



Sunspot Index Data Center
SUNSPOT BULLETIN

Data Analysis Service supported by the FAGS

1992 n° 2
 Provisional Sunspot numbers for February 1992

From observations at the Locarno Specola Solare
 completed with data from an international network,
 computed at the Observatoire Royal de Belgique
 33 cooperating stations on March 1st, 10 UT

Day	Ri	Day	Ri
1	238	16	110
2	213	17	100
3	194	18	99
4	178	19	101
5	164	20	117
6	159	21	137
7	166	22	144
8	179	23	150
9	187	24	188
10	173	25	178
11	168	26	188
12	141	27	192
13	148	28	191
14	137	29	176
15	111		

Mean = 159.6

Predictions of the smoothed monthly Sunspot Numbers

Classical Method		SIDC Adjusted values
1992 Mar. 129(± 31)	1992 Sep. 115(± 37)	1992 Mar. 138(± 34)
Apr. 127	Oct. 113	Apr. 137
May 124	Nov. 111	May 135
Jun. 122	Dec. 109	Jun. 134
Jul. 119	1993 Jan. 107	Jul. 133
Aug. 117	Feb. 105	Aug. 132

forecasted on the basis of the most recent provisional monthly smoothed
 Sunspot Number calculated for 1991 August : 146.5 (± 5%)

Provisional smoothed values :

1991 Sep. 144(± 21)	1991 Nov. 139	1992 Jan. 134
Oct. 142	Dec. 137	Feb. 132

Brussels, 1992 March 01 A. KOECKELENBERGH and P. CUGNON

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S.I.D.C. SUMMARY OF THE URSIGRAMS

1992 FEBRUARY R'IM = 159.6

Date	R'I	PPSI	600	2800	COS	XFI	XI	Ak	SEA	MAG	
31	211	297	78	303	880	40	2/0	15	0800		
1	238	261	66	284	866	16	0/0	29		0607	
2	213	228	56	288	867	54	3/0	70		1153	
3	194	219	60	271	765	61	3/0	96		2107	mgst(1300)F?
4	178	196	57	252	867	20	1/0	31			
5	164	156	63	246	867	36	3/0	5			
6	159	147	60	239	869	54	5/0	7	1348		1n(0311);2b(0939)T, II
7	166	126	50	241	879	22	1/0	14	1145		2b(1141)+T;II,IV;p
8	179	111	48	225	869	11	0/0	32		1429	
9	187	140	48	236	847	38	2/0	56			
10	173	183	51	241	857	9	1/0	23			
11	168	200	50	224	866	21	1/0	6			T(0412)
12	141	180	47	210	875	8	0/0	12			
13	148	162	47	198	881	3	0/0	12			
14	137	142	49	204	884	36	3/0	11			2b(2304)
15	111	150	52	203	880	42	3/0	6			1b(2126)+T
16	110	136	50	200	885	136	2/1	7	1234		2b(1231)+T
17	100	110	48	207	886	43	3/0	14		0520	ssc(0807);2n(0021)
18	99	75	51	206	884	59	5/0	14			
19	101	59	48	196	886	11	2/0	16	1350		
20	117	59	47	204	872	14	1/0	50		0109	
21	137	80	49	217	851	27	3/0	34			mgst(1300);1f(1014)
22	144	128	49	235	866	9	0/0	22			
23	150	183	49	249	878	9	0/0	17			
24	188	230	51	255	883	17	1/0	28		0702	ssc(1628);2b(2306)
25	178	263	60	253	875	9	0/0	43			T(0049)
26	188	268	54	253	877	25	2/0	61		1657	ssc(2229)
27	192	235	66	244	---	109	0/1	51			3b(0945);p(1100)
28	191	179	56	233	---	6	0/0	7			
29	176	190	--	218	856	20	1/0	34		0920	

