

White light Mean Daily Frequencies, 2001 February

Observer	AA				R		Q	
	North	South	Total	Days	Total	Days	Total	Days
R. Dryden	3.3	3.4	6.6	11	92.7	11	-	-
A. Gabriël	2.6	3.3	5.9	20	93.2	20	-	-
M. Hendrie	3.3	4.3	7.5	4	100.0	4	-	-
G. Johnstone	3.6	2.5	6.1	10	-	-	-	-
P. Meadows	3.3	4.1	7.4	10	103.2	10	18.9	10
K. Medway	2.1	2.2	4.4	17	-	-	-	-
J. Shanklin	2.8	2.9	5.7	14	78.0	14	-	-
L. Smith	2.7	2.6	5.3	7	65.4	7	13.2	5
E. Strach	2.3	2.9	5.1	16	78.3	16	16.2	16
D. Storey	5.0	2.0	7.0	1	-	-	-	-
MEANS	2.8	3.0	5.8	110	86.8	82	16.6	31

AA = active areas, R = sunspot number, Q = mean quality estimate (JBAA 98,6,pp282-286)

White light activity, 2001 February

Several observers have commented on the recent fairly rapid drop in white light activity. Strach thinks this is quite unusual for the present stage of the cycle and that whilst fluctuations of activity at the maximum phase do occur, one would not expect a sustained drop.

Strach's first complete observation of the month, on the 6th, showed 7 active areas, two of them at relatively high latitudes: one a Cso group at N24/112 and the other a Bxo spot at S28/55. There were no near-equatorial spots; the lowest latitude spot was at N8/60. Meadows's first observation of the month, on the 7th, showed Fac and Dai groups in the northern hemisphere just eastward of the central meridian. The Fac group was at N12/75 with an area of 210 millionths while the Dai group at N9/62 had an area of 60 millionths. To the south of these groups an Axx spot was seen near the equator at N2/70. Further to the east and in the southern hemisphere an Eao group was seen at S9/45. Both the leading and following spots were asymmetric and roughly of the same size and the total area was 230 millionths. By the 9th, Meadows notes that the leading spot of this latter group had increased in size slightly but the following spot had halved in size. When next seen on the 13th, Meadows observed that only a single Hsx spot remained (this being the former leading spot).

By the 13th and 14th, Meadows noted a slight reduction in the number of groups with an almost equal distribution between the northern and southern hemispheres. Two of the groups seen were at reasonably high latitudes; on the 13th there was a Dso group at S27/29 and an Hsx spot at N28/337. The Hsx spot was seen by Strach crossing the central meridian on the 15th and by both observers on the 17th before being seen as a single Axx spot by Meadows on the 18th.

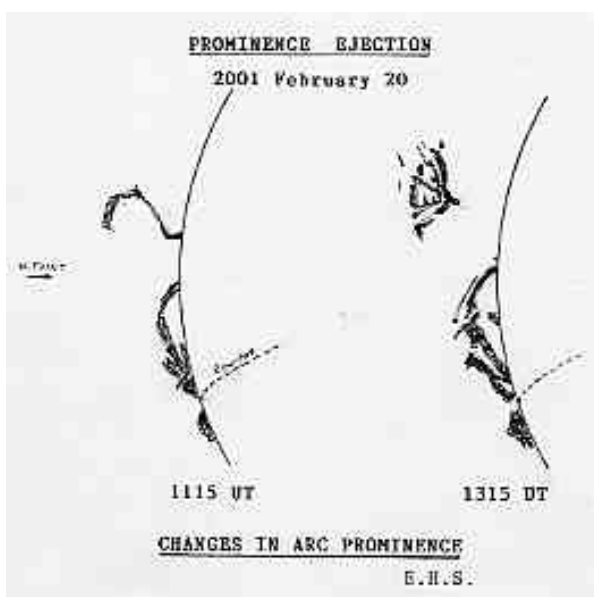
Also on the 18th, half of the 8 groups seen by Meadows were of type Axx while the largest was a Dsc group at S8/286 with an area of 90 millionths (this group was seen by Strach as type Dro on the previous day). When next seen by Meadows on the 20th, more penumbral spots were present which increased the area to 200 millionths. By the 23rd, the group had formed into three close penumbral spots of approximately the same size; the total area was 290 millionths (and the largest group seen by Meadows during the month). This group was seen again on the 24th and 25th as it moved nearer to the western limb. Strach reports that three spots forming a triangle were seen on the 22nd at N12/189. On the following day the leader developed three umbrae whilst the follower spot started to fade. Strach last saw this Dai group on the 28th.

Ha activity, 2001 February

Strach comments that his prominence count has remained at the roughly same level over the past few months while Medway finds that his count is slightly down on January. On the 6th Strach observed an interactive prominence in the SW that formed a very wide arc from S26 to S48. On his next observation on the 8th it was still in evidence but the northern prominence was at S33 while the southern prominence consisted of two dense stems at S48 and S49. It was still visible on the 9th, although the northern component had all but disappeared; yet the originally seen stem at S26 had reappeared at S25. As soon as Strach started observing in H-alpha on the 20th February at 1115, he saw another arc prominence on the western limb which extended from N3 to N17. Its southern half showed intricate structuring. Further north there was a giant question mark shaped prominence arising from a point at N29 and reaching a height of 145,000 km. It changed its shape continually and eventually it was ejected to about 150,000 km (see drawing). Further densely structured prominences were seen by Strach on the 24th, extending from N28 to N46 on the western limb and at S21 to S30 on the

eastern limb. Both were still seen on the 25th but the one in the west had developed a curious cloud-like extension from the northern end which turned 180° southwards above the main prominence body. Medway also observed these prominences on the 24th and 25th by noting a large NW limb hedgerow prominence and a large SE limb arch prominence.

Strach found that there was a preponderance of filaments in the northern hemisphere on the 6th and especially on the 9th. Strach saw an interesting filament from the 12th to the 20th. It was obviously associated with the single spot at N17/315. It consisted of a near horizontal portion to the north of the spot and a near vertical and longer portion to the west of the spot, both parts at 90° to each other (see CCD image from the 15th). This characteristic configuration was very clear until the 16th when it started to fragment as it passed the central meridian. It was still in evidence on the 20th. On the 20th Strach observed another long oblique filament in the north straddled the central meridian at N17. On approaching the western limb, on the 23rd, it had the shape of a salamander and a CCD image also showed another filament hugging the limb which was missed visually as all he recorded were low prominences in its position on the limb. But on the 24th a dense and structured prominence was seen in the position and on the 25th it took the shape of the above described prominence with the cloud-like extension. Medway comments that a large number of filaments (22) were observed on the 25th.



2001 February 20. Drawing of arc prominence at 1115 and 1315 UT. Eric Strach.

2001 February 15 1111 UT. Filaments associated with the single spot at N17/315. CCD image. Eric Strach.

Flares, 2001 February

Date	Time UT	Lat	CMD	Type	Obs.
17	1430	S10	E30	SF	EHS
24	1529	S20	W36	SN	KJM
25	1127	S21	W46	SF	KJM
25	1146	S21	W46	SF	KJM

Prominence Mean Daily Frequencies, 2001 February

Observer	All Latitudes				0-40°			40-90°		
	North	South	Total	Days	North	South	Total	North	South	Total
K. Medway	4.4	3.4	7.8	5	1.8	1.4	3.2	2.6	2.0	4.6
E. Strach	5.6	6.3	11.9	15	4.7	3.9	8.6	0.9	2.4	3.3