

I. EARTH CURRENTS

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

The coordinates of the Observatory are:

$$\begin{aligned}\varphi &= 47^{\circ}38' & \gamma &= 16^{\circ}43' \\ \phi &= 47.2^{\circ} & \Lambda &= 98.3^{\circ}\end{aligned}$$

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

The tables published are the following:

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 K₁–K₅.

The T-scale is linear; its scale correspond to 1.8 mV/km. The monthly mean T-values are separately given for the North-South and East-West components. The scales for K₁–K₅ are as follows:

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

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

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

II. Monthly and yearly means, and means for disturbed and quiet days of the amplitudes of the former frequency bands and of the earth current field intensity. D and Q days are the same as in section Geomagnetism. The rows 1–5 contain the average amplitudes of the five bands in 10^{-5} V/km. Row 6 contains the hourly means of the earth current field intensity corrected for long period variations (equally in 10^{-5} V/km).

III. Results of harmonical analysis from monthly means of the earth current field intensity.

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

V. Average amplitudes in 12 pulsation bands. Instead of the graphical representation of world-day averages in previous years, from this year numerical data shall be presented on average amplitudes of pulsations for (nearly complete) months. Averages are derived from manually processed earth-current records (6 mm/min) for three-hour intervals of the day. Such averages (expressed in μ 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 1974. The indices have been determined from the occurrence frequency of different period micropulsations, striving at a possibly uniform distribution of days in each of the five possible indices (1–5).

The determination of these indices can be shortly explained as follows: The days are arranged according to the occurrence frequency of each band. Index 1 is attributed to the days with lowest fifth of occurrence frequencies (0 to 20 per cent), index 2 to days with occurrence frequencies in the second lowest fifth (20 to 40 per cent) etc., index 5 to days with highest occurrence

frequencies (80 to 100 per cent of days). It must be reminded that mainly in the lowest and highest bands the uniform distribution could not be achieved due to insufficient occurrence of these bands on the records.

The bands are the following:

P1	0	to	5 sec
P2	5	to	10 sec
P3	10	to	15 sec
P4	15	to	20 sec
P5	20	to	25 sec
P6	25	to	30 sec
P7	30	to	40 sec
P8	40	to	60 sec
P9	60	to	90 sec
P10	90	to	120 sec
P11	2	to	5 min
P12	5	to	10 min

For a detailed description of the method of determination of these indices, see:

L. HOLLÓ, M. TÁTRALLYAY and J. VERŐ: Experimental results with the characterization of geomagnetic micropulsations (*Acta Geodaetica, Geophysica et Montanistica Hungarica*, 7/1972/155).

Mrs. J. CZUCZOR, L. HOLLÓ, M. TÁTRALLYAY and J. VERŐ took part in the processing and compilation of the data.

Records were taken in the Observatory with three instruments of the types GMG T9/1956 and GMG T14/1961, with small modifications in order to meet the demands of the use in the observatory. A general description of the processing and compilation is found in the report of the Observatory from 1966, in German by A. ÁDÁM, J. VERŐ, A. WALLNER: *Tellurische und erdmagnetische Messungen im Observatorium bei Nagycenk. Observatoriumsberichte des Geophysikalischen Forschungslaboratoriums der Ungarischen Akademie der Wissenschaften vom Jahre 1966*, Sopron, 1967.

I.

Activity indices T and K₁—K₅

January							
Day	T	Sum	K ₁	K ₂	K ₃	K ₄	K ₅
1.	22221525	21	6	2	4	3	5
2.	12112241	14	5	1	5	2	3
3.	22123251	18	5	0	5	3	2
4.	32022283	22	6	0	4	2	3
5.	31122232	16	7	2	6	2	3
6.	52211131	16	7	3	5	2	3
7.	10011000	3	5	1	4	1	0
8.	11101383	18	4	1	5	2	3
9.	01112121	9	3	0	5	1	2
10.	12331592	26	6	1	5	2	5
11.	22111110	9	5	1	4	0	2
12.	11111300	8	4	1	4	1	2
13.	01111102	7	4	1	4	1	1
14.	31022222	14	4	1	4	1	4
15.	01124325	18	6	2	4	3	5
16.	32333224	22	8	3	6	5	4
17.	24222263	23	6	2	5	4	4
18.	11222793	27	6	1	5	2	6
19.	32121143	17	7	2	5	2	3
20.	12222252	18	7	2	5	2	3
21.	22222511	17	4	1	4	2	2
22.	001100	(3)	4	2	4	1	1
23.	01110	(5)	5	0	4	0	1
24.	00010022	5	3	2	4	0	0
25.	82435999	49	7	3	5	6	9
26.	95564758	49	8	5	6	5	8
27.	75352497	42	7	4	6	3	7
28.	42332383	28	7	3	5	2	4
29.	43455991	40	8	4	6	4	6
30.	34223596	33	7	3	4	1	6
31.	52532663	32	7	2	4	2	4
Monthly averages:			T (N)	2,456			
			T (E)	1,839			
			K ₁	5,74			
			K ₂	1,81			
			K ₃	4,71			
			K ₄	2,16			
			K ₅	3,58			

