



SUNSPOT BULLETIN

Supported by UNESCO and ICSU through the FAGS

1987 , No. 8

Provisional Sunspot - Numbers for August 1987

Dependent on observations at Locarno Specola Solare,
 complemented by an international network and
 determined at the Observatoire Royal de Belgique.
 Forty three cooperating stations on September 1st.

Day	R _I	Day	R _I
1	45	16	55
2	47	17	46
3	39	18	43
4	33	19	45
5	31	20	51
6	32	21	48
7	38	22	34
8	45	23	39
9	39	24	35
10	47	25	35
11	56	26	34
12	48	27	24
13	47	28	23
14	49	29	11
15	49	30	10
		31	20

MEAN = 38.6

Predictions of the smoothed monthly Sunspot - Numbers

Classical Method				S.I.D.C. Adjusted Values			
1987	Sep. 27 (± 5)	1988	Mar. 34 (± 9)	1987	Sep. 32 (± 6)		
	Oct. 28 (± 6)		Apr. 35 (± 9)		Oct. 33 (± 7)		
	Nov. 29 (± 6)		May. 36 (± 9)		Nov. 34 (± 7)		
	Dec. 30 (± 6)		Jun. 37 (± 13)		Dec. 35 (± 7)		
1988	Jan. 32 (± 7)		Jul. 38 (± 13)	1988	Jan. 37 (± 7)		
	Feb. 33 (± 7)		Aug. 39 (± 13)		Feb. 39 (± 8)		

Forecasted values evaluated on the basis of the latest provisional monthly smoothed
 sunspot-number : 1987 February 19.4 ± 5%
 Provisional smoothed values 1987
 Mar. 21 (± 4) 1987 Jun. 24 (± 5)
 Apr. 22 (± 4) Jul. 25 (± 5)
 May. 23 (± 5) Aug. 26 (± 5)

Brussels, September 1st, 1987

A. Koeckelenbergh.

Reproduction permitted if the source is mentioned.

Ed. Resp. Dr. André Koeckelenbergh, 3, avenue Circulaire, B-1180 BRUXELLES, BELGIUM
 TELEX : 21565 obsbel - Tél. : (02) 375 24 84 EXT 611

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

1987 AUGUST R = 38 .6
im

Date	Ri	PPSI	600	2800	COS	XFI	XI	Ak	SEA
1	45	46	54	88	993	1	0/0	11	1815 sn,II
2	47	41	54	87	996	6	0/0	6	
3	39	25	54	85	1004	0	0/0	12	
4	33	20	52	82	1001	0	0/0	10	
5	31	15	51	79	1021	0	0/0	14	
6	32	14	50	83	996	0	0/0	10	
7	38	51	50	92	998	13	0/0	6	1301,1520
8	45	63	53	91	1005	44	3/0	14	1030,1217,1343
9	39	47	52	92	1000	19	1/0	9	1352
10	47	29	55	92	1003	8	0/0	5	
11	56	30	54	99	1000	4	0/0	8	
12	48	27	54	97	1001	0	0/0	18	
13	47	45	55	101	1000	17	1/0	20	1338,1556
14	49	65	55	100	1006	3	0/0	18	
15	49	76	56	99	998	1	0/0	22	0518?
16	55	95	57	100	998	3	0/0	14	
17	46	101	57	99	1000	1	0/0	14	
18	43	99	57	98	1000	1	0/0	8	
19	45	87	58	97	1000	6	0/0	11	
20	51	70	57	99	998	7	0/0	11	
21	48	43	58	94	1000	4	0/0	7	
22	34	25	57	94	1000	27	2/0	8	ssc(0938)
23	39	21	57	90	1000	13	1/0	14	
24	35	8	57	88	990	4	0/0	14	ssc(0939)
25	35	12	56	88	977	3	0/0	24	mgst
26	34	15	55	86	984	2	0/0	33	
27	24	4	55	83	984	2	0/0	19	
28	23	17	55	80	970	0	0/0	19	
29	11	1	52	78	977	1	0/0	16	
30	10	3	48	77	980	0	0/0	19	
31	20	4	--	82	980	0	0/0	29	ten(1010)

! The smoothed minimum of the activity cycle will be definitively fixed on
! October 1st ,probably on 1987 september with R= 12 .3

Ri ,Rim: 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 substract at 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).
Remarks: sid(sudden ionospheric disturbance);ssc(sudden storm commencement);
mgst(magnetic storm);s-1-2-3/n-b(class of flares);II-IV radio-burst;
ten(ten cm radio-burst);...

