

SIDC Space Weather Briefing

11 August 2024-18 August 2024

Vansintjan Robbe

& the SIDC forecaster team



Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be

Summary Report

Solar activity from 2024-08-11 12:00 to 2024-08-18 23:59

Active regions	There were 19 AR regions on disk NOAA AR 3774, 3777, 3780, 3784 & 3790
Flares	# C-class flare: 24 # M-class flare: 17 # X-class flare: 1
Coronal Holes	1 negative CH & 2 positive CH
CMEs	1 partial halo CME

Proton flux	At background levels
Electron flux	At background levels

Solar wind and geomagnetic conditions

ICMEs	2 ICMEs
Solar wind conditions	B : 0.35 - 24.56 nT //Bz: -21.94 nT to 22.45 nT //Speed: 296.4 - 586.8km/s
Geomagnetic conditions	max K _{Bel} : 6.0, max K _p (NOAA): 8.0, Severe Storm conditions

All Quiet Alert: OFF

Solar Activity

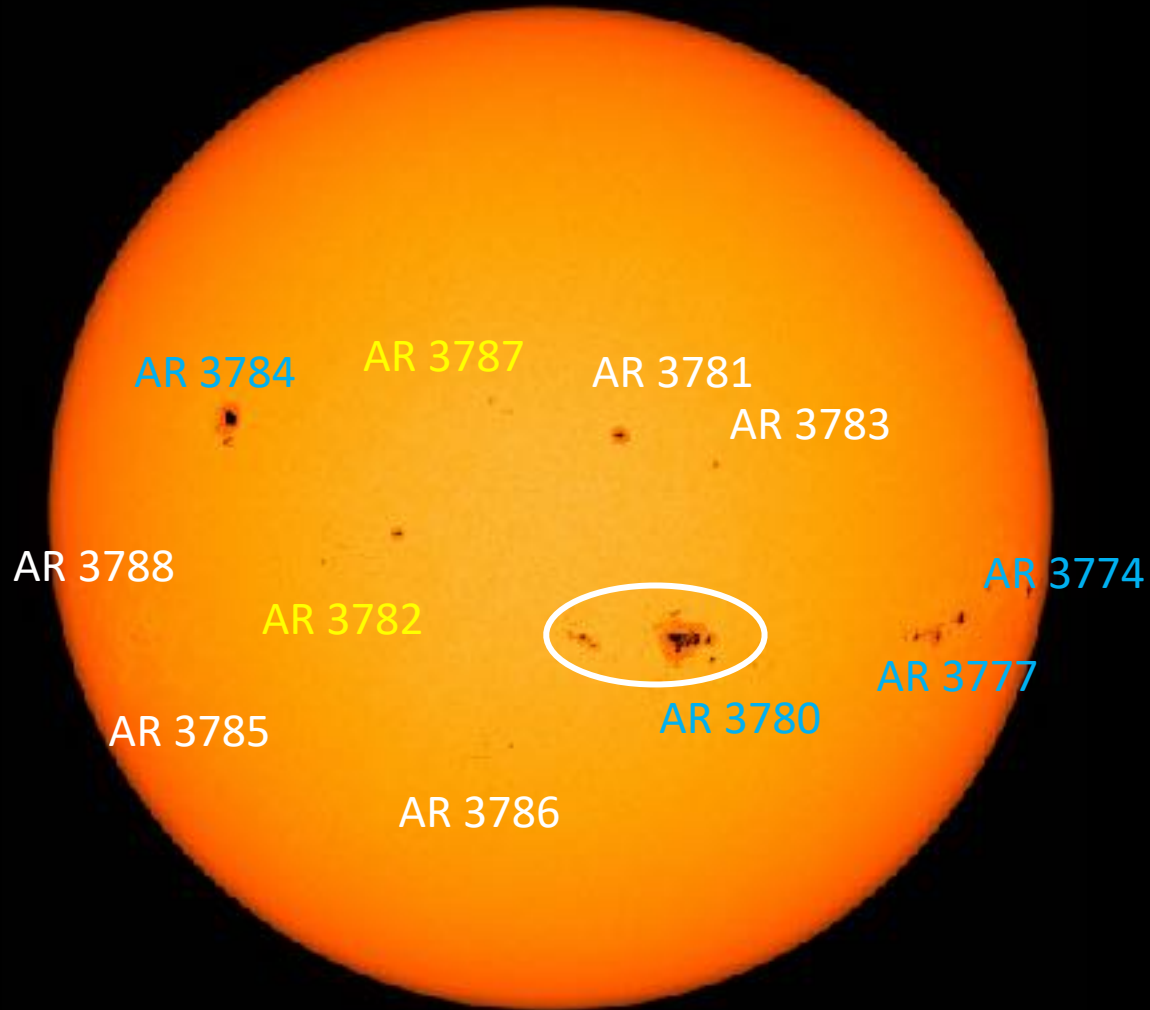


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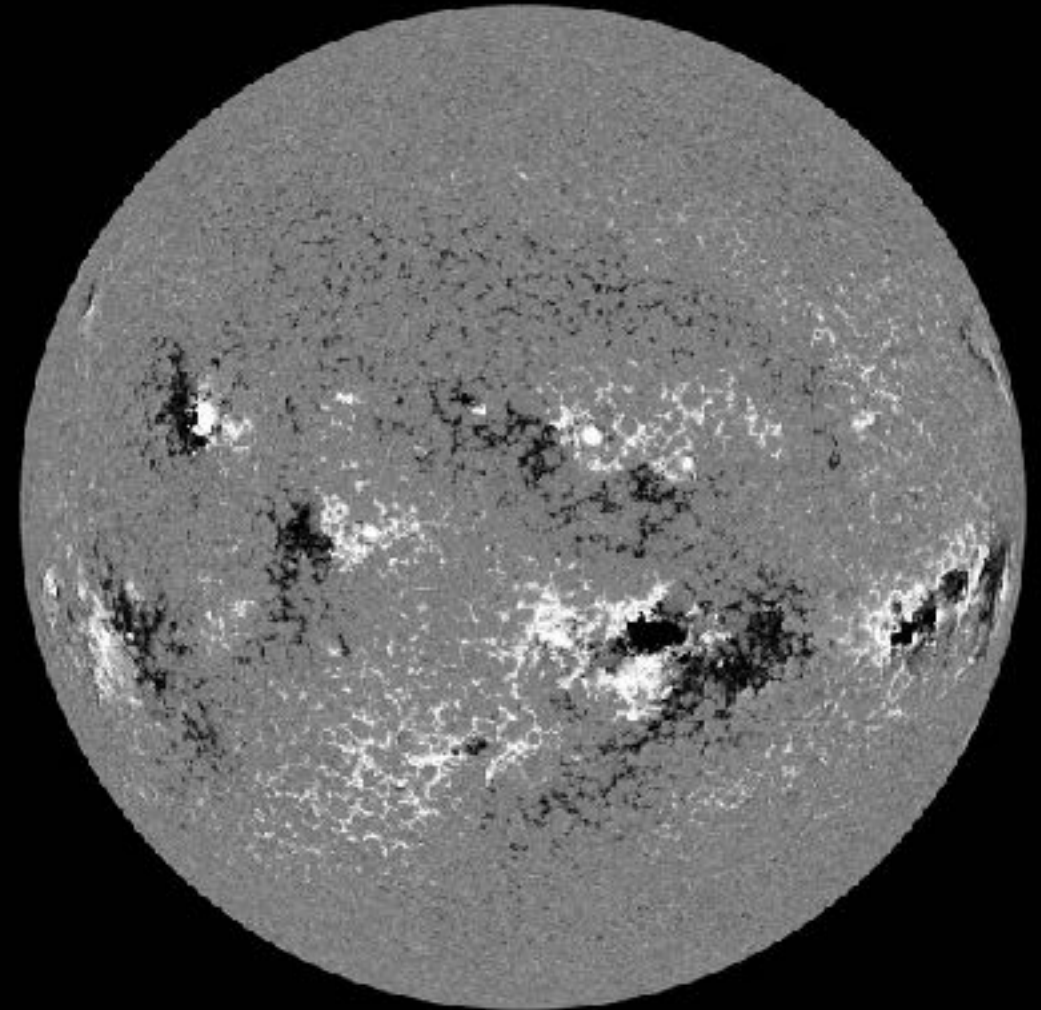
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Solar active regions

