SIDC Space Weather Briefing

01 September 2025-07 September 2025

Vansintjan Robbe

& the SIDC forecaster team

Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be

Summary Report

Solar activity from 2025-09-01 00:00 to 2025-09-07 23:59

Active regions	15 Sunspot groups – SIDC SG **624** (NOAA AR 4207) **614** (NOAA AR 4197)
Flares	# C-class flare: 30 # M-class flare: 3 # X-class flare: 0
Coronal Holes	3 CH+ & 1 CH-
CMEs	One faint halo CME on Sep 04

Proton flux	Elevated but below the threshold
Electron flux	The electron flux (measured by GOES-18) reached moderate levels

Solar wind and geomagnetic conditions

ICMEs	2 ICME arrivals
Solar wind conditions	|B|: 2.24 - 27.3 nT //Bz: -23.48 nT to 20.65 nT //Speed: 345.2 - 857.5km/s
Geomagnetic conditions	max KBel: 5.0, max Kp(NOAA): 6.0, Moderate Storm conditions

All Quiet Alert: OFF

Solar Activity

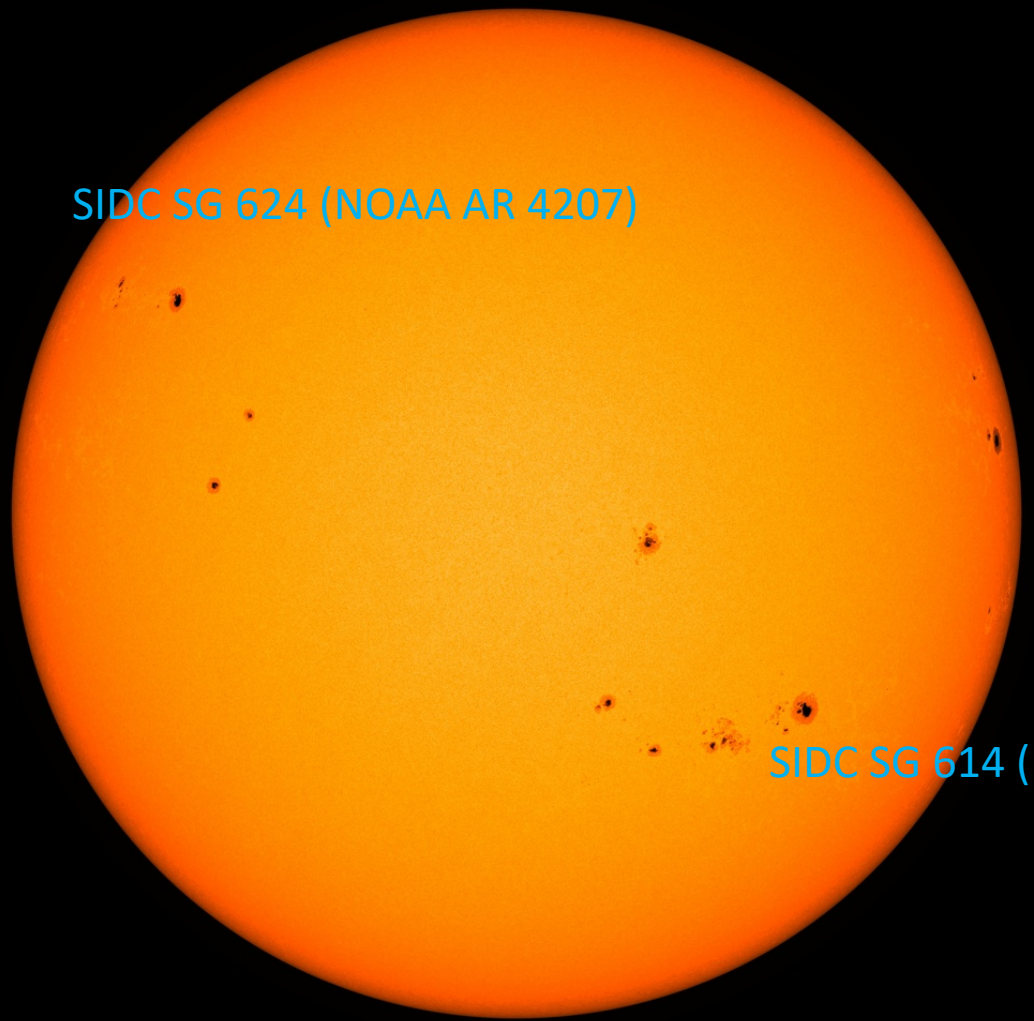
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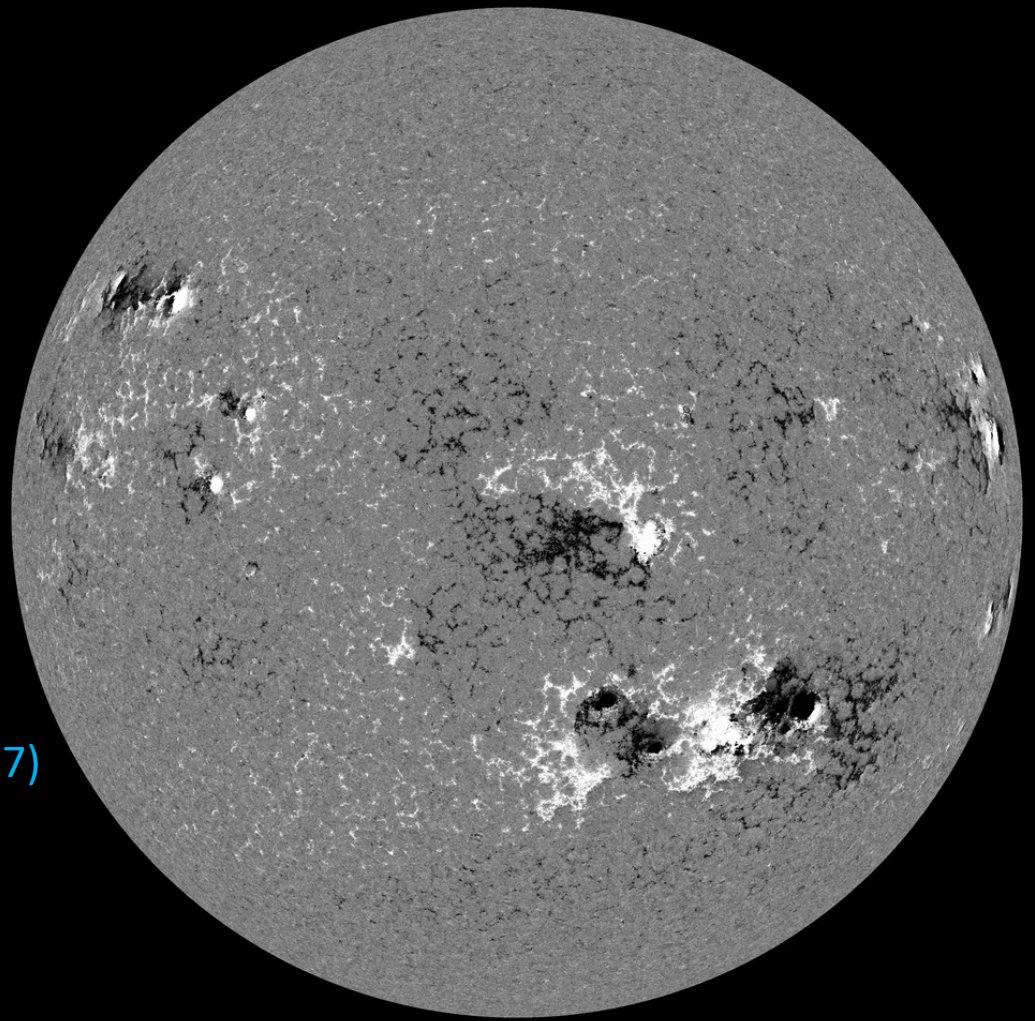
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Solar active regions