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

Monthly averages:

T (N) 2,505
 T (E) 1,837
 K₁ 6,07
 K₂ 1,64
 K₃ 4,35
 K₄ 2,03
 K₅ 3,44

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

Monthly averages:

T (N) 2,920
 T (E) 2,117
 K₁ 5,52
 K₂ 0,78
 K₃ 4,68
 K₄ 2,29
 K₅ 3,36

April

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

Monthly averages:

T (N) 2,938
 T (E) 2,146
 K₁ 6,27
 K₂ 1,27
 K₃ 4,13
 K₄ 2,47
 K₅ 3,37

May							
Day	T	Sum	K ₁	K ₂	K ₃	K ₄	K ₅
1.	11011142	10	6	0	4	1	2
2.	32332553	26	7	0	5	3	4
3.	79622322	33	7	2	5	4	6
4.	35556529	40	7	3	6	4	5
5.	65556474	42	8	4	6	4	4
6.	44222110	16	7	1	4	2	2
7.	01227501	18	4	0	5	3	2
8.	10141214	14	6	0	5	1	1
9.	32221201	13	5	0	4	1	2
10.	11100010	4	2	0	4	1	0
11.	00132111	9	2	0	3	1	1
12.	31000001	5	3	0	4	0	1
13.	00111111	6	3	0	4	0	1
14.	11112124	13	5	0	4	1	2
15.	44335434	30	7	1	5	4	4
16.	73434332	29	8	0	4	3	6
17.	53653828	40	7	2	5	5	5
18.	43434423	27	7	2	5	3	5
19.	32564432	29	8	3	6	3	4
20.	43224231	21	5	0	5	1	2
21.	22443131	20	7	0	5	1	2
22.	22222135	19	7	0	4	0	2
23.	22433593	31	7	2	5	2	6
24.	55344386	38	7	3	6	5	6
25.	21123111	12	6	0	4	1	1
26.	21111110	8	6	0	4	1	0
27.	42212112	15	6	0	5	0	1
28.	21113101	10	5	0	4	0	1
29.	11121121	10	5	0	4	0	2
30.	11233533	21	6	2	4	1	6
31.	36876649	49	9	7	6	5	5
Monthly averages:				T (N)	2,536		
				T (E)	1,904		
				K ₁	5,97		
				K ₂	1,03		
				K ₃	4,64		
				K ₄	1,97		
				K ₅	2,94		

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

Monthly averages:

T (N) 2,700
 T (E) 2,279
 K₁ 6,50
 K₂ 2,27
 K₃ 4,93
 K₄ 2,67
 K₅ 3,67

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

Monthly averages:

T (N) 2,871
 T (E) 2,411
 K₁ 6,06
 K₂ 1,94
 K₃ 4,84
 K₄ 2,77
 K₅ 3,16

August

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

Monthly averages:

T (N) 2,758
 T (E) 2,190
 K₁ 6,03
 K₂ 1,90
 K₃ 4,71
 K₄ 2,77
 K₅ 3,23

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

Monthly averages:

T (N) 3,133
 T (E) 2,542
 K₁ 6,30
 K₂ 2,20
 K₃ 4,83
 K₄ 2,40
 K₅ 3,80

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

Monthly averages:

T (N)	3,641
T (E)	2,734
K ₁	6,52
K ₂	2,23
K ₃	5,13
K ₄	3,06
K ₅	4,39

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

Monthly averages:

