# WHITE LIGHT SOLAR ACTIVITY

## White light MDF, 1996 April

| Observer | MDF | | | | R | | Q | |
|---|---|---|---|---|---|---|---|---|
| | North | South | Total | Days | Total | Days | Total | Days |
| W. Heyes | 0.00 | 0.00 | 0.00 | - | 7.00 | - | - | - |
| G.F. Johnstone | 0.00 | 0.27 | 0.27 | 11 | 3.36 | 11 | - | - |
| E. Strach | 0.05 | 0.18 | 0.23 | 22 | 2.95 | 22 | 0.68 | 22 |
| K. Medway | 0.18 | 0.11 | 0.29 | 28 | - | - | - | - |
| G. North | 0.00 | 0.08 | 0.08 | 13 | 1.08 | 13 | - | - |
| P. Meadows | 0.19 | 0.19 | 0.38 | 16 | 4.38 | 16 | 0.50 | 16 |
| CUAS | 0.20 | 0.10 | 0.20 | 4 | 3.00 | 18 | - | - |
| M. Götz | - | - | 0.00 | 7 | - | - | - | - |
| T. Tanti | 0.16 | 0.32 | 0.47 | 19 | 6.10 | 19 | 0.80 | 19 |
| MEANS | 0.12 | 0.18 | 0.28 | 119 | 3.56 | 98 | 0.67 | 57 |

## White light MDF, 1996 May

| Observer | MDF | | | | R | | Q | |
|---|---|---|---|---|---|---|---|---|
| | North | South | Total | Days | Total | Days | Total | Days |
| M. Götz | - | - | 0.29 | 24 | 6.56 | 24 | - | - |
| CUAS | 0.00 | 0.40 | 0.40 | 23 | 6.00 | 23 | - | - |
| K. Medway | 0.08 | 0.34 | 0.42 | 26 | - | - | - | - |
| G. North | 0.33 | 0.00 | 0.33 | 9 | 4.33 | 9 | - | - |
| E.H. Strach | 0.00 | 0.38 | 0.38 | 29 | 5.41 | 29 | 1.21 | 29 |
| P. Meadows | 0.11 | 0.50 | 0.61 | 18 | 9.06 | 18 | 1.89 | 18 |
| W. Heyes | 0.00 | 0.42 | 0.42 | 12 | - | - | 1.42 | 12 |
| G. Johnstone | 0.07 | 0.40 | 0.47 | 15 | 6.50 | 15 | - | - |
| MEANS | 0.06 | 0.37 | 0.41 | 156 | 6.37 | 118 | 1.46 | 59 |

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

## BAA/TA Comparison

| Month | Active areas | | Spot numbers | |
|---|---|---|---|---|
| | BAA | TA | BAA | TA |
| 1996 March | 0.74 | 0.70 | 9.83 | 9.88 |
| 1996 April | 0.43 | 0.28 | 5.73 | 3.56 |

## Sunspot Activity, 1996 April

The MDF was extremely low in April. Various observers reported that it was the lowest that they had recorded for ten years. Strach observed only three active areas during the month with a *mean latitude* of 6°. The only "substantial" feature was a penumbral spot at -10/242 visible on the 21st. Medway reported that the only spots recorded during the month were short-lived.

Strach observed *polar faculae* on April 1, 11, 19 and 24 all in the S and Meadows observed on the 27th under excellent seeing conditions.

## Sunspot Activity, 1996 May

Activity was slightly higher than in April but many observers reported that they only saw a single group during the month.

Meadows reports that between the 6th and the 13th he observed three groups. The first at N12/337 was a small A-type group which was near to the CM on the 6th and 7th.

The most prominent group was a D-type which crossed the disk between the 6th and the 15th. Strach first saw this group as it crossed the E limb on the 6th at 1630. His measured position for the group was S6/258. From the 9th onwards Strach reports that the group became more active and developed an increasing number of satellite spots. Between May 15 and 17 the follower spot enlarged, split and vanished leaving only the faint leader. By the 18th the entire group had vanished but Strach observed bright faculae in the group's position near to the W limb.Meadows reports that this was the largest group seen since the third

week of March. He estimated the position as S11/262 and the total area as 80 millionths on the 12th.

