



The British Astronomical Association

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BAA Solar Section Newsletter

Sunspot data 2025 November

Day	g	R
1	2	19
2	3	42
3	5	68
4	5	76
5	5	74
6	6	99
7	7	115
8	7	131
9	7	128
10	7	128
11	8	128
12	7	119
13	7	101
14	6	88
15	7	77
16	4	47
17	3	43
18	3	45
19	3	41
20	4	48
21	5	58
22	5	58
23	5	73
24	6	82
25	6	83
26	5	70
27	5	79
28	5	74
29	4	70
30	5	92

Monthly Means

MDFg:	4.93	(40 observers)
MDFNg	2.17	(34 observers)
MDFSg	2.90	(34 observers)
Mean R:	74.84	(41 observers)

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Images for the web should be sent to
Peter Meadows: peter@petermeadows.com and
copied to me. All digital images must be in "JPEG"
format with the same orientation as naked eye
orientation. Include initials, date and time in the
file name. Keep each image file to less than 1Mb.

On-line Reporting:

<https://britastro.org/solarwl>
<https://britastro.org/solarha>

Observers:

R S Armas, Cuba	S Jenner, Kent
C Bailey, Suffolk	A Johnston, Denbighshire
R Battaiola, Milan, Italy	R Johnson, Surrey
M Boschat, Canada	M Kinder, Cheshire
C F Bowron, South Yorks	C Longthorn, Rugby
A Bowyer, Epsom Downs	L Macdonald, Berkshire
S Brown, Leicestershire	R Mackenzie, Kent
M Buck, Bristol	K Man
L Cambon, France	P Meadows, Essex
G Clarke, Australia	A Mengus, France
E Colombo, Italy	H Meyerdierks, Germany
J Cook, Wolverhampton	C C Moraes, Brazil
A Coombs, Vic, Aust	M Nicholls, Sheffield
P Curtin, USA	P Norman, Worcester
S Dawes, London	G Palmer, Wales
A Devey, Spain	R Samworth, Leicestershire
R Dryden, Oxon	J D Shanklin, Cambridge
F Dubois, Belgium	D Smith, Essex
T Emmett, Cambs	L Smith, Angus
G D Ewen, Beds	T Tanti, Malta
E Fabrigat, France	D Teske, Mississippi, USA
M Giuntoli, Italy	C B Thielke, Denmark
D Glover, Essex	SOS PTMA, Poland
S Green, Lancs	TOS, Poland
K Hall, Warrington	S Ove Thimm, Denmark
B Halls, W Sussex	P Urbanski, Poland
K Hay, Canada	G Vargas, Bolivia
R Heard, Suffolk	D Vidican, Romania
R Hill, Arizona, USA	S Viney, Cheshire
J Janssens, Belgium	

The Sun in White Light – November

White light activity reduced in both hemispheres with the Relative Sunspot number (R) reducing for the third month in a row. The Quality number also reduced; however, substantial sunspot groups were still evident. The largest/most active sunspot groups are reported below.

AR4267 N03°/061° survived on the disk from the previous month, now well into the NW quadrant. The group was type Hsx with an area of 160 millionths and was the most obvious feature on the disk. There was little change within the group until it reached the western limb on the 4th.

AR4274 N26°/275° rounded the NE limb on the 2nd/3rd displaying a large asymmetric penumbral region. By the 4th the group was type Ekc with a small leading penumbral sunspot and a much larger asymmetric sunspot following. The group continued to grow as it advanced across the NE quadrant, the small leader merging with the following mass and the mass itself condensing into two large penumbral sunspots. By the 8th the group was type Eko with an area of 1410 millionths. The leader was the more irregular of the two, containing an area of Photosphere within the sunspot. The following day the leader had changed shape but was of a similar size, the group now being classified as type Ekc and near to the central meridian (CM). The group was of similar appearance on the 10th as it entered the NW quadrant but thereafter the leading sunspot started to break up and reduce. By the 12th the leader had split into several penumbral sunspots and overall, the group had reduced to 1020 millionths. The group was of similar appearance as it neared the NW limb on the 14th. The group was reported PNE (seen protected naked eye) on the 7th.