T (N)	2,783
T (E)	2,004
K ₁	5,40
K ₂	1,57
K ₃	4,60
K ₄	2,50
K ₅	3,40

December							
Day	T	Sum	K ₁	K ₂	K ₃	K ₄	K ₅
1.	10002023	8	3	1	4	0	1
2.	32112143	17	5	2	4	3	2
3.	21312163	19	6	2	5	3	3
4.	33232110	15	7	3	5	2	1
5.	00112252	13	5	1	4	1	2
6.	10100100	3	3	0	4	0	0
7.	10122211	10	5	2	4	2	1
8.	11113238	20	5	2	4	2	3
9.	34257995	44	7	3	4	4	6
10.	54323562	30	7	3	5	7	4
11.	22245174	27	6	2	5	3	4
12.	23445414	27	7	3	5	4	2
13.	32234794	34	8	3	5	4	6
14.	53211231	18	5	2	4	2	2
15.	22233153	21	5	2	4	2	4
16.	10001251	10	4	1	4	1	1
17.	43332355	29	7	2	4	3	2
18.	63434592	36	7	3	5	3	6
19.	64459595	47	7	4	5	3	6
20.	34453552	31	6	2	4	3	2
21.	33434656	34	7	3	5	3	5
22.	33233412	21	5	1	4	2	4
23.	33333587	35	7	2	4	3	6
24.	21324314	20	7	3	4	2	3
25.	11111199	24	4	1	5	3	2
26.	12122231	14	4	0	4	2	2
27.	12323352	21	6	2	4	4	2
28.	31222111	13	7	2	4	2	2
29.	11123213	14	5	1	4	2	2
30.	11111013	9	7	3	4	0	2
31.	33211242	18	7	3	4	2	1
Monthly averages:				T (N)	2,673		
				T (E)	2,012		
				K ₁	5,83		
				K ₂	2,06		
				K ₃	4,32		
				K ₄	2,48		
				K ₅	2,87		

II. *Average amplitudes for different periods*

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

and hourly means of earth current elements

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
19	18	17	18	18	19	17	17	13	11	11	9	16,0
19	16	13	12	17	17	14	16	10	11	9	8	13,0
38	40	41	35	34	40	39	40	36	41	34	34	37,7
44	44	36	41	49	50	42	70	46	61	52	42	50,7
83	72	89	93	144	142	187	167	190	124	145	131	102,0
—58	—22	+5	+33	+37	—4	+30	+37	+16	—5	—11	—22	

Component												
27	41	38	38	35	33	25	19	20	13	17	14	25,7
16	16	14	22	18	14	13	11	15	8	10	11	11,9
31	31	27	34	30	32	37	37	37	38	36	38	35,5
34	45	36	45	36	33	38	49	49	56	46	41	41,6
59	51	70	76	106	139	163	178	172	109	115	84	83,3
+3	+2	—3	+5	+7	—8	0	—27	—27	—16	—22	—27	

Component												
18	21	20	18	17	19	15	19	14	14	16	13	17,4
14	14	10	12	12	10	12	10	7	11	13	10	10,8
37	39	39	37	44	35	33	36	33	31	40	36	36,0
57	65	50	31	42	35	38	75	54	63	56	44	49,1
94	49	82	153	75	111	151	83	147	116	115	157	90,5
—58	—44	—8	+68	+26	+22	+32	+50	+30	+23	+14	—14	

Component												
41	42	49	42	36	28	19	14	17	23	19	16	27,3
25	17	16	16	17	7	9	8	10	13	12	9	11,1
30	32	31	31	28	34	31	32	32	31	28	30	31,2
49	52	29	30	48	29	39	50	44	43	45	37	41,0
53	58	57	105	64	91	111	90	135	133	107	156	73,1
+25	+3	—11	—9	—10	—9	—22	+2	—22	—20	—12	—10	

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

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
20	20	23	23	20	12	19	19	12	9	13	13	17,2
14	8	9	8	7	5	5	9	4	2	3	6	7,7
40	38	40	39	39	37	37	34	35	38	39	36	37,8
57	73	55	46	56	48	39	60	49	72	93	65	53,8
81	71	63	74	74	93	172	149	154	69	64	134	85,2
—99	—12	+10	+57	+94	+58	+55	+63	+17	+24	—34	+9	

Component												
37	37	38	34	37	24	20	19	15	12	15	18	23,9
16	14	18	17	9	8	3	3	1	6	3	4	6,7
35	37	30	35	32	33	37	39	37	33	25	31	34,3
44	45	45	44	46	44	51	50	35	54	64	46	43,7
41	39	41	62	60	74	137	95	135	82	85	129	62,1
—24	—1	+9	+5	+38	+31	—46	—18	+20	+11	—12	—9	

