



The British Astronomical Association

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BAA Solar Section Newsletter

Sunspot data 2007 July



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Images for the web should be sent to Mike Beales at: mbeales@gotadsl.co.uk and copied to me. Where at all possible, provide all digital images in "jpg" format with the same orientation as naked eye orientation. Include initials, date and time in the file name.

WEB ADDRESS:

www.baa-solarsection.org.uk

Observers:

Day	g	R
1	2	22
2	1	15
3	1	12
4	1	12
5	1	12
6	1	12
7	1	10
8	1	13
9	1	18
10	1	22
11	1	22
12	1	23
13	2	31
14	2	36
15	2	32
16	2	24
17	1	16
18	1	13
19	1	9
20	0	1
21	0	0
22	0	0
23	0	0
24	0	0
25	0	0
26	0	0
27	0	0
28	1	12
29	1	12
30	1	10
31	0	0

J Adelaar, Netherlands	P Lawrence, Selsey
H Barnes, Auckland, NZ	M Leventhal, NSW, Aust
R Battaiola, Milan, Italy	R Livesey, Edinburgh
G Boots, W Sussex	L Macdonald, Berkshire
M Boschat, Nova Scotia	R Mackenzie, Kent
A Bowyer, Epsom Downs	R Marantino, New Jersey
A Broxton, Callington College	M Martin-Smith, Hull
M Buck, Bristol	P Meadows, Essex
H Collett, York	K Medway, Hampshire
E Colombo, Italy	I Megson, W Yorks
J Cook, Wolverhampton	B Mitchell, Norwich
L Corp, France	P Norman, London SE23
G Datek, Poland	G North, Norfolk
R Dryden, Oxon	P Paice, Belfast
F Dubois, Belgium	Polish Solar Obs Society
H Eskildsen, USA	E Richardson, S Yorks
P Garbett, Bedfordshire	E Roel Schreurs, Mexico
M Gavin	G L Schott, Germany
M Giuntoli, Italy	J D Shanklin, Cambridge
M Green, Holywell	L Smith, S Lanarkshire
K Hall, Warrington	G Stefanopoulos, Greece
B Halls, W Sussex	N Stoikidis, Greece
A W Heath, Nottingham	D Storey, Isle of Man
C Hobster, Fife	E Strach, Liverpool
M Houchen, Guisborough	M Suzuki, Japan
N Howes, Wiltshire	H Thomas, East Sussex
J Janssens, Belgium	D Tyler, Bucks
A Johnston, Victoria, Aust	S Ove Thimm, Denmark
G Johnstone, Warwick	P Urbanski, Poland
J Kartin, Denmark	D Vidican, Romania
B Keenan, Norfolk	S Walker

MDFg:	0.83 (50 observers)
MDFNg	0.07 (32 observers)
MDFSg	0.74 (32 observers)
Mean R:	12.56 (42 observers)

The Sun in White Light – July

Activity for July was slightly down on last month whilst the trend for activity remained within the southern hemisphere. Most observers reported a blank disk on the 20th with all observers reporting a blank disk from the 21st to 27th inclusive. The month opened with the two groups from the previous month on the disk.

AR961 S10°/221° was close to the CM on the 1st type Cao with an area of 70 millionths.

The umbra had split in two with some small spots visible around the main spot and also a pore on the same latitude but well to the east of the main group. By the 3rd the umbra had split into two equal well separated halves and the smaller spots had faded. The group started to decline on the 5th and rounded the western limb on the 7th.

AR962 S08°/194° survived from the previous month but much reduced as a single Axx spot. The group was not seen thereafter.

AR963 S06°/058° rounded the eastern limb on the 7th type Hsx and was type Dso by the following day. The group developed into type Ekc by the 10th with an area of 370 millionths. The group sported an asymmetric penumbral leader spot followed by several smaller penumbral spots and was visible with the protected naked eye on the 11th. The group then started to decay with the leader spot reducing in size and the number of following spots declining. By the 15th the group had an area of 150 millionths and type Cso by the 17th. The group was last seen on the 19th close to the western limb as a single Hsx spot.

