SIDC Space Weather Briefing

28 August 2022-04 September 2022

Rodriguez Luciano
& the SIDC forecaster team

Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
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Summary Report

Solar activity from 2022-08-28 12:00 to 2022-09-04 23:59

Active regions	NOAA ARs 3085, 3086, 3087, 3088, 3089, 3090, 3091, 3092, 3093, 3094
Flares	# C-class flare: 49 # M-class flare: 8 # X-class flare: 0
Coronal Holes	Two: south polar CH (negative polarity) and an equatorial CH (positive polarity)
CMEs	Several from NOAA AR 3088, including a full halo CME (backsided). One from a filament eruption in the southeast

Proton flux	Below threshold
Electron flux	Elevated at the end of the week

Solar wind and geomagnetic conditions

ICMEs	Three arrivals to Earth (shocks/glancing blows). One expected today, with low probability
Solar wind conditions	|B|: 0.69 - 15.02 nT //Bz: -12.06 nT to 11.53 nT //Speed: 380.1 - 686.9km/s
K-indices	max K-index (K_Dourbes): 5 max Kp-index (NOAA): 6

All Quiet Alert: Off

Solar Activity

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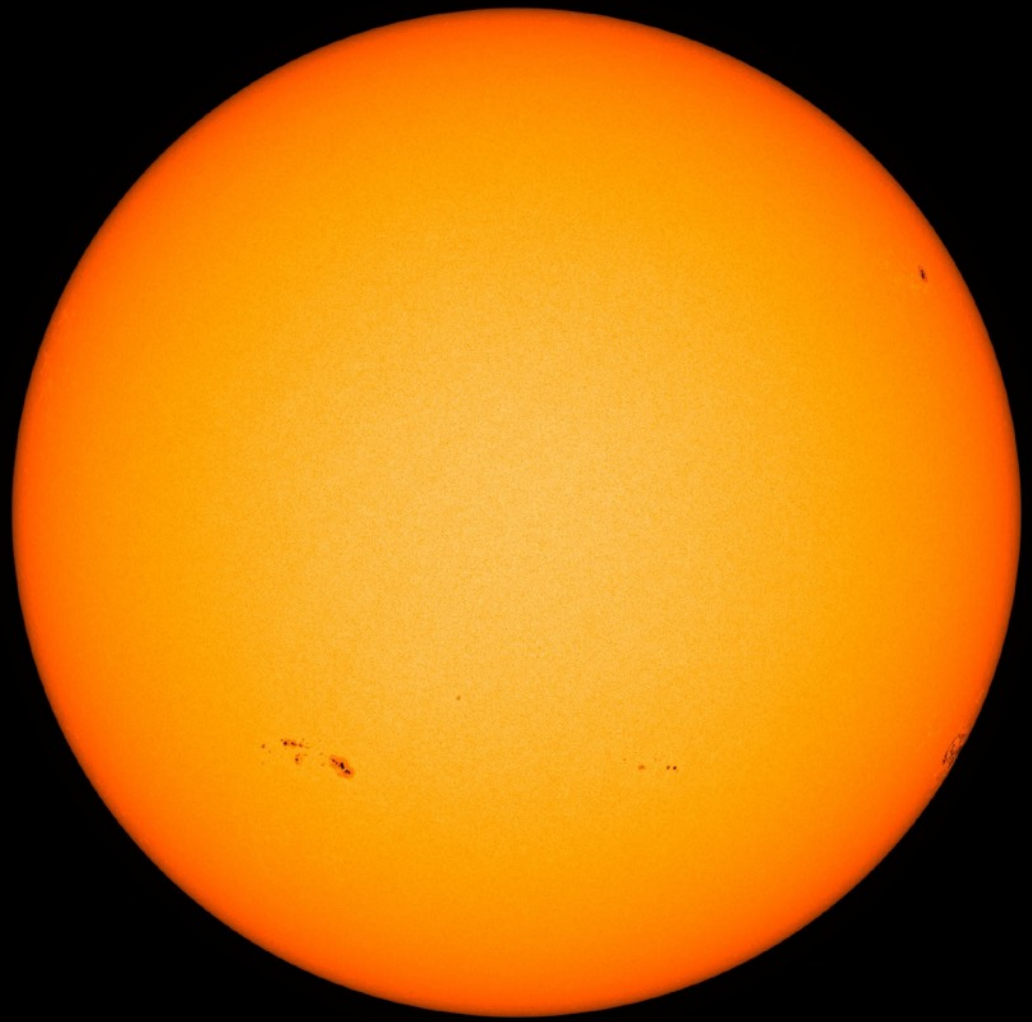
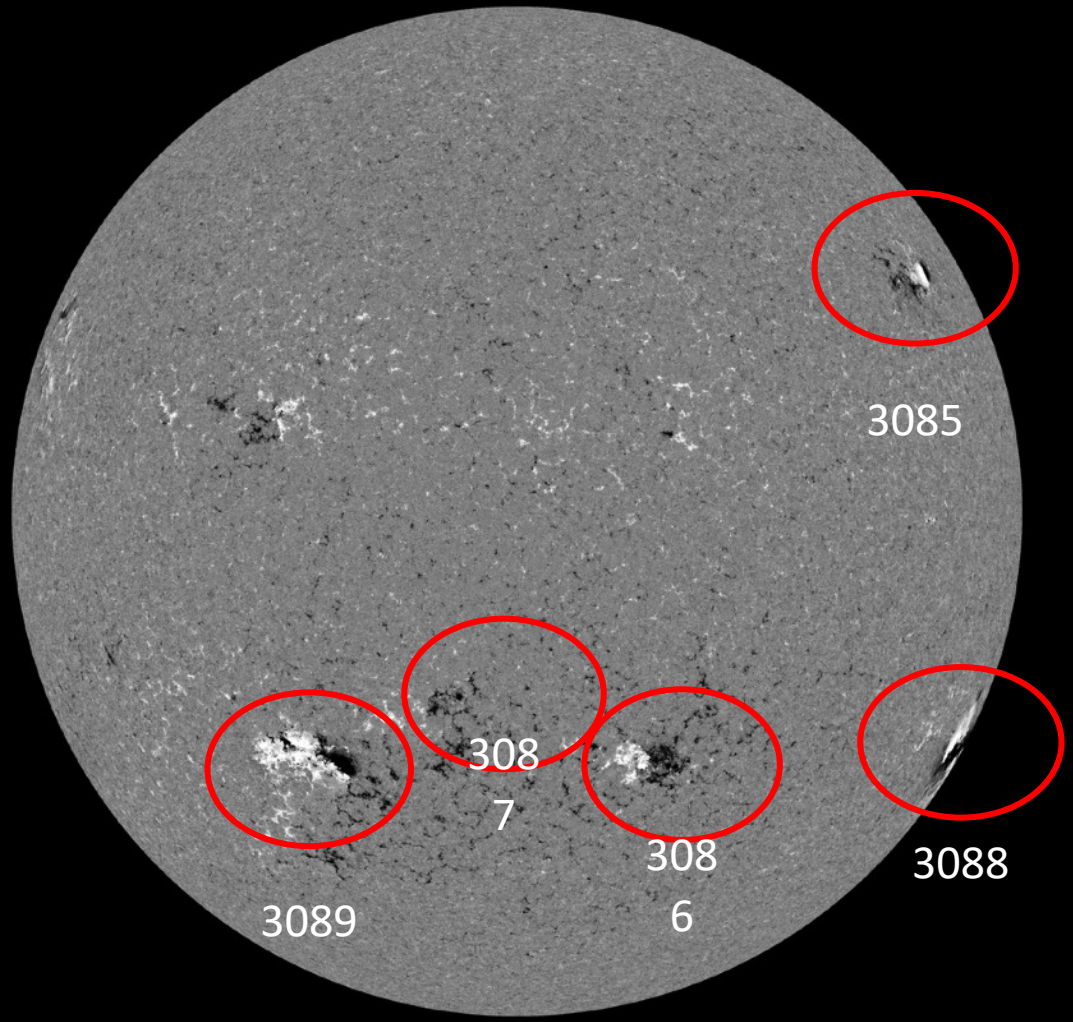
Solar active regions