Component												
19	16	19	13	12	10	11	16	17	14	13	13	17,5
16	15	8	7	7	7	4	8	12	7	5	6	10,1
36	40	37	36	37	35	34	32	37	31	35	34	36,5
76	62	73	37	67	33	48	63	61	44	86	56	56,2
86	110	102	100	131	101	92	92	137	194	89	118	88,5
—159	—54	+42	+68	+106	+65	+57	+31	+43	+23	+57	+6	

Component												
41	42	40	34	29	29	20	14	20	22	20	16	28,5
16	17	9	16	9	7	7	5	7	8	8	10	9,8
37	39	39	37	33	37	33	31	35	37	31	40	36,6
61	48	47	35	46	43	49	64	49	56	37	55	45,4
61	42	63	75	90	82	70	96	70	93	128	71	62,1
—29	+9	+8	—5	—5	—26	—32	—42	—15	—23	—16	+27	

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

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
16	17	16	13	13	5	6	9	9	10	9	10	14,7
9	9	9	8	3	2	2	5	5	6	5	3	7,9
42	37	41	41	37	37	36	35	33	35	37	37	37,6
40	56	58	71	52	50	30	48	43	46	41	48	48,5
113	62	91	92	74	77	81	85	127	92	131	87	78,1
—111	—51	+21	+82	+64	+82	+41	+32	+2	+10	+9	+26	

Component												
40	44	35	33	27	23	13	13	12	17	15	15	27,9
11	19	20	11	10	3	2	8	7	8	5	3	9,8
34	34	43	42	35	40	35	37	32	37	40	38	36,5
40	38	51	44	49	51	38	41	45	40	42	55	39,8
62	46	49	83	63	87	85	83	84	84	118	60	57,0
—28	—2	+16	—5	—10	—8	—7	—25	—47	—14	—5	—1	

Component												
23	25	20	19	16	16	11	12	20	16	17	13	21,1
14	13	14	12	8	10	7	7	14	9	14	13	14,6
38	48	39	38	40	38	36	37	38	38	35	40	40,0
53	71	71	71	55	51	51	36	41	59	56	53	55,8
128	102	92	86	110	82	86	95	133	98	125	118	100,5
—129	—81	—31	+39	+68	+90	+66	+50	+47	+13	+20	+21	

Component												
52	49	46	38	31	27	25	19	24	20	25	22	34,0
30	25	31	14	15	18	7	8	10	3	10	10	15,3
42	39	36	39	43	45	36	38	36	37	38	41	37,7
35	52	34	63	41	56	50	55	61	61	71	54	48,8
140	98	135	130	182	114	113	100	95	79	128	108	95,5
—4	—6	—24	—26	—38	—29	—36	—45	—15	+12	—20	+14	

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

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

18	18	17	15	13	9	9	9	10	11	15	12	18,6
17	12	12	9	9	6	7	8	7	9	12	10	15,0
42	37	38	37	37	39	32	33	37	35	36	34	40,0
59	65	57	67	48	70	53	46	34	64	81	83	60,9
67	70	66	93	130	77	80	115	117	131	102	84	80,9
-165	-97	-35	+13	+78	+94	+73	+42	+29	+39	+24	+7	

Component

34	39	38	32	26	20	18	13	12	13	20	16	27,7
16	23	27	16	12	9	6	8	7	6	9	10	13,2
38	35	31	31	34	36	36	34	36	34	41	38	38,5
52	57	33	64	41	46	62	59	53	66	56	66	51,4
106	63	98	78	149	113	72	71	111	87	98	62	73,5
-22	-14	-42	-73	-76	-31	-45	-62	-36	+8	-1	+3	

Component

21	16	17	13	9	13	11	17	11	12	9	10	16,5
17	15	18	10	9	8	8	10	8	11	5	9	12,9
41	44	43	36	37	34	32	36	33	37	33	38	37,6
64	82	81	66	70	46	42	48	46	51	60	57	57,8
91	71	53	53	57	89	139	142	120	150	118	102	85,2
-123	-59	+17	+73	+104	+98	+64	+53	+43	+16	+44	+46	

Component

40	38	35	34	27	23	19	17	15	17	17	15	27,5
21	26	17	15	10	10	6	6	5	10	10	12	12,9
37	42	35	38	29	37	39	34	37	37	38	36	36,0
35	69	55	68	54	55	55	46	46	61	54	59	50,5
87	57	56	42	92	104	143	114	69	121	83	79	66,0
-35	-45	-41	-22	-29	-43	-68	-28	-9	-58	+21	+1	