SDO/HMI White Light 2024-08-11

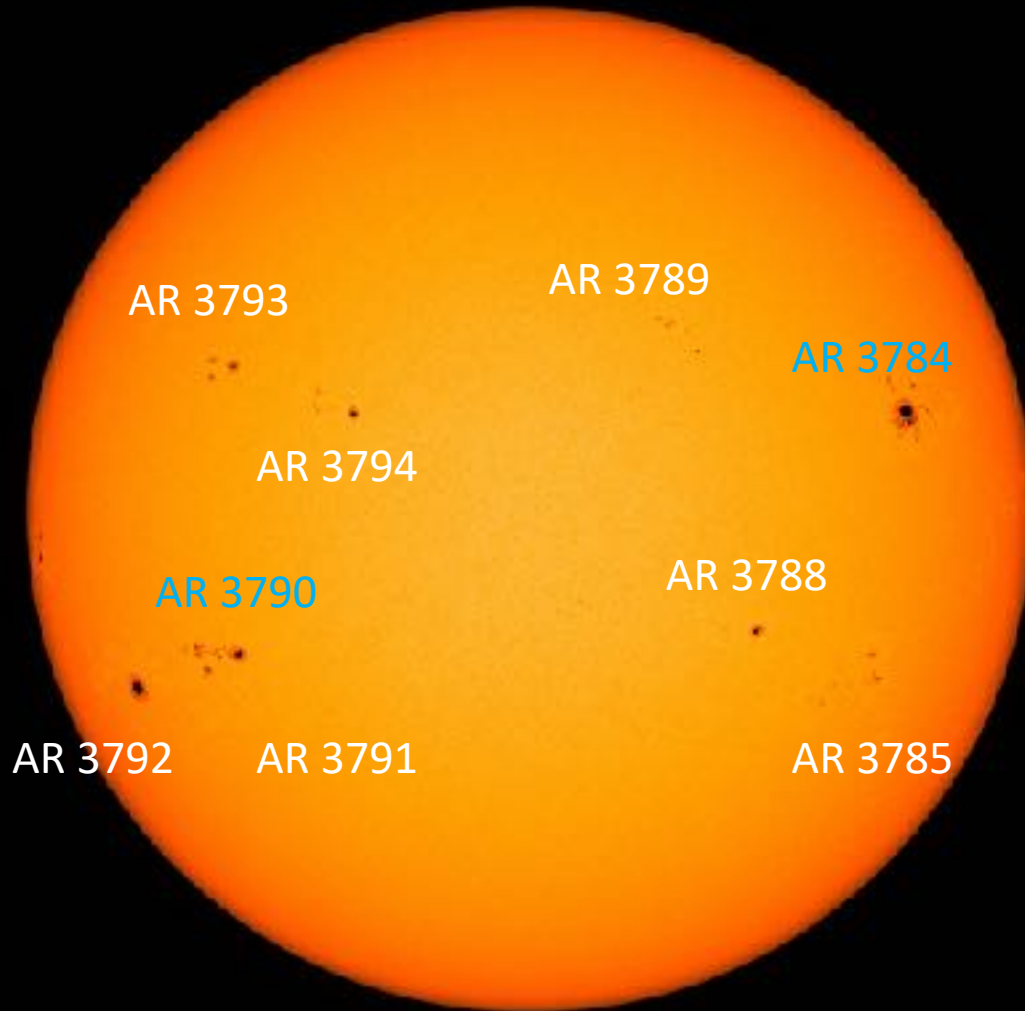


SDO/HMI Magnetogram 2024-08-11

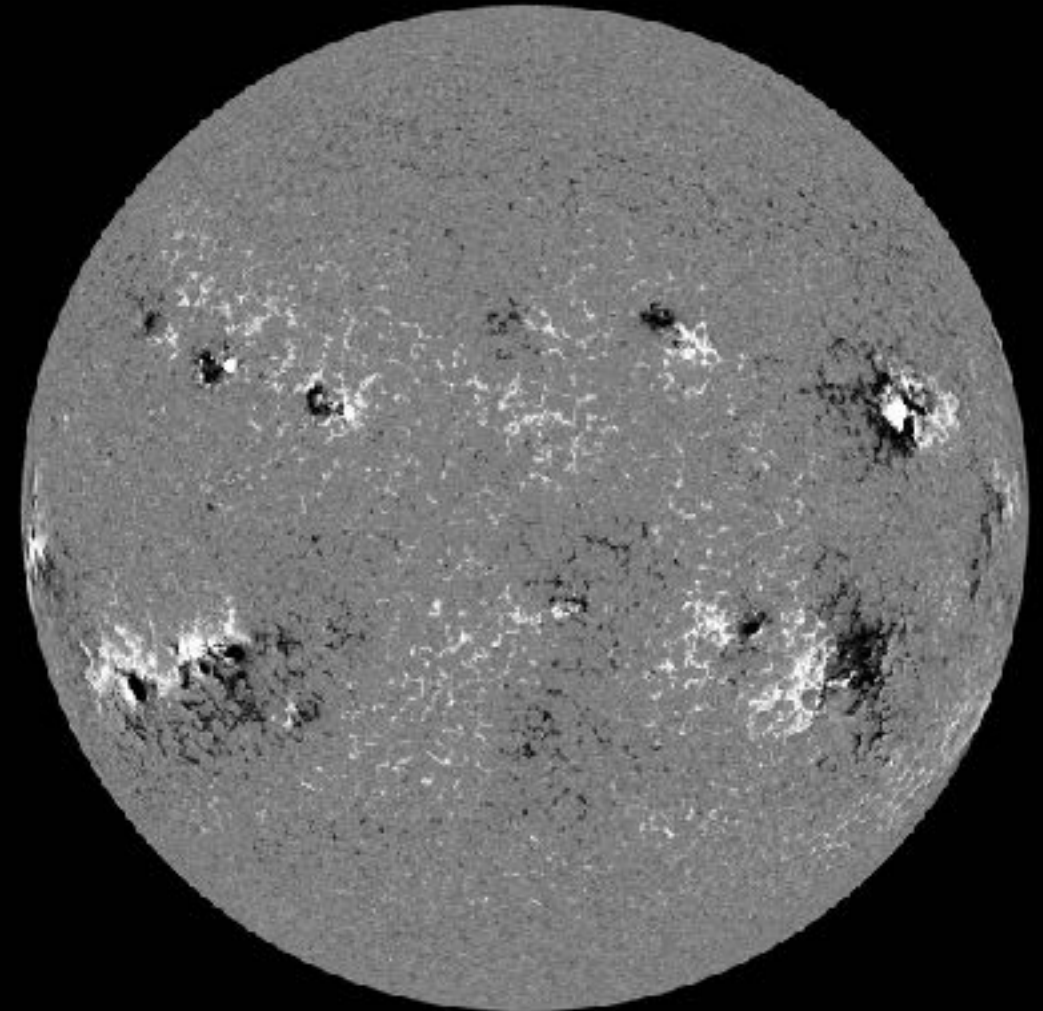


Solar active regions

SDO/HMI White Light 2024-08-18



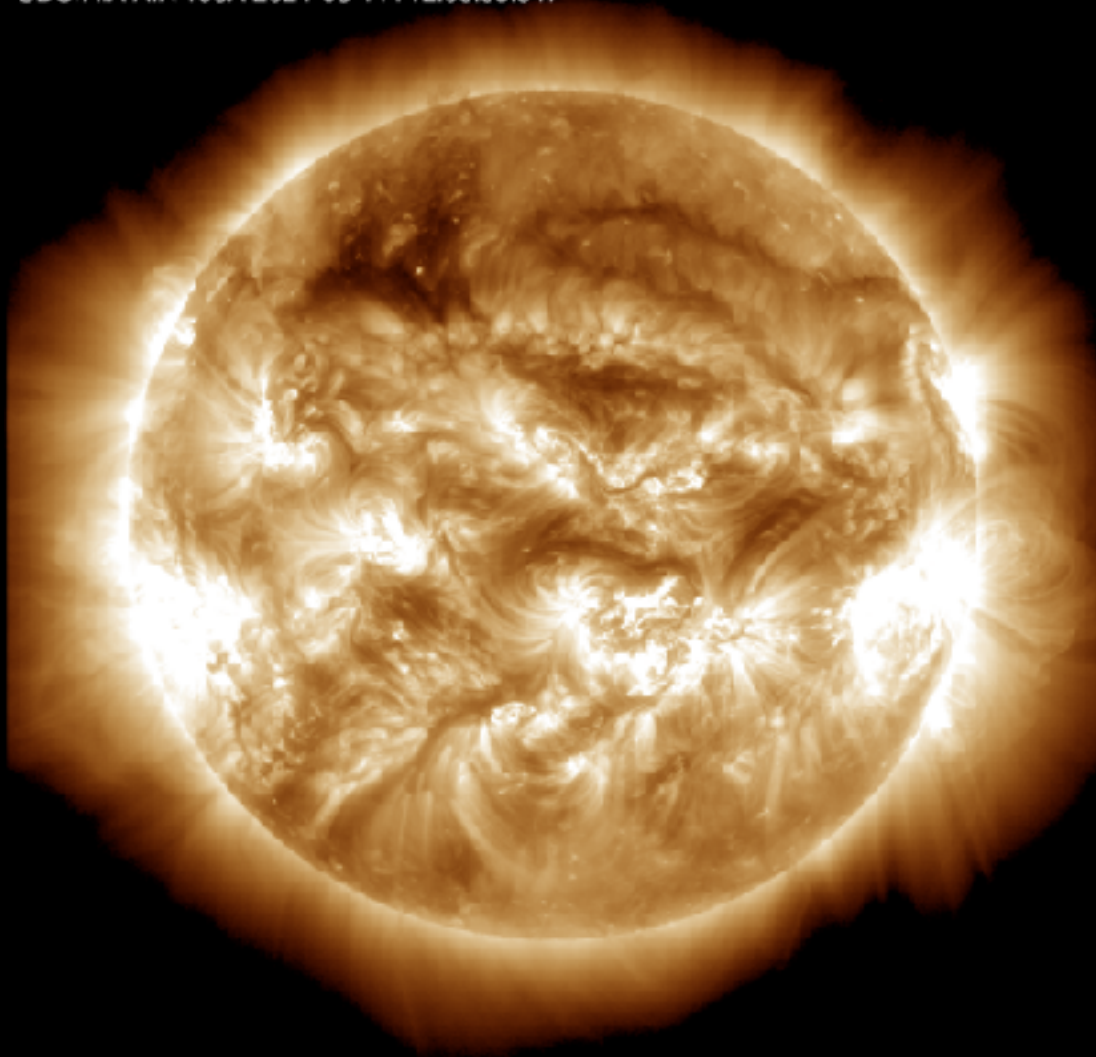
SDO/HMI Magnetogram 2024-08-18



Coronal holes

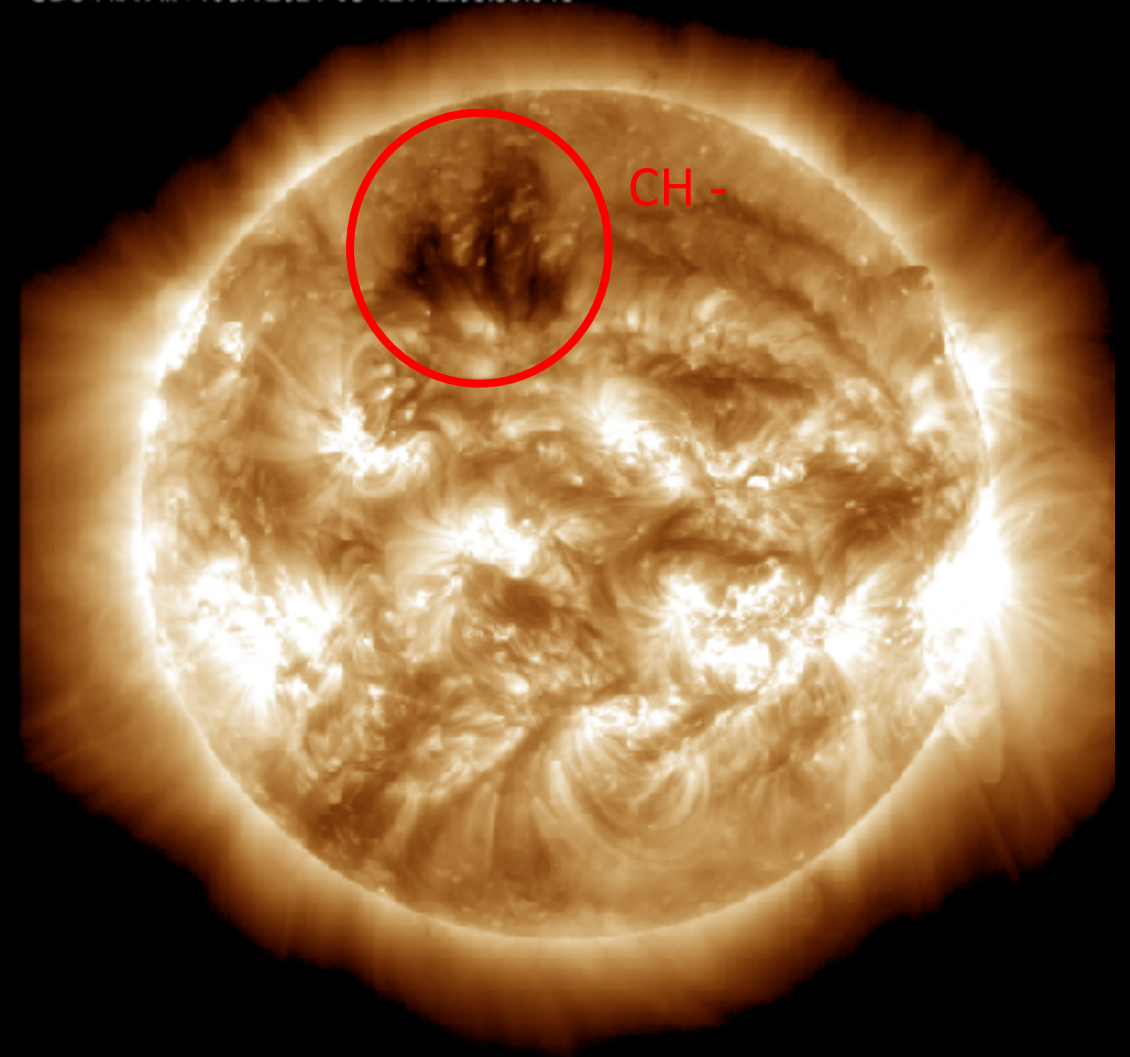
SDO/AIA 19.3 nm 2024-08-11

SDO/AIA AIA 193Å 2024-08-11T12:00:05.847



SDO/AIA 19.3 nm 2024-08-12

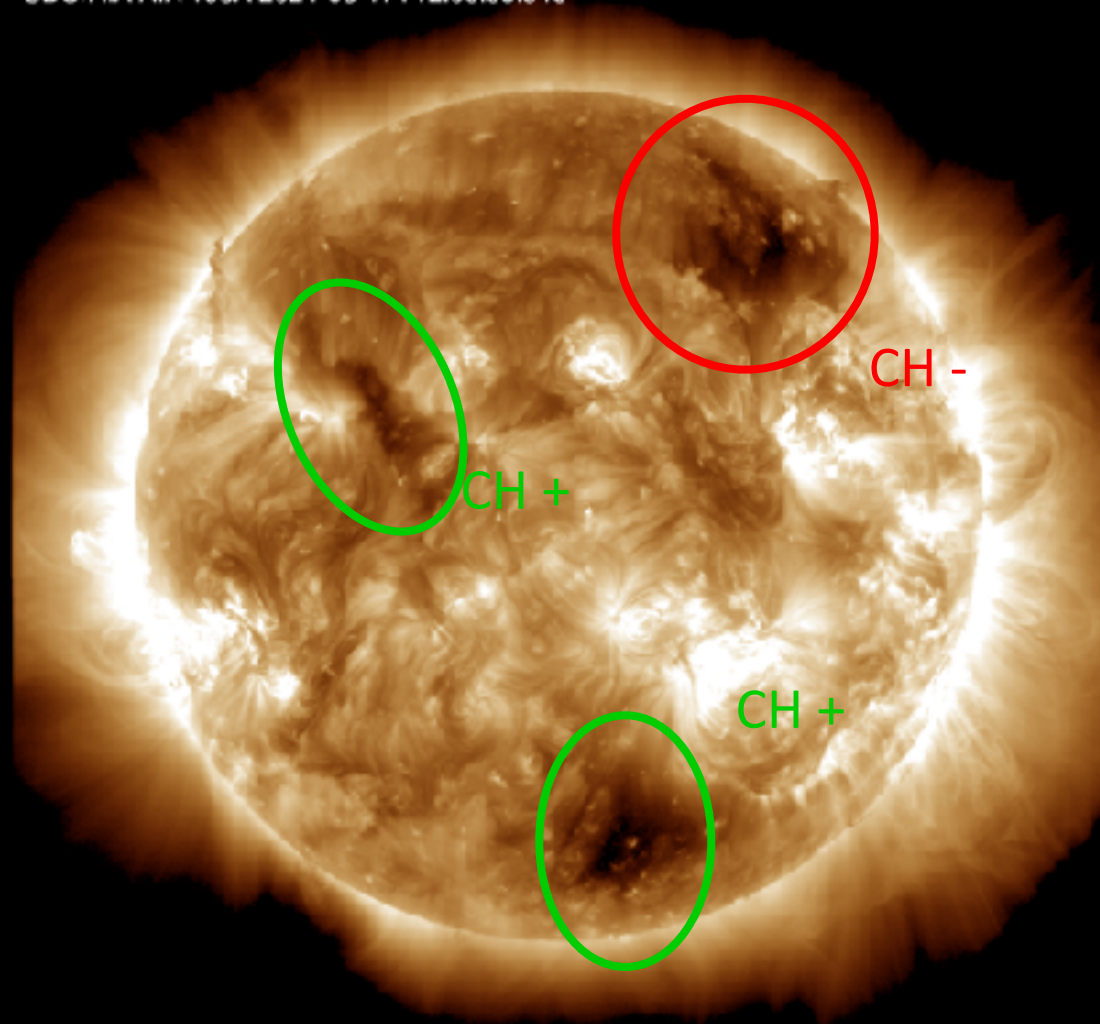
SDO/AIA AIA 193Å 2024-08-12T12:00:05.846



