	31	17	12	17
3.	34	37	37	37	35	35	36	37	48	39	37	58
4.	33	47	45	46	52	43	50	51	45	58	55	57
5.	140	194	105	90	50	60	50	37	42	32	46	71
6.	+1	-7	-16	-27	-10	-38	-3	-10	+25	+1	-29	-60
	February East											
1.	12	12	11	10	11	15	17	22	28	24	25	26
2.	13	16	10	10	9	9	12	18	20	19	19	17
3.	36	35	35	37	34	36	36	37	37	38	37	33
4.	44	46	31	44	40	40	37	35	28	33	35	42
5.	79	108	76	63	43	32	42	39	42	37	32	38
6.	+6	-7	+20	+17	-10	+2	-9	-6	+15	+35	+47	+44



*and hourly means of earth current elements*

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
18	19	17	15	13	12	9	9	10	7	6	8	12.1
21	19	19	16	13	17	13	12	15	11	10	12	14.0
37	45	35	38	38	38	35	42	37	35	35	37	37.5
51	55	46	52	39	46	33	42	38	45	60	44	46.9
47	50	46	41	85	100	110	80	82	117	100	106	71.0
-52	-10	-2	+33	+15	+23	+30	+28	+63	+29	+22	+4	
Component												
37	31	33	34	25	19	16	13	13	15	9	14	19.4
23	23	22	20	17	16	12	12	16	13	15	16	15.5
34	39	35	33	34	36	35	35	37	35	38	33	36.0
42	45	34	31	29	35	39	37	36	40	35	46	37.9
37	35	41	61	68	100	56	59	73	56	74	75	51.3
-3	+6	-9	-11	+3	-1	-1	+4	-26	-23	+7	-6	
Component												
14	17	14	13	14	14	13	13	9	10	8	8	12.7
18	13	13	15	12	17	12	12	10	10	8	14	13.6
45	39	38	37	44	35	38	38	38	38	35	37	38.0
57	58	40	52	49	37	39	45	46	43	40	73	48.4
53	52	80	66	106	84	77	112	135	153	176	114	88.5
-51	-62	-19	+12	+43	+6	+39	+40	+68	+49	+47	+2	
Component												
28	29	30	30	24	21	18	14	14	12	10	12	19.0
23	22	23	19	17	15	12	11	7	10	12	14	14.9
35	37	35	33	32	35	37	38	39	37	37	39	36.0
37	41	45	33	41	37	33	39	57	37	33	53	39.2
43	25	69	62	79	61	79	79	89	129	118	100	65.2
+6	-3	-8	-17	-1	-32	-32	-33	+1	-16	-4	-14	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
	March North											
1.	6	7	10	13	14	16	23	24	21	19	16	16
2.	9	12	12	12	13	14	19	21	23	20	14	15
3.	34	37	35	37	37	37	37	45	50	42	37	36
4.	57	44	47	52	52	53	39	58	65	56	53	51
5.	110	95	95	87	55	48	67	49	47	71	79	84
6.	-7	-12	-32	-5	-12	-11	+29	+33	+43	+8	-87	-132
	March East											
1.	11	9	9	13	15	20	25	31	31	29	31	29
2.	9	10	9	10	10	15	18	19	28	25	24	25
3.	35	36	36	36	36	37	35	37	41	43	39	40
4.	37	55	39	48	39	40	31	39	49	31	47	49
5.	100	48	59	59	41	38	50	42	39	49	31	44
6.	+30	+34	+13	+6	+9	+4	+9	+32	+41	+53	+8	-8
	April North											
1.	8	10	14	13	17	19	23	27	22	22	23	20
2.	11	14	15	14	17	22	26	29	20	19	23	21
3.	38	37	40	46	38	41	43	41	42	41	43	51
4.	60	72	64	43	52	65	64	52	50	59	50	56
5.	140	131	117	96	61	59	63	64	50	50	67	69
6.	-4	+11	+1	+3	+4	+22	+34	+55	+35	-53	-128	-153
	April East											
1.	11	14	13	14	19	25	36	41	37	38	46	40
2.	14	12	15	15	15	20	26	32	29	26	29	28
3.	36	34	38	35	33	36	37	39	34	35	33	37
4.	56	57	44	41	49	44	40	30	40	38	49	64
5.	154	94	85	52	49	46	50	59	43	61	67	55
6.	+12	+34	+7	+10	-6	+8	-29	+31	+61	+25	+14	-28

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
14	17	17	15	13	13	10	9	9	12	12	12	14.1
22	19	13	14	13	8	11	10	8	13	10	11	14.0
39	42	37	38	37	36	35	39	35	37	37	38	38.1
56	57	53	52	43	44	35	49	59	39	65	87	52.8
80	70	91	95	94	82	105	167	114	174	154	182	95.6
-103	-60	-13	+72	+76	+28	+41	+33	+17	+70	-4	+30	

Component												
35	34	30	31	22	19	17	10	10	12	13	15	20.9
22	21	21	22	19	14	10	13	9	15	13	15	16.5
40	39	44	39	34	36	37	38	38	37	38	37	37.8
51	57	53	42	42	33	38	62	55	39	47	70	45.5
42	51	69	63	69	85	88	108	123	140	125	114	69.9
-23	-20	-16	+10	+7	-33	-37	-49	-33	-31	-3	-2	

Component												
17	19	16	15	17	13	14	7	11	12	17	11	16.1
23	24	14	12	13	13	19	10	16	13	17	13	17.4
46	43	41	37	47	38	43	37	38	38	47	38	41.4
82	54	64	55	65	49	49	57	84	75	49	50	59.2
89	83	65	96	92	141	230	170	166	153	149	174	109.8
-148	-43	+19	+63	+79	+45	+57	+30	-5	+16	+17	+42	

Component												
40	42	34	33	31	23	18	10	14	18	18	13	26.2
29	28	23	24	22	18	18	12	14	15	15	10	20.4
39	39	35	43	37	30	37	30	46	39	37	34	36.4
58	56	49	70	71	44	71	50	54	65	53	53	51.9
60	70	151	74	104	151	127	140	65	122	145	145	90.4
-47	-10	-2	+10	-9	-44	-44	-18	-10	-22	-13	+13	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
	Moy North											
1.	10	9	8	13	15	20	17	17	18	20	19	17
2.	13	15	13	12	20	23	24	23	19	21	17	19
3.	36	34	34	34	37	38	36	39	38	37	39	38
4.	44	43	35	50	49	49	64	57	46	51	46	55
5.	136	84	91	52	58	95	43	45	56	52	57	56
6.	+38	+19	-6	+9	+37	+39	+51	+19	-25	-68	-130	-167
	May East											
1.	12	9	9	13	16	23	26	31	31	30	28	31
2.	11	9	9	11	13	21	24	24	26	27	22	26
3.	31	33	29	31	27	30	30	31	35	34	37	36
4.	33	37	36	38	38	28	32	39	45	35	47	47
5.	147	62	45	49	41	59	33	41	41	70	50	62
6.	-11	+23	+5	-13	-7	+25	+34	+60	+57	+15	-11	-46
	June North											
1.	9	12	12	17	15	20	21	20	19	14	17	13
2.	14	16	15	21	19	20	21	20	21	17	23	17
3.	25	37	40	39	40	40	49	39	43	39	40	38
4.	50	47	39	46	69	65	57	53	55	59	65	43
5.	76	102	99	36	47	93	48	52	42	41	37	65
6.	+28	+1	+32	-13	+38	+64	+70	+41	-1	-45	-118	-157
	June East											
1.	14	16	14	22	17	27	34	38	35	39	39	36
2.	20	15	15	16	14	14	19	21	28	27	25	24
3.	30	34	35	35	31	33	36	32	29	32	35	30
4.	53	44	45	40	39	40	41	42	46	49	54	40
5.	71	53	55	51	35	58	42	48	58	41	50	59
6.	-7	+6	-2	-6	-5	+3	+53	+57	+50	+41	+25	-8

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
16	13	10	11	7	6	5	9	10	8	8	9	12.3
18	16	17	11	11	8	8	14	13	10	10	14	15.4
37	38	39	39	38	39	38	35	37	36	36	34	36.9
51	57	66	50	53	43	46	30	35	37	53	41	48.0
94	69	57	76	71	76	65	101	124	103	51	136	77.0
-139	-65	+18	+52	+80	+68	+41	+44	+16	+14	+23	+32	

Component												
36	34	30	23	23	19	13	10	13	11	11	12	20.6
28	26	23	19	19	17	15	11	15	11	14	12	18.0
35	33	34	35	32	29	31	32	29	31	27	33	31.9
42	45	51	45	43	45	38	34	45	39	41	36	40.0
77	63	57	54	96	77	66	124	82	89	94	89	69.5
-33	-7	+17	+7	-15	-22	-38	-39	-21	-5	+5	-18	

Component												
11	11	12	10	8	7	5	12	8	9	9	8	12.5
14	11	14	10	9	13	9	16	15	19	16	12	15.9
41	38	37	41	37	37	38	35	36	35	39	37	38.3
69	61	45	57	42	44	43	32	43	45	57	51	51.5
63	69	86	68	91	63	69	72	75	86	73	79	68.0
-126	-88	-34	+22	+56	+73	+56	+21	+11	+26	+18	+27	

