Daily soft X-ray flare index (1969–1972)

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Received: August 16, 1996

Abstract. The daily soft X-ray flare index was determined from the daily continuous profile of solar soft X-ray flux. In order to determine the heliographic coordinates of Long Duration Events (LDEs) we exploited the fact that the soft X-ray flare emission is uniquely tied with the occurrence of H-alpha flares. The daily flare index is given in Tables 1 and 2. They contain the Eastern (E), Central (C) and Western (W) indices of an LDE as well as a daily flare index of the impulsive (I) flares, observed from January 1969 to December 1972.

Key words: the Sun - flares

1. Introduction

The properties of a solar soft X-ray component indicate the existence of dense thermal plasma located in the corona as it can be discerned from the daily solar soft X-ray flux (1-8 Å), which is sensitive to the coronal emission measure at temperatures $T \geq 3 \times 10^6$ K (Donnelly et al. 1977). The daily variations of the flux give us, however, information not only about changes in the corona, but tell us also something about short-term variations in the heliosphere.

Our subsequent reasoning is based on the solar daily soft X-ray flux data (1969-1976) published in *Solar Geophysical Data* and on those by Donnelly (1981). The unresolved full-sun soft X-ray flux measurements provide us with the information about both (i) a nonflare coronal background (XBG flux, Bouwer et al. 1982) and (ii) a flare emission, which can be detected as soft X-ray emission peaks above an XBG level.

The present paper gives a brief account of the 1-8 Å flare emission. A detailed desription of the soft X-ray measurements is given in Section 2. Section 3 contains the new definition of the flare index and our findings are compared with those based on the old definition (1990-1994 papers). Tables 1 and 2 and theirs descriptions are given in Section 4. The discussion of the implications of short-term soft X-ray activity in the context of heliospherical environment is given in Section 5.

Contrib. Astron. Obs. Skalnaté Pleso **26**, (1996), 98– 120.

2. The soft X-ray measurements (1969-1976)

The full-sun soft X-ray daily profile is published in SGD, being constructed from the 1-5 minute means obtained from the following satellites:

Satellite	Time interval
SOLRAD 9:	January 1969-February 1973
EXPLORER 37:	February 1973-April 1974
SMS-1, SMS-2 and GOES-1:	July 1974-December 1976

The missing soft X-ray data between *May-June 1974* were supplied from (i) the daily mean 10.7 cm radio emission (2.84 GHz), which is well correlated with SXR (Donnelly et al. 1986), as well as ii) from the existence of Sudden Ionospheric Disturbances (SIDs - which are sensitive to an SXR flux). The list of SIDs was compared with that of H-alpha flares as published in SGD.

3. Definition of the flare index

The flare index (FI) was constructed by weighing the SXR flare-classes (in units of 10^{-6} W/m^2) regardless the duration of a flare. For the convenience of the reader we list all soft X-ray flare classes our paper is based on:

Class	Flare-Intensity ($W/\ m^2$)
C	$10^{-6} \leq I\ <\ 10^{-5}$
M	$10^{-5} \leq I\ <\ 10^{-4}$
X	$\mathrm{I} \geq\ 10^{-4}$

Digits from 1.0 to 9.9 following the above letters act as multipliers.

As for the so called Long Duration Event (LDE) flare index, the corresponding analysis was carried out either on the monthly basis (Antalová, 1990; Antalová and Viktorínová, 1991) or on the half-monthly basis (Kudela et al. 1994). It is worth recalling at this point that the LDE-type FI ascribes null weight for events lasting less than 2 hours, and single weight for long duration events lasting $\geq$ 2hours (see, Antalová and Viktorínová (1991) for more details). Here we aim at bridging the 1990's LDE FI data gap by introducing:

- a flare index on the basis of complete SXR flare information, using not only a flare class, but also digit multipliers: so, for example, a C7.3 (M1.9, X9.6) soft X-ray flare index bears now the value equal 7 (19, 960), and not 1 (10, 100) as it would if we followed our old definition;
- a new daily flare index (I) is computed from impulsive-type soft X-ray flares (lasting less than 2 hours); and

– we publish daily, not monthly FI values, as the former are more suitable for a short-term solar activity analysis and related heliospherical problems.

4. Daily flare index values

4.1. The Types of soft X-ray flares and the process of magnetic reconnection

A classification of soft X-ray flares was first introduced by Pallavicini et al. (1977) and Kahler (1977). The duration of a flare in soft X-rays is very different from that characterizing both shorter and longer wave length flare emission in the sense that we can clearly distinguish between short and long duration flare categories, which is therefore taken as an important characteristic of soft X-ray flare. Although, starting from 1977, both the categories have been extensively studied there is still not clear answer where lies the boundary between them, nor what are the other physical characteristic (temperatures, chemical composition, etc.) exclusively pertinent to either category. We also note that this phenomenological 2-type soft X-ray flare classification is based on very different gradual phases of both flare categories. Both of them have a very similar onset, the so called 'impulsive phase', during which the proper flare energy is released. It is generally believed that the category of impulsive flares has the impulsive phase only, but lacks the gradual one.

The main source of a prolonged soft X-ray emission is a post-flare loop arcade, which is regarded as the symptom of the process of strong magnetic reconnection. In fact, the arcade is usually a remnant of outward opened magnetic structures during the impulsive phase of an LDE-type flare. So, this evokes a question: 'Why has the process of reconnection so different scales for two flares with a comparable impulsive phase?' It is difficult to answer this question satisfactorily, but in the case of impulsive flare it is obvious that the open magnetic configuration and the following process of reconnection have much smaller dimensions when compared with those characterizing an LDE-type flare.

4.2. LDE- and I-type flares and their consequences for heliosphere

– From our crosscorrelation analysis between the galactic cosmic ray (CR) intensity and nonflare coronal background (XBG) we found a significant anticorrelaton between the daily values. So, the nonflare corona is best viewed as a slowly expanding solar wind source. The soft X-ray flux of long lasting, dense post-flare coronal sources is by an order of 1-4 higher than XBG and, therefore, its contribution to the solar wind cannot be neglected.

– The long lasting discussion about 'What can be used as the proxy data of Coronal Mass Ejections that are very difficult to observe and at that only at the 90° distance from the central meridian of Sun?' is still surviving (e.g., Harrison 1996). Our aim is to see which flare category is better CME related.

4.3. Description of the table

Having in mind all pros and cons, the daily flare index was computed separately for:
(i) the LDE-type flare ($\geq$ 2hours), which is identical with the flare-type known as a 'long decay' (Kahler, 1977) and related to an eruptive flare definition (Švestka, 1995),
(ii) the impulsive-type flare (lasting in SXR less than 2 hours). From the table we see that the classification into C, E, and W belts is given only for LDE-type flares, because the I-type is so short-lasting that there are no corresponding H_α data available.

The left (right) columns of Table 1 and Table 2 comprise the odd (even) year data. Tables 1 and 2 list the daily flare indices of the following flare subsets:
E - the daily flare index for LDE-type flares located from E90° to E45° on the solar disk;
C - the same as above but for LDE-type flares located from E44° to W44°;
W - the same as above but for LDE-type flares located from W45° to W90°;
D - the daily flare index of all LDE-type flares;
I - the impulsive-type daily flare index;
T - the daily flare index of all soft X-ray flares (total, T = D + I).

5. Discussion

– *The daily flare index* has already been analysed in a series of our papers published since 1994 (e.g. Antalová et al. (1995); Storini et al. 1995; Antalová et al. 1996).
– *The East-West distribution* of the solar LDE-type flares was also considered in some of our previous papers (Storini et al. 1995 and Jakimiec et al. 1995). The main result is a greater delay for CRs–FI(E) crosscorrelation functions than for that of FI(C) and FI(W). However, it is worth mentioning that such different East-West delays were in the past obtained not only analysing galactic cosmic ray intensities, but also solar proton fluxes (e.g., Iucci et al. 1979, Sarris 1983, Sarris et al. 1984, Sarris et al. 1989). Moreover, a similar behaviour is emerging from multi-spacecraft measurements of CMEs (Reames 1994, Reames et al. 1996) through the interplanetary protons (accelerated by CME shock). This supports the hypothesis that the CME phenomenon is partly interrelated with some but not all of the LDE–type flares (Harrison 1996). This hypothesis is also in agreement with the results obtained from a direct comparison of 1986-year GOES SXR events with Coronal Mass Ejections (Burkepile et al. 1994).

