

White light Mean Daily Frequencies, 2001 November

Observer	AA				R		Q	
	North	South	Total	Days	Total	Days	Total	Days
R. Dryden	5.1	3.3	8.4	15	154.7	15	-	-
A. Gabriël	4.2	3.1	7.3	20	126.9	20	-	-
G. Johnstone	4.4	3.5	7.8	11	-	-	-	-
P. Meadows	5.3	3.1	8.4	10	141.4	10	25.4	10
K. Medway	3.3	2.5	5.9	15	-	-	-	-
G. North	3.9	2.3	6.1	7	123.6	7	-	-
E. Richardson	4.7	3.5	8.2	13	113.3	13	18.3	13
J. Shanklin	4.2	3.2	7.4	17	109.0	17	-	-
D. Storey	5.3	4.3	9.5	4	-	-	-	-
E. Strach	4.4	3.3	7.8	12	146.4	11	24.7	12
MEANS	4.4	3.2	7.6	124	129.8	93	22.5	35

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

White light activity, 2001 November

White light activity has seen somewhat of an increase over the past few months, particularly in June and from September perhaps indicating that we are having a secondary maximum to this solar cycle. We will only be sure once smoothed sunspot numbers can be calculated (based on a running average over a 13 month period centred on each month). Strach comments that having observed on only 12 days during the month (and on only 2 days in the second half of the month) no definite trend of activity can be defined. Yet, his AA MDF seems to have remained high being only slightly lower than in October. Other parameters of sunspot activity were also high, in fact his sunspot number, R, has risen from 136 in October to 146. Similarly, the quality factor, Q, has remained at high levels. The chart below shows the change in AA MDF during this solar cycle.

Meadows reports that the large Ekc group at N13/174 near the central meridian on the 31st October was seen progressing towards the western limb during the first 5 days of the month. On the 1st, the main spot towards the middle of the group had increased in size through the merger with following penumbral spots. This spot then merged with the leading penumbral spot on the 2nd to give the group an area of 1070 millionths. Medway comments that this group was easily visible to the protected naked eye on the 2nd. Observations by Meadows on the 3rd to 5th showed the group reducing in size such that, on the 4th, its area was 760 millionths. Strach comments that this was an impressive group and that it reached the western limb on the 6th. Meadows adds that the other moderately sized group from the end of October, at N7/140 remained of type Dkc up to the 5th. Its appearance changed each day while its area increased slightly to 490 millionths when last seen by Meadows on the 5th.

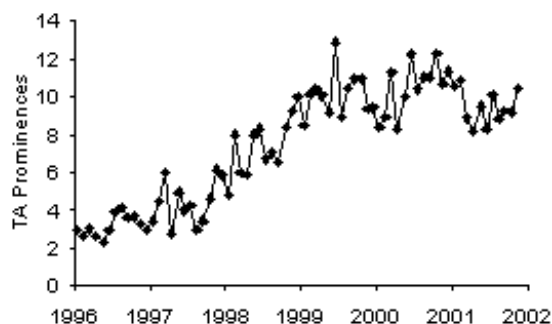
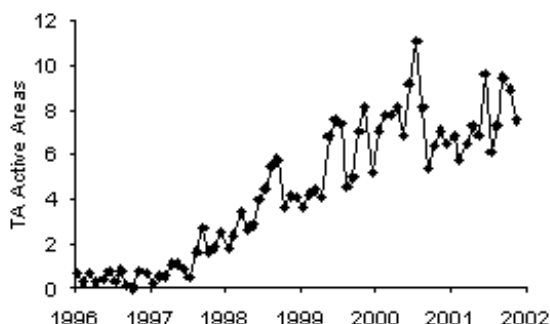
The southern hemisphere was seen spotless at the end of October; on the 1st a group at S18/79 has appeared around eastern limb. As this group rotated more on to the disk, it was seen by Meadows as of type Fac between the 3rd and 5th. It consisted of a string of small penumbral spots with a maximum area of just 350 millionths on the 4th. The group was last seen by Meadows on the 10th as type Fai with a reduced area of 80 millionths. Strach notes that this group was the return of a group first seen on the 5th October which had decayed around the 13th October but which somehow survived the passage over the averted hemisphere.