SDO/HMI White Light 2025-09-01

SDO/HMI Magnetogram 2025-09-01

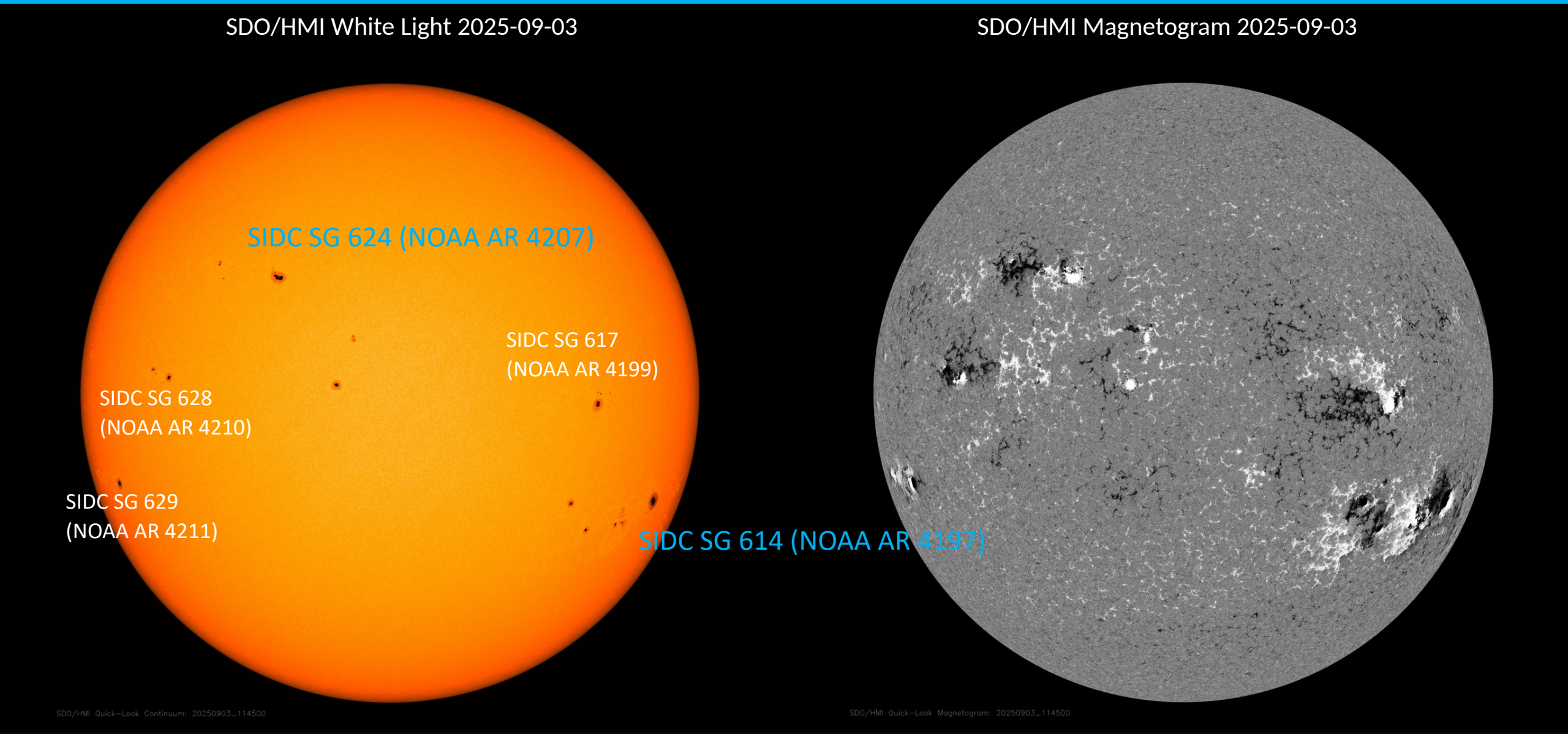




Solar active regions

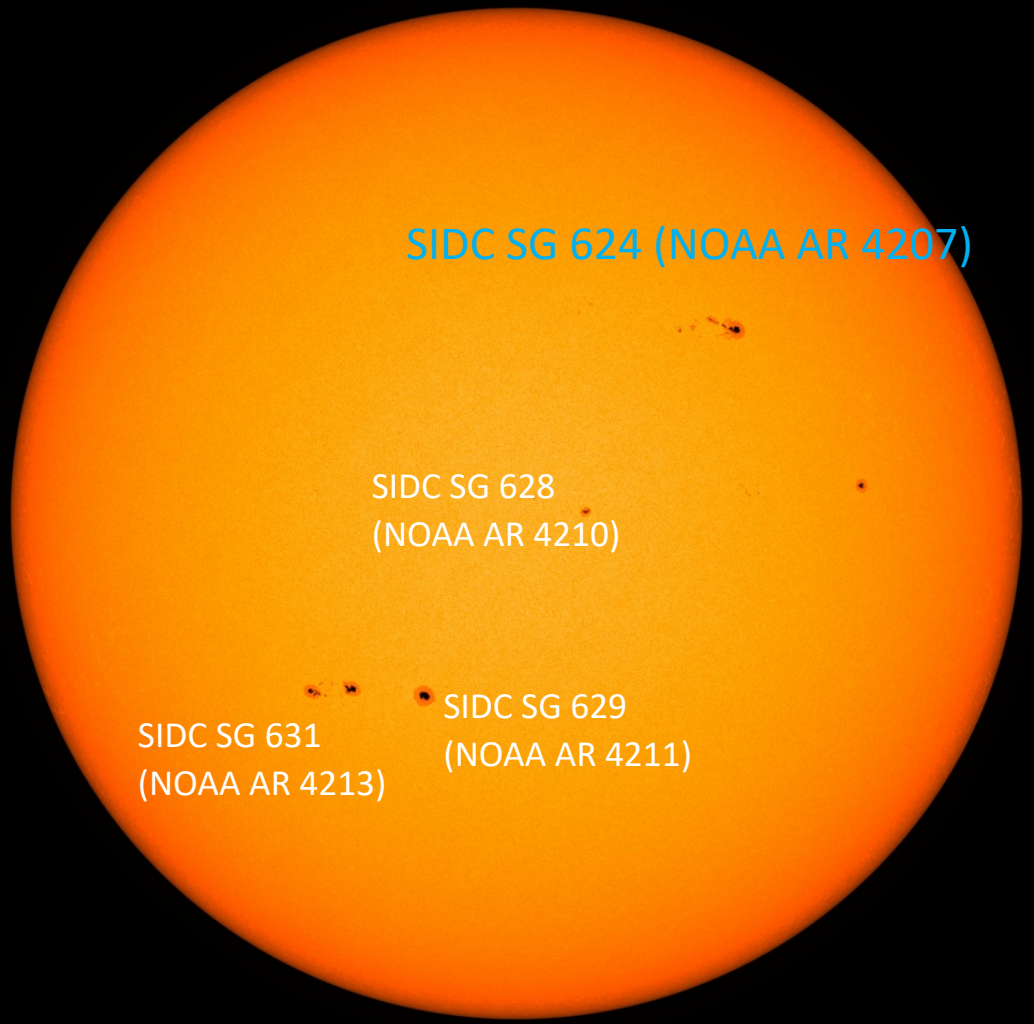
SDO/HMI White Light 2025-09-03

SDO/HMI Magnetogram 2025-09-03

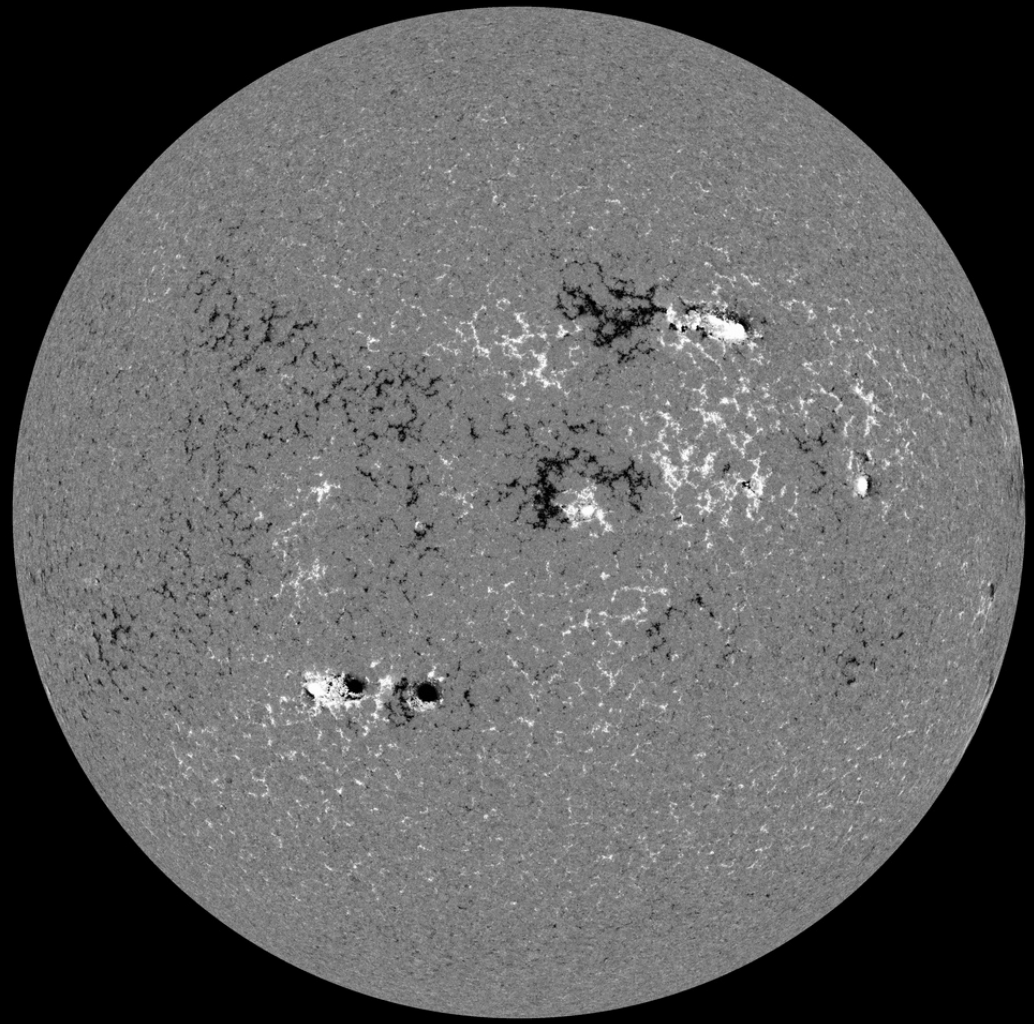


Solar active regions

SDO/HMI White Light 2025-09-07

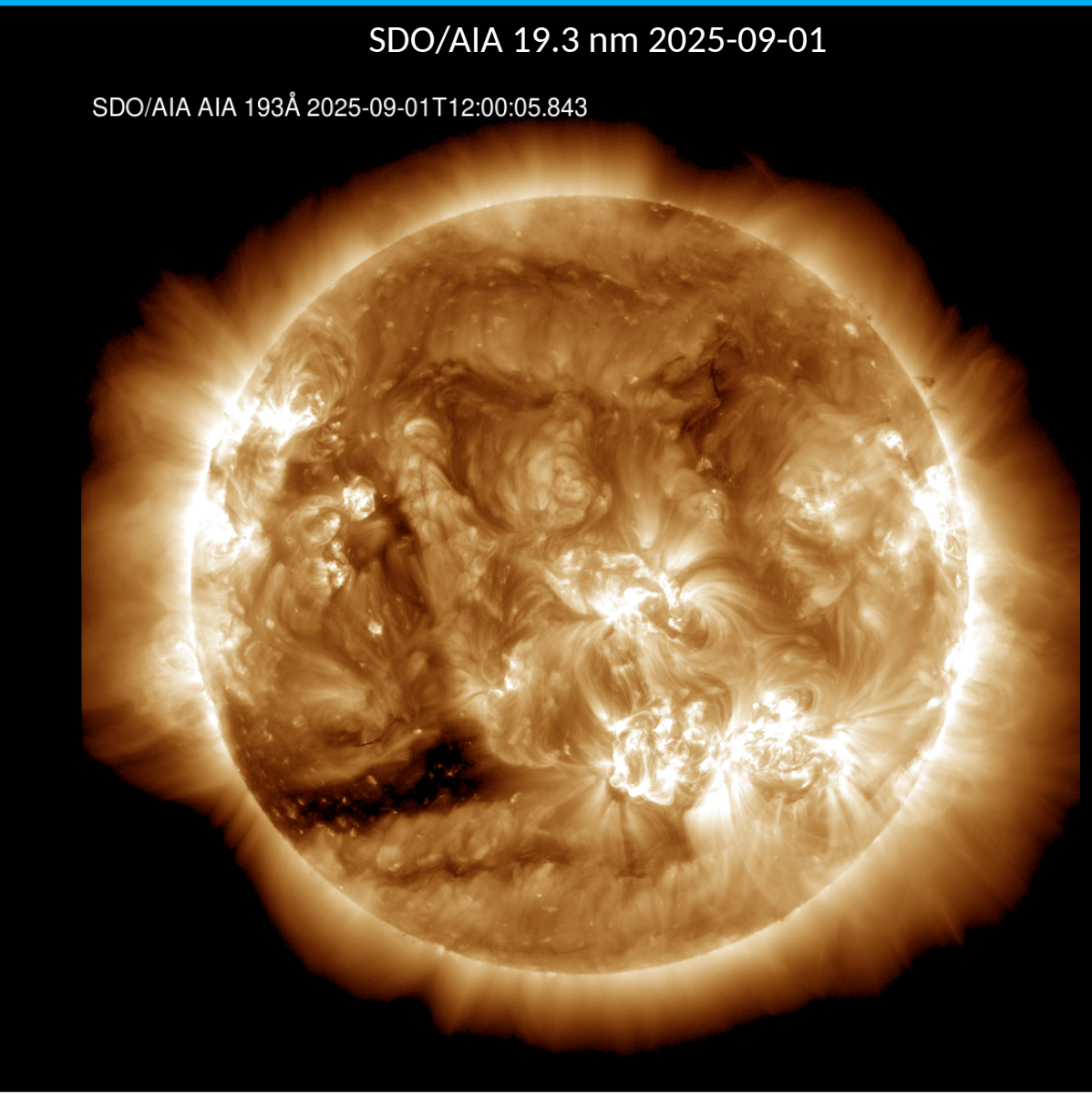


SDO/HMI Magnetogram 2025-09-07