Table 1. The 1969 (left) and 1970 (right) E-T columns of the daily values of soft X-ray flare indices

Date	E	C	W	D	I	T	E	C	W	D	I	T
JAN 01	0	0	18	18	0	18	0	9	0	9	6	15
JAN 02	2	0	8	10	13	23	6	1	2	9	2	11
JAN 03	85	0	0	85	5	90	0	7	3	10	9	19
JAN 04	108	0	0	108	22	130	0	3	0	3	4	7
JAN 05	0	6	0	6	7	13	0	7	5	12	17	29
JAN 06	0	4	0	4	97	101	1	0	1	2	1	3
JAN 07	30	101	0	131	28	159	0	1	0	1	3	4
JAN 08	27	6	0	33	49	82	0	1	0	1	2	3
JAN 09	0	74	5	79	12	91	1	0	0	1	3	4
JAN 10	0	5	0	5	20	25	23	5	0	28	19	47
JAN 11	0	1	0	1	11	12	0	0	14	14	31	45
JAN 12	0	10	0	10	20	30	8	0	3	11	13	24
JAN 13	0	2	1	3	15	18	0	11	0	11	25	36
JAN 14	0	10	2	12	16	28	0	1	1	2	9	11
JAN 15	0	6	4	10	22	32	8	0	0	8	19	27
JAN 16	0	0	2	2	10	12	1	1	0	2	0	2
JAN 17	7	0	7	7	218	225	0	3	9	12	26	38
JAN 18	0	400	0	400	135	535	0	14	0	14	6	20
JAN 19	9	0	0	9	0	9	1	2	1	4	0	4
JAN 20	0	1	0	1	0	1	0	3	0	3	5	8
JAN 21	0	10	0	10	0	10	1	0	3	4	0	4
JAN 22	0	4	0	4	5	9	0	0	8	8	0	8
JAN 23	0	2	0	2	0	2	0	5	0	5	3	8
JAN 24	0	90	0	90	5	95	0	85	12	97	12	109
JAN 25	0	43	0	43	26	69	0	0	0	0	22	22
JAN 26	0	3	0	3	0	3	0	26	0	26	9	35
JAN 27	0	11	0	11	5	6	0	17	0	17	46	63
JAN 28	1	0	10	11	0	11	0	629	5	634	35	669
JAN 29	0	0	0	0	6	6	0	27	58	85	10	95
JAN 30	0	0	2	2	12	14	0	18	0	18	36	54
JAN 31	2	0	0	2	0	2	0	8	60	68	12	80
FEB 01	300	0	4	304	5	309	0	9	4	13	0	13
FEB 02	0	6	0	6	15	21	0	4	90	94	44	138
FEB 03	0	9	0	9	50	59	0	0	29	29	0	29
FEB 04	0	7	0	7	0	7	1	4	10	15	7	22
FEB 05	0	13	0	13	7	20	2	0	1	3	0	3
FEB 06	0	15	0	15	0	15	1	0	0	1	5	6
FEB 07	0	42	0	42	24	66	0	2	0	2	51	53
FEB 08	0	2	0	2	155	157	0	34	0	34	6	40
FEB 09	0	2	0	2	139	141	2	172	0	174	65	239

Date	E	C	W	D	I	T	E	C	W	D	I	T
FEB 10	0	0	10	10	50	60	0	34	0	34	48	82
FEB 11	0	0	104	104	5	109	0	1308	0	1308	148	1456
FEB 12	0	0	0	0	0	0	0	230	0	230	68	298
FEB 13	0	0	34	34	14	48	0	35	0	35	64	99
FEB 14	3	0	8	11	10	21	0	32	7	39	20	59
FEB 15	4	0	0	4	0	4	0	21	0	21	9	30
FEB 16	0	0	0	0	0	0	0	12	21	33	14	47
FEB 17	0	0	0	0	0	0	28	6	8	42	18	60
FEB 18	0	2	0	2	0	2	55	0	0	55	7	62
FEB 19	9	14	0	23	7	30	49	23	0	72	15	87
FEB 20	0	110	0	110	9	119	0	112	10	122	5	127
FEB 21	0	0	0	0	0	0	0	7	0	7	13	20
FEB 22	0	12	0	12	10	22	0	4	0	4	19	23
FEB 23	10	95	0	105	17	122	0	8	0	8	20	28
FEB 24	10	319	0	329	29	358	0	49	0	49	3	52
FEB 25	0	150	0	150	31	181	0	7	0	7	21	28
FEB 26	0	10	800	810	9	819	0	17	0	17	0	17
FEB 27	0	80	550	630	10	640	210	0	4	214	0	214
FEB 28	0	120	10	130	20	150	180	2	0	182	13	195
MAR 01	0	55	160	215	30	245	320	340	0	660	190	850
MAR 02	14	35	0	49	12	61	0	98	7	105	187	292
MAR 03	0	2	2	4	79	83	0	20	125	145	16	161
MAR 04	0	5	0	5	6	11	0	25	59	84	25	109
MAR 05	5	5	0	10	33	43	140	25	15	180	7	187
MAR 06	0	12	0	12	0	12	6	30	90	126	13	139
MAR 07	0	12	0	12	4	16	19	80	6	105	27	132
MAR 08	0	13	0	13	5	18	0	7	8	15	46	61
MAR 09	0	5	110	115	12	127	0	5	0	5	8	13
MAR 10	83	0	0	83	6	89	0	27	0	27	3	30
MAR 11	6	0	0	6	10	16	0	10	1	11	9	20
MAR 12	11	0	560	571	0	571	0	18	82	100	14	114
MAR 13	10	0	0	10	76	86	0	0	12	2	5	17
MAR 14	3	10	0	13	6	19	0	0	7	7	2	9
MAR 15	44	6	0	50	0	50	0	1	1	2	0	2
MAR 16	18	25	0	43	46	89	0	1	8	9	1	10
MAR 17	9	10	0	19	50	69	0	20	0	20	75	95
MAR 18	27	20	0	47	214	261	15	13	10	38	9	47
MAR 19	7	16	0	23	0	23	12	5	0	17	3	20
MAR 20	0	121	0	121	54	175	14	0	0	14	2	16
MAR 21	0	1225	0	1225	60	1285	24	0	0	24	19	43
MAR 22	0	25	0	25	110	135	11	25	0	36	3	39
MAR 23	0	164	0	164	7	171	0	5	63	68	23	91
MAR 24	0	26	0	26	17	43	0	20	75	95	34	129