Coronal holes

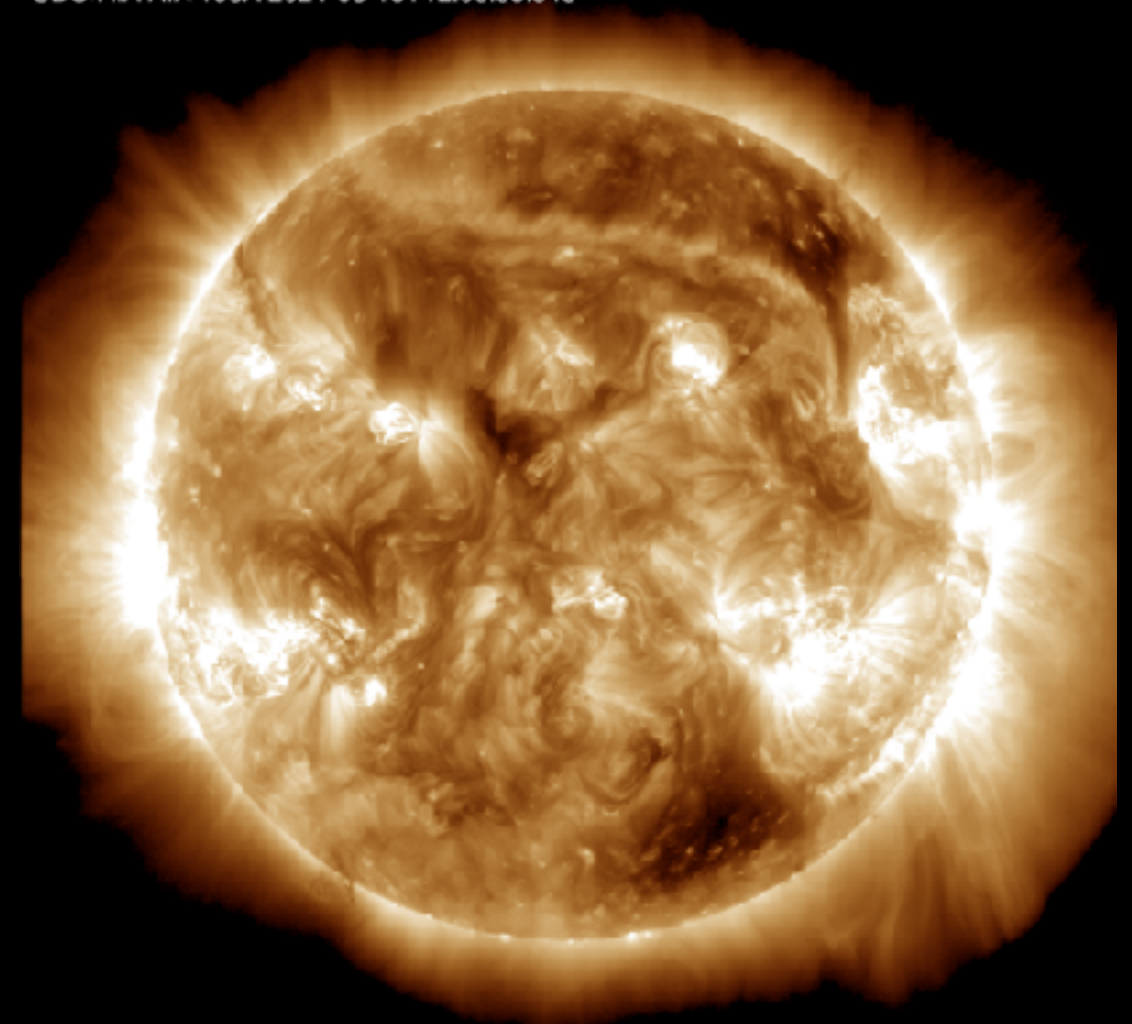
SDO/AIA 19.3 nm 2024-08-17

SDO/AIA AIA 193Å 2024-08-17T12:00:05.846



SDO/AIA 19.3 nm 2024-08-18

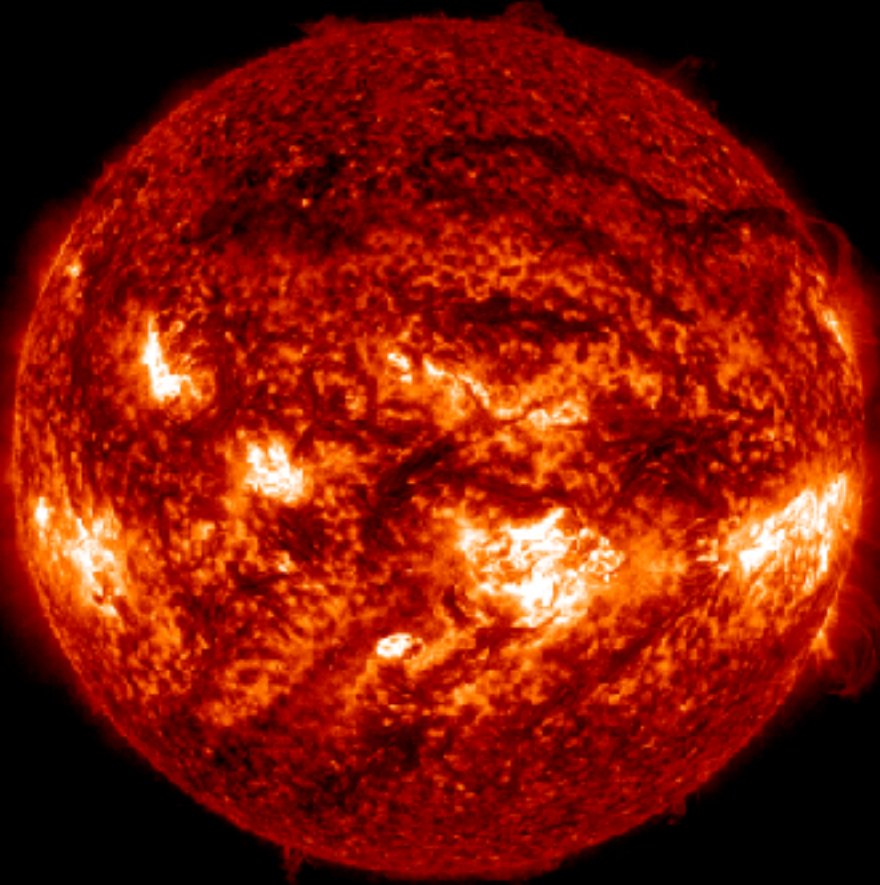
SDO/AIA AIA 193Å 2024-08-18T12:00:05.848