AR4276 S16°/240° rounded the SE limb on the 6th, type Dai. By the 8th the group sported a large leader with a light bridge dividing its umbra. Three small penumbral sunspots trailed the leader, the group being type Dsc with an area of 290 millionths. An extensive area of faculae was noted to the east of this group and AR4277 towards the limb. As the group travelled towards the CM, the trailing sunspots reduced and the leader changed shape and finally split into two smaller penumbral sunspots on the 12th. By the following day, the trailing sunspots had faded altogether leaving only a Cao group with the leading sunspots also reducing. The decline continued as the group progressed towards the SW limb and faded on the disk around the 16th.

AR4277 S06°/240° emerged over the SE limb to the north of AR4276 on the 6th developing rapidly on the 7th and 8th when it was type Dso with an area of 180 millionths. The largest sunspot was the leader with a divided umbra on the 9th and 10th. The group accompanied AR4276 across the disk, also losing its following sunspots as it entered the SW quadrant. The group reduced to type Cso by the 13th further reducing as it crossed the quadrant. The group also faded on the disk by the 16th.

AR4284 S05°/177° formed on the disk just west of the CM on the 16/17th. The group rapidly developed into a Dac classification with an area of 190 millionths on the 17th. The group had a small penumbral leader with many smaller sunspots trailing with a distinct small penumbral sunspot at the eastern end of the group. As the group crossed the SW quadrant, it was clearly in decline by the 20th and little remained by the 21st as it neared the limb.

AR4290 S10°/032° & AR4291 S14°/028° AR4290 rounded the SE limb, a small Hsx sunspot on the 21st followed by the larger AR4291 on the 22nd. The region was recorded as type Esc on the 22nd as it had the appearance of one group. Subsequently SWPC allocated two numbers to the region. On the 23rd, the region was described as an Fac sunspot group near to the eastern limb and type Eac on the 25th with all components of the region being within 10° degrees of solar longitude and 5° degrees of solar latitude. The group remained type Eac on the 26th with an area of 440 millionths and comprised of three irregular penumbral sunspots with a few accompanying pores. The group crossed the CM on the 27th and by the 28th the rounded penumbral sunspot following the leader had become more elongated in shape. By the end of the month, the group was mid-way across the SW quadrant and was showing signs of decay.

AR4294 S15°/287° & AR4296 S14°/271° & AR4298 S16°/302° started to emerge over the SE limb on the 28th. First a small Hsx type sunspot appeared (subsequently named by

by SWPC as AR4298) but by the following day it was obvious this was the herald of something much larger. By the 30th, a large complex Fkc type group was rotating onto the disk being AR4294 and the large penumbral follower was subsequently numbered AR4296. 21 observers reported a Quality number of **Q = 14.76** for November.

The Sun in H-alpha **Prominences**

16 observers reported a prominence MDF of **8.05** for November.

A prominence hearth consisting of 3 close elements was seen on the SW limb on the 1st.

A partial arch prominence was seen on the SW limb on the 2nd.

Several prominences were seen along the eastern limb on the 9th, including several at medium height above the limb. One such was described as “a very large and active cloud of plasma” and was estimated to reach a height of about 130,000 km above the limb.

A busy eastern limb was reported on the 23rd with an extensive hedgerow prominence on the NE limb and a pair of more amorphous prominences on the SE limb. Over the next few days, the elements from the hedgerow prominence started to rotate onto the limb commencing with the southernmost prominence. The remaining elements of the hedgerow prominence was estimated to be around 40,000 km in height and extend for 100,000 km around the NE limb on the 24th. By the 26th, only a column prominence remained which was about 100,000 km in height.

An active pyramid shaped prominence was reported on the NE limb on the 25th rising to about 60,000 km. The southern stem of the pyramid extended onto the solar surface.

