SIDC Space Weather Briefing

29 September 2025-05 October 2025

Dimitrios Millas

& the SIDC forecaster team

Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be

Summary Report

Solar activity from 2025-09-29 00:00 to 2025-10-05 23:59

Active regions	21 ARs / SIDC 648, 653 657 (NOAA 4230, 4232, 4236) → βγδ during the week
Flares	# C-class flare: 38 # M-class flare: 8 # X-class flare: 0
Coronal Holes	2 (?) positive, elongated CHs (SIDC 123, 128)
CMEs	1 partial halo / many not Earth-directed

Proton flux	Increased but below the 10pfu threshold
Electron flux	Over the 1000 pfu threshold since October 01

Solar wind and geomagnetic conditions

ICMEs	1 (SIDC CME 564, September 24)
Solar wind conditions	|B|: 0.94 - 20 nT //Bz: -17.12 nT to 16.17 nT //Speed: 351.0 – 810 km/s
Geomagnetic conditions	max KBel: 6.0, max Kp(NOAA): 7.33, Major Storm conditions

Solar Activity

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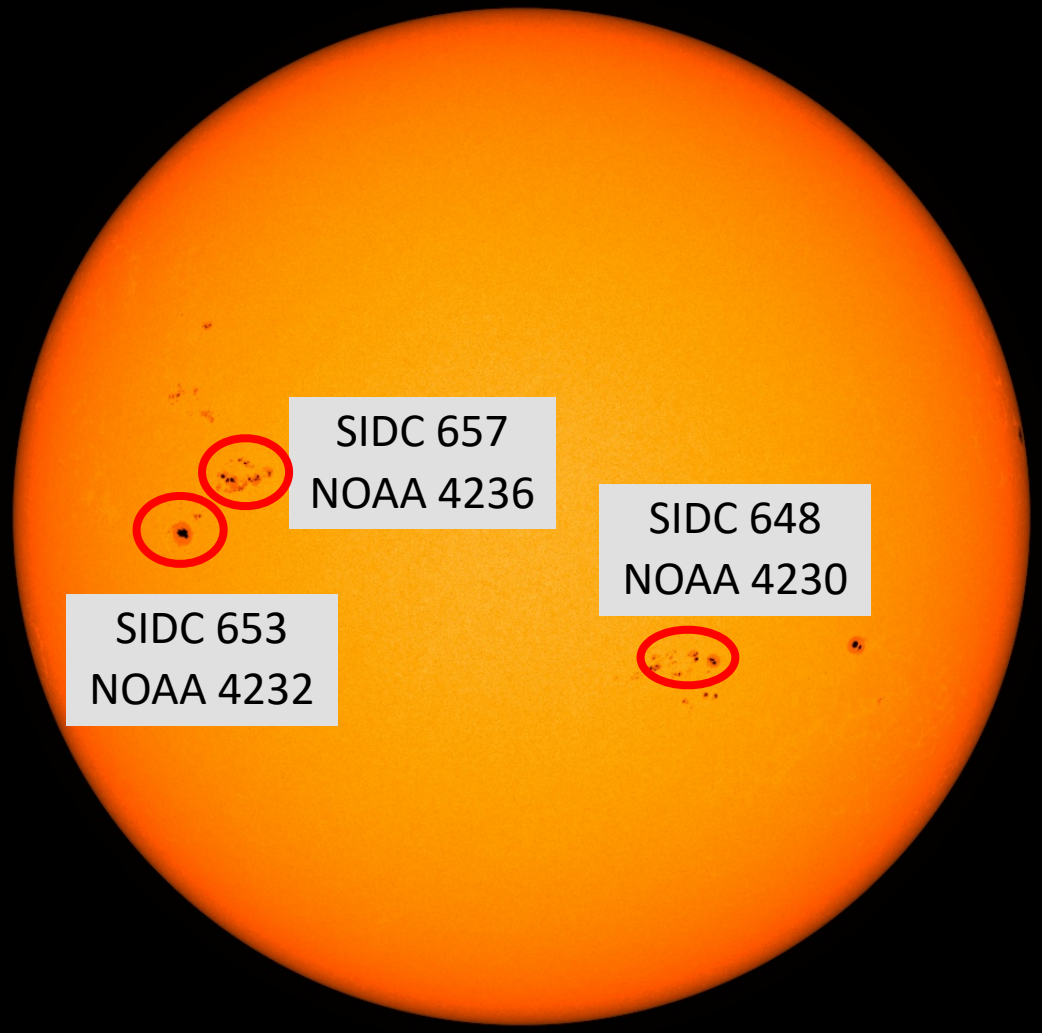
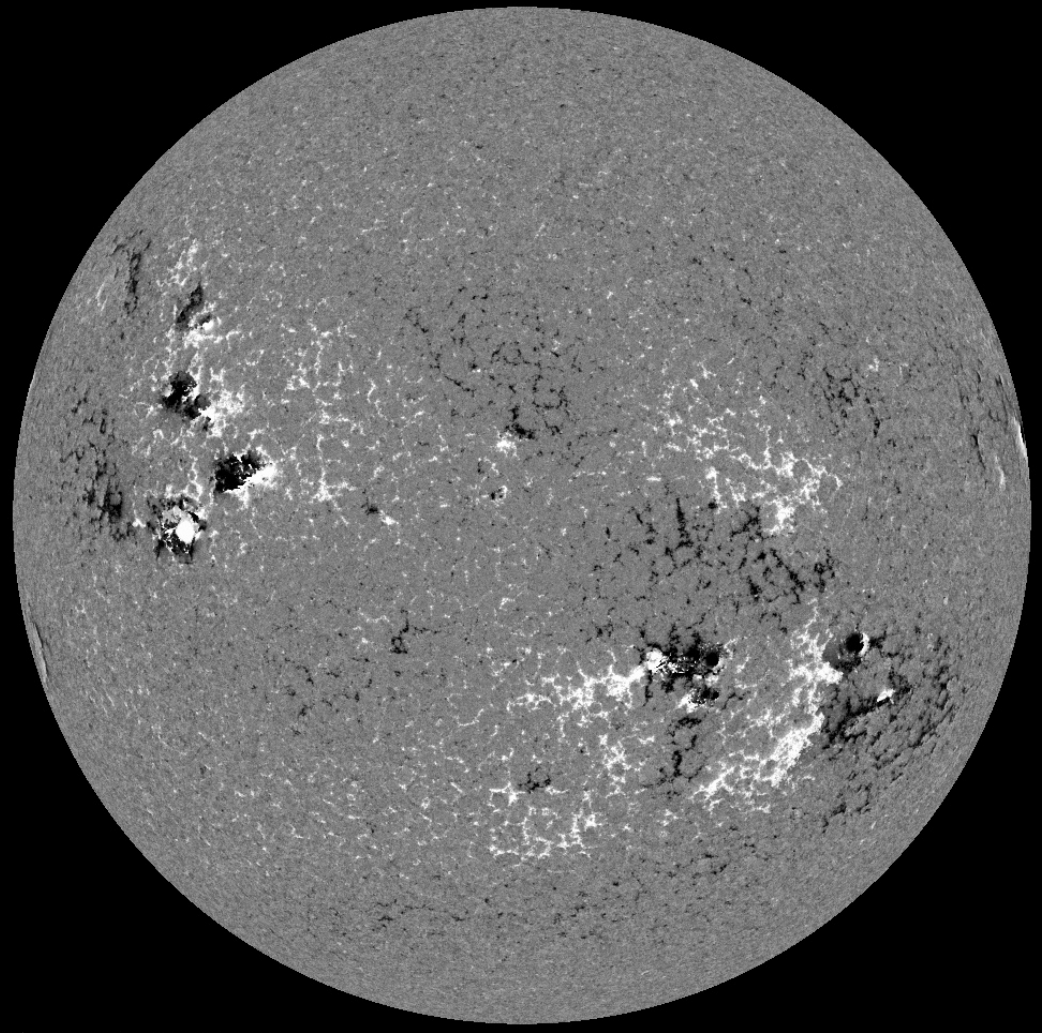
Solar active regions