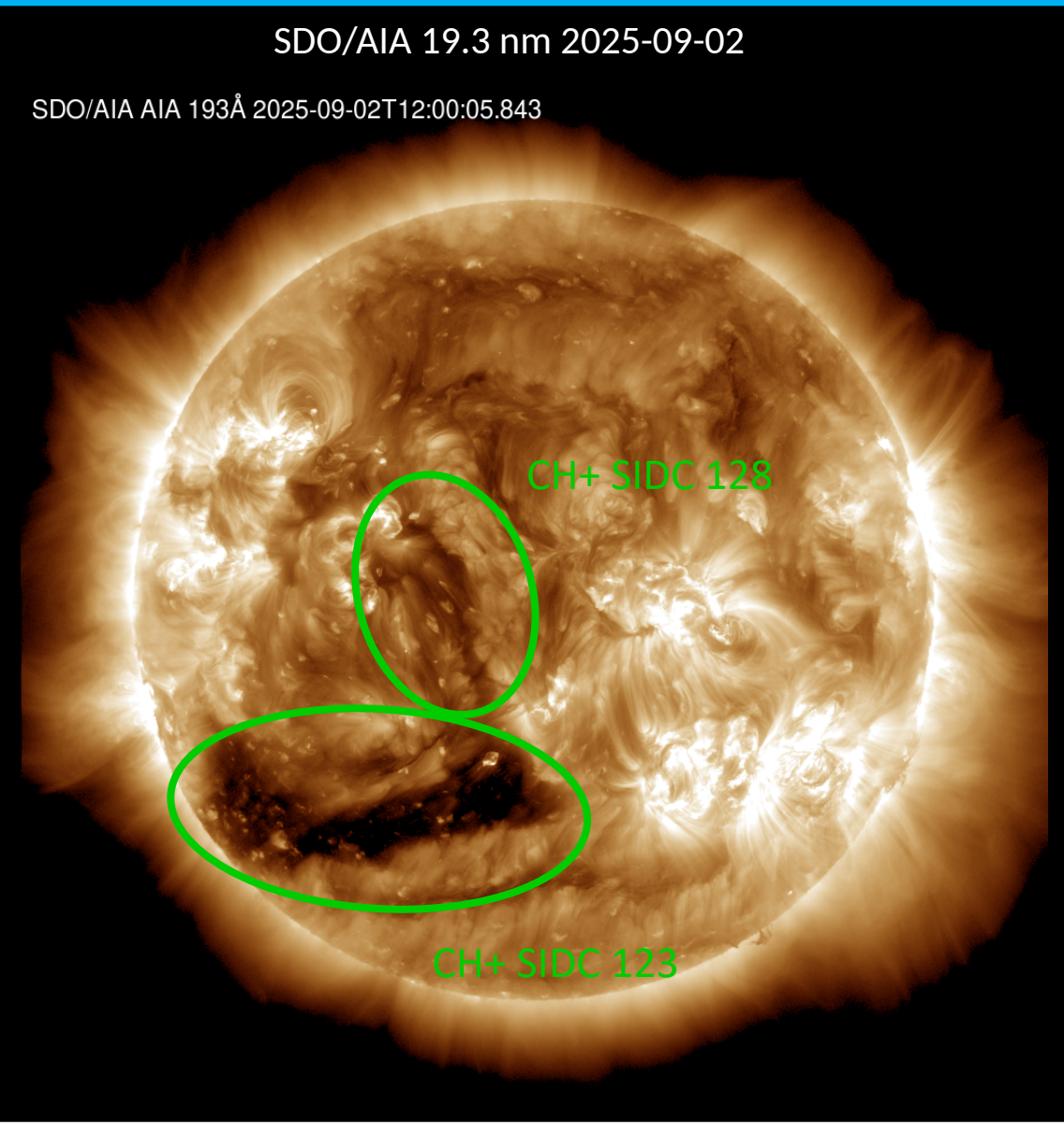


Coronal holes

SDO/AIA 19.3 nm 2025-09-01

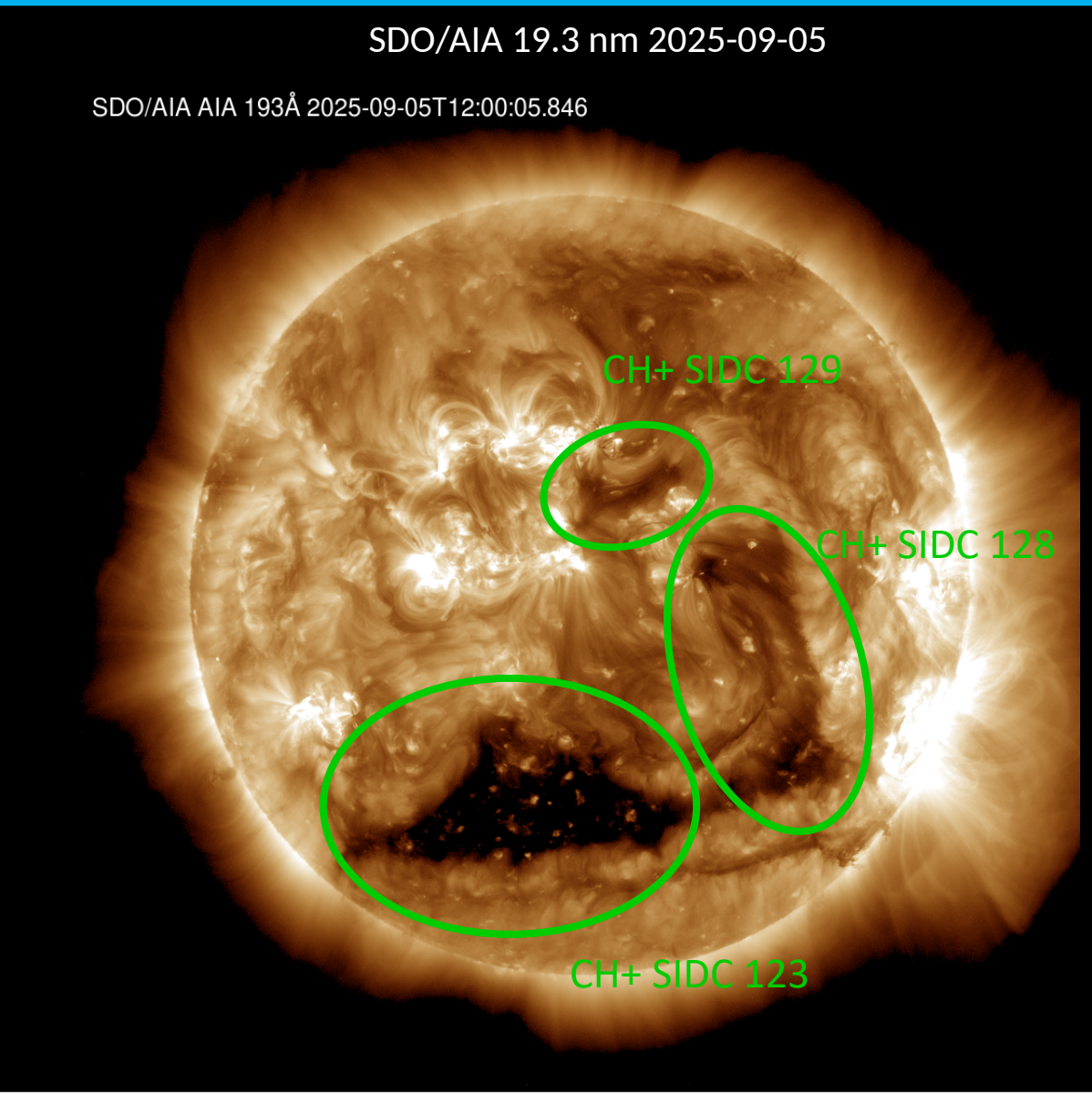


SDO/AIA 19.3 nm 2025-09-02

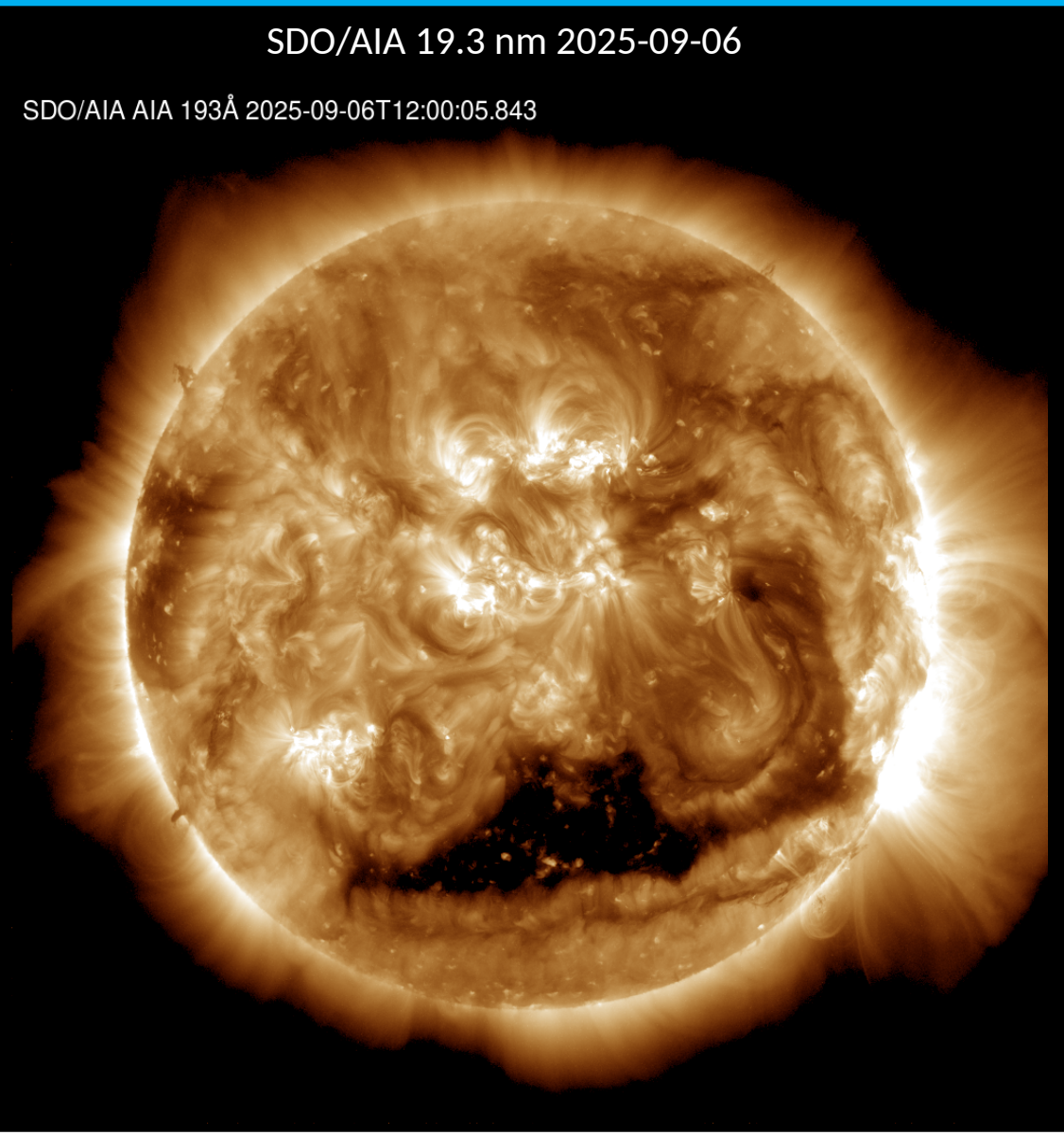


Coronal holes

SDO/AIA 19.3 nm 2025-09-05

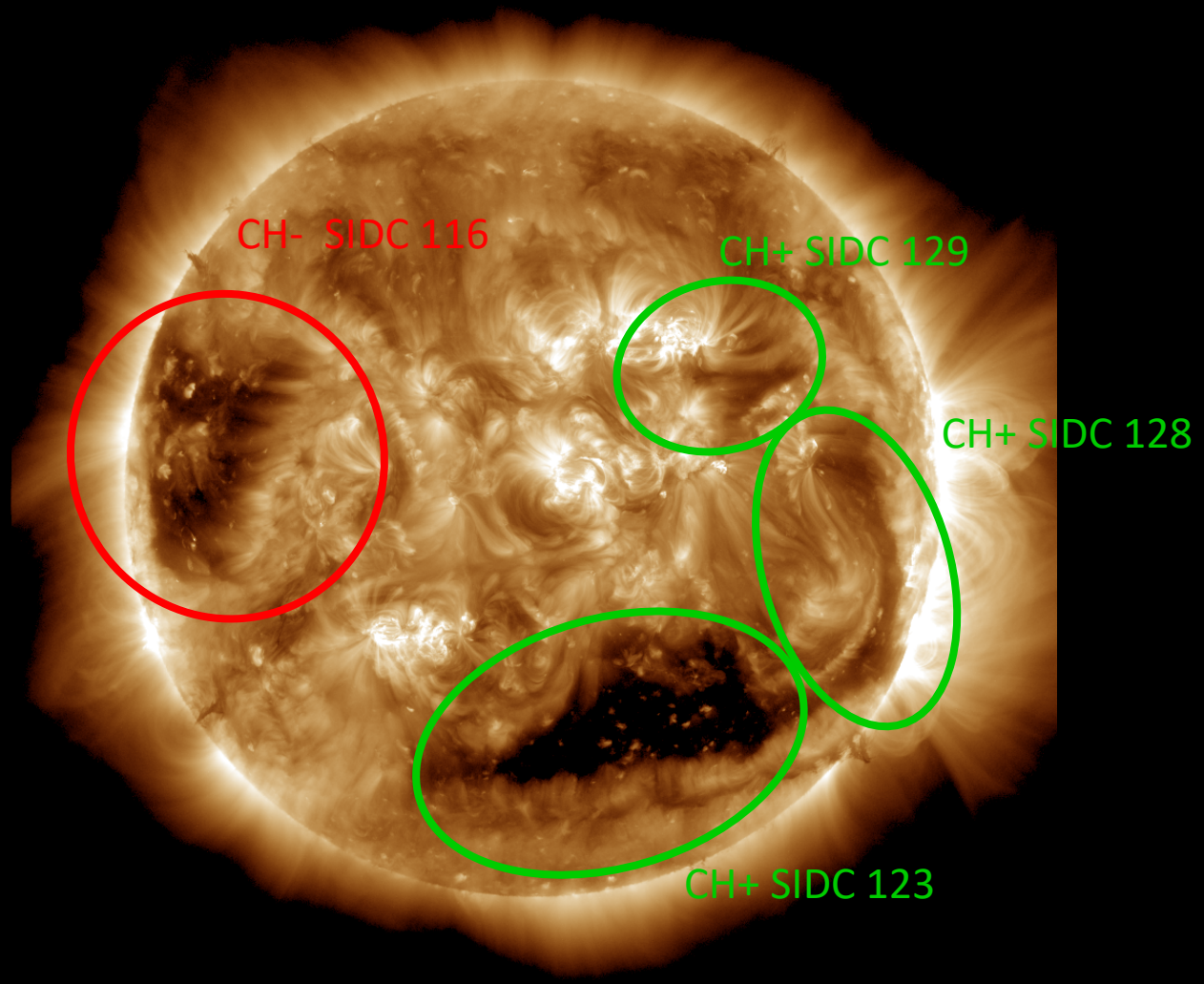


SDO/AIA 19.3 nm 2025-09-06



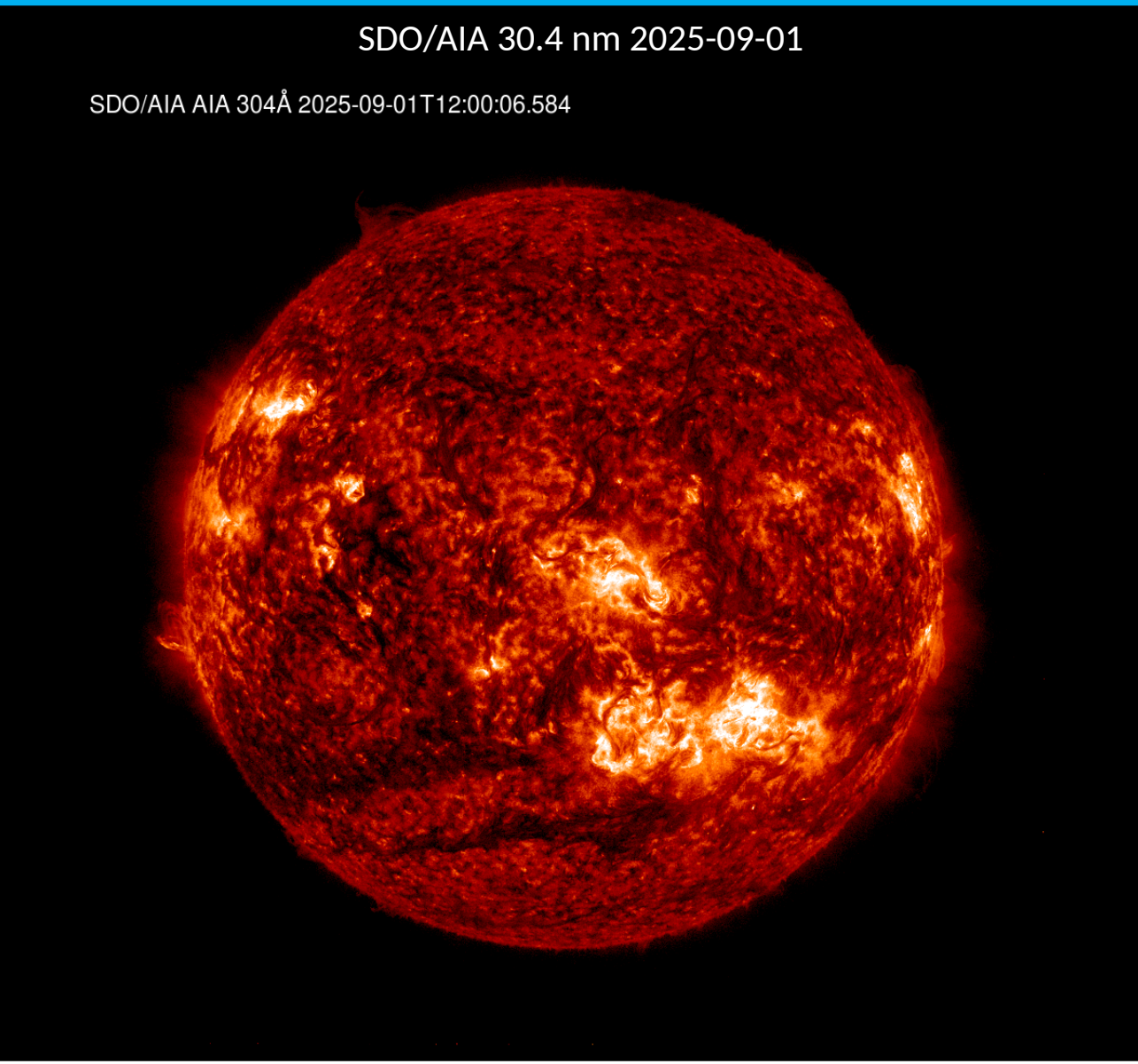
Coronal holes