Several dynamic-looking prominences were observed on the 30th near to AR4294 which had just rotated onto the disk. One was described as an active column prominence with a hook shape at the top, measuring about 120,000 km in total height. Another was a jet which was just above and parallel to the limb.

Filaments & Plage

15 observers reported a filament MDF of **9.71** and 14 observers reported a plage MDF of **4.67** for November.

On the 1st, a broken filament was seen close to the NE limb, measuring around 400,000 km in length. A broken chain of filaments forming a partial polar crown was strung across the NW quadrant at high latitude.

A long broad north/south aligned filament was close to the E limb on the 7th which gave rise to the active prominences of the 8th and 9th.

A dark east/west aligned filament followed the extensive sunspot group AR4276 from the 5th through to the 15th when the group departed the NW limb. The filament changed shape several times but remained prominent throughout its passage.

On the 20th a long filament was reported in the SW quadrant and an S-shaped filament was to the west of plage around AR4286. A large area of plage was seen in the SE quadrant associated with AR4286.

A long, serrated filament was seen extending into the NE quadrant from the southernmost stem of a large Eiffel tower shaped prominence on the limb on the 25th. A curved north/south aligned filament was seen near the CM in the southern hemisphere and a broad patch of plasma was noted on the disk near to the E limb.

By the 30th, the serrated filament had grown extensively and was now the dominant feature across the northern hemisphere. The north/south aligned filament was broader, more curved towards its southern end and lying close to the SW limb. Three other long filaments were noted in the southern hemisphere, all roughly aligned east/west.

Plage was seen with most sunspot groups throughout the month.

Flares

Several observers reported minor flares throughout the month. Derek Glover reported a “very bright flare” just above sunspot group AR4273 near the CM in the southern

hemisphere around 1010 UT on the 5th. Andy Devey recorded an M8 flare associated with AR4274 at 1118 UT also on the 5th. Andy reported another two major flares associated with this group, an M2 flare at 1009 UT on the 10th and an X5 flare at 1039 UT on the 11th. Rik Hill imaged an M8.12 flare associated with AR4299 on the 6th peaking at 2039 UT and Carl Bowron imaged an X1.2 flare from AR4274 on the 10th between 0910 and 0931 UT. Arthur Coombs imaged an M1.5 flare associated with AR4294 at 2155 UT on the 29th.

Polar Faculae

Brian Halls reported a total disk MDF for high latitude polar faculae as 0.6 for November.