SDO/HMI White Light 2025-09-29

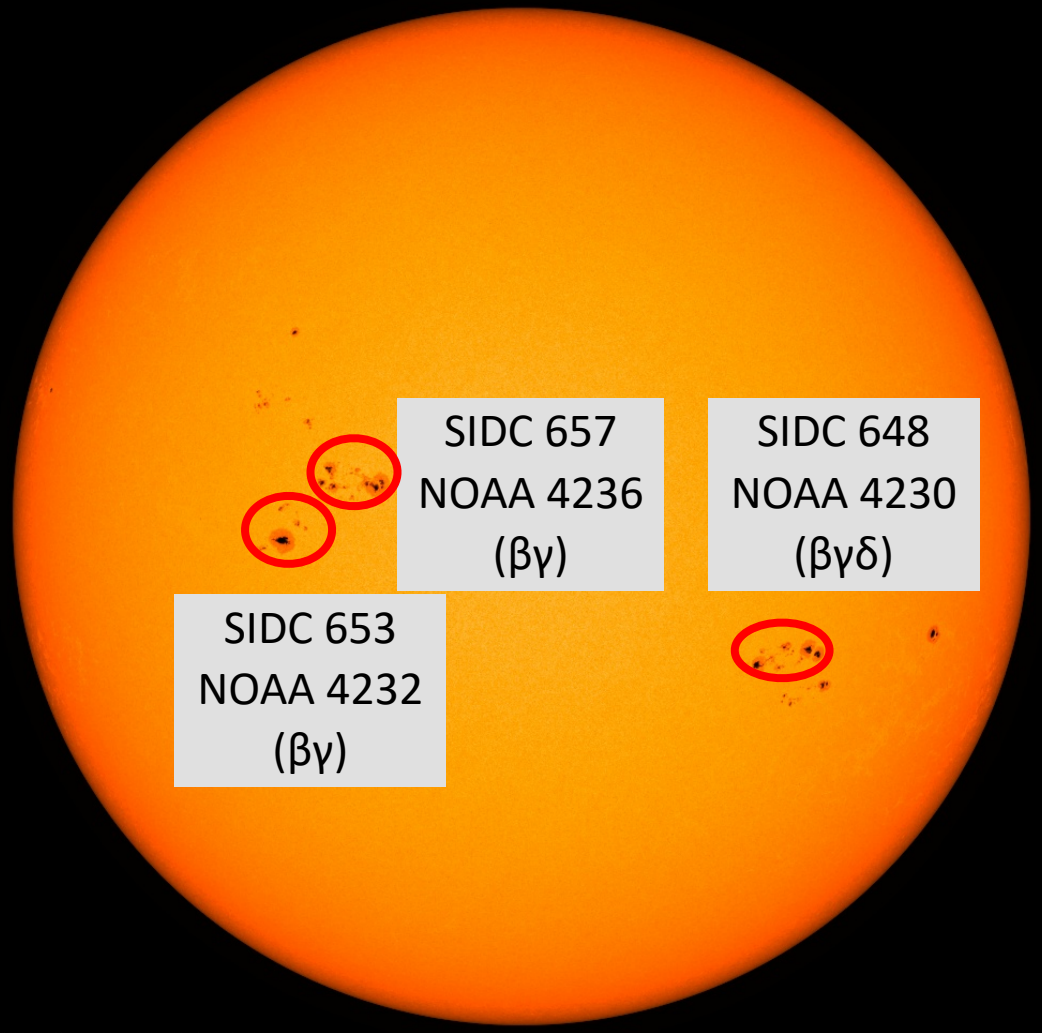


SDO/HMI Magnetogram 2025-09-29

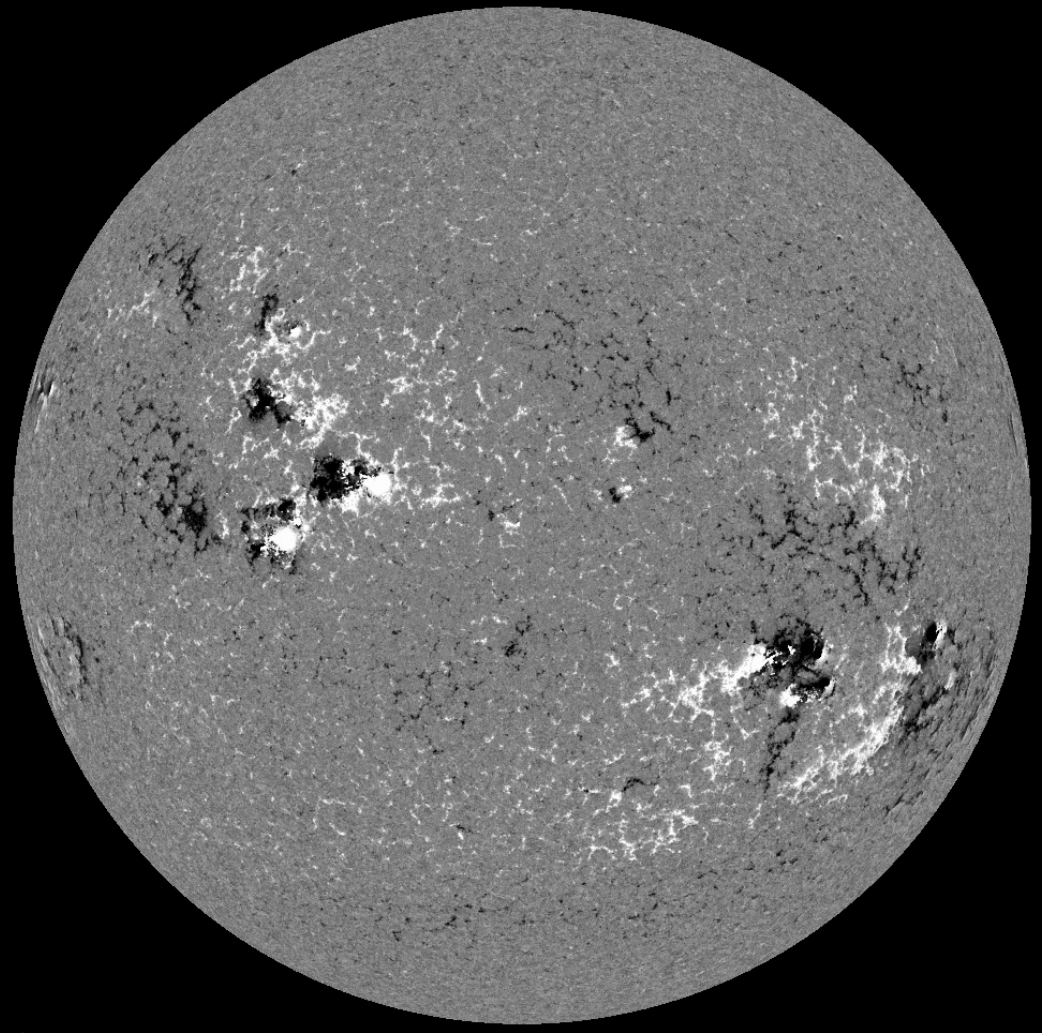


Solar active regions

SDO/HMI White Light 2025-09-30

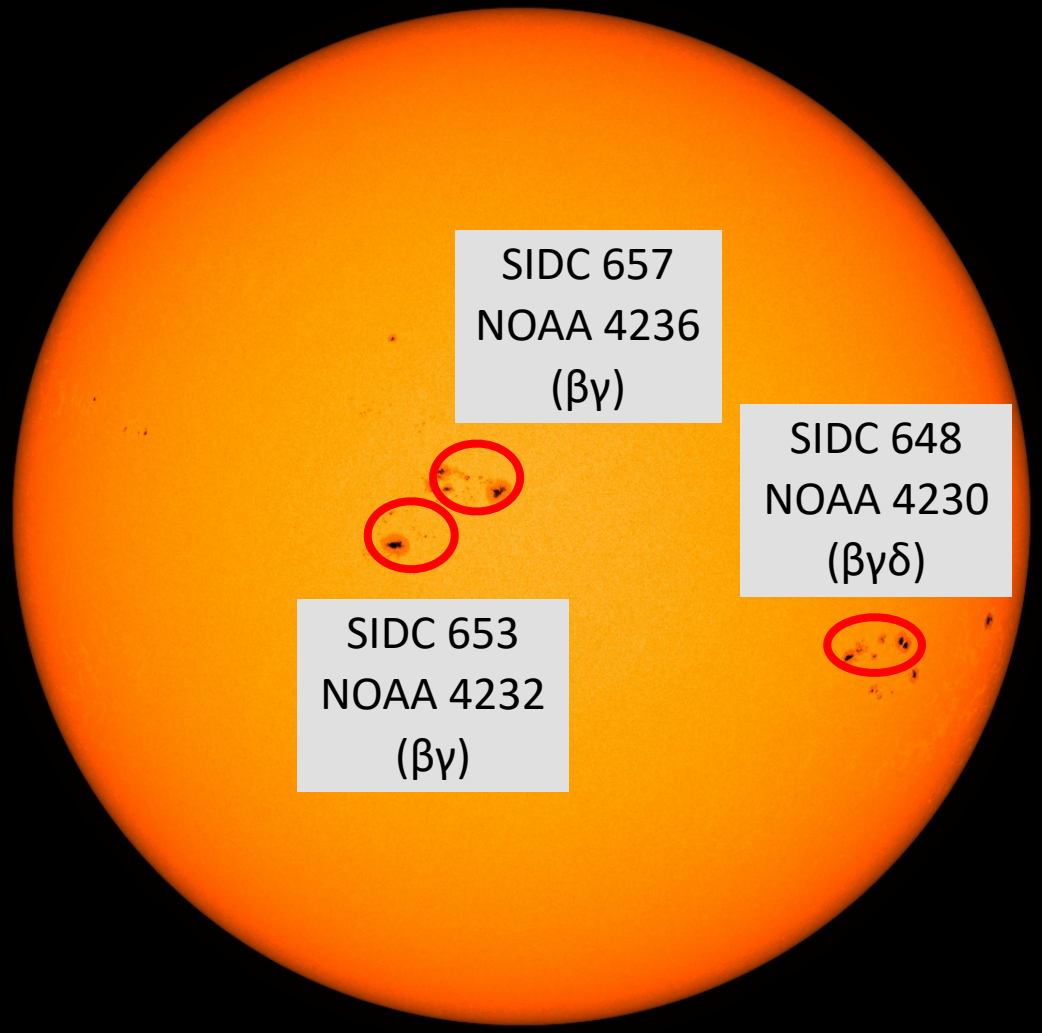


SDO/HMI Magnetogram 2025-09-30

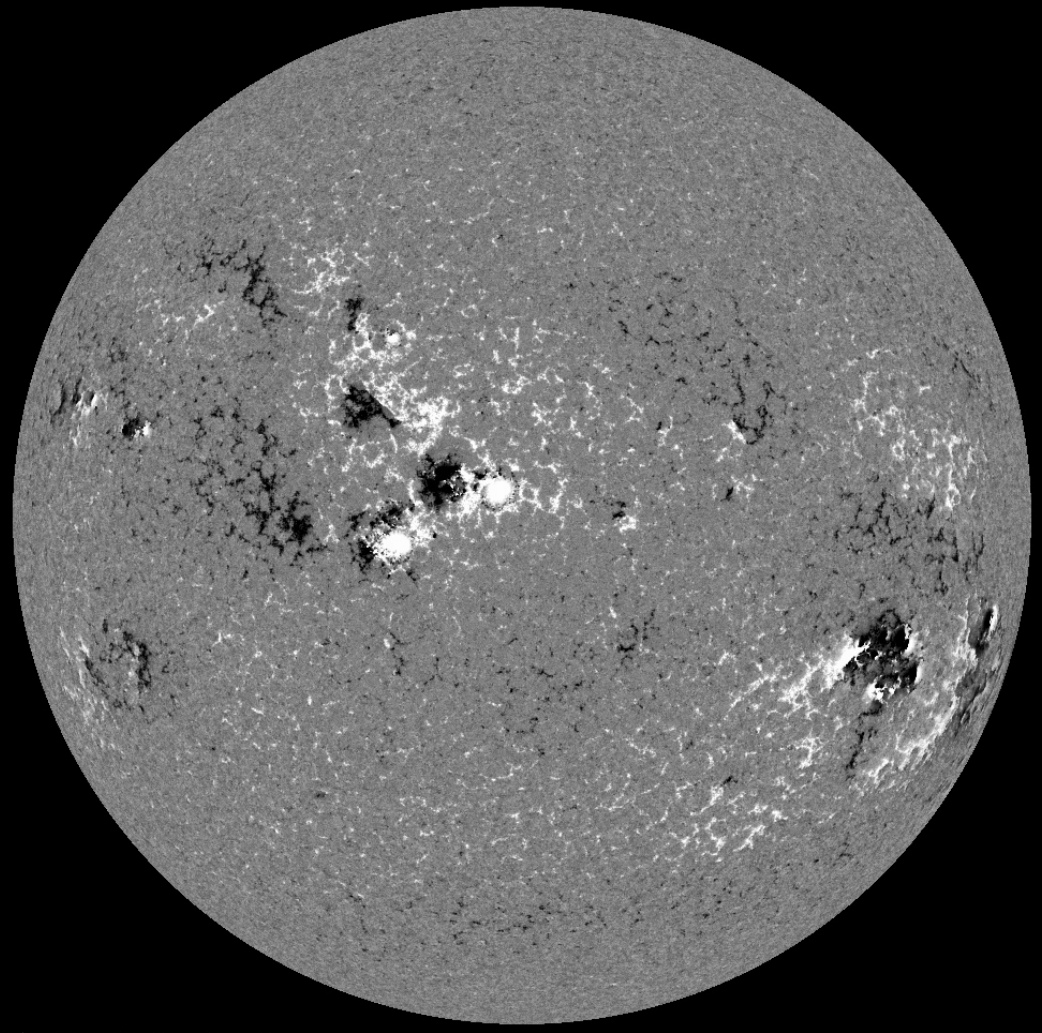


Solar active regions

SDO/HMI White Light 2025-10-01

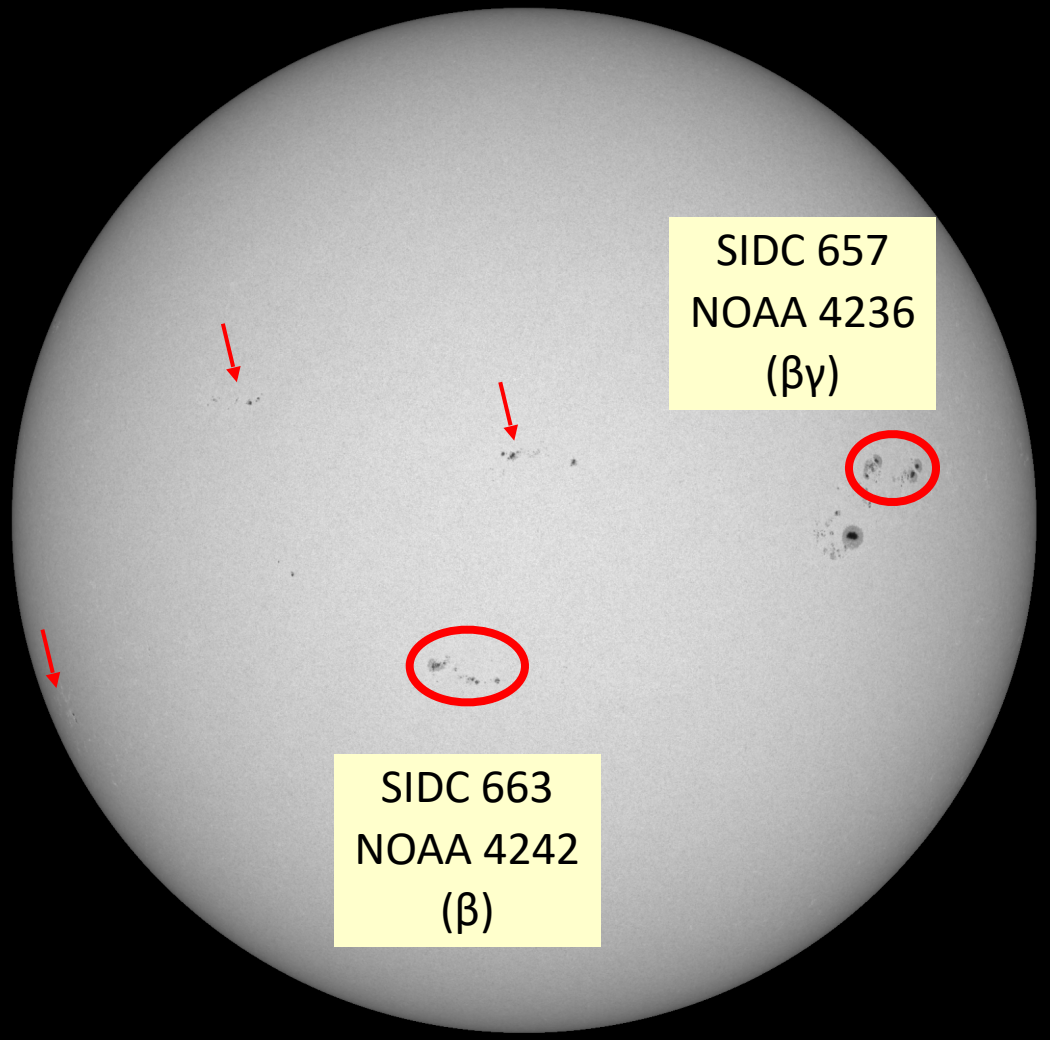


SDO/HMI Magnetogram 2025-10-01

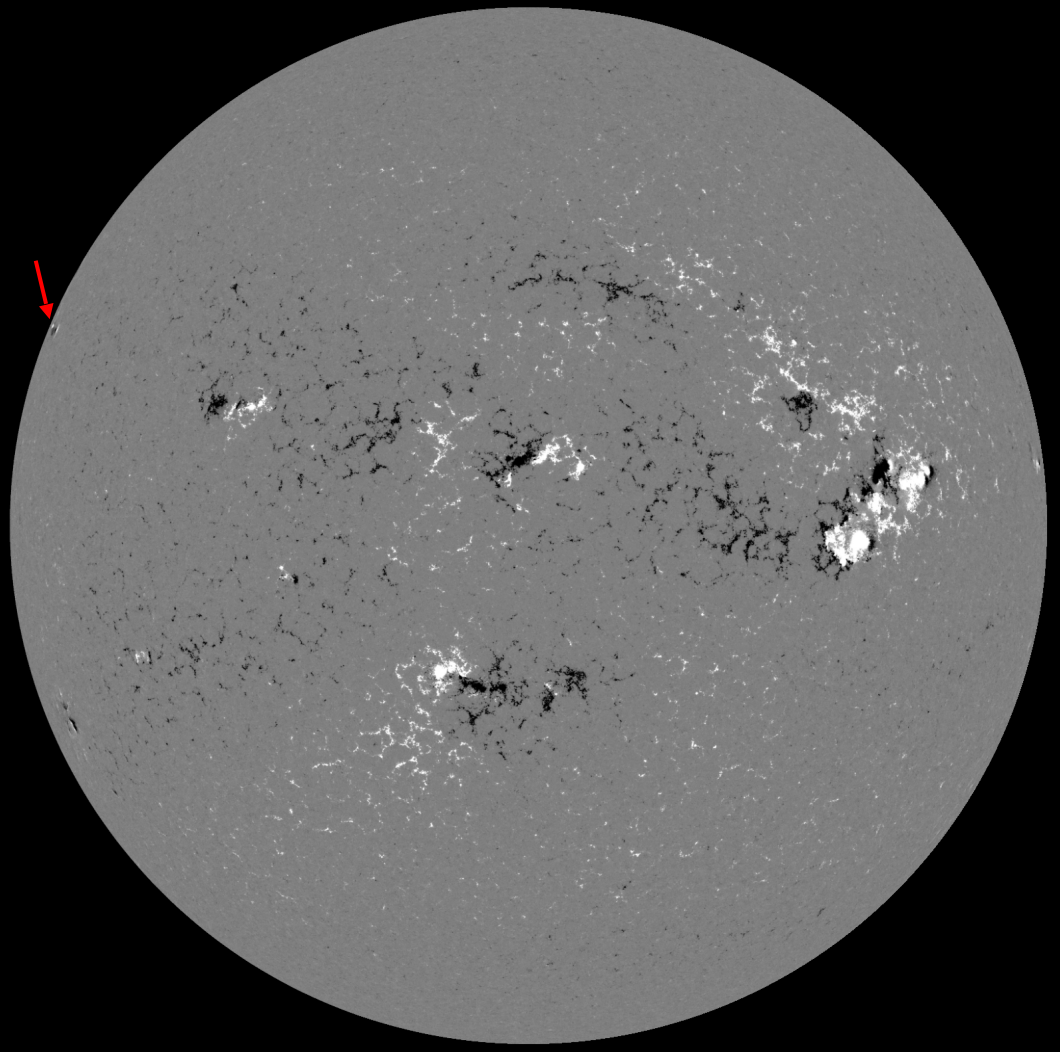


Solar active regions