Hour Parameter	0	1	2	3	4	5	6	7	8	9	10	11
September North												
1.	14	16	11	14	16	18	23	25	26	27	21	20
2.	13	11	7	11	13	13	19	20	20	20	17	16
3.	38	39	38	35	34	35	38	43	40	37	40	39
4.	43	65	41	55	46	44	61	62	56	50	58	58
5.	143	141	137	93	107	86	50	38	28	40	49	89
6.	—3	—50	+23	+3	—17	—25	+30	+34	+2	—50	—107	—130
September East												
1.	19	20	13	19	23	26	33	40	43	46	41	40
2.	8	8	5	5	7	8	17	14	20	22	24	28
3.	32	38	40	32	38	26	30	34	33	29	37	35
4.	43	42	82	43	35	39	43	35	27	40	31	44
5.	102	85	35	50	80	40	38	29	40	33	37	55
6.	—3	—6	—6	+13	—3	+8	+9	+39	+52	+48	+21	—12
October North												
1.	9	12	15	13	17	20	22	30	25	26	21	24
2.	6	7	11	8	12	13	23	22	26	21	20	19
3.	45	38	35	37	39	38	47	42	45	41	43	41
4.	50	81	60	59	57	45	63	43	64	59	87	60
5.	178	148	166	105	58	70	71	78	57	106	69	107
6.	0	+37	—16	—22	—15	—28	+3	+47	+35	+20	—33	—94
October East												
1.	18	16	20	22	27	30	34	39	40	38	41	44
2.	8	6	9	6	8	11	21	18	21	17	24	24
3.	45	38	38	39	38	35	41	34	41	37	33	38
4.	30	46	40	45	52	39	48	28	54	47	66	55
5.	132	116	105	65	62	80	68	63	39	52	57	77
6.	—5	+15	+9	—8	+6	—9	—19	—1	+1	+37	+42	+34

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

20	21	19	17	18	14	14	17	13	14	13	9	17,5
19	17	14	13	16	11	14	11	12	13	10	6	14,0
40	45	37	38	41	38	35	41	38	38	37	38	38,4
65	68	51	54	55	43	45	52	50	55	74	65	54,8
97	96	79	65	91	101	152	121	131	149	149	147	98,8
-116	-30	+23	+68	+65	+78	+29	+40	+30	+46	+11	+45	

Component

40	41	43	41	37	26	20	17	20	20	16	16	29,2
20	20	20	21	22	10	6	10	7	13	7	7	13,7
37	35	38	37	34	37	38	44	37	32	37	38	35,3
59	65	41	51	38	40	42	45	46	65	73	62	47,1
56	53	59	49	134	83	157	88	151	119	86	67	71,9
-34	-24	-19	+1	-11	-4	-34	-10	-20	-8	+7	-5	

Component

19	21	20	16	17	15	10	10	14	12	9	9	16,9
16	16	15	13	11	9	7	7	10	9	9	5	13,1
35	41	39	41	37	39	38	36	42	42	39	41	40,0
57	78	81	59	62	42	68	58	51	50	64	46	60,5
149	89	64	99	121	197	117	179	179	207	174	254	126,8
-97	-54	+14	+65	+22	+66	+4	+10	+39	+25	-4	-22	

Component

42	51	45	42	32	26	20	21	26	22	21	21	30,8
23	31	24	20	13	12	10	6	10	12	10	12	14,8
23	35	33	33	34	38	39	36	42	38	40	46	37,7
52	59	35	45	45	41	69	52	69	69	65	60	50,5
88	67	108	90	117	149	89	111	129	146	131	175	96,5
-19	-21	+6	-15	-6	-17	-13	-8	-15	+10	+22	-23	

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

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
19	17	18	14	17	17	17	10	7	11	9	9	14,8
16	13	14	13	11	15	12	10	6	8	8	10	11,7
39	46	38	41	41	38	38	36	35	35	35	38	39,6
60	45	60	54	51	35	43	91	41	53	64	53	56,3
65	52	91	80	204	216	133	120	165	86	147	128	95,3
—44	—14	+17	+14	—8	—5	+10	+49	+14	+60	+14	+13	

Component												
32	37	32	29	28	22	17	13	9	17	10	11	22,5
10	13	12	14	11	13	9	10	4	10	10	10	10,1
35	33	32	42	37	38	34	35	37	34	35	35	36,0
41	37	26	24	43	44	40	85	43	40	62	46	42,3
43	34	112	71	169	130	106	117	122	97	94	94	73,8
+3	—11	—19	—1	—4	—50	—19	—17	+8	—16	—14	—7	