Component												
40	30	32	30	21	18	17	14	13	18	12	11	24.5
25	31	24	21	15	19	15	18	14	17	17	16	19.6
34	31	30	35	35	30	33	32	33	32	37	33	32.8
49	49	50	47	41	50	47	36	42	45	49	42	45.0
79	65	75	87	100	94	79	93	76	79	87	65	66.7
-64	-19	-7	-34	-19	0	-29	-26	-8	-10	-1	+10	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
	July North											
1.	5	11	13	18	19	21	21	23	23	20	17	17
2.	13	15	15	15	19	23	24	26	25	18	12	14
3.	34	38	38	38	37	38	43	42	39	40	39	39
4.	56	48	46	47	51	51	52	59	57	57	44	48
5.	68	105	109	78	62	64	55	51	74	52	71	60
6.	+27	+16	-2	+1	+40	+67	+42	+45	+9	-35	-98	-143
	July East											
1.	13	16	17	21	19	25	33	38	45	45	39	41
2.	11	16	16	16	20	16	23	28	28	27	25	24
3.	36	36	35	32	28	31	31	28	35	37	33	33
4.	52	33	40	33	37	37	36	34	39	41	40	45
5.	46	84	46	56	50	43	41	48	54	54	58	75
6.	+11	+10	+24	-4	-15	-19	+46	+62	+62	+33	+17	+3
	August North											
1.	10	12	11	14	19	24	27	21	20	16	16	16
2.	19	11	14	13	21	19	26	23	20	17	16	13
3.	40	39	42	37	41	41	40	44	42	42	39	39
4.	48	46	61	46	45	51	63	66	64	53	53	41
5.	141	93	64	24	56	69	64	62	39	43	45	65
6.	0	+9	+28	+26	+33	+57	+69	+28	-11	-71	-126	-159
	August East											
1.	13	10	11	10	25	28	38	39	37	35	38	37
2.	17	10	15	15	21	21	30	31	33	30	28	30
3.	35	35	34	32	29	31	33	31	35	39	37	35
4.	39	49	49	43	37	44	52	49	43	46	48	51
5.	85	50	52	57	54	62	53	35	45	37	45	53
6.	+3	+2	0	-4	-8	+14	-51	+59	+54	+38	+12	-44

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
13	12	13	8	7	6	8	9	13	9	9	6	13.4
16	13	10	6	6	6	6	13	17	14	12	9	14.5
37	41	39	38	36	38	36	34	35	37	38	37	38.0
52	60	54	53	56	46	40	44	42	44	56	44	50.3
61	46	60	53	48	52	78	85	82	81	55	59	67.0
-138	-96	-45	+49	+26	+32	+29	+31	+57	+28	+23	+35	

Component												
38	34	37	30	24	20	18	13	13	13	11	10	25.5
26	23	25	24	17	13	15	11	12	15	10	14	19.0
30	33	33	32	31	30	31	34	34	35	33	35	32.5
41	49	45	44	44	46	38	46	45	38	46	49	41.6
68	48	84	79	89	85	111	101	80	93	74	55	67.6
-16	-11	-14	-35	-58	-33	-30	-46	-32	-5	-2	+12	

Component												
16	14	11	9	8	7	8	10	12	9	10	7	13.6
14	10	12	6	9	6	8	10	13	13	14	8	14.0
39	39	40	37	39	37	35	35	38	38	37	37	39.0
56	61	63	51	41	37	40	41	47	44	54	49	50.9
62	77	95	61	66	88	99	76	83	118	120	115	76.0
-133	-71	-10	+32	+55	+68	+22	+23	+47	+23	+41	+20	

Component												
44	40	28	25	25	22	15	11	17	12	10	11	24.2
31	29	23	18	23	20	13	13	19	17	15	7	21.2
38	38	37	33	28	27	28	34	35	34	35	37	33.8
59	44	49	52	41	48	52	45	46	52	52	53	47.6
59	59	50	69	85	54	88	63	85	49	49	66	59.0
-35	-38	-16	-8	-18	-7	-20	-30	-13	+6	-2	+3	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
	September North											
1.	11	13	15	10	17	22	29	31	29	27	24	24
2.	15	14	14	16	17	19	28	30	30	23	22	21
3.	34	38	37	40	38	42	43	41	49	44	51	44
4.	43	43	62	55	52	50	64	62	59	63	71	83
5.	94	130	99	104	77	103	80	110	63	73	86	88
6.	-12	+33	+18	+27	+26	-5	-12	+14	+18	-28	-106	-124
	September East											
1.	17	16	30	16	20	25	34	43	43	46	42	41
2.	14	16	12	13	14	17	26	25	38	34	33	31
3.	38	37	40	37	38	37	37	37	37	37	45	52
4.	47	35	55	43	53	38	43	34	43	68	67	55
5.	72	78	53	61	40	85	86	82	47	38	61	71
6.	+4	-7	+14	+9	-1	+10	+65	+65	+61	+48	-17	-8
	October North											
1.	8	15	13	13	14	17	23	29	24	26	25	27
2.	11	15	17	16	15	17	26	31	28	21	27	21
3.	35	42	40	39	39	42	43	47	44	42	45	41
4.	76	66	67	65	67	82	60	42	61	59	66	74
5.	107	106	141	61	85	49	48	62	31	64	75	71
6.	-28	-26	-28	-20	-32	-13	-3	+65	+48	+17	-60	-132
	October East											
1.	11	15	19	21	24	27	32	40	41	42	44	30
2.	10	16	16	15	18	21	23	27	30	31	31	47
3.	36	33	34	30	37	33	31	42	33	30	37	39
4.	64	54	76	54	57	48	46	46	41	46	49	43
5.	57	75	44	60	42	37	48	42	53	53	62	67
6.	+17	+4	+7	+5	-6	-13	-21	-10	+26	+57	+49	+5



12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
21	22	19	15	14	12	13	14	10	8	15	11	17.8
25	21	15	17	15	9	14	15	14	9	20	15	18.3
46	43	41	50	37	37	40	37	37	40	42	36	41.1
81	68	80	55	52	53	37	81	54	65	52	65	60.4
104	103	57	92	108	119	158	139	187	125	179	131	108.7
-104	-13	+18	+41	+55	+23	+15	+35	+47	+24	-1	+9	
Component												
39	43	37	32	30	26	18	14	17	14	21	16	28.3
29	30	29	26	25	17	15	14	13	16	20	16	21.8
47	44	40	50	41	39	37	40	43	40	37	40	40.0
70	52	42	49	69	54	56	41	43	49	56	41	50.1
52	64	83	76	92	98	109	128	107	115	93	87	78.3
-29	-32	-38	-4	-16	-20	-44	-37	-25	-2	-5	+10	
Component												
22	19	20	17	19	17	15	10	9	11	14	12	17.5
28	20	16	20	19	19	19	12	13	13	17	18	19.1
62	64	41	39	40	43	38	38	35	39	39	40	42.4
60	71	60	49	71	51	66	56	96	67	44	70	64.4
78	49	107	100	48	143	109	172	132	177	251	134	100.0
-105	-43	+13	+24	+37	+33	+42	+88	+38	+42	+8	+37	
Component												
49	46	44	38	36	31	25	17	16	15	21	13	29.0
32	30	28	25	26	23	19	16	13	16	17	18	22.8
34	35	30	30	29	35	30	35	28	35	34	37	33.6
44	45	39	31	40	66	63	46	47	67	62	52	51.1
86	72	105	147	142	142	69	177	164	103	151	130	88.7
+2	-12	+1	-21	+9	-12	-19	-38	-20	+1	-9	-1	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
	November North											
1.	7	10	11	14	15	16	23	28	32	26	27	25
2.	11	9	13	13	16	23	22	28	31	24	25	29
3.	37	36	38	37	38	41	43	40	43	46	38	46
4.	47	49	68	56	66	61	70	55	77	85	59	76
5.	83	70	62	107	73	85	60	94	57	49	70	46
6.	-6	-56	-24	-34	-21	-48	+6	+11	+46	+14	-31	-53
	November East											
1.	11	10	13	18	26	25	31	35	38	41	45	48
2.	11	10	10	18	16	20	20	29	26	31	32	34
3.	37	32	35	38	38	37	37	32	43	37	37	40
4.	41	43	45	49	48	48	59	61	56	59	42	47
5.	79	62	80	60	48	55	52	65	63	41	50	62
6.	+18	+18	+8	+8	-8	+10	-7	+12	+38	+31	+34	+13
	December North											
1.	9	12	11	13	13	15	17	24	29	26	21	24
2.	7	8	6	11	13	11	15	18	21	23	26	21
3.	35	35	35	35	36	35	37	35	39	38	45	39
4.	51	46	55	64	44	46	59	44	45	52	46	53
5.	114	101	57	71	92	57	56	59	42	48	51	62
6.	-48	-42	-17	-18	-7	0	-13	-8	0	-13	-4	-18
	December East											
1.	13	13	11	12	16	21	23	28	34	33	34	39
2.	7	12	12	13	11	15	16	18	23	21	20	24
3.	32	33	34	36	34	38	37	36	38	39	38	40
4.	41	48	52	44	36	48	43	47	41	55	55	44
5.	91	43	41	44	56	30	41	42	48	24	19	49
6.	+9	+20	+13	+13	-12	-8	-11	-4	+14	+21	+9	-8

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
23	23	23	19	17	19	21	17	16	12	15	11	18.8
29	25	22	22	15	22	24	22	17	13	16	11	20.1
44	46	43	40	40	38	38	35	44	38	37	37	40.1
68	61	66	40	58	49	41	59	50	41	41	46	57.9
62	53	71	115	68	100	178	184	137	131	109	184	93.7
-54	-4	-34	+15	+8	+29	+54	+41	+48	+36	-2	-6	
Component												
43	50	58	46	33	28	26	19	18	19	17	13	29.6
33	32	34	29	23	20	24	21	20	15	18	17	22.6
39	36	37	36	28	37	38	32	31	31	34	32	35.6
56	58	38	47	47	38	48	43	50	45	46	50	48.5
73	64	77	77	57	110	128	180	115	122	109	88	79.9
+1	-13	+1	-29	-18	+2	-24	-52	-6	-17	-34	+13	
Component												
27	24	20	23	23	18	15	15	15	14	8	11	17.8
27	23	38	19	23	19	16	13	14	13	10	10	16.9
45	39	38	35	42	33	38	34	35	37	33	37	37.1
64	60	39	44	61	46	37	46	39	52	42	45	49.2
61	67	82	109	74	129	131	156	155	149	164	158	93.5
-37	+21	+46	+9	+21	+30	-5	+26	+18	+59	+14	-12	
Component												
48	49	43	44	35	27	20	19	20	18	11	17	26.2
28	24	21	23	26	16	19	15	17	18	12	17	17.8
36	33	30	34	36	33	37	35	36	33	35	35	35.3
50	35	27	34	39	40	36	35	46	52	33	57	43.3
43	59	63	73	68	124	74	203	120	123	145	74	70.7
-1	+11	+6	-4	+10	-26	-10	-35	-5	-17	+12	+1	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
	Year 1984 North											
1.	8	10	11	13	15	17	21	24	24	21	20	19
2.	12	13	13	13	15	18	21	23	24	20	19	19
3.	35	37	37	38	38	39	41	41	43	41	41	41
4.	51	49	53	50	53	55	58	56	57	59	56	57
5.	108	107	99	75	66	69	56	60	50	50	62	66
6.	-3	-6	-6	-8	+6	+10	+22	+24	+19	-22	-77	-111
	Year 1984 East											
1.	13.	12	13	15	18	23	28	34	36	35	37	37
2.	12	13	12	14	15	17	21	24	28	26	27	26
3.	35	34	35	35	33	34	35	35	36	37	37	38
4.	45	45	46	43	42	41	42	41	43	45	48	48
5.	88	66	56	55	45	48	48	49	47	45	47	56
6.	+7	+12	+9	+3	-6	+5	+19	+29	+41	+35	+17	-6

