SOLAR NOTES

Edited by Nick James

My thanks to all of those who sent in their annual statistics. A short trip abroad at the critical moment has meant that I was unable to include them this month. They will hopefully appear next month.

WHITE LIGHT SOLAR ACTIVITY

Observer	MDF				R		Q	
	North	South	Total	Days	Total	Days	Total	Days
B. Hardie	2.20	0.60	2.80	20	45.90	20	-	-
E. Strach	2.38	1.05	3.43	21	76.78	21	10.88	21
CUAS	3.30	1.30	4.70	6	68.00	6	-	-
T. Tanti	2.50	1.33	3.83	6	60.20	6	11.70	6
J.G. Gissing	2.73	1.27	4.00	11	-	-	9.64	11
K.J. Medway	1.22	0.55	1.77	18	-	-	-	-
M. Götz	-	-	2.28	18	57.13	18	-	-
MEANS	2.20	0.90	2.96	100	60.96	71	10.65	38

MDF = Mean Daily Frequency of active areas, R = sunspot number, Q = mean quality estimate (JBAA 98,6,pp282-286)

Table 1: Solar activity, 1994 January

BAA/TA Comparison

Month	Active areas		Spot numbers	
	BAA	TA	BAA	TA
1993 December	2.51	2.74	44.32	56.95

Sunspot Activity, 1994 January

The month began with the large Fki group seen in December on the W limb although, according to Strach, it had deminished somewhat. This group was centred on N9/198 and it cleared the W limb on the 2nd. Fourteen days later on the 16th it reappeared over the E limb having survived the passage across the averted hemisphere. It was preceded by a single spot of Dsx type at N3.5/220. The main group which was scattered over such a wide area in December became more compact and differential rotation had increased the longitude to 206°. The group crossed the CM for the second time on the 22nd as a Gkc type. At that time Strach noted that the main spot was splitting into two parts. By the 25th (see fig. 1) the intervening photosphere was clearly visible. This spot lay on the W limb on the 28th and Strach observed a short limb flare just to the N on that day.

On the 1st Strach counted three groups on the E part of the disk and he notes the difficulty of determining whether spots in the S hemisphere should have been counted as one or two groups. The four main spots were in a parallelogram and it was difficult to assess whether the intervening distance was 10° or more. He decided to count them as two groups at S9/85 and S15/93 since they subsequently behaved differently. The S group faded after CM passage whereas the more N group expanded and became very active. Other observers noted the difficulty of determining the AA count early in the month. In particular the CUAS had problems with the complex groups on the 7th.

Figure 1: A splitting sunspot - EHS
1994 January 25, 1105UT

Strach noted that the average spot latitude in January was 7.44° in the N and 12.14° in the S. He noted *polar faculae* in the N on January 1, 2, 6, 7, 11, 13, 19, 25, 26 and 31 and in the S on January 1, 2, 4, 6, 7, 11, 13, 16, 17, 19, 22, 25, 26, 28, 30 and 31. The faculae seen in the S on the 26th were particularly bright. Medway reported that, during the first three days of the month he could see two *naked eye* spots on the disk

MONOCHROMATIC SOLAR ACTIVITY

Observer	All Latitudes				0-40°			40-90°		
	North	South	Total	Days	North	South	Total	North	South	Total
K.J. Medway	3.33	0.67	4.00	6	1.83	0.67	2.50	1.50	0.00	1.50
B. Hardie	-	-	1.95	12	-	-	-	-	-	-
E. Strach	2.00	1.29	3.29	17	1.41	1.00	2.41	0.59	0.29	0.88

Hα Prominence Activity, 1994 January

Medway reports that prominence activity was quite low and features were concentrated in the N between N0 and N70. Strach also reported that prominence activity was low and he notes that there were three days during the month when he did not see a single prominence (26, 30 and 31). This is quite unusual and his prominence MDF for this month is the lowest since September 1986. Despite the low activity there were a few notable events. The 4th saw a low hedge-row prominence on the NE limb between N10 and N18. Later, on the 28th, a short-lived prominence was seen on the W limb at N14 following the limb flare associated with the large group at N9/206. This prominence, which lasted from 1134 to 1145, was a jet type reaching an altitude of 120,000km.

Strach reports a dearth of filaments in the middle of the month. By the 23rd a filament was seen in the S hemisphere near to the E limb between S12 and S28. It crossed the CM on the 28th and it was approaching the W limb on the last day of the month. Strach speculates that it should give rise to a good prominence display at the start of February. Filaments were seen on each of the six days that Medway observed (1, 2, 3, 16, 23 and 30) and as many as seven were seen on the 30th.

Flares, 1994 January

In last month's column the position of one of Eric Strach's flares was given incorrectly. The flare seen on the 4th December was at S23, E51 *not* S23, E80.

Date	Time	Lat	CMD	Type	Obs.
1	1125	N12	E39	Sf	KJM
1	1201	N12	E40	Sn	BH
1	1246-1251	S5	E32	1B	BH
1	1246-1251	S9	E35	1n	BH
2	1102-1120	S9	E20	Sn	BH
2	1122-1137	S9	E20	SB	BH
2	1125	S10	E22	Sf	KJM
2	1142-1158	S9	E20	1B	BH
2	1142	N13	E17	1B	BH[1]
2	1142	S15	E13	1B	BH[1]
4	1233	N06	E68	Sf	EHS
7	1155	S09	W49	Sf	EHS
7	1235	S06	W48	1n	EHS
7	1319	N10	W42	SB	BH
7	1319	N12	W38	SB	BH
7	1319	S9	W42	SB	BH
7	1319	S11	W37	SB	BH
7	1323	N7	E24	SB	BH
7	1323	N6	E32	SB	BH
16	1137	N5	E76	SB	BH
19	1135	N09	E39	Sf	EHS
19	1150	N07	E36	Sf	EHS
19	1214	N5	E38	SB	BH
21	1430	N5	E15	Sn	BH
28	1125-1131	N12	W85	Sn	EHS[2]

Notes

1. Continuous small sub-flares in both groups from 1102-1230.

2 Limb flare followed by a jet-type prominence eruption.