Filaments

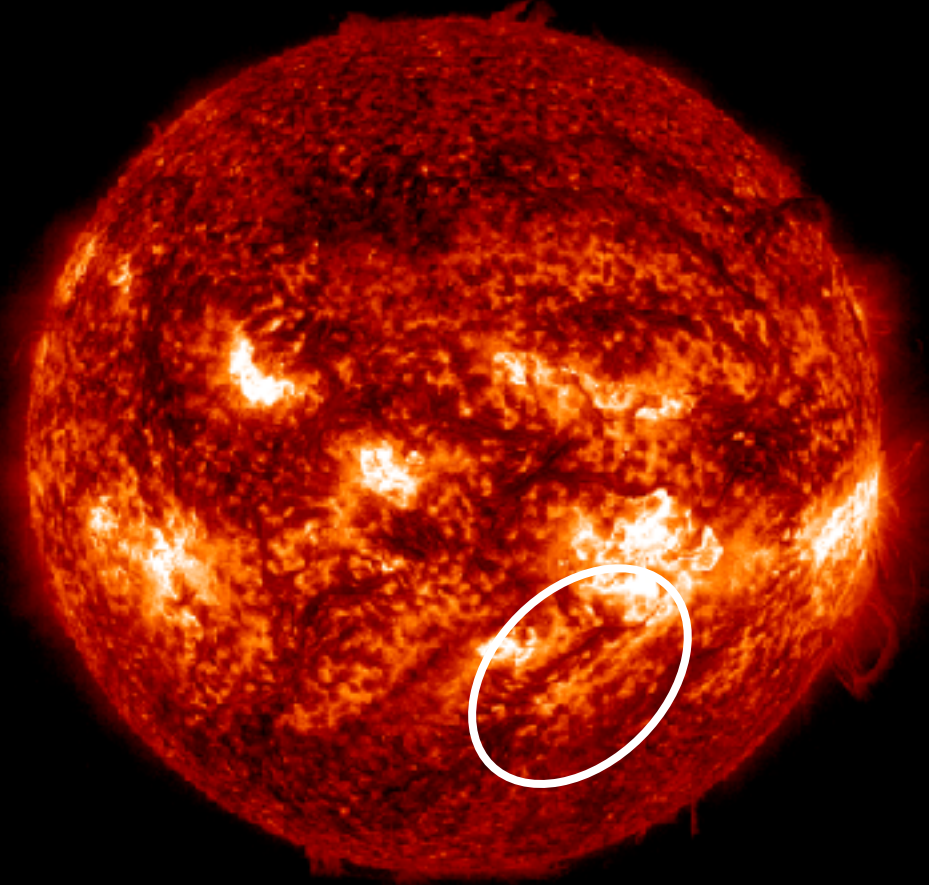
SDO/AIA 30.4 nm 2024-08-11

SDO/AIA AIA 304Å 2024-08-11T12:00:06.580



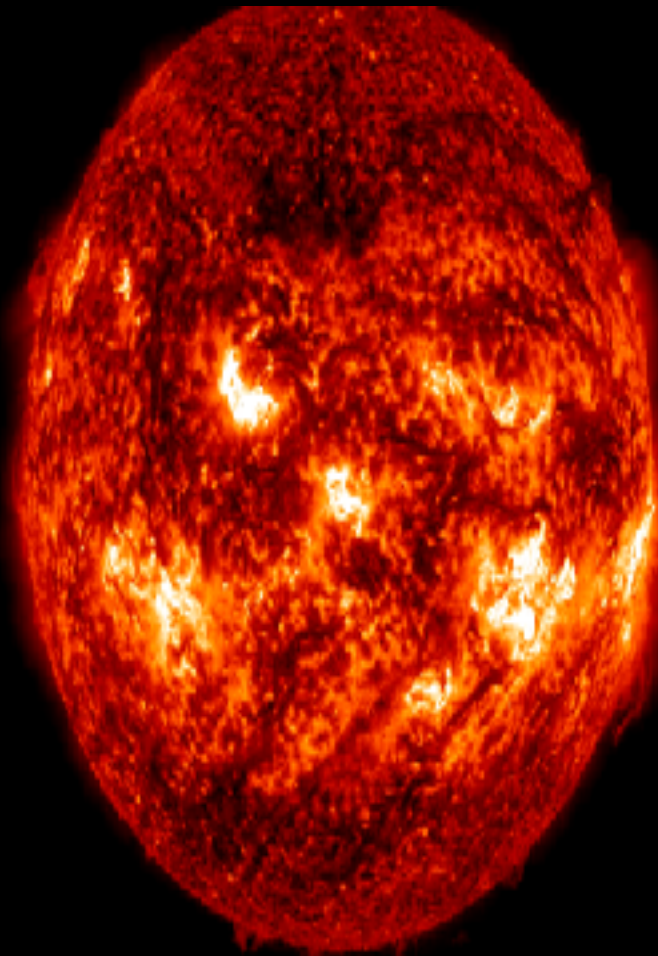
SDO/AIA 30.4 nm 2024-08-12

SDO/AIA AIA 304Å 2024-08-12T12:00:06.572



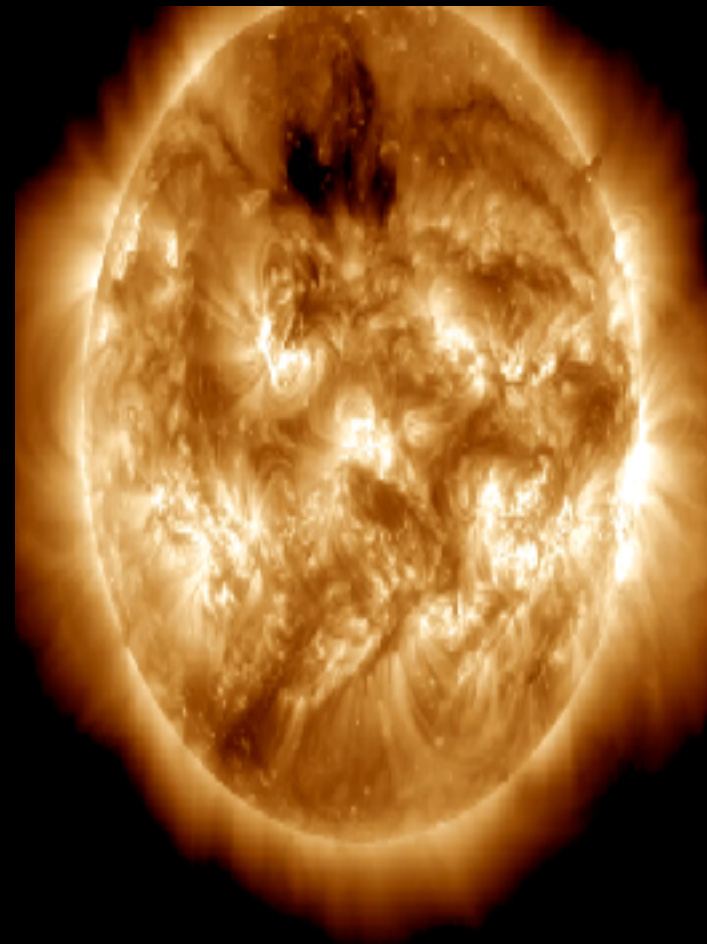
Filaments

SDO/AIA 304 2024-08-13



2024 08 13 04:01:32

SDO/AIA 193 2024-08-14

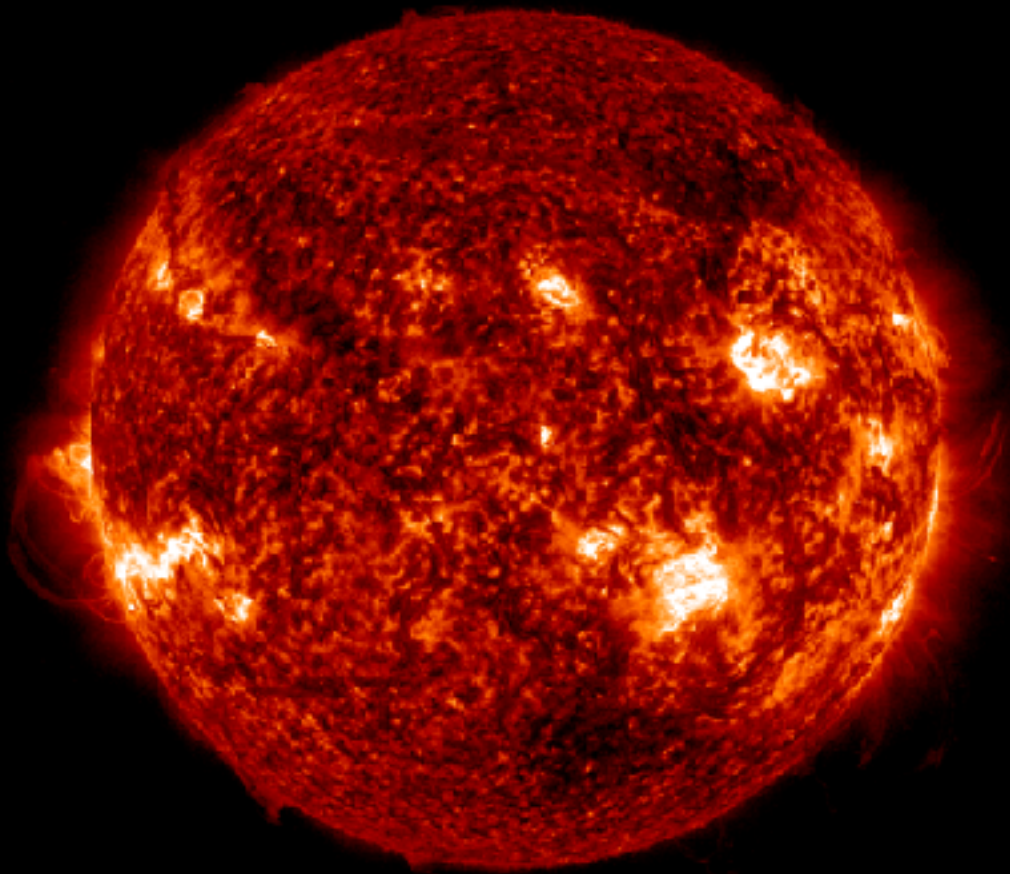


2024 08 14 04:01:32

Filaments

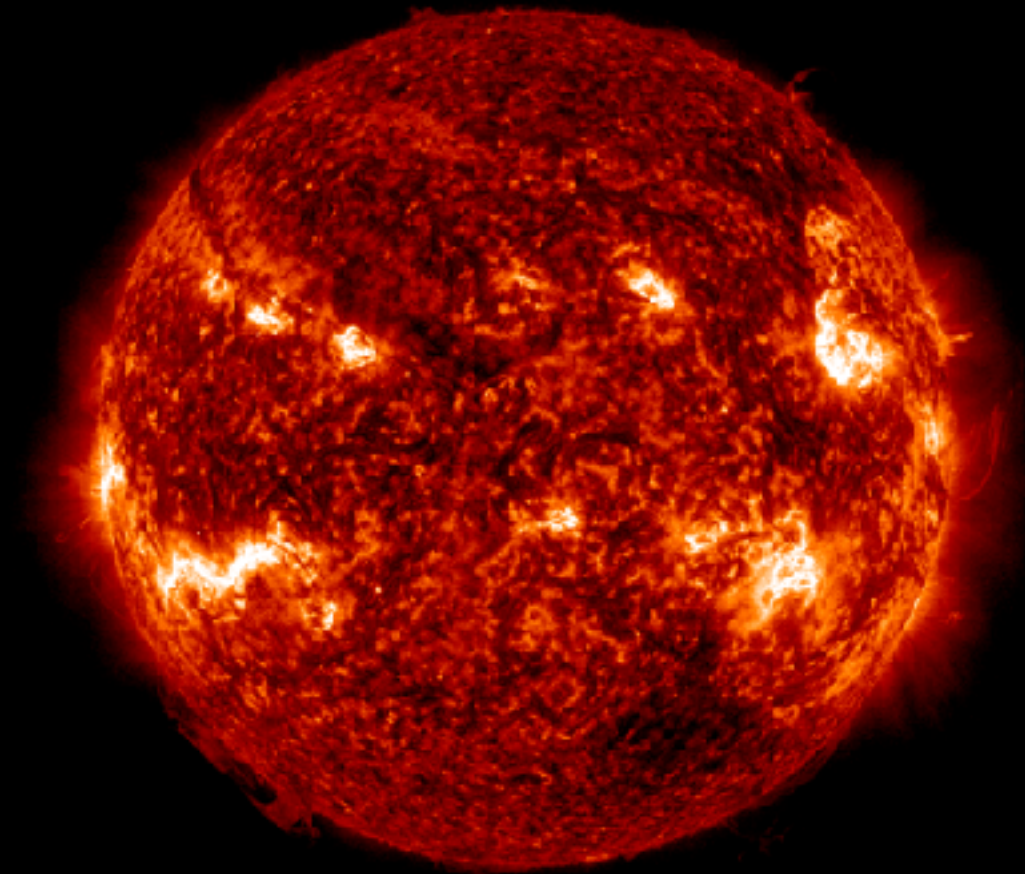
SDO/AIA 30.4 nm 2024-08-17

SDO/AIA AIA 304Å 2024-08-17T12:00:06.580



SDO/AIA 30.4 nm 2024-08-18

SDO/AIA AIA 304Å 2024-08-18T12:00:06.580



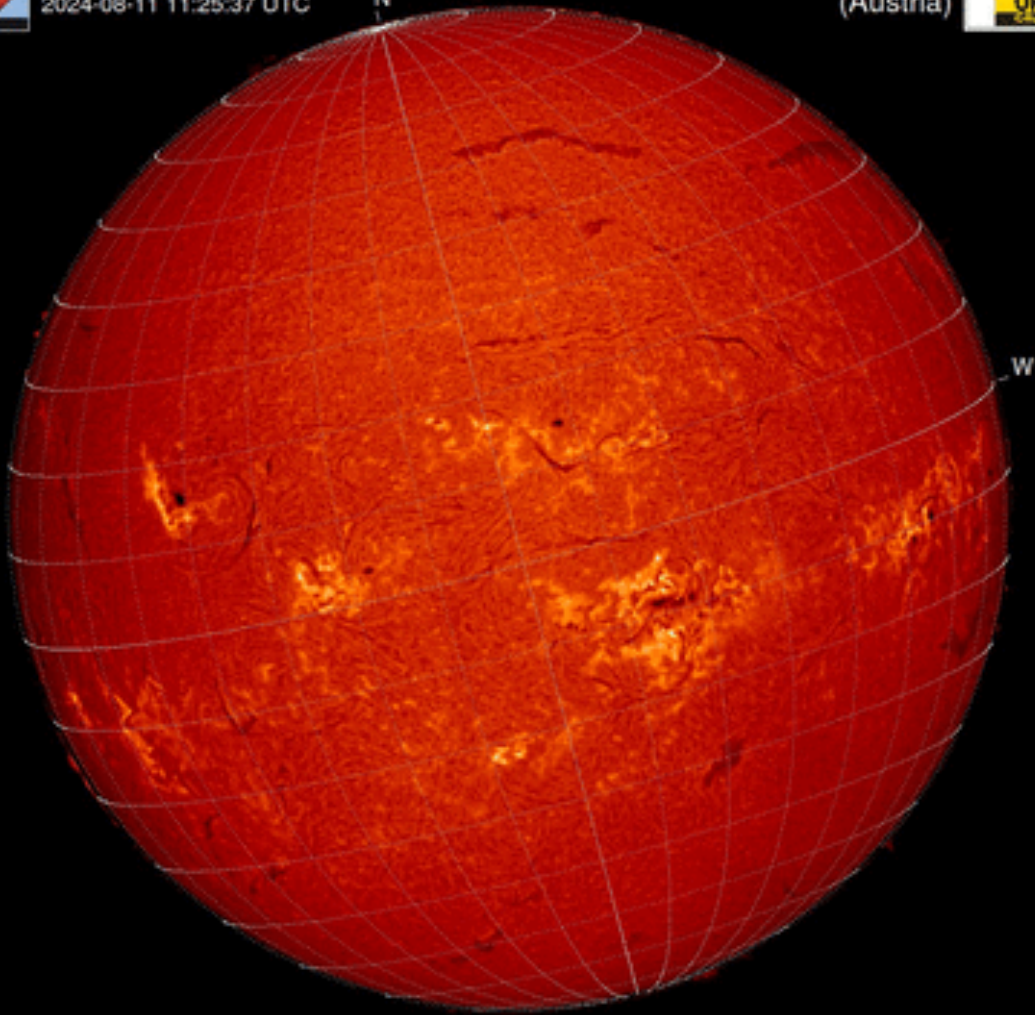
Filaments & Filament eruptions

H-alpha 2024-08-11



Kanzelhöhe Observatory
2024-08-11 11:25:37 UTC

University of Graz
(Austria)