Component												
24	20	20	17	16	16	16	17	15	13	9	9	16,6
24	17	16	15	15	12	14	17	11	11	7	8	13,9
38	37	35	37	38	37	38	39	37	35	36	35	36,5
62	64	49	44	50	49	69	74	46	56	52	45	53,4
52	36	40	69	61	111	166	89	189	131	116	148	75,3
—5	+6	+8	+32	+7	+25	+49	+27	+30	+6	+31	+10	

Component												
45	40	45	40	31	28	23	17	18	16	13	13	25,3
23	23	22	20	11	13	13	10	7	11	8	6	13,0
34	32	28	31	31	34	35	39	34	34	35	30	33,6
40	37	34	71	37	35	70	71	33	62	47	42	44,9
30	31	33	45	51	125	114	68	188	79	91	91	55,4
+21	+18	+13	+22	+1	—1	—8	+18	—5	+16	+6	+4	

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

12	13	14	15	16	17	18	19	20	21	22	23	Averages
Component												
20	19	19	17	15	14	13	14	13	12	12	11	17,2
16	14	13	11	10	9	9	10	9	9	8	8	12,1
39	41	39	38	38	37	36	36	36	36	36	37	38,3
58	65	60	54	55	46	48	60	47	56	65	55	55,0
92	73	76	88	106	117	130	119	149	129	123	133	92,3
—97	—42	+7	+48	+55	+56	+43	+41	+29	+23	+14	+11	

Component												
40	42	41	36	31	26	20	17	17	17	17	16	27,5
19	20	19	17	13	10	8	8	8	8	8	8	11,8
35	35	33	36	33	37	36	37	36	35	35	37	35,8
45	50	39	49	44	43	50	56	48	56	55	52	45,7
69	53	74	75	107	108	113	101	122	102	105	97	72,5
—12	—7	—8	—10	—22	—16	—26	—21	—15	—8	—3	—2	

Component												
15	11	11	12	7	7	6	5	7	5	5	5	10,3
11	7	5	5	5	6	5	5	4	5	5	8	6,9
42	35	33	35	35	32	33	32	31	35	30	34	34,0
37	31	28	31	26	21	30	28	26	28	32	33	30,7
18	31	28	33	25	31	19	21	25	23	34	33	25,7
—90	—57	0	+42	+45	+35	+22	+17	+18	+16	+13	+9	

Component												
27	22	24	22	17	14	7	6	7	7	5	7	14,9
11	6	6	9	6	7	3	5	4	6	8	11	6,0
30	30	31	32	31	33	33	31	32	30	30	31	30,4
23	29	31	32	25	27	24	30	24	30	37	35	26,4
22	24	22	29	33	33	30	24	24	29	28	39	26,9
—11	—14	—7	—3	—11	—12	—9	—6	+7	+18	+12	+17	

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

III.

Results of harmonical analysis of the daily variations

	A1	q1	A2	q2	A3	q3	A4	q4	A5	q5	A6	q6
North Component												
January	12	221	22	250	15	77	11	302	13	77	2	302
February	23	168	25	251	20	93	18	297	8	100	7	139
March	39	155	44	302	21	101	14	323	1	176	5	165
April	48	133	73	287	60	140	20	322	10	220	5	197
May	45	126	61	307	41	139	8	60	8	16	7	267
June	59	117	68	294	27	131	4	100	2	30	4	42
July	60	111	70	287	32	116	4	202	3	25	9	348
August	68	133	71	306	37	146	4	282	10	245	11	191
September	45	142	45	292	37	132	18	309	10	234	9	208
October	20	141	31	272	34	100	25	311	8	37	7	11
November	11	178	31	224	20	147	19	331	5	182	5	250
December	28	190	11	226	5	141	2	338	6	174	6	251
Year	35	138	43	286	27	126	10	319	2	151	2	233
Q	29	112	38	290	27	121	13	299	2	149	2	108
D	41	147	47	283	30	126	13	262	3	355	6	178
East Component												
January	15	315	9	73	17	31	9	292	2	292	5	346
February	11	351	12	76	13	356	3	262	4	124	2	351
March	10	245	4	132	8	65	16	242	10	20	8	41
April	22	350	8	152	20	104	13	297	13	152	7	44
May	21	358	10	287	18	115	10	332	11	200	8	298
June	31	2	14	177	11	122	8	358	7	303	5	344
July	53	10	22	192	11	130	4	61	5	213	15	339
August	48	12	14	232	13	102	12	288	2	245	7	186
September	20	356	13	214	14	91	11	272	3	177	1	166
October	8	338	12	143	9	9	12	247	5	36	8	293
November	16	333	16	20	15	347	9	245	17	37	5	276
December	18	223	16	123	2	12	4	261	4	80	2	247
Year	19	354	8	159	7	70	7	288	2	119	4	312
Q	2	21	14	169	5	98	6	271	1	80	1	273
D	39	348	10	159	6	83	10	240	4	82	13	295