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
18	17	16	14	13	12	11	11	11	10	11	10	14.9
21	18	17	14	13	14	13	13	13	13	13	12	16.0
43	43	39	39	39	37	38	37	37	37	38	37	39.0
62	60	56	51	53	45	42	48	53	51	47	55	53.2
71	66	75	81	79	98	117	126	123	131	132	131	87.4
-99	-44	+2	+35	+46	+38	+35	+37	+35	+34	+17	+18	
Component												
40	39	36	33	27	23	18	14	15	15	14	13	24.5
28	27	25	23	21	17	15	14	14	15	15	14	19.3
37	36	35	36	33	33	34	35	37	35	35	35	35.2
50	48	44	44	46	45	47	43	47	47	48	50	45.3
60	56	77	77	87	98	89	122	98	101	105	91	71.3
-20	-12	-7	-11	-10	-19	-27	-33	-16	-12	-4	+5	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
	Quite days North											
1.	3	9	7	8	7	13	15	19	19	15	15	11
2.	8	10	11	8	8	13	14	18	17	10	8	9
3.	33	34	36	33	36	37	37	36	37	36	36	37
4.	34	37	32	32	37	41	42	37	45	42	40	36
5.	40	37	41	41	37	29	35	22	37	30	48	41
6.	+17	+4	+14	+14	+29	+34	+35	+9	-2	-17	-61	-93
	Quite days East											
1.	7	8	10	10	11	17	19	26	33	28	27	30
2.	7	10	6	8	8	9	14	42	24	21	17	17
3.	33	32	33	33	33	35	34	31	34	30	35	33
4.	33	26	28	28	28	30	29	32	32	35	30	30
5.	32	30	29	32	32	29	22	29	32	24	28	37
6.	+4	+4	+5	-18	-15	-16	+1	+11	+15	+27	+11	-22
	Disturbed days North											
1.	11	15	16	20	21	25	29	32	35	29	28	29
2.	13	17	19	19	25	26	31	35	39	31	31	31
3.	39	40	41	44	42	45	43	53	54	49	49	54
4.	84	68	86	79	72	75	72	71	73	83	75	95
5.	194	269	193	157	144	148	108	130	75	94	97	97
6.	+8	+8	-5	-24	+6	-25	+33	+30	+42	+9	-72	-102
	Disturbed days East											
1.	15	14	21	22	22	29	36	47	43	45	48	47
2.	17	20	20	21	22	25	33	30	45	37	34	36
3.	40	38	40	42	42	43	41	40	45	47	46	45
4.	65	58	91	72	71	54	61	56	54	74	73	65
5.	158	148	78	97	68	100	90	92	83	74	85	89
6.	+12	+21	+28	+12	+18	+46	+44	+38	+29	+58	+18	+5

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
10	15	12	8	8	9	3	8	5	5	7	4	9.7
13	13	9	10	8	7	6	8	10	10	10	6	10.0
36	36	33	36	34	33	33	32	33	36	35	35	34.9
34	35	30	34	30	30	27	37	30	36	28	33	34.9
28	32	24	21	25	24	42	33	37	33	48	48	34.7
-76	-41	+2	+26	+37	+24	+18	+22	+19	-7	0	-7	

Component												
31	32	31	29	21	18	12	8	10	10	8	8	18.6
19	19	12	18	14	12	7	10	10	10	9	7	13.9
31	30	31	25	29	31	31	33	31	33	33	34	31.9
32	32	33	28	28	33	26	28	29	32	37	33	30.4
23	28	23	33	26	23	31	33	34	35	37	36	29.7
-26	-18	-19	-5	+1	+7	-4	-4	-8	+21	+27	+24	

Component												
25	25	22	21	21	18	19	14	17	12	14	12	21.2
40	29	29	29	25	22	22	17	20	15	18	19	25.0
59	47	45	44	51	41	43	39	42	42	45	42	45.5
112	89	81	68	68	56	48	101	130	70	74	130	81.7
142	126	186	209	191	237	196	378	305	233	301	228	185.0
-116	-67	-32	+19	+72	+3	+35	+70	+28	+31	+1	-15	

Component												
52	49	40	40	37	30	24	22	22	19	18	17	31.7
40	39	32	29	29	27	24	25	19	20	17	21	27.5
51	48	40	44	39	40	38	40	48	43	38	44	42.7
73	75	69	76	70	50	69	62	53	79	51	88	67.0
134	108	195	154	174	263	179	391	279	185	237	151	150.4
-16	-32	+12	-35	-28	-59	-52	-56	-12	-2	-22	-26	

## III.

*Results of harmonical analysis of the daily variations*

## North Component

	$A_1$	$q_1$	$A_2$	$q_2$	$A_3$	$q_3$	$A_4$	$q_4$	$A_5$	$q_5$	$A_6$	$q_6$
January	23	181	26	230	11	126	13	298	5	105	3	17
Ferbruary	33	143	28	233	11	103	15	287	3	13	5	98
March	33	136	44	272	39	121	21	295	3	161	7	96
April	42	121	56	296	47	126	15	328	10	186	5	223
May	56	119	60	303	40	132	4	320	10	112	2	29
June	52	103	61	290	35	124	3	119	1	217	8	349
July	54	99	53	280	31	132	8	287	12	77	6	95
August	55	107	60	296	32	144	9	297	4	304	5	324
September	38	123	38	305	21	128	28	318	7	170	9	72
October	31	144	47	255	30	118	24	326	14	162	4	195
November	25	185	29	242	12	124	18	332	12	167	1	259
December	21	198	13	258	14	207	15	276	2	222	9	316
Year	34	127	39	279	26	129	13	309	4	147	2	36
Q	25	102	36	300	16	124	7	310	8	94	3	32
D	28	130	41	272	29	109	24	323	10	88	2	140

## East Component

January	7	313	6	112	11	23	3	194	4	162	3	297
February	19	333	15	119	9	353	9	246	6	10	1	166
March	26	3	6	90	22	90	8	281	4	61	5	72
April	24	12	4	190	19	109	14	324	8	77	2	160
May	22	8	6	248	27	135	12	335	2	231	5	315
June	25	4	19	217	18	104	5	313	1	22	8	287
July	36	4	15	173	14	118	9	22	5	260	8	283
August	24	12	19	230	20	114	7	315	2	315	5	313
September	33	7	15	225	20	118	5	309	8	293	4	153
October	14	331	14	126	14	46	12	247	3	136	7	13
November	20	349	10	121	12	53	1	245	1	105	7	35
December	7	358	11	83	7	84	7	296	2	208	3	354
Year	21	359	7	171	13	96	6	302	0	9	2	333
Q	7	92	13	185	13	95	6	248	3	240	5	308
D	41	3	5	163	5	139	10	304	11	36	8	345



*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)					
02.	12.	16.00	5.5	16	+	+	+	-	02.14.07.00
	20.	17.00	11	22	+	+	+	-	02.21.03.00
04.	17.	15.30	14.4	38	+	+	+	-	04.18.00.00
05.	12.	21.45	8	32	+	+	+	-	05.13.08.00
	17.	14.00	8	52	-	-	-	+	05.18.04.00
		17.30	14.5	45	-	-	+	-	in storm
	24.	09.30	14.5	35	-	-	+	+	05.24.20.00
06.	15.	00.45	2	10 (?)	+	+	+	-	06.16.20.00
07.	31.	15.45	12.5	35	-	-	-	+	08.02.00.00
08.	02.	12.30	7	22	+	+	+	-	08.02.17.00
	19.	14.00	6.5	22	+	+	+	-	08.20.00.00
09.	04.	08.45	6.5	32	+	+	+	-	09.04.21.00
	09.	23.00	10	28 (pi, b?)	-	-	-	+	09.10.13.00
	19.	10.15	3.5	14 (?)	+	+	+	-	09.20.01.00
	23.	06.45	13.5	35	+	+	-	+	09.25.01.00
10.	06.	03.15	6.5	15	+	-	-	-	10.07.04.00
	18.	11.45	12	22 (si?)	-	-	-	+	10.23.02.00
		21.00	18	65 (b?)	+	+	+	-	in storm
11.	30.	02.45	4	18 (?)	+	+	+	-	11.30.16.00
12.	13.	02.00	5.5	16	+	+	+	-	12.13.23.00
	21.	18.15	6.5	22	+	+	+	-	12.22.02.00
	23.	10.30	6.5	18	-	-	-	+	12.24.00.00