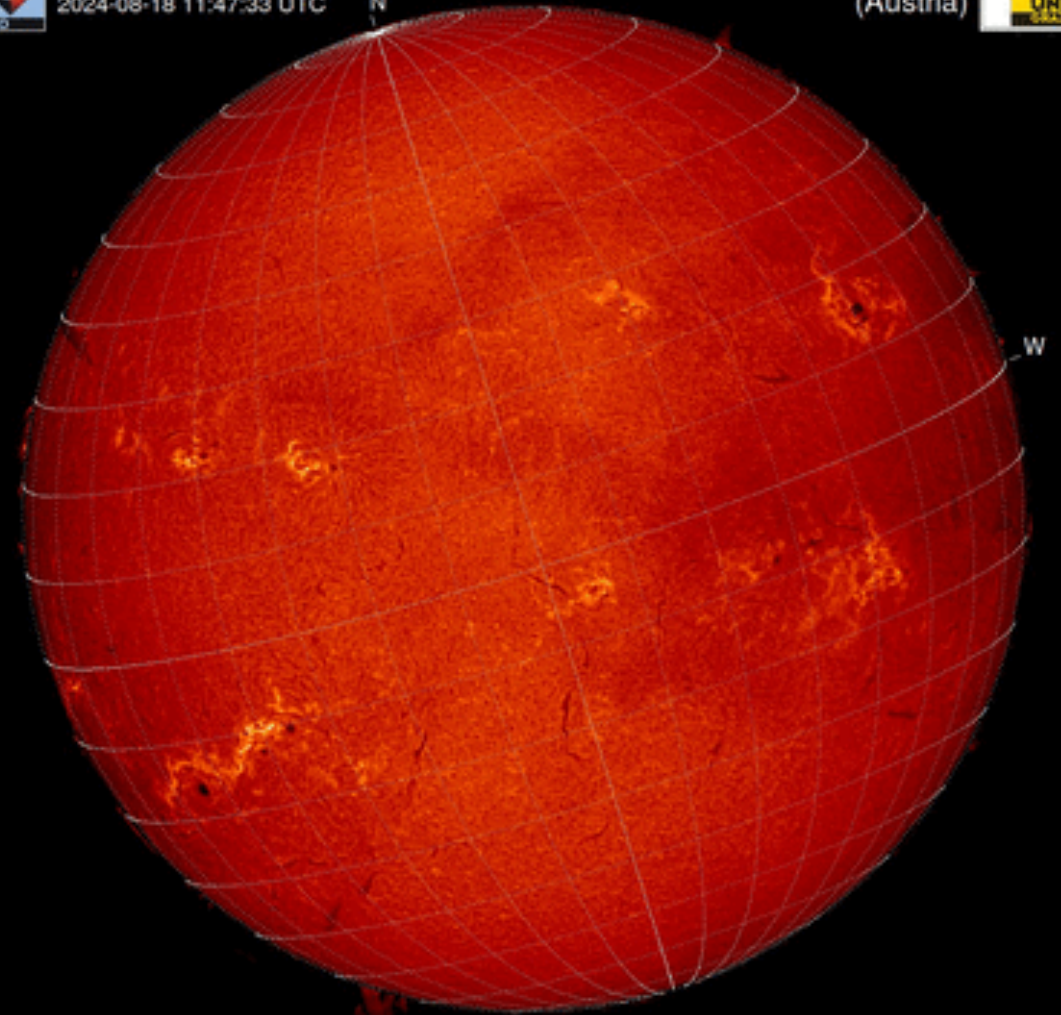


H-alpha 2024-08-18

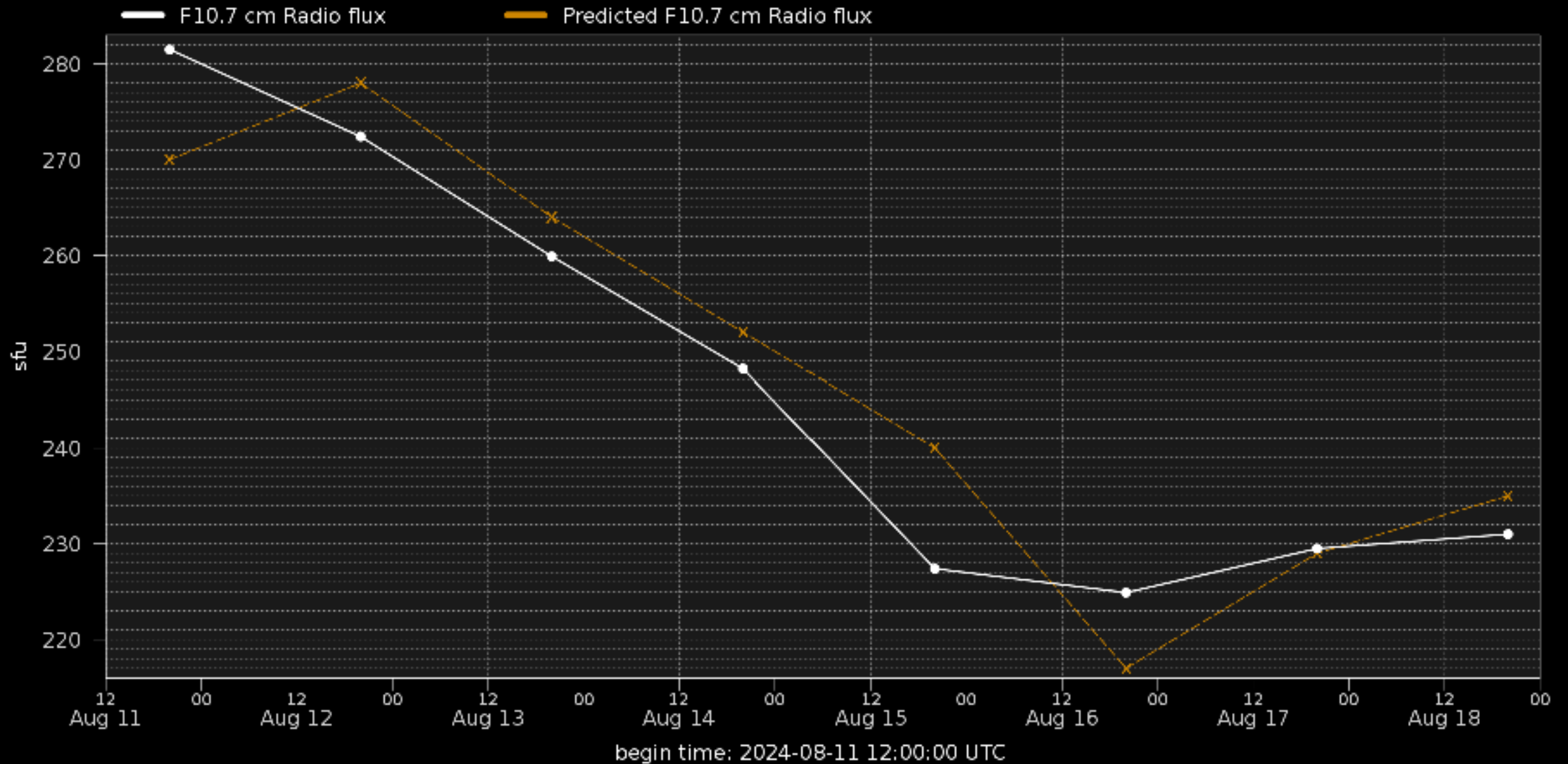


Kanzelhöhe Observatory
2024-08-18 11:47:33 UTC

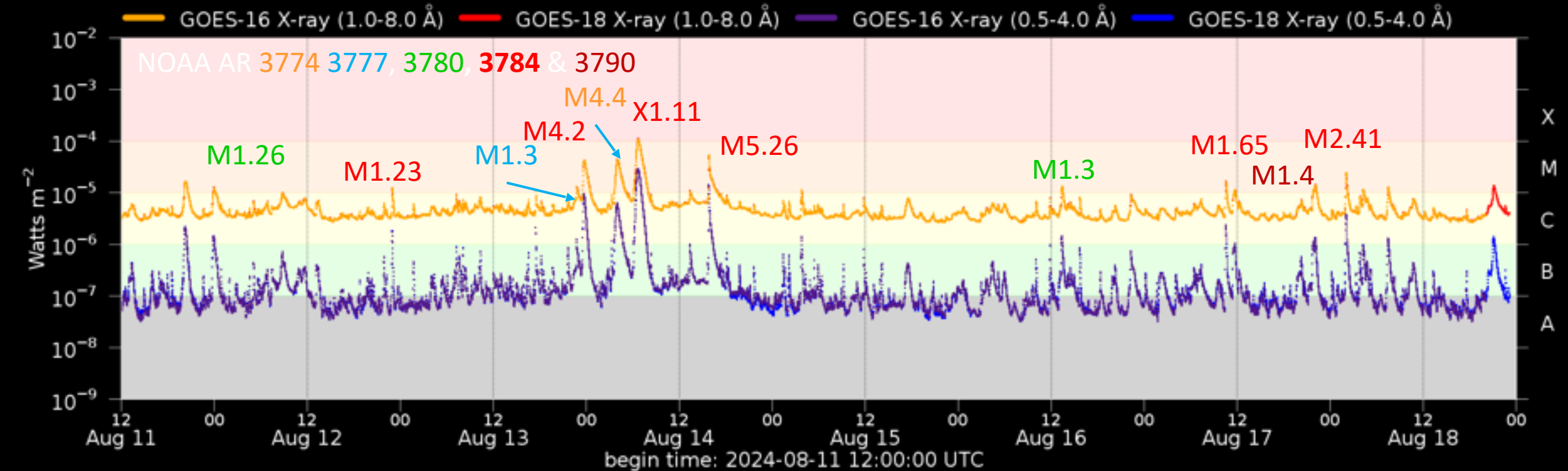
University of Graz
(Austria)



Solar F10.7cm radio flux



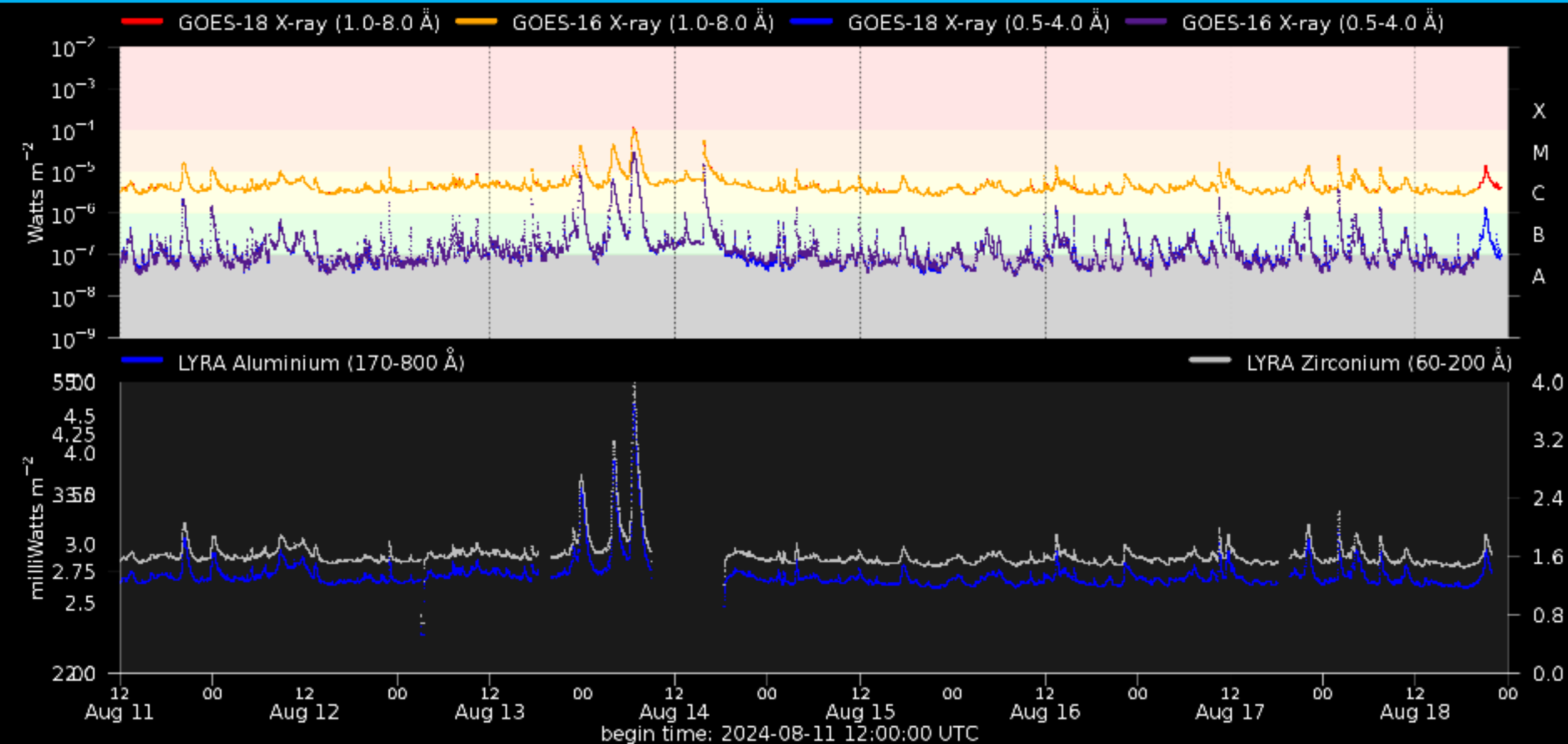
Flaring activity



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

Issue date	2024-08-11	2024-08-12	2024-08-13	2024-08-14	2024-08-15	2024-08-16	2024-08-17	2024-08-18
Probability (%)	99 75 25	99 80 25	99 90 40	99 80 25	99 90 35	99 80 20	99 80 15	99 80 20
Observed (#)	01 01 00	05 01 00	04 04 01	04 03 00	03 00 00	03 03 00	02 04 00	02 01 00

