

SOLAR NOTES**Edited by Peter Meadows****White light Mean Daily Frequencies, 2000 October**

Observer	AA				R		Q	
	North	South	Total	Days	Total	Days	Total	Days
R. Dryden	3.4	4.0	7.4	10	119.8	10	-	-
A. Gabriel	2.7	3.2	5.9	23	93.5	23	-	-
M. Hendrie	3.3	5.3	8.7	6	118.7	6	-	-
A. Ibrahim	-	-	4.9	11	60.1	11	-	-
G. Johnstone	3.1	4.3	7.4	11	-	-	-	-
P. Meadows	2.9	4.5	7.4	8	109.9	8	24.0	8
K. Medway	2.1	2.9	5.0	18	-	-	-	-
G. North	2.5	4.1	6.6	8	99.9	8	-	-
J. Shanklin	3.2	3.9	7.1	12	97.0	12	-	-
L. Smith	3.0	4.2	7.2	5	108.2	5	-	-
E. Strach	2.6	3.6	6.2	21	98.2	20	19.6	21
D. Storey	3.4	3.8	7.2	9	-	-	-	-
T. Tanti	2.8	3.7	6.5	15	98.0	13	17.1	15
MEANS	2.8	3.7	6.4	157	97.8	116	19.6	44

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

On behalf of all the contributors to this column, including myself, I would like to thank Nick James for his dedication and skill in preparing this column since May 1991. I hope, with the support of all TA solar observers, to continue to make this column as interesting as under Nick's editorship.

White light activity, 2000 October

Many observers commented that activity was only slightly higher than during September and that the southern hemisphere produced the higher activity. Strach also comments that activity is well below that expected for the present stage of the solar cycle.

Meadows reports that the largest of the 8 groups seen on the 1st was of type Ehc at S8/322 with an area of 360 millionths. The leading spot of this group dominated as all the following spots were small. When next seen on the 5th, the group had reduced in size to 200 millionths and it had lost all the following penumbral spots to become type Csi. It had a similar appearance on the 6th but by the 8th several penumbral spots could be seen near the western limb. The group with the longest longitudinal extent on the 1st was also in the southern hemisphere. This was of type Eac at S11/353 with an area of 270 millionths. By the 5th, the group was seen approaching the western limb and it was last seen on the 6th. The only other moderately sized group from the 1st was a Dac group with an area of 150 millionths at S20/315 and thus to the south of the Ehc group. By the 5th, this had grown into an Eac group with an area of 240 millionths before decaying such that on the 8th only a single penumbral spot near the western limb was seen.

Strach & Meadows observed two high latitude groups on the 1st at S36/358 and N29/21 while Strach observed another high latitude group at N34/347 on the 3rd.

On the 3rd, Strach observed three spots near the E limb at the low latitude location of N3/245; it became a single penumbral spot on the 4th. On the 5th Meadows saw this group as type Eso at N3/247 with an area of 200 millionths. By the 6th, the following penumbral spot had disappeared while the number of spots following had increased to form a Csi group with a reduced area of 130 millionths. When seen on the 8th, it had lost some of the following spots to become type Cso with an area of 110 millionths. On the 10th Strach reports that it was a trio of penumbral spots at N2/255.

Between the 4th and 13th Strach observed a small group around S30/259 throughout its passage across the disk. It crossed the CM on the 8th at S30/255 as a Dso type and after the 10th it became a single spot until the 13th when two small spots were seen near the W limb. Strach notes that the group was retrograding in longitude.

Meadows notes that his observation on the 15th had a predominance of southern hemisphere groups but all were small in size; the largest was a Dac group at S10/130 with an area of 130 millionths. Near the eastern limb a Hsx spot was seen at N13/87 surrounded by an extensive area of faculae - this was the remnant of the large group seen in September. Also on the 15th Strach and Meadows observed a Dro group near the E limb at S30/98. Strach reports that it became type Dso on approaching the central meridian on the 19th. On the 22nd it contained four penumbral spots at S31/94 and it crossed the W limb on the 25th.

On the 26th Meadows notes that all but 1 of the 6 groups seen were in the eastern hemisphere but once again, none were particularly large. One of these was the return of the Dac group seen on the 1st, now being type Dsc at S22/308. On the 29th and 31st this group had an area of 180 and 190 millionths respectively and was of type Dac on both dates. Another low latitude group was seen on the 29th and 31st at N3/272 of types Hax and Hkx respectively with an area of 210 millionths on the 31st.