		Bays			Pi-s						
Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
			E(mV/km)	H(gamma)							
01.	01.	00.15	9	55	-	+	+	+	tr		
		18.00	12	80	-	+	-	+			
	02.	14.30	12.5	65	-	+	+	+	tr		
	03.	00.45	8	35	+	+	+	-	tr		
	04.	03.00	7	38	+	+	+	-			
	05.	22.15	5.5	25	+	+	+	-	tr		
	06.	15.30	8	55	-	+	+	+			
		17.00	11	42	-	+	+	+	tr		
	07.	23.30	3	15	+	+	+	-	2	+	+
	09.	22.15							2	+	+
	10.	18.45	12	100	-	-	-	+	tr		
	11.	20.45	6.5	40	-	+	+	+	tr		
	13.	15.30	7	42	+	+	-	+	tr		
		23.15	4.5	30	-	+	+	+	2	+	+
	14.	20.00	4.5	22	-	+	+	+	2	+	+
	15.	22.15							2	+	+
	17.	02.15	6.5	50	-	+	+	-	2	+	+
	18.	18.30	2.5	10	+	+	+	-			
	19.	00.30	8	42	+	+	+	-	2	+	+
		22.45	8	45	+	+	+	-	2.5	+	+
	21.	20.30	7	30	-	+	+	+	2.5	+	+
	26.	00.15	5.5	22	+	+	+	-	2	+	+
		21.15	4.5	25	-	+	+	+	tr		
	27.	17.45	4.5	30	-	+	+	+	tr		
		22.00	5.5	32	+	+	+	+	2	+	+
	28.	15.45	11	65	-	-	-	-	tr		
	29.	02.00	12	72	-	+	+	+	tr		
		19.15	3.5	20	-	-	-	+			
	30.	06.30	12	35	+	+	+	+	(ssc?)		
		17.00	16	85	-	+	+	+	tr		
20.45		16	75	+	+	+	+	tr			
02.	02.	19.30	20	140	+	+	+	+	tr		
		22.00	27	110	+	+	+	-	tr		
03.	03.	16.00						pg	4.5 (12 min)		
		20.00	10	70	-	+	+	+			

		Bays				Pi-s					
Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
			E(mV/km)	H(gamma)							
	04.	01.00	25	150	+	+	+	-	tr		
02.	04.	16.15	>18	115	+	+	-	+	tr		
	07.	23.45	5.5	22	+	+	+	-	2	+	+
	09.	22.30							2	+	+
		23.15	6.5	25	+	+	+	-	3.5	+	+
	10.	20.00	20	72	+	+	+	-	tr		
		22.30	27	130	+	+	+	-	tr		
	13.	01.00	13.5	95	-	+	+	+	tr		
		18.30	16	100	-	+	+	+	tr		
	14.	01.00	10	80	+	+	+	-	tr		
		04.00	17	50	+	+	+	-	tr		
		16.15	11	70	-	-	+	-			
	15.	00.00	14.5	108	-	+	+	+	tr		
		22.45	3	14	-	+	+	+	tr		
		23.30	3.5	18	+	+	+	-	2.5	+	+
	16.	01.00	6.5	28	+	+	+	-	tr		
	18.	19.45	8	55	-	+	+	+	2.5	+	+
	20.	21.00	6	90	-	+	+	+	tr		
		23.30	6.5	45	+	+	+	-	tr		
	21.	02.00	11	35	+	+	+	-	tr		
	23.	11.30	9	25	+	+	+	-			
	25.	22.30	3.5	30	-	-	-	+	tr		
	27.	03.30	21.5	92	+	+	+	-	tr		
		05.00						pg	7 (6 min)		
		21.00	12.5	50	+	+	+	-	tr		
		22.00	12.5	72	-	-	+	-			
03.	01.	21.00	>16	135	-	+	+	+	tr		
03.	02.	19.15	20	72	+	+	+	+			
	03.	03.30	17	82	+	+	+	-	tr		
		20.45	14.5	72	+	+	+	-	tr		
		23.30	8	38	+	+	+	-	2.5	+	+
	06.	21.45	16	95	+	+	+	+	tr		
	07.	00.45	10	65	+	+	+	-	tr		
	08.	15.45	16	60	-	+	-	+	tr		
		20.30	21.5	65	+	+	+	+	tr		

		Bays				Pi-s					
Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
			E (mV/km)	H (gamma)							
		23.15	15.5	75	+	+	+	+	tr		
	10.	21.00	6.5	35	+	+	+	-	tr		
		23.45	12.5	55	+	+	+	-	tr		
	11.	22.00	6.5	45	+	+	+	-	tr		
	12.	03.30	4.5	32	+	0	+	-	2.5	+	+
	13.	02.45	5.5	35	0	+	+	+	tr		
		14.15	18	55	+	+	+	-			
	15.	01.00							2	+	+
		23.15	7	60	-	+	+	+	2.5	+	+
	17.	17.00	9	65	-	+	+	+	tr		
		21.45	5.5	40	-	+	+	+	tr		
	18.	18.00	10	55	-	+	+	+	tr		
	22.	02.00	6.5	32	+	-	-	+			
		19.00	7	32	-	+	+	+	2.5	+	+
	25.	03.00	7	35	+	+	+	-	tr		
	26.	21.30	11	55	-	+	+	+	tr		
	27.	19.00	12.5	85	-	+	+	+	tr		
		22.00	14.5	72	+	+	+	-	tr		
	28.	19.15	25	85	+	+	+	-	tr		
		23.30	27	65	+	+	+	-			
	29.	19.45	12	42	+	+	+	-	tr		
	31.	22.15	12	48	+	+	+	-	tr		
04.	01.	18.45	10	55	-	+	+	+	tr		
04.	03.	20.30	18	50	+	+	+	-	tr		
		21.15	14.5	45	+	+	+	-	tr		
	04.	18.00	25	170	+	+	+	+	tr		
	05.	16.30	16	80	-	+	+	+	tr		
		18.00	>27	145	+	+	+	+	tr		
		21.30	20	80	+	+	+	-	tr		
		23.45	13.5	50	-	-	-	-			
	08.	02.15	13.5	70	+	0	+	-	tr		
		17.30	10	35	+	+	+	-			
		22.15	15.5	70	-	+	+	+			
	10.	22.30	5.5	30	-	+	+	+	2	+	+
	11.	01.45	6.5	45	+	+	+	-	2.5	+	+

Bays		Pi-s									
Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
			E(mV/km)	H(gamma)							
	11.	20.45	7	42	—	+	+	+	tr		
	14.	18.00	12	52	+	+	—	+	tr		
	15.	00.30	13.5	75	+	+	+	—	tr		
	21.	01.00	6.5	18	+	+	+	—	2.5	+	+
	23.	13.45	4.5	14	—	—	—	+			
		22.45	6.5	35	+	+	+	—	3.5	+	+
	25.	22.30	22.5	85	—	+	+	+	tr		
	26.	18.30	36	190	+	+	+	—	tr		
		21.45	18	100	—	+	—	—	tr		
	27.	01.00	14.5	48	—	+	+	+	tr		
	28.	16.45	12	45	—	—	—	+	tr		
	29.	17.00	12	60	+	+	+	+	tr		
	30.	22.45	10	55	+	+	+	—	tr		
05.	02.	16.00	5.5	18	+	+	+	—			
		16.30	6.5	18	—	—	—	+			
	04.	22.45	8	28	+	+	+	+	2.5	+	+
	05.	16.30	10	72	—	+	+	+	tr		
05		19.15	9	22	+	+	+	—	3.5	+	+
		21.15	20	100	+	+	+	+	tr		
	06.	00.00	16	68	+	+	+	—	2.5		
	09.	12.30	7	35	+	+	+	—	tr		
	10.	00.15	14.5	65	—	+	+	+	tr		
	11.	01.15	9	28	+	+	+	—			
		20.30							2.5	+	+
	18.	23.15	13.5	52	+	+	+	—	tr		
	20.	19.00	12.5	55	—	+	+	+	tr		
	21.	10.45	11.5	22	—	—	—	+			
		19.45	16	90	+	+	+	+	tr		
		23.45	14.5	50	+	+	+	+	rt		
	22.	17.45	>15	90	—	+	+	+	tr		
		22.30	12.5	60	—	+	+	+	tr		
	23.	19.15	12.5	75	+	+	+	+	tr		
	26.	00.00	12.5	60	+	+	+	—	2.5	+	+

		Bays				Pi-s					
Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
			E(mV/km)	H(gamma)							
	28.	23.30	6.5	25	+	+	+	-	2.5	+	+
	31.	12.30	4.5	12	-	-	-	+			
		22.30	12	50	+	+	+	+	3.5	+	+
06.	01.	17.00	5.5	20	-	-	-	+			
	02.	01.15							2.5	+	+
		17.15	4.5	25	-	-	-	0	tr		
	03.	13.45	15.5	72	+	+	+	-	tr		
		16.00	12.5	55	-	-	-	+	tr		
		23.30							3.5	+	+
	08.	17.30							7	+	+
	16.	23.00	7	35	+	+	+	+	tr		
	23.	21.45	9	40	-	+	+	+	3.5	+	+
	26.	20.30							2.5	+	+
		21.00	5.5	30	-	+	+	+	2.5	+	+
	28.	22.30	9	50	+	+	+	+	tr		
	29.	18.00	6.5	25	+	+	+	-	tr		
		22.00	7	28	-	+	+	+	tr		
	30.	19.30	6.5	30	+	+	+	-	2.5	+	+
07.	01.	21.00	9	65	-	+	+	+	2.5	+	+
	03.	01.15	8	35	+	+	+	-	2.5	+	+
		22.45							3.5	+	+
	04.	20.15									
	07.	19.00	4.5	25	+	+	+	-			
		19.30							2	+	+
	08.	23.15	3.5	22	-	+	+	+	2	+	+
	09.	17.45	9	28	+	+	+	-	(ssc?)		
	11.	01.30							2	+	+
		21.45	7	18	+	+	+	-	tr		
	12.	00.00	13.5	52	+	+	+	-			
		02.15	11.5	28	+	+	+	-			
		13.45	5.5	14	+	+	+	-			
	14.	16.45	12.5	62	-	+	-	+	tr		
	17.	19.00	10	40	+	+	+	-	tr		
	18.	18.00	13.5	50	+	+	+	-	tr		
	19.	21.00	35	18	-	+	+	+	tr		

