

White light MDF, 1999 January

Observer	MDF				R		Q	
	North	South	Total	Days	Total	Days	Total	Days
P. Meadows	2.9	2.1	5.0	12	82.5	12	14.2	12
J. Shanklin	2.0	0.9	2.9	19	38.0	19	-	-
E. Strach	2.3	1.6	4.0	17	67.6	17	12.2	17
G. Johnstone	-	-	3.4	11	-	-	-	-
G. North	1.0	1.0	2.0	3	-	-	-	-
M. Hendrie	3.1	1.5	4.6	11	80.6	11	-	-
K. Medway	1.7	1.3	2.9	16	-	-	-	-
MEANS	2.3	1.4	3.6	89	63.5	59	13.0	29

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

Sunspot Activity, 1999 January

Activity in January was at a similar level to that experienced in December and was disappointingly low compared to the levels seen last Autumn.

The two N hemisphere E type groups seen at the end of December were still on the disk on the 1st although one of the groups was just a single Hsx spot very close to the W limb. According to Meadows the other group had increased in size to 880 millionths and was of type Ekc (at N26/172). The leading spot of this group was symmetrical in shape and was followed by several irregularly shaped penumbral spots. This group had decayed slightly when seen on the 2nd and it was last seen on the 4th when very near the W limb. The number of spots within the southern Dai type group seen at the end of December had reduced by the 1st such that Meadows classified the group as type Cso (at S22/158). Although the symmetrical leading spot remained the same size, the following spots had disappeared by the 4th.

Meadows reported that a new penumbral group was first seen as an Axx spot on the 1st, a Bxo group on the 2nd and then a Dao group on the 4th at N15/91 with an area of 90 millionths. By the 5th, when the group was near the CM, the following penumbral spot became the largest of the group. The longitudinal extent of the group was such that on the 6th the group was of type Eso. It now had an area of 150 millionths. Meadows last saw this group on the 8th.

The two largest groups of the month rotated onto the disk around the 12th. Strach commented that the N of these groups was a return from the previous rotation having originally moved onto the disk on December 17

at N18/260. He reports that the N group reached its maximum extent on the 16th when it presented three penumbral spots. Medway observed it clearly with the naked eye on that date.

By the 17th Meadows reported a total of 6 groups. The most significant of these were the two large groups first seen on the 12th. He classified the N group as type Fac with position N20/266 and the S group as type Eao, position S22/272. On the 17th the N group comprised of two equally sized leading and following penumbral spots together with a large number of penumbral and non-penumbral spots between. The total area of the group was only 200 millionths. This increased to 340 millionths by the 22nd when the group was of type Fkc. The S group was quite small on the 17th at 130 millionths but this had increased to 500 millionths on the 22nd when the group was of type Eac. The leading spot of this group was quite asymmetric and most of the following spots had penumbra. Both of these groups were last seen on the 23rd as they approached the W limb.

The other groups seen on the 17th were a Hsx spot at N11/306 (area 60 millionths), a Dao group at N25/297 (area also 60 millionths) and two Bxo groups at S36/358 and S31/313. Both of the penumbral spots groups were close to the W limb on the 21st and Meadows reports that only the Hsx spot was seen on the 22nd.

On the 21st Meadows reported Dso group near the CM. Its largest area was seen on the 21st at 80 millionths. It was still on the disk on the 23rd. Activity then fell and Strach reports that the end of the month saw a dearth of spots with the S hemisphere being blank on the 25th, 27th and 28th.

Prominence MDF, 1999 January

Observer	All Latitudes				0-40°			40-90°		
	North	South	Total	Days	North	South	Total	North	South	Total
E. Strach	4.1	6.0	10.1	13	2.4	3.1	5.5	1.7	2.9	4.6
K. Medway	2.4	1.8	4.2	5	2.4	1.0	3.4	0.8	0	0.8

Prominence activity, 1999 January

The poor weather limited observations this month. Medway observed the sun in H α on only five days but comments that activity was reasonable and that the disk showed many filaments. No less than 8 were seen on the 10th.

Medway noted a large arch prominence on the NE limb on the 1st. This was also reported by Hendrie. By the 3rd Medway noted that it had changed form to become a large mound. On the 9th and 10th he reported many small pillars and arches on the E limb.

On the 16th Strach observed a curious eruptive prominence at 1020. At first it produced a semicircular structure which changed quickly into several jets. By 1055 it had all but subsided.

Strach observed a very long filament on the 27th. This started at the E limb in a prominence at S58 - S60 and

extended almost linearly to a set of small prominences on the W limb at S20 - S28. The filament was fragmented into broad components resembling a thick chain structure.

Flares, 1999 January

The flare on the 8th was associated with a filamentous surge. Strach notes that the area was seen as a dark patch when observed off-band indicating line-of-sight motion.

Date	Time	Lat	CMD	Type	Obs.
8	1025	S29	E25	Sf	EHS
14	1010-1050	N21	E66	1n	EHS
16	1230	N19	E40	1b	EHS
17	1210	N18	E25	Sf	EHS
21	1006	S22	W40	Sf	EHS
22	1117	S23	W52	Sf	EHS
22	1226-1231	N22	W78	1n	EHS