The largest group of the month was first seen by Meadows as a Dkc group near the eastern limb at S16/28 on the 5th. By the next observation on the 9th, it was a fine bipolar Fkc group with an area of 1240 millionths. There were irregular elongated penumbral spots at either end of the group and many small penumbral spots and other spots between. On the same day Strach comments that the group spanned 18° of longitude and containing 5 large penumbral spots and 8 lesser penumbral spots. The group was seen by Meadows to have a similar appearance on the 10th while by the 13th the number of groups between the main spots had reduced. On the 14th the size of the two main spots had reduced and by the 15th the area of the now Fac group was estimated by Meadows to be 500 millionths.

During the period 10th to 15th, an equatorial group was seen by Meadows at S3/323; at its largest it was seen as type Csi on the 13th with an area of 30 millionths. Also on the 13th, Meadows observed a high latitude Bxo group at S32/356.

During the latter half of the month, Johnstone reports seeing 2 spots with the protected naked eye spots on the 19th and 20th and 1 naked eye spot on the 22nd. During this period, Meadows was only able to make one observation. This was

on the 26th when only 7 groups were seen and the largest of these was a Dao group at N5/139 with an area of 380 millionths. The number of groups seen was similar to that at the start of the month but less than the 12 seen on the 10th when the sunspot number was 200. Also on the 26th, Johnstone saw no naked eye spots.



Ha activity, 2001 November

Medway comments that prominence activity remained quite high during the month while Strach reports that his prominence MDF was maintained during the month but that most prominences were small and unremarkable. However, Gabriël observing on a more days reports that prominence activity was generally much lower than in October. The chart above shows a slightly increasing prominence MDF since March 2001 but less than during the latter two-thirds of 2000.

On the 5th, Gabriël observed a system of loop prominences that had developed at S17/E90 by 1035. These were not very bright, and it is not clear why they formed but perhaps there had been a flare behind the limb. Strach observed, on the 8th, a small dense prominence at S11 on the E limb that had an extensive cloud-like extension towards the south. Small mounds were seen on the 10th at S25 on the SE limb by Medway. On the 13th a dense prominence was seen by Strach at S18 on the E limb; it changed appearance between 0945 and 1300. It was still present on the 14th. Medway saw an eruptive prominence on the SE limb on the 15th from 1125. Over a period of 15 minutes a column of bright hydrogen rose above the limb curling back down towards the limb, the loop becoming elliptical by 1141. Many spikes and small mounds were seen by Medway on the NW and SE limbs on the 24th.

Strach reports that there were many filaments during the month but none were of outstanding appearance and that they were most plentiful on the 26th.

Flares, 2001 November

Date	Time UT	Lat.	CMD	Type	Obs.	Date	Time UT	Lat.	CMD	Type	Obs.
1	1243	N10	W18	1N	EHS	8	1349	S25	E39	SB	KJM
2	0920	N03	W36	1N	EHS	9	0928	S19	E19	1B	AG
3	0936	S19	E25	SF	EHS	13	1150	S14	W16	SF	EHS
3	1000	N12	W44	SN	KJM	15	1113	N13	E29	SF	KJM
3	1321	N14	W40	SF	KJM	15	1123	S08	E68	SN	KJM
3	1354	N15	W40	SN	KJM	20	1115	S16	W02	SF	EHS
4	1340	S20	E46	SB*	KJM	24	1248	S15	W54	SB	KJM
4	1400	S27	E21	SB	KJM	27	1048	S18	E90	SN	AG

* Ribbon flare.

Prominence Mean Daily Frequencies, 2001 November

Observer	All Latitudes				0-40°			40-90°		
	North	South	Total	Days	North	South	Total	North	South	Total
A. Gabriël	4.6	5.1	9.8	16	4.0	3.9	7.9	0.7	1.1	1.8
K. Medway	5.3	4.8	10.2	6	4.7	4.2	8.8	0.7	0.7	1.3
E. Strach	5.3	6.4	11.8	9	4.3	4.1	8.4	1.0	2.3	3.3