Date	E	C	W	D	I	T	E	C	W	D	I	T
MAR 25	0	20	0	20	45	65	0	125	15	140	81	221
MAR 26	0	10	190	200	147	347	100	29	0	129	88	217
MAR 27	0	0	855	855	28	883	0	11	0	11	3	14
MAR 28	0	0	0	0	125	125	0	0	0	0	10	10
MAR 29	50	0	0	50	57	107	0	105	8	113	1	114
MAR 30	200	0	0	200	24	224	10	0	19	19	8	27
MAR 31	0	10	0	10	17	27	32	6	0	38	1	39
APR 01	0	0	0	0	15	15	2	11	0	13	23	36
APR 02	0	25	0	25	13	38	2	5	11	18	31	49
APR 03	0	0	0	0	20	20	5	4	0	9	0	9
APR 04	0	0	0	0	13	13	8	0	2	10	0	10
APR 05	0	0	3	3	18	21	20	9	0	29	18	47
APR 06	0	0	0	0	16	16	60	47	0	107	10	117
APR 07	0	0	0	0	29	29	0	122	0	122	20	142
APR 08	0	0	0	0	14	14	170	9	0	179	15	184
APR 09	0	0	5	5	22	27	79	37	0	116	14	130
APR 10	200	44	0	244	5	249	9	78	0	87	25	112
APR 11	0	0	0	0	0	0	0	12	0	12	15	27
APR 12	0	2	9	11	0	11	0	5	84	89	47	136
APR 13	9	20	0	29	39	68	10	0	0	10	21	31
APR 14	0	23	0	23	63	86	0	1	0	1	21	22
APR 15	0	48	0	48	20	68	1	0	230	231	0	231
APR 16	0	25	0	25	37	62	2	4	11	17	0	17
APR 17	0	9	0	9	0	9	0	2	26	28	18	46
APR 18	0	10	0	10	27	37	0	0	10	10	92	102
APR 19	0	18	0	18	30	48	41	0	0	41	15	56
APR 20	0	50	0	50	29	79	0	6	0	6	0	6
APR 21	0	50	110	160	22	182	0	1	1	2	0	2
APR 22	0	15	14	29	0	29	0	2	0	2	0	2
APR 23	0	0	30	30	13	43	0	2	0	2	0	2
APR 24	10	0	109	119	1	120	0	0	12	12	15	27
APR 25	0	0	5	5	6	11	6	4	79	89	2	91
APR 26	0	105	8	113	0	113	5	10	5	20	1	21
APR 27	1	0	0	1	0	1	1	0	0	1	6	7
APR 28	0	3	0	3	2	5	0	10	7	17	6	23
APR 29	0	21	0	21	0	21	16	27	0	43	15	58
APR 30	0	17	0	17	0	17	4	6	0	10	6	16
MAY 01	0	2	0	2	1	3	0	19	0	19	4	23
MAY 02	13	90	0	103	11	114	0	4	0	4	1	5
MAY 03	2	0	19	21	6	27	0	0	0	0	3	3
MAY 04	4	0	13	17	11	28	0	4	0	4	37	41

Date	E	C	W	D	I	T	E	C	W	D	I	T
MAY 05	21	19	43	83	0	83	0	2	0	2	23	25
MAY 06	70	8	20	98	0	98	0	18	1	19	16	35
MAY 07	2	0	0	2	14	16	0	12	10	22	22	44
MAY 08	0	7	0	7	4	11	0	98	0	98	11	109
MAY 09	0	3	0	3	10	13	0	3	0	3	53	56
MAY 10	1	1	0	2	0	2	0	2	31	33	1	34
MAY 11	0	0	0	0	4	4	37	17	0	54	9	63
MAY 12	13	23	8	44	8	52	86	10	0	96	35	131
MAY 13	0	6	0	6	0	6	0	14	14	0	4	18
MAY 14	4	4	0	4	0	4	0	50	0	50	23	73
MAY 15	0	17	0	17	0	17	0	222	0	222	94	316
MAY 16	0	3	2	5	0	5	0	45	0	45	42	87
MAY 17	24	34	14	72	0	72	0	27	1	28	13	41
MAY 18	188	49	5	242	17	259	0	2	2	4	10	14
MAY 19	52	0	2	54	0	54	8	6	1	15	15	30
MAY 20	97	31	0	128	0	128	0	0	0	0	1	1
MAY 21	0	28	0	28	1	29	0	2	0	2	10	12
MAY 22	0	225	0	225	0	225	8	10	0	18	28	46
MAY 23	0	13	0	13	0	13	0	0	0	0	44	44
MAY 24	0	16	0	16	0	16	0	6	9	15	22	37
MAY 25	0	93	0	93	0	93	9	18	19	46	11	57
MAY 26	0	39	17	46	0	46	0	29	0	29	279	308
MAY 27	0	10	2	22	16	38	0	3	0	3	7	10
MAY 28	3	9	60	72	300	372	0	6	0	6	10	16
MAY 29	0	0	511	511	480	991	0	12	0	12	88	100
MAY 30	0	0	58	58	0	58	0	50	4	54	9	63
MAY 31	0	390	0	390	0	390	0	0	11	11	28	39
JUN 01	7	0	0	7	0	7	0	2	9	11	30	41
JUN 02	8	0	0	8	0	8	0	0	20	20	10	30
JUN 03	44	0	0	44	0	44	0	1	0	1	2	3
JUN 04	46	0	0	46	40	86	0	1	2	3	0	3
JUN 05	400	0	0	400	0	400	0	13	0	13	5	18
JUN 06	388	0	0	388	90	478	35	0	18	53	1	54
JUN 07	110	100	0	210	0	210	94	10	1	105	1	106
JUN 08	0	6	0	6	30	36	0	1	0	1	8	9
JUN 09	0	19	0	19	23	42	1	0	0	1	18	19
JUN 10	0	5	0	5	16	21	7	15	0	22	34	56
JUN 11	0	100	0	100	50	150	25	3	0	28	2	30
JUN 12	0	0	5	5	10	15	99	24	0	123	72	195
JUN 13	50	5	0	55	0	55	436	209	0	645	535	1180
JUN 14	0	0	118	118	0	118	9	1778	0	1787	969	2756
JUN 15	0	0	29	29	19	48	0	564	0	564	167	731

Date	E	C	W	D	I	T	E	C	W	D	I	T
JUN 16	0	70	0	70	16	86	0	161	0	161	51	212
JUN 17	0	0	5	5	0	5	0	138	9	147	35	182
JUN 18	0	8	0	8	16	24	0	25	0	25	15	40
JUN 19	0	15	5	20	5	25	40	0	19	59	20	79
JUN 20	2	3	0	5	14	19	50	0	9	59	4	63
JUN 21	0	7	0	7	14	21	3	1	12	16	2	18
JUN 22	0	13	0	13	0	13	20	0	6	26	2	28
JUN 23	0	50	0	50	9	59	11	0	2	13	1	14
JUN 24	9	0	0	9	30	39	0	16	0	16	4	20
JUN 25	0	0	9	9	0	9	0	46	0	46	2	48
JUN 26	0	0	0	0	0	0	7	17	1	25	0	25
JUN 27	6	17	0	23	0	23	0	23	0	23	11	34
JUN 28	0	0	0	0	0	0	0	339	0	339	9	348
JUN 29	3	0	0	3	0	3	2	111	0	113	16	129
JUN 30	0	10	3	13	0	13	0	67	0	67	20	87
JUL 01	23	0	0	23	0	23	9	26	0	35	37	72
JUL 02	0	6	0	6	12	18	0	50	0	50	16	66
JUL 03	0	190	0	190	5	195	7	37	0	44	21	65
JUL 04	7	9	0	16	11	27	0	40	0	40	24	64
JUL 05	0	21	0	21	5	26	0	14	0	14	0	14
JUL 06	0	8	0	8	0	8	0	9	96	105	15	120
JUL 07	5	3	0	8	56	64	0	1	62	63	0	63
JUL 08	13	10	0	23	0	23	0	2	1	3	12	15
JUL 09	0	12	0	12	3	15	0	12	2	14	0	14
JUL 10	0	18	0	18	9	27	0	8	0	8	15	23
JUL 11	0	4	0	4	0	4	70	0	11	81	6	87
JUL 12	0	0	50	50	20	70	0	3	2	5	0	5
JUL 13	0	25	11	36	11	47	0	4	0	4	10	14
JUL 14	0	14	0	14	11	25	10	2	0	12	1	13
JUL 15	0	0	19	19	0	19	1	2	0	3	0	3
JUL 16	0	20	13	33	9	42	1	9	3	13	8	21
JUL 17	0	5	0	5	19	24	9	11	1	21	17	38
JUL 18	0	0	0	0	4	4	25	12	0	37	3	40
JUL 19	0	7	0	7	0	7	157	0	5	162	12	174
JUL 20	0	7	0	7	0	7	495	36	1	532	22	554
JUL 21	0	0	9	9	5	14	38	10	15	63	11	74
JUL 22	0	6	0	6	2	8	8	162	19	189	12	201
JUL 23	0	0	0	0	12	12	5	234	0	239	11	250
JUL 24	20	0	0	20	24	44	1	8	0	9	8	17
JUL 25	0	0	0	0	8	8	13	18	0	31	0	31
JUL 26	0	5	0	5	12	17	0	54	0	54	14	68
JUL 27	0	6	0	6	15	21	0	89	0	89	69	158