R'I,R'IM: provisional international sunspot-numbers from the S.I.D.C.
 PPSI: prompt photometric sunspot-index from the S.I.D.C. in 10-5 w.m-2: the quantity to subtract from the mean solar constant.
 600 :600 Mhz solar flux from Humain station (Belgium).
 2800:2800 Mhz solar flux from Ottawa (origin:Ursigrams).
 COS :thousands of the cosmic ray counts (origin:Ursigrams).
 XFI :X-flares index from the S.I.D.C. (origin:Ursigrams).
 XI :X-flares index from the Ursigrams (M-flares/X-flares).
 Ak :planetary geomagnetic index from Wingst (Germany from Ursigrams).
 SEA :sudden enhancements of atmospherics from Uccle & Humain (Belgium).
 MAG :magnetic events from Dourbes station(Royal Météo. Institute Belgium).
 Remarks:sid(sudden ionospheric disturbance);ssc(sudden storm commencement);
 mgst(magnetic storm);sfe(solar flare effect);s-1-2-3-4(class of flares);
 II-IV radio-burst;T(ten cm radio-burst);P(proton flare);p(proton event);gle(ground level event:neutron event);si(sudden impulse);
 F(Forbush)

OBSERVATOIRE ROYAL DE BELGIQUE

DEPARTEMENT 4 RADIOASTRONOMIE ET PHYSIQUE SOLAIRE

DAILY PROVISIONAL

RELATIVE SUNSPOT NUMBERS

STATION UCCLE BELGIUM

FEBRUARY 1992

DATE	UT	NUMBER OF GROUPS	NUMBER OF SPOTS	RELATIVE SUNSPOT NUMBER	REL NUMB CENTRAL ZONE	PPSI 10-5 WM-2	QUAL	OBS
1	1045	15	99	249	122	274.9	2	ST
3	1014	13	73	203	110	234.0	2	ST
7	1019	12	83	203	105	102.6	2	VI
8	1005	15	116	266	77	156.2	3	AK
10	920	10	77	177	67	191.2	2	ST
13	1154	9	55	145	81	134.9	1	ST
14	842	12	52	172	83	124.4	1	ST
15	931	5	47	97	49	161.6	1	VI
16	1040	9	49	139	74	130.9	1	ST
17	858	7	30	100	12	92.6	1	ST
18	950	9	55	145	50	104.0	3	CG
19	1008	8	69	149	28	78.0	4	AK
20	925	11	56	166	47	68.5	2	AK
21	915	14	77	217	48	84.7	2	FC
22	1310	13	86	216	28	202.8	3	AK
25	1004	11	78	188	97	297.6	1	VI
26	1414	14	100	240	138	260.0	2	VI
27	1038	13	94	224	106	197.2	2	VI
28	842	13	88	218	157	185.0	2	VI
29	935	15	118	268	117	278.8	3	AK

The Sun has been observed 20 days on 29 possible.
The relative mean sunspot number is 189.1.

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NORMALISED UCCLE OBSERVATIONAL SUNSPOT NUMBERS $U'=K'U$ FOR

1992 FEBRUARY

$K' = 0.929$ (*)

1	231	7	188	13	134	19	138	25	174
2	***	8	247	14	159	20	154	26	222
3	188	9	***	15	90	21	201	27	208
4	***	10	164	16	129	22	200	28	202
5	***	11	***	17	92	23	***	29	249
6	***	12	***	18	134	24	***		

The Sun has been observed 20 days on 29 possible.

The normalized relative monthly mean Wolf number is 176.

* K' is the mean of the monthly K 's for the last five years.

UCCLE OBSERVATIONAL MAJOR SUNSPOT GROUPS FOR 1992 FEBRUARY
E AND F BRUNNER'S TYPE GROUPS

Uccle N°	East Limb Date	Date and type			West Limb Date
		1st obs	CMP	Last Obs	
26-1851	1 23.5	24 G	1 30.3	3 H	2 6.0
8-1852	1 29.9	1 D	2 5.6	10 H	2 12.4
18-1852	2 5.3	7 G	2 12.0	17 H	2 18.8
25-1852	2 7.9	8 H	2 14.6	21 G	2 21.4
40-1852	2 18.0	19 G	2 24.8	29 H	3 2.5
50-1852	2 20.2	21 C	2 26.9	29 F	3 4.7

PROBABLE RETURN OF MAJOR GROUPS FOR 1992 MARCH

N°	New East Limb	New CMP	New West Limb
8	2 25.7	3 3.5	3 10.2
25	3 6.8	3 13.6	3 20.3
40	3 16.3	3 23.1	3 29.8
50	3 18.7	3 25.4	4 1.2