SDO/AIA 19.3 nm 2025-09-07

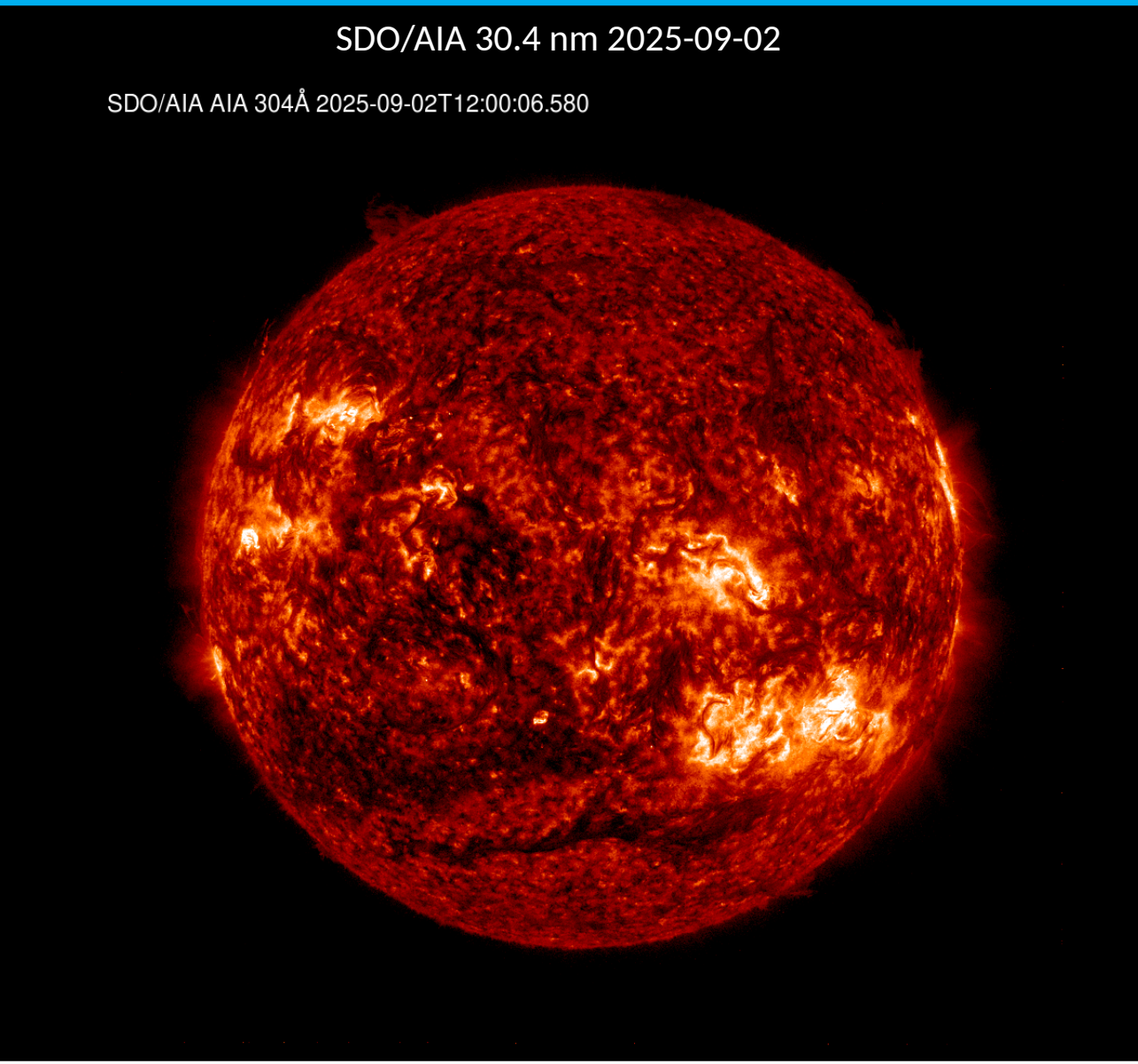


Filaments

SDO/AIA 30.4 nm 2025-09-01

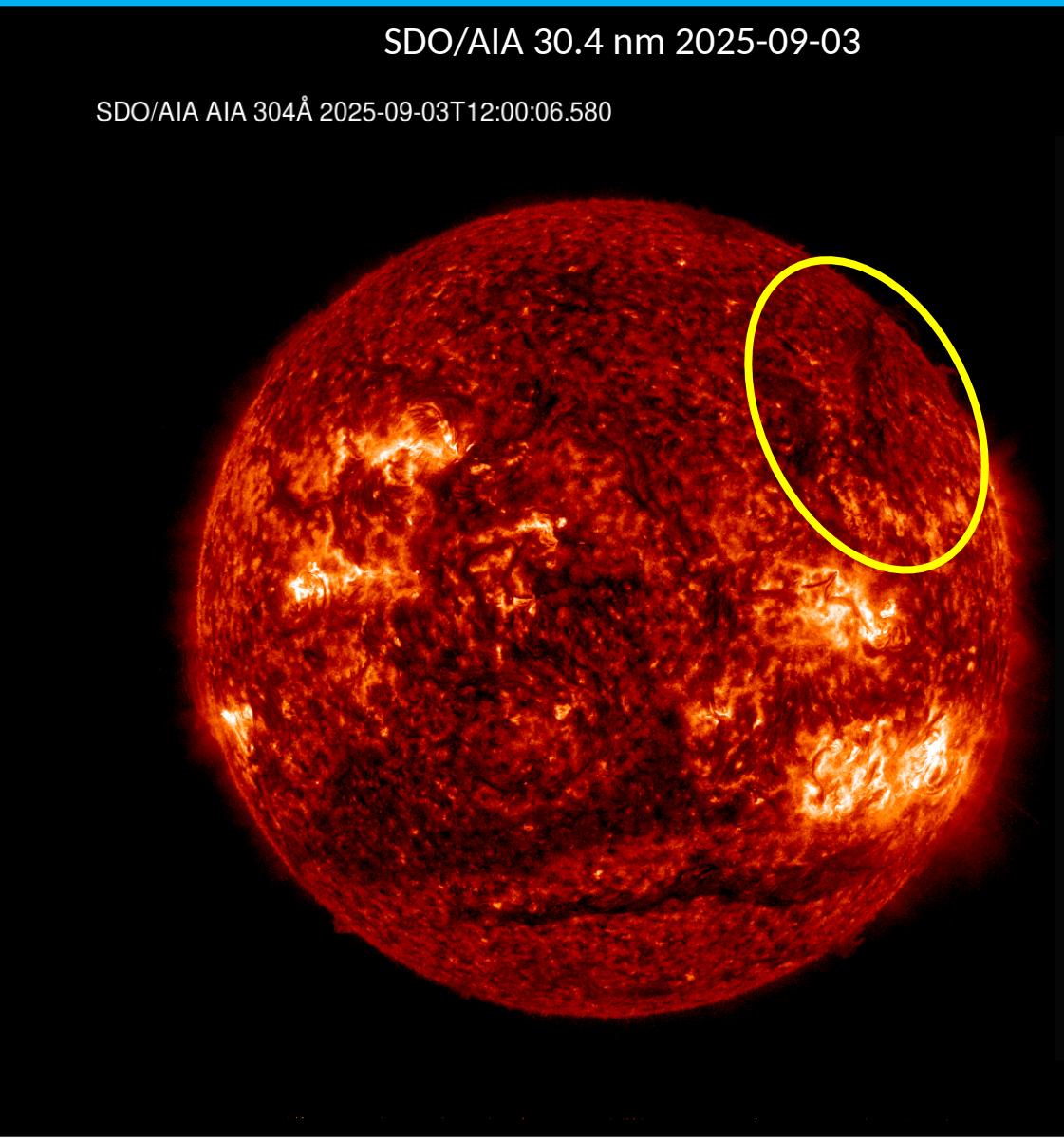


SDO/AIA 30.4 nm 2025-09-02

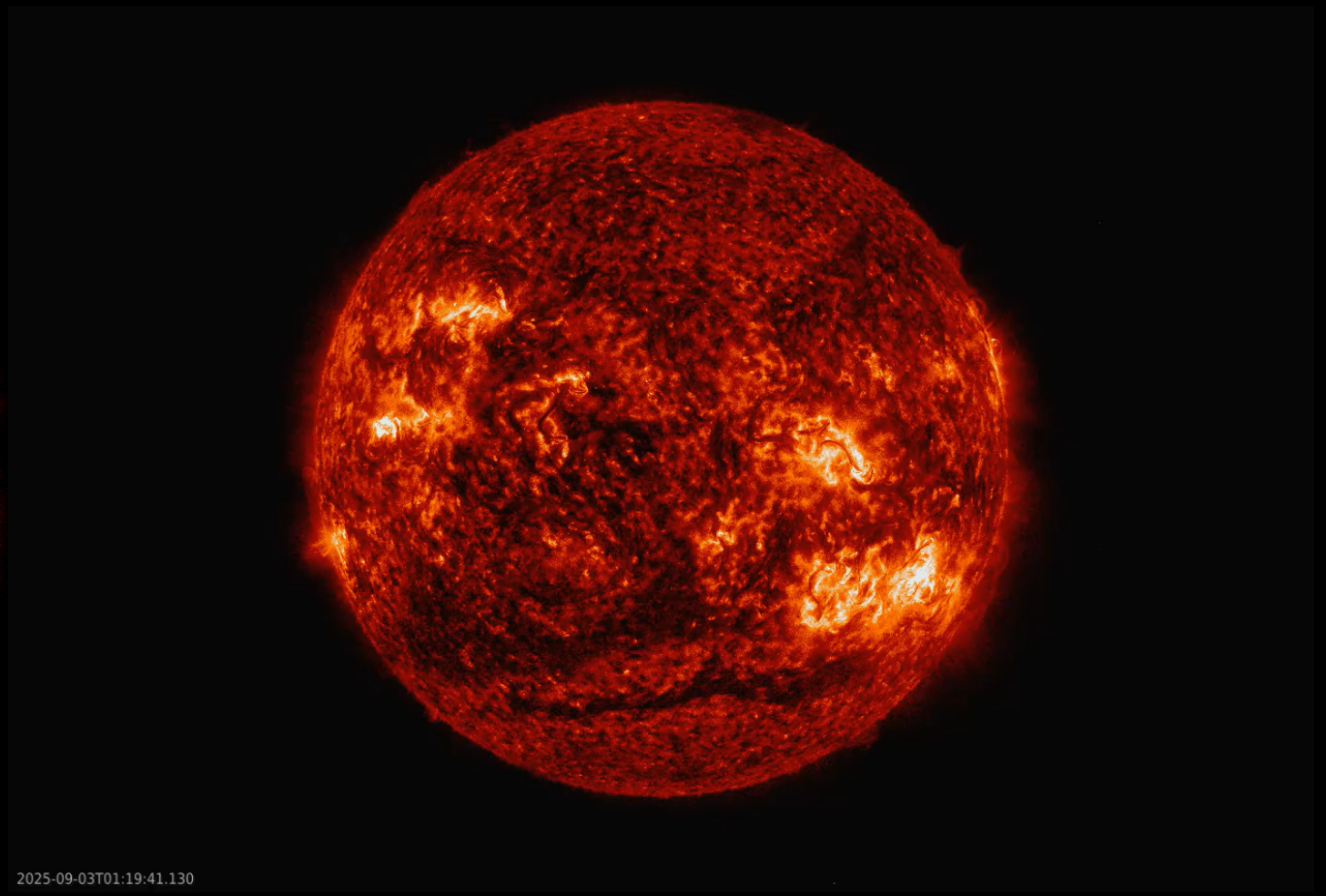


Filaments

SDO/AIA 30.4 nm 2025-09-03

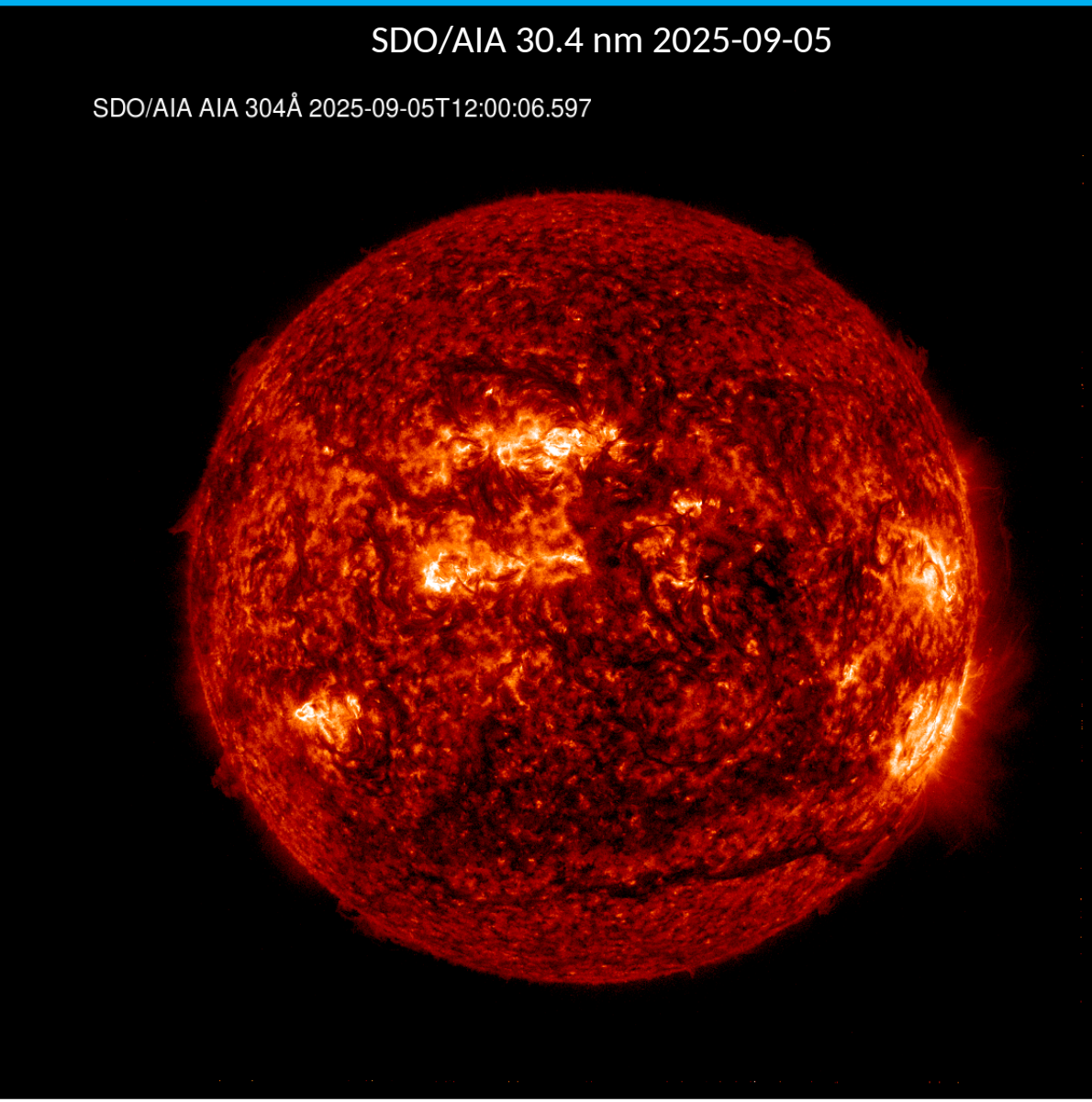


SDO/AIA 30.4 nm

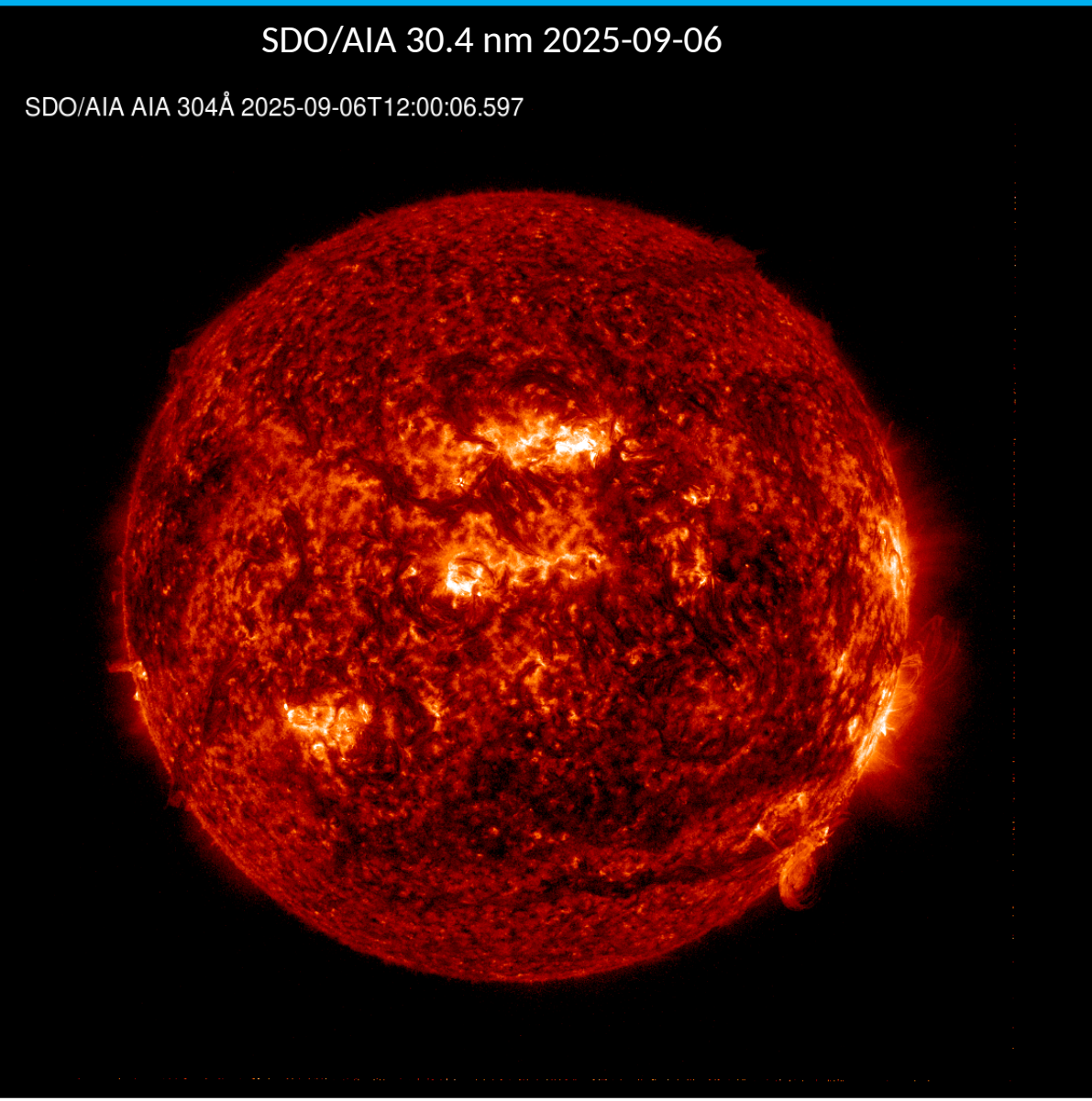


Filaments

SDO/AIA 30.4 nm 2025-09-05