		Bays			Pi-s						
Month	Day	CET (GMT+1h)	Amplitude in E(mV/km) H(gamma)		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
	20.	23.30	6.5	32	+	+	+	+	2.5	+	+
	24.	00.30	3.5	28	+	+	+	+	2.5	+	+
07.	25.	02.30							2.5	+	+
		20.00							3.5	+	+
		21.15	4.5	25	+	+	+	-	2.5		
	26.	02.15							2.5	+	+
		20.15							2.5	+	+
	27.	01.00	11.5	45	+	+	+	-	2	+	+
	28.	21.00							2.5	+	+
	29.	18.00	13.5	55	+	+	+	+	tr		
	31.	22.15	12.5	90	-	+	+	+	3.5	+	+
08.	01.	20.30	11.5	45	+	+	+	-	tr		
		22.15	16	85	-	+	+	+			
	05.	20.00	3.5	22	-	+	+	+	2.5	+	+
	08.	22.30	6.5	35	-	+	+	+	3.5	+	+
	09.	22.00	12.5	55	+	+	+	+	3.5	+	+
	10.	21.15	7	22	+	+	+	-	2.5	+	+
	11.	21.45							4.5	+	+
	12.	19.30	7	22	-	+	+	+	4.5	+	+
		20.30	5.5	22	+	+	+	+	4.5	+	+
	17.	23.00	3.5	30	+	+	+	0	2.5	+	+
	18.	20.15							2.5	+	+
	19.	20.45	12.5	65	-	+	+	+	2.5	+	+
	20.	18.45	4.5	22	-	+	+	+	4.5	+	+
	23.	21.45	4.5	22	-	+	+	+	3.5	+	+
	25.	01.45	5.5	32	+	+	+	-	2.5	+	-
		10.00	5.5	40	-	-	-	-			
		19.30	6.5	45	-	-	-	+	tr		
	26.	00.00	4.5	30	+	+	+	-	tr		
	28.	00.00	16	110	+	+	+	-	tr		
		16.15	11	45	+	+	+	-	tr		
09.	01.	22.30	3.5	22	+	+	+	-	tr		
	02.	20.30	3.5	18	-	+	+	+	2.5	+	+
	03.	22.00	3.5		-	+	+	+	2	+	+
	04.	02.15		15					2.5	+	+

Bays		Pi-s									
Month	Day	CET (GMT+1h)	Amplitude in E(mV/km) H(gamma)		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
	05.	01.30	7.5	45	+	+	+	-	tr		
		05.00	14.5	95	+	+	+	-	tr		
		20.00	14.5	80	-	+	+	+	tr		
09.	06.	18.00	5.5	38	-	+	-	+	tr		
		23.30	6.5	30	+	+	+	-	2.5	+	+
	08.	22.30	5.5	25	-	+	+	+	2	+	+
	09.	00.00	6.5	35	+	+	+	-	tr		
	12.	17.15	10	45	-	-	-	+	tr		
	15.	22.45	4.5	28	+	+	+	-	tr		
	16.	16.15							4.5	+	+
		19.30	5.5	28	-	+	+	+	3.5	+	+
	17.	00.30							3.5	+	+
	18.	00.30							2.5	+	+
		21.15							2.5	+	+
	19.	19.15	18	125	-	+	+	+	tr		
		22.15	10	45	+	+	+	-	tr		
		23.15	12	60	+	+	+	-	tr		
	20.	16.00	6.5	50	-	+	-	+	tr		
		20.00	13.5	60	-	+	+	+	tr		
		22.15	4.5	22	+	+	+	-	3.5	+	+
	21.	22.30	3.5	28	-	+	+	+	2.5	+	+
	22.	20.45	11	90	-	+	+	+	3.5	+	+
	23.	02.30	10	50	+	+	+	-	tr		
		21.30	32.5	210	-	+	+	+	tr		
	24.	16.15	15.5	70	+	+	+	+	tr		
	25.	18.15	10	130	+	+	+	+	tr		
	26.	20.15	12.5	65	+	+	+	+	tr		
	27.	15.00	11	65	-	-	-	+	tr		
		21.45	9	65	+	+	+	-	tr		
	28.	20.15	14.5	68	+	+	+	+	tr		
	29.	23.00	8	32	-	+	+	-	3.5	+	+
	30.	02.15	4.5	35	+	+	+	-	tr		
		23.30	5.5	30	+	+	+	0	2.5	+	+
10.	01.	16.30	3.5	32	-	-	-	+	tr		
	02.	01.45							2	+	+



Bays		Pi-s									
Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
			E(mV.km)	H(gamma)							
		02.30	5.5	28	+	+	+	-	tr		
	03.	00.45	11	45	+	+	+	+	2.5	+	+
		22.30	3.5	30	+	+	+	-	tr		
10.	04.	22.30	3.5	18	+	+	+	+	2.5	+	+
	06.	22.15	>13.5	100	-	+	+	+	tr		
10.	07.	00.45	13.5	55	+	+	+	-	tr		
		19.30	8	40	-	-	+	-	tr		
	09.	18.45	12.5	85	-	+	+	+	tr		
	10.	15.00	>16	100	-	+	+	+	tr		
	11.	16.45	11	80	-	+	+	+	tr		
		22.15	14.5	80	+	+	+	-	tr		
	12.	16.45	18	85	-	+	+	+	tr		
		19.15	16	100	-	+	+	+	tr		
	14.	22.30	11	55	+	+	+	-	tr		
	15.	20.30	10	70	-	+	+	+	tr		
	16.	18.00	8	42	+	+	+	+	tr		
		23.15	6.5	40	-	+	+	+	2.5	+	+
	18.	21.30	>18	130	-	+	+	+	tr		
	19.	01.00	>18	65	-	-	-	+			
		15.00	21.5	170	-	-	-	+	tr		
	20.	19.30	>15	185	+	+	+	-	tr		
	21.	16.30	16	120	-	+	+	+	tr		
		19.15	16	95	+	+	+	+	tr		
		21.30	>15	140	-	+	+	+	tr		
	22.	21.15	26	85	+	+	+	+	tr		
25.	15.45	17	95	+	+	-	+	tr			
		18.45	12.5	85	+	+	+	+	tr		
		21.15	11	55	-	+	+	+	tr		
		22.30	14.5	42	+	+	+	-	tr		
26.	16.15							(pg)	3.5 (8 min)		
28.	19.30								2.5	+	+
30.	22.00								2.5	+	+
31.	01.30	6.5	12	-	+	+	-		3.5	+	+

		Bays				Pi-s					
Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
			E(mV/km)	H(gamma)							
11.	02.	19.00	12.5	72	+	+	+	+	tr		
11.	03.	21.15	>10	85	-	+	+	+	tr		
	04.	20.15	8	28	-	-	-	+	tr		
	07.	18.00	17	80	+	+	+	+	tr		
		23.15	14.5	55	-	+	+	-	tr		
	09.	19.15	10	72	-	+	+	+	2	+	+
	10.	14.00	10	72	-	-	-	+			
	10.	22.15	14.5	95	-	+	+	+	tr		
	11.	22.30	14.5	95	+	+	+	+	2.5	+	+
	13.	22.15							3.5	+	+
	15.	03.30	11	60	+	+	+	-			
		20.00	21.5	85	+	+	+	+	tr		
	16.	18.00	>25	105	+	+	+	+	tr		
		18.45	>27	155	+	+	+	+	tr		
	17.	16.45	20	140	-	+	+	+	tr		
	18.	18.00							(pg) 2.5 (5.5 min)		
		20.30	9	50	+	-	+	+	tr		
	20.	21.00	4.5	42	+	+	+	+	2.5	+	+
	22.	18.15	13.5	45	-	+	+	+	tr		
	24.	20.45	5.5	35	-	+	+	+	tr		
	25.	20.30							3.5	+	+
		21.00	8	38	-	+	+	+	2.5	+	+
	27.	17.30	7	45	+	+	-	+	tr		
	29.	21.00							3.5	+	+
	30.	22.00	13.5	85	-	+	+	+	tr		
12.	02.	02.30	9	55	+	+	+	-	tr		
		14.30							(pg) 4.5 (5 min)		
		19.15	8	45	+	+	+	-	tr		
		20.30	12.5	70	-	+	+	+	tr		
	03.	00.00	8	38	+	+	+	-	tr		
		18.00	11	50	+	+	+	+	tr		
		20.30	12	55	-	+	+	+	tr		

		Bays		Pi-s							
Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
			E(mV/km)	H(gamma)							
12.	04.	19.30	12	72	—	+	+	+	tr		
		20.30	12.5	72	—	+	+	+	tr		
	08.	01.30	4.5	20	+	0	0	—			
	09.	00.45	5.5	28	+	+	+	—	tr		
		23.30	3.5	20	+	+	+	0	2	+	+
	10.	18.00	5.5	35	—	+	+	+	3.5	—	+
	11.	01.00							2	+	+
		21.45	18	120	+	+	+	+	tr		
	12.	01.00	13.5	65	+	+	+	—	tr		
		21.30							2	+	+
	13.	17.30	11.5	50	—	+	+	+	2	+	+
		21.00	8	45	+	+	+	—	tr		
	14.	22.00	6.5	28	+	+	+	+	tr		
	15	21.15	>10	125	—	+	+	+	tr		
	16.	17.00	15.5	95	+	+	+	+	tr		
		19.30	>22	140	+	+	+	+	tr		
		23.00	14.5	80	+	+	+	—	tr		
	17.	19.00	22	100	+	+	+	+	tr		
		22.30	12.5	80	+	+	+	—	tr		
	20.	01.30							2.5	+	+
	21.	20.15	17	45	—	—	—	+			
	22.	22.30	8	28	—	—	—	+	tr		
	26.	18.30	8	35	+	+	+	—	tr		
		21.15	9	80	—	+	+	+	tr		
	28.	00.00	8	45	+	+	+	—	tr		
		16.45	11	90	—	—	—	+			
		20.15	12	45	+	+	+	+	tr		
		20.45	14.5	60	+	+	+	+	tr		
	30.	19.30	17	60	—	+	+	+	tr		
		23.45	12.5	72	+	+	+	+	tr		
	31.	14.30	12.5	85	—	—	—	+			

