

White light MDF, 1999 April

Observer	MDF				R		Q	
	North	South	Total	Days	Total	Days	Total	Days
G. North	1.4	1.5	2.9	8	45.5	8	-	-
E. Strach	1.4	2.6	3.9	26	61.4	26	12.4	26
G.F. Johnstone	-	-	4.8	16	-	-	-	-
W. Heyes	1.9	1.7	3.6	9	-	-	9.8	9
K. Medway	1.6	2.0	3.7	25	-	-	-	-
M.J. Hendrie	2.1	3.1	5.2	13	74.6	13	-	-
D. Storey	1.1	1.9	3.0	10	-	-	-	-
J. Shanklin	1.7	2.4	4.0	25	57.0	25	-	-
P. Meadows	2.0	3.2	5.2	17	78.5	17	14.9	17
MEANS	1.6	2.4	4.1	149	63.9	89	12.7	52

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

White light activity, 1999 April

White light activity has remained at a relatively disappointing level given the stage of the solar cycle. A number of observers report that the rise in activity appears to have stalled at an early stage.

Starch reports that activity consisted of small, insignificant spots, some bipolar formations and occasional large groups of spots.

On the 1st Meadows noted that two S groups were at similar latitudes and were separated by almost 20° in longitude. These groups were of types Hrx at S26/10 and Cso at S27/352. Although the W of these groups was not seen on the 2nd, a small Dai group had developed by the 4th. By the 6th, this group was of type Esc with a total area of 310 millionths. Meadows comments that this was the largest group seen during the month. The leading spot of this group was symmetrical in shape and only this spot was seen on the 9th when it was very close to the W limb. The E group was of type Dso on the 4th when it had an area of 100 millionths before it decayed into type Csi on the 6th. Meadows did not see it on the 8th.

On the 4th a small Dso group was seen near the E limb at N18/287. By the 6th the largest spot had become asymmetrical in shape but by the 8th an irregularly shaped following spot had developed which had a latitude extent of some 4°. The group on this date was of type Ekc and Meadows estimated that it had an area of 190 millionths. By the 9th, this following penumbral spot had decayed such that both the leading and following spots were of similar size and both were asymmetrical. On the 10th Strach counted at least 33 spots in the group. By the 12th the group had decayed into type Dsi with an area of only 40 millionths and only an Axx spot was visible on the 14th.

By the 17th a Hhx spot had appeared around the E limb at S14/109. Meadows reports that it was still of type H on the 18th but by the 19th, following penumbral spots had appeared to change the group into type Dac when it

had an area of 120 millionths. The following spots had reduced in number by the 22nd and this decay continued such that only a group of type Hax was seen on the 27th.

On the 24th Strach was able to witness the birth of a spot. He was alerted to the location (N17/32) by bright plages in H α . A very faint spot appeared at 1110 and by 1625 two spots could be seen. On the next day the group consisted of four penumbral spots in an irregular quadrangle. On the 27th Meadows classified the group as of type Eac with an area of 190 millionths. By the 28th Medway reports that the spots were collectively visible as a single area to the naked eye.

H α activity, 1999 April

As with previous months activity in H α was high. Medway reports that interesting features were seen on most days. In particular a striking prominence was seen on the SE limb at 0830 on the 2nd. This was a finely-stranded bright pillar which showed constant internal structural changes. By 0851 it had changed into a classic tall loop.

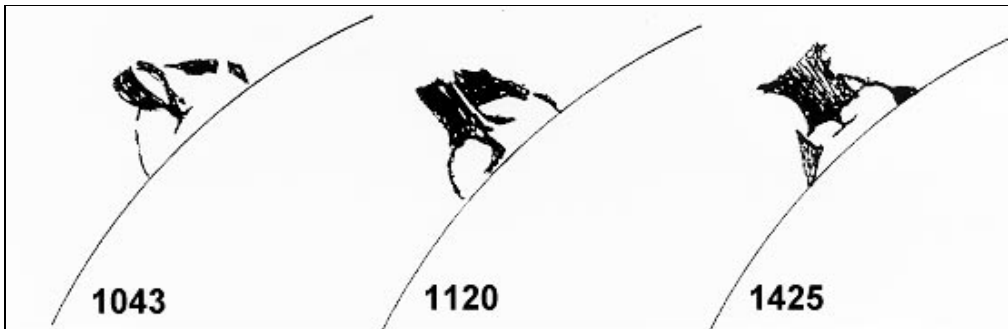
Strach also saw a number of interesting prominences during the month. On the 2nd he observed a towering prominence on the NW limb at N55. By 1130 it had reached a height of 130,000km. One of the more interesting features occurred on the 29th. Strach christened this "the Medusa prominence". It was seen on the W limb at N43 to N48.

Flares, 1999 April

Date	Time	Lat	CMD	Type	Obs.
3	1144	N10	E65	Sf	EHS
11	0926	N26	W20	Sf	KJM
12	1433	S30	E26	Sf	KJM
25	1230	N22	E48	Sf	EHS
27	1755	N22	E14	Sf	KJM
28	1751	N22	E6	Sb	KJM
29	1754-1800	N21	W9	Sb	KJM
29	1720-1725	N16	E76	Sn	KJM
29	0842	N13	E80	Sf	EHS

Prominence MDF, 1999 April

Observer	All Latitudes				0-40°			40-90°		
	North	South	Total	Days	North	South	Total	North	South	Total
K.J. Medway	4.5	4.0	8.5	19	2.3	1.7	4.0	2.3	2.3	4.5
M. Hendrie	6.0	5.5	10.5	2	3.5	2.5	6.0	2.5	3.0	5.5
E.H. Strach	6.0	5.4	11.4	22	2.8	2.7	5.5	3.2	2.6	5.9



“Medusa” prominence on the NW limb. 1999 April 29. EHS.