Date	E	C	W	D	I	T	E	C	W	D	I	T
JUL 28	8	4	0	12	7	19	0	40	0	40	45	85
JUL 29	0	27	0	27	41	68	0	25	22	47	9	56
JUL 30	0	6	0	6	5	11	0	25	3	28	6	34
JUL 31	0	8	0	8	5	13	1	3	0	4	8	12
AUG 01	0	77	0	77	5	82	0	2	41	43	1	44
AUG 02	0	48	0	48	8	56	0	1	0	1	0	1
AUG 03	0	8	0	8	6	14	0	0	17	17	0	17
AUG 04	0	7	7	14	14	28	0	0	0	0	2	2
AUG 05	5	0	15	20	8	28	0	1	0	1	2	3
AUG 06	0	9	0	9	4	13	0	0	0	0	1	1
AUG 07	0	9	0	9	0	9	0	1	0	1	20	21
AUG 08	0	4	0	4	9	13	1	1	0	2	2	4
AUG 09	4	0	6	10	3	13	0	10	0	10	2	12
AUG 10	0	5	10	15	13	28	0	5	0	5	2	7
AUG 11	0	7	73	80	25	105	0	56	0	56	0	56
AUG 12	0	6	10	16	72	88	490	7	19	516	29	545
AUG 13	3	3	3	9	0	9	21	34	85	140	84	224
AUG 14	0	0	0	0	3	3	440	15	330	785	0	785
AUG 15	0	5	0	5	7	12	287	41	188	257	120	377
AUG 16	0	0	0	0	0	0	69	50	261	380	74	454
AUG 17	0	3	0	3	0	3	0	4	20	24	13	37
AUG 18	0	0	20	20	3	23	1	125	3	129	20	149
AUG 19	0	0	0	0	3	3	0	61	500	561	39	600
AUG 20	0	30	0	30	8	38	0	168	0	168	10	178
AUG 21	29	4	0	33	39	72	0	3	0	3	3	6
AUG 22	23	0	20	43	5	48	0	17	0	17	1	18
AUG 23	40	0	0	40	77	117	1	5	0	6	1	7
AUG 24	36	0	0	36	33	69	0	3	1	4	0	0
AUG 25	0	14	0	14	53	67	0	0	0	0	1	1
AUG 26	25	18	0	43	13	56	1	0	0	1	1	2
AUG 27	0	4	0	4	5	9	22	0	51	73	1	74
AUG 28	0	12	0	12	5	17	46	0	0	46	28	74
AUG 29	0	9	0	9	11	20	51	0	0	51	31	82
AUG 30	0	0	0	0	5	5	16	0	0	16	10	26
AUG 31	0	0	0	0	10	10	4	0	3	7	0	7
SEP 01	0	0	0	0	6	6	26	0	1	27	27	54
SEP 02	0	0	0	0	19	19	5	13	0	18	28	46
SEP 03	0	15	17	32	7	39	1	15	0	16	19	35
SEP 04	0	2	26	28	0	28	0	20	0	20	18	38
SEP 05	0	0	55	55	0	55	0	49	0	49	8	57
SEP 06	0	0	0	0	0	0	0	0	0	0	25	25
SEP 07	3	40	7	50	11	61	0	0	8	8	0	8
SEP 08	0	5	0	5	16	21	6	0	0	6	0	6

Date	E	C	W	D	I	T	E	C	W	D	I	T
SEP 09	0	6	0	6	5	11	3	0	0	3	0	3
SEP 10	80	0	3	83	30	113	1	0	8	9	15	24
SEP 11	0	3	0	3	11	14	0	0	26	26	1	27
SEP 12	0	30	9	39	20	59	0	0	1	1	6	7
SEP 13	60	5	0	65	16	81	2	1	0	3	0	3
SEP 14	4	0	0	4	5	9	0	0	3	3	0	3
SEP 15	4	80	40	124	34	158	0	3	0	3	2	5
SEP 16	0	57	0	57	19	76	0	2	2	4	2	6
SEP 17	0	44	0	44	37	81	2	0	0	2	2	4
SEP 18	0	0	0	0	28	28	0	2	0	2	6	8
SEP 19	0	0	0	0	8	8	0	0	2	2	0	2
SEP 20	0	0	20	20	0	20	0	2	1	3	0	3
SEP 21	28	0	0	28	14	42	0	2	0	2	2	4
SEP 22	0	0	9	9	8	17	0	6	0	6	0	6
SEP 23	9	0	0	9	24	33	0	4	3	7	0	7
SEP 24	80	0	0	80	8	88	0	2	0	2	0	2
SEP 25	0	45	0	45	5	50	0	11	0	11	2	13
SEP 26	4	9	9	22	5	27	0	11	0	11	5	16
SEP 27	0	100	5	105	3	108	0	13	2	15	1	16
SEP 28	0	0	34	34	4	38	3	24	0	27	3	30
SEP 29	0	0	9	9	11	20	8	1	0	9	1	10
SEP 30	0	14	0	14	3	17	0	0	0	0	2	2
OCT 01	0	0	0	0	11	11	0	1	1	2	1	3
OCT 02	21	0	9	30	13	43	0	0	3	3	0	3
OCT 03	0	6	0	6	13	19	0	11	1	12	0	12
OCT 04	0	7	0	7	10	17	0	45	2	47	11	58
OCT 05	0	14	7	21	0	21	0	12	5	17	0	17
OCT 06	0	19	0	19	21	40	0	30	6	36	8	44
OCT 07	12	14	0	26	17	43	9	14	1	24	8	32
OCT 08	0	7	0	7	85	92	1	0	1	2	25	27
OCT 09	0	0	38	38	43	81	0	5	0	5	8	13
OCT 10	0	8	15	23	16	39	1	0	6	7	9	16
OCT 11	0	0	44	44	25	69	0	8	0	8	6	14
OCT 12	0	6	13	19	19	38	2	0	0	2	0	2
OCT 13	1	0	2	3	9	12	2	14	0	16	1	17
OCT 14	0	2	6	8	12	20	0	3	0	3	38	41
OCT 15	0	4	0	4	0	4	0	5	0	5	26	31
OCT 16	0	2	0	2	2	4	0	6	7	13	2	15
OCT 17	40	0	5	45	11	56	1	2	0	3	1	4
OCT 18	0	10	0	10	23	33	0	11	8	19	1	20
OCT 19	120	0	0	120	34	154	1	1	0	2	2	4
OCT 20	133	0	0	133	70	203	0	1	9	10	0	10
OCT 21	7	0	0	7	34	41	0	0	0	0	2	2