*Further pi-traces*

Month	Day	CET	Month	Day	CET	Month	Day	CET
01.	02.	01.30	01.	29.	22.00	04.	06.	22.00
	03.	00.00	02.	01.	23.45		12.	17.00
		21.15		02.	00.30			22.15
	04.	02.15			01.15		13.	22.45
	06.	21.15		06.	21.30		14.	19.15
	07.	22.30		07.	19.45		15.	19.45
		22.45		09.	02.45		16.	22.45
	11.	23.30		14.	20.45		17.	00.15
	13.	13.45		15.	20.45		20.	18.00
	15.	22.30		19.	03.15			23.30
		22.45			03.30		21.	20.45
		23.15		20.	01.45		22.	00.45
	17.	20.45			02.30		23.	20.15
	19.	20.30		21.	22.30			20.30
		21.15		23.	23.00			20.45
	20.	20.30			23.30		24.	22.30
	21.	01.30		25.	00.15		27.	22.15
	22.	00.45		26.	19.30			22.45
		01.30		27.	17.15	05.	02.	23.00
		03.00			17.45		03.	20.15
		23.45			20.15			20.45
	23.	12.00	03.	01.	23.15			23.30
		15.45		09.	17.45		05.	00.45
		17.00		11.	21.45			01.30
	24.	01.00			22.45			01.45
		01.45		18.	22.30			20.30
		02.15		20.	01.00			20.45
	25.	23.45		22.	00.15		07.	19.30
	26.	20.15		25.	20.00		09.	20.45
	27.	23.45		29.	23.15			21.00
	29.	21.15		31.	20.45		11.	20.45

*Further pi-traces*

Month	Day	CET	Month	Day	CET	Month	Day	CET
05.	11.	21.00	06.	24.	23.45	08.	14.	22.45
		22.00		25.	20.45		17.	00.45
	14.	20.45		27.	03.00			19.45
	16.	09.15		28.	00.15		20.	17.15
		22.45			21.00		21.	20.15
	19.	20.30		29.	20.45			22.30
	20.	01.30			21.30		22.	00.00
	21.	00.30	07.	04.	03.30			00.30
	23.	22.45		06.	21.45			01.30
	24.	20.00		07.	20.30			20.45
	25.	17.30		08.	03.00		25.	05.00
		22.30		21.	00.15			18.45
	28.	21.30			22.45			22.45
		22.15		22.	04.30		27.	03.30
	30.	20.15			22.00			01.30
06.	02.	22.45			22.30			01.45
		23.15			23.30			23.15
		23.45		23.	00.45		28.	23.00
	04.	15.45		26.	01.45		30.	00.30
		22.30			21.15		31.	02.30
	10.	22.15		27.	18.30			21.45
		22.30			20.00	09.	01.	01.00
	12.	21.15		30.	02.15			10.00
	13.	19.15	08.	04.	23.45			19.15
	14.	02.30		05.	05.30		02.	03.30
		03.00		07.	22.15		03.	03.15
		19.45		08.	00.45		06.	22.45
	15.	05.45			01.30		07.	01.15
	18.	02.45		09.	20.30			04.00
	21.	01.15			21.15		08.	18.45
		21.15		11.	20.45		11.	22.30

*Further pi-traces*

Month	Day	CET	Month	Day	CET	Month	Day	CET
09.	11.	23.30	10.	17.	21.45	11.	26.	01.30
	12.	23.45		19.	19.30			18.30
	13.	22.45		21.	18.15			19.30
	14.	22.30		23.	20.00	28.		22.15
		23.45		24.	22.00			23.30
	15.	00.15		26.	22.45		29.	20.30
	16.	01.30			23.00	12.	01.	23.15
	17.	22.45			23.15		06.	23.30
		23.30			23.30		09.	20.45
	18.	20.45			23.45		11.	00.15
	19.	02.15		27.	22.15		12.	20.30
	24.	22.15		28.	22.15			22.30
	25.	01.15			23.15			23.00
		23.45		29.	21.45		13.	20.30
	29.	00.30		30.	01.15		19.	18.15
		05.15			01.30			20.30
		20.30			02.45			21.15
		22.30		31.	00.15		24.	23.30
		22.45			00.45		25.	01.30
10.	01.	16.15	11.	03.	01.30			02.15
	02.	01.30		07.	22.15		29.	22.45
		23.45		13.	19.15		30.	20.45
	03.	00.30			19.45			
		20.00		14.	20.30			
		20.45			21.15			
	05.	02.15			22.15			
	07.	23.45		18.	23.15			
	12.	23.45			23.30			
	15.	16.15		19.	00.30			
		18.30		21.	22.00			
	17.	21.30		25.	01.00			

## SI-s

Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy
			E(mV/km)	H(gamma)				
01.	04.	10.30	13	30	+	+	+	-
	05.	06.15	6	17	+	+	+	-
	20.	08.30	5.5	10	-	+	+	+
	31.	09.30	5.5	10	-	-	-	+
02.	02.	07.00	2.5	8	+	-	-	-
	04.	13.30	11	25	-	-	-	+
	09.	04.30	3.5	7	-	-	-	+
	14.	14.30	7	18	-	-	-	+
	18.	12.15	7	18	+	+	+	- (b ?)
	20.	11.30	4.5	12	-	-	-	+
	23.	10.45	5.5	8	-	+	+	+
	27.	01.00	6.5	18	+	+	+	-
	29.	04.30	2.5	6	+	+	+	- (ssc ?)
03.	03.	14.00	6.5	18	+	+	+	-
	06.	09.15	12	22	+	+	+	-
	15.	11.15	4.5	13	+	+	+	-
		12.30	8	18	+	+	+	-
	20.	10.15	5.5	8	+	+	+	+
	26.	16.15	6.5	17	+	+	+	-
04.	01.	08.45	6.5	12	-	-	-	+
	03.	06.45	9	25	-	-	-	+
	04.	05.45	10	18	-	-	-	+
		17.45	8	14	-	-	-	+
	07.	01.30	6.5	14	+	+	+	-
		03.30	7	22	-	-	-	+
	09.	09.00	5.5	14	-	-	-	+
		11.15	8	17	+	+	+	-
	15.	05.15	6.5	12	-	-	-	+
	17.	17.15	9	22	-	-	-	+
05.	01.	03.30	5.5	12	+	+	+	-
	02.	10.00	7	22	+	+	+	-
05.	03.	09.45	5.5	22	-	-	-	+
	11.	04.15	3.5	12	+	+	+	-
		15.30	7	22	+	+	+	-
	18.	00.00	4.5	12	+	+	+	-

## SI-s

Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy
			E(mV/km)	H(gamma)				
		03.45	9	18	+	+	+	-
		04.30	10	22	-	-	-	+
	19.	10.15	8	18	-	-	-	+
06.	06.	21.00	4.5	12	+	+	-	+
	08.	03.30	3.5	?	+	+	?	?
	25.	18.30	4.5	14	+	+	+	-
	29.	02.00	8	25	-	-	-	+
07.	12.	03.45	5.5	12	-	-	-	+
	21.	17.30	4.5	10	-	-	-	+
	25.	15.15	5.5	15	-	-	-	+
	27.	22.15	5.5	12	-	+	+	+
	28.	19.30	8	10	+	+	+	-
	29.	02.00	3.5	10	+	+	+	-
	30.	00.15	5.5	14	-	+	+	-
		16.15	3.5	18	+	+	+	-
08.	01.	09.15	23.5	30	+	+	+	-
	25.	07.15	6.5	12	-	-	-	+
	28.	06.30	5.5	14	-	-	-	+
	29.	08.15	10	18	-	-	-	+
		11.30	7	18	+	+	+	-
	31.	00.00	5.5	12	+	+	+	-
09.	01.	12.00	3.5	12	+	+	+	-
	08.	03.15	3.5	10	-	-	-	+
	12.	22.00	3.5	7	+	+	+	-
	14.	17.00	9	18	-	-	-	+
10.	10.	13.30	6.5	32	-	-	-	+
	11.	00.30	5.5	14	+	+	+	-
11.	11.	09.00	9	18	-	-	-	+
	15.	00.45	8	22	-	-	-	+
		06.45	6.5	14	-	-	-	+
	23.	03.15	6.5	18	-	-	-	+



*SI-s*

Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy
			E(mV km)	H(gamma)				
12.	01.	07.30	5.5	12	—	—	—	+
	12.	05.30	6.5	22	—	—	—	—
		07.45	4.5	12	—	—	—	+
	18.	06.00	6.5	8	+	—	—	—
	21.	19.30	8	18	—	—	—	+
	23.	17.45	5.5	10	—	—	—	+
	29.	03.30	6.5	12	+	+	+	—
	31.	04.45	7	15	+	+	+	—

## Needles

Month	Day	CET (GMT+1h)	Amplitude in E(mV km)	Ex	Ey	
01.	02.	05.30	4.5	—	—	
	18.	14.30	2.5	+	+	
		18.30	2	+	+	
02.	03.	12.30	4.5	—	+	
	14.	18.45	2	+	+	
		20.	16.00	8	—	—
		18.30	8	—	—	
	26.	18.45	5.5	—	+	
	28.	08.00	5.5	—	—	
		14.00	2.5	+	+	
29.	08.45	2.5	+	+		
03.	02.	05.45	4.5	—	—	
	03.	07.00	6.5	+	+	
		11.30	2.5	+	+	
04.	15.	12.30	2.5	—	—	
	16.	10.30	5.5	+	+	
	18.	11.30	2.5	+	+	
	22.	13.15	2	—	—	
	27.	02.30	3.5	—	+	
05.	06.	05.30	2	—	—	
	11.	11.00	2.5	—	—	
	17.	11.30	2.5	—	—	
	18.	07.45	3.5	+	+	
06.	04.	10.30	8	+	+	
	15.	08.15	4.5	—	—	
		10.45	4.5	—	—	
23.	17.30	8	+	+		
07.	03.	14.45	6.5	—	—	
	16.	17.30	5.5	—	—	
08.	24.	00.15	2	—	—	
	27.	15.45	3.5	—	—	
	29.	18.30	3.5	+	+	
09.	16.	12.15	5	+	+	
10.	06.	15.00	3.5	—	—	
	20.	07.45	7	+	—	

