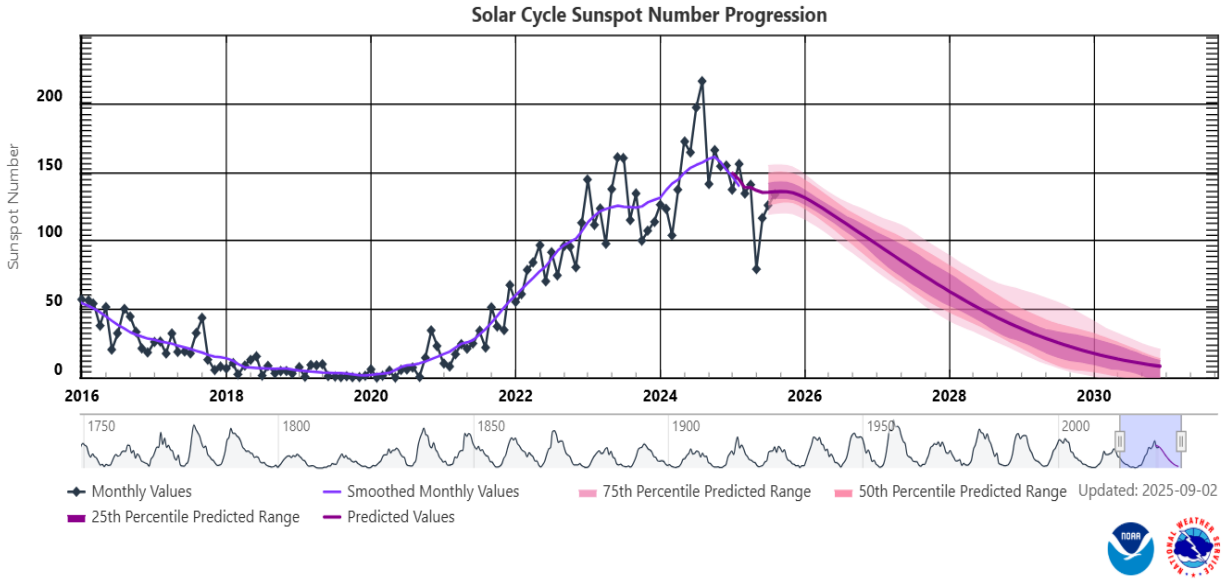
Month: August 25

- **NEWS FROM THE SOLAR SECTION**

August 2025 Solar News

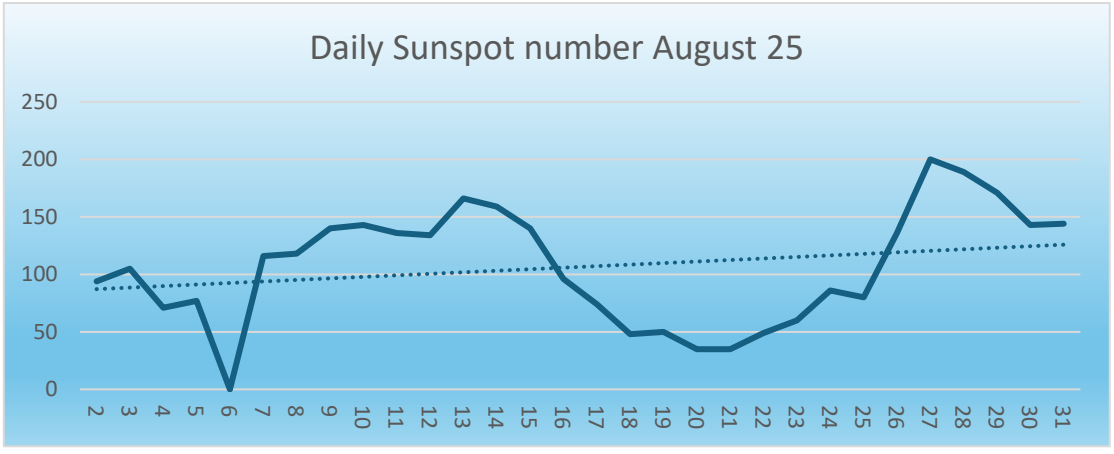
Solar Cycle 25 has already surpassed early predictions, showing a robust maximum in 2024. Current trends and historical patterns indicate a strong chance of a second peak of solar activity in late 2025–2026**,** before the gradual decline toward minimum begins. This means space weather conditions — sunspots, flares, and geomagnetic storms — will likely remain active and impactful for at least another year.



SUNSPOT OBSERVATIONS AUGUST 2025

2025	August	Time	Seeing	Groups	Spots	W no.	North Groups	South groups	North spots	South spots
		Jacques v Delft		Jacques v Delft	Jacques v Delft	Jacques v Delft	Jacques v Delft	Jacques v Delft	Jacques v Delft	Jacques v Delft
Fri	1	1400	G	8	23	103	3	5	12	11
Sat	2	1345	G	7	24	94	3	4	17	7
Sun	3	1015	G	8	25	105	4	4	19	6
Mon	4	930	G	5	21	71	4	1	19	2
Tue	5	1440	G	5	27	77	4	1	21	6
Wed	6					0				
Thu	7	1135	G	8	36	116	5	3	27	9
Fri	8	1315	G	8	38	118	5	3	31	7
Sat	9	955	G	11	30	140	9	2	26	4
Sun	10	1000	G	9	53	143	8	1	50	3
Mon	11	1050	G	11	26	136	9	2	21	5
Tue	12	955	G	9	44	134	5	4	35	9
Wed	13	1245	G	12	46	166	8	4	34	12
Thu	14	915	G	11	49	159	5	6	27	22
Fri	15	1030	G	11	30	140	5	6	13	17
Sat	16	1045	G	8	16	96	6	2	11	5
Sun	17	1050	G	6	14	74	4	2	8	6
Mon	18	1130	G	4	8	48	2	2	3	5
Tue	19	1100	G	4	10	50	2	2	6	4
Wed	20	1305	G	3	5	35	1	2	1	4
Thu	21	1235	G	3	5	35	1	2	1	4
Fri	22	1435	G	4	9	49	2	2	5	4
Sat	23	1130	G	5	10	60	2	3	6	4
Sun	24	1145	G	7	16	86	2	5	7	9
Mon	25	1245	G	6	20	80	3	3	9	11
Tue	26	1115	G	10	36	136	4	6	17	19
Wed	27	1025	G	12	80	200	5	7	40	40
Thu	28	1240	G	11	79	189	6	5	28	51
Fri	29	915	G	12	51	171	7	5	13	38
Sat	30	1005	G	10	43	143	4	6	8	35
Sun	31	1030	G	9	54	144	5	4	17	37

Observations	Groups	Spots	W no.	North Groups	South groups	North spots	South spots
30	237	928	3298	133	104	532	396



Monthly Means		
MDF	109,9	1 Observer
MDF g	7,9	1 Observer
MDF Ng	4,4	1 Observer
MDF Sg	3,5	1 Observer

Observers:

Jacques van Delft ASSA Bloemfontein South Africa

When more than 1 observer is submitting sunspots, the average per day is calculated and noted.