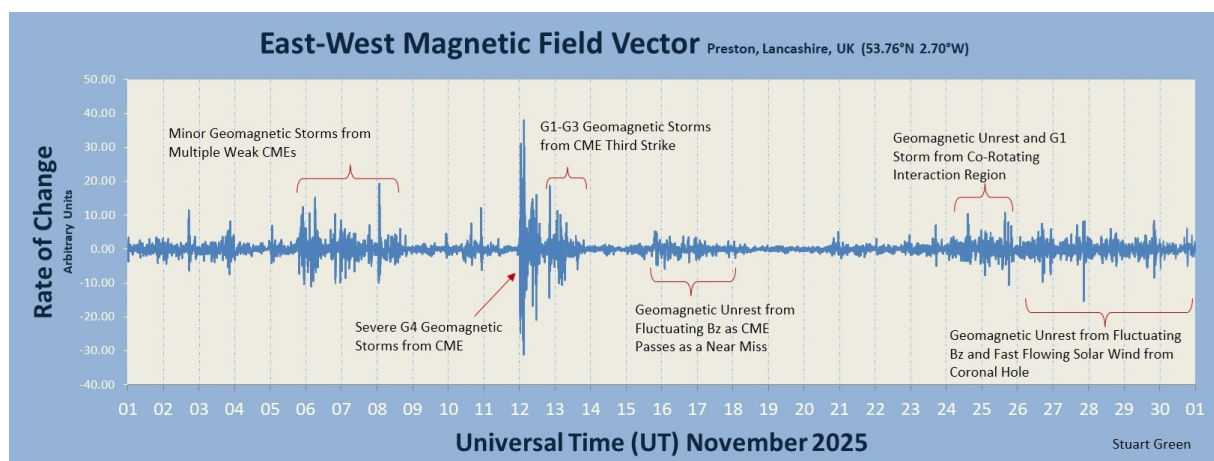
MAGNETOMETER REPORT

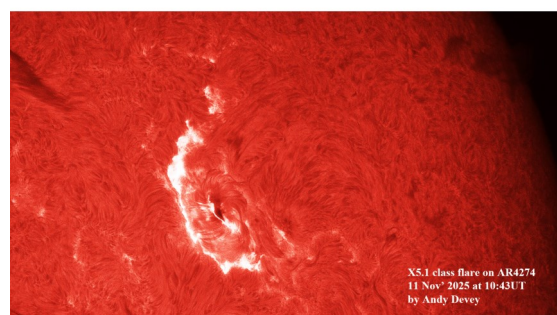
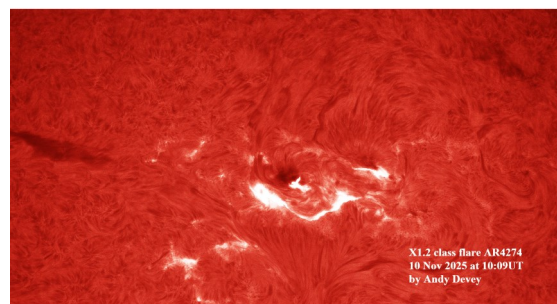
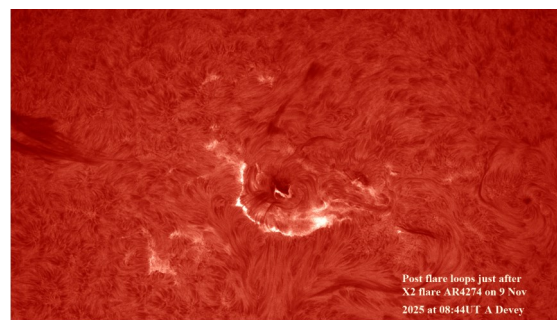
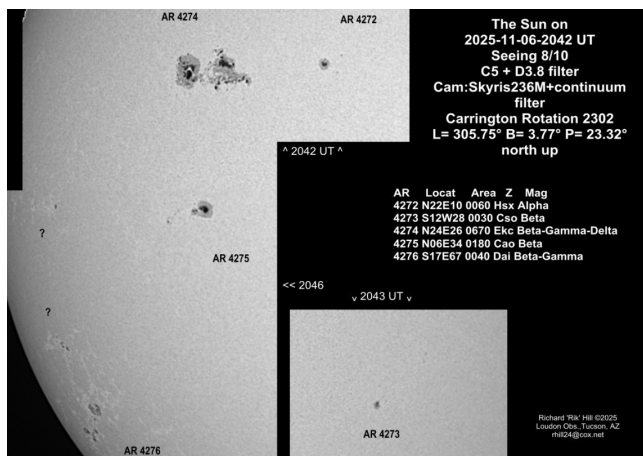
2025 NOVEMBER

DATE	DURATION (UT)		ACTIVITY
2	17:00	22:30	Disturbed
3/4	14:00	02:00	Disturbed
4/5	23:15	05:00	Disturbed
5/6	17:45	08:30	Disturbed
6/7	16:30	12:00	Disturbed
7	18:00	21:00	Disturbed
8	00:00	17:00	Disturbed
9/10	22:30	02:00	Disturbed
10	08:00	19:00	Disturbed
10	22:00	23:45	Disturbed
12	00:15	13:00	Active
12	13:00	20:00	Disturbed
12/13	20:00	09:00	Active
15/16	19:00	06:30	Disturbed
16/17	17:30	03:00	Disturbed
22/23	22:00	02:00	Disturbed
23	10:00	18:00	Disturbed
24-	02:00	-	Disturbed