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

Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	End of Storm
			E(mV/km)	H(gamma)					
04.	18.	3.30	6.5	12	—	—	—	+	(Si?) 04.18.24.00
05.	31.	5.00	5.5	18	+	+	+	—	(?) 06.02.02.00
06.	11.	4.30	5.5	17	+	+	+	—	(?) continued
	12.	9.30	14.5	25	+	+	+	—	06.13.01.00
	23.	10.00	7	22	+	+	+	—	06.23.18.00
	26.	0.30	>18	60	+	+	+	—	06.27.23.00
07.	4.	16.30	14.5	40	+	+	+	—	continued
	6.	4.15	11	80	+	+	+	—	07.07.05.00
08.	2.	13.15	6.5	22	+	+	+	—	08.03.03.15
	22.	3.45	7	16	+	+	+	—	in storm
09.	13.	16.15	2	18	+	+	+	—	09.14.01.00
	15.	14.45	>14.5	80	—	—	+	—	09.16.17.00
	18.	15.30	>9	25	—	—	+	—	09.21.03.00
10.	12.	13.45	18	35	—	—	—	+	continued
		21.15	?	35	?	?	+	—	10.14.01.00
	14.	17.30	5.5	11	+	+	+	—	10.15.14.00
	20.	4.45	13.5	28	+	+	+	—	10.21.00.00
11.	8.	15.15	7	15	+	+	+	—	11.09.19.00
	14.	3.45	9	30	+	+	+	—	11.14.19.00

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

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

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

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

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

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

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

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

Bays					Pt-s						
Month	Day	CET (GMT+1h)	Amplitude in		Ex	Ey	Hx	Hy	E(mV/km)	Ex	Ey
			E(mV/km)	H(gamma)							
11.	25.	20.00	5,5	28	+	+	+	—			
		23.30	5,5	35	+	+	+	—	2	+	+
	26.	15.45	11	35	+	+	+	—			
12.	5.	20.00	9	45	—	+	+	+	tr		
	7.	17.15	12	18	—	+	+	+	tr		
	9.	17.00	20	95	—	+	+	+	tr		
		18.45	>25	130	—	+	+	+			
	10.	17.45	11	35	—	+	+	+	tr		
	11.	20.30	>9	70	—	+	+	+	tr		
	12.	22.30	4,5	35	+	+	+	+	2.5	+	+
	13.	20.15	18	85	+	+	+	+			
	15.	18.15	8	45	—	+	+	+			
		23.00	4,5	30	+	+	+	—	tr		
	16.	19.30	6,5	45	—	+	+	+	tr		
	18.	18.00	25	85	+	+	+	+	tr		
	19.	1.30	5,5	45	+	+	+	—			
	20.	20.00	12,5	45	+	+	+	+	tr		
	21.	21.15	13,5	45	+	+	+	—	tr		
	22.	16.30	6,5	35	—	—	—	+			
	23.	20.00	20	50	+	+	+	+			
	24.	17.15	6,5	40	—	+	+	+	tr		
		22.00	7,5	45	+	+	+	+	tr		
	25.	20.45	20	80	+	+	+	—			
	26.	19.30	5,5	18	—	+	+	+	tr		
	27.	20.30	6,5	40	—	+	+	+	tr		

Further pi2-traces (earth currents)

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

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

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

SI-s

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

„Needles”

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

V.

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

January

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

February

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

March

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

April

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

May

LT	Periods in sec											
	1—5	5—10	10—15	15—20	20—25	25—30	30—40	40—60	60—90	90—120	120—200	300—600
0—3	2	1	20	45	30	61	113	196	130	48	67	241
3—6	0	11	88	173	157	60	76	69	17	17	63	172
6—9	1	2	119	570	408	206	191	34	26	9	105	83
9—12	0	2	6	711	575	222	96	63	86	3	92	159
12—15	0	0	0	456	547	157	155	91	38	50	427	231
15—18	0	0	0	87	266	147	93	148	95	92	247	121
18—21	3	3	0	17	30	34	74	189	151	96	256	117
21—24	1	8	1	13	22	26	56	221	204	64	179	287
Averages 1	3	29	256	252	113	101	128	95	48	178	179	