SOLAR FLARE ACTIVETY AUGUST 2024

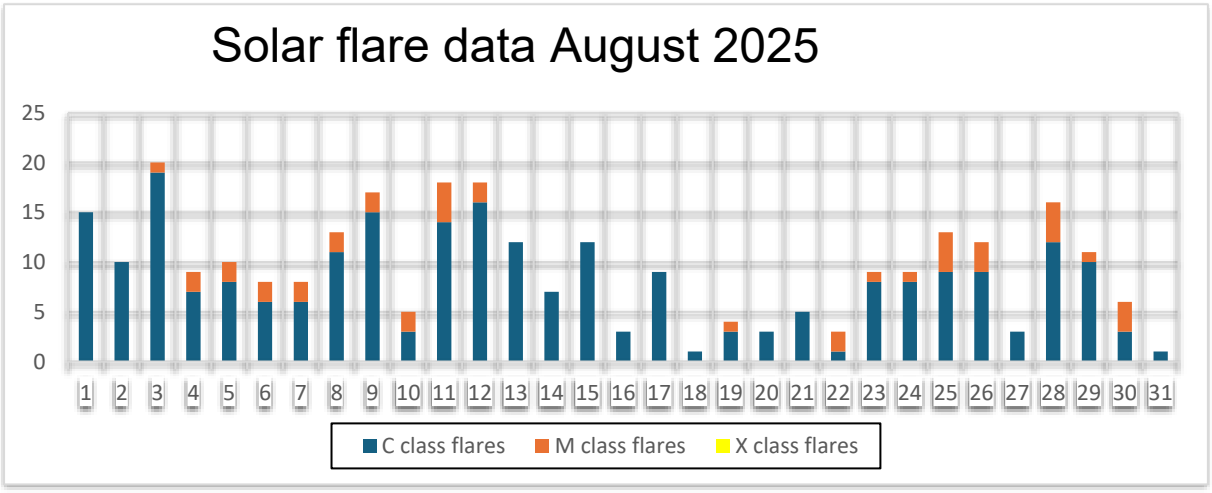
Solar flares are classified according to their x-ray brightness in the wavelength range 1 to 8 Angstrom. There are 3 categories: C class – minor, M class – medium and X class – big. Each category has 9 subdivisions.

A total of 290 solar flares were observed: 249 C-class flares and 41 M-class flares and 0 X class flare.

Solar flare data: LABORATORY OF X-RAY ASTRONOMY OF THE SUN

2025	August	C class	M class	X class	Sol ActIndex	NOA No
Fri	1	15	0	0	5,1	
Sat	2	10	0	0	5,2	
Sun	3	19	1	0	6,3	4168
Mon	4	7	2	0	6,4	4168
Tue	5	8	2	0	6,5	4168
Wed	6	6	2	0	6,8	4168
Thu	7	6	2	0	6,9	4168
Fri	8	11	2	0	6,9	4168
Sat	9	15	2	0	7	4168
Sun	10	3	2	0	6,6	4168
Mon	11	14	4	0	7,3	4168/4173
Tue	12	16	2	0	7,2	??
Wed	13	12	0	0	6	
Thu	14	7	0	0	4,6	
Fri	15	12	0	0	5	
Sat	16	3	0	0	4,5	
Sun	17	9	0	0	4,2	
Mon	18	1	0	0	3,2	
Tue	19	3	1	0	3,6	
Wed	20	3	0	0	3,6	
Thu	21	5	0	0	3,5	
Fri	22	1	2	0	5,2	4191/??
Sat	23	8	1	0	6,1	??
Sun	24	8	1	0	6,1	
Mon	25	9	4	0	7	4197/4199
Tue	26	9	3	0	7,3	4197/4199/4202
Wed	27	3	0	0	5,9	
Thu	28	12	4	0	6,7	4197/4203
Fri	29	10	1	0	6,8	4203
Sat	30	3	3	0	6,3	4197/4202
Sun	31	1	0	0	5,5	
	Totals	249	41	0		

Credit: https://xras.ru/en/sun_flares.html



- **Geomagnetic data**

K INDEX

Scientists monitor geomagnetic activity using various instruments, including magnetometers and satellites, to better understand the processes involved and predict potential impacts on technological systems such as power grids, communication networks, and navigation systems as well as changes in our climate. Severe geomagnetic storms have the potential to disrupt these systems, making the study of geomagnetic activity crucial for both scientific understanding and practical applications.

Increased geo-magnetic activities are caused by Coronal Mass Ejections (CME's) triggered by solar activities such as solar flares, filament eruptions and Coronal openings.

The K-index scale has a range from 0 to 9 and is directly related to the maximum amount of fluctuation (relative to a quiet day) in the geomagnetic field over a three-hour interval.

2025	August	0hrs to 03hrs	03hrs to 06hrs	06hrs to 09hrs	09hrs to 12hrs	12hrs to 15hrs	15hrs to 18hrs	18hrs to 21hrs	21hrs to 24hrs	A Index
Fri	1	2,67	2,67	2,67	2,67	3,33	1,67	2,67	3,33	13
Sat	2	3,00	2,00	1,67	1,33	1,33	2,33	2,67	2,67	9
Sun	3	2,00	1,67	1,33	1,67	1,33	2,67	1,67	2,00	9
Mon	4	1,00	1,67	2,67	2,00	2,33	2,33	2,00	2,33	8
Tue	5	3,00	2,67	1,00	1,33	2,33	2,33	3,00	2,33	10
Wed	6	2,00	1,67	1,33	1,33	1,67	2,00	1,33	2,33	6
Thu	7	1,33	1,33	1,33	1,33	1,00	0,33	0,33	1,33	4
Fri	8	1,00	1,33	1,67	3,33	4,67	4,33	5,00	4,00	22
Sat	9	5,33	5,00	5,00	4,67	5,33	6,00	4,33	3,00	47
Sun	10	3,67	2,00	4,33	4,33	3,67	3,33	4,00	3,00	22
Mon	11	4,33	2,33	3,33	3,00	3,33	3,67	2,67	2,67	17
Tue	12	3,67	3,00	2,00	2,67	3,00	2,33	2,67	3,33	14
Wed	13	2,67	3,00	2,67	3,00	3,00	2,67	3,00	3,67	15
Thu	14	3,33	2,33	3,00	3,00	2,33	1,67	1,67	2,00	11
Fri	15	2,67	2,33	2,33	2,00	1,33	1,33	2,00	1,33	7
Sat	16	1,33	2,00	1,33	2,00	1,33	2,00	1,00	1,67	6
Sun	17	1,33	1,33	2,00	1,67	2,00	1,00	0,33	0,33	5
Mon	18	0,33	0,67	1,33	2,33	2,33	2,67	1,33	2,33	7
Tue	19	3,00	2,00	2,00	2,67	4,00	3,67	4,67	3,67	19
Wed	20	4,00	3,00	3,00	2,67	1,67	1,67	2,00	3,33	13
Thu	21	2,67	2,00	1,00	1,00	1,33	1,33	2,33	2,00	7
Fri	22	3,00	2,00	1,33	1,00	2,00	1,67	2,33	2,67	8
Sat	23	2,67	2,33	1,67	1,67	1,67	0,67	1,00	2,00	7
Sun	24	2,00	1,67	1,33	1,00	1,33	1,33	2,00	1,67	6
Mon	25	1,00	1,33	1,33	1,33	3,33	2,67	1,67	1,67	8
Tue	26	1,67	3,00	2,33	2,67	1,67	1,00	1,33	1,67	8
Wed	27	1,33	1,33	1,00	2,67	3,00	1,67	2,00	2,33	8
Thu	28	2,00	1,67	2,67	2,00	2,00	1,33	2,00	2,00	7
Fri	29	2,33	2,00	1,33	1,33	1,33	1,67	2,00	1,67	6
Sat	30	2,00	1,33	2,00	2,00	1,67	2,33	1,67	2,00	7
Sun	31	2,33	2,00	1,33	2,67	2,00	2,00	2,00	1,67	8