The third group of the month was observed by Meadows on the 15th only. It was a single pore some 15° following the D-group.

Strach reported *polar faculae* on May 3 (S&N), 4 (S&N), 5 (S), 8 (S), 13 (N), 14 (N&S), 21 (N&S), 23 (S), 30 (S) and 31 (S).

# MONOCHROMATIC SOLAR ACTIVITY

## Prominence MDF, 1996 April

| Observer | All Latitudes | | | | 0-40° | | | 40-90° | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | North | South | Total | Days | North | South | Total | North | South | Total |
| E.H. Strach | 1.00 | 1.60 | 2.60 | 20 | 0.70 | 1.20 | 1.90 | 0.30 | 0.40 | 0.70 |
| K. Medway | 0.71 | 2.00 | 2.71 | 14 | 0.57 | 0.79 | 1.36 | 0.14 | 1.22 | 1.36 |

## Prominence MDF, 1996 May

| Observer | All Latitudes | | | | 0-40° | | | 40-90° | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | North | South | Total | Days | North | South | Total | North | South | Total |
| E.H. Strach | 1.04 | 1.58 | 2.62 | 24 | 0.80 | 0.96 | 1.76 | 0.21 | 0.63 | 0.85 |
| K. Medway | 0.68 | 1.32 | 2.00 | 19 | 0.32 | 1.10 | 1.42 | 0.37 | 0.21 | 0.58 |

## Prominence activity, 1996 April

In Hα the sun was more active and Medway reports that various prominence forms were on view. He notes that the most impressive prominence display was seen on April 3/4 on the SE limb when a series of large spikes and mounds were seen.

Strach reports that the most impressive event took place on April 22. A bright plage was visible through thin cloud at 1125 and he considered it to be an Sf flare at S9/W72. Tony Hopwood also observed increased activity in UV at around 1130 and it is likely that these events are associated.

## Prominence activity, 1996 April

Medway reports that several interesting prominences were seen during the month but that they were mainly small and concentrated between 0 and S40. He notes that the most interesting prominence observed during the month was seen on the 27th between S27 and S45. This took the appearance of an auroral curtain and was certainly impressive. It did not last long since it had gone by the 29th.

The large bipolar group seen in white light showed considerable activity in Hα according to Strach. On the May 7 plages of bright Hydrogen surrounded a small satellite spot which was situated further south at S7.5/257. On the 8th another plage with an associated filament was seen preceding the whole area.

Strach recorded an outstanding filamentous surge on the 12th at 1005. It was a very dark filament extending from the leader spot southwards. It swung to the east within five minutes and faded at 1020. On the 13th activity surrounding the group reached a maximum and covered 20° in longitude. There were filaments and plages of differing intensities and fine filaments extending radially from both main spots just like iron filings over a bar magnet. Strach reports that the activity began to wane on the 15th and all that remained by the 18th was a bright plage near to the W limb.

Strach reports that a few prominences were outstanding. On the 15th/16th he saw lofty prominences near to the west point at N19 to N27. He estimated the height to be 82,000km.

## Flares, 1996 April

| Date | Time | Lat | CMD | Type | Obs. |
|---|---|---|---|---|---|
| 4 | 1448 | S1 | SW | Sf | KJM |
| 13 | 1540 | S10 | E32 | Sf | KJM |
| 21 | 1300 | N4 | W50 | Sf | KJM |
| 21 | 1500 | N4 | W50 | Sf | KJM |

## Flares, 1996 May

| Date | Time | Lat | CMD | Type | Obs. |
|---|---|---|---|---|---|
| 6 | 1747-1758 | S55 | SE lb | lb. flr. | KJM |
| 11 | 1745 | S8 | E26 | Sf | KJM |