Date	E	C	W	D	I	T	E	C	W	D	I	T
OCT 22	32	0	0	32	30	62	0	0	9	9	7	16
OCT 23	0	27	0	27	15	42	163	0	0	163	17	180
OCT 24	0	81	0	81	28	109	175	3	0	178	18	196
OCT 25	0	9	0	9	11	20	97	0	0	97	21	118
OCT 26	0	63	0	63	24	87	147	58	0	205	100	305
OCT 27	0	47	0	47	60	107	0	56	0	56	20	76
OCT 28	8	64	0	72	10	82	0	52	0	52	5	57
OCT 29	6	10	0	16	0	16	0	27	0	27	0	27
OCT 30	2	90	0	92	0	0	0	12	0	12	24	36
OCT 31	3	23	26	52	6	58	7	5	0	12	2	14
NOV 01	0	5	0	5	0	5	1	2	20	23	19	42
NOV 02	0	9	300	309	14	323	9	1	6	16	6	22
NOV 03	10	6	9	25	17	42	3	6	0	9	0	9
NOV 04	244	0	6	250	35	285	4	9	2	15	50	65
NOV 05	102	0	0	102	10	112	0	240	0	240	8	248
NOV 06	0	6	0	6	2	8	0	3	0	3	7	10
NOV 07	0	10	0	10	6	16	0	4	2	6	27	33
NOV 08	0	2	0	2	0	2	0	3	2	5	0	5
NOV 09	0	0	0	0	0	0	10	0	0	10	5	15
NOV 10	0	2	0	2	0	2	1	5	0	6	20	26
NOV 11	0	0	1	1	0	1	0	6	0	6	38	44
NOV 12	0	0	5	5	2	7	10	9	10	29	40	69
NOV 13	0	2	0	2	2	4	17	45	0	62	9	71
NOV 14	0	0	10	10	2	12	0	252	0	252	39	291
NOV 15	0	0	19	19	16	35	9	799	0	808	19	827
NOV 16	22	0	2	24	29	53	0	1218	0	1218	39	1257
NOV 17	0	50	0	50	21	71	650	150	800	800	110	910
NOV 18	50	600	0	650	323	973	0	37	250	287	130	417
NOV 19	0	2268	0	2268	235	2503	0	9	2	11	130	141
NOV 20	0	246	0	246	66	312	0	14	0	14	85	99
NOV 21	0	110	0	110	209	319	0	106	30	136	0	136
NOV 22	0	132	0	132	60	192	0	13	10	23	20	43
NOV 23	0	435	0	435	0	435	0	9	42	51	8	59
NOV 24	5	814	0	819	0	819	0	4	20	24	0	24
NOV 25	10	7	30	47	53	100	2	0	0	2	0	2
NOV 26	0	0	120	120	36	156	0	0	4	4	0	4
NOV 27	38	9	530	577	20	597	1	0	0	1	0	1
NOV 28	0	106	510	616	108	724	17	0	0	17	0	17
NOV 29	0	10	30	40	7	47	4	0	0	4	9	13
NOV 30	0	21	0	21	5	26	0	11	0	11	48	59
DEC 1	0	13	0	13	7	20	0	2	0	2	7	9
DEC 2	20	0	0	20	18	38	0	26	2	28	0	28
DEC 3	0	13	0	13	2	15	0	5	0	5	5	10

Date	E	C	W	D	I	T	E	C	W	D	I	T
DEC 4	0	1	0	1	2	30	0	6	0	6	50	56
DEC 5	0	4	16	20	10	30	0	18	0	18	8	26
DEC 6	0	9	3	12	9	21	7	2	0	9	30	39
DEC 7	0	0	3	3	0	3	5	10	0	15	16	31
DEC 8	0	3	0	3	2	5	300	10	0	310	76	386
DEC 9	0	0	0	0	0	0	70	24	0	94	10	104
DEC 10	0	5	0	5	0	5	0	12	0	12	33	45
DEC 11	0	5	0	5	12	17	0	112	0	112	33	145
DEC 12	40	0	0	40	1	41	0	54	0	54	53	107
DEC 13	9	0	0	9	33	42	0	30	0	30	56	86
DEC 14	50	0	0	50	20	70	0	8	8	16	7	23
DEC 15	5	33	0	38	0	38	0	0	0	0	2	2
DEC 16	0	10	0	10	10	20	0	1	0	1	10	11
DEC 17	0	220	0	220	17	237	1	1	0	2	4	6
DEC 18	0	9	0	9	8	17	5	7	0	12	12	24
DEC 19	0	39	0	39	10	49	3	5	0	8	17	25
DEC 20	0	11	0	11	53	64	1	4	0	5	0	5
DEC 21	1	8	0	9	5	14	1	0	0	1	15	16
DEC 22	0	1	21	22	5	27	0	155	0	155	4	159
DEC 23	9	6	14	29	0	29	0	10	13	23	10	33
DEC 24	0	4	1	5	3	8	0	2	0	2	14	16
DEC 25	0	15	0	15	18	33	1	0	0	1	26	27
DEC 26	0	81	0	81	19	100	0	5	0	5	59	64
DEC 27	0	22	0	22	0	22	0	1	0	1	3	4
DEC 28	0	1	0	1	1	2	0	1	0	1	0	1
DEC 29	1	0	6	7	5	12	0	4	0	4	1	5
DEC 30	7	0	30	37	9	46	1	15	2	18	0	18
DEC 31	0	34	0	34	3	37	0	1	0	1	2	3

Table 2. The 1971 (left) and 1972 (right) E-T columns of the daily values of soft X-ray flare indices

Date	E	C	W	D	I	T	E	C	W	D	I	T
JAN 01	0	2	0	2	0	2	0	1	0	1	2	3
JAN 02	0	1	1	2	4	6	0	0	0	0	2	2
JAN 03	0	2	0	2	0	2	0	1	1	2	3	5
JAN 04	2	1	0	3	0	3	1	0	0	1	0	1
JAN 05	1	0	0	1	8	9	0	0	1	1	2	3
JAN 06	27	0	0	27	0	27	0	1	0	1	2	3
JAN 07	0	0	0	0	7	7	2	1	2	5	1	6
JAN 08	0	1	0	1	1	2	0	0	1	1	0	1
JAN 09	0	18	0	18	2	20	2	0	0	2	2	4

Date	E	C	W	D	I	T	E	C	W	D	I	T
JAN 10	10	5	0	15	0	15	2	0	1	3	2	5
JAN 11	0	1	0	1	3	4	0	3	0	3	2	5
JAN 12	0	5	0	5	1	6	10	1	2	13	4	17
JAN 13	0	0	0	0	19	19	10	12	1	23	4	27
JAN 14	0	0	140	140	18	158	53	11	0	64	2	66
JAN 15	0	0	20	20	13	33	23	0	0	23	8	31
JAN 16	100	0	70	170	10	180	4	8	1	13	2	15
JAN 17	2	0	0	2	10	12	1	1	0	2	5	7
JAN 18	0	10	0	10	11	21	0	6	0	6	3	9
JAN 19	0	11	0	11	6	17	1	33	0	34	5	39
JAN 20	0	6	0	6	0	6	0	16	0	16	11	27
JAN 21	0	108	0	108	7	115	0	2	0	2	3	5
JAN 22	0	38	0	38	2	40	0	126	0	126	2	128
JAN 23	0	12	0	12	4	16	0	0	44	44	7	51
JAN 24	0	2	538	540	13	553	0	0	8	8	19	27
JAN 25	2	1	0	3	19	22	4	0	7	11	37	48
JAN 26	1	0	0	1	5	6	3	0	0	3	39	42
JAN 27	2	0	0	2	39	41	0	1	1	2	2	4
JAN 28	0	8	30	38	21	59	0	2	7	9	2	11
JAN 29	39	0	0	39	10	49	0	1	3	4	0	4
JAN 30	0	3	0	3	0	3	0	22	9	31	2	33
JAN 31	0	30	0	30	38	68	0	12	6	18	6	24
FEB 01	0	2	0	2	2	4	0	1	0	1	3	4
FEB 02	0	13	0	13	1	14	0	3	0	3	1	4
FEB 03	0	10	0	10	3	13	0	1	0	1	2	3
FEB 04	0	6	0	6	19	25	0	1	0	1	1	2
FEB 05	0	9	2	11	5	16	0	0	3	3	1	4
FEB 06	0	2	0	2	4	6	0	0	2	2	0	2
FEB 07	0	0	1	1	0	1	3	0	0	3	0	3
FEB 08	0	0	6	6	6	12	101	0	0	101	0	101
FEB 09	0	0	1	1	2	3	4	0	0	4	1	5
FEB 10	0	0	0	0	1	1	31	22	5	58	1	59
FEB 11	2	0	2	4	2	6	47	5	0	52	1	53
FEB 12	0	0	0	0	0	1	44	0	0	44	0	44
FEB 13	0	0	0	0	2	2	10	0	0	10	93	103
FEB 14	4	0	1	5	0	5	0	32	0	32	31	64
FEB 15	2	13	0	15	0	15	11	34	0	45	40	85
FEB 16	1	10	1	12	13	25	0	22	0	22	95	117
FEB 17	93	75	0	168	13	181	165	34	0	199	13	212
FEB 18	44	14	1	59	1	60	20	11	0	31	48	79