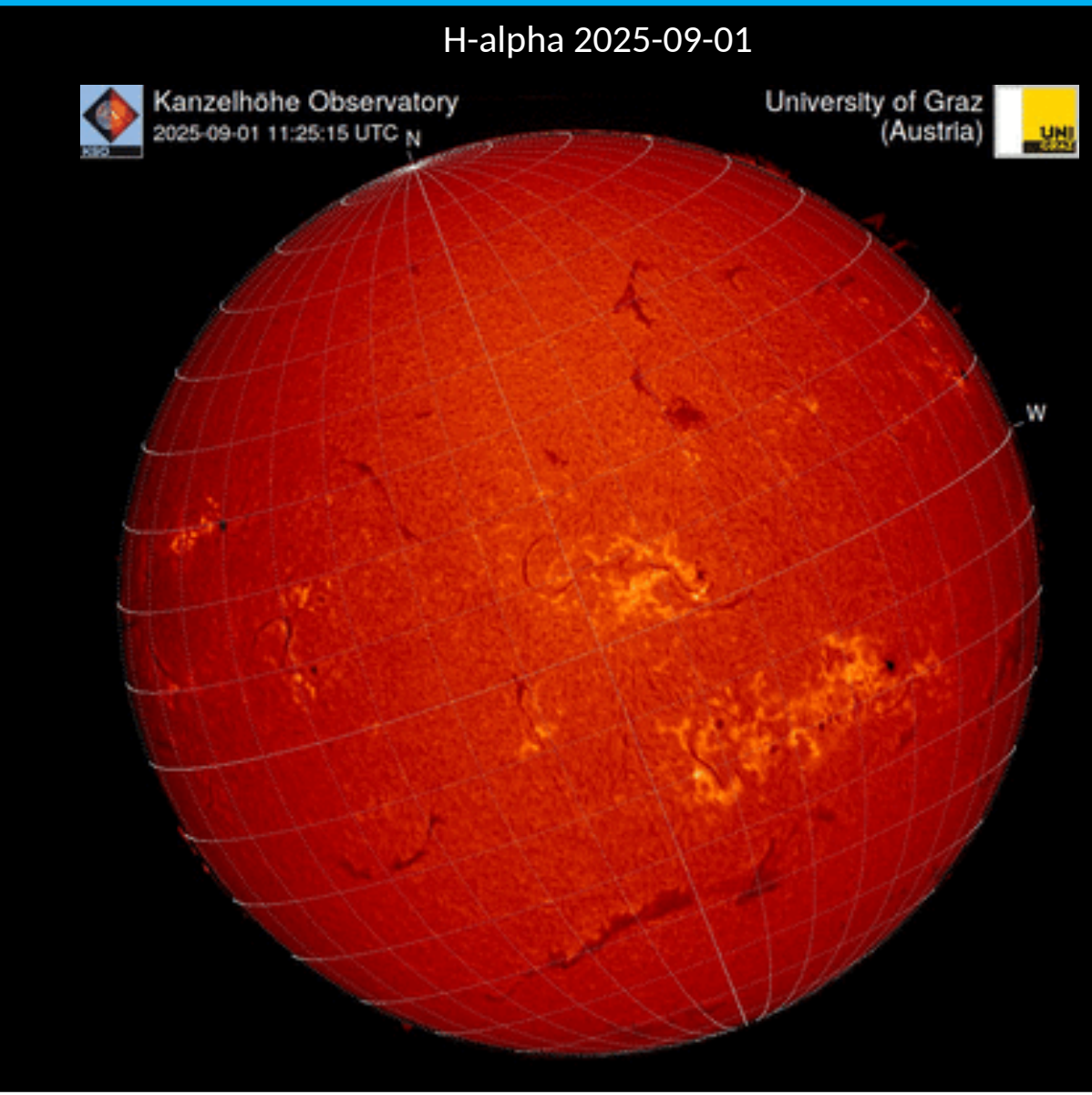


SDO/AIA 30.4 nm 2025-09-06

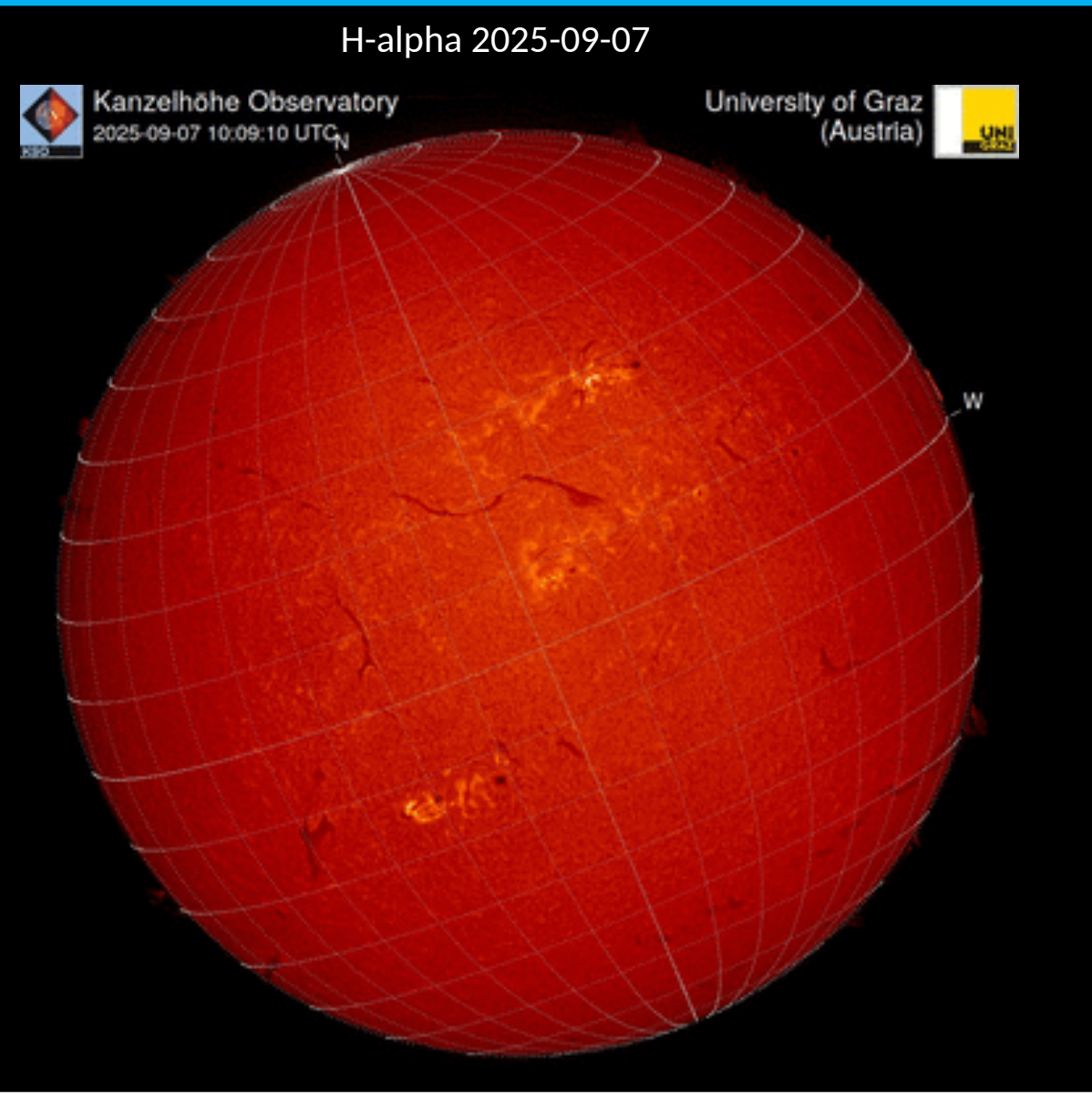


Filaments & Filament eruptions

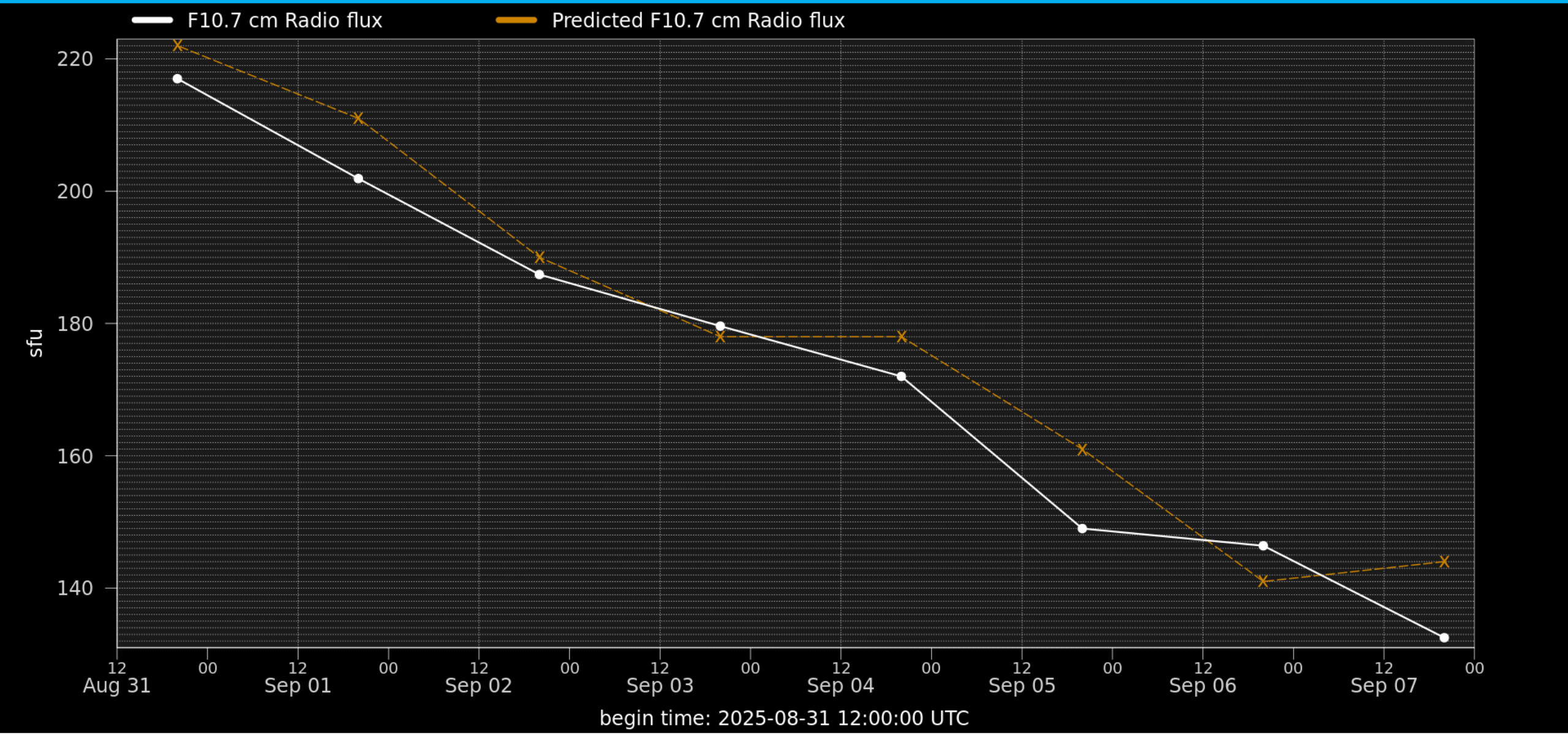
H-alpha 2025-09-01



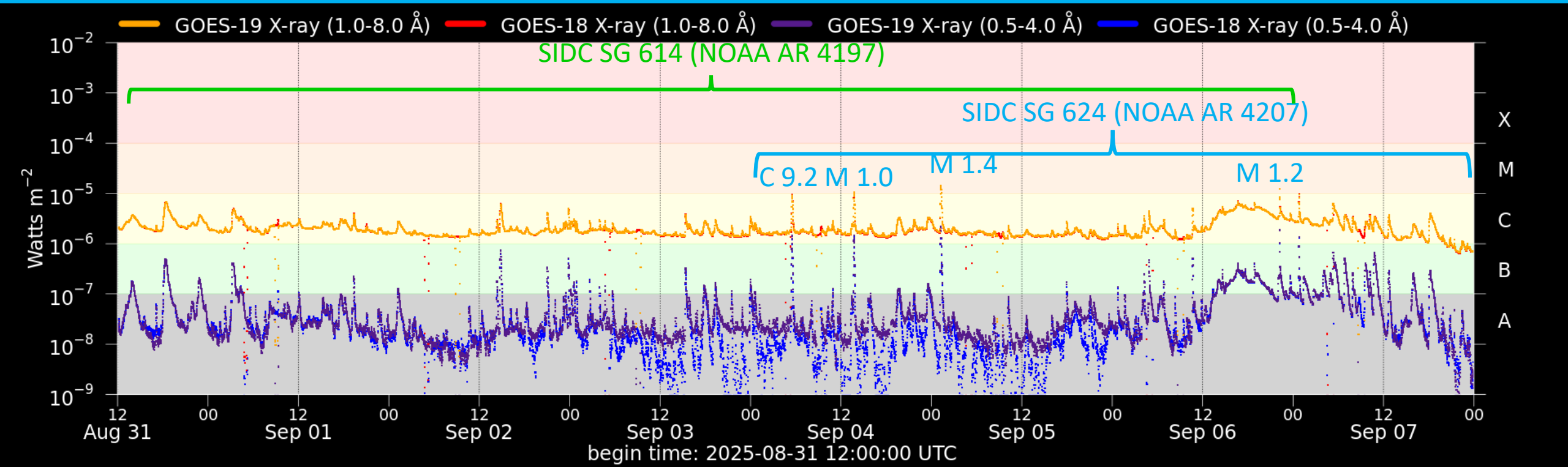
H-alpha 2025-09-07



Solar F10.7cm radio flux



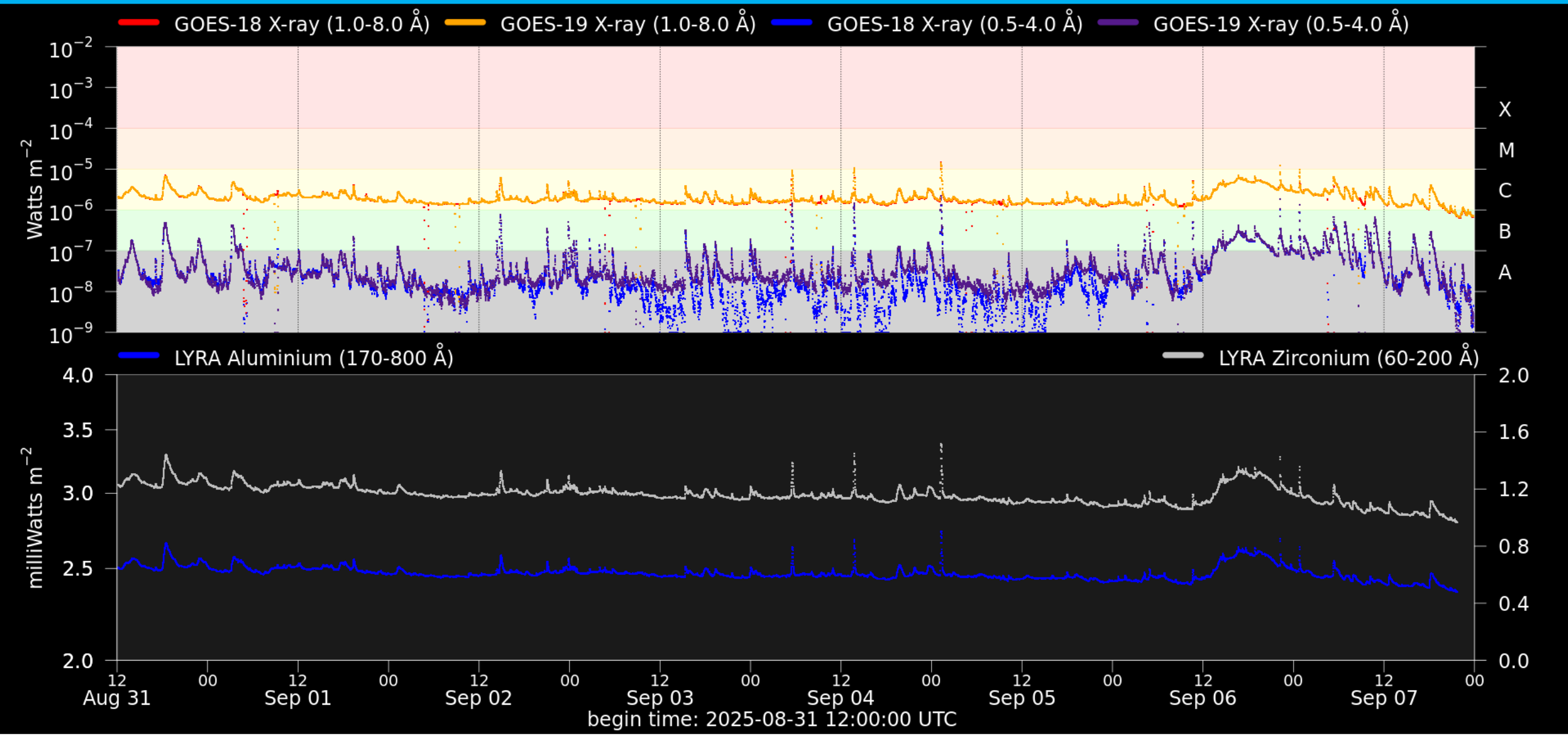
Flaring activity



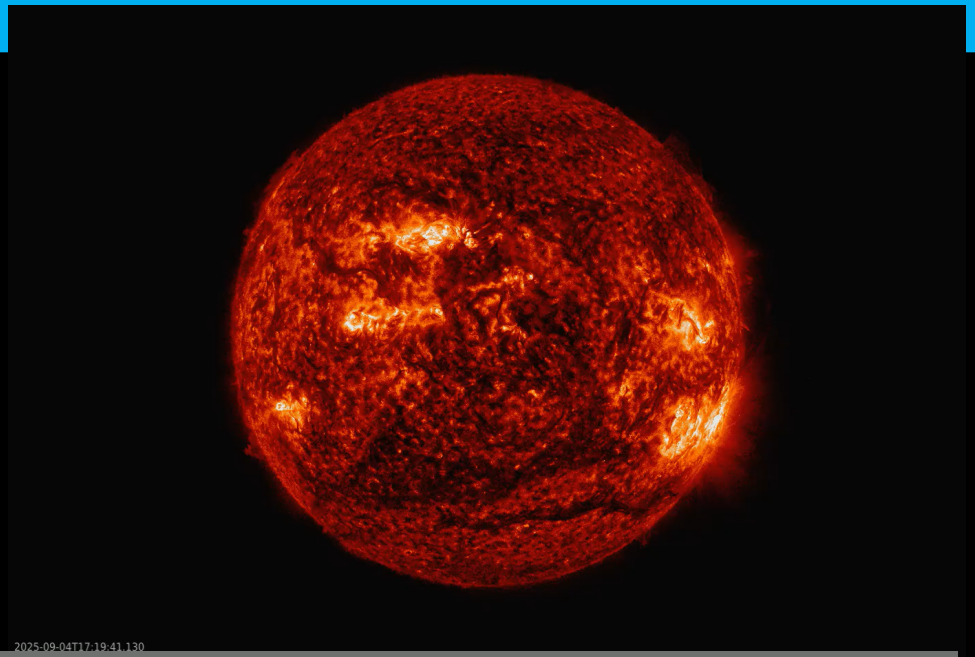