Month	Day	CET (GMT+1h)	Amplitude in E(mV/km)	Ex	Ey
11.	04.	12.45	2.5	+	+
	20.	11.15	5.5	+	+
	22.	23.15	3.5	0	-
12.	23.	11.15	6.5	+	-
		11.30	7	+	+

1984  
Pc 1-events

Month	Day	Duration		Quality
		hour min	hour min	
1.	7	431—	448	C
		500—	621	C
		652—	800	C
	8	1717—	1738	C
		1808—	1846	C
	9	1706—	1737	C
	10	320—	326	C
		353—	410	C
		520—	607	B
	19	027—	050	C
2.	16	142—	250	C
	17	558—	620	C
		658—	804	C
	18	2009—	2052	C
	19	2356—	20 033	C
	20	258—	328	C
		358—	428	C
3.	11	455—	641	B
4.	9	2110—	2209	C
	11	519—	812	C
	27	2157—	2211	C
	29	058—	141	C
221—		235	C	
5.	6	355—	413	C
		436—	527	C
6.	3	411—	434	C
		449—	523	C
		410—	437	C
	8	028—	200	C
	7.	8	1629—	1719
21		455—	521	C
8.	2	2218—	2237	C

Month	Day	Duration		Quality
		hour min	hour min	
8.	4	133—	207	C
		235—	431	C
		528—	649	C
		2208—	2227	C
	5	033—	107	C
		146—	418	B
		2008—	2034	C
		2032—	2040	C
9.	2	128—	145	C
	7	138—	507	C
	14	320—	410	B
	22	244—	333	B
	25	2210—	2348	B
	26	2232—	27 003	C
	27	055—	128	C
		1645—	1731	B
		2201—	2227	C
		054—	138	C
	29	2113—	2306	B
		158—	230	C
		403—	422	C
10.	1	521—	644	A
	2	357—	406	C
	5	606—	618	C
		640—	647	C
	8	2213—	2242	C
	15	332—	352	C
	16	400—	441	A
		628—	752	A
	18	702—	727	C
	20	1624—	1709	C
	22	1737—	1809	C

Month	Day	Duration		Quality
		hour min	hour min	
10.	23	2116—	2237	C
	25	1905—	2040	C
		2149—	2321	B
	26	810—	850	C
		1557—	1624	C
	27	410—	444	B
	29	015—	040	C
314—		718	B	
11.	1	117—	127	C
		201—	228	C
		347—	421	C
	3	446—	515	C
	6	2240—	2258	C
	16	1903—	1920	C
	17	1740—	1749	C
		1817—	2155	B
		2210—	2245	C
		2308—	18 014	C
		18	111—	155
	18	1739—	1834	C
		19	043—	247
	20	007—	043	C
		113—	211	C
		343—	434	C
		440—	531	C
	21	506—	531	B
	22	405—	446	C
	24	440—	540	C
25	524—	540	B	
	1528—	1554	C	
	1646—	1652	C	
	29	1626—	1631	C

Month	Day	Duration		Quality
		hour min	hour min	
11.	30	249—	408	C
12.	9	509—	609	C
		708—	736	C
		811—	831	C
	14	2217—	2318	C
	15	2135—	2214	C
	16	550—	620	C
	20	347—	452	C
		513—	521	C
	27	430—	500	C
	28	1656—	1739	C





V.

Average amplitudes in 12 pulsation bands  
(monthly averages for 3 hour intervals in  $\mu\text{V}/\text{km}$ )

January												
CET	Periods											
	1—5	5—10	10—15	15—20	20—25	25—30	30—40	40—60	60—90	90—120	120—300	300—600 sec
0—3	2	10	25	33	22	22	59	105	96	44	47	60
3—6	0	10	25	73	50	86	82	58	15	7	55	145
6—9	0	12	43	70	106	153	102	50	44	10	120	221
9—12	0	3	37	324	145	143	59	31	22	36	135	176
12—15	0	9	34	319	307	135	122	54	39	9	50	109
15—18	0	10	44	179	133	204	65	75	34	54	116	38
18—21	0	15	29	75	41	73	88	103	58	64	40	80
21—24	0	25	26	31	13	37	73	122	183	131	82	99
Average	0	12	33	138	102	107	81	75	61	44	81	116

February												
0—3	8	37	29	30	16	27	104	146	119	62	71	23
3—6	7	18	31	119	36	94	54	49	22	16	135	87
6—9	4	17	47	105	66	92	56	74	38	19	110	147
9—12	0	11	29	310	149	146	29	39	44	4	123	189
12—15	0	1	25	394	168	147	96	44	40	16	90	137
15—18	1	5	37	254	115	129	105	88	38	34	61	154
18—21	1	13	36	72	21	48	89	93	106	87	74	112
21—24	3	45	29	21	9	67	88	181	164	59	81	102
Average	3	18	35	163	73	94	78	89	71	37	93	119

## March

CET	Periods											
	1—5	5—10	10—15	15—20	20—25	25—30	30—40	40—60	60—90	90—120	120—300	300—600 sec
0—3	9	28	36	38	4	42	73	114	59	32	145	89
3—6	1	18	47	135	34	38	63	42	23	27	211	220
6—9	0	11	43	333	170	153	70	22	30	10	295	105
9—12	0	3	26	442	169	234	112	28	13	33	184	198
12—15	0	4	18	427	305	225	108	13	34	99	118	92
15—18	0	9	31	241	177	143	79	58	63	9	138	48
18—21	0	22	34	51	59	44	90	108	49	60	114	126
21—24	11	44	23	27	3	21	152	235	117	117	60	174
Average	3	17	32	212	115	113	93	78	49	48	147	132

## April

0—3	8	38	33	24	8	19	116	135	88	83	143	110
3—6	3	31	76	79	28	59	13	48	30	24	263	289
6—9	0	7	43	379	176	123	70	42	45	28	247	141
9—12	0	9	24	389	265	171	98	68	36	28	128	178
12—15	0	6	19	546	153	167	60	22	55	49	150	201
15—18	0	17	31	143	125	98	153	114	88	66	262	167
18—21	2	26	34	28	33	33	66	138	70	96	127	207
21—24	10	35	27	20	5	39	111	183	98	58	131	139
Average	3	14	36	201	99	89	86	94	64	54	183	179

## May

CET	Periods											
	1—5	5—10	10—15	15—20	20—25	25—30	30—40	40—60	60—90	90—120	120—300	300—600 sec
0—3	7	43	21	31	10	37	39	155	90	37	117	147
3—6	0	27	50	147	28	35	45	35	35	11	156	106
6—9	0	6	39	371	140	104	65	9	22	50	148	41
9—12	0	3	20	356	190	193	77	38	23	42	178	180
12—15	0	7	15	433	216	84	54	98	23	40	245	87
15—18	0	13	20	158	87	69	87	95	55	61	106	272
18—21	2	42	24	32	30	34	103	114	95	73	118	59
21—24	2	57	24	15	6	9	126	123	105	80	102	211
Average	1	25	27	193	88	71	75	83	56	49	146	138

## June

0—3	2	37	22	23	7	34	66	130	128	62	118	202
3—6	1	16	92	121	25	70	45	57	50	12	96	211
6—9	0	3	83	377	168	118	62	54	3	5	236	78
9—12	0	1	23	398	244	188	76	50	11	10	210	99
12—15	0	3	12	338	234	93	86	50	30	51	146	165
15—18	1	11	19	68	93	98	115	114	55	12	253	153
18—21	1	30	29	26	16	39	56	151	151	83	128	105
21—24	7	45	28	24	9	22	37	163	194	58	120	174
Average	2	18	39	172	100	83	68	96	78	37	163	148

## July

CET	Periods											
	1—5	5—10	10—15	15—20	20—25	25—30	30—40	40—60	60—90	90—120	120—300	300—600 sec
0—3	1	29	41	43	15	23	45	210	140	22	69	209
3—6	1	13	71	212	43	55	66	100	57	13	100	76
6—9	0	3	31	522	215	133	31	26	13	0	139	62
9—12	0	0	10	564	299	148	73	40	41	16	101	68
12—15	0	0	14	422	243	224	59	82	9	8	116	115
15—18	0	5	19	91	102	152	155	88	56	32	131	204
18—21	7	26	29	47	27	45	63	204	102	121	72	171
21—24	6	27	24	31	13	21	78	87	223	37	106	234
Average	2	13	30	242	118	100	71	105	80	31	104	142

## August

0—3	0	11	32	70	27	20	47	202	118	9	105	150
3—6	2	4	47	202	49	81	98	79	22	3	75	93
6—9	0	0	34	532	243	126	59	72	0	0	99	4
9—12	0	0	35	503	323	160	95	83	28	0	57	100
12—15	0	1	32	394	285	319	81	92	35	3	123	65
15—18	0	9	12	139	75	135	146	149	93	27	135	123
18—21	0	17	24	27	32	39	131	262	107	62	72	86
21—24	2	15	16	55	20	10	141	240	119	90	16	97
Average	1	7	29	240	132	111	100	147	65	24	85	90

## September

CET	Periods											
	1—5	5—10	10—15	15—20	20—25	25—30	30—40	40—60	60—90	90—120	120—300	300—600 sec
0—3	0	4	31	56	31	43	120	99	102	27	63	116
3—6	0	9	54	168	65	88	32	23	36	11	48	168
6—9	0	5	27	404	313	291	34	13	23	15	88	182
9—12	0	15	14	478	360	359	114	23	36	7	117	188
12—15	0	10	12	378	242	168	135	58	97	15	163	228
15—18	0	7	9	119	127	216	153	51	73	50	150	84
18—21	0	14	16	29	16	61	147	159	150	54	30	148
21—24	0	18	15	26	25	82	146	353	197	39	29	123
Average	0	10	22	207	147	164	110	98	89	27	86	155