Date	E	C	W	D	I	T	E	C	W	D	I	T
FEB 19	12	4	0	16	15	31	0	0	0	0	103	103
FEB 20	5	0	10	15	9	24	13	10	0	23	25	48
FEB 21	1	5	1	7	3	10	0	3	0	3	25	28
FEB 22	10	19	2	31	1	32	0	280	0	280	138	418
FEB 23	0	3	0	3	1	4	0	17	5	22	17	39
FEB 24	0	0	0	0	2	2	0	16	0	16	18	34
FEB 25	0	0	0	0	1	1	0	1	2	3	1	4
FEB 26	0	1	0	1	0	1	0	3	1	4	37	41
FEB 27	0	2	1	3	0	3	0	0	4	4	4	8
FEB 28	2	2	0	4	1	5	0	0	1	1	0	1
FEB 29	-	-	-	-	-	-	0	0	40	40	1	41
MAR 01	0	0	0	0	2	2	11	1	3	15	10	25
MAR 02	0	0	0	0	2	2	50	20	0	70	1	71
MAR 03	2	6	9	17	0	17	0	1	1	2	7	9
MAR 04	0	2	0	2	0	2	10	8	10	28	3	31
MAR 05	0	0	1	1	0	1	0	14	4	18	371	389
MAR 06	0	0	2	2	1	3	1	196	0	197	12	209
MAR 07	0	8	1	9	7	16	0	9	0	9	0	9
MAR 08	0	0	2	2	0	2	0	0	0	0	37	37
MAR 09	0	1	0	1	0	1	11	0	10	21	1	22
MAR 10	1	0	0	1	0	1	0	8	0	8	6	14
MAR 11	0	0	1	1	1	2	0	0	0	0	21	21
MAR 12	4	0	0	4	0	4	0	3	0	3	10	13
MAR 13	10	0	0	10	2	12	4	2	0	6	0	6
MAR 14	0	1	0	1	1	2	7	0	3	7	2	9
MAR 15	0	6	0	6	0	6	0	4	2	6	1	7
MAR 16	0	1	0	1	1	2	1	0	1	2	2	4
MAR 17	0	7	0	7	7	14	0	2	0	2	0	2
MAR 18	0	1	0	1	4	5	1	17	0	18	2	20
MAR 19	0	1	1	2	1	3	1	7	0	8	1	9
MAR 20	0	0	0	0	2	2	1	2	1	4	2	6
MAR 21	0	1	0	1	1	2	2	6	0	8	3	11
MAR 22	0	0	2	2	0	2	0	0	9	9	3	12
MAR 23	0	0	3	3	1	4	0	3	0	3	2	5
MAR 24	2	1	0	3	2	5	0	8	0	8	21	29
MAR 25	2	1	0	3	1	4	0	0	0	0	2	2
MAR 26	5	0	0	5	3	8	0	2	2	4	7	11
MAR 27	0	0	0	0	3	3	2	0	3	5	1	6
MAR 28	0	1	0	1	0	1	6	0	0	6	8	14
MAR 29	0	12	0	12	2	14	3	0	0	3	0	3
MAR 30	0	4	0	4	4	8	0	0	0	0	2	2
MAR 31	0	2	0	2	21	23	0	0	0	0	1	1
APR 01	0	37	0	37	3	40	0	0	0	0	1	1
APR 02	0	10	0	10	1	11	0	0	0	0	1	1

Date	E	C	W	D	I	T	E	C	W	D	I	T
APR 03	0	1	0	1	2	3	0	0	0	0	0	0
APR 04	2	0	10	12	3	15	0	1	0	1	0	1
APR 05	1	1	1	3	2	5	0	0	0	0	2	2
APR 06	0	2	15	17	3	20	1	0	0	1	2	3
APR 07	0	0	0	0	3	3	1	0	0	1	4	5
APR 08	0	2	10	12	0	12	1	4	0	5	0	5
APR 09	0	0	0	0	2	2	0	3	22	25	16	41
APR 10	1	0	0	1	1	2	0	2	0	2	0	2
APR 11	0	18	0	18	1	19	0	5	0	5	3	8
APR 12	0	4	0	4	2	6	0	1	0	1	0	1
APR 13	7	1	0	8	6	14	0	0	0	0	3	3
APR 14	11	3	0	14	5	19	0	6	0	6	2	8
APR 15	0	2	0	2	3	5	0	4	0	4	0	4
APR 16	0	2	0	2	10	12	0	2	0	2	3	5
APR 17	0	4	0	4	3	7	2	0	5	7	4	11
APR 18	0	5	0	5	2	7	32	1	2	35	28	63
APR 19	4	5	0	9	1	10	1	0	0	1	0	1
APR 20	9	567	33	609	0	609	0	0	0	0	4	4
APR 21	0	0	15	0	17	17	0	0	0	0	10	10
APR 22	0	0	63	63	9	72	0	0	0	0	1	1
APR 23	0	1	18	19	2	21	0	1	0	1	2	3
APR 24	0	1	10	11	1	12	0	0	0	0	0	0
APR 25	0	1	0	1	2	3	0	0	0	0	2	2
APR 26	0	1	0	1	1	2	0	0	1	1	3	4
APR 27	0	2	0	2	0	2	0	0	13	13	21	34
APR 28	0	1	0	1	1	2	0	1	2	3	6	9
APR 29	0	0	0	0	1	1	0	1	0	1	0	1
APR 30	0	0	0	0	1	1	0	0	0	0	1	1
MAY 01	1	0	0	1	0	1	0	1	0	1	1	2
MAY 02	1	0	0	1	0	1	2	0	0	2	1	3
MAY 03	1	0	0	1	102	103	1	0	0	1	3	4
MAY 04	1	1	0	2	1	3	3	1	0	4	0	4
MAY 05	0	115	0	115	3	118	0	4	0	4	1	5
MAY 06	0	5	0	5	1	6	0	4	0	4	3	7
MAY 07	0	9	0	9	2	11	0	14	0	14	2	16
MAY 08	0	1	0	1	7	8	5	10	0	15	1	16
MAY 09	0	1	0	1	1	2	0	1	0	1	12	13
MAY 10	1	3	2	6	5	11	0	4	0	4	2	6
MAY 11	2	0	1	3	9	12	7	11	3	21	3	24
MAY 12	0	0	79	79	15	94	0	16	3	19	26	45
MAY 13	0	10	75	85	9	94	10	0	2	12	9	21

Date	E	C	W	D	I	T	E	C	W	D	I	T
MAY 14	0	128	0	128	13	141	10	13	0	23	29	52
MAY 15	0	03	0	3	0	3	0	30	0	30	61	91
MAY 16	0	2	0	2	0	2	2	40	0	42	14	56
MAY 17	0	2	0	2	0	2	0	72	0	72	5	77
MAY 18	0	8	1	9	1	10	0	7	0	7	129	136
MAY 19	1	0	0	1	3	4	0	4	0	4	13	17
MAY 20	0	31	0	31	0	31	2	9	0	11	0	11
MAY 21	2	0	1	3	0	3	0	0	2	2	0	2
MAY 22	0	3	0	3	0	3	0	33	1	34	1	35
MAY 23	0	1	0	1	1	2	0	20	7	27	10	37
MAY 24	1	0	0	1	1	2	539	20	15	574	0	574
MAY 25	6	0	0	6	2	8	8	0	2	10	1	11
MAY 26	0	3	0	3	1	4	26	0	0	26	12	38
MAY 27	0	5	0	5	0	5	34	11	1	46	0	46
MAY 28	0	3	1	4	5	9	1	574	0	575	4	579
MAY 29	0	1	1	2	8	10	0	67	0	67	2	69
MAY 30	0	1	0	1	0	1	0	27	0	27	3	30
MAY 31	0	1	1	2	0	2	21	13	0	34	1	35
JUN 01	1	1	0	2	0	2	0	1	0	1	0	1
JUN 02	1	0	2	3	0	3	0	10	0	10	2	12
JUN 03	5	0	0	5	0	5	14	1	0	15	4	19
JUN 04	0	1	0	1	1	2	0	9	0	9	0	9
JUN 05	0	0	0	0	0	0	0	62	9	71	12	83
JUN 06	0	0	1	1	0	1	0	5	80	85	1	86
JUN 07	0	1	1	2	0	2	0	2	0	2	1	3
JUN 08	0	1	0	1	0	1	0	13	0	13	3	16
JUN 09	0	1	0	1	0	1	0	2	0	2	0	2
JUN 10	0	0	1	1	0	1	0	0	2	2	1	3
JUN 11	0	1	0	1	0	1	9	0	10	19	37	56
JUN 12	0	0	0	0	0	0	205	2	7	214	5	219
JUN 13	0	0	2	2	0	2	7	4	1	12	7	19
JUN 14	1	0	0	1	0	1	0	7	0	7	0	7
JUN 15	0	0	2	2	1	3	0	100	2	104	16	120
JUN 16	0	0	0	0	1	1	34	4	0	38	0	38
JUN 17	0	3	0	3	1	4	19	1	0	20	11	31
JUN 18	0	3	0	3	0	3	0	0	0	0	8	8
JUN 19	0	0	1	1	0	1	0	4	3	7	2	9
JUN 20	1	0	0	1	4	5	0	3	1	4	45	49
JUN 21	0	0	1	1	0	1	0	0	2	2	5	7
JUN 22	0	0	3	0	1	4	5	2	0	7	6	13
JUN 23	0	0	1	1	0	1	0	126	0	126	1	127
JUN 24	0	7	0	7	0	7	0	224	0	224	2	226