Probabilities (%) and occurrences (#) of C/M/X-flares daily, from noon to noon:

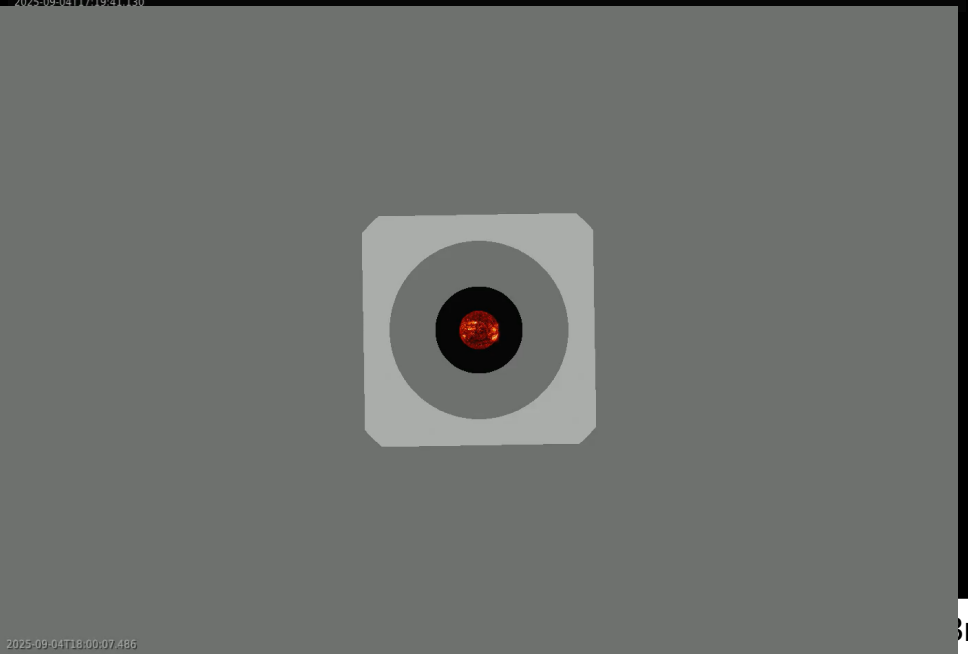
Issue date	2025-08-31	2025-09-01	2025-09-02	2025-09-03	2025-09-04	2025-09-05	2025-09-06	2025-09-07
Probability (%)	99|75|20	99|86|10	99|59|02	99|46|01	99|52|01	96|46|01	91|36|01	98|64|10
Observed (#)	02|00|00	01|00|00	07|00|00	05|00|00	02|02|00	05|00|00	05|01|00	03|00|00