OBSERVATOIRE ROYAL DE BELGIQUE

DEPARTEMENT 4 RADIOASTRONOMIE ET PHYSIQUE SOLAIRE

NOMBRES RELATIFS DE WOLF JOURNALIERS

PROVISOIRES

PROVISIONAL

SUNSPOT RELATIVE NUMBERS

STATION UCCLE BELGIUM

AOUT 1987

DATE	UT	NOMBRE DE GROUPES	NOMBRE DE TACHES	NOMBRE DE WOLF	NOMB REL ZONE CENTRALE	PPSI 10-6 WM-2	QUAL	OBS
1	0740	4	20	60	24	585.	2	AK
3	0824	3	17	47	0	209.	1	ST
4	0737	2	18	38	0	156.	3	ST
5	0631	2	13	33	0	168.	1	ST
6	0615	2	12	32	21	117.	3	ST
7	0840	1	40	50	0	726.	4	AK
8	0720	2	27	47	0	660.	2	HB
10	0930	3	19	49	0	278.	3	AK
11	0655	4	14	54	0	271.	2	HB
12	0902	3	12	42	11	246.	2	HB
13	0644	3	8	38	0	416.	2	HB
14	0954	3	11	41	0	611.	2	HB
15	0820	3	29	59	0	745.	4	AK
16	0710	4	45	85	0	893.	4	AK
17	0704	3	20	50	0	972.	3	HB
18	1600	3	12	42	0	969.	2	AK
19	0835	3	26	56	31	912.	2	AK
20	0635	3	19	49	0	738.	3	HB
21	0558	3	16	46	0	339.	4	HB
22	0730	2	9	29	0	180.	2	AK
23	1440	3	8	38	0	120.	5	HB
24	0554	2	7	27	0	80.	2	HB
26	0553	2	14	34	18	96.	4	HB
28	0718	2	10	30	19	328.	3	ST
29	1200	1	1	11	0	2.	1	HB
30	0917	1	1	11	0	3.	4	HB
31	1053	2	2	22	0	4.	3	HB

LE SOLEIL A ETE OBSERVE 27 JOURS SUR 31 POSSIBLES
LE NOMBRE RELATIF DE WOLF MOYEN EST DE 41.5

ED.RESP. DR. ANDRE KOECKELENBERGH
3, AV. CIRCULAIRE, B 1180 BRUXELLES. BELGIUM.
TELEX : 21565 OBSBEL - TEL. : (02) 3752484 EXT 611

NORMALISED UCCLE OBSERVATIONAL SUNSPOT NUMBERS

U*=K*U FOR 1987				AUGUST					
K* = .950 (*)									
1	56	7	47	13	36	19	53	25	***
2	***	8	44	14	38	20	46	26	32
3	44	9	***	15	56	21	43	27	***
4	36	10	46	16	80	22	27	28	28
5	31	11	51	17	47	23	36	29	10
6	30	12	39	18	39	24	25	30	10
								31	20

THE SUN WAS OBSERVED 27 DAYS ON 31 POSSIBLE
 THE NORMALISED RELATIVE MONTHLY MEAN WOLF NUMBER IS 38

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

UCCLE OBSERVATIONAL MAJOR SUNSPOTS FOR 1987 AUGUST
 E AND F BRUNNER'S TYPE GROUPS

UCCLE EAST LIMB	DATE AND TYPE				WEST LIMB
NO	DATE	IST OBS	CMP	LAST OBS	DATE
11-1791	7 30.6	3 B	8 6.3	11 G	8 13.1

PROBABLE RETURN OF MAJOR GROUPS FOR 1987 SEPTEMBER

NO	NEW EAST LIMB	NEW CMP	NEW WEST LIMB
11	8 26.9	9 2.7	9 9.4