SDO/HMI White Light 2022-08-28

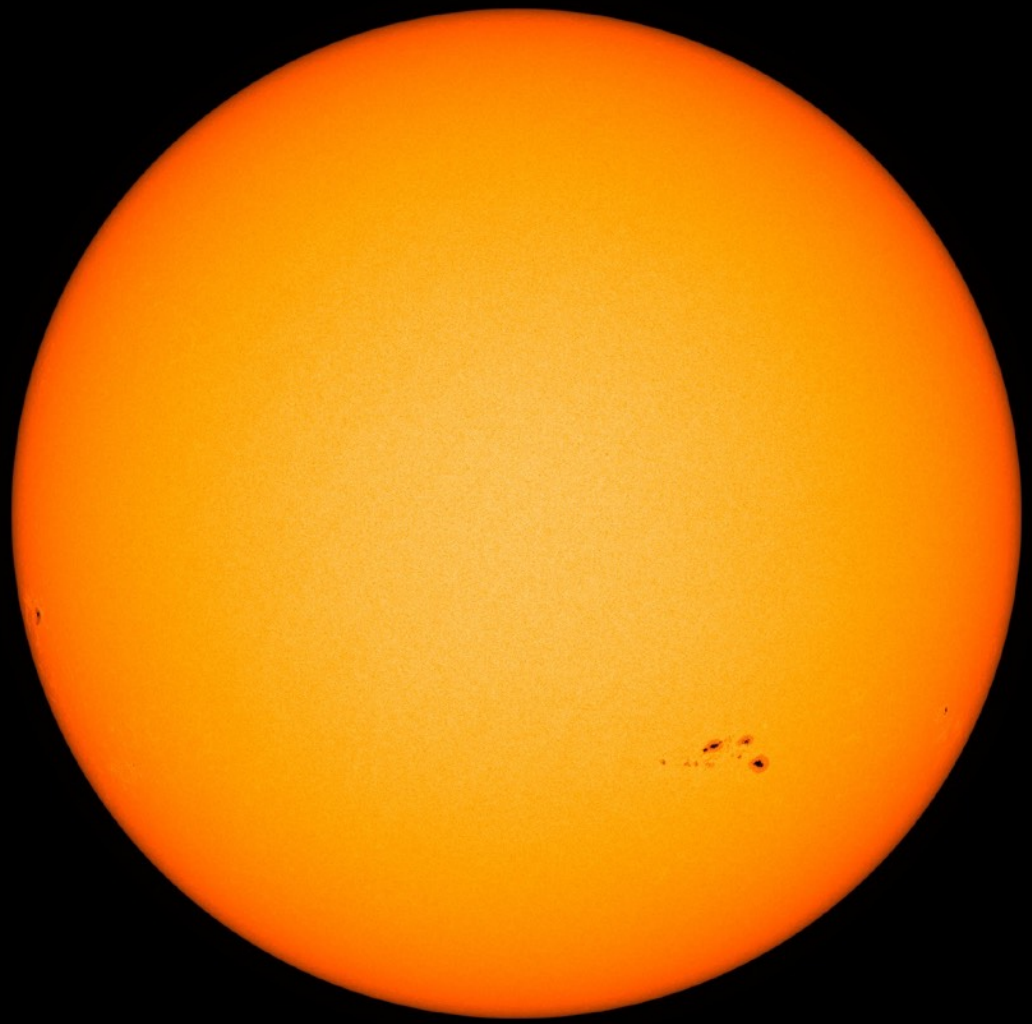


SDO/HMI Magnetogram 2022-08-28

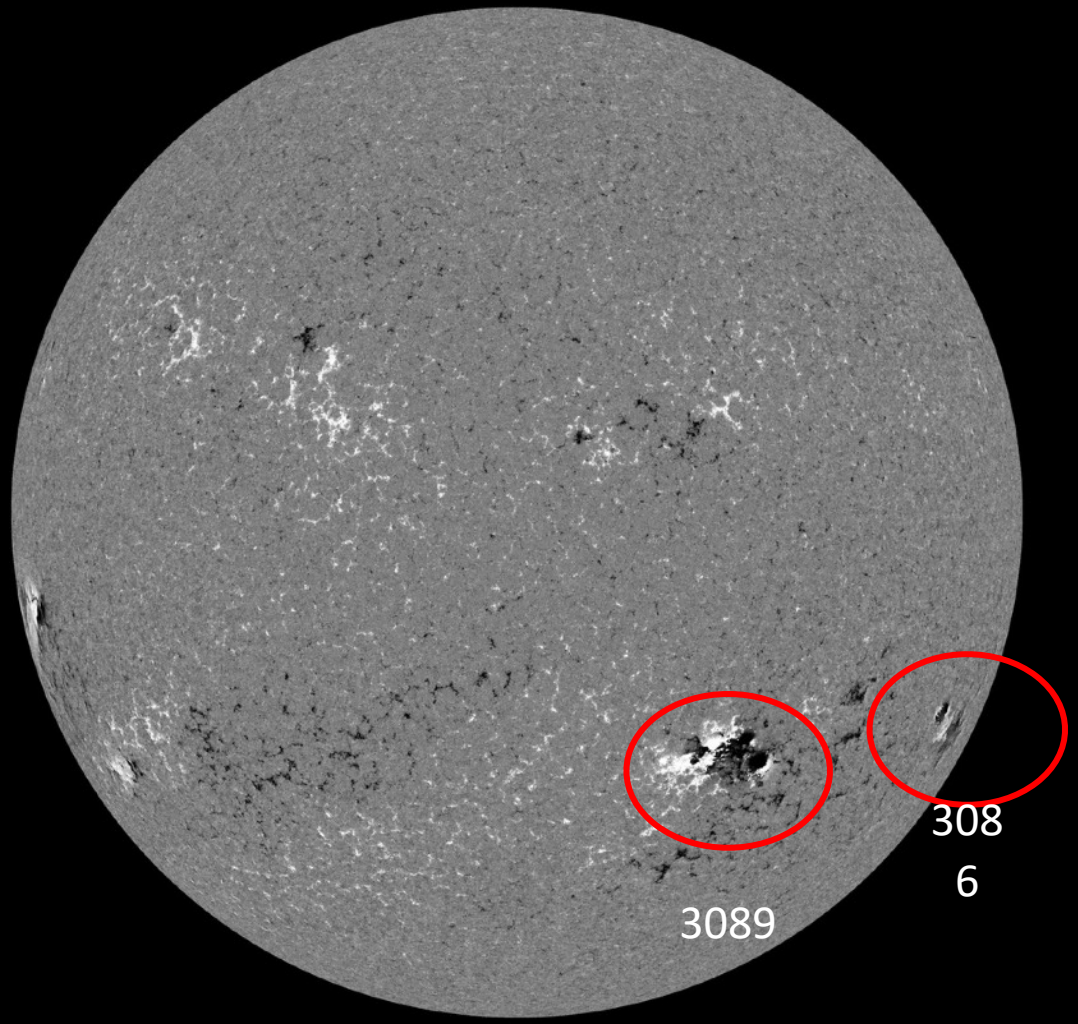


Solar active regions

SDO/HMI White Light 2022-09-01

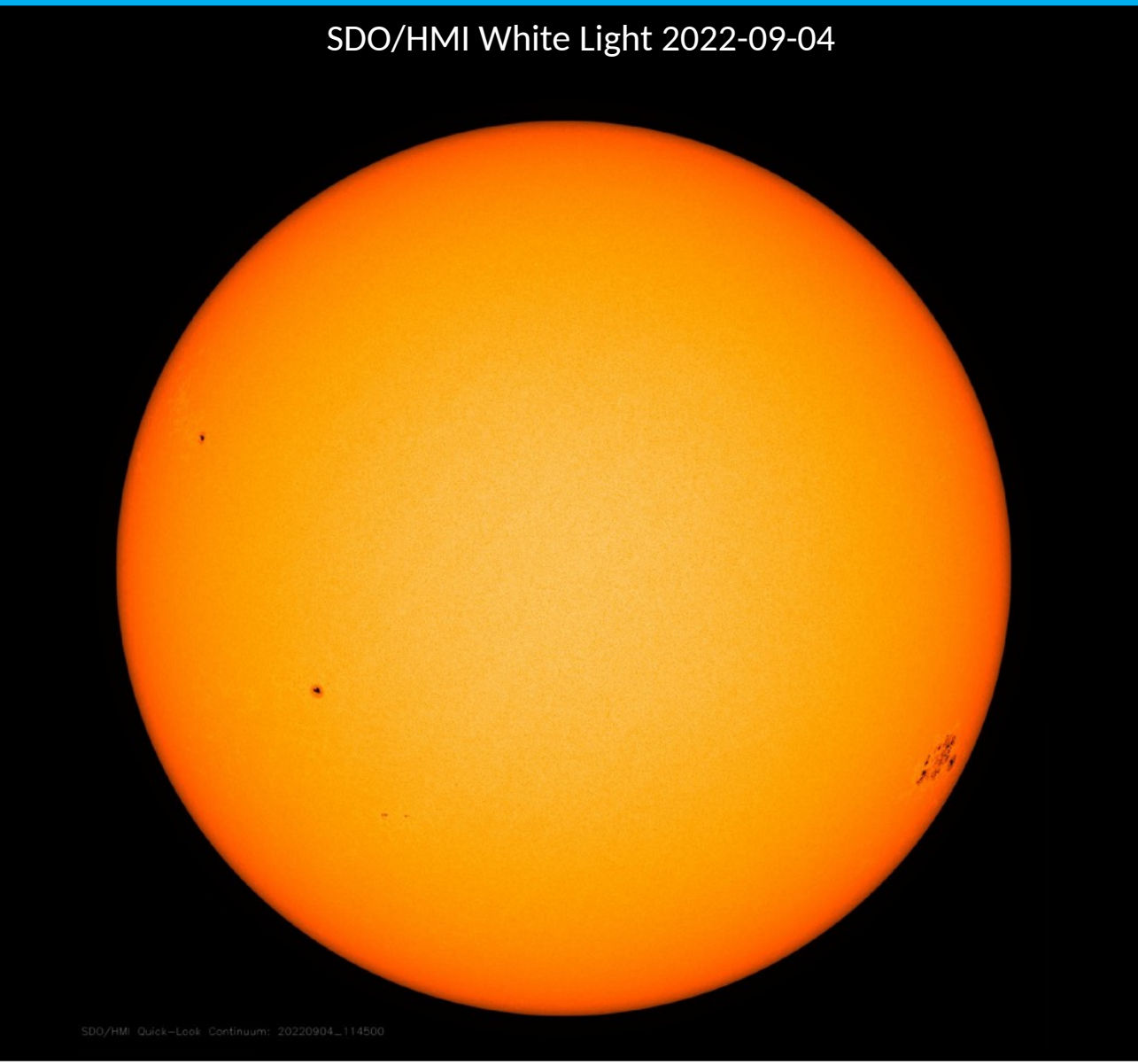