Solar X-Ray and UV flux



Coronal Mass Ejections



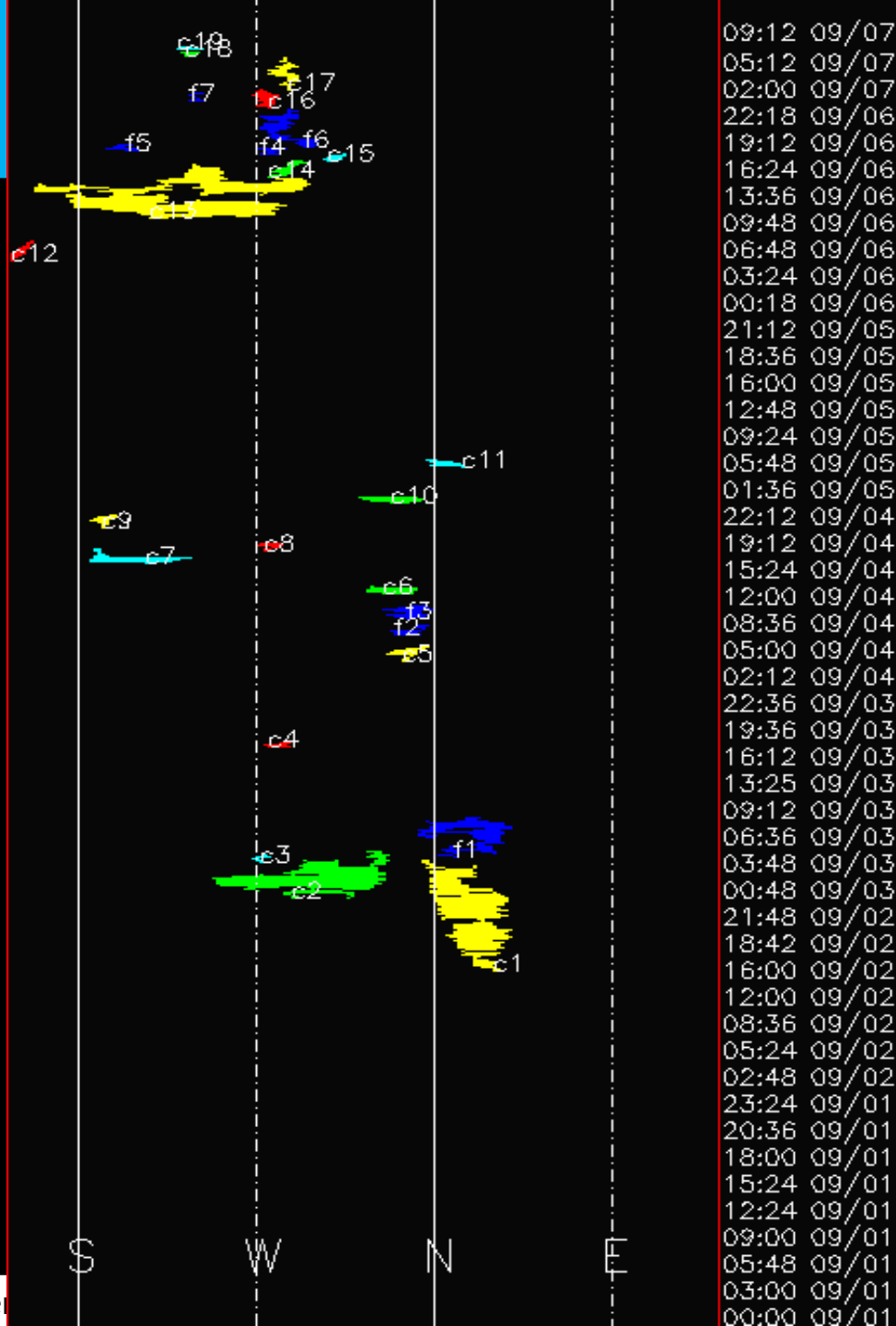


Eruption seen in SDO/AIA 304
on Sep 04 at 19:22 UTC

Faint halo CME seen in LASCO-C3
on Sep 04 at 20:36 UTC

Estimates speed ~1000 km/s

ICME arrival on Sep 06 at 13:50 UTC
SW speed 620 km/s and 22 nT



Solar Wind and

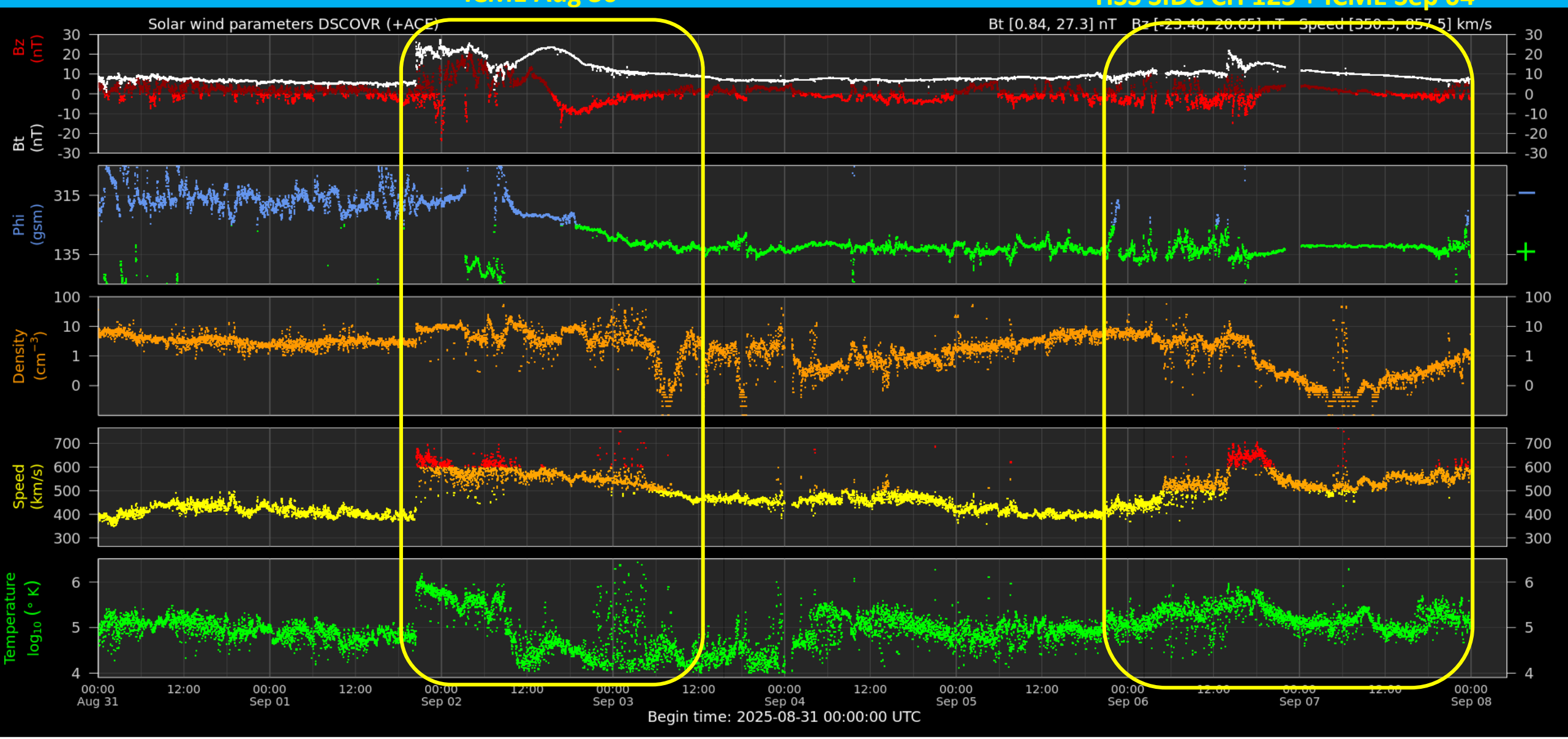
Geomagnetic Activity



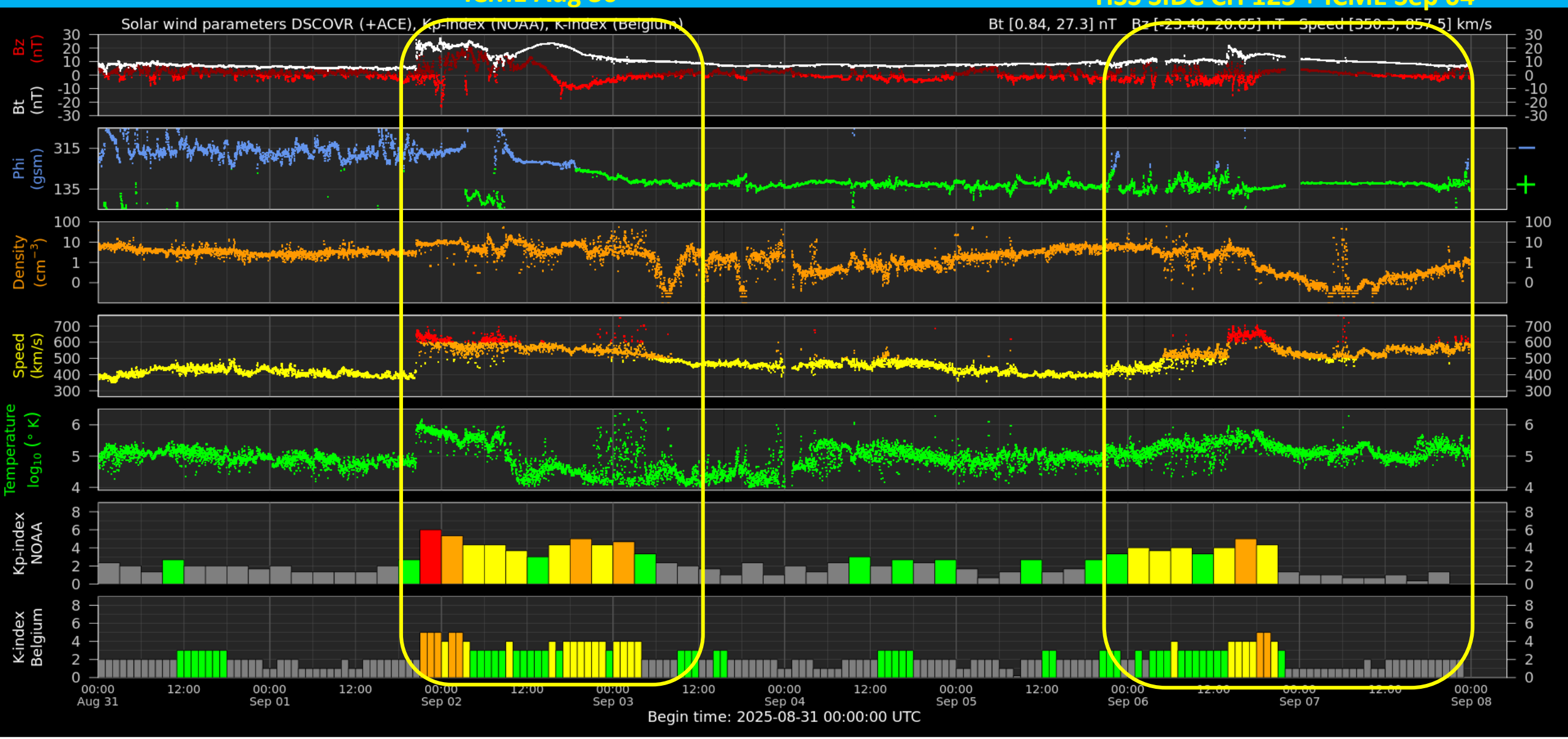
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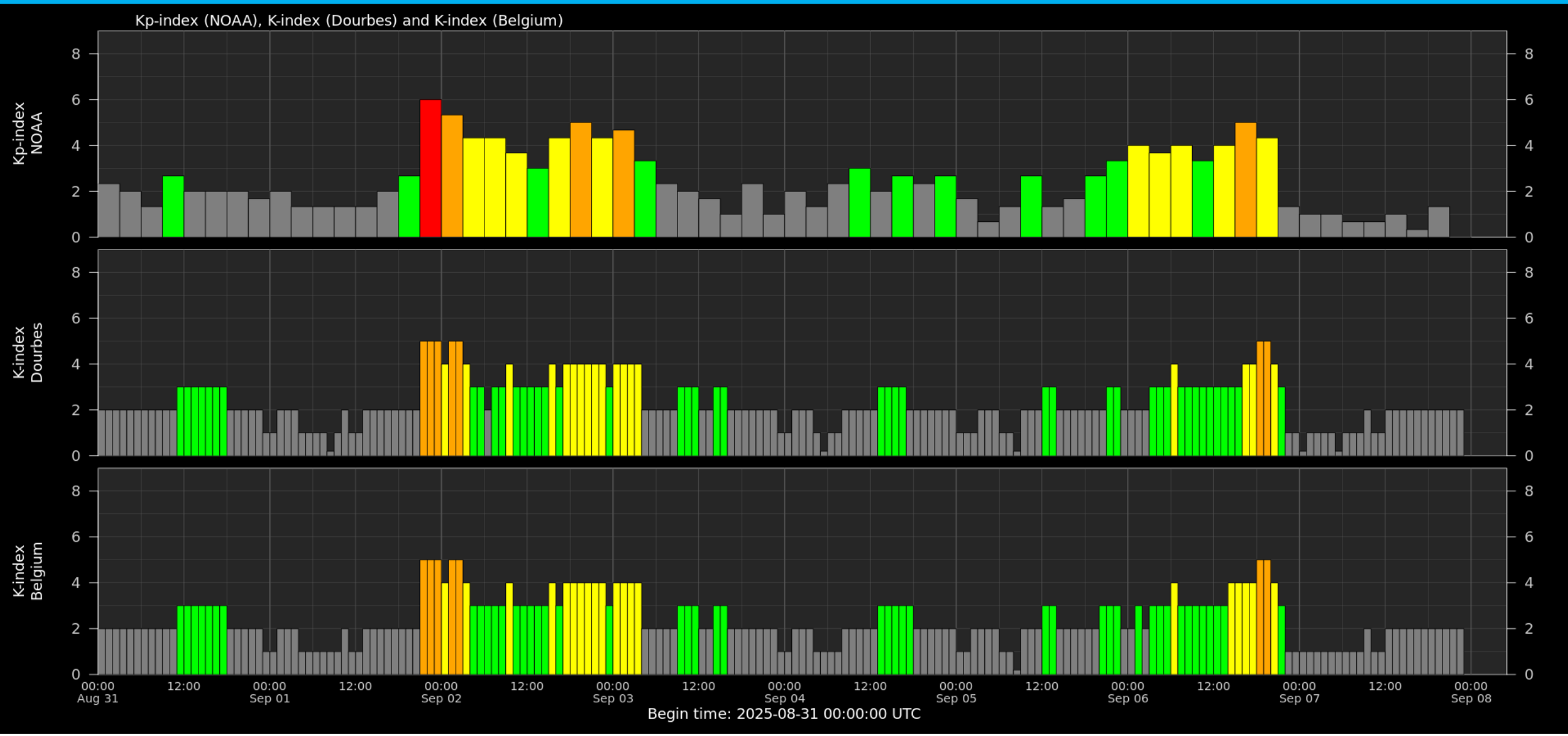
Solar wind parameters



Solar wind parameters & K-indices



Geomagnetic activity (K-indexes)



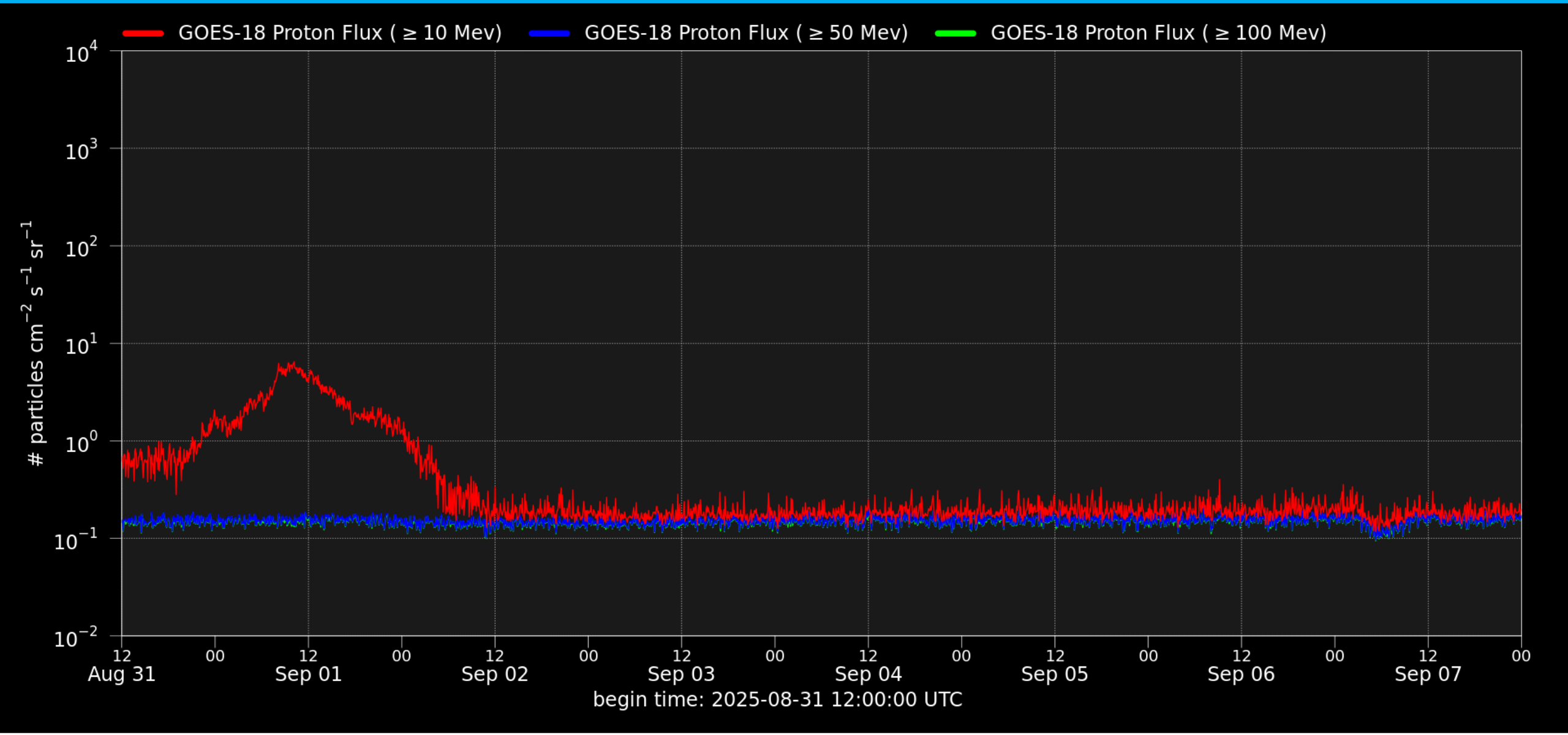
Energetic Particles



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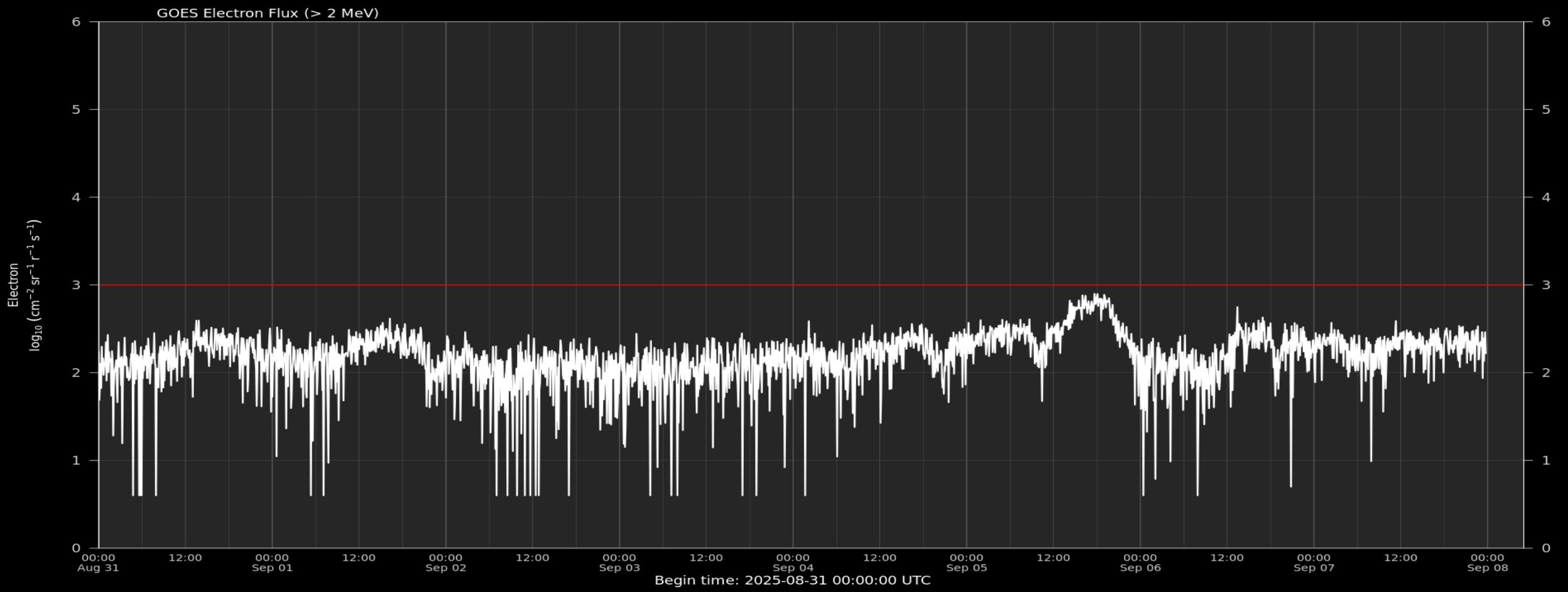
Solar proton flux