Geomagnetic Storm Index

G1	G2	G3	G4	G5

Credit: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

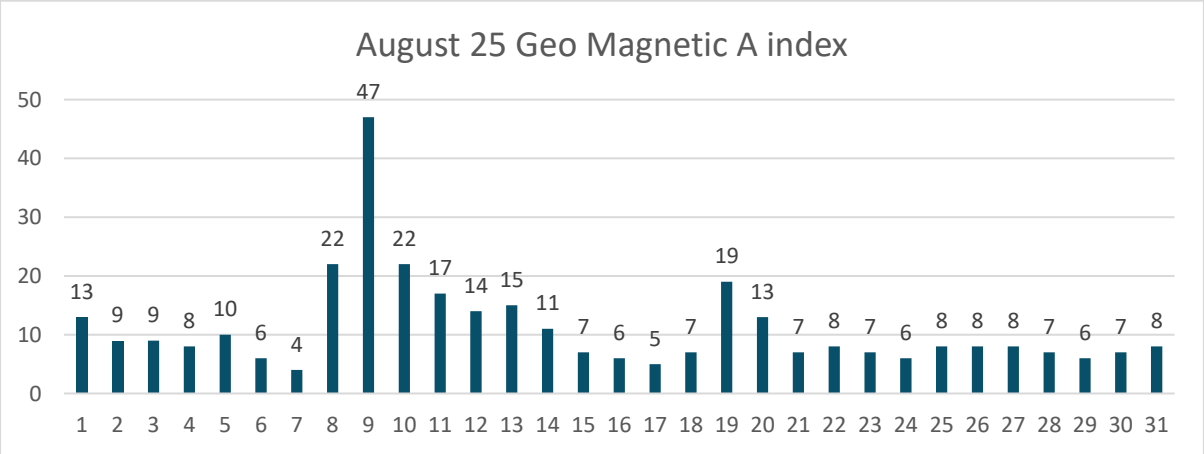
A INDEX

The solar A Index is a numerical scale that represents the geomagnetic activity in the Earth's ionosphere caused by solar flares and other solar phenomena. It measures the overall geomagnetic disturbance level on a scale from 0 to 400. The index is derived from the observed planetary A index, which quantifies the magnetic activity over a 24-hour period.

Here's a breakdown of the solar A Index scale:

- 0 to 7: Quiet geomagnetic conditions.
- 08 to 15: Unsettled geomagnetic conditions.
- 16 to 29: Active geomagnetic conditions.
- 30 to 49: Minor storm levels.
- 50 to 99: Major storm levels.
- 100 and above: Severe storm levels.

A higher A Index generally indicates more disturbed geomagnetic conditions. This index is valuable for radio operators, especially those involved in high-frequency (HF) radio communication, as it helps predict the likelihood of signal disruptions due to solar activity. The solar A Index is typically updated regularly and is an important tool for space weather monitoring and forecasting.



August 2025 was dominated by a major geomagnetic storm on 9 August (A = 47)**,** with a short but intense disturbance phase from 8–10 August**.** A secondary peak occurred on 20 August, but the remainder of the month remained quiet. This suggests Earth was impacted by at least one significant CME during August, while overall space weather settled into a relatively calm pattern toward the month’s end.

H Alpha Observations

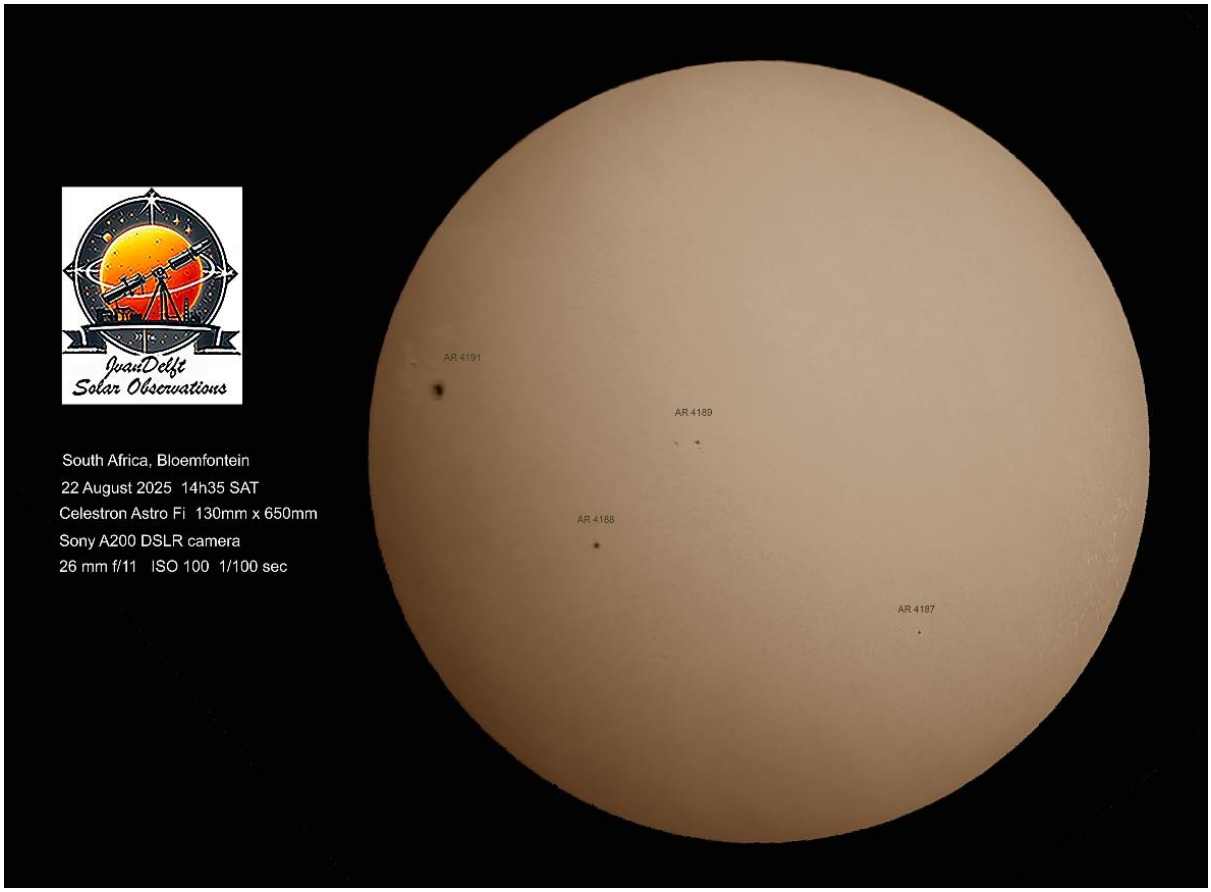
Two observers shared his H-Alpha data for August 2025. Andrew Devey from BAA & MSAS living in Spain and Mick Nicholls from BAA & MSAS living in the UK.