SDO/HMI Magnetogram 2022-09-01

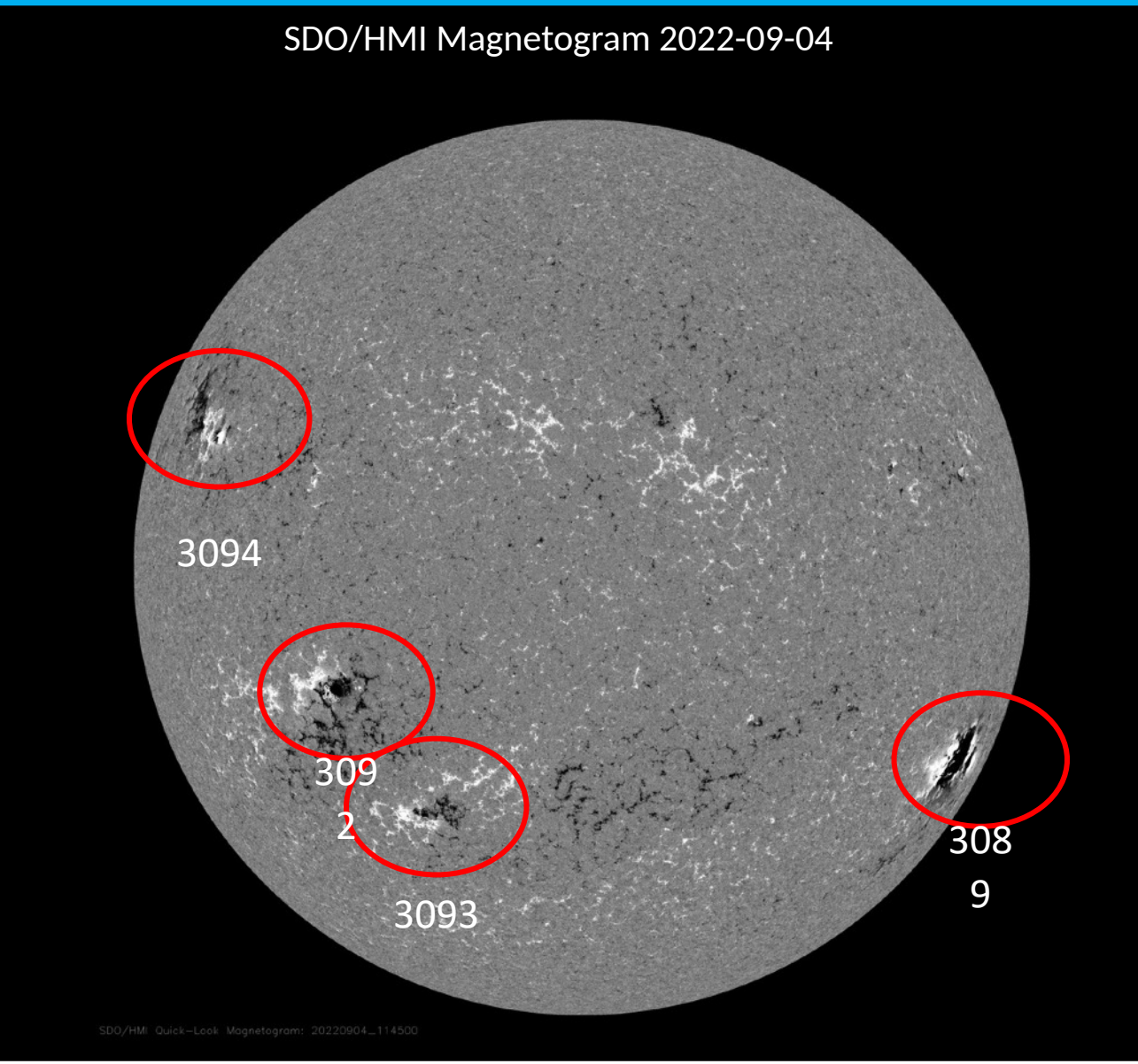


Solar active regions

SDO/HMI White Light 2022-09-04

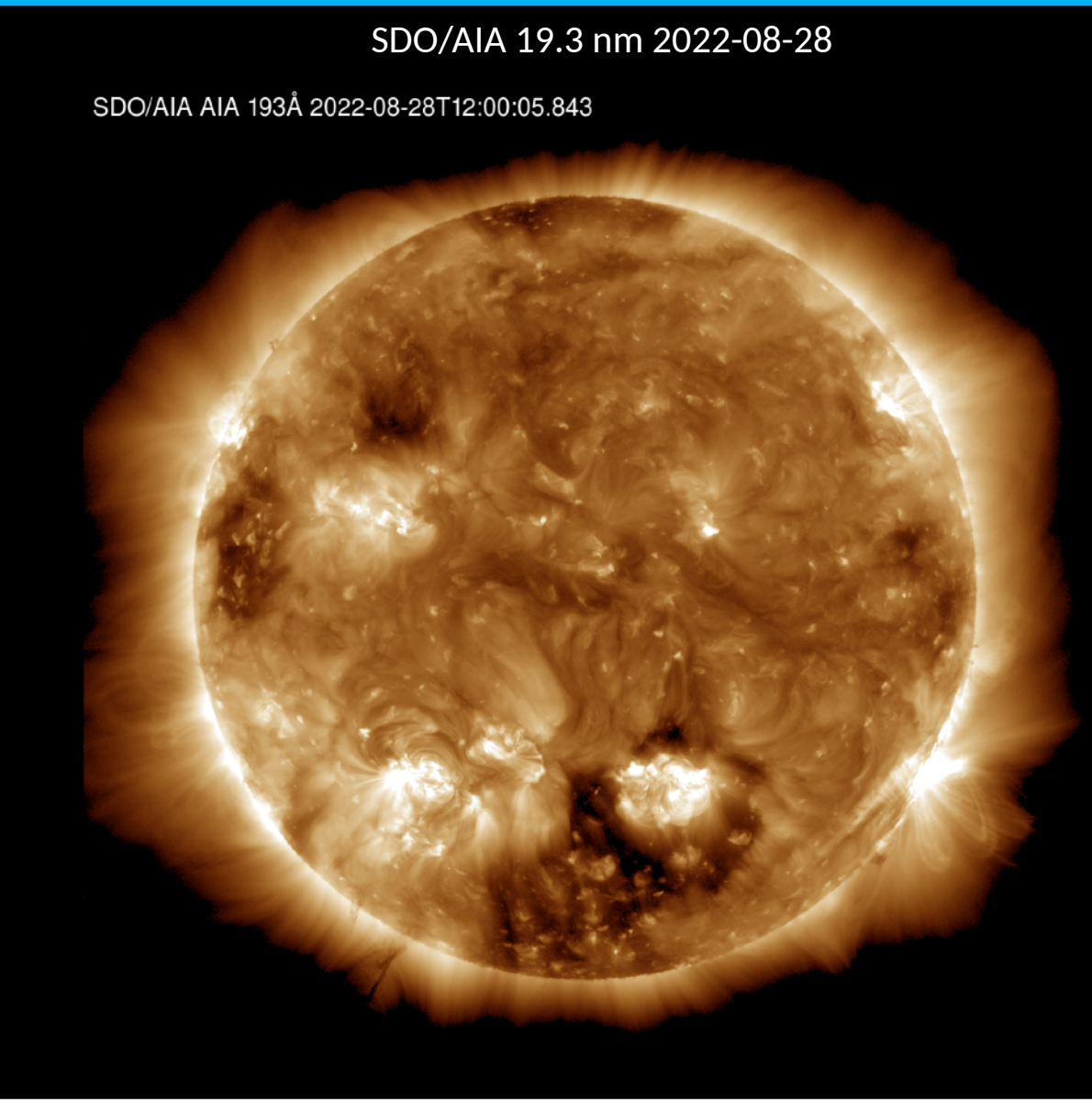


SDO/HMI Magnetogram 2022-09-04

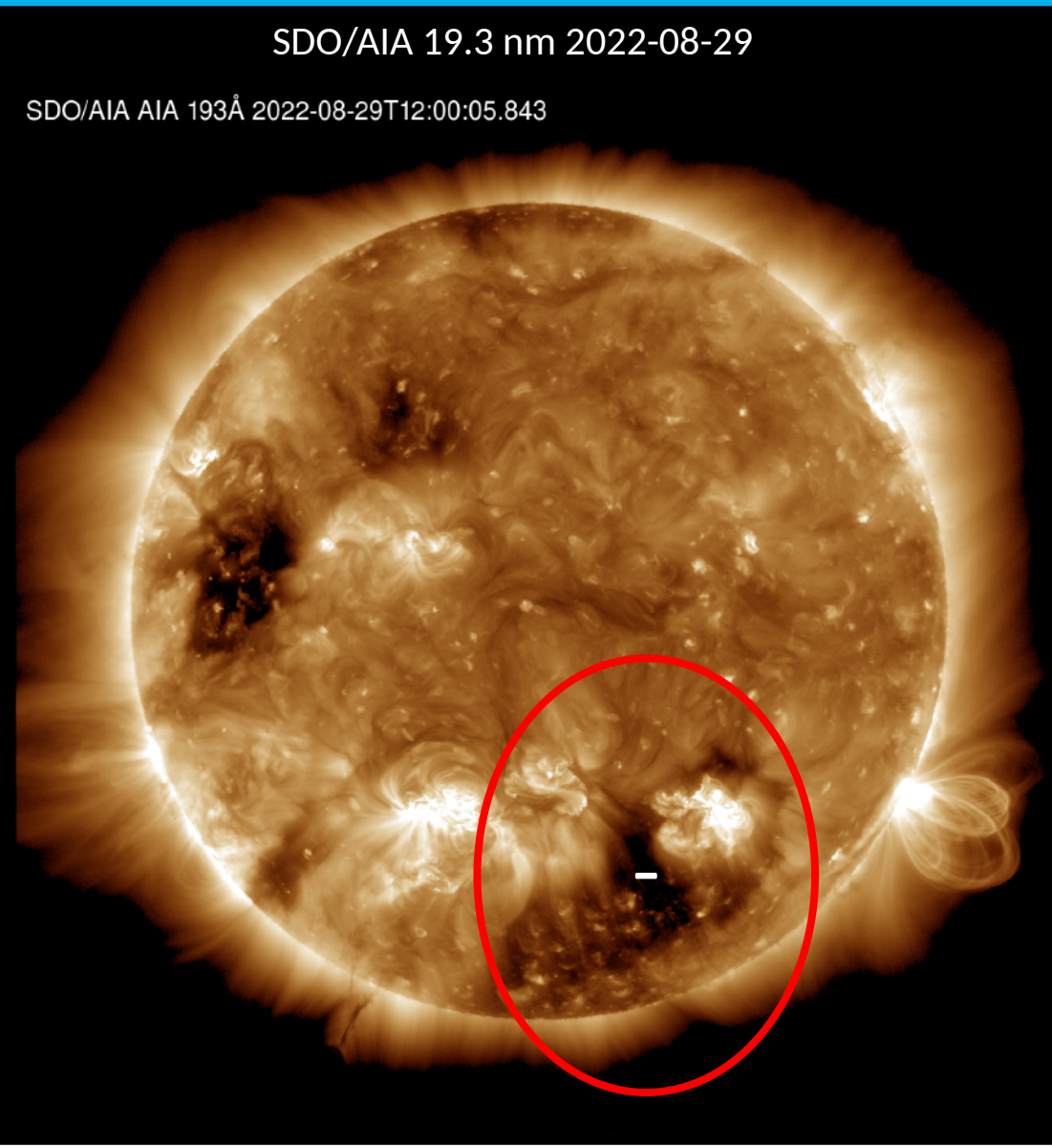


Coronal holes

