

White light MDF, 1998 November

Observer	MDF				R		Q	
	North	South	Total	Days	Total	Days	Total	Days
P. Meadows	2.57	2.43	5.00	7	73.43	7	13.86	7
J. Shanklin	-	-	2.10	13	25.00	13	-	-
E. Strach	2.61	2.28	4.89	18	77.28	18	15.61	18
W. Heyes	2.60	2.00	4.60	5	-	-	11.20	5
K. Medway	2.14	1.81	3.95	22	-	-	-	-
G.F. Johnstone	-	-	4.71	7	-	-	-	-
M.J. Hendrie	3.56	1.89	5.45	9	84.00	9	-	-
G. North	2.00	1.44	3.44	9	57.33	9	-	-
MEANS	2.50	1.97	4.15	90	62.54	56	14.47	30

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

Sunspot Activity, 1998 November

With the Sun getting low in the sky November is a difficult time for solar observers. Special efforts are made to observe the Sun at this time of the year but I doubt if many observers could beat Wilfrid Heyes' efforts this month. The 16th was a clear day but Wilfrid noticed that access to the sun was prevented by the growth of his Eucalyptus tree. He then proceeded to lop 12 feet off the top of it only to find that it was then too late to observe!

A low sun is not one of Jon Shanklin's problems at the moment. His observations this month were made using 20x80 binoculars from the deck of a ship as he travelled down to the Antarctic.

Meadows reported that on the 1st, the largest of the four groups seen was of type Dko at N18/183 with an area of 220 millionths. The two penumbral spots of this group were very close together; only three other spots were seen within this group. Strach noted that the large group was flare-active on the 4th as it crossed the CM and Medway observed the spot with the naked-eye on the 5th. All these groups had passed around the limb by the 11th. They were replaced by seven groups, four of which had penumbral spots: a Hax group at N24/128 (area 70 millionths), a Cso group at N15/115 (130

millionths), a Dao group at S13/49 (area 80 millionths) and a Hkx group at S27/32 (480 millionths). Meadows reports that this latter group was the largest seen during the month. The Hkx group, when seen on the 14th, was of type Dko and comprised an asymmetrical leading spot which was closely followed by two small penumbral spots. On the 15th Medway reports that the group was visible with the naked-eye. The appearance of this group changed little as it progressed across the disk and it was last seen on the 21st close to the W limb.

The number of groups reduced as the month progressed to four on the 17th, three on the 20th and just two on the 21st. Other than the group Dko group mentioned above, all the other groups seen on these dates were small in size. By the 29th, the number of groups had increased to five. The westerly of these was of type Dso at N25/288. Close to the central meridian was a Cao group at S18/210. This group had a leading penumbral spot of area 180 millionths with a large number of following spots. The longitudinal extent of this group was 15°. Another long group, of 30° extent, was seen at N19/189 which comprised variously shaped penumbral spots amongst other spots. The group was classified type Fai and it had a total area of 310 millionths. Also on this date a Bxo group was seen at N29/171 and a Dso group was seen close to the eastern limb at N14/139.

Prominence MDF, 1998 November

Observer	All Latitudes				0-40°			40-90°		
	North	South	Total	Days	North	South	Total	North	South	Total
E.H. Strach	5.69	4.15	9.84	13	3.00	2.08	5.08	2.69	2.08	4.77
K.J. Medway	4.71	3.57	8.28	7	2.28	2.00	4.28	2.43	1.57	4.00

Prominence activity, 1998 November

Medway comments that the prominences that he observed during the month were evenly distributed across all latitudes.

Although Strach observed on only 13 days he recorded some remarkable prominences. On the 1st both Strach and Medway reported a 180,000 km high tree-like prominence which was seen on the E limb an N52. (see

figure) On the same day there was another slightly lower arch prominence in the NW extending from N44 to N57 and a smaller hedgerow on the W limb at S40 to S48.

Strach notes that the most exciting prominence eruption was observed on the 4th during short clear spells between cumulus clouds from 1145 to 1206 (see the figure). It was a huge arc structure at 1145 on the W

limb extending from S30 to S48. When first seen its S perpendicular portion was dense but it did not connect with the solar limb. The N component of the arc was fainter and its structure was complex with one condensation. At 1200 it broke up but the main stem had reached a hight of 312,000 km. The last vestigges were seen at 1210 UT at 353,000 km from the limb. At the next possible observation (1234) there was no trace of it.

A very bright but small prominence was seen just S of the W point on the 24th at 1028. It was associated with a limb flare and lasted until 1136. Two further jet-type eruptions were seen on the same day at the E limb above and below the E point between 1057 and 1112.

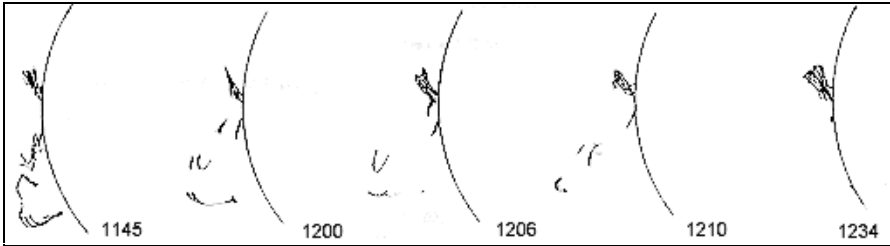
Strach noted a further prominence eruption on the 25th at N17.5 just S of the E point. This lasted from 1055 to

1115 reaching a maximum height of 150,000 km at 1103.

Strach also noted a curved and intricate filament on the 15th in the NW extending from N5 to N20, its upper portion curving to the W. On the next day it looked like a huge inverted question mark.

Flares, 1998 November

Date	Time	Lat	CMD	Type	Obs.
1	1215	N15	E42	Sf	EHS
4	1234	N16	W03	1n	EHS
5	1340	N16	W16	1n	EHS
6	1325	N19	W16	1n	EHS
16	1202-1212	S15	W25	1B	EHS
24	1028-1110	S21	E85	1B	EHS
28	1210	N17	E42	2n	EHS



Left: 1998 November 1. 1055UT. Above: Massive prominence observed on 1998 November 4. Maximum height 350,000 km at 1210. EHS. 8" SCT. 0.6 Å H α filter.