

SUNSPOT - BULLETIN

1984 , No. 2

Provisional Sunspot - Numbers for FEBRUARY 1984

Dependent on observations at Locarno Specola Solare ,
 complemented by an international network and
 determined at the Observatoire Royal de Belgique.
 Thirty nine cooperating stations on march 1st , 0900 UT

Day	R _I	Day	R _I
1	110	16	53
2	82	17	51
3	61	18	50
4	61	19	57
5	66	20	54
6	76	21	76
7	79	22	100
8	84	23	121
9	110	24	113
10	120	25	117
11	118	26	101
12	108	27	78
13	82	28	78
14	77	29	88
15	80		

MEAN = 84.5

Predictions of the smoothed
 monthly Sunspot - Numbers

Classical Method		SIDC Adjusted values	
1984 mar 54	jun 49	1984 mar 46	jun 38
apr 52	jul 48	apr 43	jul 36
may 50	aug 46	may 41	aug 35

Brussels , march 1st , 1984

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S.I.D.C. SUMMARY OF URSIGRAMS
1984 FEBRUARY $R_{im}^I = 84.5$

Date	R_1	PPSI	2800	COS	XFI	XI	A_k	
1	110	79	159	71	27	1/0	17	X-1 ,P11 act
2	82	101	144	71	22	0/0	25	
3	61	18	135	88	14	3/0	21	X-1 ,SID
4	61	21	130	93	23	2/0	53	mgst
5	66	43	117	86	2	0/0	12	mgst
6	76	40	115	80	10	0/0	12	
7	79	66	117	69	15	0/0	9	
8	84	74	131	63	50	1/0	8	
9	110	122	144	64	21	0/0	10	
10	120	140	147	69	30	2/0	24	
11	118	149	147	72	37	2/0	22	3n
12	108	128	141	78	26	1/0	12	SSC ,mgst
13	82	96	132	79	9	0/0	38	mgst
14	77	63	129	75	4	0/0	40	mgst
15	80	38	116	71	4	0/0	19	mgst
16	53	17	117	67	4	0/0	8	P , PCA
17	51	11	119	66	105	1/1	8	P , 2b
18	50	20	126	70	33	3/0	16	3n
19	57	40	134	74	17	1/0	10	P , PCA
20	54	50	140	71	9	0/0	17	P , SSC
21	76	70	147	81	6	1/0	14	P(max)
22	100	119	162	75	36	1/0	12	P
23	121	112	170	73	26	0/0	17	P
24	113	-	172	76	55	3/0	12	2b ,1b
25	117	-	174	77	28	1/0	6	3b
26	101	131	168	81	35	1/0	18	1b
27	78	90	157	88	27	1/0	31	
28	78	-	152		8	0/0	8	
29	88	58						

- R_{im}^I : provisional International monthly Sunspot-Number from the S.I.D.C.
 R_1^I : provisional International daily 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}
Quantity to subtract at the mean solar constant , due to the presence of the sunspots .
2800 : 2800 Mhz solar flux from the Ursigrams (origin:Herzberg Institute Ottawa)
COS : thousands of cosmic rays counts from the Ursigrams
XFI : X-flare Index from the S.I.D.C.on the base of the Ursigrams .The sum of number of class C-flares +10 x class M-flares of significant X-ray flux + 100 x X-flares with important X-ray flux .
XI : X-flare Index from the Ursigrams (number of M-flares/number of X-flares)
 A_k : geomagnetic Index of Wingst station from the Ursigrams .
- sid : Sudden ionospheric disturbance ;ssc :sudden storm commencement
sfe : solar flare effect ; // :two ribbonsflare ; P :proton flare
mst : magnetic storm ; II radio- outburst ; pca :polar cap absorption
aur : aurorae ; 1b ,2b ...: flare of class 1 or2 (bright) .

OBSERVATOIRE ROYAL DE BELGIQUE

DEPARTEMENT 4 RADIOASTRONOMIE ET PHYSIQUE SOLAIRE

NOMBRES RELATIFS DE WOLF JOURNALIERS

PROVISOIRES

PROVISIONAL

SUNSPOT RELATIVE NUMBERS

STATION UCCLE BELGIUM

FEVRIER 1984

DATE	UT	NOMBRE DE GROUPES	NOMBRE DE TACHES	NOMBRE DE WOLF	NOMB REL ZONE CENTRALE	PSPI 10-6 WM-2	QUAL	OBS
1	1314	7	90	160	59	755.	1	ST
5	0919	5	14	64	26	427.	2	HB
7	0935	7	64	134	96	860.	3	AK
8	1314	6	72	132	98	886.	2	ST
9	1429	6	94	154	89	1424.	2	ST
10	1128	6	110	170	128	1480.	1	ST
12	1100	7	65	135	59	1607.	3	CG
13	0915	5	42	92	51	907.	3	ST
14	1211	4	40	80	40	692.	3	ST
15	1515	7	40	110	11	271.	2	AK
16	1150	3	30	60	14	157.	1	ST
17	0851	3	14	44	16	111.	2	ST
18	1050	3	25	55	0	214.	2	CG
19	1000	4	32	72	24	337.	3	CG
20	1134	2	50	70	0	557.	2	ST
21	1039	3	68	98	0	744.	2	ST
22	1015	4	77	117	85	915.	2	ST
23	0951	4	102	142	68	1124.	2	ST
29	0817	5	75	125	53	682.	3	ST

LE SOLEIL A ETE OBSERVE 19 JOURS SUR 29 POSSIBLES
LE NOMBRE RELATIF DE WOLF MOYEN EST DE 106.0

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NORMALISED UCCLE OBSERVATIONAL SUNSPOT NUMBERS

U' = K * U FOR 1984 FEBRUARY

K' = 1.024 (*)

1	163	7	137	13	94	19	73	25	***
2	***	8	135	14	81	20	71	26	***
3	***	9	157	15	112	21	100	27	***
4	***	10	174	16	61	22	119	28	***
5	65	11	***	17	45	23	145	29	128
6	***	12	138	18	56	24	***	30	***
								31	***

THE SUN WAS OBSERVED 19 DAYS ON 28 POSSIBLE
THE NORMALISED RELATIVE MONTHLY MEAN WOLF NUMBER IS 108

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

UCCLE OBSERVATIONAL MAJOR SUNSPOTS FOR 1984 FEBRUARY
E AND F BRUNNER'S TYPE GROUPS

UCCLE NO	EAST LIMB		DATE AND TYPE			WEST LIMB		
	DATE	IST OBS		CMP	LAST OBS	DATE		
10-1744	1	21.0	25	D	1	27.8	1	G
12-1744	1	22.5	25	D	1	29.3	1	E
7-1745	2	5.5	7	J	2	12.3	18	H
15-1745	2	16.8	18	E	2	23.5	29	H

PROBABLE RETURN OF MAJOR GROUPS FOR 1984 MARCH

UCCLE NO	NEW EAST LIMB		NEW CMP		NEW WEST LIMB	
10	2	17.1	2	23.9	3	1.6
12	2	18.8	2	25.6	3	3.3