SDO/AIA 19.3 nm 2022-08-28

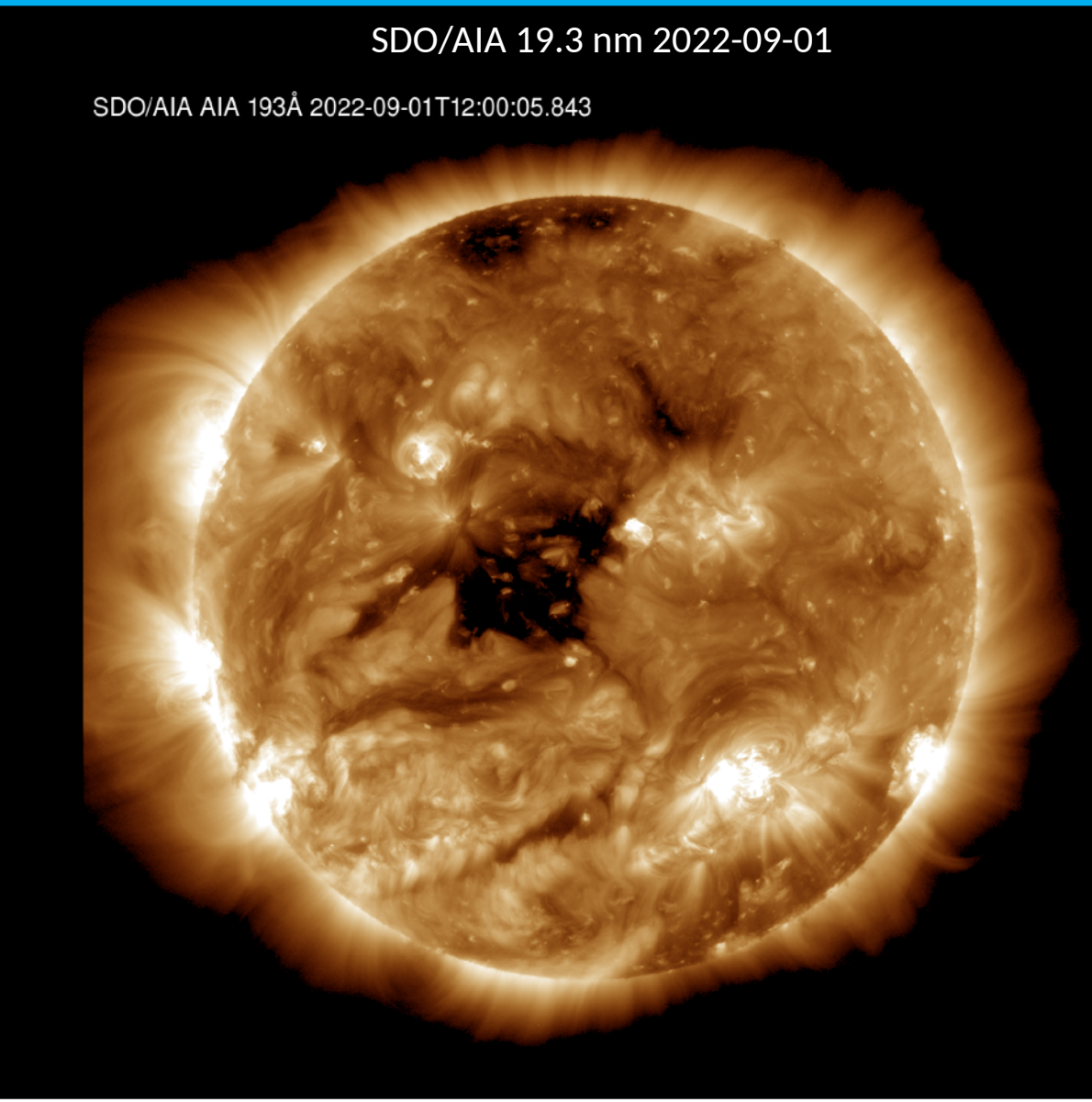


SDO/AIA 19.3 nm 2022-08-29

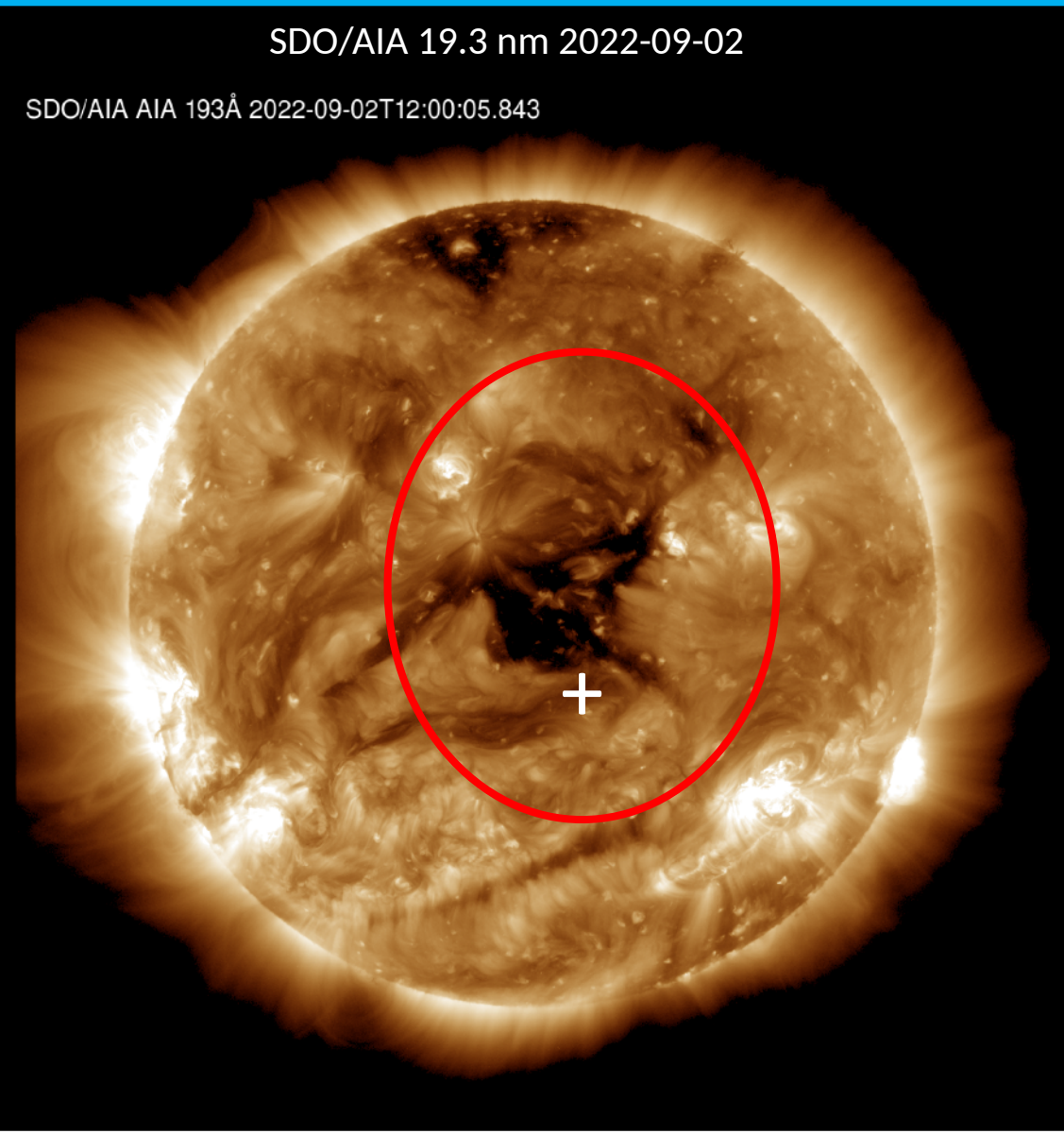


Coronal holes

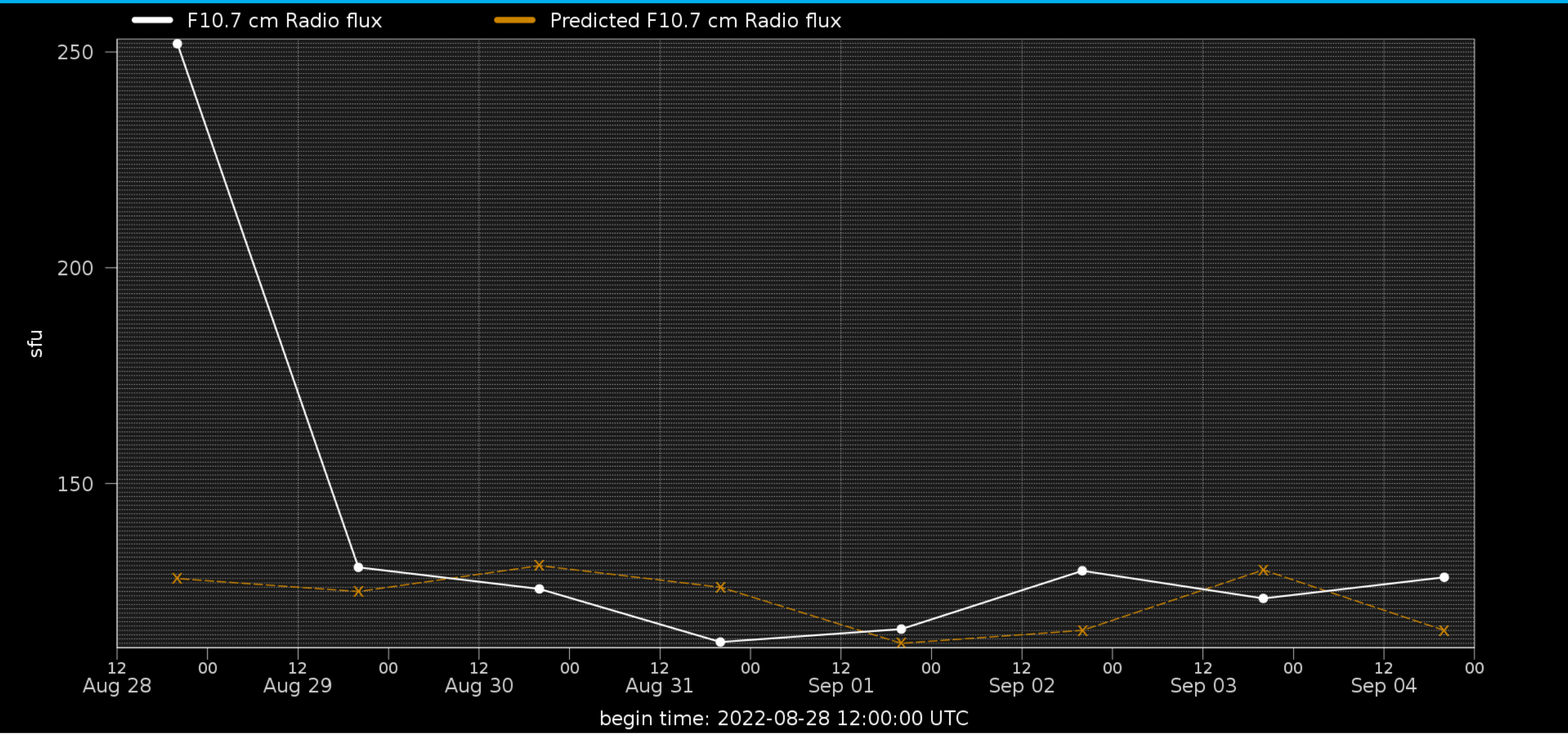
SDO/AIA 19.3 nm 2022-09-01



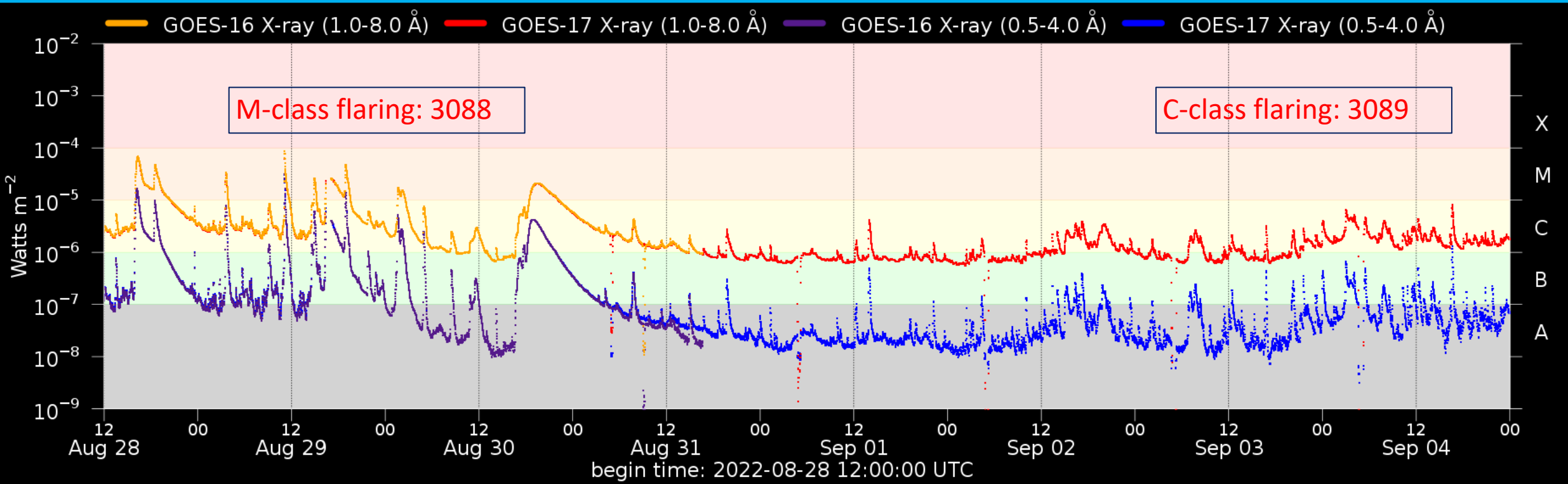
