



SUNSPOT - BULLETIN

1982 , No. 12

Provisional Sunspot - Numbers for December 1982

Dependent on observations at Locarno Specola Solare ,
 complemented by an international network and
 determined at the Observatoire Royal de Belgique.
 Eighteen cooperating stations on 1983 Jan ,2 at 11 UT

Day	R _I	Day	R _I
1	88	16	130
2	133	17	112
3	124	18	102
4	137	19	79
5	137	20	63
6	174	21	98
7	175	22	88
8	184	23	96
9	152	24	100
10	166	25	112
11	171	26	116
12	194	27	126
13	172	28	108
14	160	29	98
15	166	30	94
		31	62

Mean = 126 . 4

Predictions of the smoothed
 monthly Sunspot - Numbers

Classical Method		SIDC Adjusted Values	
1983 Jan. 99	Mar. 92	1983 Jan. 94	Mar. 87
Feb. 96	Apr. 90	Feb. 91	Apr. 85
Mar. 94	May 88	Mar. 89	May 83

Brussels , January 2 , 1983

With our best wishes!

A . Koeckelenbergh .

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S.I.D.C. SUMMARY OF URSIGRAMS

1982 DECEMBER $R'_{im} = 126.4$

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
R'_I	88	133	124	137	137	174	175	184	152	166	171	194	172	160	166
PPSI	93	123	127	148	140	157	132	137	155	165	222	224	210	212	201
10,7cm	173	171	187	200	216	217	252	241	243	279	272	259	247	243	236
XFI	5	42	47	39	32	31	43	50	102	116	60	28	49	19	251
XI	0/0	2/0	3/0	4/0	2/0	2/0	4/1	4/0	12/0	10/0	3/0	1/0	3/0	0/0	3/2
A_K	2	3	12	14	8	3	33	22	16	35	23	14	10	13	8

1b P 3+P 1b P 2b 2b 2b
 ssc pca pca pca pca ssc ssc ssc

	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
R'_I	130	112	102	79	63	98	88	96	100	112	116	126	108	98	94	62
PPSI	166	147	120	60	30	31	43	76	86	92	109	145	112	96	73	57
10,7cm	214	202	193	179	165	154	161	166	173	176	175	172	162	152	147	139
XFI	155	176	236	55	29	18	112	3	5	101	25	24	23	115	20	9
XI	3/1	6/1	1/2	3/0	5/0	3/0	0/0	0/0	0/0	0/1	2/0	0/0	1/0	0/1	1/0	0/0
A_K	16	52	27	25	37	25	34	28	18	14	8	18	20	20	17	8

2b 3b P 2b P 2b sid sid 1b 2b ssc 2b 2b
 sid sid sid sid sid ssc pca ssc pca

- R'_{Im} : provisional International monthly Sunspot-Number from the S.I.D.C.
- R'_I : Provisional International daily Sunspot-Number from the S.I.D.C.
- PPSI : Prompt Photometric Sunspot Index from the S.I.D.C. in $10^{-5} W.m^{-2}$. Quantity to subtract at the mean solar constant, due to the presence of sunspots.
- 10,7 cm : 2800 Mhz solar flux from the ursigrams, in $10^{-22} W.m^{-2} Hz^{-1}$
- XFI : X-flare Index from the S.I.D.C. on the base of the ursigrams. $XFI = \text{number of C class flares} \times 10 + \text{nb of M} \times 10 + \text{nb of X} \times 100$. (C: not assoc. with signif. X rays; M assoc with signif. X rays; X assoc with import. X flux).
- XI : X-flare index from ursigrams (nb. of M-flares / nb. of X)
- A_K : Geomagnetic Index of "Wingst" from ursigrams.

OBSERVATOIRE ROYAL DE BELGIQUE

DEPARTEMENT 4 RADIOASTRONOMIE ET PHYSIQUE SOLAIRE

NOMBRES RELATIFS DE WOLF JOURNALIERS

PROVISOIRES

PROVISIONAL

SUNSPOT RELATIVE NUMBERS

STATION UCCLE BELGIUM

DECEMBRE 1982

DATE	UT	NOMBRE DE GROUPES	NOMBRE DE TACHES	NOMBRE DE WOLF	NOMB REL ZONE CENTRALE	PPSI 10-6 WM-2	QUAL	OBS
1	1410	5	30	80	58	717.	1	AK
5	0935	6	60	120	53	1115.	2	AK
7	1330	12	59	179	49	1210.	1	AK
8	1004	11	88	198	53	1212.	2	HB
9	1210	8	62	142	15	1141.	1	HB
10	0910	8	55	135	25	1370.	1	HB
11	0930	9	91	181	55	1805.	1	CG
14	1110	8	54	134	93	1686.	2	HB
19	1015	6	25	85	23	1270.	2	CG
23	1140	7	32	102	52	590.	3	HB
24	1005	6	32	92	42	1069.	2	AK
28	0950	8	26	106	50	1205.	1	HB
30	1015	6	57	117	65	1008.	4	AK
31	1030	4	32	72	20	439.	2	PC

LE SOLEIL A ETE OBSERVE 14 JOURS SUR 31 POSSIBLES
LE NOMBRE RELATIF DE WOLF MOYEN EST DE 124.5

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NORMALISED UCCLE OBSERVATIONAL SUNSPOT NUMBERS

U'=K'U FOR 1982 DECEMBER

K' = 1.050 (*)

1	83	7	187	13	***	19	89	25	***
2	***	8	207	14	140	20	***	26	***
3	***	9	149	15	***	21	***	27	***
4	***	10	141	16	***	22	***	28	111
5	125	11	190	17	***	23	107	29	***
6	***	12	***	18	***	24	96	30	122
								31	75

THE SUN WAS OBSERVED 14 DAYS ON 31 POSSIBLE
THE NORMALISED RELATIVE MONTHLY MEAN WOLF NUMBER IS 130

* K' IS THE MEAN OF THE MONTHLY K'S FOR THE LAST FIVE YEARS

UCCLE OBSERVATIONAL MAJOR SUNSPOTS FOR 1982 DECEMBER
E AND F BRUNNER'S TYPE GROUPS

UCCLE EAST LIMB NO	DATE	IST OBS	DATE AND TYPE	CMP	LAST OBS	WEST LIMB DATE
9-1729	11 30.5	5 D	12 7.3		11 6	12 14.0

PROBABLE RETURN OF MAJOR GROUPS FOR 1982 JANUARY

NO	NEW EAST LIMB	NEW CMP	NEW WEST LIMB
9	12 27.6	1 3.4	1 10.1