Electron flux at GEO

www.stce.be/educational/classification#electrons

www.spaceweather.gc.ca/forecast-prevision/space-spatiale/sffl-en.php

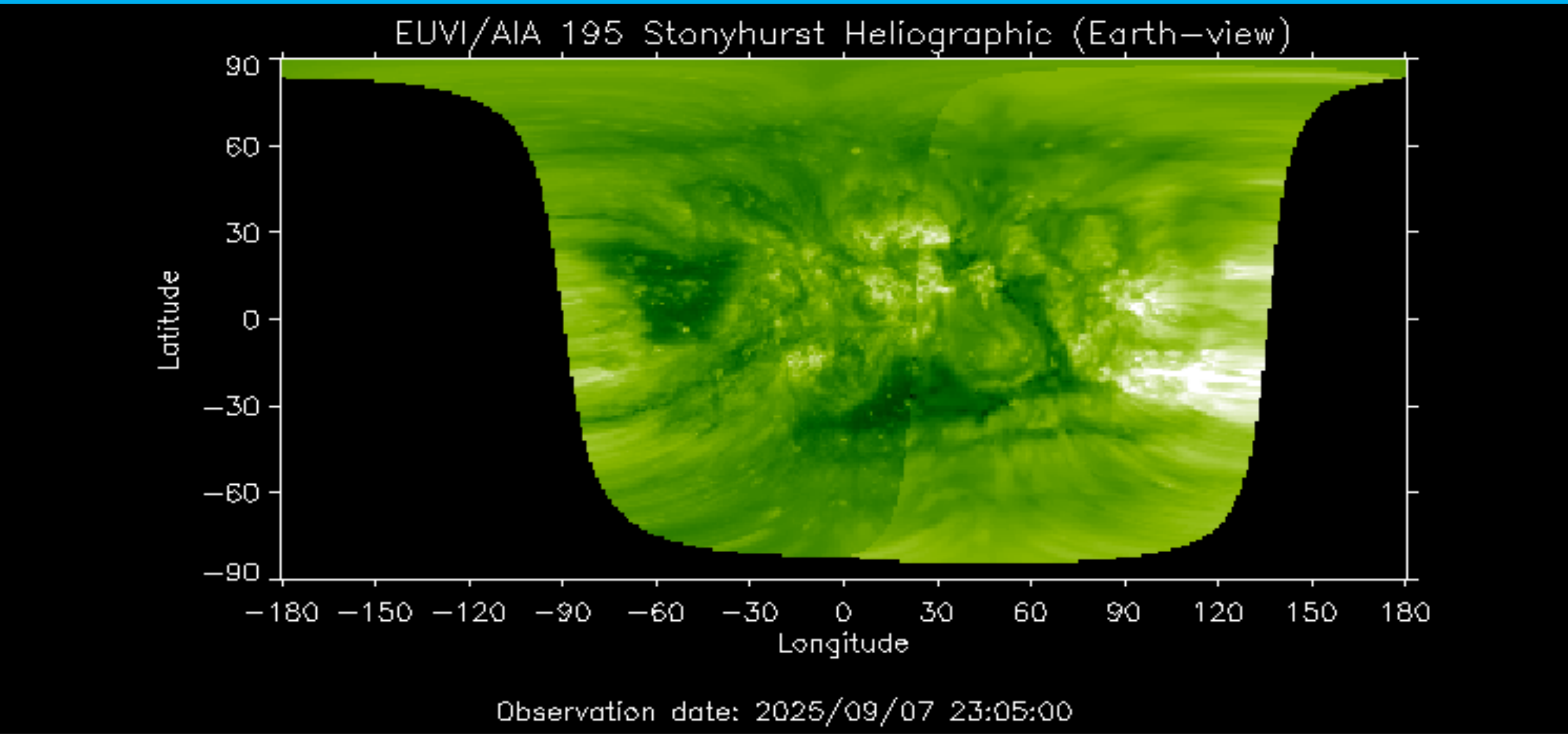


Outlook

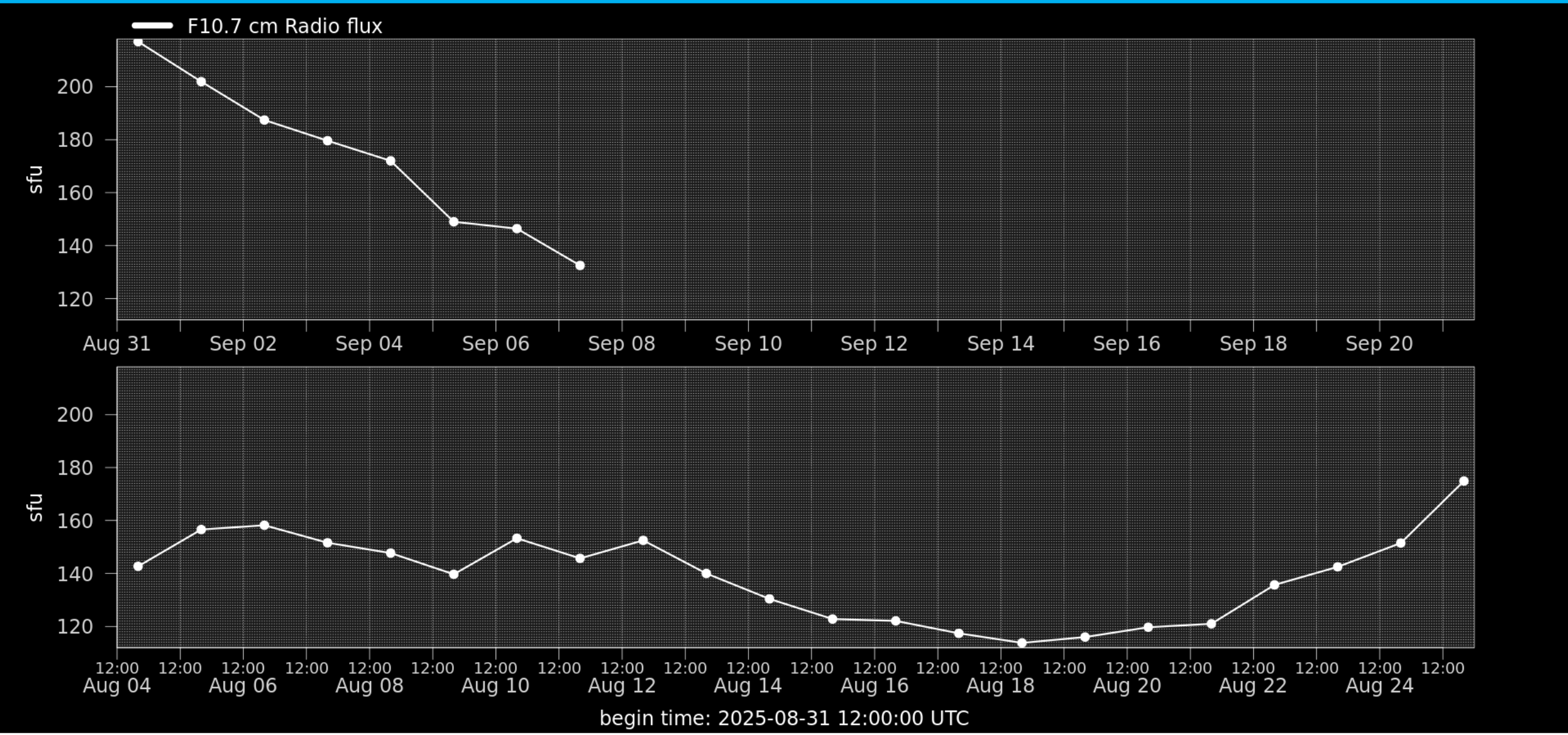
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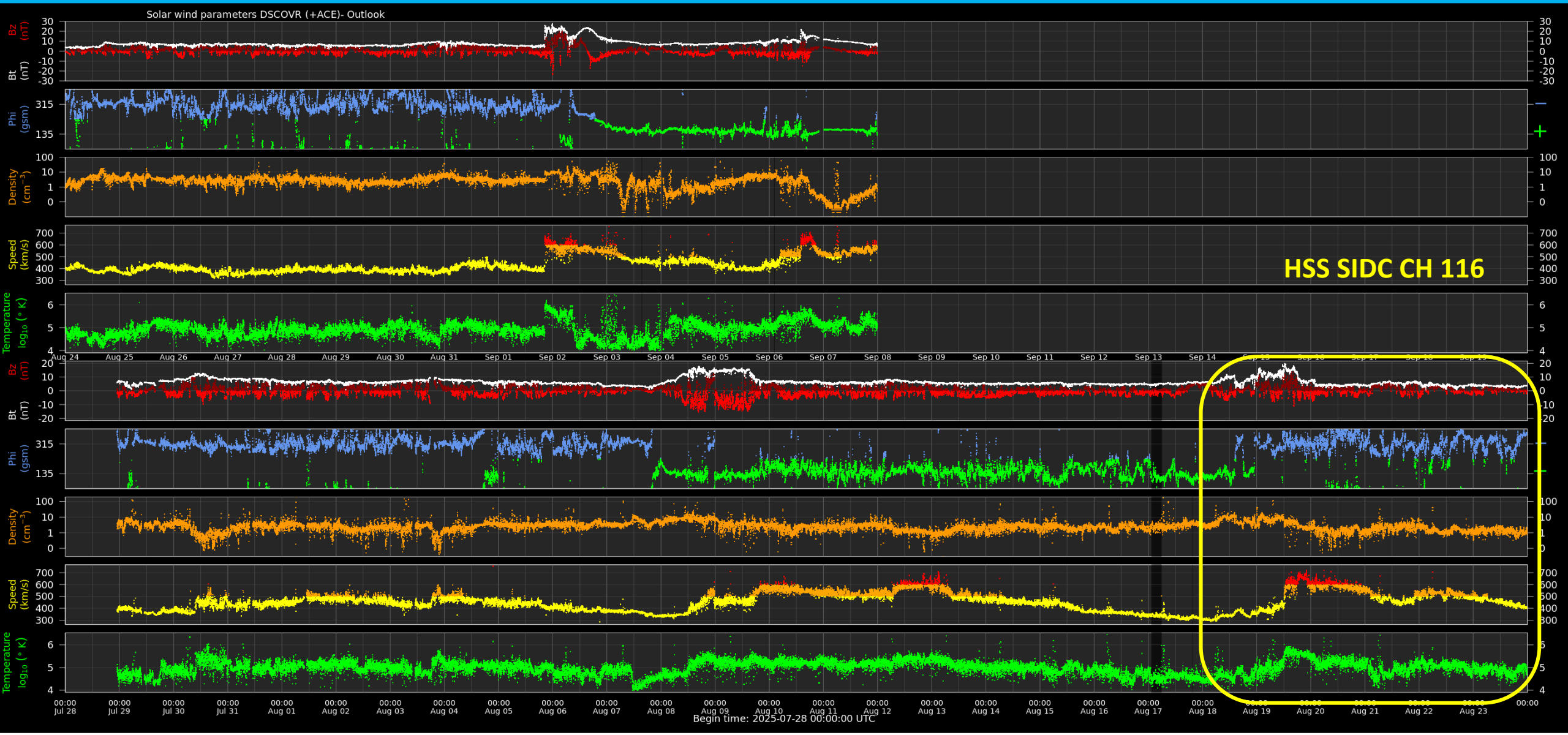
Outlook: Solar activity



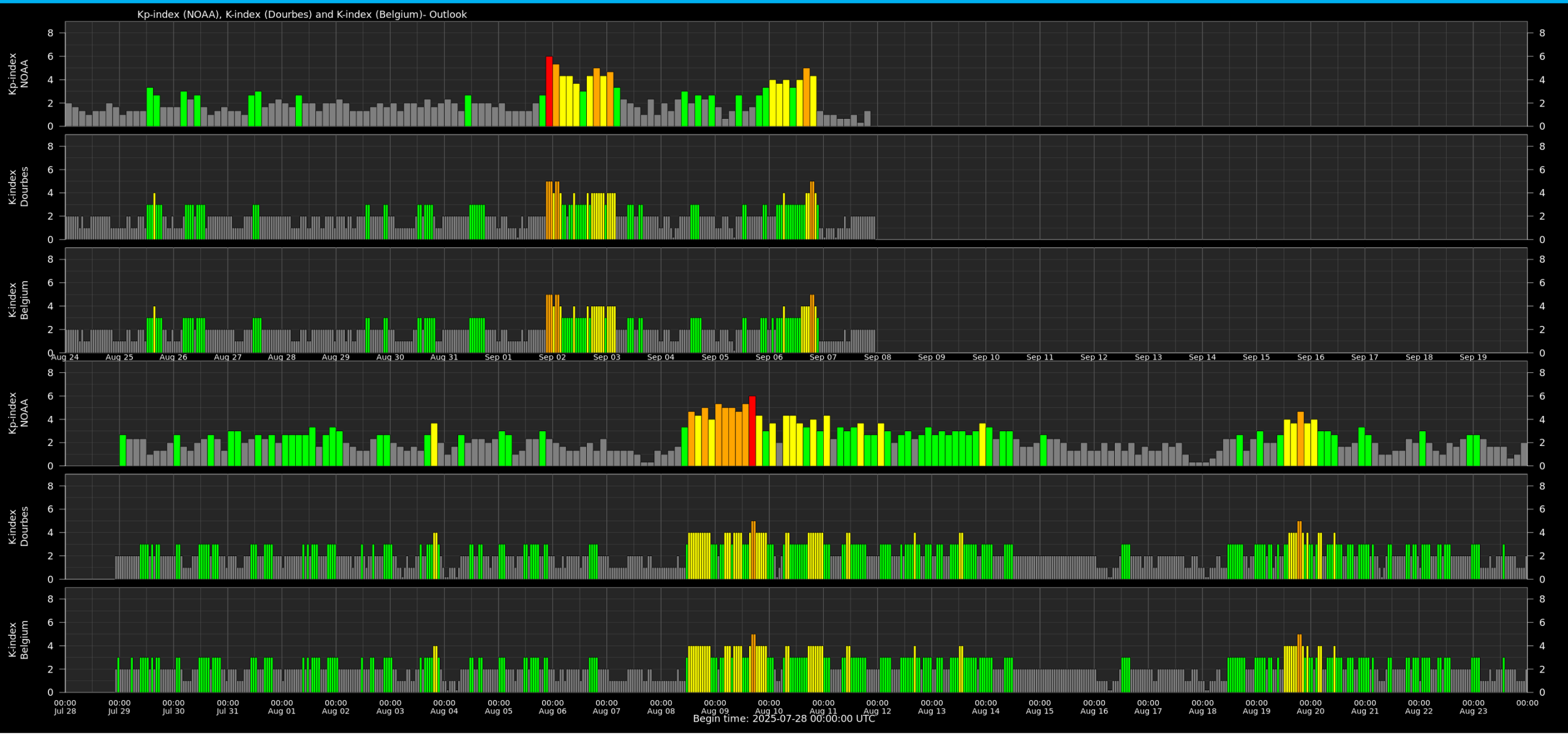
Outlook: Solar F10.7cm radio flux



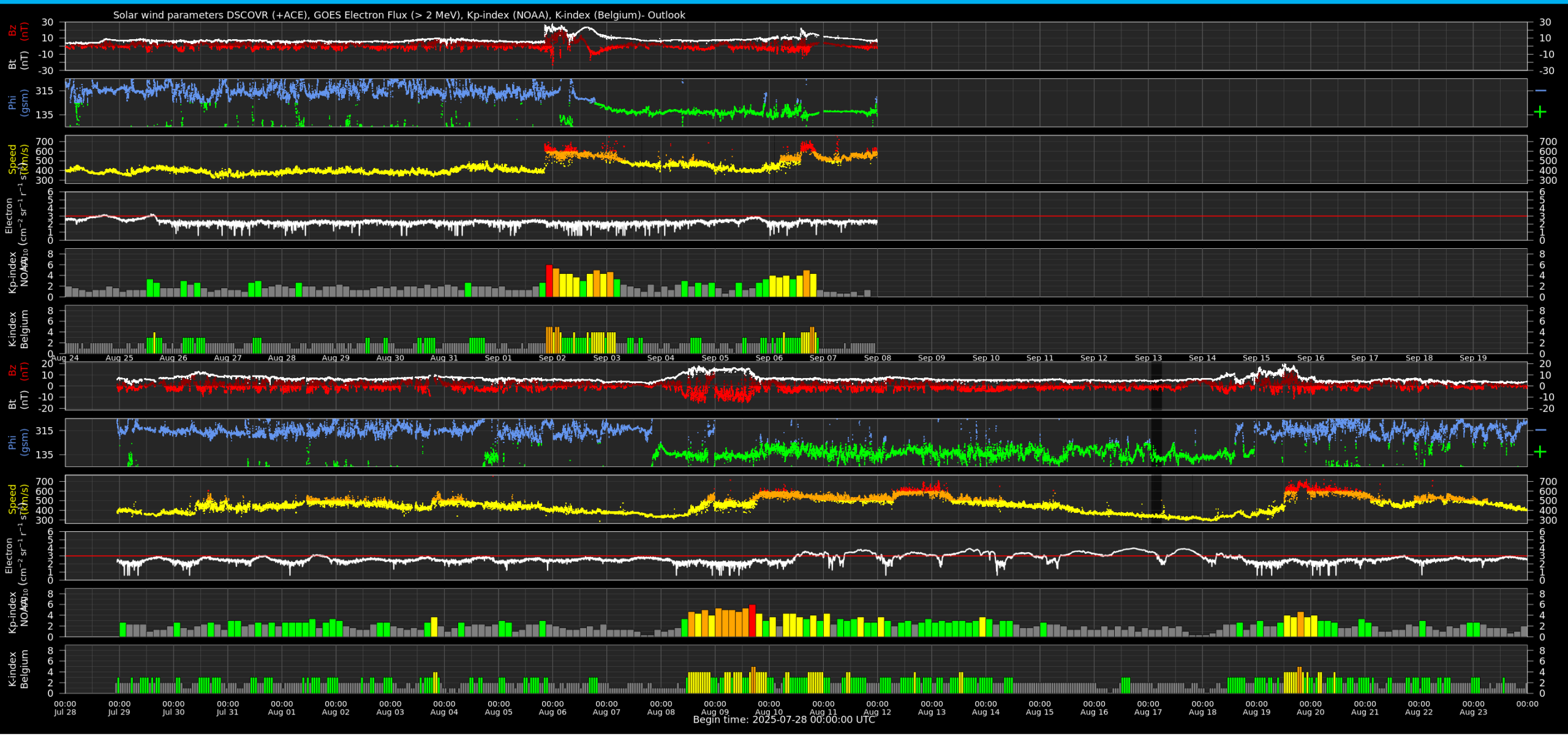
Outlook: Solar wind parameters



Outlook: Geomagnetic activity



Outlook: Electron Flux at GEO Outlook



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Pecasus related events

HF advisories:

- Post storm depression MOD to SEV

GNSS advisories:

- Ionospheric scintillation MOD SEV

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