

White light Mean Daily Frequencies, 2001 August

Observer	AA				R		Q	
	North	South	Total	Days	Total	Days	Total	Days
R. Dryden	3.6	3.9	7.6	18	122.1	18	-	-
A. Gabriël	3.6	4.4	8.0	29	128.5	29	-	-
M. Hendrie	4.2	5.7	9.9	9	140.8	9	-	-
H. Hill	2.7	3.0	5.7	23	-	-	-	-
G. Johnstone	3.4	3.6	7.0	14	-	-	-	-
P. Meadows	3.9	4.6	8.5	15	128.7	15	22.8	15
K. Medway	2.9	2.5	5.3	26	-	-	-	-
G. North	2.9	3.5	6.4	12	96.8	12	-	-
E. Richardson	5.0	4.4	9.3	21	143.3	21	-	-
J. Shanklin	3.5	4.4	8.0	23	116.0	23	-	-
L. Smith	3.2	2.9	6.1	9	96.5	9	18.0	9
D. Storey	2.5	4.8	7.3	4	-	-	-	-
E. Strach	3.3	3.7	7.0	14	108.2	13	21.1	14
MEANS	3.5	3.8	7.3	217	122.4	149	21.0	38

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

White light activity, 2001 August

Strach observed very faint spots at N23/244 on the 2nd which developed into a prominent Dao group on the 3rd. By the 4th this became a Dai group with an elliptical array of small spots with a marked penumbral leader. Meadows observed this group traversing the CM on the 5th as an Eac group with an area of 390 millionths. He and Strach note that as the group approached the western limb, its longitudinal extent increased such that when seen by Meadows on the 11th it was of type Fso. Meadows reports that the largest spot on the 5th was as an irregularly shaped Hkx spot at S18/283 with an area of 560 millionths. Many small umbrae were seen within the spot. By the 7th the group was nearing the western limb and the shape of the penumbra had changed significantly.

Gabriël reports that an interesting group appeared on the 10th as a couple of pores and by the next day he saw it with the (protected) naked eye! Meadows reports that no spots were seen at the position of this group, S2/164, on the 9th, it was a Bxo group on the 10th and that it was of type Dac with an area of 320 millionths on the 11th. The rapid growth did not continue, as when next seen by Meadows on 15th, this group was of type Esi with an area of just 150 millionths.

On the 22nd Smith noticed a large southern group near the eastern limb that consisting of 2 leading spots followed by 3 penumbral spots. By the 23rd, the group was further on the disk and of type Fkc. On the 24th Smith reports that the two eastern spots had joined to form one large asymmetric spot at S18/294. On this date Meadows estimated the total area of the group to be 680 millionths. By the 26th Smith found that the leading spots had decayed making it type Cki with an overall longitudinal extent of 19° (312° to 293°). On the 28th Medway reports that this group was easily visible to the naked eye. When seen by Meadows on the 31st, the number of spots had reduced as had its area (to 370 millionths).

Meadows observed a Hsx spot near the eastern limb on the 27th. By the 28th other spots were seen following together with a second group slightly towards the south. On the 29th these groups, at N16/223 and N12/219 were of types Dsc and Dac while on the 31st they were classified as types Dai and Eac. On this date, both groups had an area of 240 millionths, there were many small spots within each group and both covered similar longitudes.

Ha activity, 2001 August

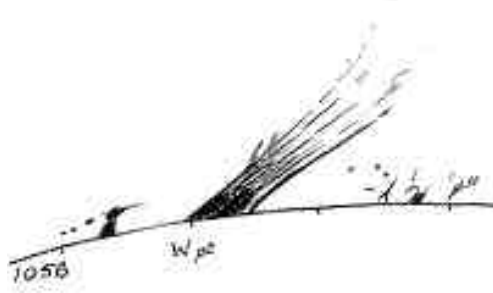
Strach notes that a remarkable and extensive hedgerow prominence was in the SE on 7th. On the following two days he observed that it had a high intricate structure at S25 to S30 with multiple streamers extending northwards as far as S8 on the E-limb. Hill first observed this massive tree-like prominence on the 8th and notes that its root position (S33 to S36) indicated that it was the return of the large arch structure observed over the W limb on July 25-28. Strach also remarks that it resembled an arc prominence seen at similar longitudes on July 26 and 27. Hill notes that on the 9th, the general appearance of the prominence was maintained with linking streamers to the limb at S16, making a vast intricate structure constantly changing in the finer details. A CCD image by Strach from the 9th can be seen below where the highest portion of the prominence was 145,000 km above the limb. On the 10th, Hill searched in vain for this prominence. While observing the above prominence on the 9th, Hill's attention was drawn to a sudden large eruption at the W point of the limb (see drawings below). Its brilliance suggested to Hill that it was the results of a flare over on the far side as there was no evidence of such on the disk itself - the violence of this eruption may be judged from the fact that actual motion was