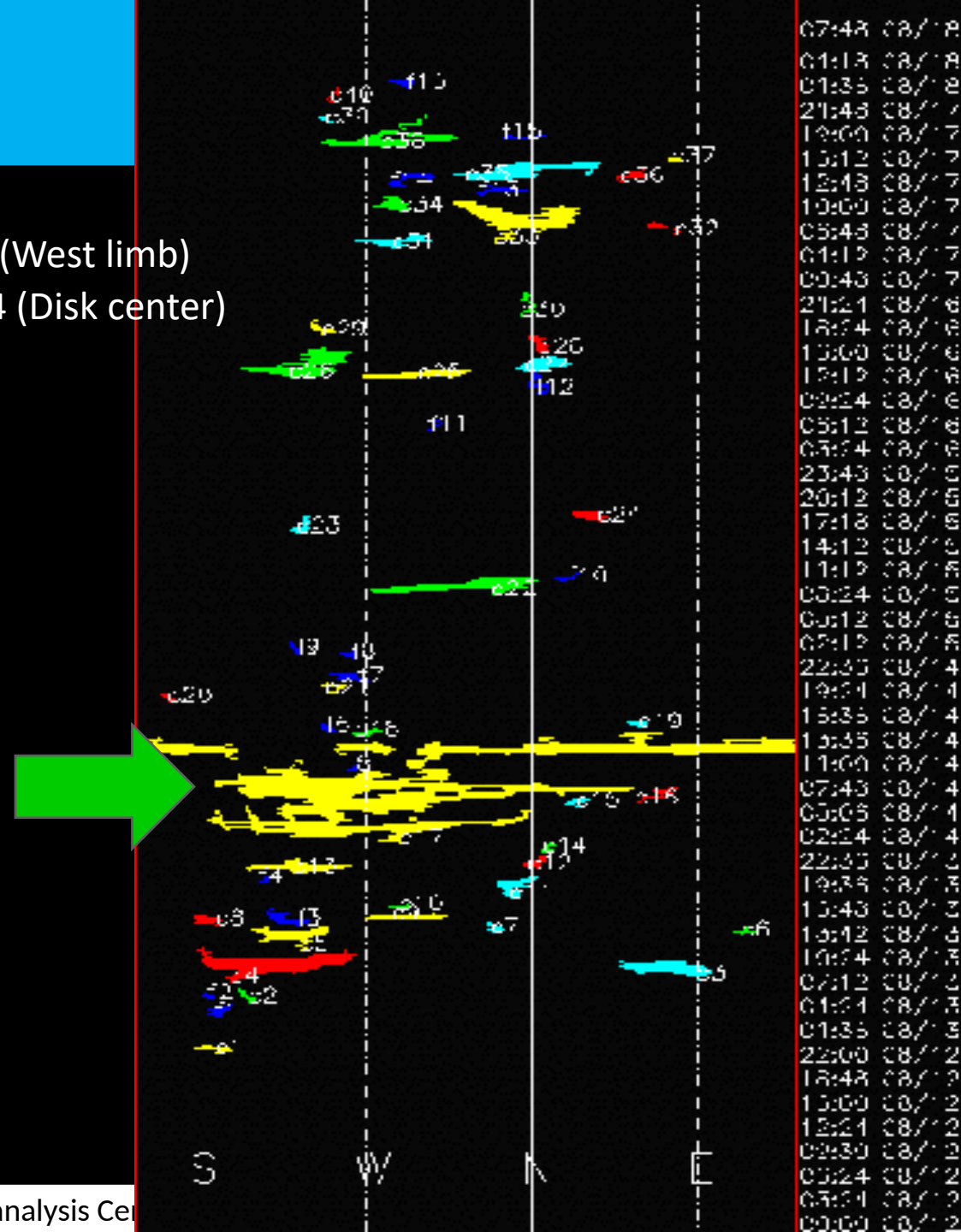
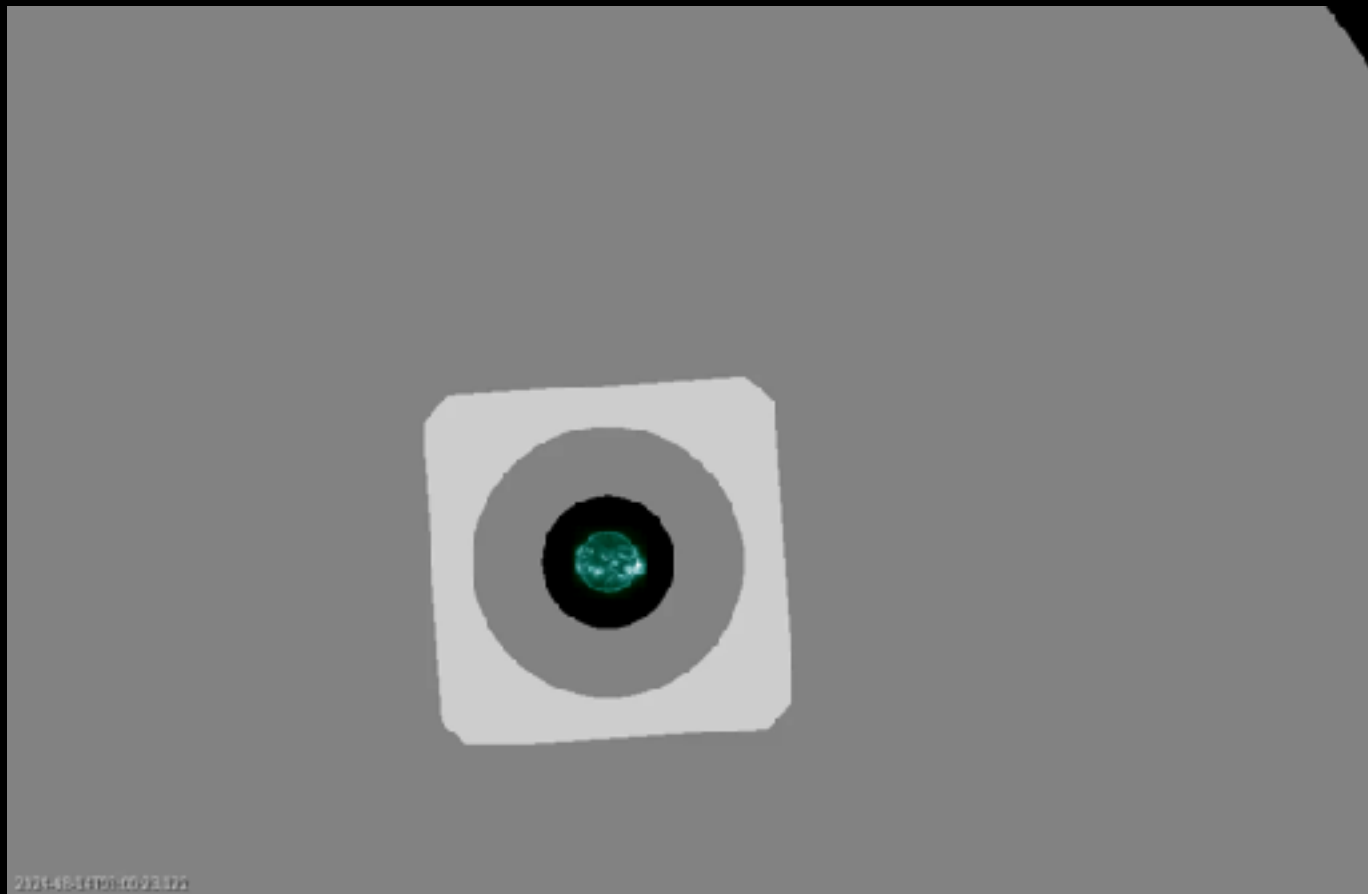
Solar X-Ray and UV flux



Coronal Mass Ejections

First CME around 04:50 UTC Aug 14 – M4.44-flare and NOAA AR 3777 (West limb)

Second CME around 09:50 UTC Aug 14 – X1.11-flare and NOAA AR 3784 (Disk center)



Solar Wind and

Geomagnetic Activity



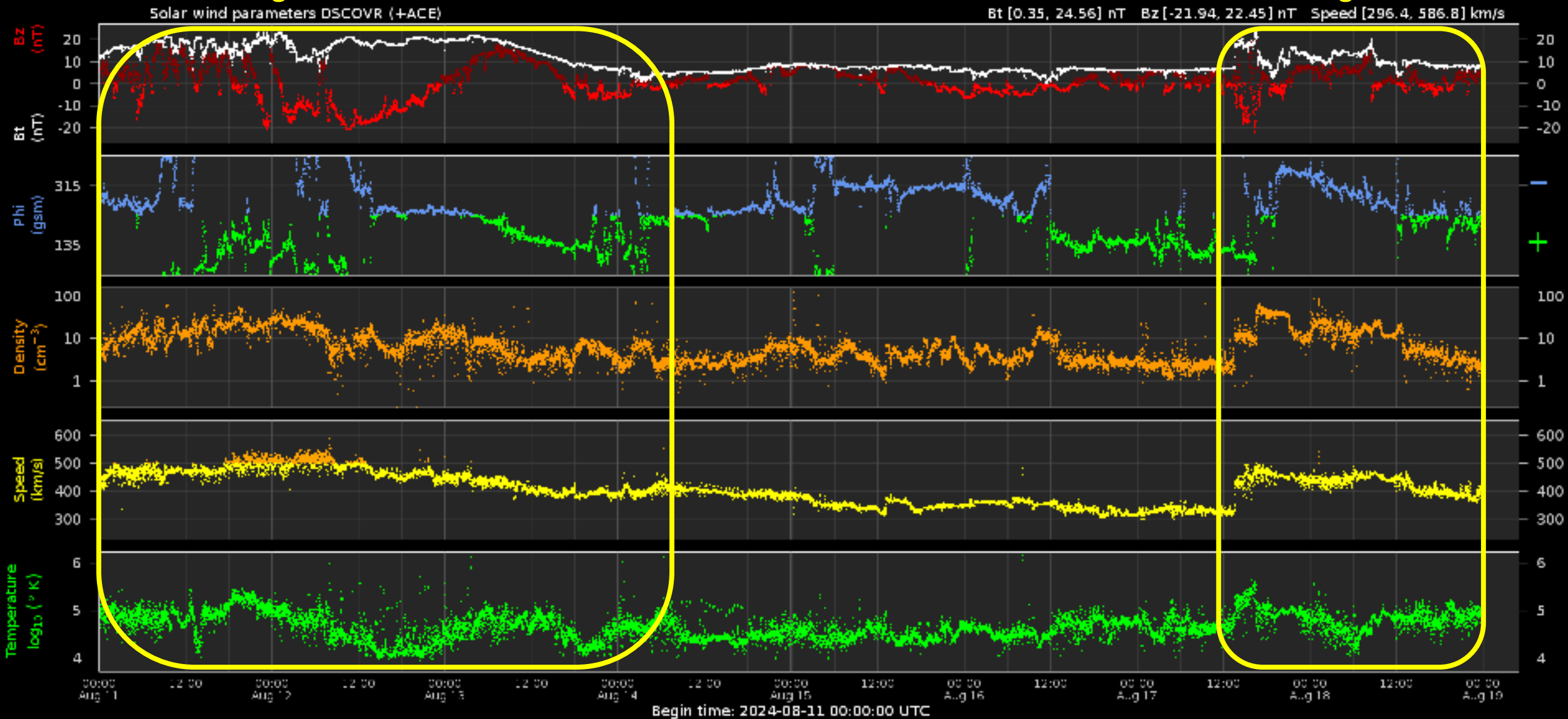
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Solar wind parameters