SDO/AIA 19.3 nm 2022-09-02



Solar F10.7cm radio flux



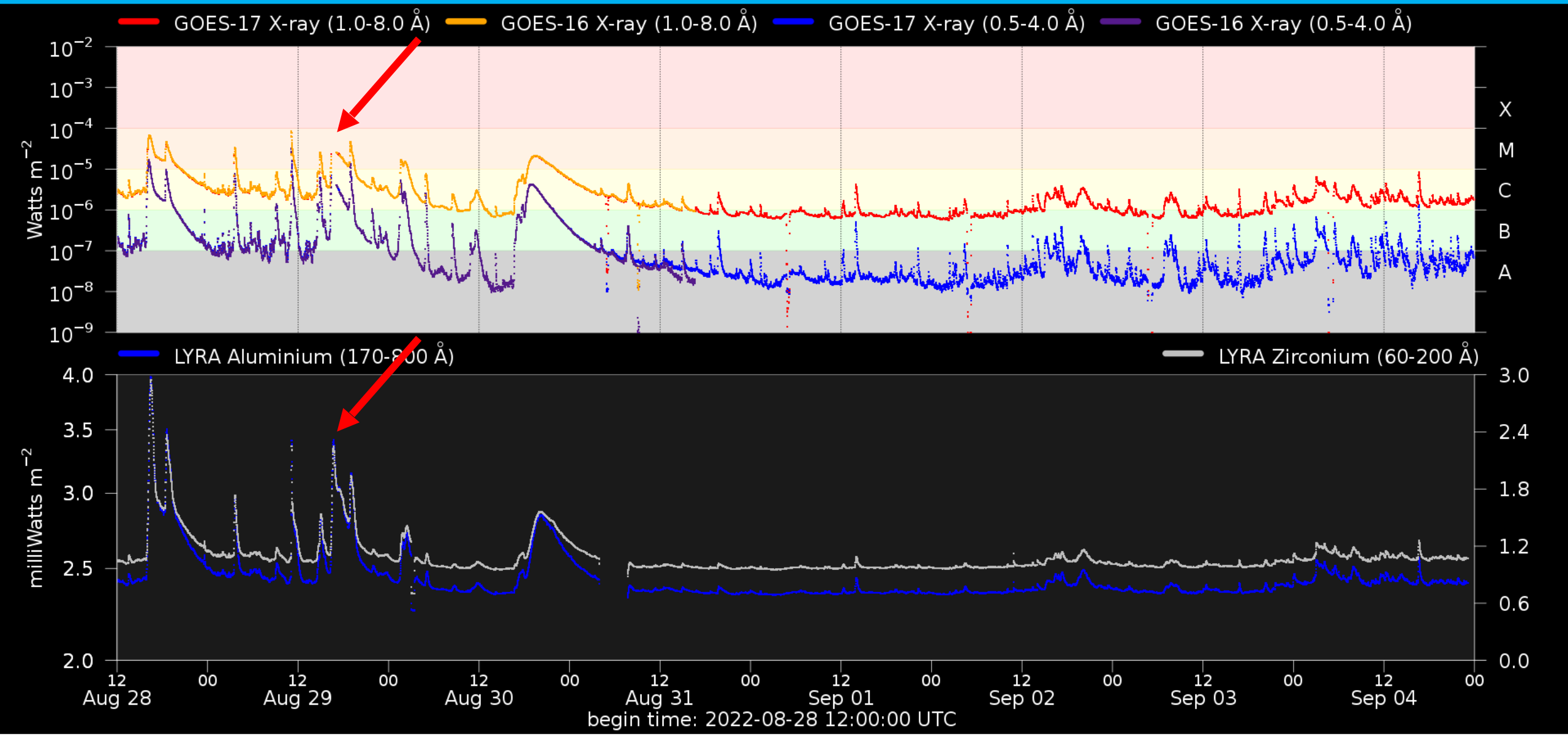
Flaring activity



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

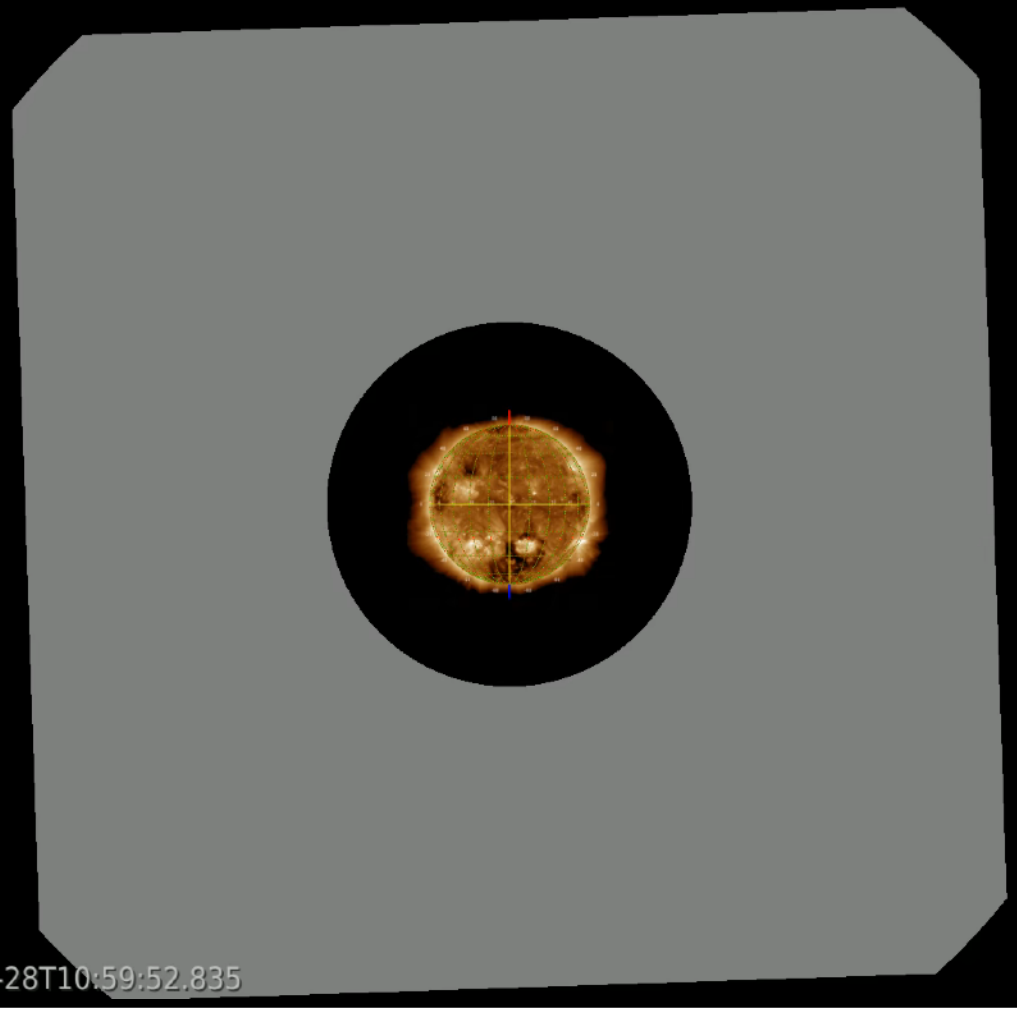
Issue date	2022-08-28	2022-08-29	2022-08-30	2022-08-31	2022-09-01	2022-09-02	2022-09-03	2022-09-04
Probability (%)	97|40|10	95|65|25	80|50|10	70|20|01	65|20|05	65|15|03	85|30|10	80|25|05
Observed (#)	05|04|00	04|04|00	02|00|00	05|00|00	07|00|00	06|00|00	14|00|00	06|00|00