AR964 N04°/084° first seen on the 12th type Bxi, the only northern hemisphere group of the month. The group persisted through the 14th 15th and 16th to the west of AR963 as type Cso with an area of 40 millionths but was not seen on the 17th.

AR965 S11°/195° arrived on the 28th after a run of spotless days. The group was type Cao but decayed to type Axx being still visible on the 30th.

A short lived group was seen by 3 observers on the 29th and 30th in the southern hemisphere to the west of AR965 but it does not seem to have received an official designation.

The quality number (Q) for July was **2.93**

The Sun in H-Alpha

Prominences

14 observers reported a prominence MDF of **2.65** for July.

Eric Strach reported a 'lofty jet prominence' on the 2nd which he surmises must have been ejected as it did not last long.

Several observers reported the 6th and 7th as particularly notable days. Eric saw a brilliant prominence at S06° on the eastern limb at 13.00 UT. By 14.20 it had lost some of its brightness and split into three parts. He concluded that it was associated with the subsequent appearance of AR961 and that the 'brilliant prominence' was possibly a limb flare emanating from the spot beyond the eastern limb. Mike Houchen also reported a 'limb flare' at 14.40 UT on this date on the eastern limb S05°.

Peter Meadows reported a 'smoking chimney' type prominence on the SE limb where the 'smoke' extended some 5° along the limb towards the south. Lee Macdonald confirmed this sighting. By the 16.45 UT the following day a very bright prominence was seen by Peter also on the SE limb but closer to the equator. By 17.55 UT the prominence was still bright but not as high above the limb. Arthur Bowyer also reported a small bright prominence on the southern limb on the 7th which was a 'long spike with a barb' by 16.50 UT but it had greatly diminished by 17.30 UT. Ken Medway also saw a 'tall slender pillar' on the SE limb on the 7th. Helen Thomas reported an 'incredible surge prominence' at 12.35 UT on the 7th appearing to originate from just inside the disk rather than on the SW limb.

Monty Leventhal reported a prominence on the NE limb extending to a height of 112,000

km on the 15th and a large hedgerow prominence at 22.30 UT on the 18th extending 177,000 km along the SE limb and to a height of 84,000 km.

An 'array' of prominences was seen on the SW limb on the 19th extending from S02° to S28° which consisted of 3 main parts interacting at times. The configuration changed constantly throughout the day. Two sets of flame type prominences were seen on the SE limb near to AR963.

Brian Mitchell reported a prominence on the 30th on the NE limb 40° - 50° which was the largest he had observed all month. The prominence was still present the following day although reduced in size.

Filaments and Plage

No filaments or plage of any note were recorded this month although Peter Meadows noted that plage accompanied AR963 as it crossed the disk, fading as it did so. Brian Mitchell recorded a bright area next to AR961 on the 1st and filament around S25°/210° on the 30th and 31st.

Flares

The 7th saw some flare activity with Ernest Richardson recording a possible flare at 08.10 UT and Eric Strach a limb flare at 13.00 UT in association with AR961. By 13.05 the flare had changed into two parts and by 14.20 UT had lost its brilliance and was divided into three parts. This was confirmed by Mike Houchen. Alan Heath reported a limb flare at 08.40 UT which was still present at 13.40 UT.

On the 8th Alan Heath reported a flare at 07.40 UT in association with an Active Area which was still present at 13.15 UT. Mike Houchen confirmed a flare in association with AR961 at 15.00 UT.

Alan Heath observed a flare in association with AR961 at 07.10 UT on the 9th and 2 flares at 08.00 UT on the 10th with the flare nearest the AR being the brightest. Ken Medway also reported a flare on the 10th at 06.32 UT at S08° and Ernest Richardson reported a bright flare at 08.12 UT plus two more 'within seconds'.

On the 18th Dave Tyler reported a weak flare and on the 28th Ernest Richardson reported a further flare at 08.20 UT. Ken Medway also saw a flare on the 28th at 07.15 UT at S12° and 31° east of the CM.