SDO/HMI White Light 2025-10-05

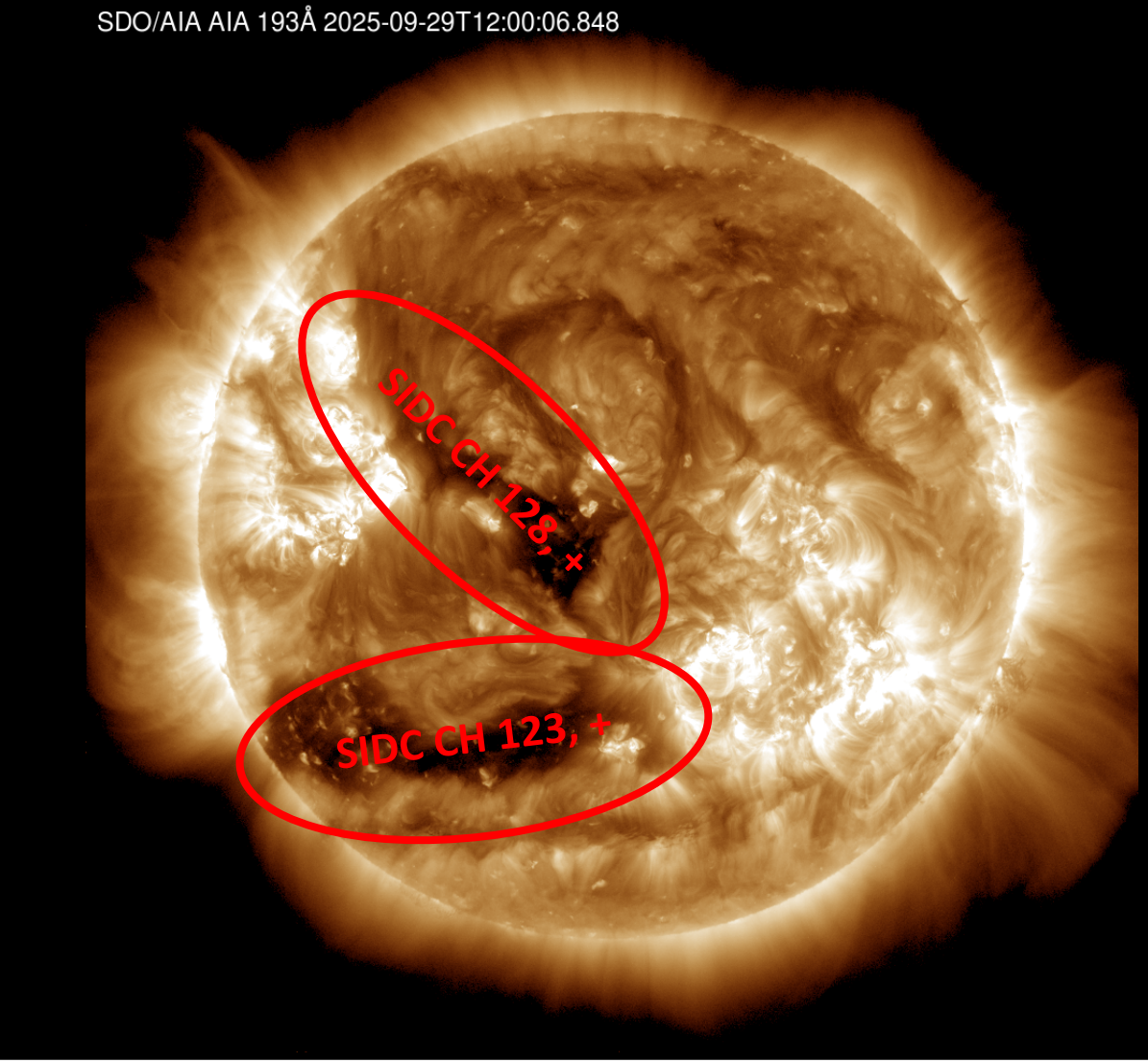


SDO/HMI Magnetogram 2025-10-05

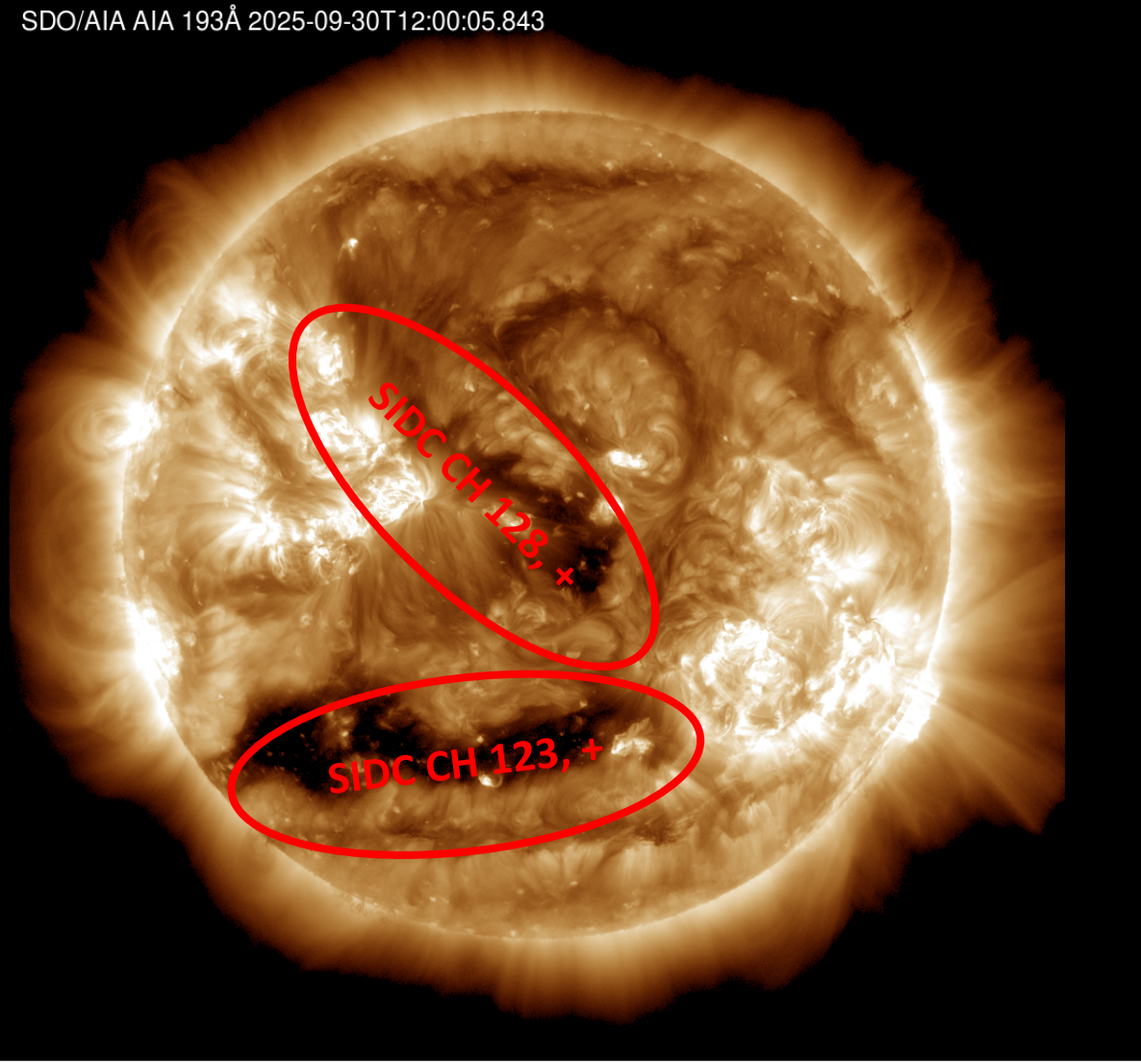


Coronal holes

SDO/AIA 19.3 nm 2025-09-29

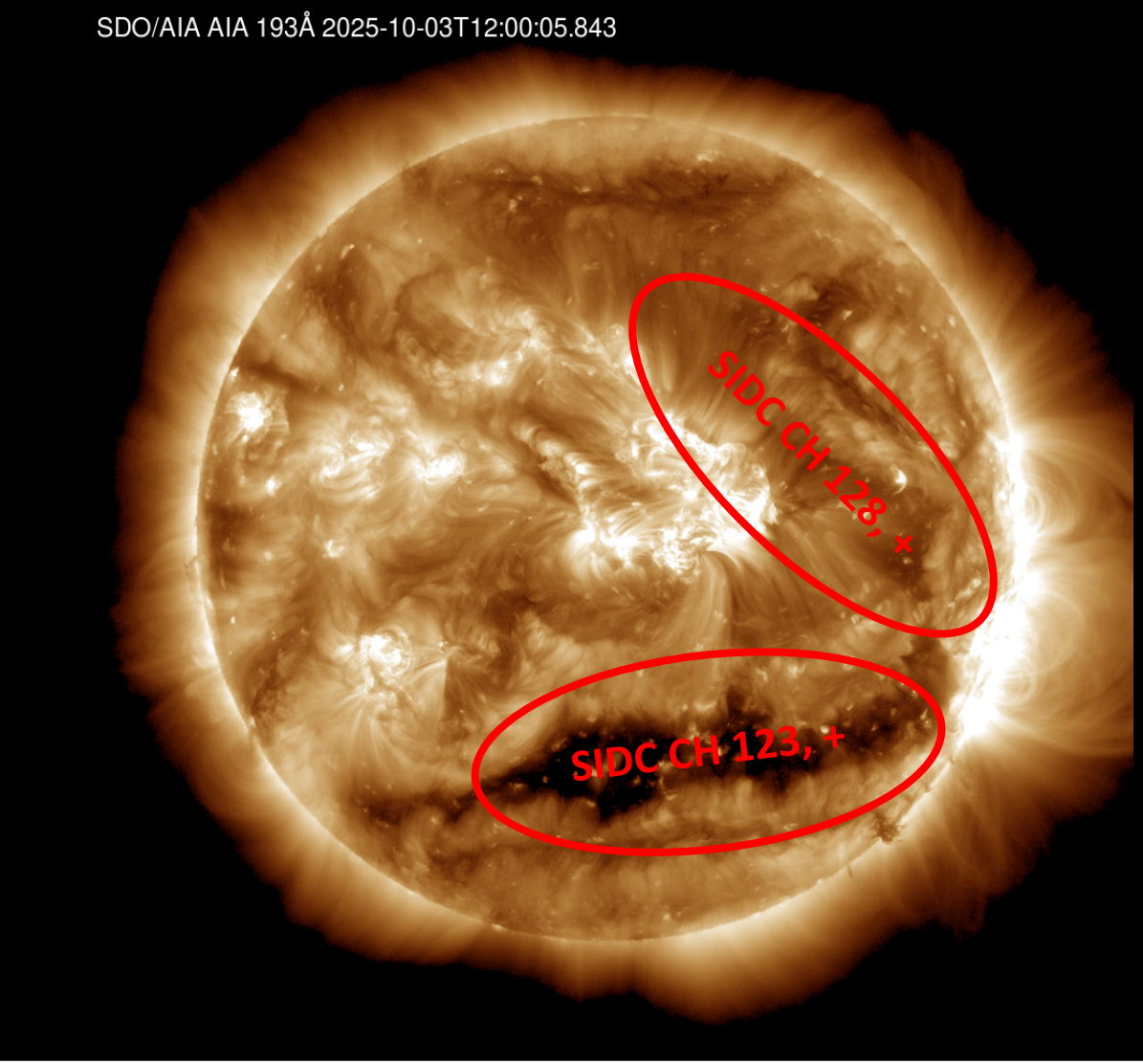


SDO/AIA 19.3 nm 2025-09-30

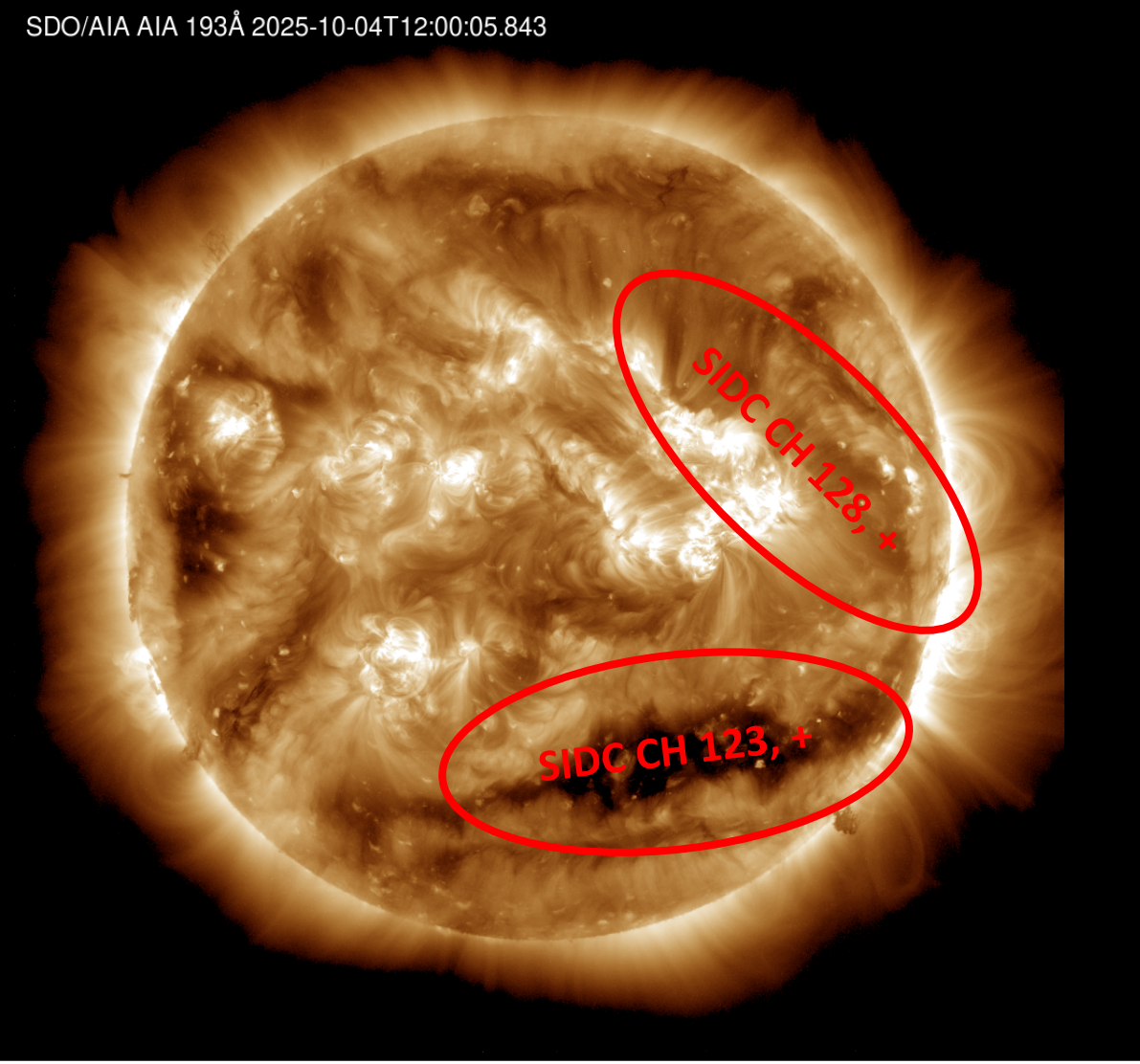


Coronal holes

SDO/AIA 19.3 nm 2025-10-03

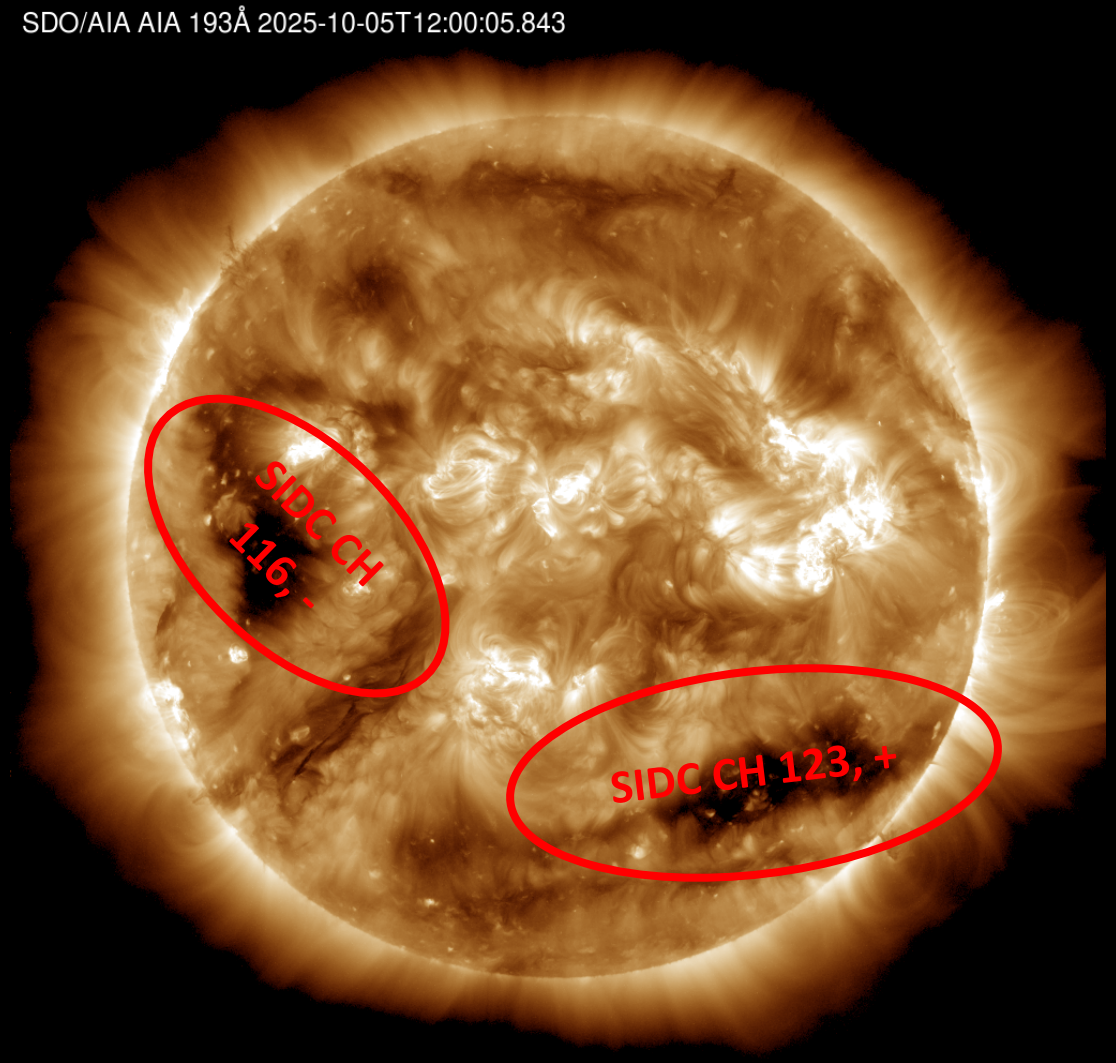


SDO/AIA 19.3 nm 2025-10-04



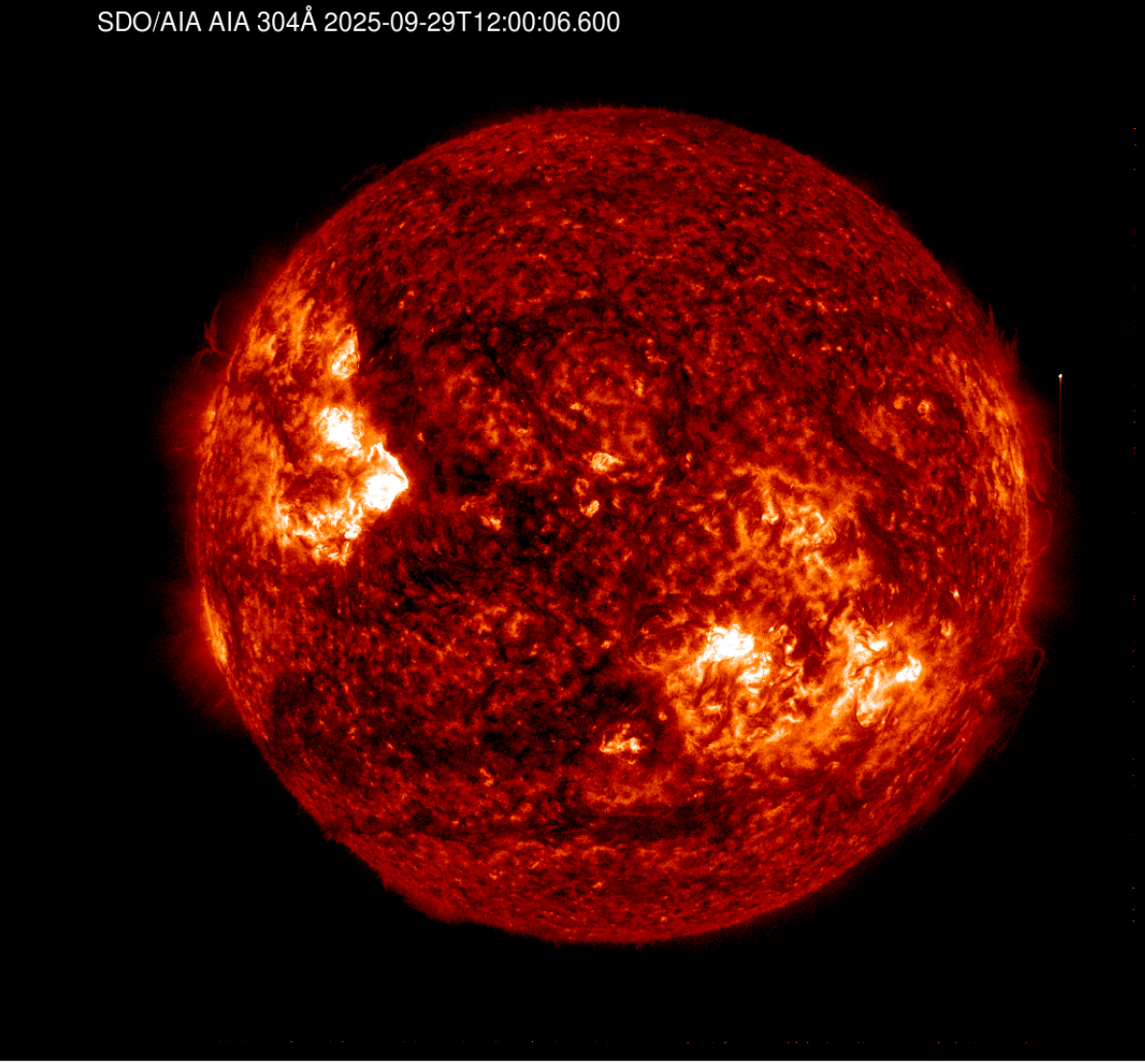
Coronal holes

SDO/AIA 19.3 nm 2025-10-05