June

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

July

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

August

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

September

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

October

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

November

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

December

0— 3	0	0	5	20	11	10	23	133	115	55	156	193
3— 6	2	0	3	44	107	89	81	54	23	0	153	256
6— 9	0	0	12	185	288	150	75	28	66	6	265	133
9—12	0	0	12	237	488	183	140	75	42	57	75	62
12—15	0	0	1	136	940	314	114	78	31	38	73	27
15—18	0	0	8	35	379	353	199	112	72	9	148	62
18—21	2	2	3	9	92	136	233	176	260	57	96	73
21—24	1	2	8	2	14	5	23	148	303	81	187	165
Averages	1	1	6	84	293	156	112	101	114	38	144	121

Yearly average

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

VI.

Micropulsation indices for the year
1974

Activity indices for the micropulsations
(P1 to P12) Year 1974.

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

	May	June	July	August
1.	121522442232	131354412342	111145424225	112111115534
2.	111452114431	113324333135	112322224154	111122314552
3.	115522222121	121134542114	211311234544	115521122125
4.	125541123133	221233522235	423344211335	122543122135
5.	121554132125	111112552244	252211355543	111522121154
6.	213522211114	112222412444	155211135355	122531122125
7.	111111122555	111111344352	115333211145	125521224145
8.	111113452435	111111232355	14542222344	112353211233
9.	111114432235	521111113555	133444221335	112531122225
10.	111111212444	423511115523	121332242334	113521132132
11.	111111123255	215311114555	212531313154	111323443123
12.	111111531452	235354211325	313552122123	112123533421
13.	132333311331	132543112335	114543411124	111255432441
14.	121353113531	121455311134	131443322234	123333233551
15.	343421145321	114453112235	113433423421	121233345554
16.	213542233211	113544142124	113353344111	111111223355
17.	124553111115	113223443231	112442223212	111211112455
18.	124552211115	112455444111	111343555535	111211124255
19.	112541112215	335423433311	111131123435	125542123255
20.	113334322425	125552112224	112432222524	135353321141
21.	113532234143	111224445212	111333213445	114553322144
22.	211553231124	111153444211	111343222322	112532211254
23.	215533223135	111411355415	155234422335	115434431333
24.	115521221135	115411234535	115511221245	111433242235
25.	111522533115	111112324444	115322233434	111433232324
26.	113354122232	155522114245	111345341135	111453432212
27.	111254444213	155453131142	111334431145	111443232125
28.	111243132433	124542224145	111322421124	113453123223
29.	111144313444	111521232325	111232424134	113522431135
30.	111431113453	111423215135	112344333123	114551121112
31.	155511115445		111213534225	115531112135

	September	October	November	December
1.	115532112135	114522122151	114434421321	111211132455
2.	212552222133	114434411212	511234442233	115451111244
3.	115432131125	115452122133	111133421354	113135124232
4.	212541341114	111235531111	111311411452	111235511323
5.	122542211134	111334521144	111223412444	111122545511
6.	112323343324	111144345323	111531111534	111121345312
7.	111222442112	111114544133	111344112444	111241212442
8.	111342153123	211111244555	131234322425	114341124223
9.	113354323312	213322112355	131211111355	123532233223
10.	111234314531	111135523115	111111322355	112355432211
11.	111224433541	111355324113	113432213332	122355534111
12.	311111114554	111345411235	123445443232	111255532112
13.	111311134454	553211124454	112233221111	111344313133
14.	211411111545	123442133243	111245311111	111135332224
15.		125443114252	111333523313	112333334335
16.	134311125545	115543223243	111233424223	11121123352
17.	111111211443	113454322133	111311211455	225351114225
18.	212113433151	123442111133	311212333524	312351114234
19.	114444444143	111442311255	115332343124	111551111131
20.	112431221121	115432343432	111533224323	111154223131
21.	115521221343	122335411145	111434322223	111323344341
22.	111212432123	213434312224	111354113345	112352221155
23.	115332431234	111113542224	111354212134	112554311135
24.	115534312125	155132112245	111243413444	112323241134
25.	213531132124	112554221232	112443443125	121331432125
26.	215441311154	111454311135	111433243145	112222233335
27.	114531212135	115533211245	111135531211	313422442133
28.	111554122133	114443112135	311232342333	111352312332
29.	112531221134	113334421144	111212552531	114431114335
30.	112453121142	111433512134	311111443354	111554343122
31.		112313542215		112343232315