Erratum: Tony Tanti advises that his September MDF's were incorrect submitted; his correct values were AAN = 3.4, AAS = 2.5, AAT = 5.9 (26 days), R = 104.6 (25 days) and Q = 16.0 (26 days). The TA means for September become AAN = 2.9, AAS = 2.7, AAT = 5.6 (175 days), R = 106.3 (123 days) and Q = 17.0 (71 days).

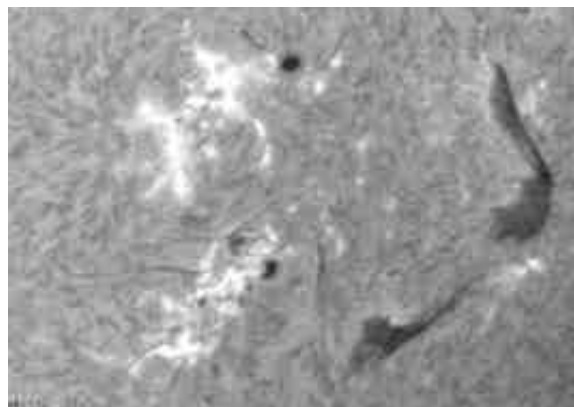
H α activity, 2000 October

Strach notes that his prominence count has risen to an MDF of 12.5 from 10.8 in September but has not surpassed the high of 14.7 he recorded in June. Medway comments that the level of prominence activity remained high with an MDF of 10.8.

Strach reports that some interesting prominences were seen. On the 1st a looping prominence was observed on the W limb at N9 to N12. The configuration was constantly changing during the observation time from 0850 to 1007. The loops were interlacing and contained many condensations. It was very likely associated with a sunspot group at N10/79 which had crossed the W limb on 30th September. On the 4th Strach recorded a cloud-like detached prominence on the W limb around S32 which was still present on the following day. There was another significant detached prominence on the 4th at S7 on the E limb. It lay above two brilliant pillar prominences at S8 to S11. On the 8th Strach observed a dense and extended low mount prominence on the W limb from S13 to S33. Its main mass was almost devoid of any structure apart from small extensions; the northern part of the main body was standing proud of the solar limb except for the most northerly portion which connected with the limb. Medway also observed this mound prominence. Strach saw a very dense prominence on the W limb on the 19th. Its main mass was at S23 to S19. Some structure could be seen in the mass but it could be seen more vividly at 1420 UT when a dark curve seemed to be in front of it, giving a 3D effect of a folded curtain. The main body sported many extensions northwards as far as to a small prominence at S3. In between there were several dark and also bright and thin extensions all pointing northwards, some of the dark ones forming crosses. On the 21st Strach observed a

somewhat similar prominence on the E limb at S30 to S25 with streamers veering northwards to a small prominence at S15. On the same day a prominence at N49 on the E limb developed a jet extension to a strong condensation from which a streamer turned sharply northwards being almost parallel to the solar limb. Medway noted on the 29th a very tight loop prominence at N85 on the NE limb.

Throughout the month Strach observed many filaments on the disk, some of them being very dense. On the 4th a dense filament was of a boomerang shape - as is shown in accompanying figure. This filament must have crossed the W limb and given rise to the extended prominence on the 8th. Medway counted 12 filaments on the 8th at 0945. On the 10th Strach saw a filament connected with a small prominence on the E limb at S54. This was more obvious on the next day when the filament veered in a NW direction, reaching the 40° parallel. It persisted until the 13th when it had just lost the connection with the prominence. Strach saw a very similar filament cum prominence was seen on the 17th at S23 on the W limb. The filament veered northwards towards a point 5° below the equator. On the same day an elegant S shaped filament was seen near the E limb, extending from N20 to just north of the equator.



2000 October 4, 1049 UT. Dense 'boomerang' filament. Starlight Xpress CCD image taken with C8 & 0.6A H α filter, 1/100th sec exposure. Eric Strach.

Flares, 2000 October

Date	Time UT	Lat	CMD	Type	Obs.
1	1308-1329	N8	E16	1B	KJM
12	1103	S35	W44	SF	EHS
18	1208-1215	S30	E24	SF	EHS
19	1010	N06	E83	SF	EHS
21	1402-1412	N15	E62	2N	EHS
26	1140	N10	W71	1N	EHS

Prominence Mean Daily Frequencies, 2000 October

Observer	All Latitudes	0-40°	40-90°
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	North	South	Total	Days	North	South	Total	North	South	Total
M. Hendrie	6.5	8.0	14.5	2	4.0	5.0	9.0	2.5	3.0	5.5
K. Medway	5.6	5.2	10.8	5	3.8	3.6	7.4	1.8	1.6	3.4
E. Strach	6.0	6.6	12.5	20	3.6	3.2	6.7	2.4	3.4	7.8