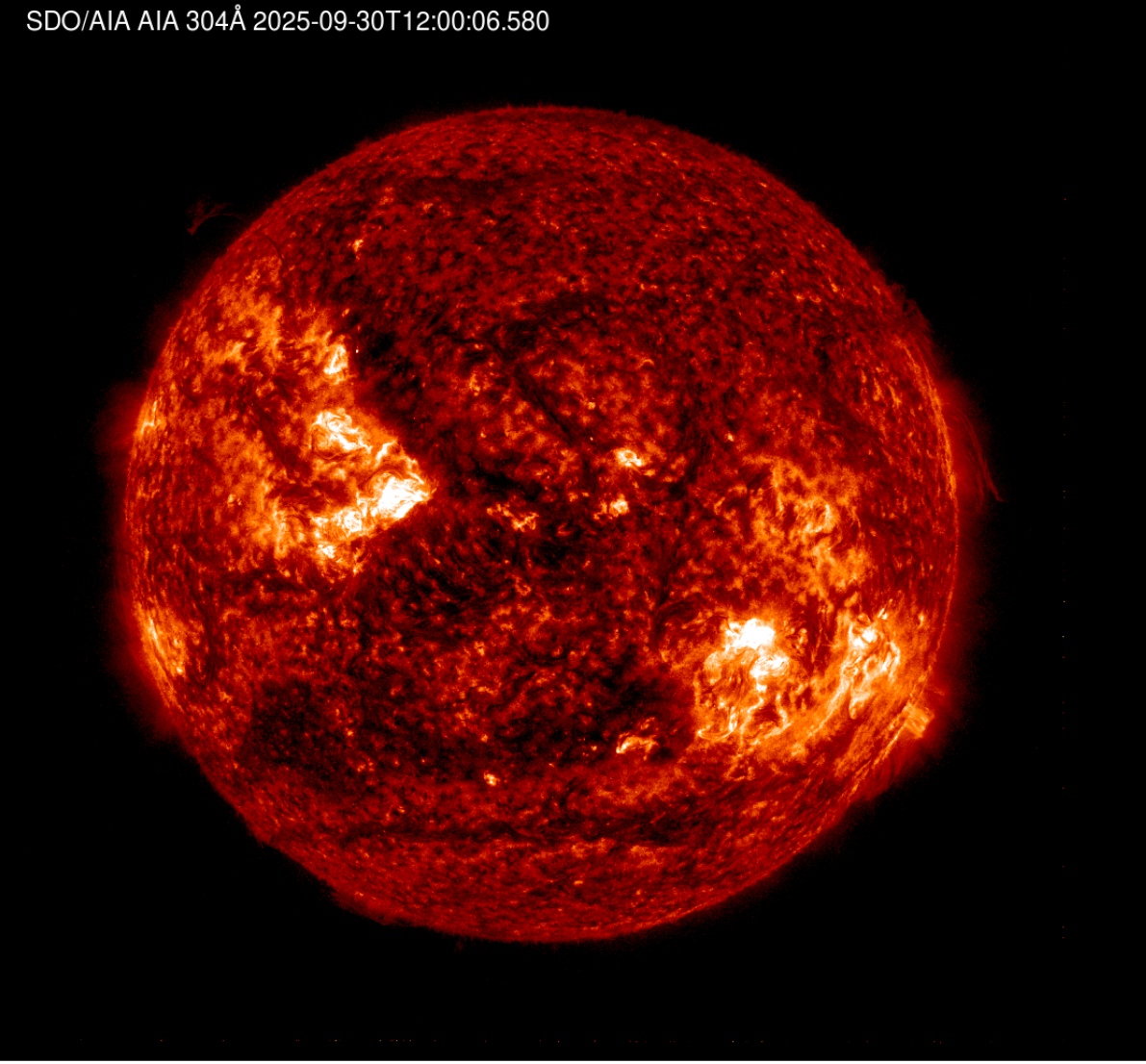


Filaments

SDO/AIA 30.4 nm 2025-09-29

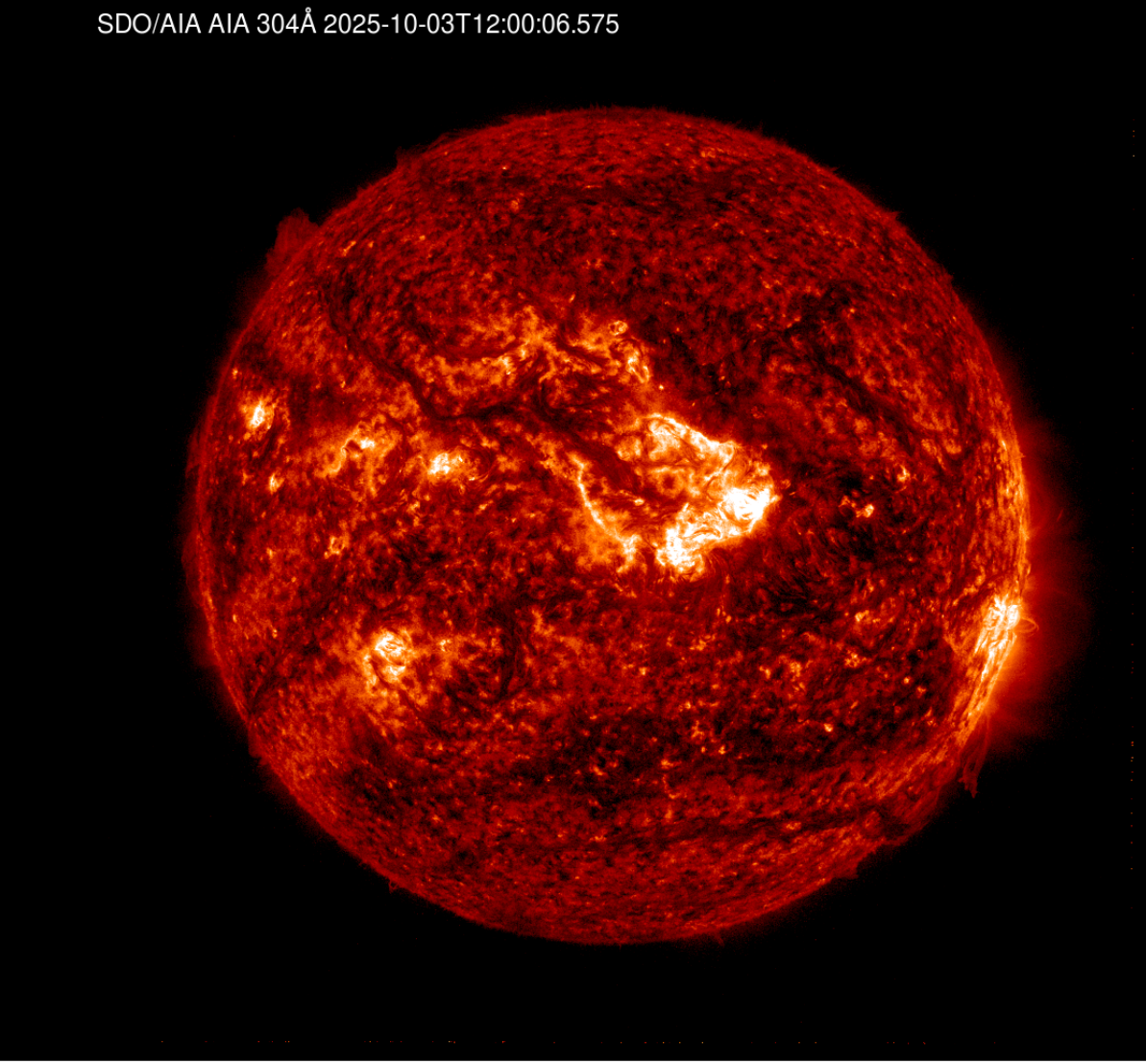


SDO/AIA 30.4 nm 2025-09-30

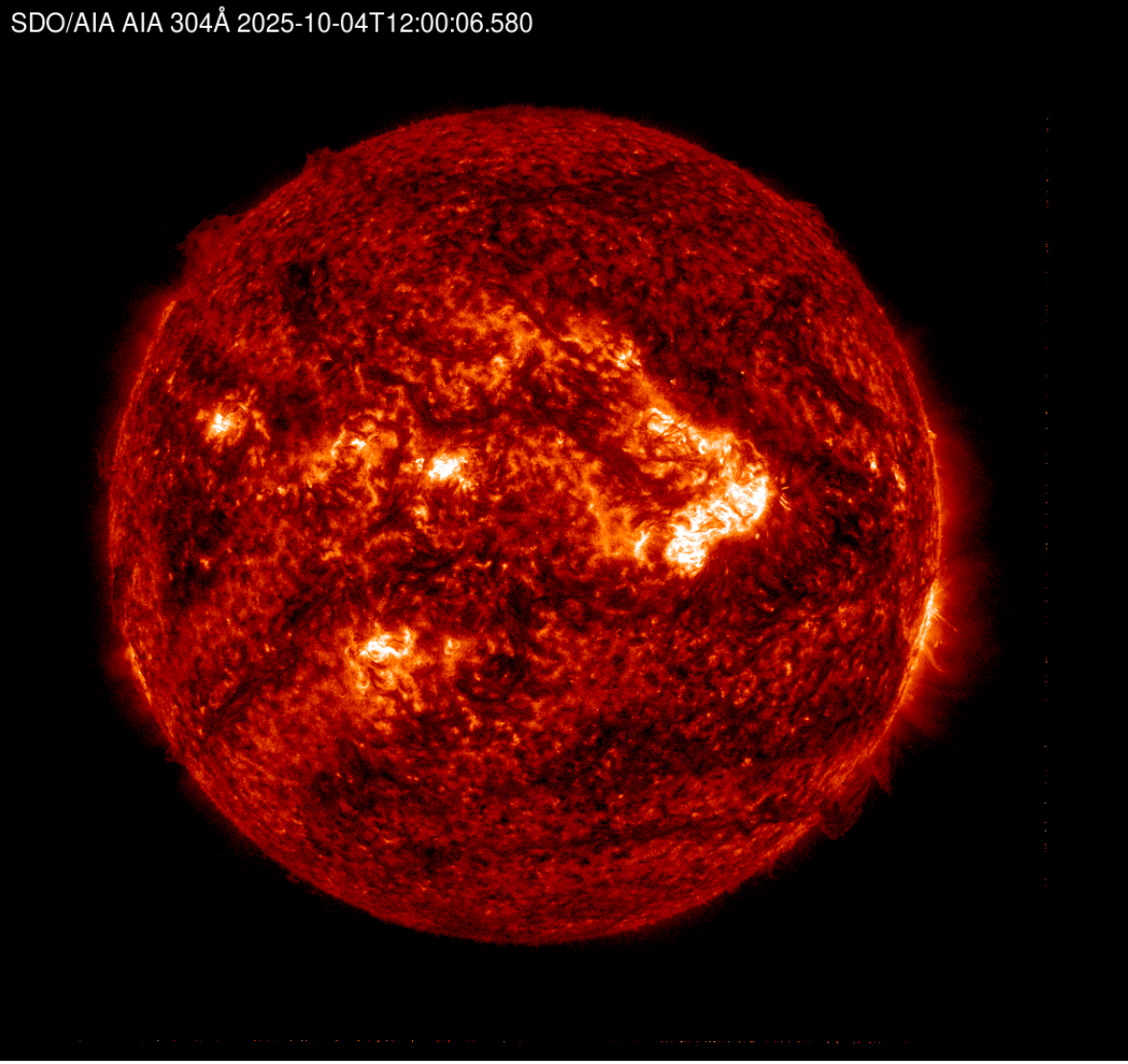


Filaments

SDO/AIA 30.4 nm 2025-10-03

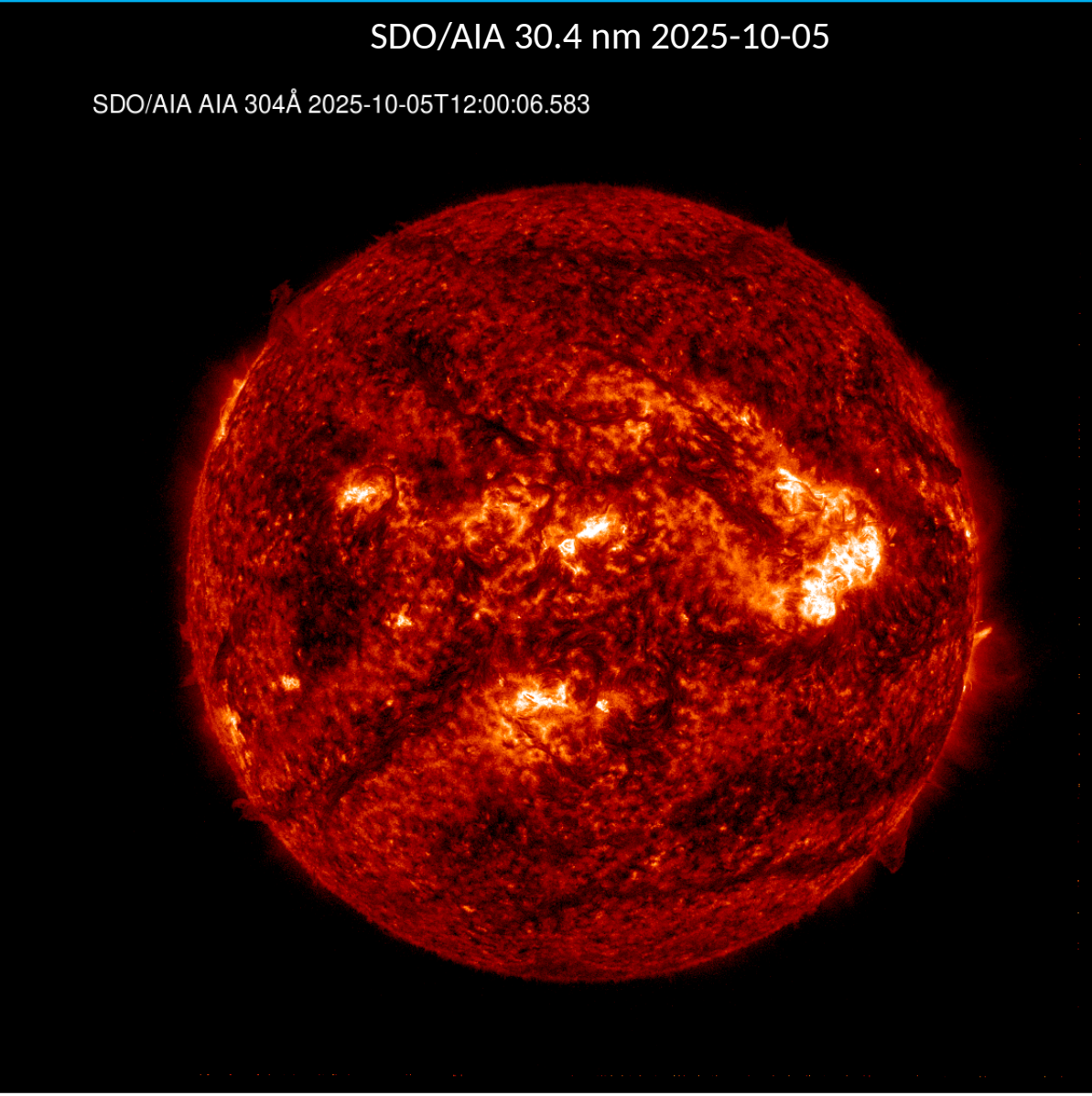


SDO/AIA 30.4 nm 2025-10-04



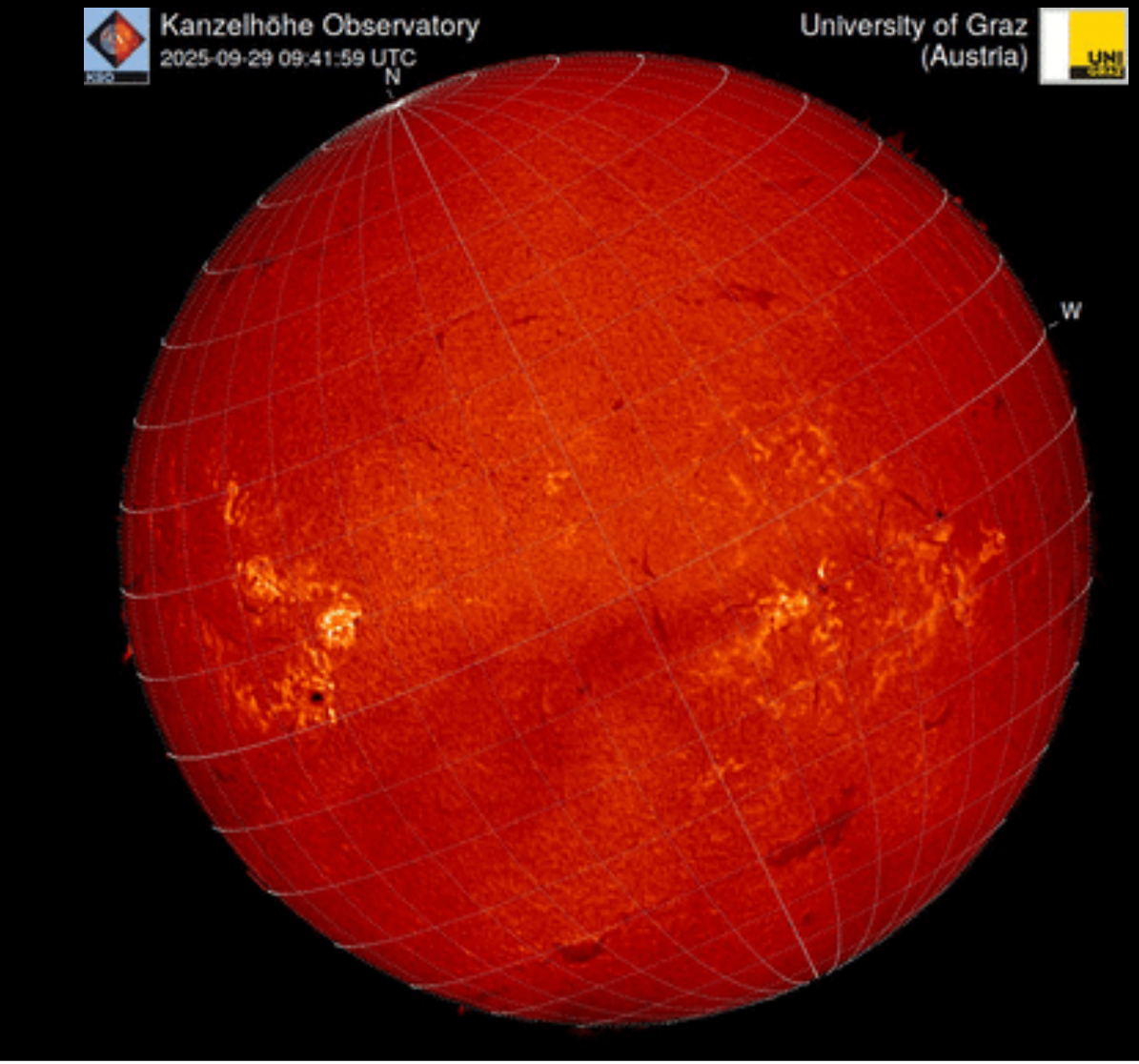
Filaments

SDO/AIA 30.4 nm 2025-10-05

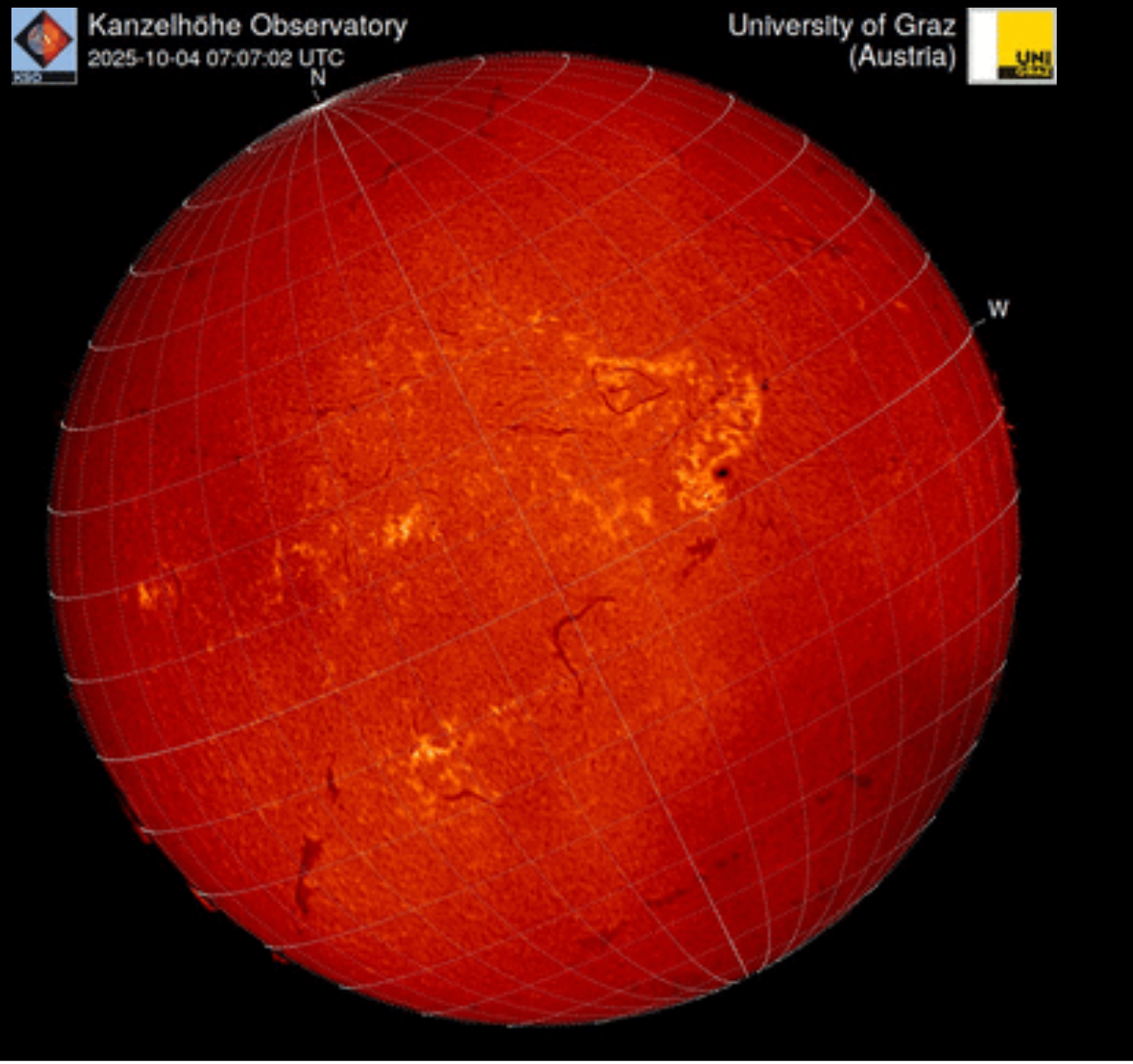


Filaments & Filament eruptions

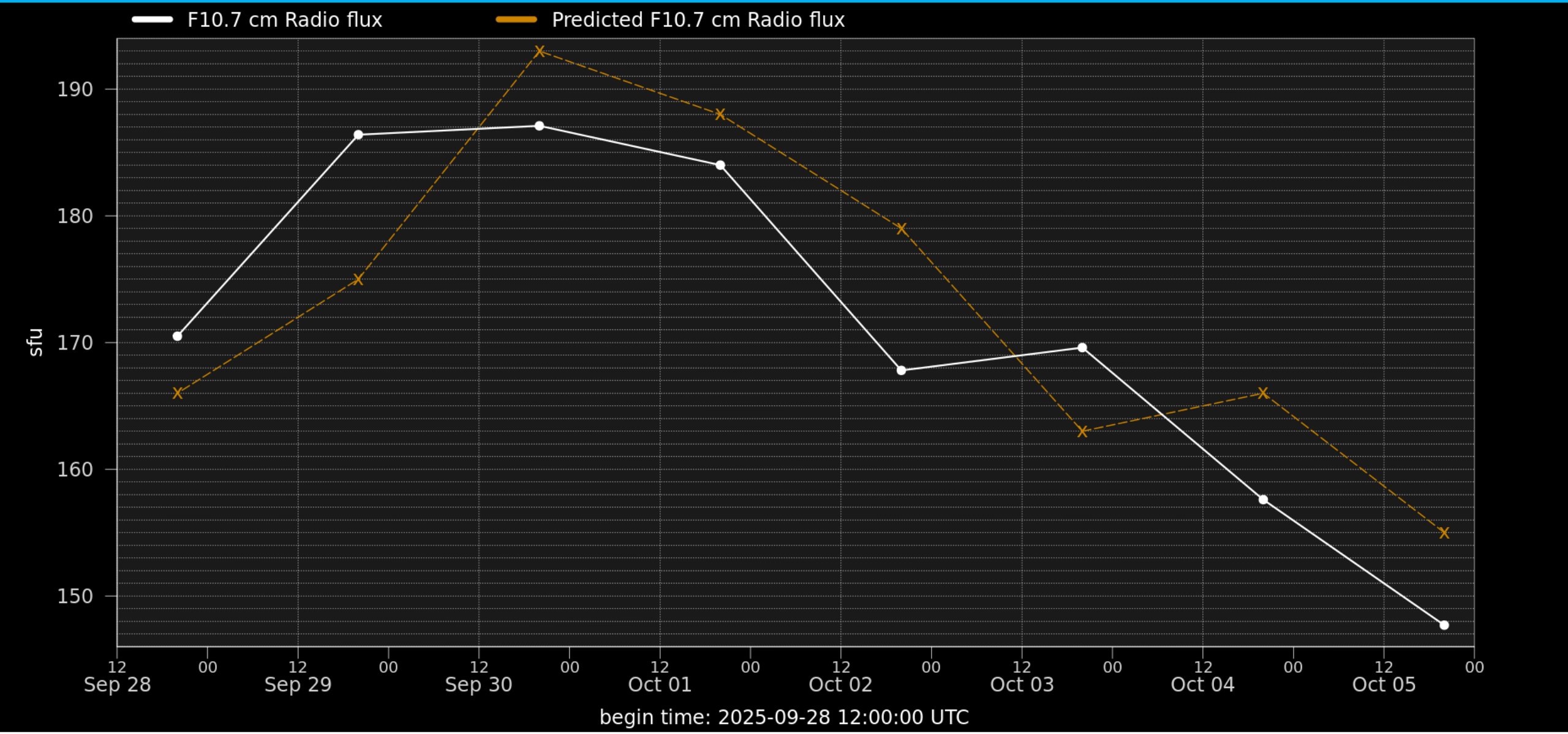
H-alpha 2025-09-29