Date	E	C	W	D	I	T	E	C	W	D	I	T
JUN 25	3	7	0	10	0	10	0	40	2	42	4	46
JUN 26	61	2	0	63	9	72	0	1	2	3	0	3
JUN 27	0	1	0	1	8	9	0	0	2	2	1	3
JUN 28	1	0	1	2	3	5	1	0	0	1	10	11
JUN 29	1	10	0	11	13	24	0	8	3	11	3	14
JUN 30	0	1	5	6	3	9	0	1	1	2	6	8
JUL 01	0	110	0	110	22	132	0	1	0	1	0	1
JUL 02	0	20	0	20	0	20	0	5	0	5	4	9
JUL 03	0	1	0	1	0	1	0	8	0	8	11	19
JUL 04	0	4	0	4	0	4	92	0	0	92	11	103
JUL 05	10	1	0	11	5	16	2	1	1	4	4	8
JUL 06	1	1	3	5	2	7	0	8	37	45	9	54
JUL 07	28	0	17	45	0	45	0	16	0	16	15	31
JUL 08	0	0	4	0	7	11	0	11	0	11	9	20
JUL 09	0	0	0	0	1	1	0	5	0	5	1	6
JUL 10	2	0	20	22	8	30	0	16	0	16	0	16
JUL 11	0	1	20	21	4	25	0	21	3	24	3	27
JUL 12	3	0	0	3	1	4	0	0	3	3	0	3
JUL 13	2	0	0	2	0	2	0	0	6	6	3	9
JUL 14	0	0	0	0	1	1	1	0	43	44	0	44
JUL 15	0	2	0	2	0	2	1	0	2	3	21	24
JUL 16	0	1	0	1	5	6	1	0	0	1	5	6
JUL 17	0	21	0	21	1	22	0	1	0	1	4	5
JUL 18	0	0	0	0	3	3	0	2	0	2	0	2
JUL 19	0	1	0	1	3	4	1	0	0	1	0	1
JUL 20	0	2	0	2	3	5	0	1	0	1	0	1
JUL 21	0	0	2	2	2	4	0	3	6	9	5	14
JUL 22	0	0	0	0	1	1	1	0	2	3	0	3
JUL 23	0	2	1	3	3	6	4	1	0	5	3	8
JUL 24	0	77	10	87	14	101	0	0	1	1	1	2
JUL 25	1	11	1	12	2	14	0	0	0	0	2	2
JUL 26	1	1	2	4	3	7	0	1	0	1	0	1
JUL 27	0	2	0	2	4	6	0	3	0	3	2	5
JUL 28	0	5	0	5	5	10	0	5	0	5	11	16
JUL 29	0	9	0	9	0	9	0	4	0	4	3	7
JUL 30	0	1	0	1	1	2	0	2	0	2	2	4
JUL 31	1	0	0	1	9	10	8	9	0	17	2	19
AUG 01	0	1	0	1	3	4	60	18	0	78	21	99
AUG 02	0	0	1	1	3	4	0	336	0	336	76	412
AUG 03	1	0	0	1	10	11	0	3	8	11	1	12
AUG 04	7	2	0	9	5	14	0	468	0	468	3	471
AUG 05	4	0	0	4	6	10	0	2	0	2	4	6

Date	E	C	W	D	I	T	E	C	W	D	I	T
AUG 06	0	3	1	4	2	6	0	1	0	1	3	4
AUG 07	0	0	0	0	2	2	0	486	0	486	30	516
AUG 08	0	2	0	2	0	2	0	0	12	12	8	20
AUG 09	0	4	0	4	0	4	0	0	7	7	1	8
AUG 10	0	0	0	0	3	3	0	0	16	16	18	34
AUG 11	0	8	0	8	1	9	0	0	82	82	27	109
AUG 12	0	1	0	1	0	1	0	0	40	40	12	52
AUG 13	0	0	5	5	1	6	0	0	7	7	3	10
AUG 14	0	0	0	0	1	1	3	0	0	3	0	3
AUG 15	0	1	0	1	0	1	22	0	0	22	0	22
AUG 16	0	1	0	1	0	1	1	0	0	1	2	3
AUG 17	1	2	0	3	2	5	0	0	0	0	2	2
AUG 18	7	0	0	7	32	39	0	1	2	3	1	4
AUG 19	11	0	0	11	15	26	0	2	30	32	35	67
AUG 20	6	8	0	14	9	23	6	1	0	7	2	9
AUG 21	0	52	0	52	1	53	4	0	0	4	5	9
AUG 22	0	11	0	11	33	44	21	1	0	22	4	26
AUG 23	0	6	0	6	3	9	26	5	0	31	3	34
AUG 24	0	1	0	1	4	5	0	9	0	9	2	11
AUG 25	0	3	0	3	1	4	1	23	0	24	31	55
AUG 26	0	0	0	0	2	2	12	11	0	23	17	40
AUG 27	0	46	0	46	1	47	22	0	0	22	16	38
AUG 28	0	1	11	12	12	24	2	0	5	7	10	17
AUG 29	0	0	4	4	11	15	5	1	0	6	26	32
AUG 30	0	0	80	80	1	81	5	3	0	8	103	111
AUG 31	3	4	0	7	2	9	2	12	0	14	1	15
SEP 01	0	2	0	2	0	2	0	2	0	2	3	5
SEP 02	0	1	1	2	0	2	0	4	0	4	7	11
SEP 03	0	1	0	1	0	1	0	0	12	12	1	13
SEP 04	0	2	0	2	2	4	0	0	8	8	1	9
SEP 05	0	5	0	5	1	6	0	14	3	17	6	23
SEP 06	1	19	0	20	9	29	0	8	3	11	4	15
SEP 07	0	1	2	3	0	3	0	1	2	3	1	4
SEP 08	0	0	6	6	2	8	0	4	1	5	4	9
SEP 09	0	0	0	0	2	2	1	2	4	7	6	13
SEP 10	0	0	2	2	3	5	2	4	1	7	4	11
SEP 11	3	0	0	3	0	3	1	8	0	9	3	12
SEP 12	2	0	0	2	35	37	0	0	2	2	1	3
SEP 13	25	0	0	25	0	25	0	5	0	5	2	7
SEP 14	33	0	0	33	4	37	0	1	0	1	3	4
SEP 15	45	0	0	45	1	46	2	1	1	4	2	6
SEP 16	1	2	0	3	1	4	0	4	0	4	1	5
SEP 17	0	51	0	51	2	53	0	1	0	1	3	4