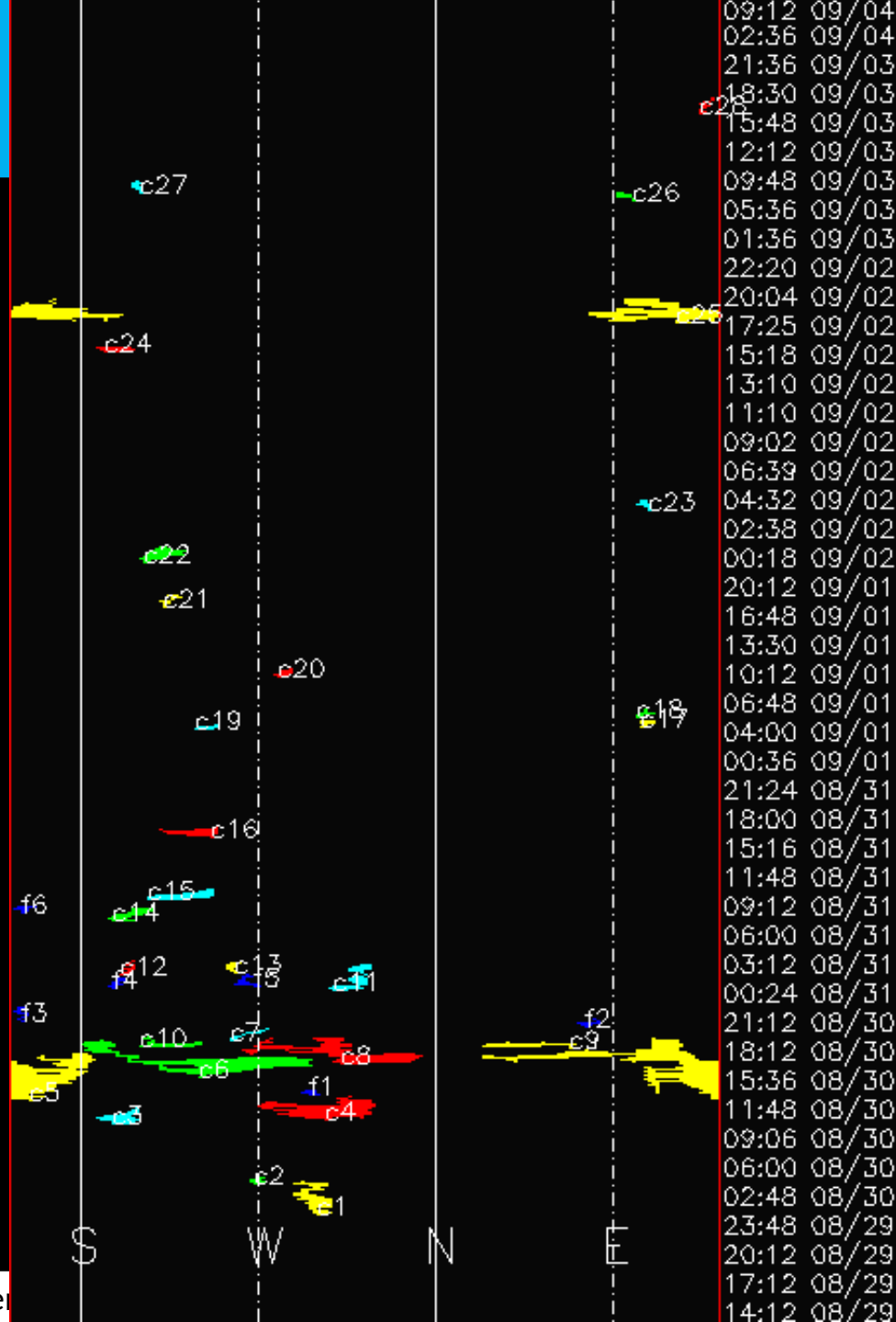
Solar X-Ray and UV flux



Coronal Mass Ejections

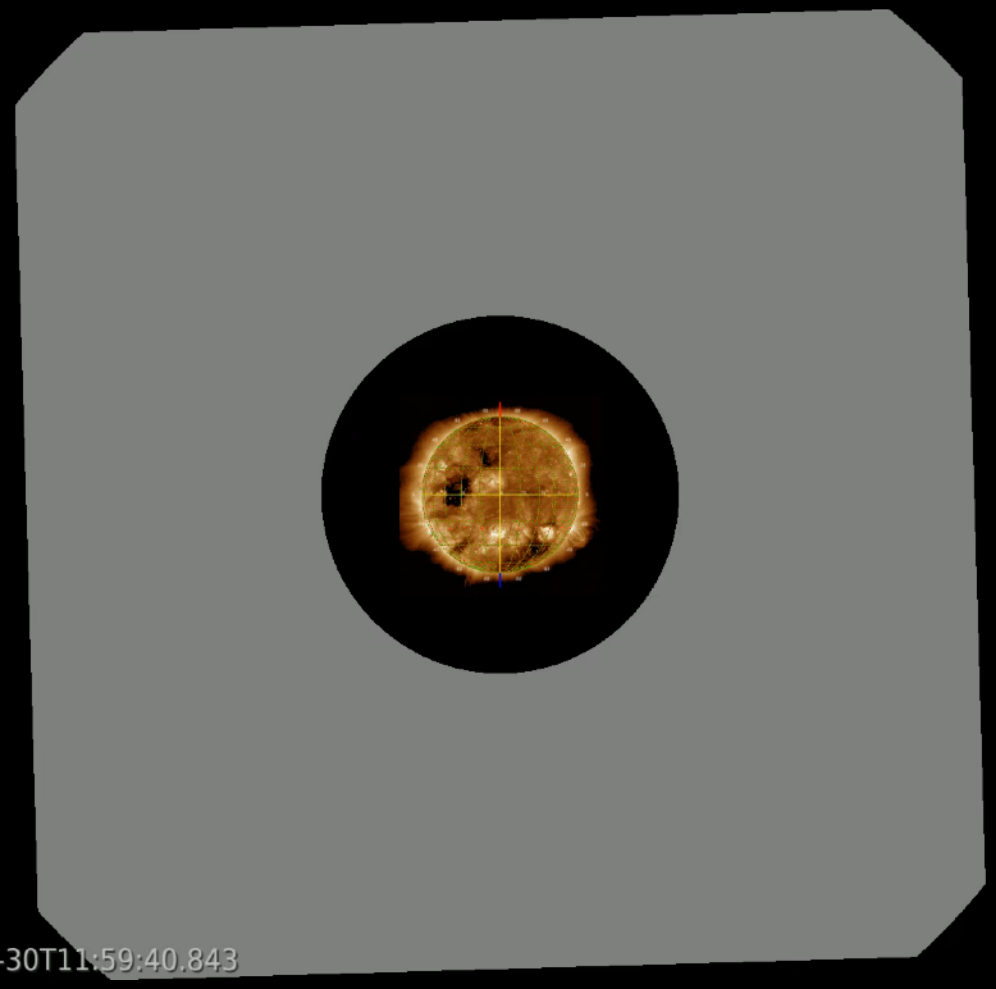
CME: 28 August – Earth arrival 31 August (only shock)