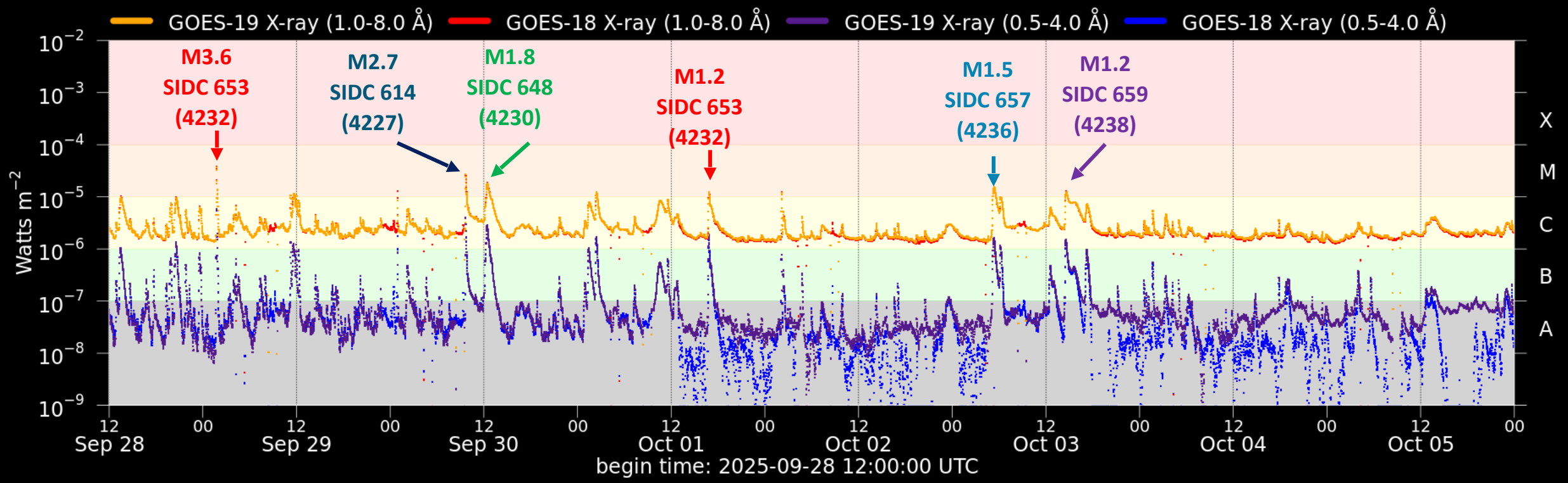
H-alpha 2025-10-05



Solar F10.7cm radio flux



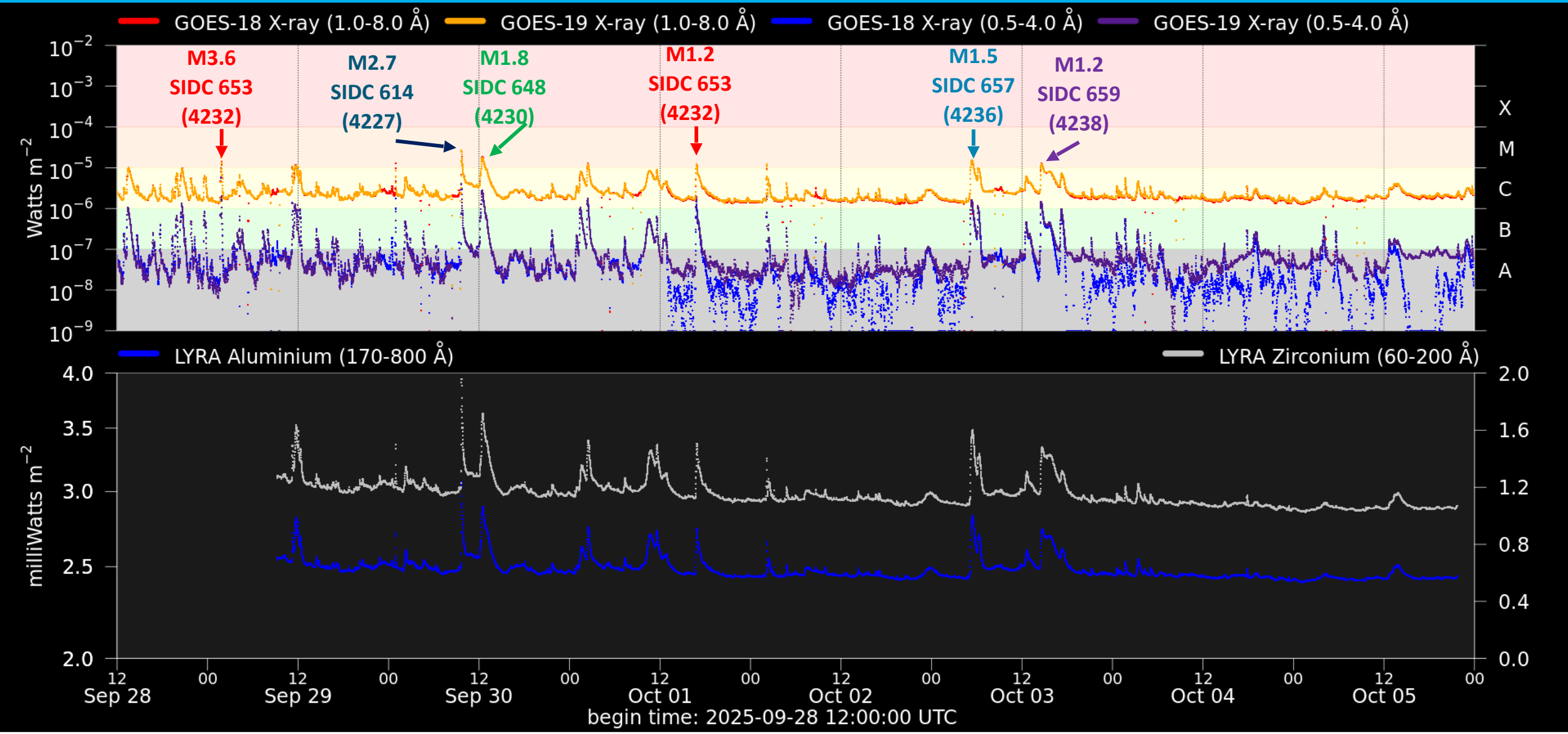
Flaring activity



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

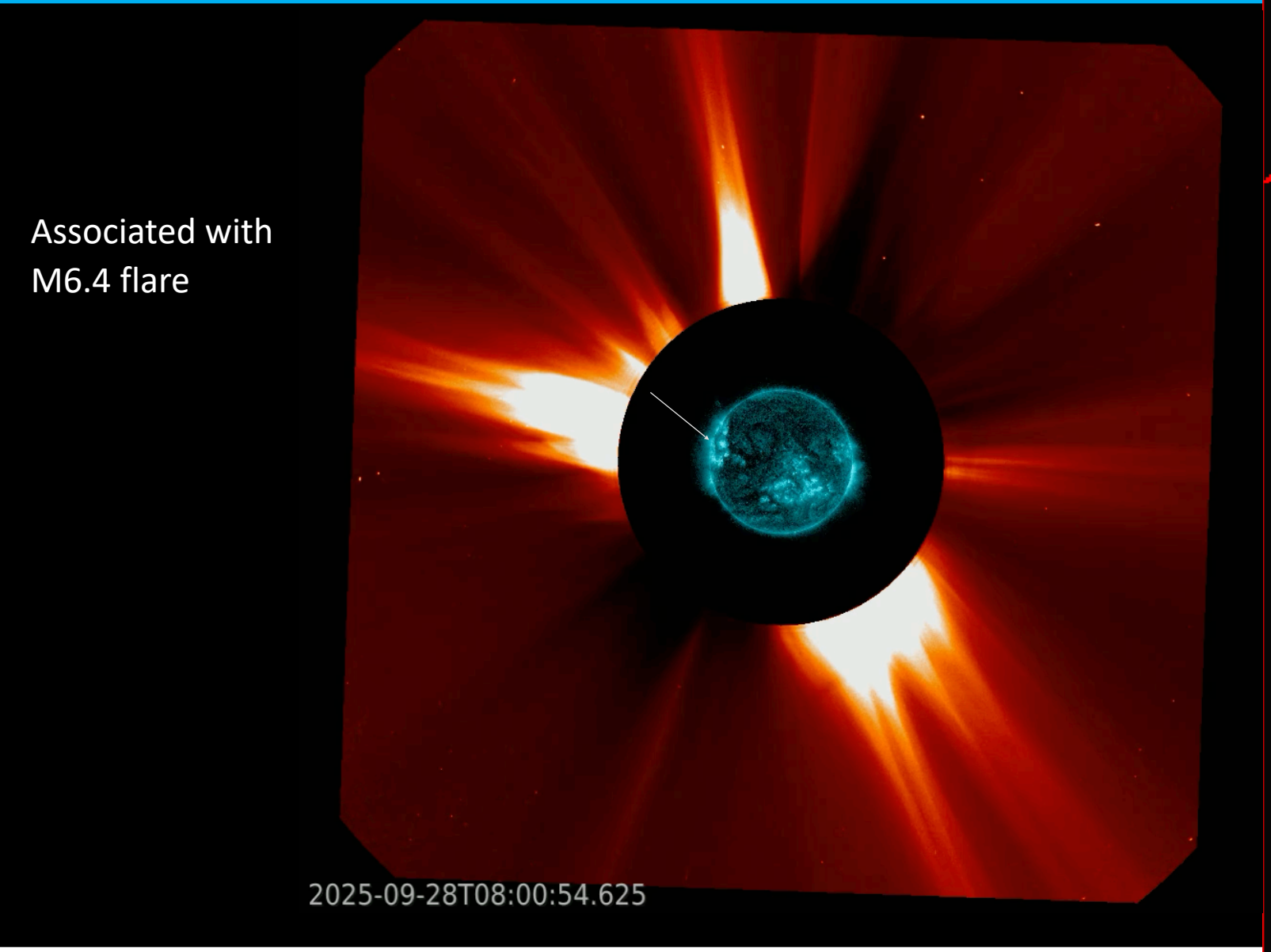
Issue date	2025-09-28	2025-09-29	2025-09-30	2025-10-01	2025-10-02	2025-10-03	2025-10-04	2025-10-05
Probability (%)	99|55|02	99|66|14	99|63|12	99|77|12	99|76|10	99|75|07	99|75|04	99|62|04
Observed (#)	14|03|00	06|01|00	03|02|00	01|02|00	04|00|00	08|00|00	01|00|00	01|00|00