## October

0—3	0	23	28	45	16	44	46	56	53	40	66	21
3—6	0	19	58	76	22	31	23	10	18	4	114	154
6—9	0	5	29	213	129	97	46	21	0	6	86	41
9—12	0	1	19	315	198	77	33	38	39	6	70	44
12—15	0	2	12	257	281	206	52	26	10	5	13	65
15—18	0	1	7	188	137	135	44	43	52	23	20	9
18—21	0	6	19	50	35	94	127	67	23	5	35	5
21—24	0	16	20	49	10	114	89	55	112	42	29	14
Average	0	9	24	149	104	100	58	40	38	16	54	44

## November

CET	Periods											
	1—5	5—10	10—15	15—20	20—25	25—30	30—40	40—60	60—90	90—120	120—300	300—600 sec
0—3	0	7	19	75	25	59	115	148	101	33	104	98
3—6	0	3	63	196	105	150	58	38	34	4	155	245
6—9	0	4	73	452	184	261	59	50	11	13	265	373
9—12	0	2	63	846	219	199	100	36	54	15	207	238
12—15	0	2	42	992	493	205	106	51	137	0	228	55
15—18	0	0	10	366	234	356	181	126	53	0	156	0
18—21	0	12	14	113	73	253	173	193	91	66	163	71
21—24	0	12	19	43	51	84	172	257	161	31	103	56
Average	0	5	38	385	173	196	121	112	80	20	173	142

## December

0—3	0	2	13	56	59	38	73	105	90	123	58	240
3—6	0	0	8	69	169	154	133	28	6	6	224	353
6—9	0	1	8	154	285	187	203	149	25	0	182	466
9—12	0	0	2	137	249	231	315	230	166	23	185	402
12—15	0	0	56	148	363	531	553	231	49	31	81	24
15—18	0	0	36	42	224	323	373	210	55	11	160	170
18—21	0	1	11	56	119	125	168	66	78	119	102	198
21—24	0	2	14	35	48	47	70	123	221	72	178	161
Average	0	1	19	87	190	205	236	143	86	48	146	252

Yearly average												
CET	Periods											
	1—5	5—10	10—15	15—20	20—25	25—30	30—40	40—60	60—90	90—120	120—300	300—600 sec
0—3	3	22	43	44	20	51	71	125	207	48	92	122
3—6	1	14	52	133	55	78	59	47	29	12	136	179
6—9	0	6	42	326	183	153	71	49	21	13	260	155
9—12	0	4	25	422	234	187	98	59	43	18	142	172
12—15	0	4	24	421	274	209	126	68	47	27	128	112
15—18	0	7	23	166	136	172	138	101	60	32	132	119
18—21	1	19	25	51	42	74	108	138	90	74	90	114
21—24	3	28	22	31	18	46	107	177	158	68	86	132
Average	1	13	32	199	120	121	97	96	82	37	121	138



VI.

Micro pulsation indices for the year  
1984

*Activity indices for the micropulsations  
(P1 to P12)  
1984, January—December*

	January	February	March	April
1.	111111111111	115534534145	155413534531	554432442154
2.	135535345114	153415334224	555521313355	135512324345
3.	155532335411	355214443455	355414434235	155125542234
4.	155422224144	555421345155	255333531233	255412423355
5.	115335524235	155514234131	115422121222	255113325554
6.	113425534323	155532332232	255311245555	145511322421
7.	122115532412	155511332251	355531331434	255511234144
8.	111115532211	135543214221	445544331125	455211455455
9.	115422354511	145521134232	155423524123	354532334245
10.	155232232542	355511234222	355533141342	155531132142
11.	145511544431	455422224253	255422342241	145532232323
12.	145521214131	255422121241	255314345412	245521145221
13.	155421145322	355511254545	255412323343	155511233222
14.	135425335131	155521212254	115534112223	155521273243
15.	145532123521	235521332545	155423225422	145434233343
16.	155433133541	135523323322	155511233544	155522124334
17.	135442244411	155521222122	125521224154	145214335423
18.	155313243512	155543423225	141532345221	155411123455
19.	225522345333	155532334311	115541421124	355311224555
20.	124235242322	153521445323	115424531221	135542132255
21.	135431244342	245512325441	255312524541	255332444521
22.	235452134221	125511342321	454432235541	133235255521
23.	115534332112	155512122241	155511222445	255221445532
24.	135455222121	145514224443	135531224524	145511135511
25.	155523232332	113324543511	145435414235	155311253355
26.	155521433242	153333241321	244523243114	255421442354
27.	145324434411	153345231124	355333422252	455324542123
28.	155422333344	135523343133	255521333244	245531343313
29.	155432113245	155411232233	155541124254	112424531221
30.	155531132245		155422243145	355421413321
31.	135521213345		253444442112	

	May	June	July	August
1.	155212442442	145511424441	255531351124	145424434324
2.	135411434453	155521515441	155551214325	125554222132
3.	255531241523	455511124154	255531224343	115521321132
4.	155531232321	155511134155	155522235422	131523353222
5.	253531443311	155444321155	155534331144	531423552112
6.	155511344132	133543224425	124455243122	153325353211
7.	155521232441	131544224421	235431245133	125435425111
8.	155511214121	55532223444	255522235342	155542234422
9.	152541324544	155521145345	345522333223	155521234223
10.	155521213154	151334543145	155531324342	135542434212
11.	155522232534	122544331324	353423325422	155511444312
12.	254531122354	125541544222	155511434244	145551343322
13.	155531113433	125214534221	155211344355	112522253111
14.	155412145444	155323234511	155534223124	155531134154
15.	355221435533	355411314455	155511312125	121531231133
16.	255313334352	155332324155	154531422123	114455253121
17.	155411112255	145412453242	144543334142	125542144321
18.	255422134255	155511334444	115532232124	125443234131
19.	155333435144	154412432333	135135533141	123521353243
20.	155335224433	155135224244	112533532324	135421345325
21.	255423224243	121113533511	213444334322	114324535511
22.	155523323255	125211245541	133423245144	115534324321
23.	254444514245	155312555221	155532134114	455421344444
24.	134521422242	354315424142	135521145322	145522123254
25.	131514551421	155533324132	435512344513	144454154211
26.	155511334324	245542145112	151521141511	124422454222
27.	135422244543	145512322142	245522214214	155521344244
28.	155211255531	153411345342	135543224124	125511321145
29.	155314345211	155531154224	145522344323	115533423144
30.	253312545543	155553442122	135521355521	135522234222
31.	234541124311		455522223435	121344244212

	September	October	November	December
1.	115322545141	135433234211	155411344525	113224552154
2.	125424322141	145531325311	145511243354	123434544355
3.	145521435212	155522124431	123532321221	115354551222
4.	155321134255	125542335321	114533221113	113454531124
5.	155212525454	155413224331	124534321143	113454521145
6.	134435432312	155442125145	122532334121	114255533324
7.	125531415423	155434322144	133542434122	115354543114
8.	132523325122	145523312221	115511114153	111334544111
9.	145552224213	125521211121	141524334124	115544431121
10.	145532324335	145532211134	115534221235	113545221142
11.	123522543415	155543212122	121534224221	125552323521
12.	114355422212	155543111144	112544221221	124321554525
13.	111555223122	124544212132	111534524121	114445443324
14.	123533335123	115513233111	155413335431	125335524131
15.	132454343423	115525221111	155411144253	121354444244
16.	155414444321	115522342122	155422425154	111335553243
17.	113335245512	113115354111	115533133144	112333553355
18.	121235324521	125313434542	115534333134	111225554343
19.	155421544453	155522133344	115534312222	112345543314
20.	125532224222	124444421332	115533423223	115235554111
21.	124532344431	125522221153	115433434145	125334533135
22.	134512145412	155542413223	124532244114	123444522224
23.	135325212255	115435224322	113535331124	113332454125
24.	145534313135	125533311132	111543323124	113334444111
25.	113533225114	142424512211	153225554323	115445412114
26.	125414434341	155422134221	145515343123	113345431245
27.	134514541115	113425432111	115532434221	112553334134
28.	132334345111	122434413211	144534235221	145541312245
29.	153325523111	115522234311	115512213523	111544444224
30.	155314334311	112433245311	125214315552	115543234344
31.		133431213422		114434544225

## Pc 1 indices 1984

	January	February	March	April	May	June	July	August	September	October	November	December
1.	1	1	1	1	1	1	1	1	1	3	3	1
2.	1	1	1	1	1	1	1	2	2	2	1	1
3.	1	1	1	1	1	3	1	1	2	1	2	1
4.	1	1	1	1	1	1	1	5	1	1	1	1
5.	1	1	1	1	1	1	1	1	1	2	1	1
6.	1	1	1	1	3	1	1	1	1	1	3	1
7.	5	1	1	1	1	2	1	1	5	1	1	1
8.	3	1	1	1	1	3	3	1	1	2	1	1
9.	2	1	1	3	1	1	1	1	1	1	1	4
10.	3	1	1	1	1	1	1	1	1	1	0	1
11.	1	1	3	5	1	1	1	1	1	1	1	1
12.	1	1	1	1	1	1	1	1	1	1	1	1
13.	1	1	1	1	1	1	1	1	1	1	1	1
14.	1	1	1	1	1	1	1	1	3	1	1	3
15.	1	1	1	1	1	1	1	1	1	2	1	2
16.	1	3	1	1	1	1	1	1	1	3	2	2
17.	1	3	1	1	1	1	1	1	1	1	5	1
18.	1	3	1	1	1	1	1	1	1	2	4	1
19.	2	2	1	0	1	1	1	1	1	1	4	1
20.	1	4	1	1	1	1	1	1	1	3	4	3
21.	1	1	1	1	1	1	2	1	1	1	2	1
22.	1	1	1	1	1	1	1	1	3	2	3	1
23.	1	1	1	1	1	1	1	1	1	3	1	1
24.	1	1	1	1	1	1	1	1	1	1	3	1
25.	1	1	1	1	1	1	1	1	3	5	3	1
26.	1	1	1	1	1	0	1	1	3	3	1	1
27.	1	1	1	2	1	1	1	2	5	2	1	2
28.	1	1	1	1	1	1	0	1	1	1	1	3
29.	1	1	1	3	0	1	0	1	3	5	2	1
30.	1		1	1	1	1	1	1	3	1	3	1
31.	1		1		1		1	1		1		1

0 = no registration