CaK

Brian Mitchell reported patches around all groups throughout the month. Diffuse patches followed AR962 even after the spot had faded. A very bright patch was seen amongst AR963 on the 10th and a patch was visible on the 27th in the vicinity of AR965. Ken Medway reported K plage on the 29th surrounding AR965.

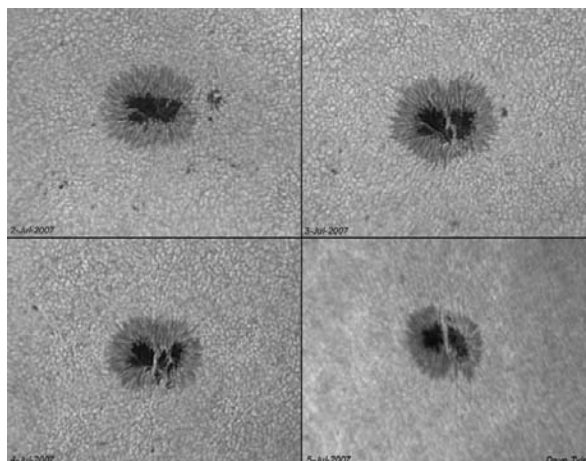
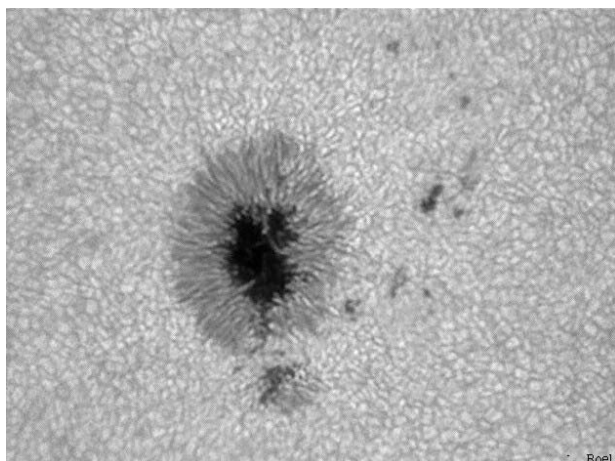
Polar Faculae

North 8.23 South 4.74 (Data supplied by F. Dubois and J. Janssens)

S.I.D's at 23.4kHz

Day	Start	Peak	End	Notes
10	07.11	07.23	07.40	1+
10	11.13	11.24	11.45	1+
10	12.37	12.46	13.35	2+
10	17.50	17.55	18.15	1