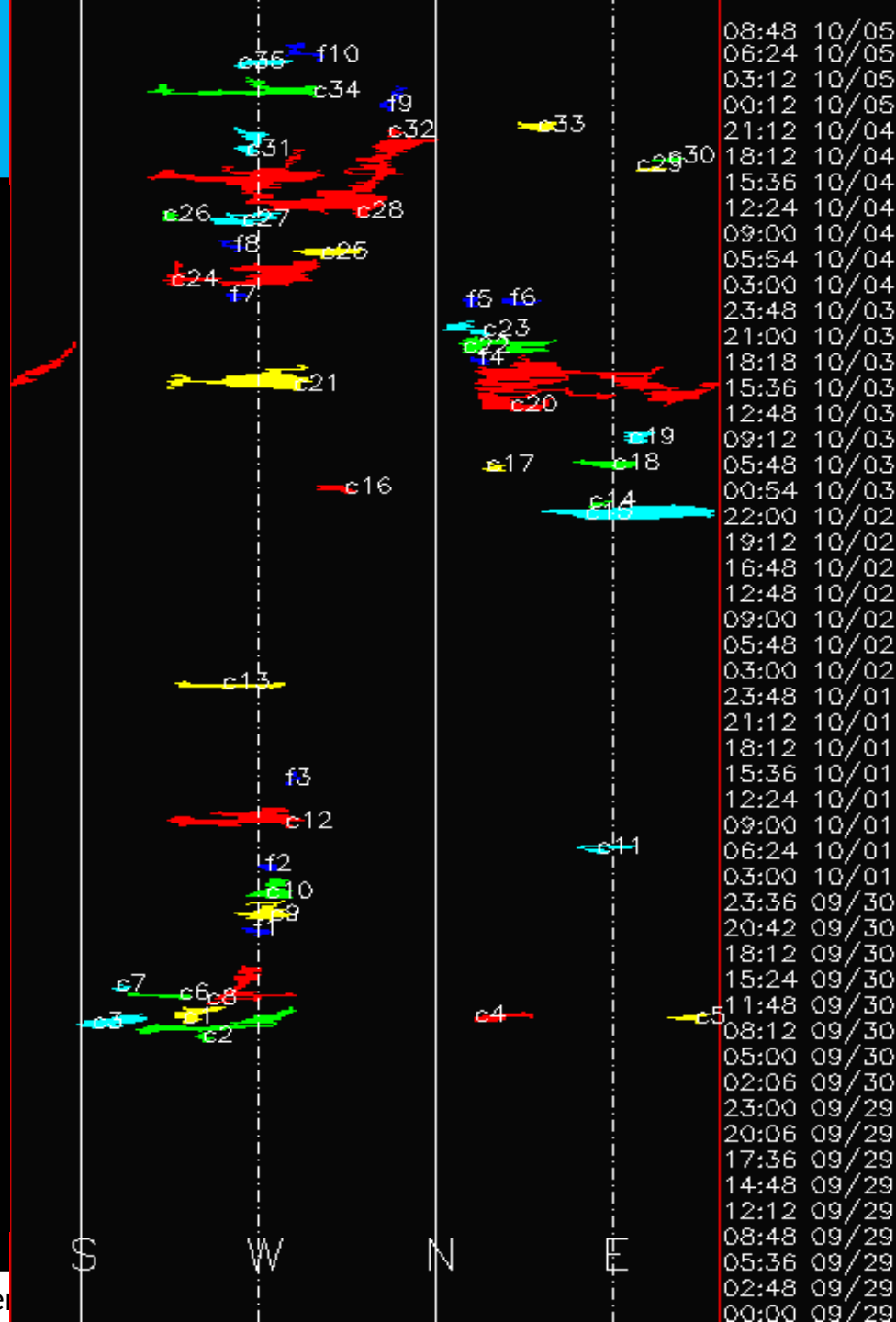
Solar X-Ray and UV flux



Coronal Mass Ejections

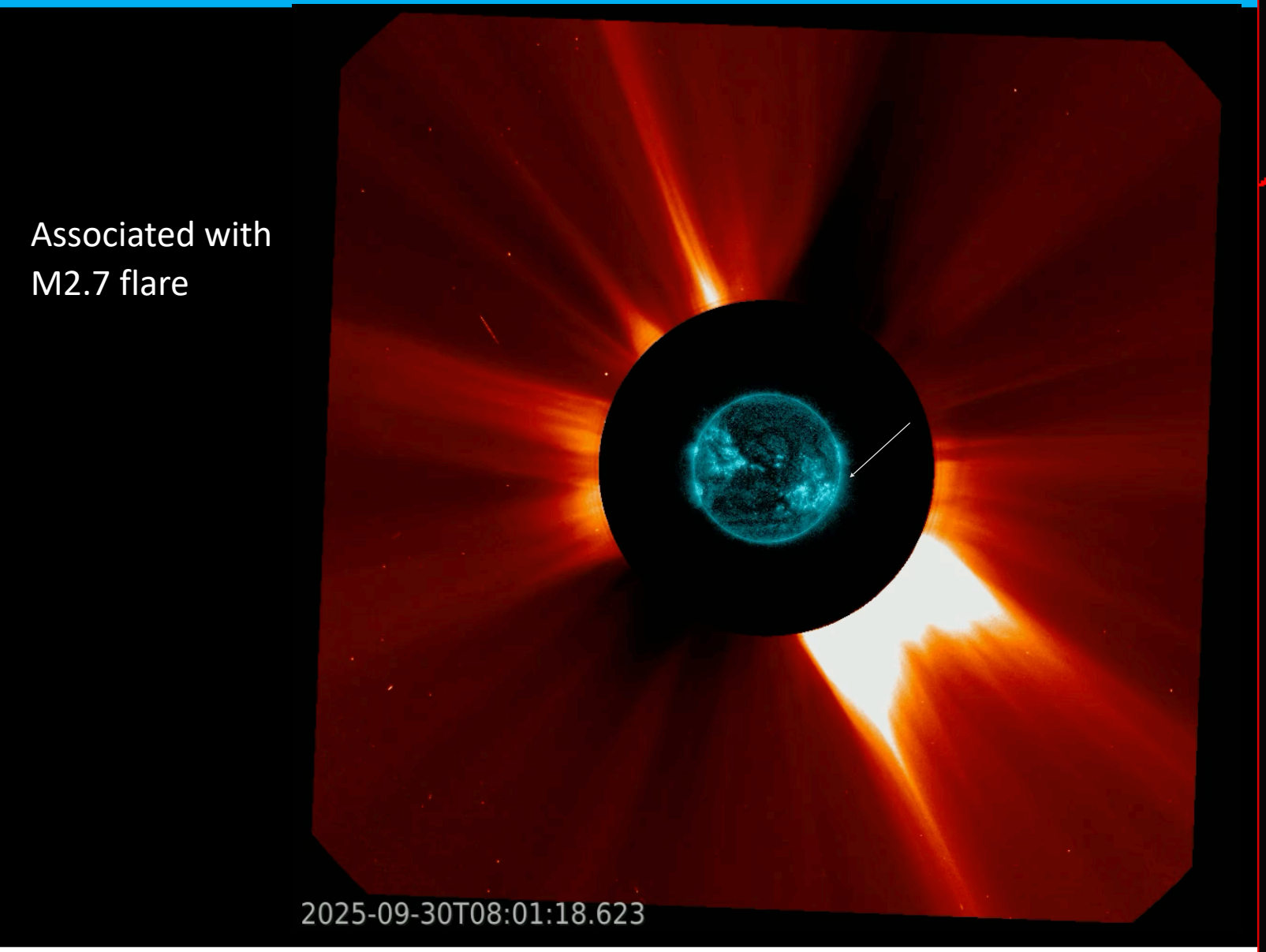
Associated with
M6.4 flare

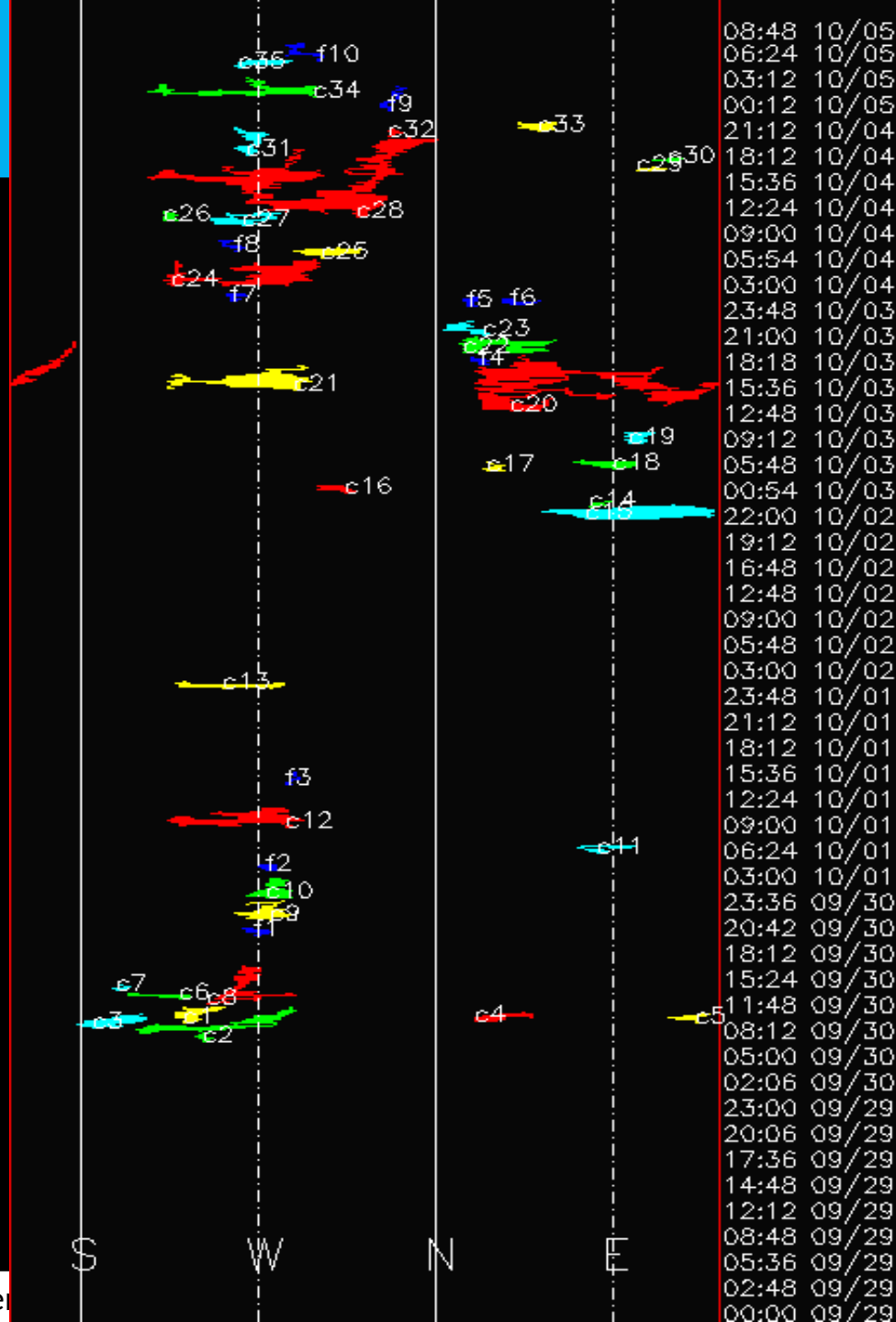




Coronal Mass Ejections

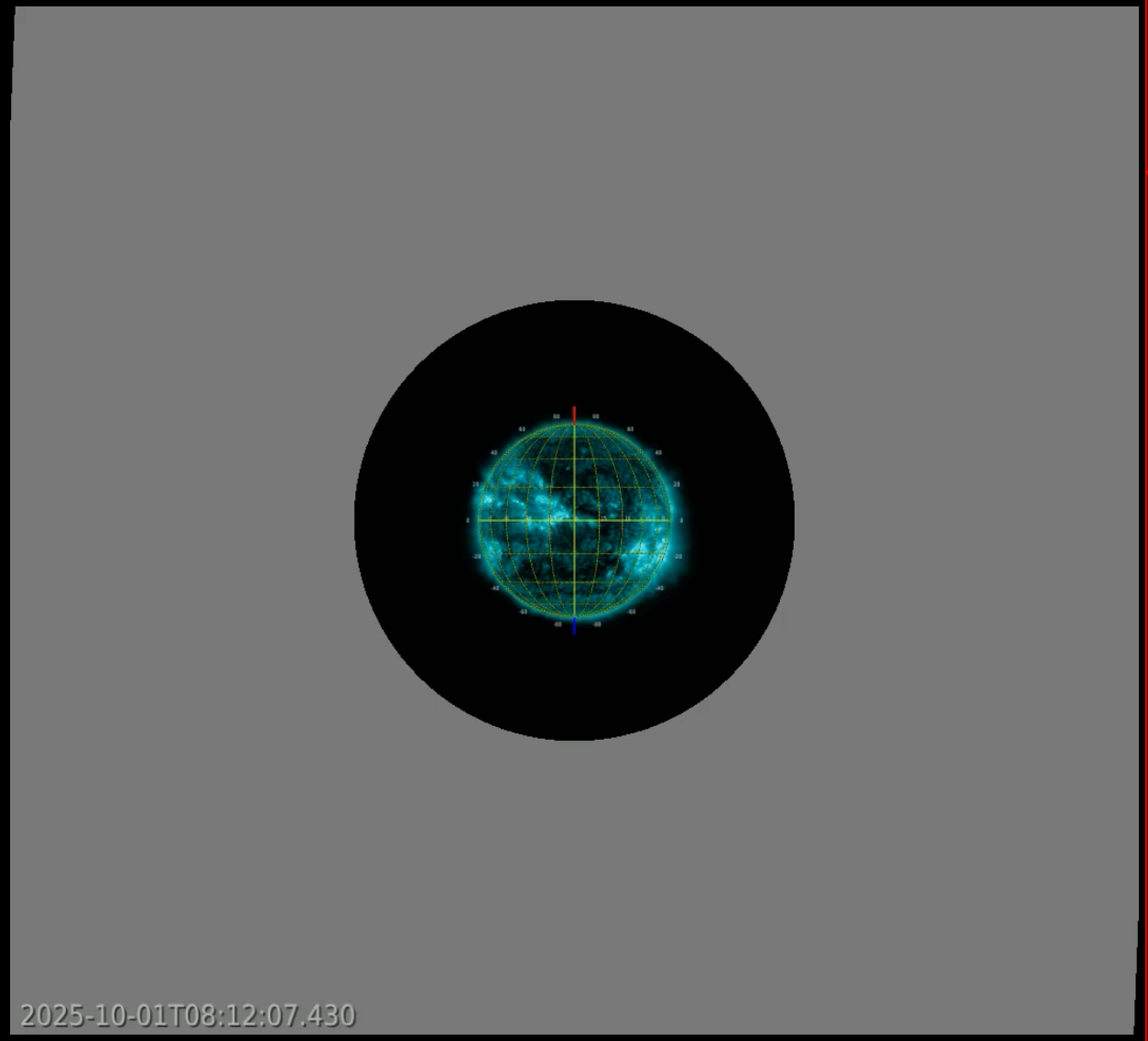
Associated with
M2.7 flare

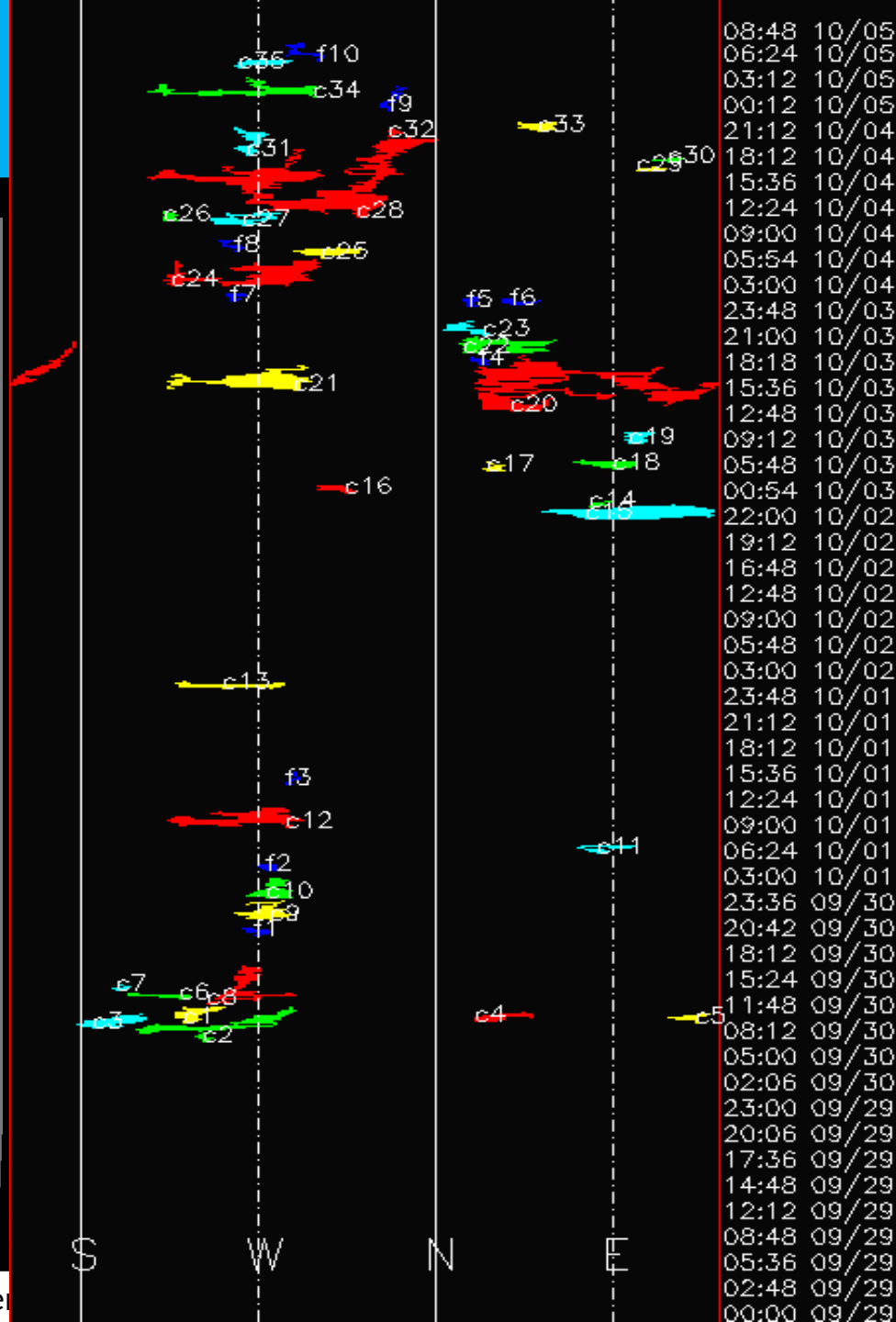




Coronal Mass Ejections

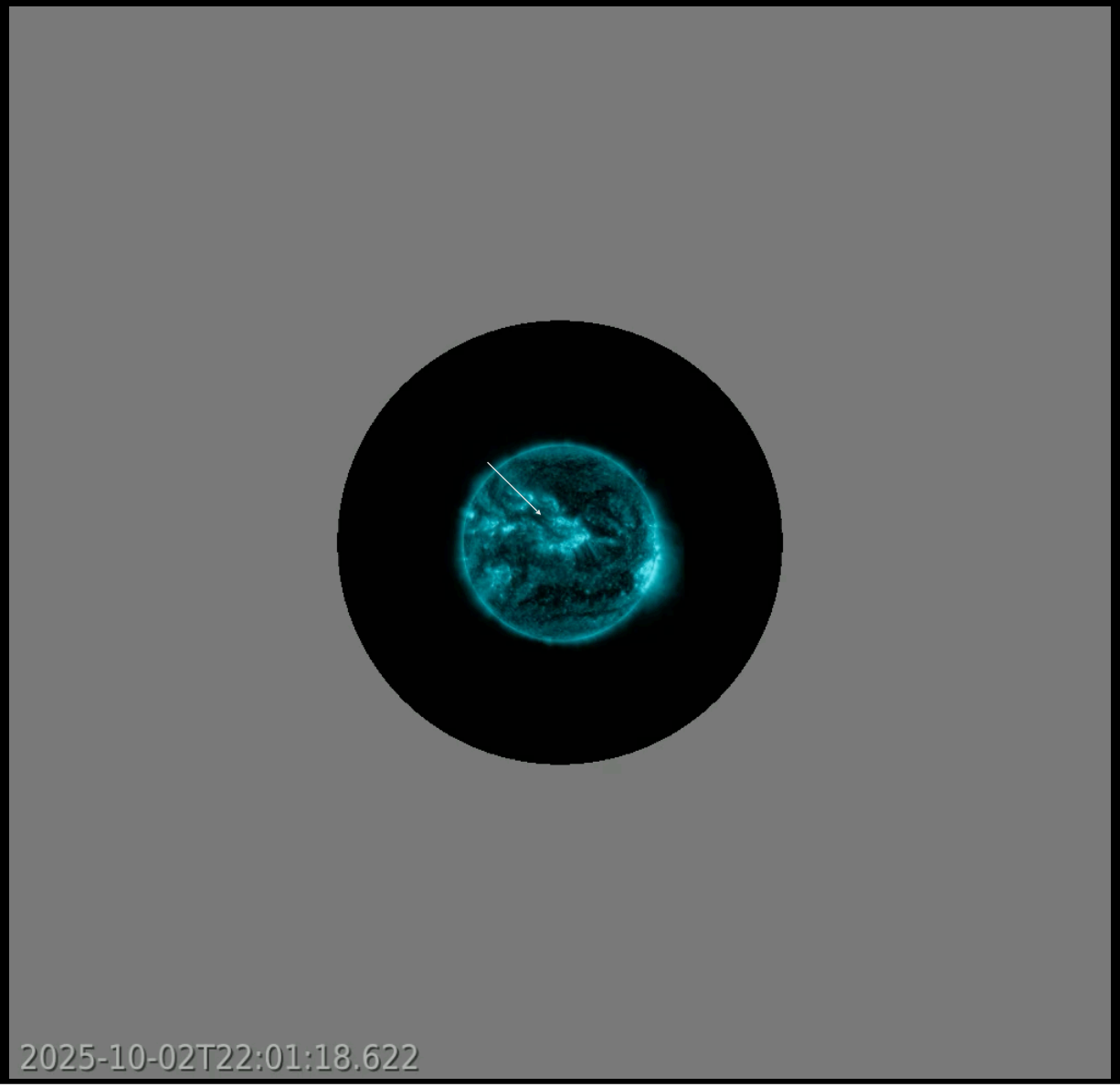
Eruptions SW quadrant, near the limb

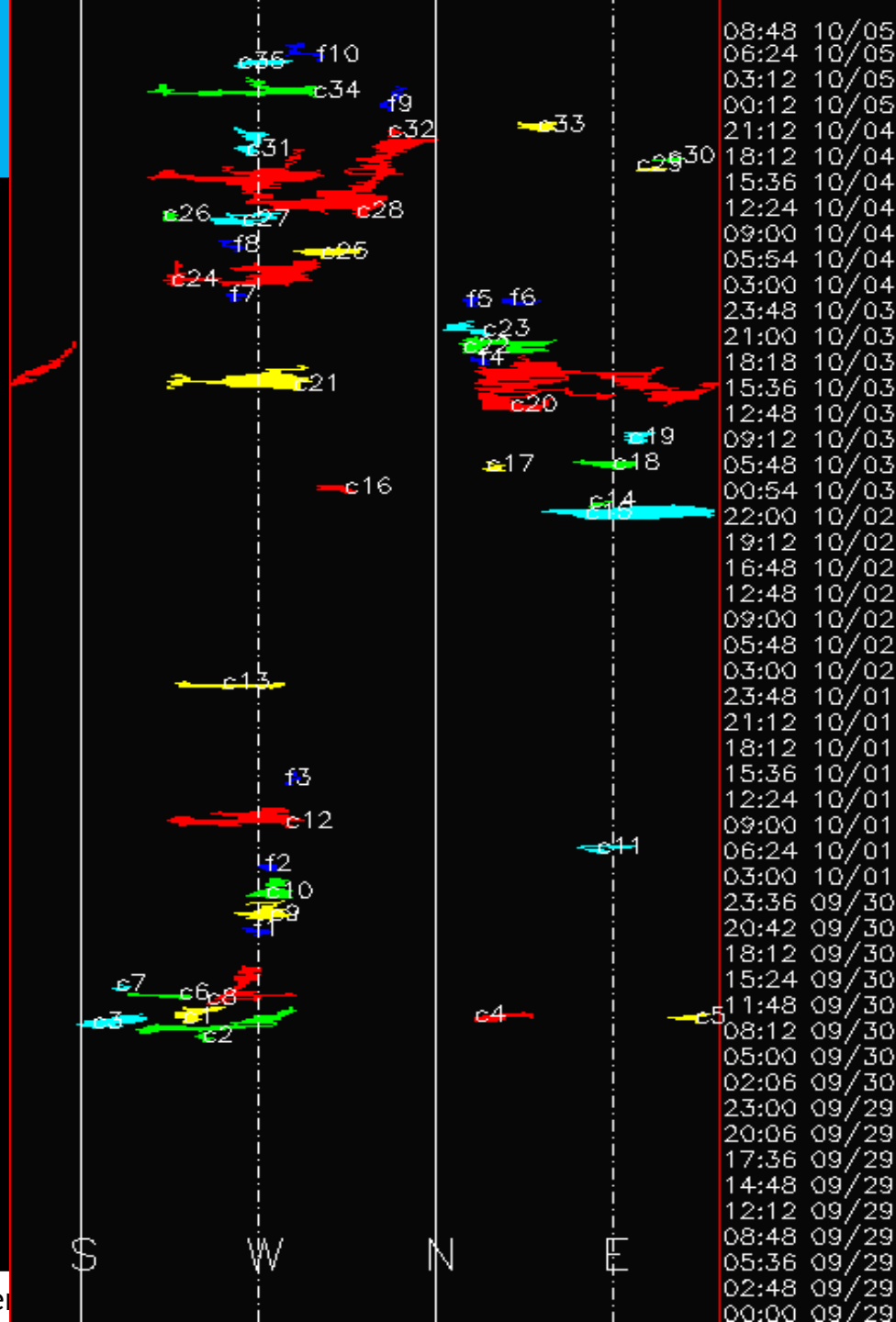




Coronal Mass Ejections

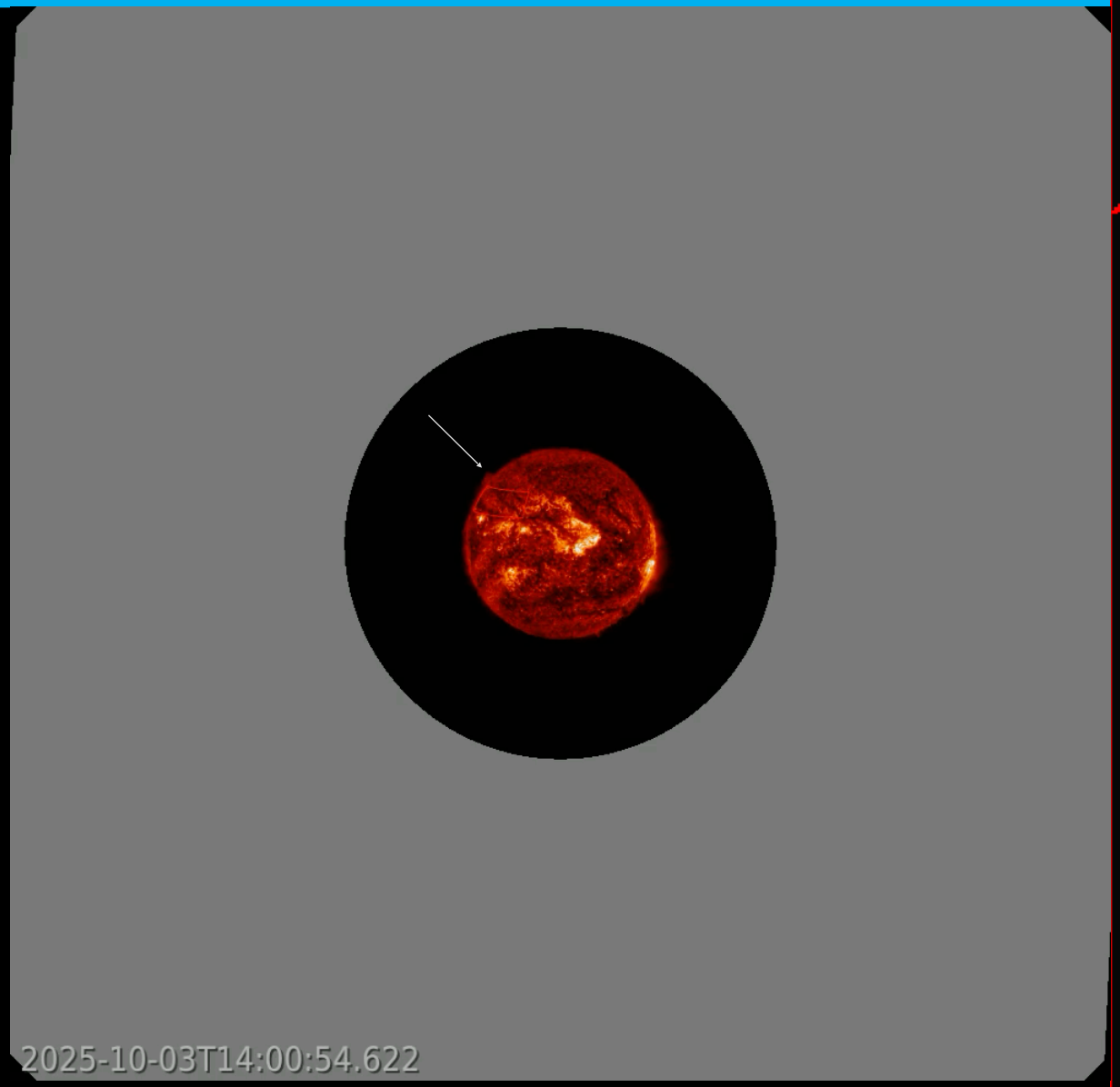
1.Activity behind the east limb
2. M1.5 flare