Date	E	C	W	D	I	T	E	C	W	D	I	T
SEP 18	0	12	1	13	3	16	8	4	0	12	0	12
SEP 19	0	2	0	2	1	3	7	0	0	7	3	10
SEP 20	0	2	0	2	2	4	4	3	0	7	1	8
SEP 21	0	5	10	15	0	15	17	4	1	22	0	22
SEP 22	1	1	4	6	2	8	17	1	0	18	4	22
SEP 23	0	0	1	1	23	24	1	9	0	10	7	17
SEP 24	0	0	12	12	9	21	0	2	0	2	3	5
SEP 25	0	0	0	0	3	3	0	1	0	1	16	17
SEP 26	1	0	0	1	1	2	1	21	2	24	11	35
SEP 27	0	0	0	0	6	6	0	0	1	1	6	7
SEP 28	0	1	0	1	5	6	0	1	2	3	1	4
SEP 29	1	3	0	4	2	6	0	3	0	3	3	6
SEP 30	0	4	0	4	1	5	0	1	0	1	3	4
OCT 01	0	0	0	0	3	3	0	104	1	105	92	197
OCT 02	0	0	0	0	4	4	0	1	0	1	2	3
OCT 03	0	99	0	99	4	103	0	0	0	0	6	6
OCT 04	0	1	1	2	1	3	0	0	0	0	5	5
OCT 05	0	1	0	1	1	2	0	0	0	0	2	2
OCT 06	0	0	0	0	1	1	0	3	0	3	1	4
OCT 07	0	0	0	0	2	2	0	2	0	2	0	2
OCT 08	0	0	0	0	3	3	0	0	1	1	4	5
OCT 09	0	2	0	2	1	3	0	0	3	3	0	3
OCT 10	0	0	31	31	11	42	1	0	1	2	4	6
OCT 11	0	0	9	9	0	9	1	0	1	2	4	6
OCT 12	1	1	1	3	1	4	0	1	0	1	3	4
OCT 13	0	0	0	0	1	1	0	2	0	2	0	2
OCT 14	0	0	0	0	0	0	4	5	0	9	1	10
OCT 15	0	0	0	0	0	0	9	0	2	11	1	12
OCT 16	3	0	0	3	4	7	1	0	1	2	1	3
OCT 17	0	0	0	0	8	8	2	0	0	2	0	2
OCT 18	1	1	0	2	0	2	1	1	0	2	1	3
OCT 19	0	68	0	68	5	73	0	1	0	1	6	7
OCT 20	0	3	0	3	7	10	1	2	0	3	2	5
OCT 21	0	3	0	3	0	3	3	2	0	5	3	8
OCT 22	0	3	0	3	0	3	0	42	0	42	14	56
OCT 23	0	1	0	1	0	1	0	19	0	19	70	89
OCT 24	0	2	0	2	0	2	29	4	0	33	96	129
OCT 25	0	1	1	2	1	3	56	10	0	66	303	369
OCT 26	2	0	0	2	3	5	7	3	0	10	377	387
OCT 27	1	0	2	3	1	4	0	22	0	22	30	52
OCT 28	0	8	3	11	1	12	0	25	0	25	49	74
OCT 29	0	3	0	3	0	3	0	42	0	42	58	100
OCT 30	0	3	0	3	12	15	0	42	0	42	105	147

Date	E	C	W	D	I	T	E	C	W	D	I	T
OCT 31	0	2	0	2	0	2	0	206	0	206	3	209
NOV 01	0	0	0	0	2	2	0	2	0	2	13	15
NOV 02	0	1	1	2	1	3	0	3	0	3	6	9
NOV 03	0	3	0	3	9	12	0	1	1	2	12	14
NOV 04	0	30	2	32	11	43	0	1	0	1	3	4
NOV 05	0	1	0	1	2	3	0	0	3	3	3	6
NOV 06	0	1	0	1	0	1	0	0	3	3	3	6
NOV 07	0	1	0	1	0	1	0	0	1	1	1	2
NOV 08	0	0	0	0	1	1	0	0	2	2	1	3
NOV 09	0	5	40	45	0	45	0	0	1	1	3	4
NOV 10	0	0	21	21	0	21	0	1	0	1	1	2
NOV 11	1	0	0	1	0	1	0	0	3	3	2	5
NOV 12	1	1	0	2	11	13	0	0	0	0	5	5
NOV 13	0	0	0	0	1	1	0	0	0	0	0	0
NOV 14	3	0	0	3	1	4	1	0	0	1	0	1
NOV 15	14	0	0	14	6	20	0	1	0	1	0	1
NOV 16	2	0	0	2	4	6	0	2	0	2	1	3
NOV 17	0	3	0	3	0	3	0	1	0	1	1	2
NOV 18	0	1	0	1	1	2	2	1	0	3	2	5
NOV 19	0	8	1	9	5	14	0	2	0	2	3	5
NOV 20	1	55	0	56	1	57	0	3	0	3	3	6
NOV 21	2	0	0	2	0	2	0	4	0	4	2	6
NOV 22	191	0	1	192	0	192	0	2	0	2	34	36
NOV 23	51	0	1	52	0	52	0	9	0	9	12	21
NOV 24	1	6	2	9	6	15	0	11	0	11	6	17
NOV 25	0	3	0	3	0	3	0	0	52	52	8	60
NOV 26	0	7	0	7	0	7	0	0	15	15	4	19
NOV 27	0	2	0	2	10	12	0	0	3	3	3	6
NOV 28	0	4	0	4	14	18	0	0	10	10	2	12
NOV 29	0	2	0	2	3	5	0	0	0	0	3	3
NOV 30	2	4	0	6	3	9	0	2	0	2	8	10
DEC 01	0	0	5	5	1	6	0	0	0	0	3	3
DEC 02	0	0	78	78	13	91	0	1	0	1	2	3
DEC 03	0	1	10	11	2	13	0	0	0	0	1	1
DEC 4	0	0	0	0	5	5	1	0	0	1	0	1
DEC 5	0	1	0	1	5	6	0	0	0	0	2	2
DEC 6	0	0	0	0	2	2	2	0	0	2	3	5
DEC 7	0	0	1	1	2	3	2	0	0	2	6	8
DEC 8	0	0	1	1	3	4	5	28	0	33	2	35
DEC 9	2	2	0	4	2	6	0	14	0	14	0	14
DEC 10	0	17	0	17	4	21	0	22	0	22	11	33
DEC 11	0	36	1	37	22	59	1	3	0	4	4	8
DEC 12	0	0	6	6	4	10	0	2	0	2	5	7

Date	E	C	W	D	I	T	E	C	W	D	I	T
DEC 13	0	2	1	3	5	8	0	14	0	14	2	16
DEC 14	0	30	0	30	7	37	0	5	0	5	3	8
DEC 15	0	8	0	8	3	11	21	0	0	21	3	24
DEC 16	11	0	0	11	19	30	0	2	100	102	5	107
DEC 17	2	2	0	4	32	36	0	2	1	3	9	12
DEC 18	3	0	0	3	13	16	0	19	0	19	3	22
DEC 19	1	1	0	2	0	2	2	2	0	4	6	10
DEC 20	0	5	0	5	2	7	0	3	0	3	3	6
DEC 21	0	4	1	5	3	8	0	3	0	3	2	5
DEC 22	0	1	0	1	1	2	0	6	0	6	3	9
DEC 23	0	0	11	11	12	23	0	3	0	3	3	6
DEC 24	0	1	0	1	10	11	0	4	0	4	4	8
DEC 25	0	21	0	21	5	26	0	3	2	5	5	10
DEC 26	0	1	0	1	3	4	0	0	1	1	4	5
DEC 27	0	0	1	1	2	3	0	2	0	2	4	6
DEC 28	0	1	0	1	1	2	0	0	2	2	3	5
DEC 29	0	0	0	0	3	3	0	1	0	1	2	3
DEC 30	0	2	0	2	28	30	14	0	0	14	3	17
DEC 31	0	0	4	4	12	16	2	0	0	2	38	40

Acknowledgements. This work has been supported by VEGA Grant 2/1353/1996.

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