discernible in the 'knots' stung along the upper edge of the outburst but each one fading as it gained height, so possibly not attaining escape velocity. Strach also observed this, describing it was a marked prominence eruption. Medway comments that on the 10th he observed a system of tall arch prominence on the SW limb, 2 of which were still in evidence on the 11th. On the 15th, Medway observed an impressive hedgerow prominence on the SE limb but by the 16th it was much reduced in size. Hill notes that from the 15th to 21st, the limb was not distinguished by any prominence of note. On the latter date, brilliant spurts were seen by Hill which heralded the appearance of the sunspot group at S17/302 and these continued unabated on the following day and still showed activity on the 23rd even though the group had advanced some way onto the disk. Gabriël noted that most of the H α activity he observed occurred in sunspot groups during the last week of the month, but some smaller groups also were very active, sometimes producing small flares. One of these rounded the W limb on the 28th - small active prominences were seen rising all the time. At about 0945 Gabriël noted that a complete loop had formed, it was fairly large, but faint. This changed rapidly and a complete set of loops formed. This lasted about 40 minutes, a little later a new loop formed. Hill also observed this W activity from 1020. Also on the 28th, Hill saw a small, short lived but brilliant eruption from 0930 to 0936 at N35 on the W limb. Medway also notes that the E & W limbs were very prominence active during the latter part of the month.

Medway observed filaments on each of his H α observing days while Gabriël reports that there were many filaments. On the 1st Strach saw many filaments to the E of the CM but hardly any on the W - this was the reverse on the 4th. Medway observed 15 filaments over the entire disk on the 28th. Medway reports that many flares were associated with the large S17/302 sunspot group during the latter part of the month. He noted that pride of place must go to the brilliant 3B flare observed on the 25th. It started just south of the double umbrae at 1620 then flaring activity rapidly spread through the surrounding chromosphere. It was 1B importance at 1625 and 3B at 1644. It had mostly died down by 1730.



2001 August 9, 1154 UT. SE prominence. Eric Strach.



2001 August 9. Eruptive prominence on W limb. Drawings by Harold Hill using 71mm Promscope, 1.5Å H α filter with drive and x90 wide-angle ocular.

Major Flares, 2001 August (excluding types SF & SN)

Date	Time UT	Lat.	CMD	Type	Obs.	Date	Time UT	Lat.	CMD	Type	Obs.
3	1003	N25	E27	1N	AG	25	1102	S17	E36	1N	AG
5	0952-1005	N19	E24	1N*	KJM	25	1416-1418	S26	E44	SB*	KJM
5	1042	S16	W21	SB	KJM	25	1625&1628	S33	E50	1B&3B	KJM
5	1500-1506	S25	W40	SB	KJM	27	1340-1400	S19	E08	SB	KJM
5	1535-	S25	W45	SB	KJM	27	1511	S20	E17	SB*	KJM
7	0732	S19	W69	1N	AG	27	1527-1540	S18	E15	SB*	KJM
11	0715	N25	W77	1F	AG	28	0842	N11	E78	1N	AG
11	1146	N36	NW	SB**	KJM	28	1636-	N18	E80	SB	KJM
11	1507	S04	W01	SB	KJM	28	1650-1702	N14	E80	SB	KJM
20	0842	N29	E20	1F	AG	28	1714	N14	E80	SB	KJM
20	1450	S11	E19	SB	KJM	29	0958	S19	E36	1N	AG
24	0905	S13	E58	2N	AG	29	1252	N13	E60	2N	AG
24	1132	S26	E26	1N	AG	31	0925	S18	W44	1N	AG
24	1659	S20	E56	SB*	KJM	31	1052	N13	E38	1N	AG
24	1702	S05	E49	SB	KJM						

* Ribbon flare **Limb flare

Prominence Mean Daily Frequencies, 2001 August

Observer	All Latitudes				0-40°			40-90°		
	North	South	Total	Days	North	South	Total	North	South	Total
A. Gabriël	3.8	5.2	9.0	29	3.3	3.8	7.1	0.4	1.5	1.9
H. Hill	4.0	5.2	9.2	22	2.5	2.8	5.3	1.5	2.4	3.9
K. Medway	3.3	5.3	8.6	20	2.1	3.4	5.5	1.2	1.9	3.1
E. Strach	3.5	4.6	8.1	13	2.8	2.8	5.6	0.7	1.8	2.5