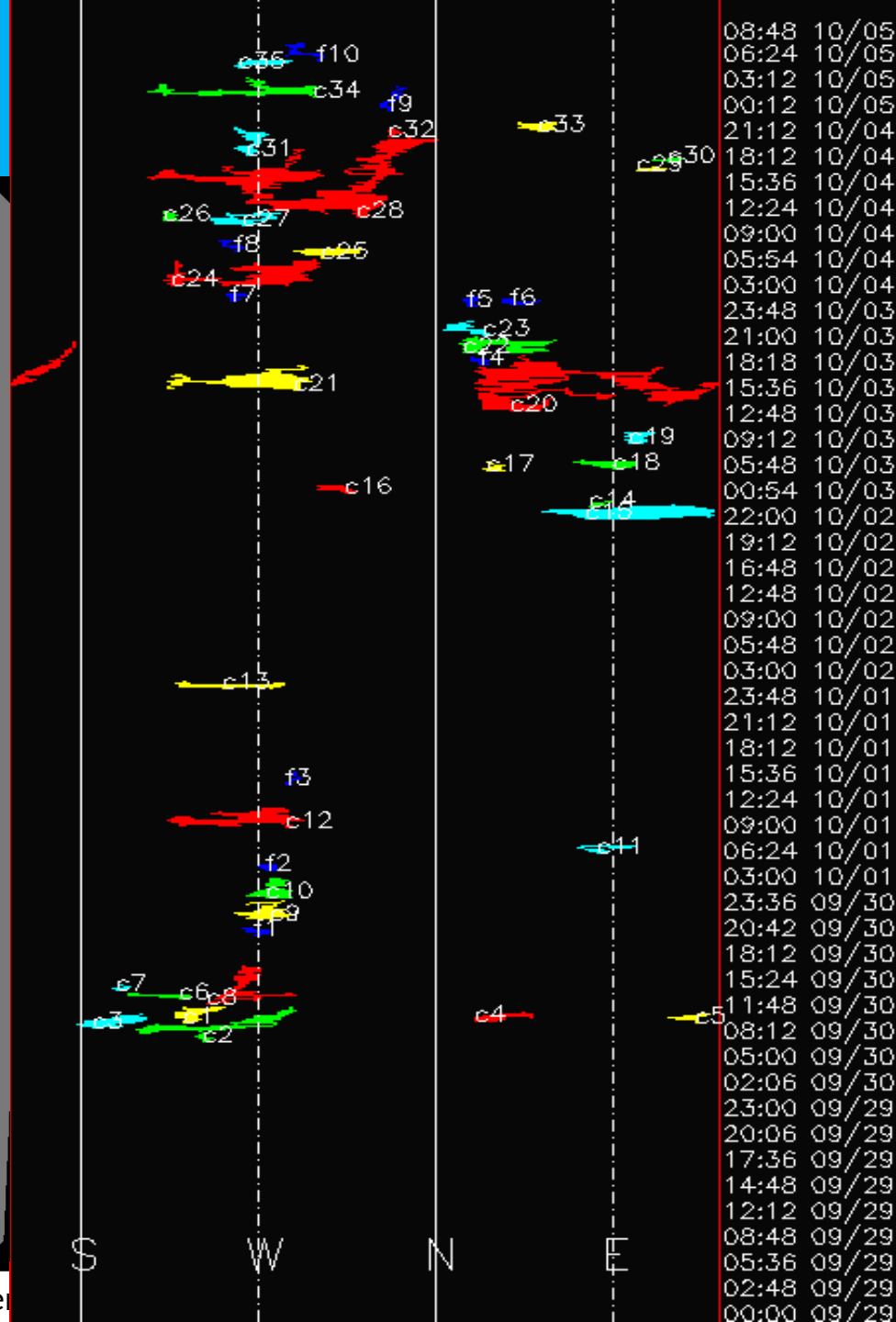




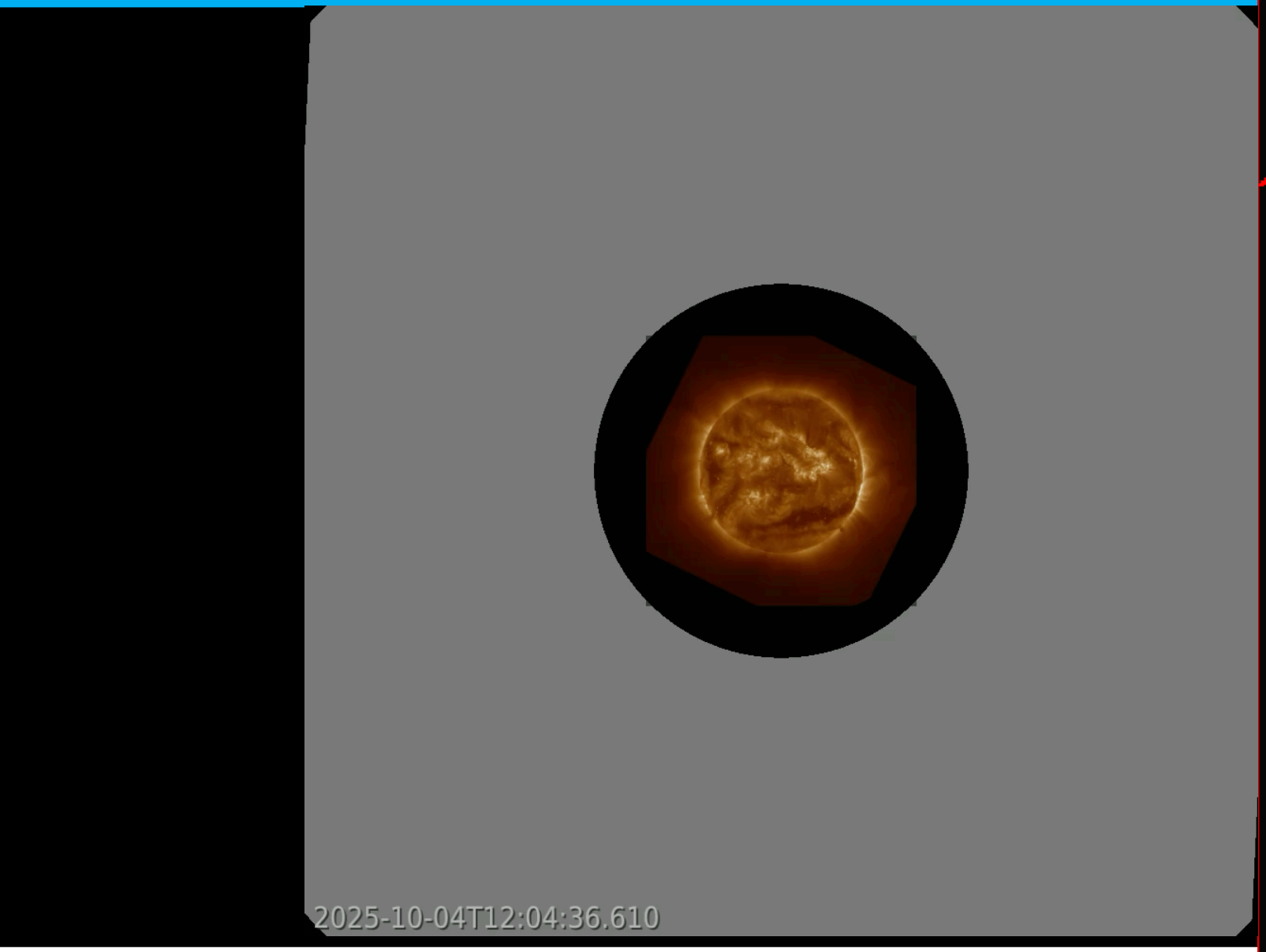
Coronal Mass Ejections

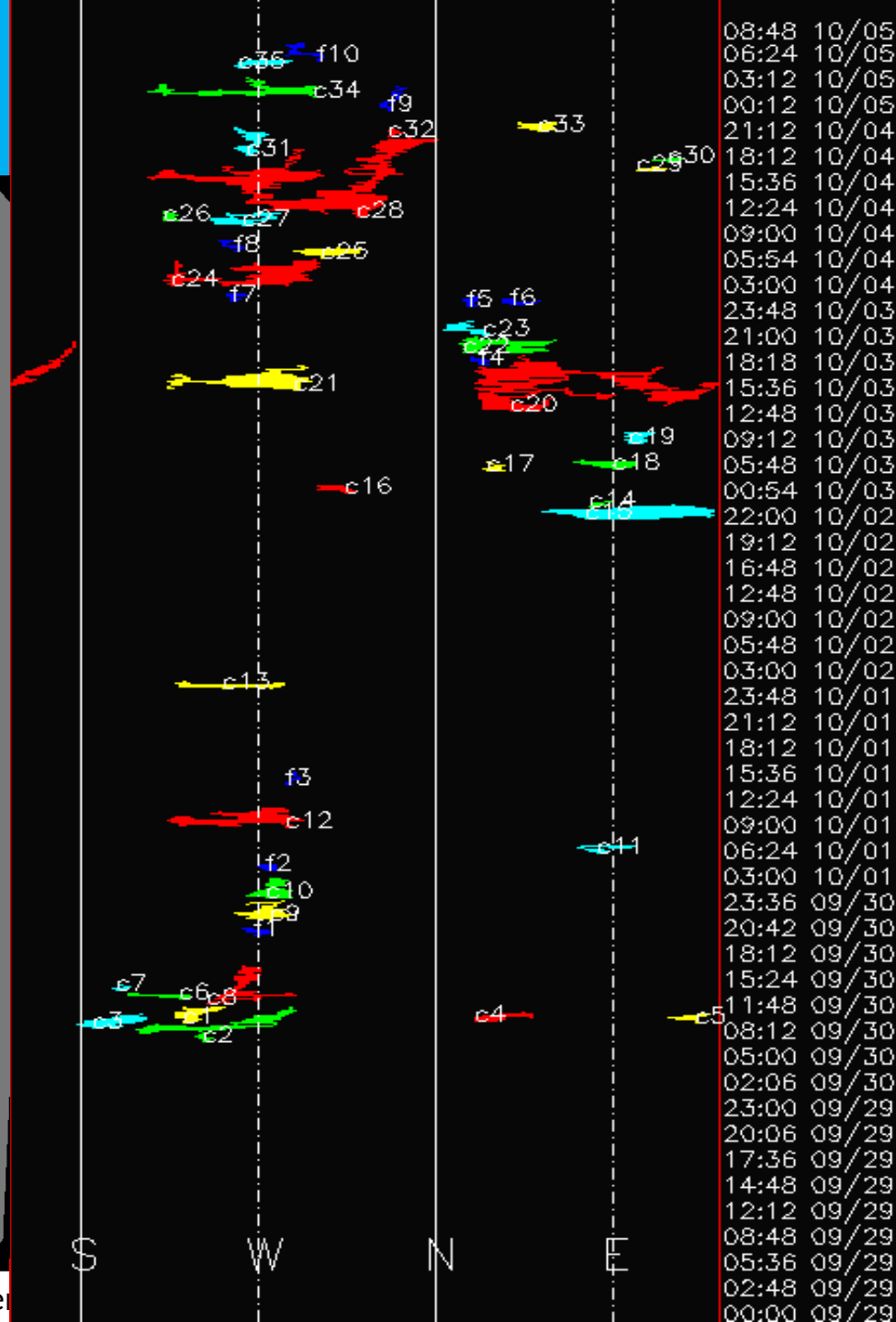
Partial halo, slow Filament eruption NE





Coronal Mass Ejections





Solar Wind and

Geomagnetic Activity

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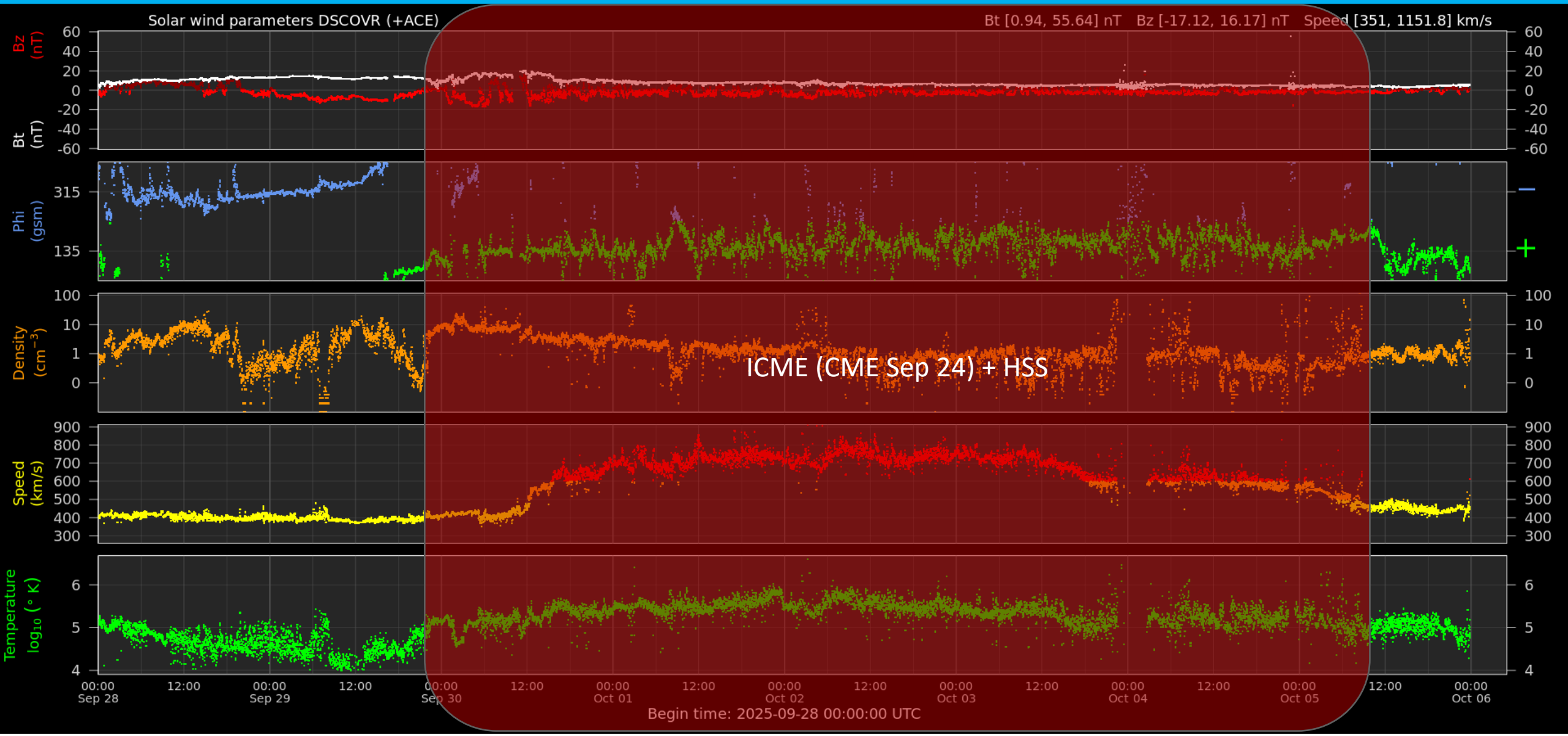
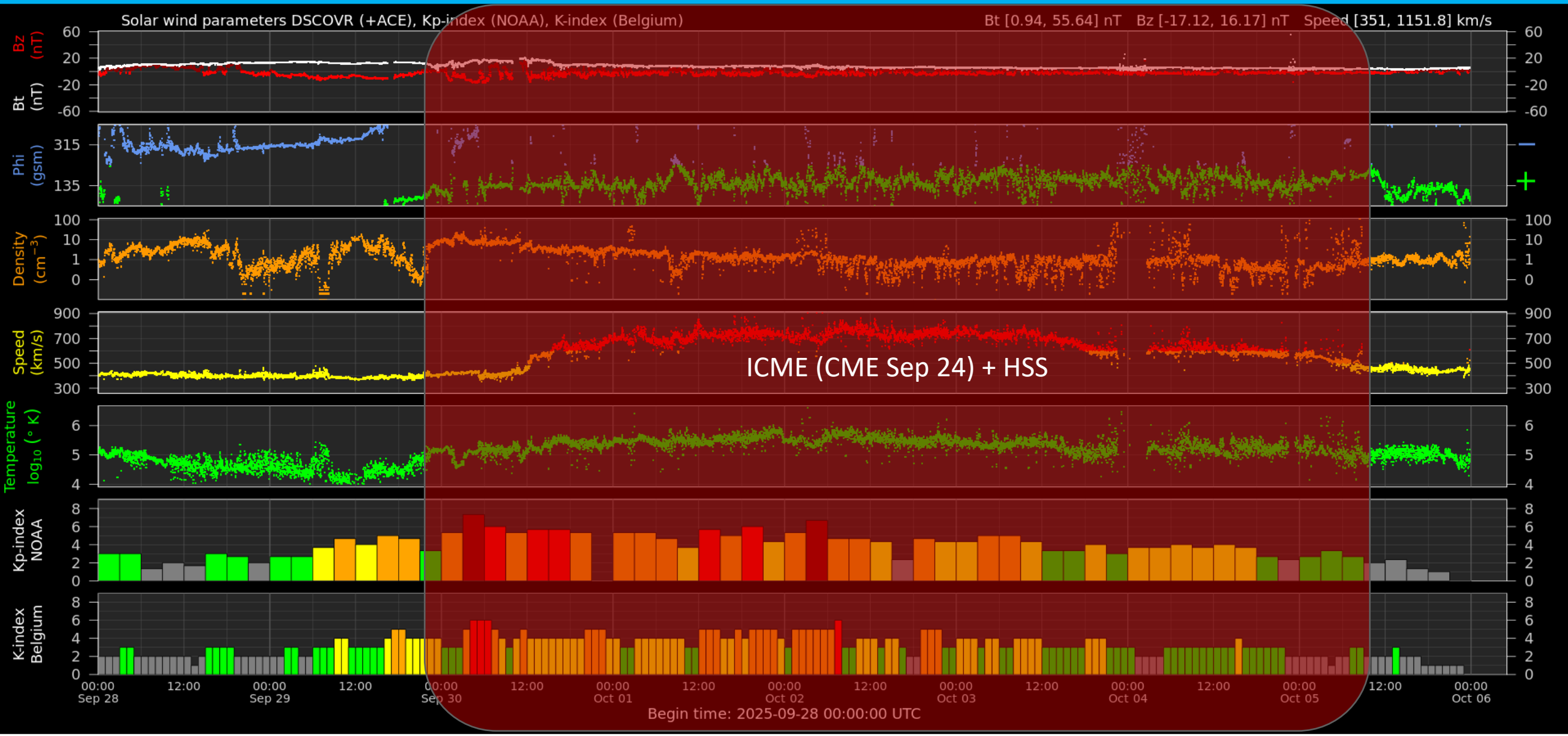
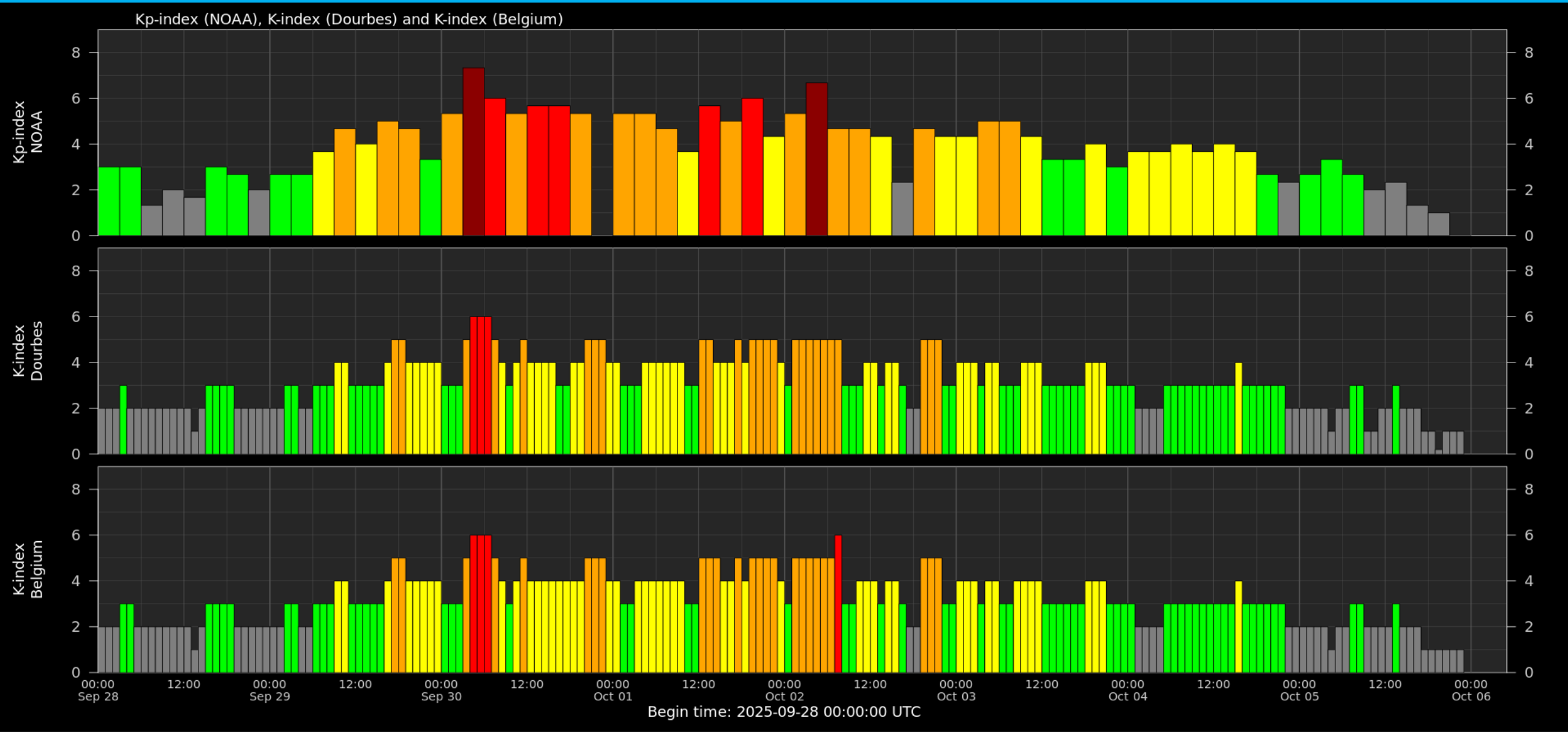
Solar wind parameters



Solar wind parameters & K-indices



Geomagnetic activity (K-indexes)



Energetic Particles

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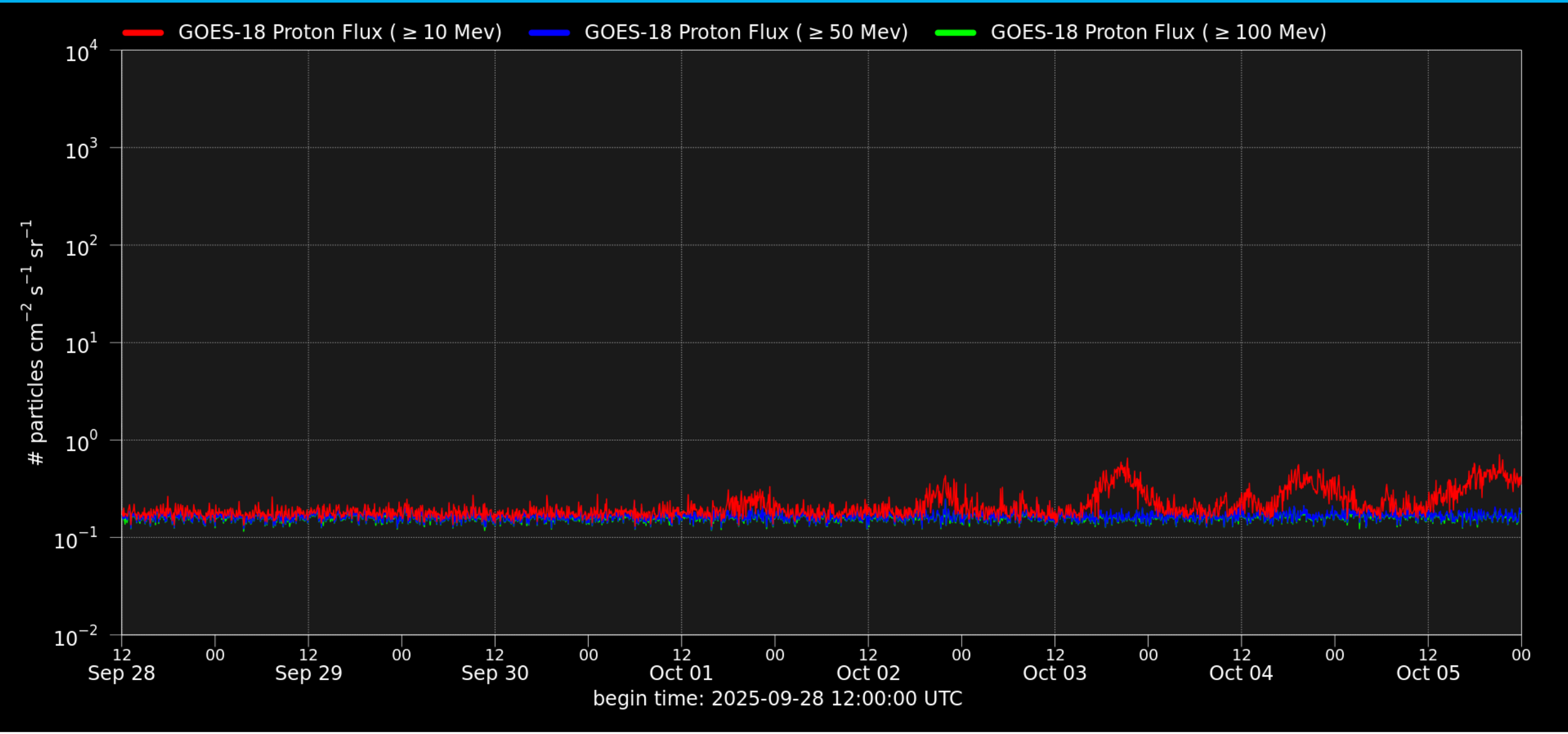
Solar proton flux