Aug-25	Prominance Active		Prominance Quit		Prominance Total		Plage Areas		Filaments		Flares	
	Andrew Devey	Mick Nicholls	Andrew Devey	Mick Nicholls	Andrew Devey	Mick Nicholls	Andrew Devey	Mick Nicholls	Andrew Devey	Mick Nicholls	Andrew Devey	Mick Nicholls
1												
2	2	0	2	5	4	5	3	4	8	7	0	0
3	3		2		5		3		6		0	
4	4		1		5		3		6		0	
5		0		5		5		3		6		0
6	3		3		6		3		6		0	
7	3		2		5		5		6		1	
8	4		1		5		4		6		1	
9		0		5		5		4		8		0
10	2	0	3	7	5	7	6	5	5	8	0	0
11	3		2		5		6		9		0	
12	0		4		4		6		8		0	
13	0		3		3		6		7		0	
14	1		3		4		5		7		0	
15	3	0	3	7	6	7	5	4	7	7	0	0
16												
17	4		1		5		6		6		0	
18												
19	4		1		5		5		5		0	
20												
21												
22	4		1		5		5		6		0	
23												
24	2	0	2	7	4	7	3	2	8	8	0	0
25		0		7		7		2		9		0
26	0	0	5	5	5	5	4	3	10	9	0	0
27	2	0	3	6	5	6	6	4	7	9	1	0
28	3		3		6		6		8		0	
29	0		6		6		5		7		0	
30	0	0	4	5	4	5	4	3	6	6	1	0
Total Nr	47		55	59	102	59	99	34	144	77	4	0

August 2025	Counts	Observations	MDF
Prominance	161	31	5,2
Plage Areas	133	31	4,3
Filaments	221	31	7,1
Flares	4	31	0,1

- **Solar images**

WHITE LIGHT



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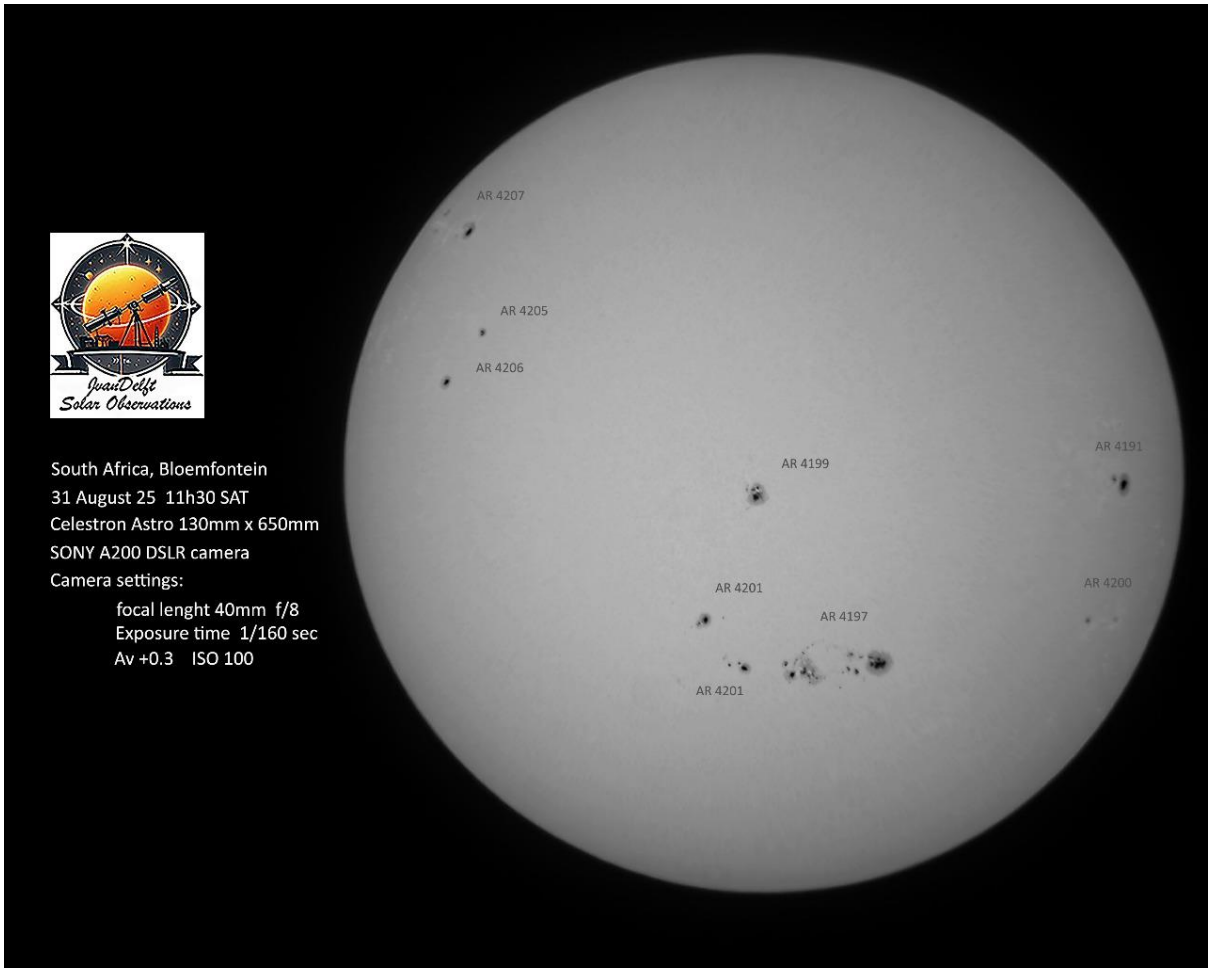