CMEs from 7-8 August

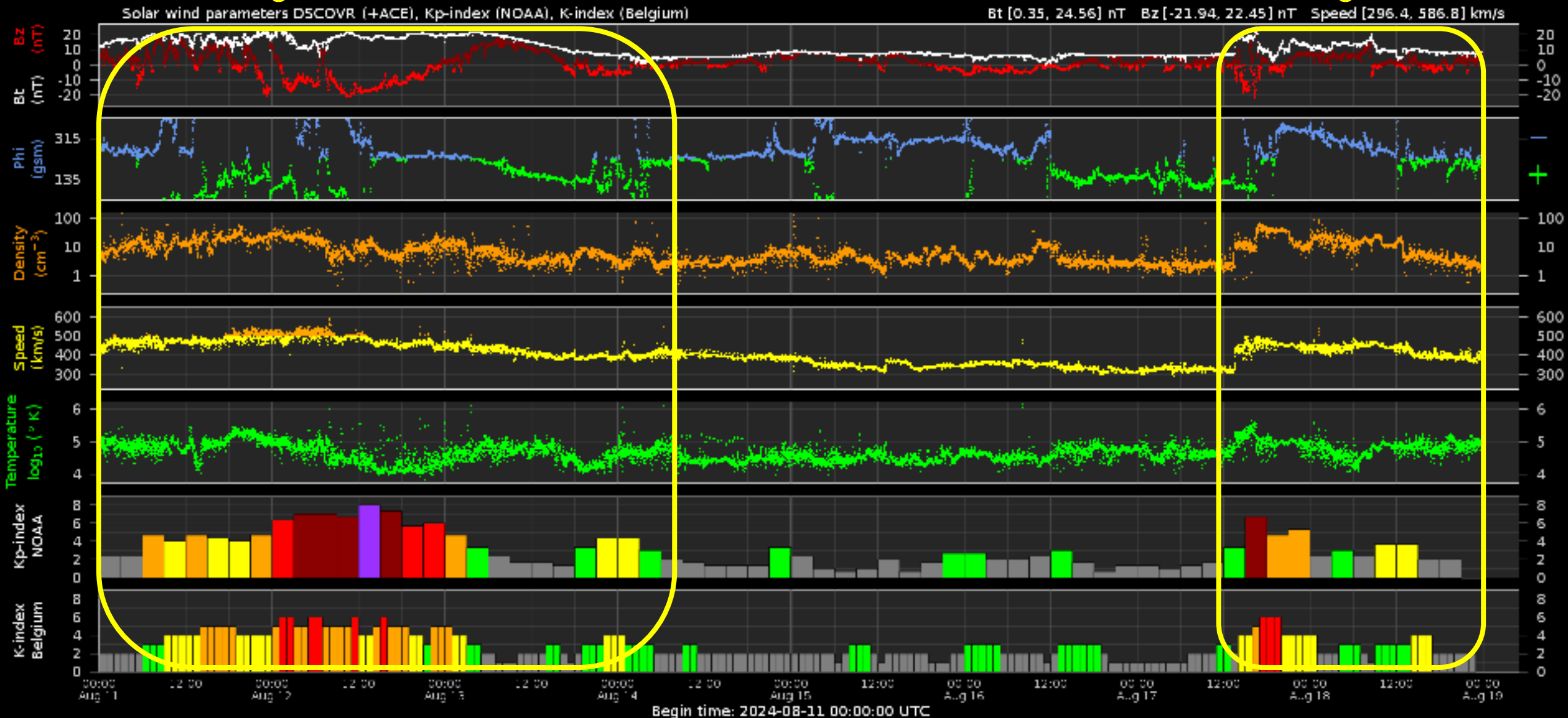
CME 14 August



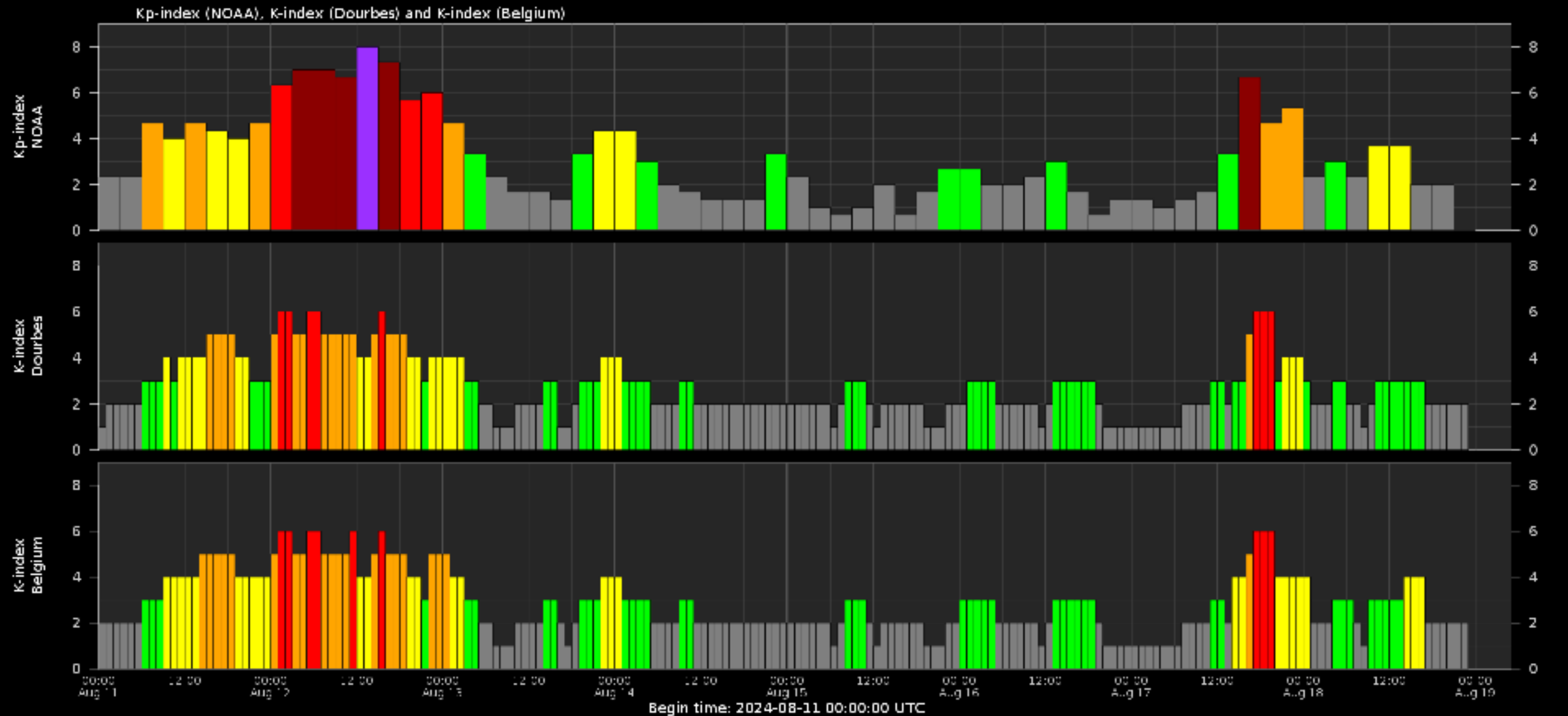
Solar wind parameters & K-indices

CMEs from 7-8 August

CME 14 August



Geomagnetic activity (K-indexes)



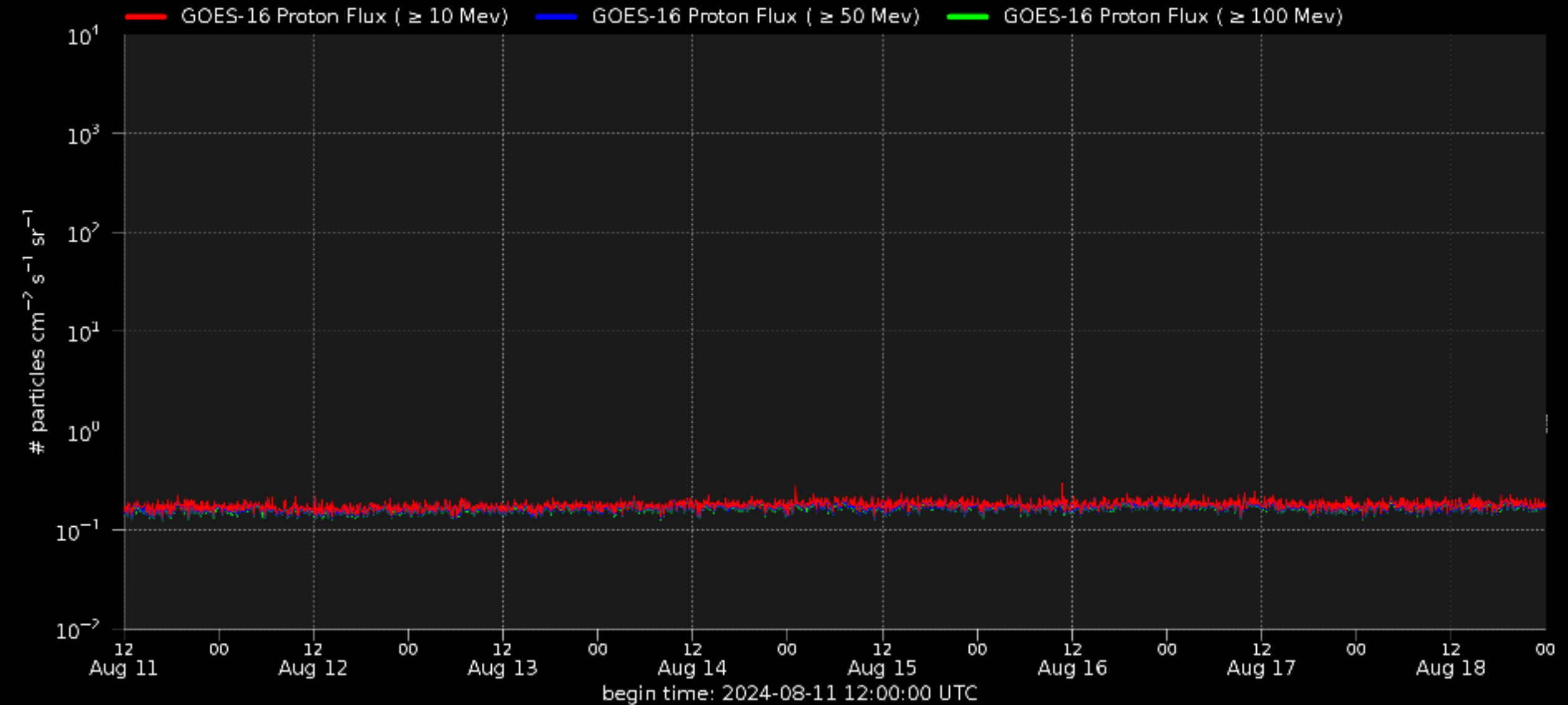
Energetic Particles



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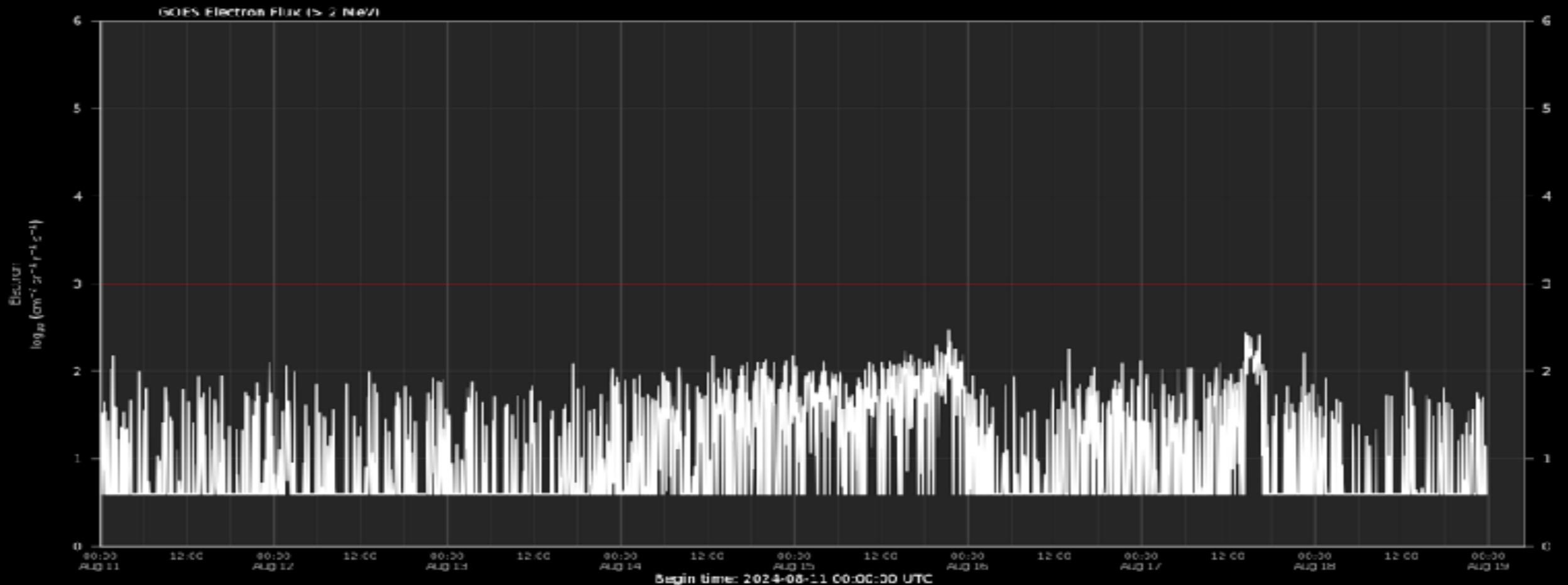
Solar proton flux