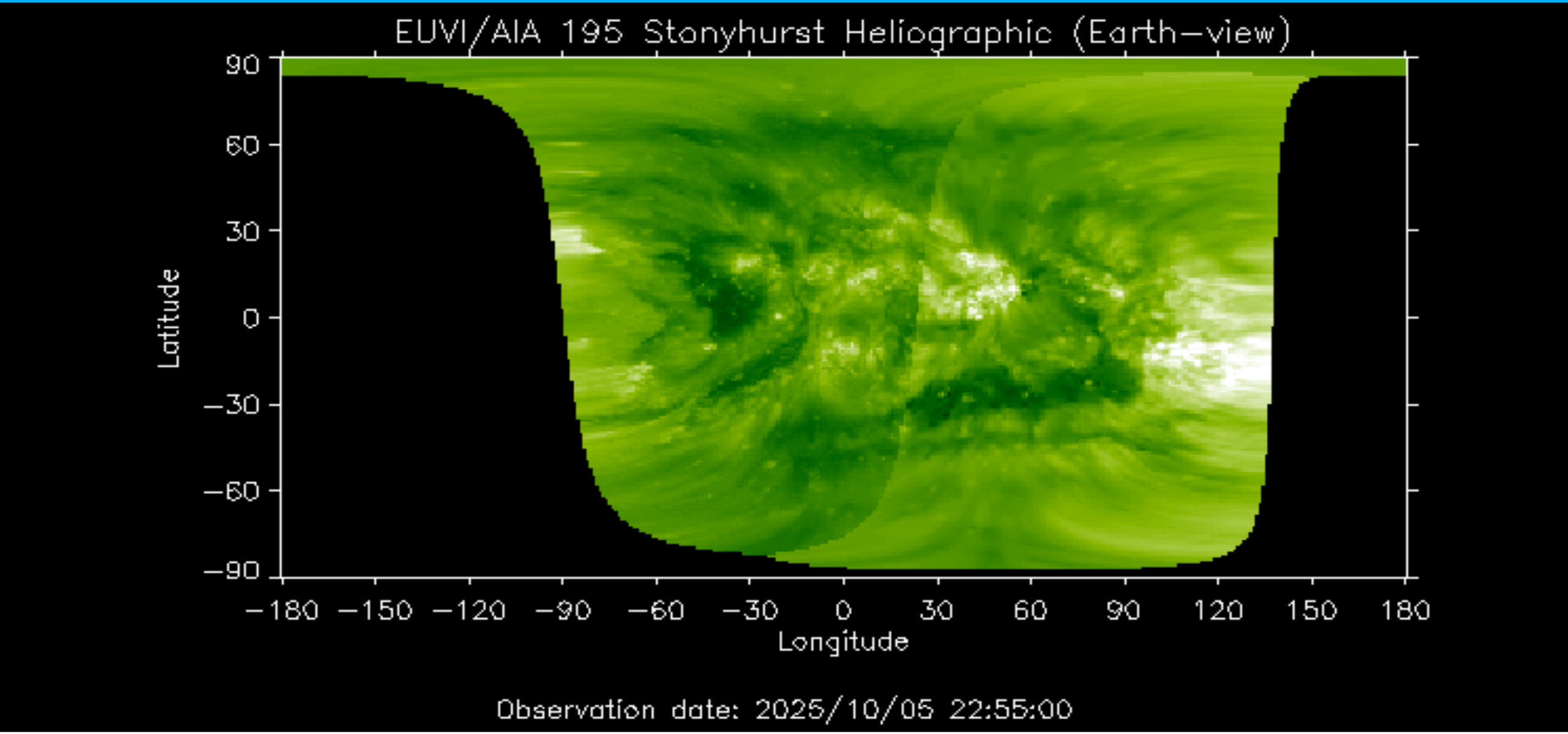
Electron flux at GEO

www.stce.be/educational/classification#electrons

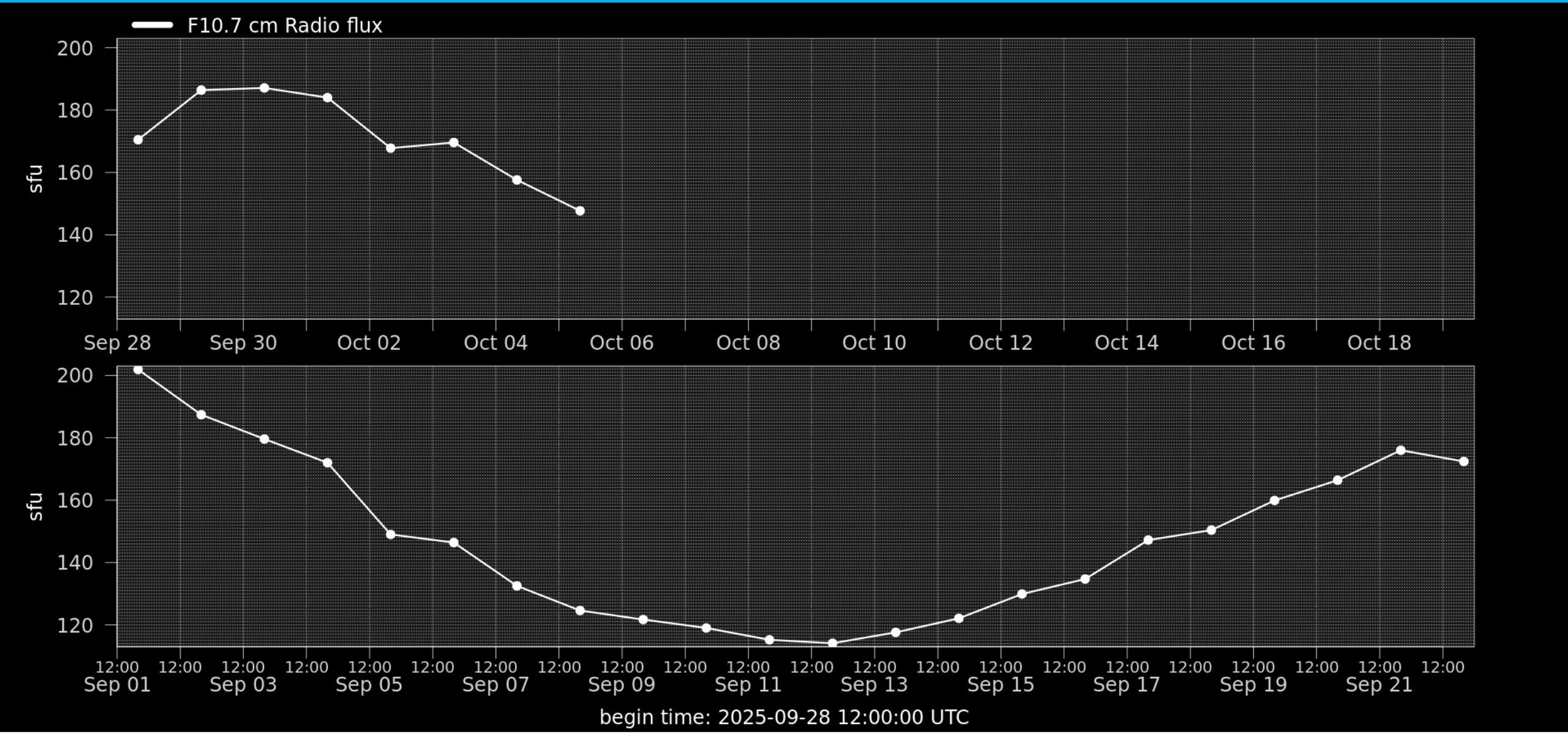
www.spaceweather.gc.ca/forecast-prevision/space-spatiale/sffl-en.php

Outlook

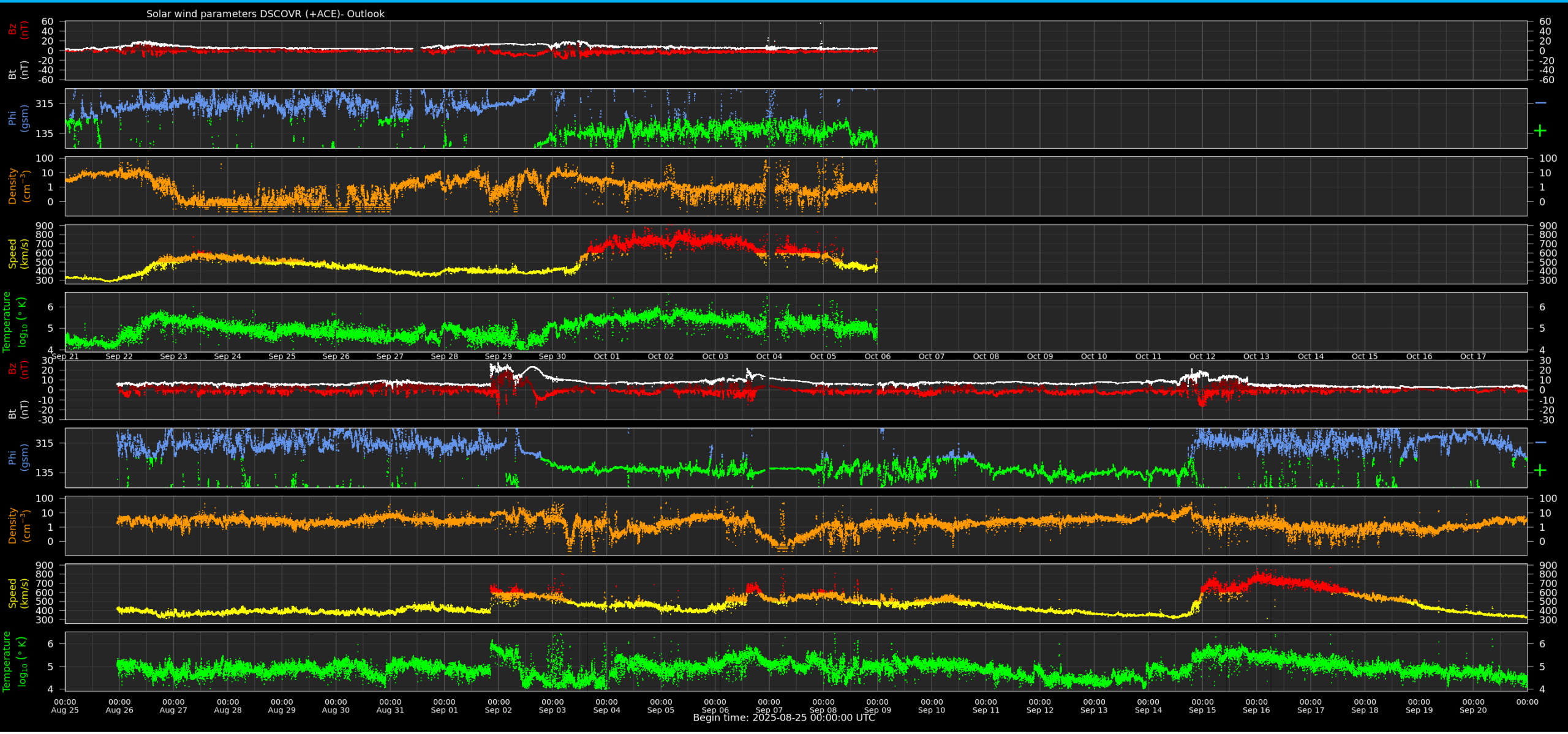
Outlook: Solar activity



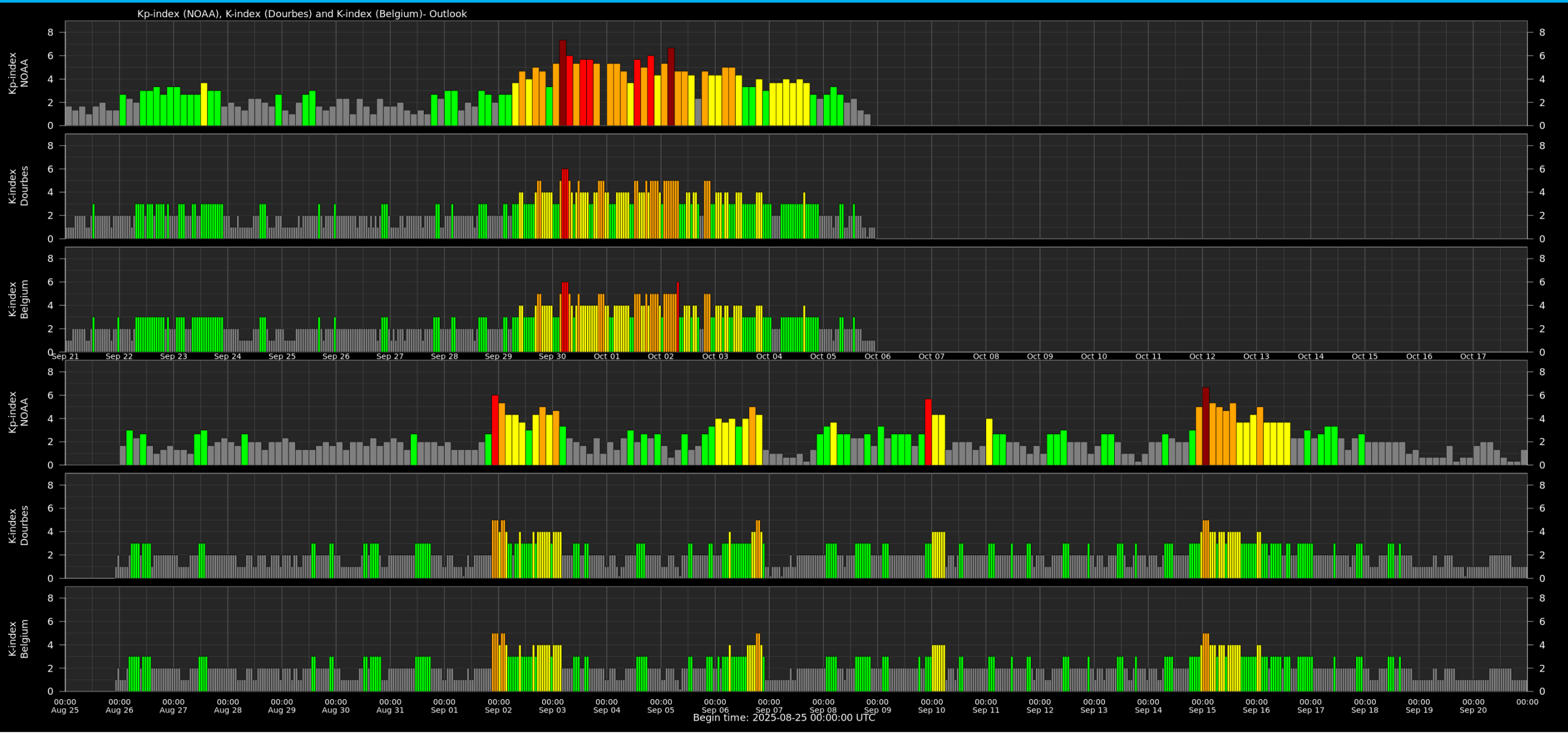
Outlook: Solar F10.7cm radio flux



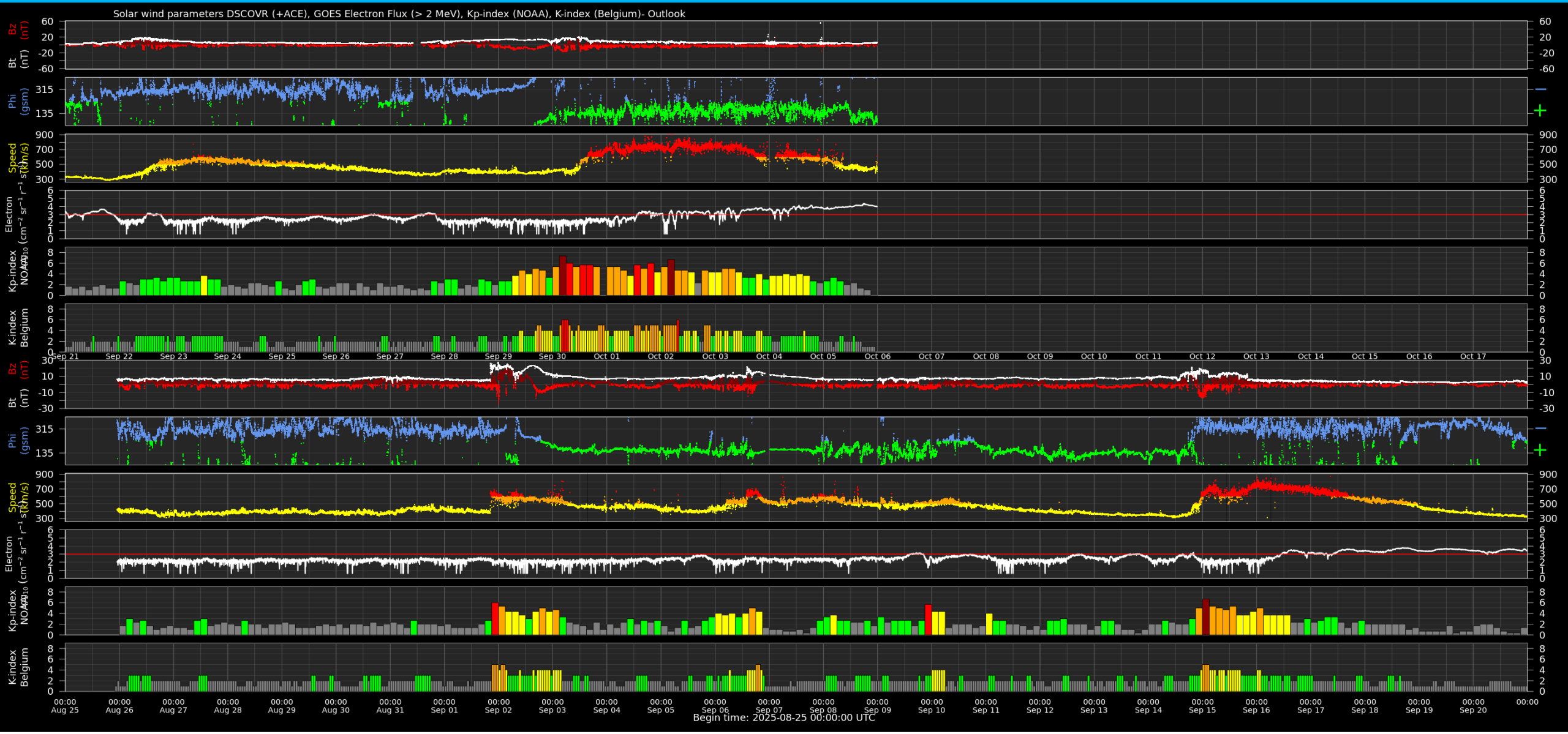
Outlook: Solar wind parameters



Outlook: Geomagnetic activity



Outlook: Electron Flux at GEO Outlook



PECASUS

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Pecasus related events

On Duty Centre since 30/09

- GNSS:
  - Amplitude & Phase Scintillations (daily)
- HF COM:
  - PSD (moderate geomagnetic storm)

See you at our next briefing!

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