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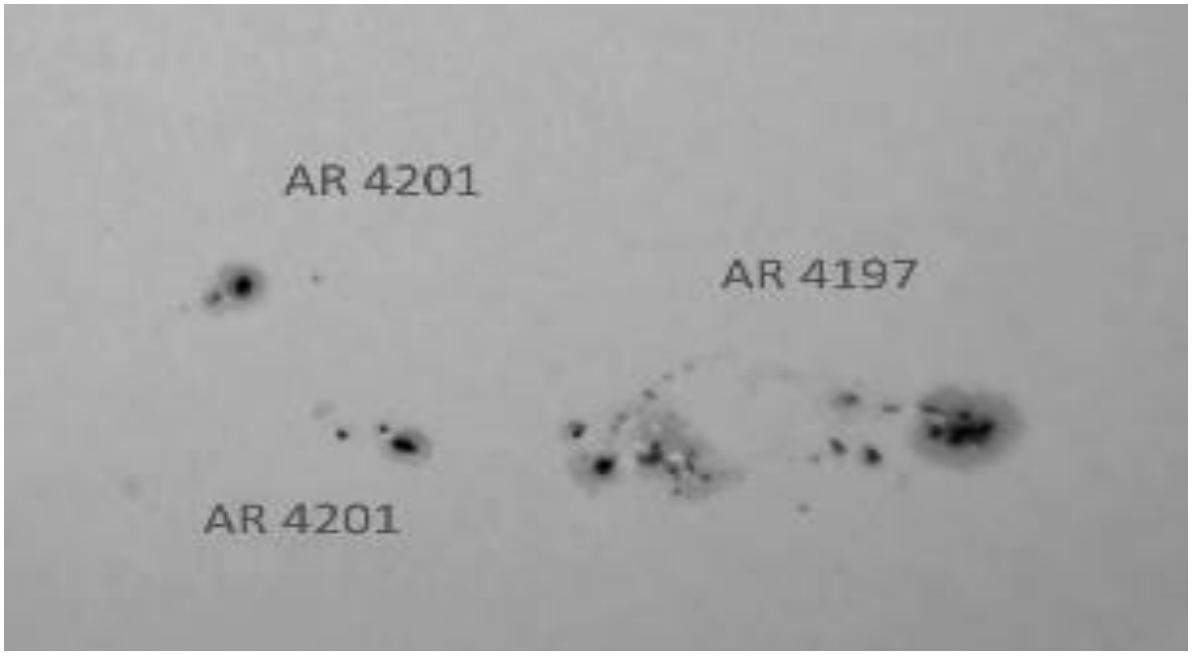
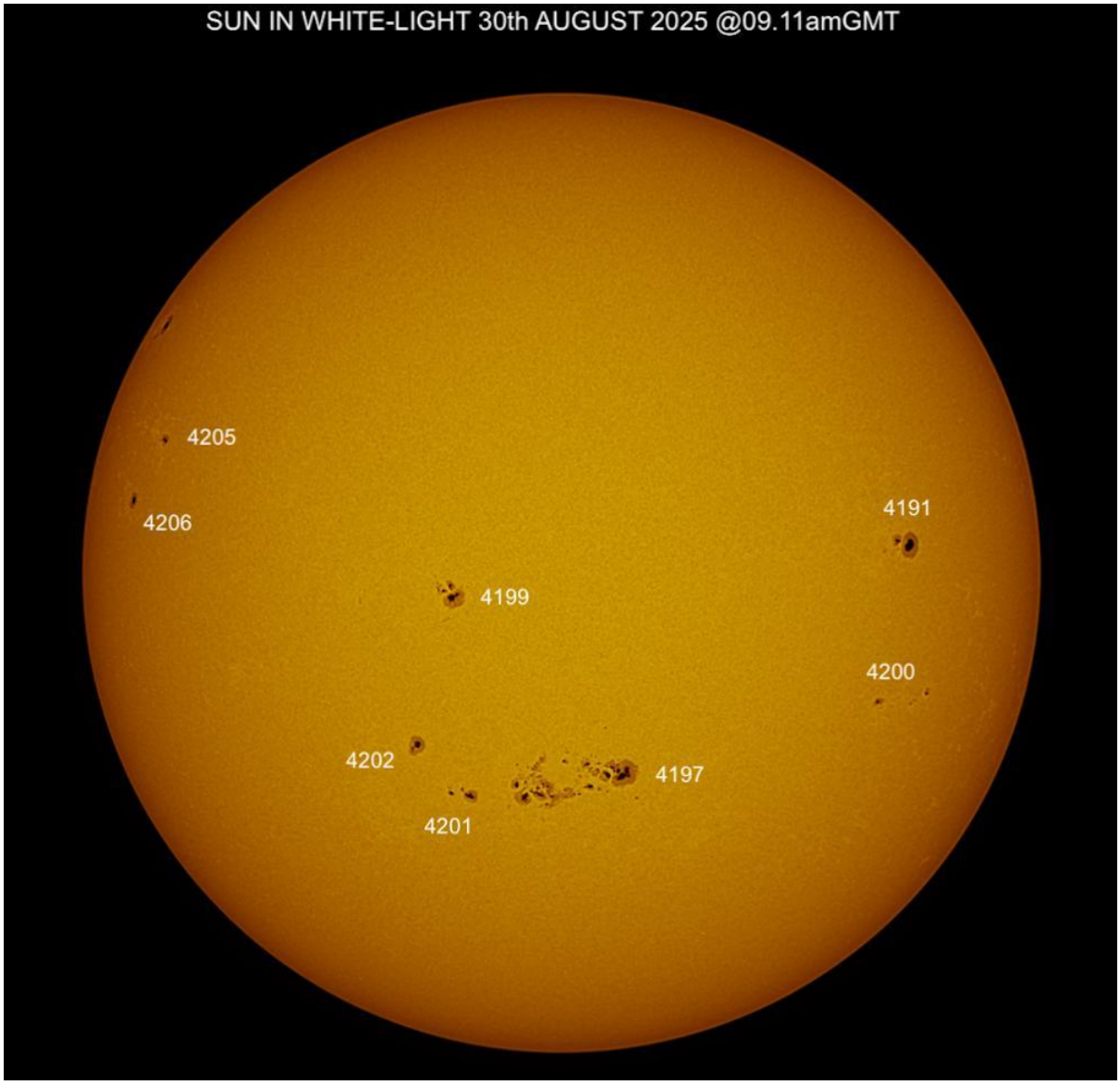


