

White light MDF, 1998 April

Observer	MDF				R		Q	
	North	South	Total	Days	Total	Days	Total	Days
P. Meadows	0.73	2.27	3.00	15	48.00	15	8.33	15
G. North	0.11	2.00	2.11	9	34.11	9	-	-
E.H. Strach	0.39	2.39	2.78	23	43.22	23	7.96	23
W. Heyes	0.62	1.75	2.37	8	-	-	6.50	8
K. Medway	0.26	2.40	2.66	27	-	-	-	-
G.F. Johnstone	0.16	1.66	1.83	6	-	-	-	-
M. Hendrie	0.64	2.18	2.82	11	42.91	11	-	-
CUAS	0.50	2.30	2.80	22	38.00	22	-	-
MEANS	0.43	2.23	2.66	121	41.61	80	7.83	46

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

BAA/TA Comparison

Month	Active areas		Spot numbers	
	BAA	TA	BAA	TA
1998 March	3.77	3.43	61.83	58.79

Sunspot Activity, 1998 April

Strach reports that the month started with a string of spots along the S20 parallel, covering longitudes from 145° to 129°. The leading spot of this group crossed the CM on the 3rd. On the 2nd Meadows noted that the Fai group at S24/241 which was seen at the end of March had changed into two equally sized penumbral spots near to the W limb

On the 2nd Meadows reported that another F type group was seen nearing the CM at S21/136. This group had the classification Fsi but its penumbral spots were all small in size and hence the group had a total area of only 80 millionths. When next seen on the 5th, the following penumbral spot had decayed to make the group of type Cso. In addition, many of the other spots had decayed. On the 6th only a Hsx spot and an Axx spot were seen at either ends of the earlier group. Only the Hsx spot remained on the 7th.

On the 5th a compact Dso group was seen at S22/85 with an area of 180 millionths. This group developed into type Eao by the 7th with an area of 270 millionths before decaying into type Cso and then Hsx types as it approached the W limb. Ken Medway saw this spot with the naked eye on the 6th.

The Fkc group last seen on 19th March reappeared near the E limb on the 5th as type Dso. By the 6th this group comprised three penumbral spots. Two of these were at almost the same longitude but separated by almost 10° in latitude. By the 12th, the group had extended in longitude to become type Fsi (at S18/40). On this date it had an area of 310 millionths with most of this area being due to one penumbral spot near the centre of the group. The number of spots within the group had reduced by the 13th and 14th. By the 16th only the central penumbral spot remained together with three other spots (the group was now of type Cso).



Group at S17/137 in H α . 1998 April 28, 0900. EHS.

On the 7th a small Hsx spot was seen very close to the E limb. By the 12th this spot had decayed into a Bxo group at S24/5 which comprised a number of spots spread over an area of 10° in both latitude and longitude. The number of spots within the group peaked at 16 on the 14th. The group was seen again on the 16th but not on the 19th when it would have been close to the W limb.

Throughout all of this activity the N hemisphere had remained quiet. This changed on the 16th when Meadows reported a group at N28/4. This was a Dso group with an area of 110 millionths. It faded rapidly and it was not seen on the 19th when another northern Dso group was seen at N21/313. This group was of type Eso on the 20th and 22nd. It then decayed into type Cso by the 23rd as it approached the western limb. At its peak, this group had an area of only 120 millionths.

On the 25th Strach observed that a spot came around the E limb at S17/138. He notes that this may well have

been its second passage across the disk. It showed a pronounced Wilson effect on the 25th and became an H α sport. It proved to be very active in H α (see figure).

Medway followed this spot closely at the end of the month and reports that an interesting filament was seen to the W of it on the 27th and following days.

Prominence MDF, 1998 April

Observer	All Latitudes				0-40°			40-90°		
	North	South	Total	Days	North	South	Total	North	South	Total
K. Medway	2.00	3.21	5.21	14	1.50	2.21	3.71	0.55	1.00	1.55
E. Strach	2.39	4.11	6.50	18	1.72	2.33	4.05	0.67	1.77	2.44

Prominence activity, 1998 April

Medway reports that an interesting hedgerow prominence was seen on the SW limb on the 9th.

From April 24 onwards Medway reports that an arch prominence was seen on the SW limb and this eventually broke up into several inter-linking small prominences on the 27th.

The large spot seen late in the month was associated with several flares. In particular on the 27th a 2B flare was visible to the W of the spot at 0955. At times the flare seemed to cross the umbra, dividing it longitudinally. It faded only gradually over the next hour and Strach found it difficult to decide when it had finally died down. He could still see three isolated flaring areas at 1135. On the next day the flare had gone but the view in H α was stunning. His drawing shows many small, thin filaments radiating from the penumbra and very bright Hydrogen to the W.

Medway comments that filaments continue to be seen on every occasion and they have been particularly prominent this month near to the S pole.

Flares, 1998 April

Date	Time	Lat	CMD	Type	Obs.
5	1333	S25	E37	Sf	KJM
5	1325	S27	E80	Sf	KJM
12	1225-1250	S27	E25	1B	KJM
13	0851	S30	W55	Sf	KJM
13	1050	S24	E3	SB ¹	KJM
25	1736-1750	S17	E80	SB	KJM
25	1755-1758	S17	E80	1B	KJM
27	1321	S17	E80	Sf	KJM
27	0955-1135	S17	E50	2B	EHS
27	1340-1430	S15	E52	2B	KJM
29	0810-0830	S17	E22	2f	EHS
29	1615	S16	E25	2B	EHS

Note 1: Three flaring patches.