**Data supplied by
John Cook**



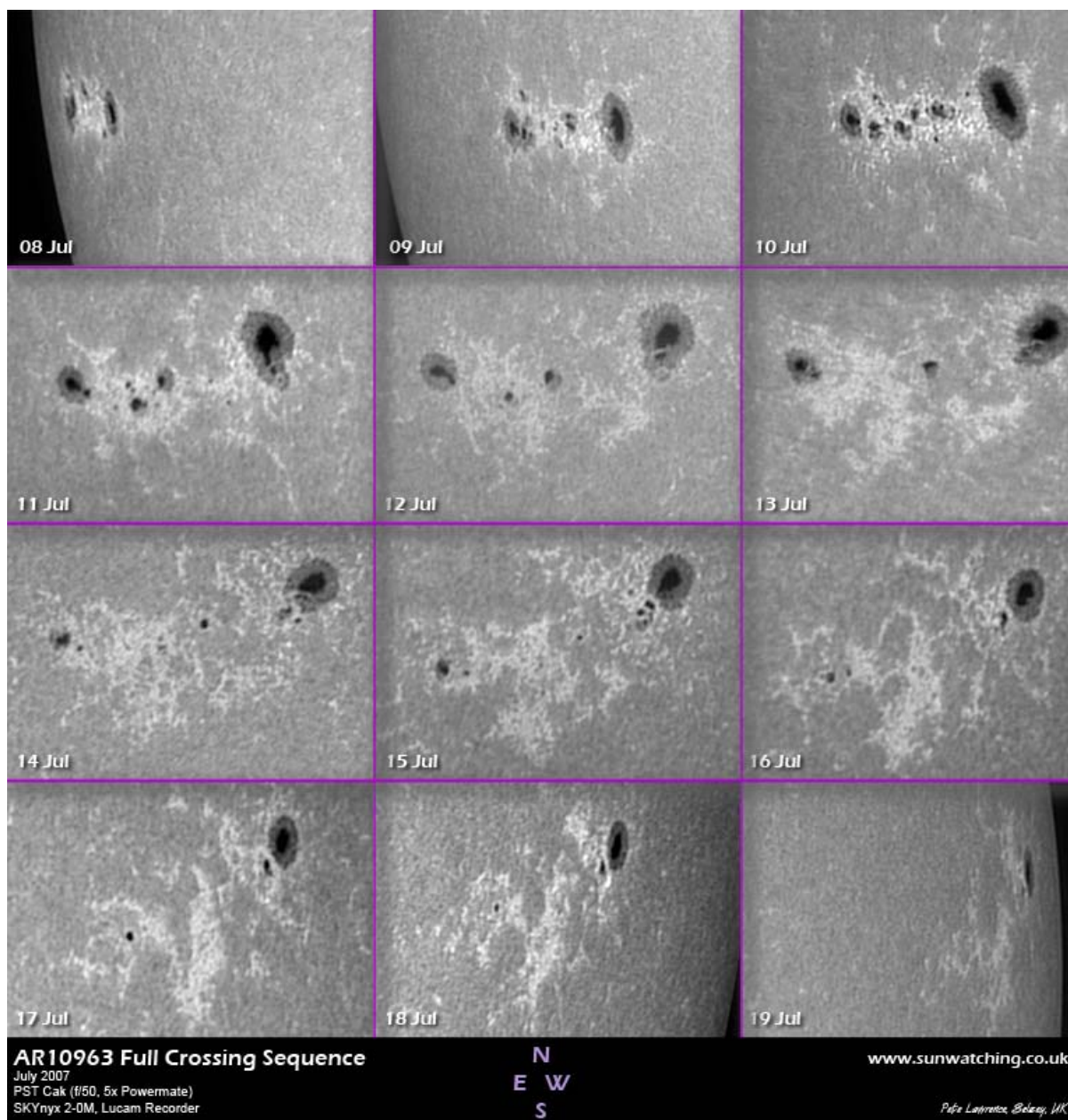
Above Left: AR 961 on 1st July 2007

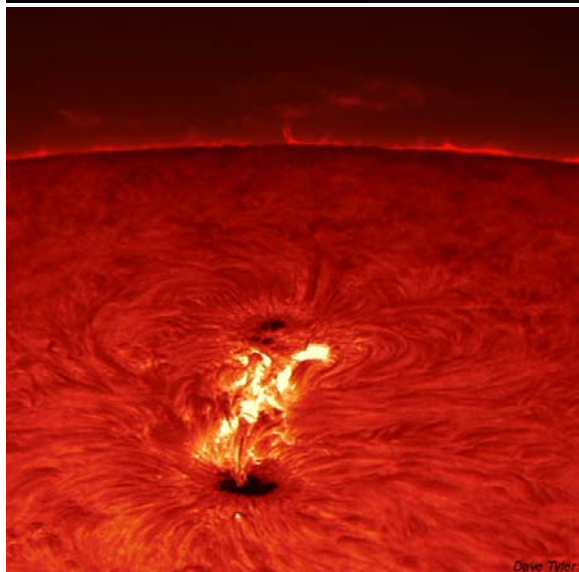
