


 Sunspot Index Data Center
SUNSPOT BULLETIN

Data Analysis Service supported by the FAGS

1992 n° 11
 Provisional Sunspot numbers for November 1992

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

Day	Rt	Day	Rt
1	109	16	84
2	88	17	100
3	68	18	102
4	86	19	108
5	95	20	98
6	95	21	85
7	96	22	95
8	74	23	115
9	76	24	116
10	78	25	125
11	84	26	116
12	83	27	116
13	59	28	103
14	69	29	88
15	74	30	74

Mean = 92.0

Predictions of the smoothed monthly Sunspot Numbers

Classical Method		SIDC Adjusted values	
1992 Dec.	86(± 20)	1993 Jun.	74(± 23)
1993 Jan.	84	1992 Dec.	100(± 23)
Feb.	82	1993 Jan.	96
Mar.	80	Feb.	92
Apr.	78	Mar.	88
May	76	Apr.	85
		May	83

forecasted on the basis of the most recent provisional monthly smoothed Sunspot Number calculated for 1992 May : 100.3 (± 5%)

Provisional smoothed values :

1992 Jun.	98(± 14)	1992 Aug.	94	1992 Oct.	90
Jul.	96	Sep.	92	Nov.	88

Brussels, 1992 December 01

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

1992 NOVEMBER R'IM = 92.0

Date	R'i	PPSI	600	2800	COS	SFI	XI	Ak	SEA	MAG	
31	82	135	36	150	964	5	2/0	9			
1	109	89	36	147	966	2	0/0	17	1143	2146	ssc P+X(0231)+(0400)
2	88	88	35	141	946	6	0/1	21			
3	68	84	34	135	942	14	0/0	16			
4	86	100	34	143	931	11	0/0	23			
5	95	119	33	136	939	3	1/0	17			
6	95	129	33	133	934	13	0/0	19			
7	96	140	32	135	934	13	0/0	14			
8	74	140	33	132	940	5	0/0	16	1418		
9	76	166	34	132	949	20	0/0	34	1430		mgst
10	78	155	30	136	938	15	0/0	14			
11	84	153	30	135	924	4	0/0	21			
12	83	118	30	127	931	4	0/0	18			
13	59	93	30	125	933	1	0/0	17			
14	69	79	30	126	932	2	0/0	14			
15	74	58	30	127	936	2	0/0	22			
16	84	46	31	137	945	10	0/0	22			
17	100	55	30	152	943	11	0/0	8			
18	102	84	33	183	949	108	1/0	10			2n(1918)
19	108	105	34	161	961	103	0/0	7		1003	2b(2018)
20	98	132	35	159	962	1	0/0	6			
21	85	109	36	161	962	7	0/0	5			
22	95	129	37	166	959	114	2/0	17	1303		
23	115	153	38	177	944	56	1/0	36		1557	sf(2014)
24	116	161	40	174	950	5	0/0	16	1414		
25	125	156	37	167	949	..	./.	14			
26	116	151	38	163	947	5	0/0	11			
27	116	139	37	157	956	6	0/0	6	1243		
28	103	122	36	149	958	21	0/0	8			sf(1604)
29	88	107	36	140	957	18	1/0	6	1231		
30	74	96	34	140	...	18	1/0	11			

R'i, R'ia: 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 Bunain station (Belgium).
 2800: 2800 Mhz solar flux from Ottawa (origin: Ursigrams:UGEO1 group2).
 COS : thousands of the cosmic ray counts (origin: Ursigrams:UCOSE Ierguelen).
 SFI : Nov (October 1992) Solar Flare Index from the S.I.D.C. (origin: Ursigrams:UGEOR group3).
 XI : X-flares index from the Ursigrams (M-flares/X-flares) (origin: Ursigrams:UGEOR group2; UGEO1 group5).
 Ak : planetary geomagnetic index from Wingst (Germany from Ursigrams).
 SEA : sudden enhancements of atmospherics from Uccle & Bunain (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); P(Forbush); SFI Evaluation($1 \times \text{Sn} + 10 \times "1" + 100 \times ">1"$).

OBSERVATOIRE ROYAL DE BELGIQUE

DEPARTEMENT 4 RADIOASTRONOMIE ET PHYSIQUE SOLAIRE

DAILY PROVISIONAL

RELATIVE SUNSPOT NUMBERS

STATION UCCLE BELGIUM

NOVEMBER 1992

DATE	UT	NUMBER		RELATIVE SUNSPOT NUMBERS			PPSI 10-5 WM-2	QUAL	OBS	
		OF GROUPS	OF SPOTS	TOTAL	NORTH	SOUTH				CENTRAL
1	1103	10	60	160	48	112	99	102.4	3	AK
3	1231	6	28	88	13	75	39	80.7	3	ST
4	1007	6	25	85	0	85	11	76.6	2	ST
8	1049	5	33	83	29	54	27	132.0	2	ST
10	838	4	32	72	29	43	41	108.3	2	ST
12	1031	6	36	96	45	51	70	99.9	2	ST
13	1225	7	21	91	38	53	42	93.6	3	AK
14	1043	6	28	88	28	60	30	77.5	3	PC
18	859	6	31	91	12	79	27	95.1	2	ST
19	848	7	44	114	12	102	42	117.2	2	ST
20	857	6	37	97	0	97	24	157.2	3	ST
23	1234	9	44	134	14	120	86	188.0	4	ST
25	854	9	47	137	36	101	38	170.8	2	ST
26	1249	10	59	159	48	111	13	161.5	3	ST
27	858	9	38	128	39	89	39	122.2	1	ST
28	1023	8	69	149	57	92	89	91.6	2	VI
30	901	5	35	85	46	39	72	108.0	2	ST

The Sun has been observed 17 days on 30 possible.
The relative mean sunspot number is 109.2.

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

1992 NOVEMBER

$K' = 0.852$ (*)

1	136	7	***	13	77	19	97	25	116
2	***	8	70	14	74	20	82	26	135
3	74	9	***	15	***	21	***	27	109
4	72	10	61	16	***	22	***	28	126
5	***	11	***	17	***	23	114	29	***
6	***	12	81	18	77	24	***	30	72

The Sun has been observed 17 days on 30 possible.

The normalized relative monthly mean Wolf number is 92.

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

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

Uccle N°	East Limb Date	Date and type			West Limb Date
		1st obs	CMP	Last Obs	
28-1861	10 19.1	26 F	10 25.8	31 F	11 1.6
7-1862	10 31.5	1 D	11 7.2	13 G	11 14.0
22-1862	11 15.7	18 E	11 22.4	28 J	11 29.2
23-1862	11 16.6	18 E	11 23.3	28 H	11 30.1
4-1863	11 21.9	25 B	11 28.6	30 E	12 5.4

PROBABLE RETURN OF MAJOR GROUPS FOR 1992 JANUARY

N°	New East Limb	New CMP	New West Limb
28	11 15.2	11 21.9	11 28.7
7	11 28.0	12 4.7	12 11.5
4	12 19.3	12 26.1	1 1.8