Electron flux at GEO

www.stce.be/educational/classification#electrons

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



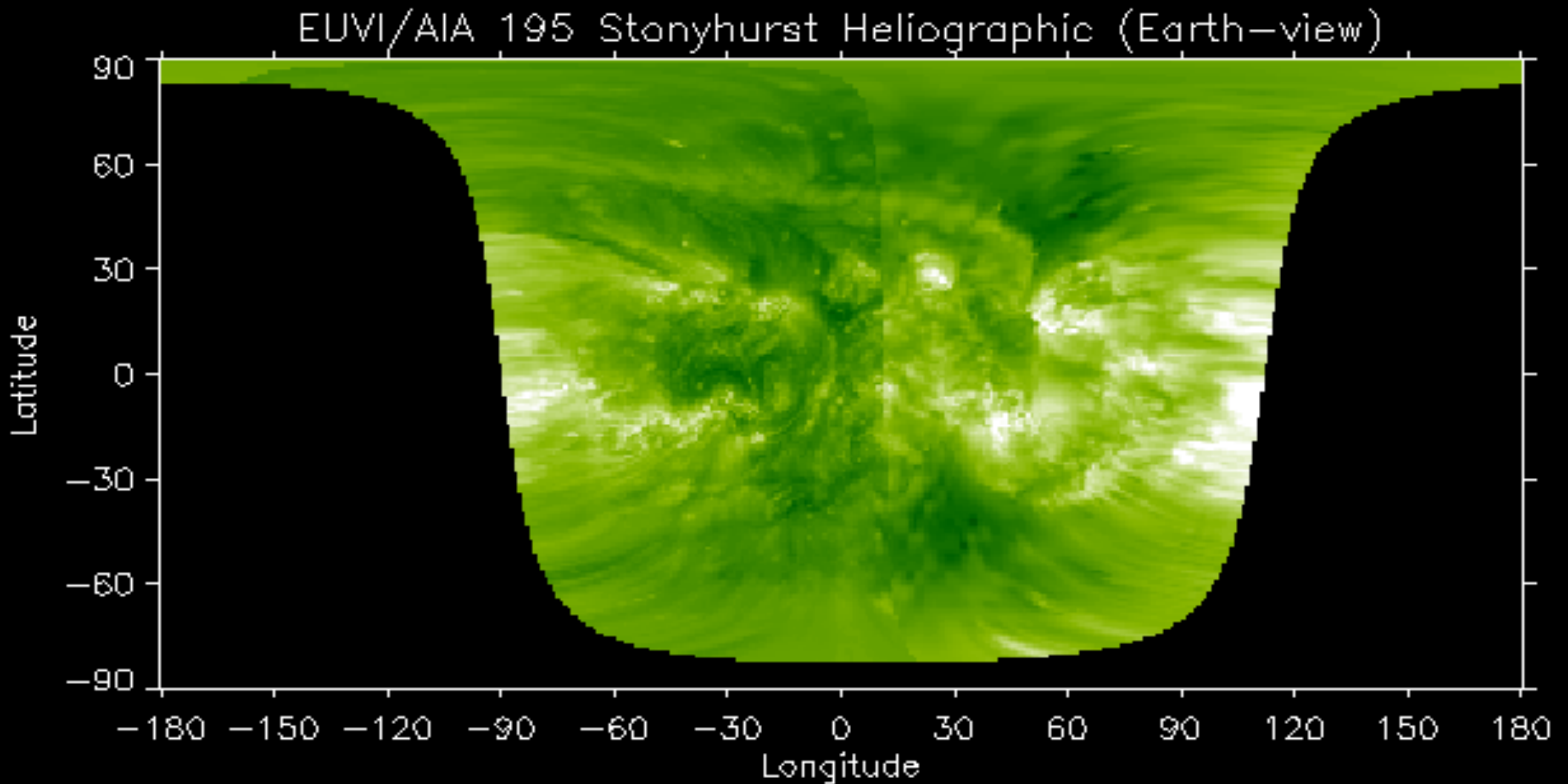
Outlook



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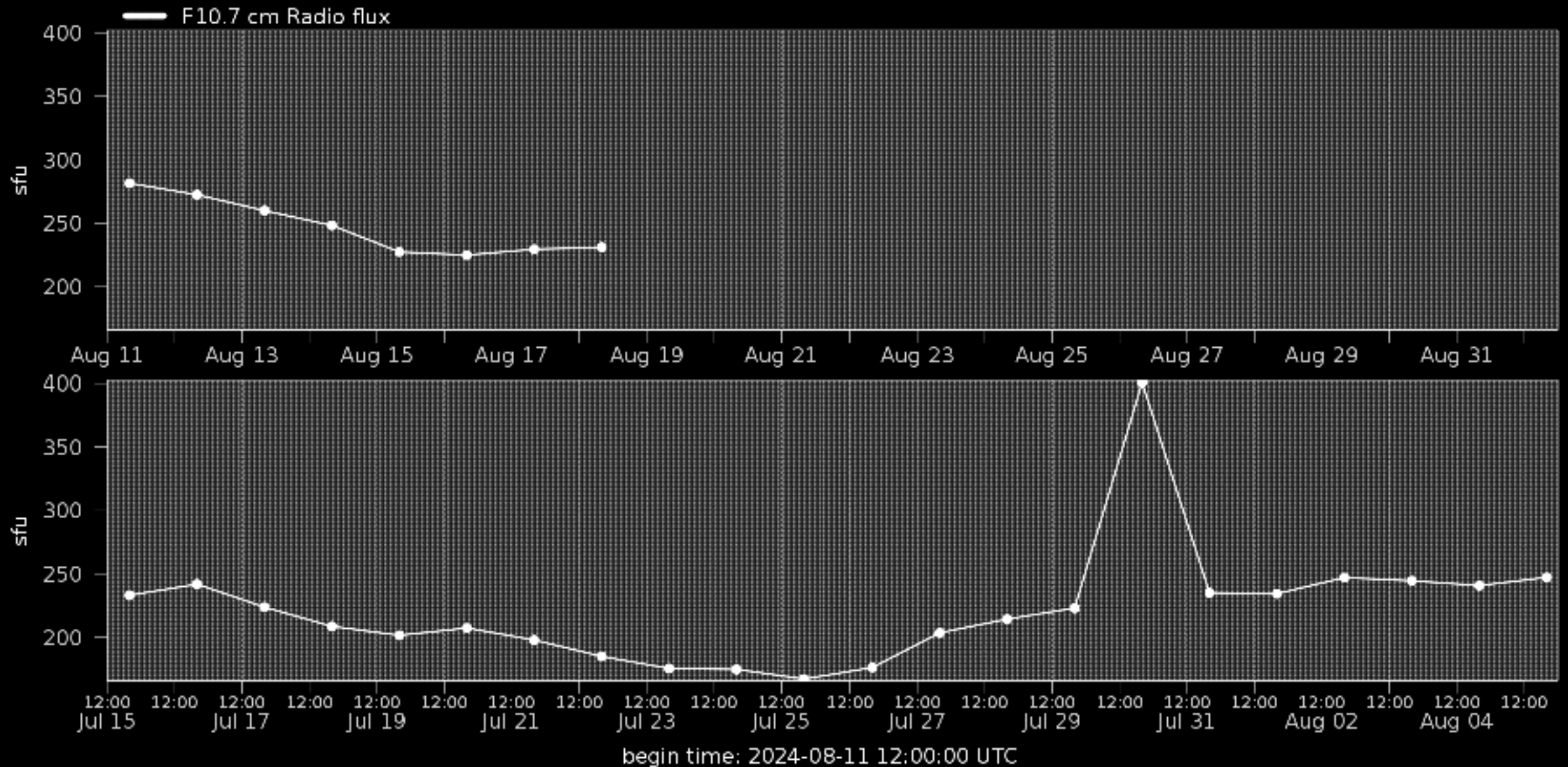
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Outlook: Solar activity

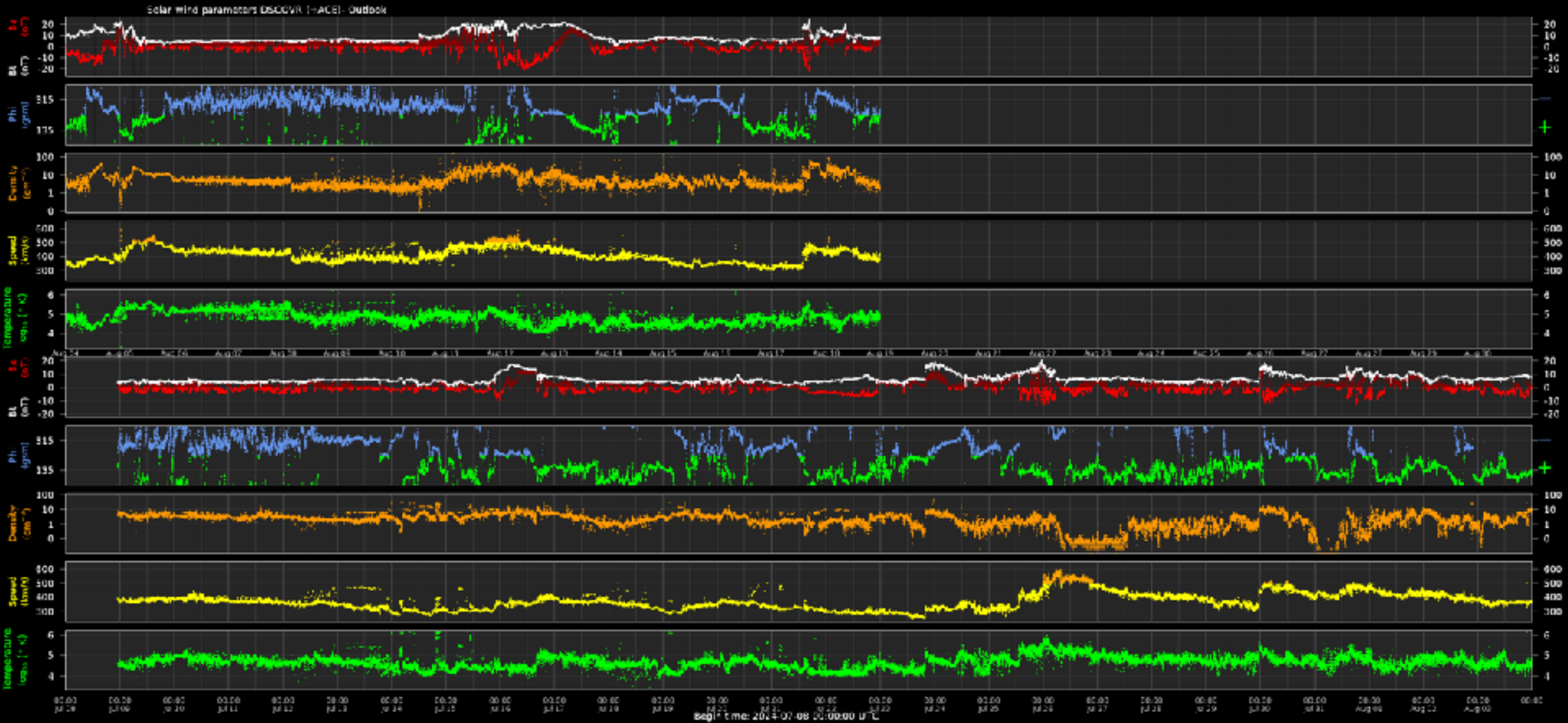


Observation date: 2024/08/18 23:35:00

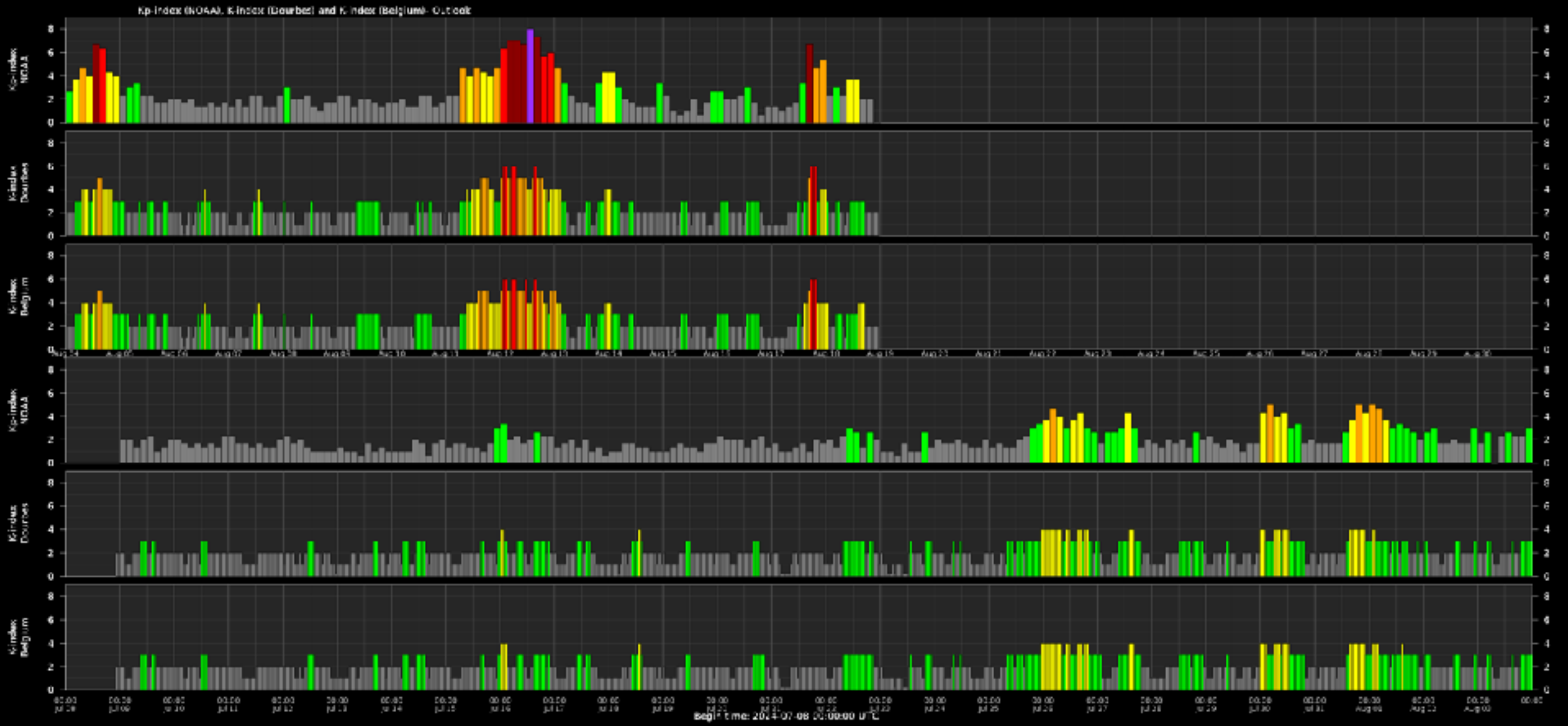
Outlook: Solar F10.7cm radio flux



Outlook: Solar wind parameters



Outlook: Geomagnetic activity



Outlook: Electron Flux at GEO Outlook



PECASUS



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Pegasus related events

Anything notable that is Pegasus related?

- GNSS: Scintillation advisories (Severe levels)
- HF COM:
 - PSD advisories up to severe levels due to high Kp at the beginning and end of the week
 - Auroral absorption due to Kp8 at the beginning of the week
 - Moderate Short wave fadeout due to X-class flare

SIDC Space Weather Briefing

See you at our next briefing!

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