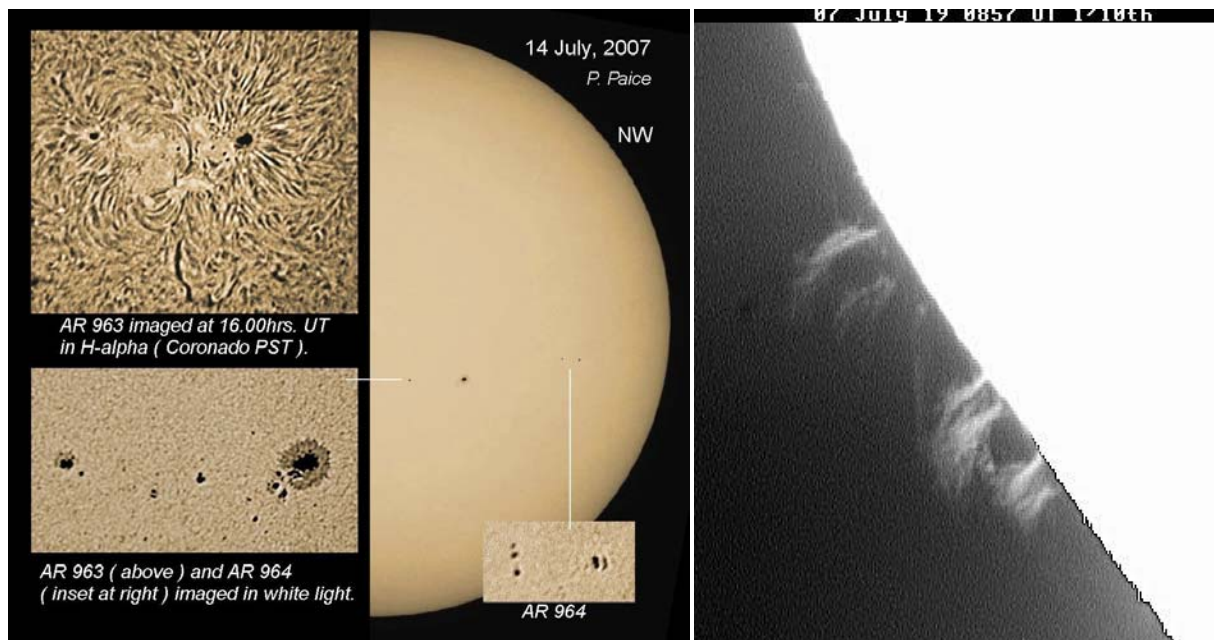
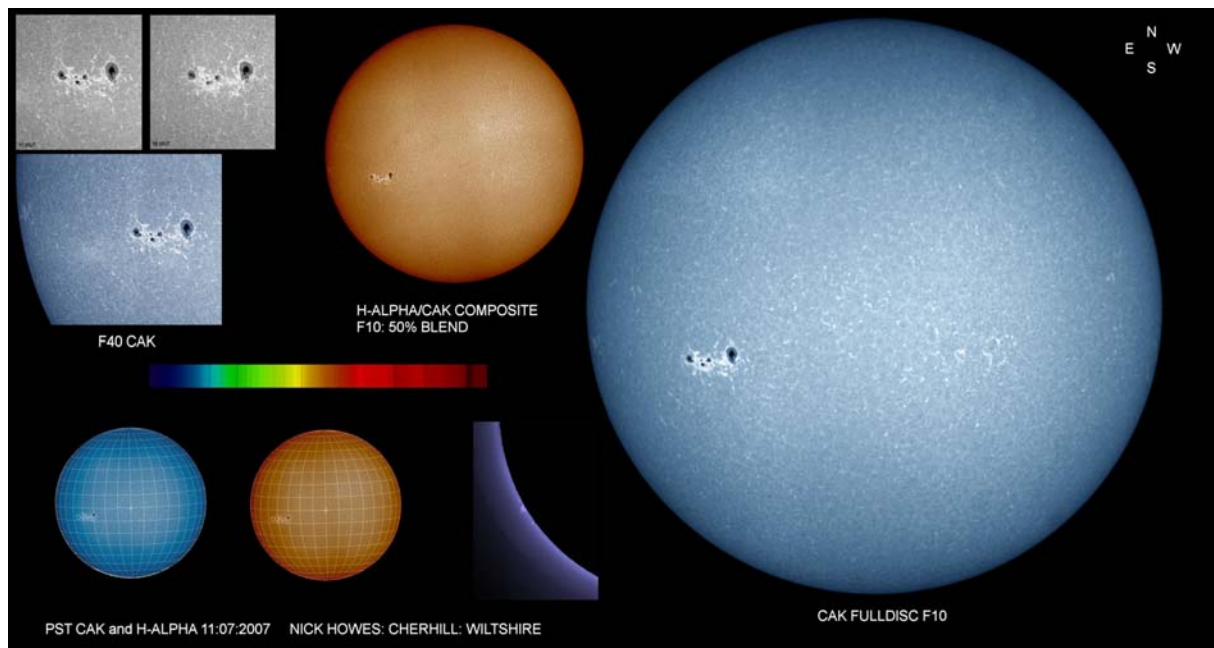
Image by Eric Roel 6" f12 refractor