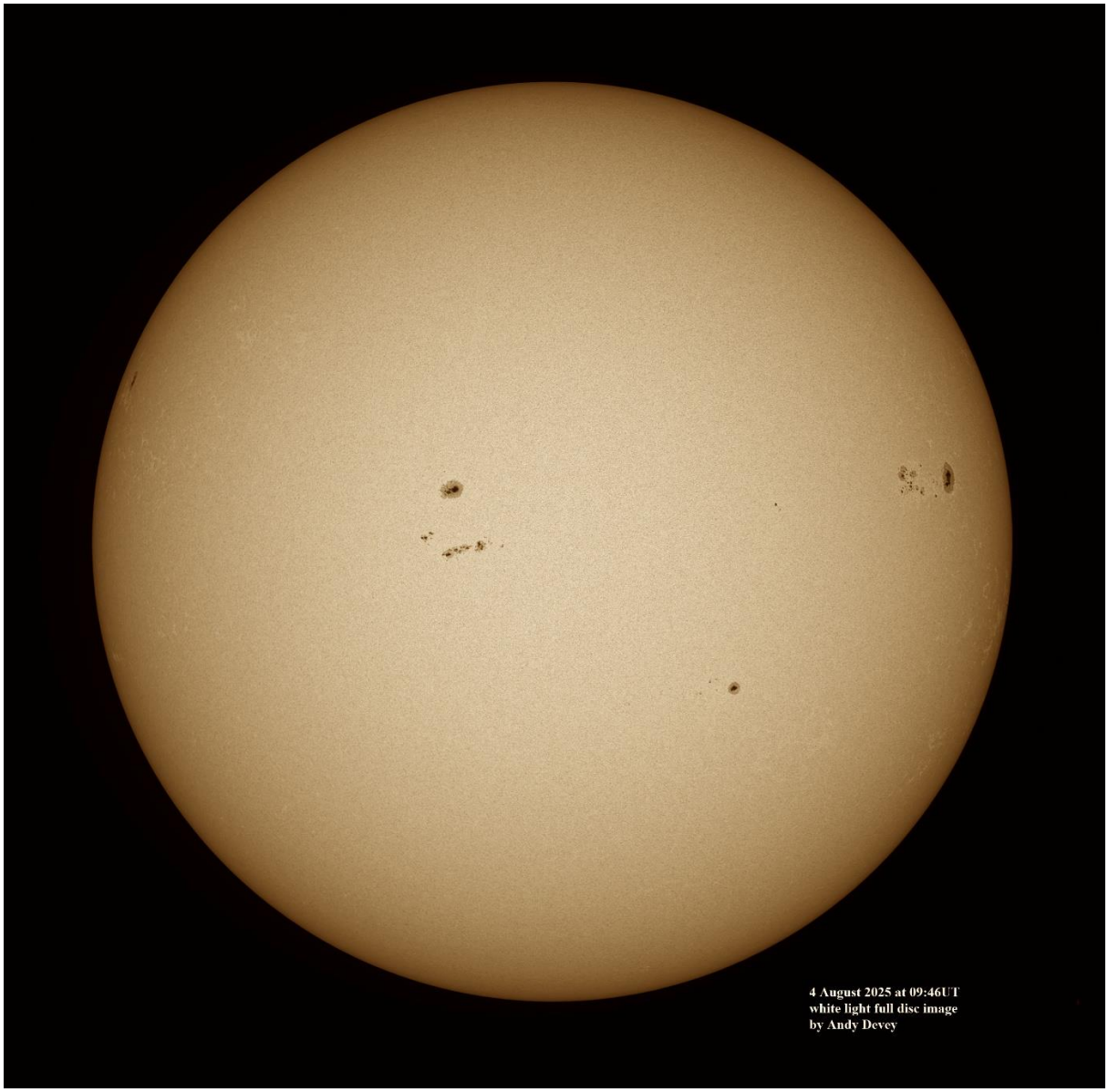
Jacques van Delft ASSA South Africa

Kos Coronaios ASSA South Africa

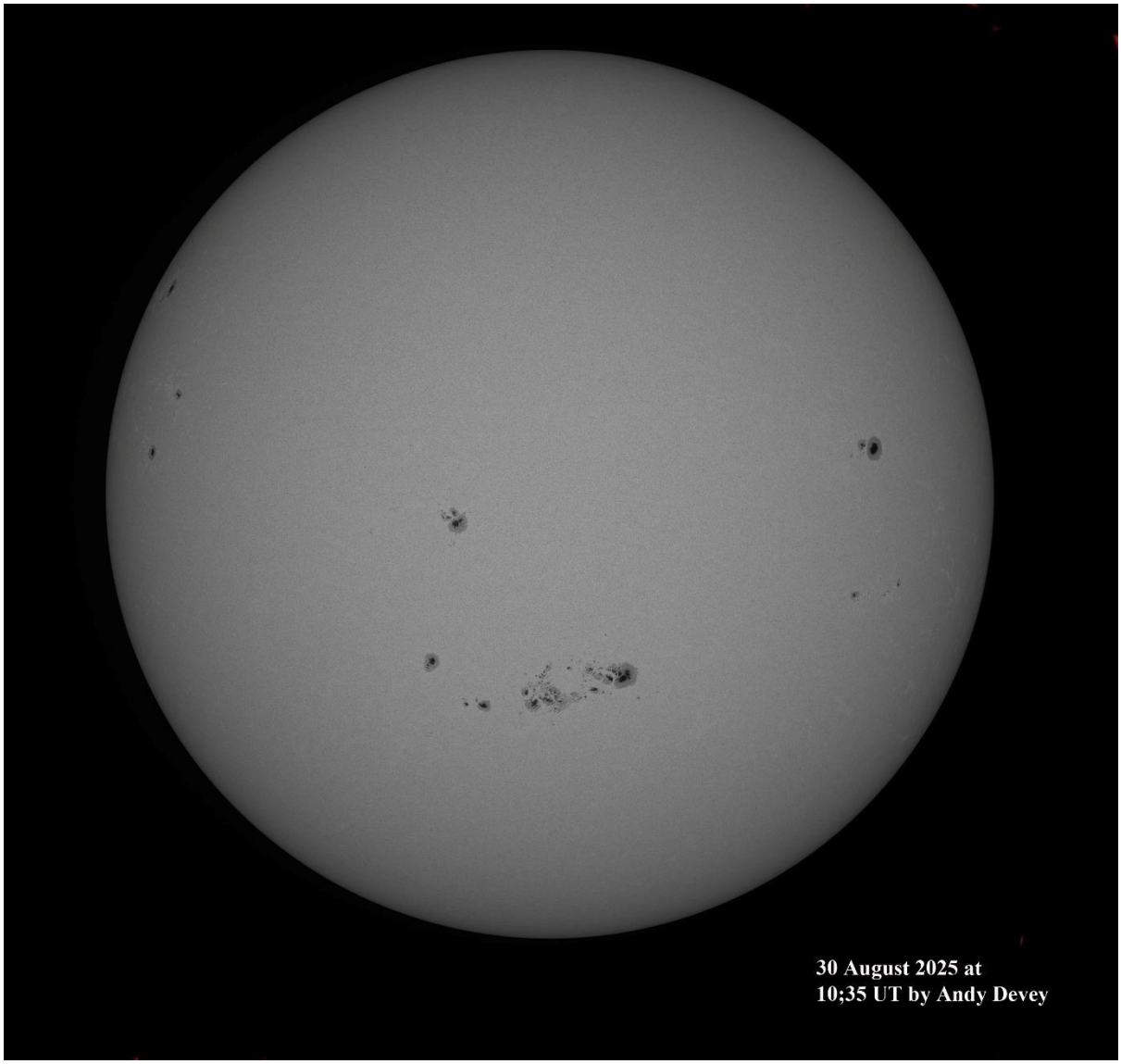
Mick Nicholls, BAA/MSAS UK



Mick Nicholls, BAA/MSAS UK

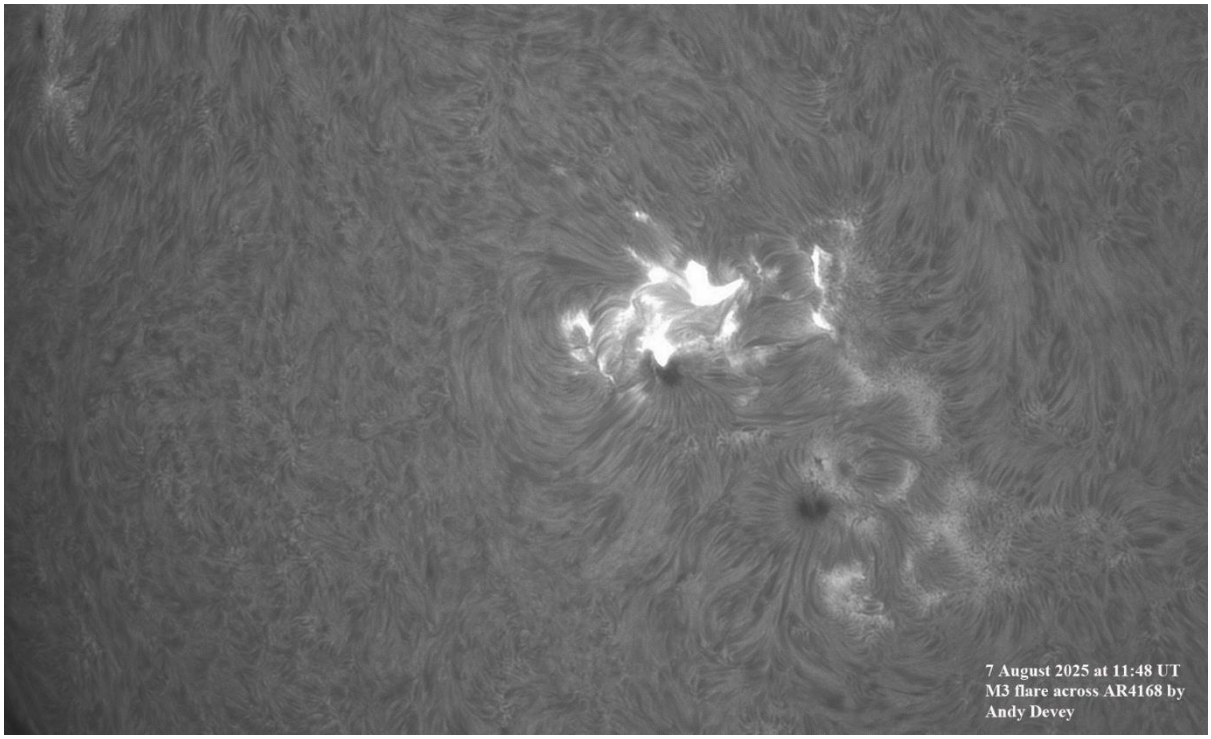


Andrew Devey, BAA/MSAS Spain.