Continued into December

Solid-state magnetometer, Uncalibrated—John Cook





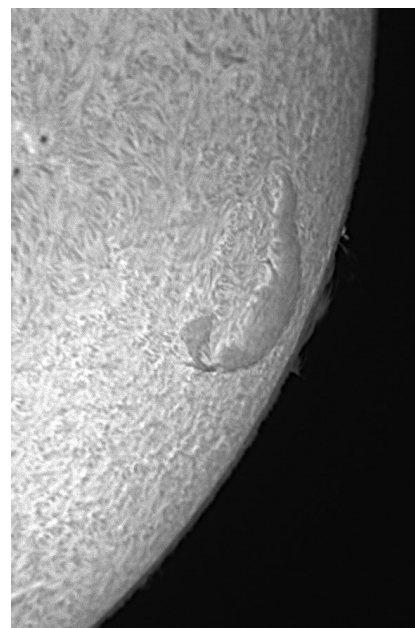
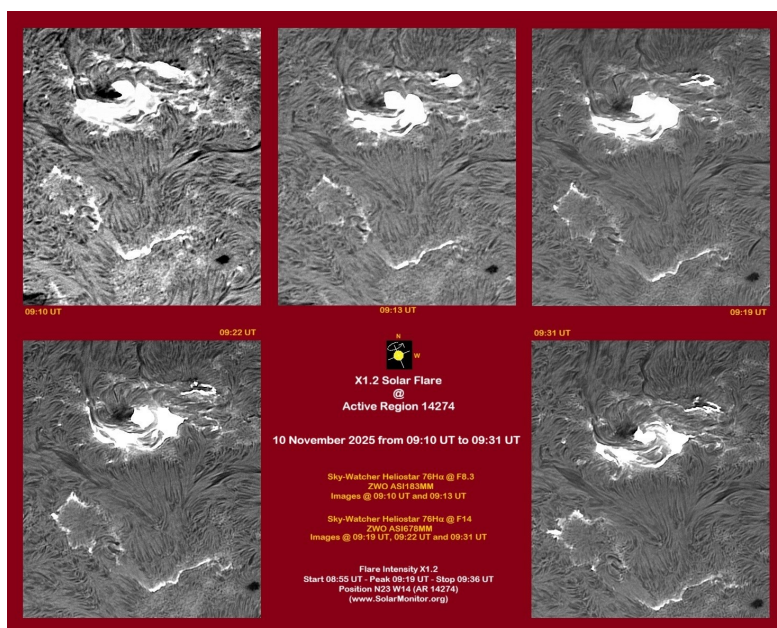
Above: AR4274 imaged by David Teske on the 5th between 1843 UT and 1846 UT

Below: Sequence of X1.2 flare associated with AR4274 imaged by Carl Bowron on the 10th 0910 UT to 0931 UT

Above Left Top: Montage showing AR4274 on the 6th by Rik Hill.

Above: Comparison of three X class flares from AR4274 by Andy Devey.

Below: Curved filament nearing the SW limb on the 30th imaged by Brian Halls.





Section News



Merry Christmas!

Our next Section Zoom meeting will be held at 1930 hrs UT on Friday 16th January 2026

Topic: Solar Section Zoom

Time: Jan 16, 2026 19:30 Greenwich Mean Time

Join Zoom Meeting

<https://us02web.zoom.us/j/88352074542?pwd=MlX8BTpgSnCLXHsYMoLMMsM5XOSJmc.1>

Meeting ID: 883 5207 4542

Passcode: 951312

As another year draws to a close, I would like to sincerely thank everyone that has contributed to the newsletter over the last 12 months. Let's hope for an active Sun into 2026 as Solar cycle 25 winds down.

Below—4 full disk images. Top Left Dave Smith 9th; Top Right Gordon Ewen 23rd; Bottom Left Gary Palmer 25th; Bottom Right Steve Green 30th CaK.