Above Right: AR961 sequence by Dave Tyler

Below: Sequence of AR963 crossing the solar disk 8th to 19th July.

Image by Pete Lawrence





Above: Image by Eric Strach, prominences on 19th July.

Left: Image of AR963 9th July 0856 UT Dave Tyler

Solar Section News

I've been contacted by Charlie Warren the editor of Amateur Astronomy magazine based in Nashville, USA regarding using some of the content published in this newsletter. The magazine is written by amateur astronomers for amateur astronomers aimed mostly at the USA but also has readers in 9 other countries. The annual subscription is low and the magazine is aimed at spreading know-how amongst the amateur astronomy community rather than profit. I think it's a great opportunity for members to have their work seen and appreciated in the USA and of course to publicise the Section and encourage American solar observers to submit their observations in return. If any contributor does *not* agree to their work being published in AA magazine, could you let me know please and I'll inform Charlie. Members views on this arrangement would be appreciated. For those wishing to know more about AA magazine their website can be found at www.amateurastronomy.com

Bob Oseman, new member BAA Solar Section

I began serious solar observing using a projection box. I attach a photo of my set-up. The telescope is a Vixen GP102. A friend made me a cement free Huygens eyepiece with a 25mm focal length, to overcome potential heat problems in modern multi-element eyepieces. The projection box is made of panels cut from packaging boxes and stiffened. If you cut and glue the panels with the corrugations complementing each, you can achieve very strong light-weight structures. The image is projected to produce a 6in-diameter disc. For demonstration purposes, I replaced the screen with a translucent screen for viewing from behind. This allowed more people to see the images. I belong to the Mid-Kent Astronomical Society (MKAS). At that time, our meetings were held at Riverside Country Park and our open days were very well attended and I'm pleased to say my projection set-up was very popular. I used to get home hoarse. The main drawback of this set-up is that it takes a long time to set up and dismantle. If anyone might be interested, I could do a write-up describing the construction of the projection box. It's strong and comparatively light, needing only a supply of strong board, some timber, including quadrant and good quality PVA wood

glue. I've

tried my hand at photography, clamping my camera afocally to the telescope. My cameras are a Canon T70 SLR, with a 28-70mm zoom lens, a Fuji FinePix 2600Z and now a Konica-Minolta Dimage Z2, with an SLR equivalent zoom of 38-380mm. I use Baader Astro-Film (factor 5) up front. Results have been quite good with all three cameras, but it has to be said that I've not achieved such detailed observations as I did with projection. What I have yet to try, is a converter ring that will allow me to fit the Canon at the focal plane of the telescope. Camera shake is a problem. Even with everything clamped up tight, it can never be eliminated completely. I'm working on the problems. First job is to visit BCF at Tunbridge Wells to see if the diagonal finderscopes they have can be fitted to the Vixen. That will help with aiming. Whilst I'm there, I'll talk to them about telescope adapter rings.