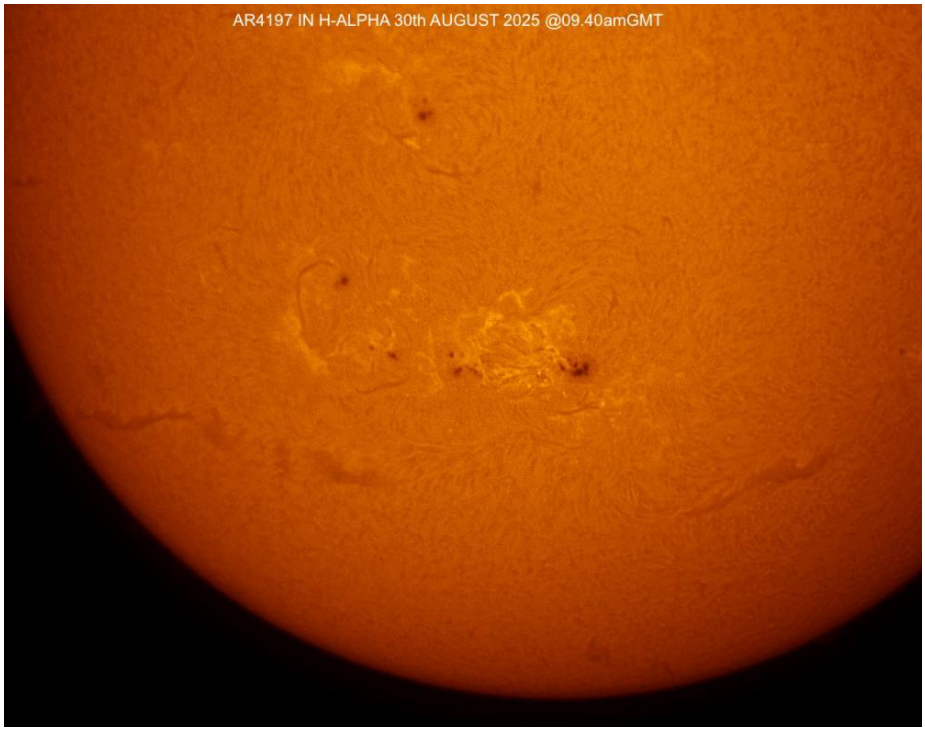


Andrew Devey, BAA/MSAS Spain.

H-Alpha

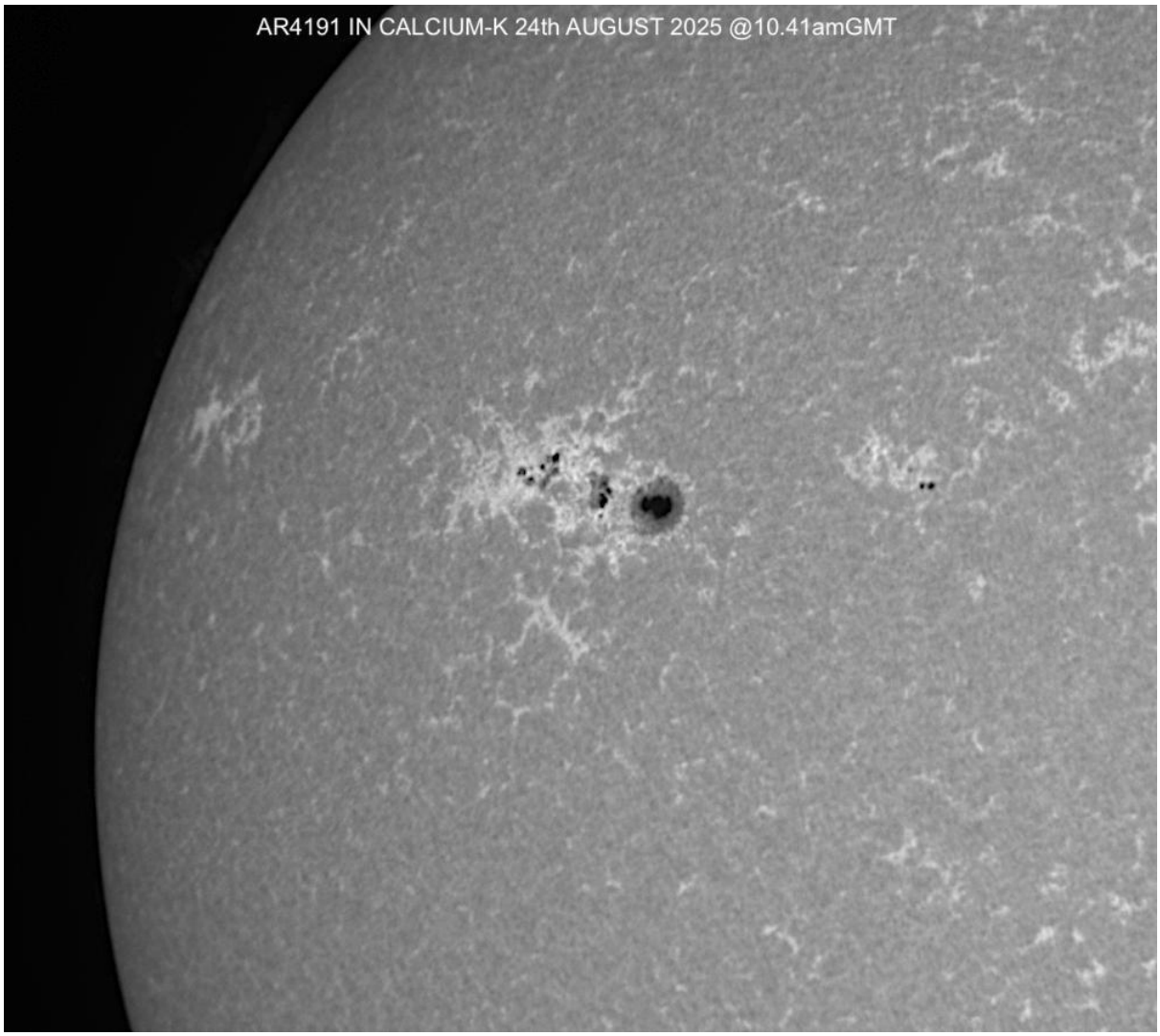


Andrew Devey, BAA/MSAS Spain.

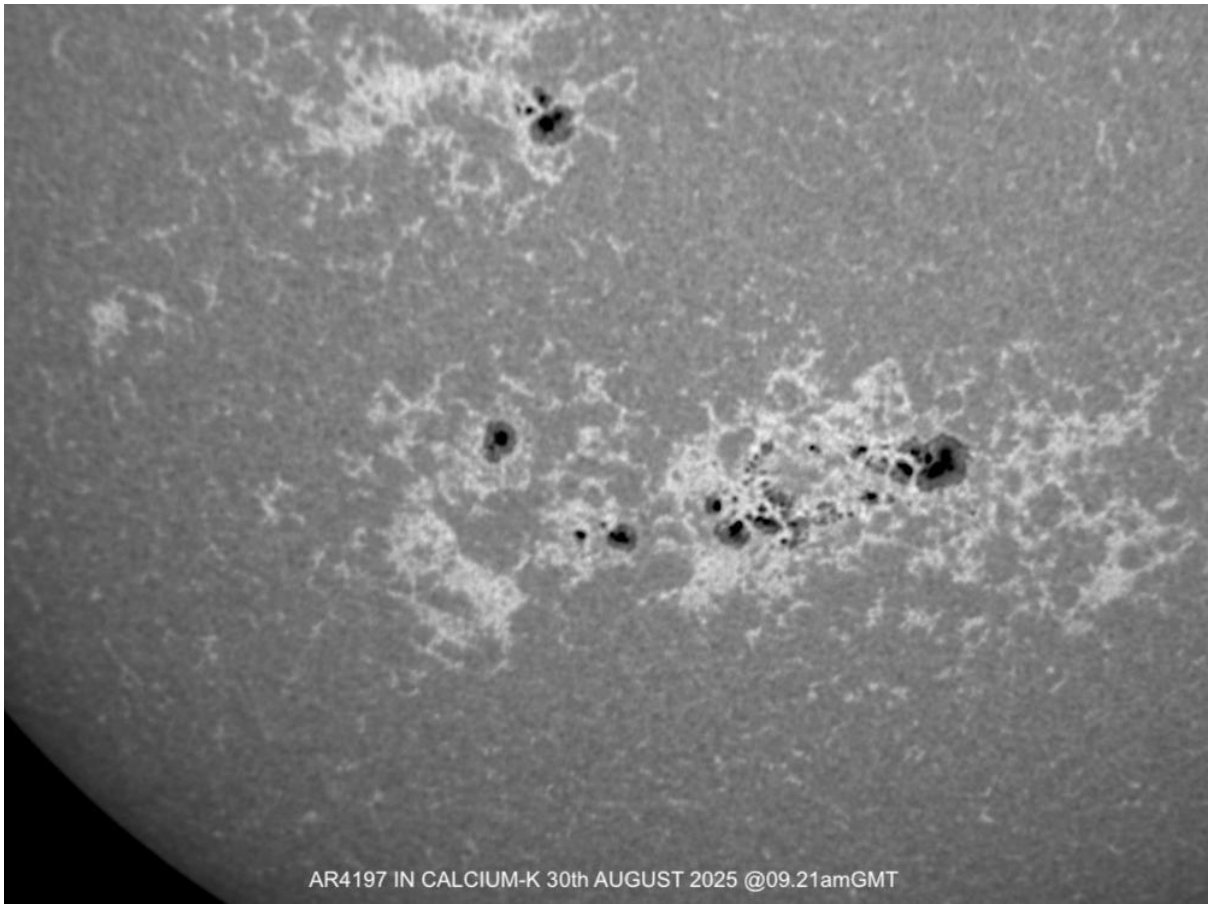


Mick Nicholls, BAA/MSAS UK

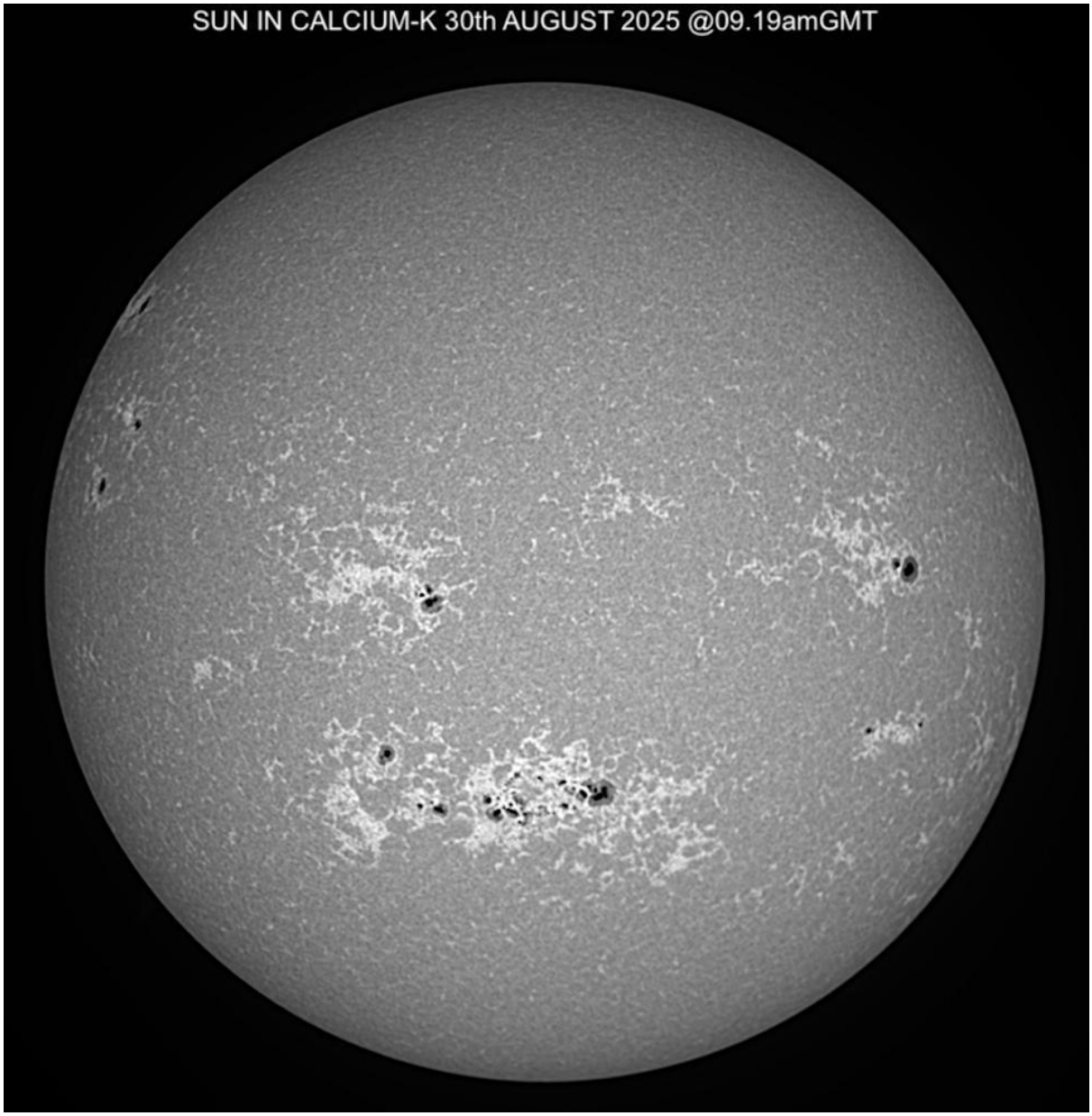
Calcium K



Mick Nicholls, BAA/MSAS UK



Mick Nicholls, BAA/MSAS UK



Mick Nicholls, BAA/MSAS UK

Thanks to the contributors of data and images. Special thanks to Kos Coronaios from ASSA South Africa for his contribution. He will be a new member to the Solar section contributing to the Solar Bulletin.

Clear skies and regards
Jacques van Delft

ASSA Solar Section