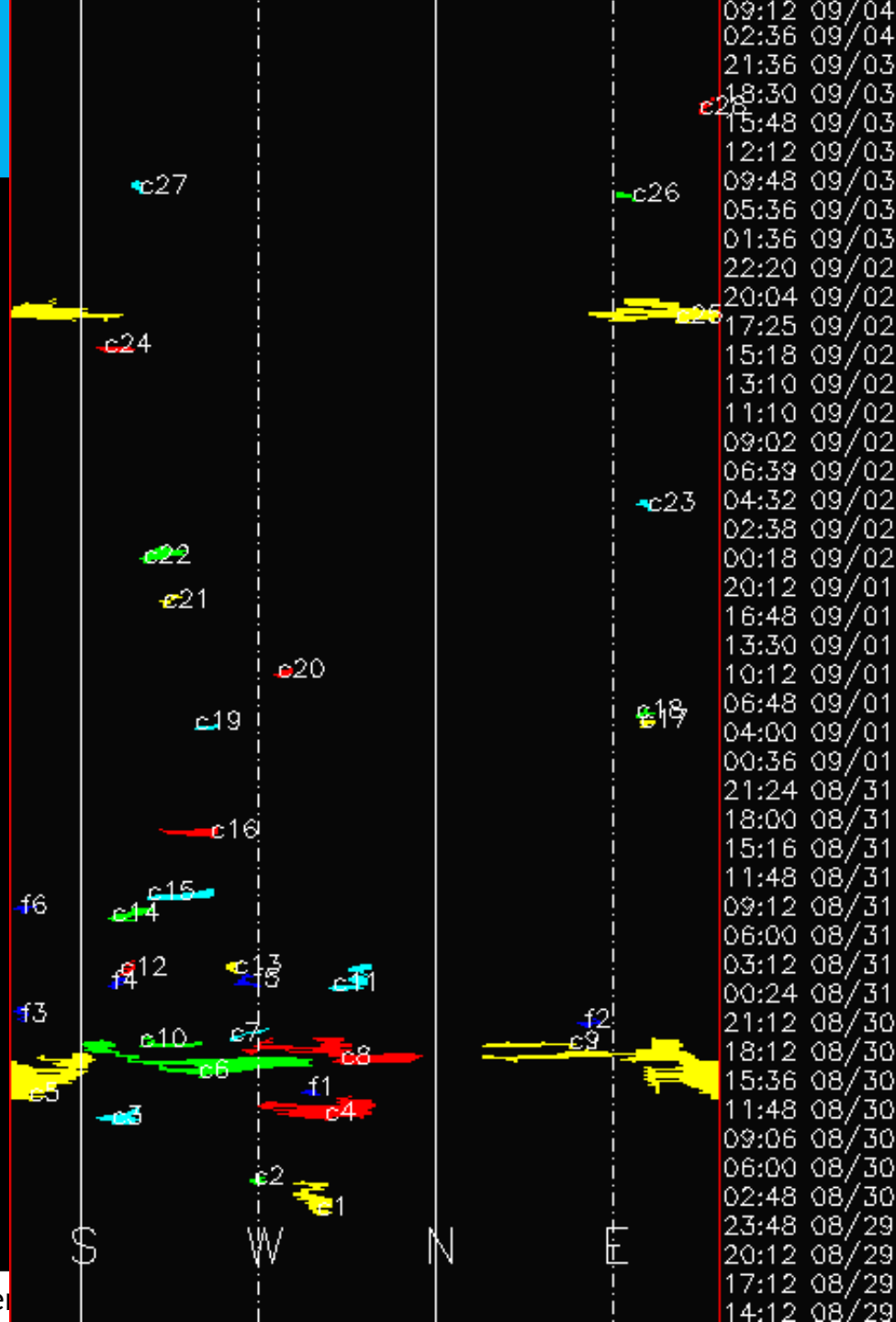




Coronal Mass Ejections

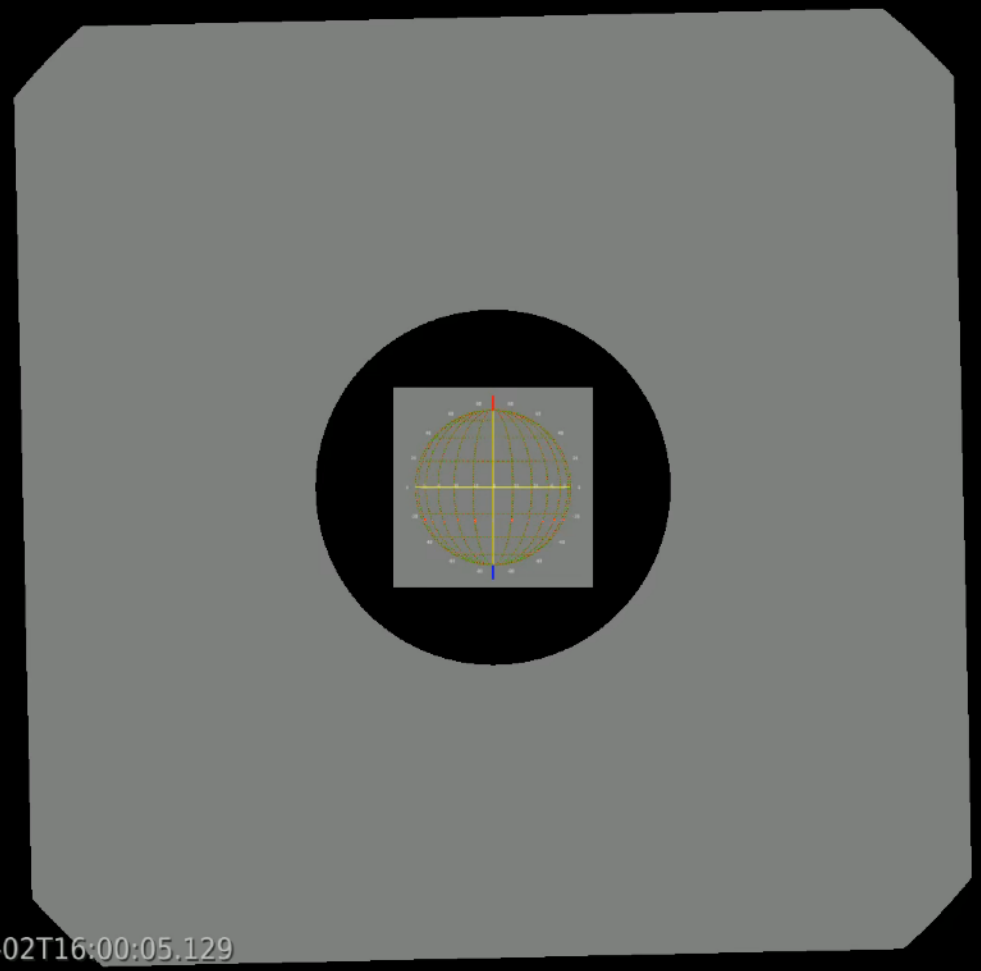
Halo CME: 30 August – No Earth arrival

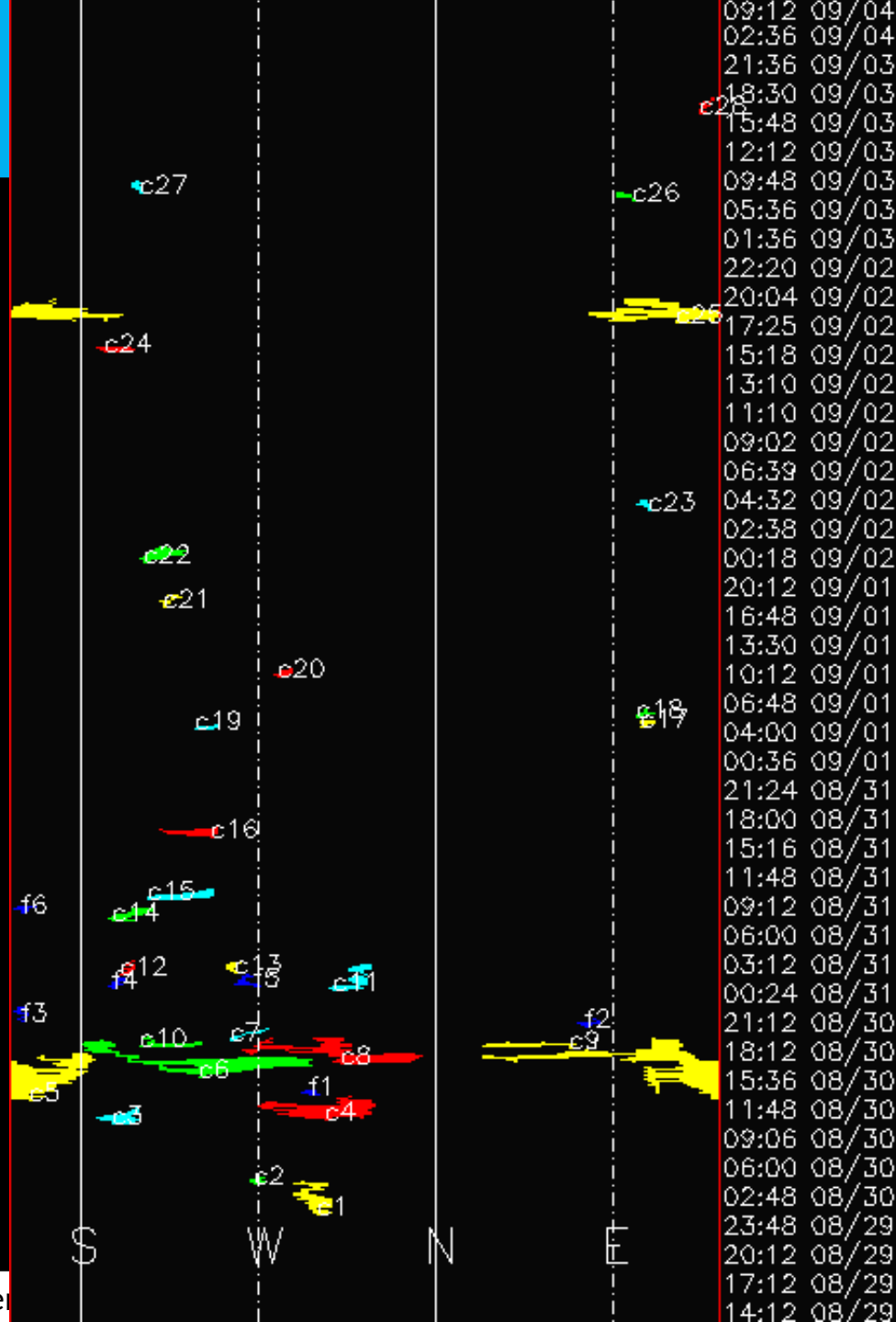




Coronal Mass Ejections

CME: 2 September – Arrival 5 September (low chances)





Solar Wind and Geomagnetic Activity

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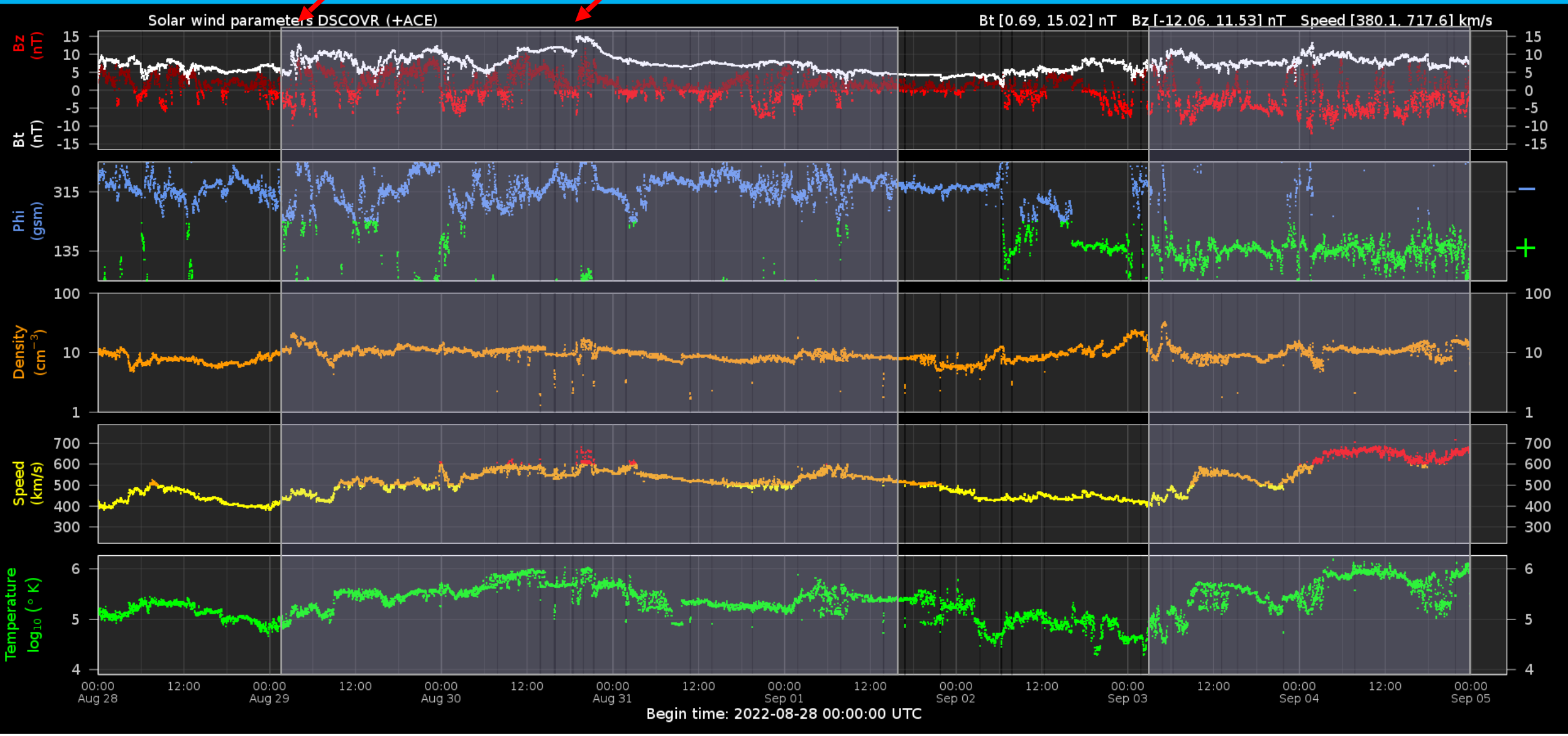
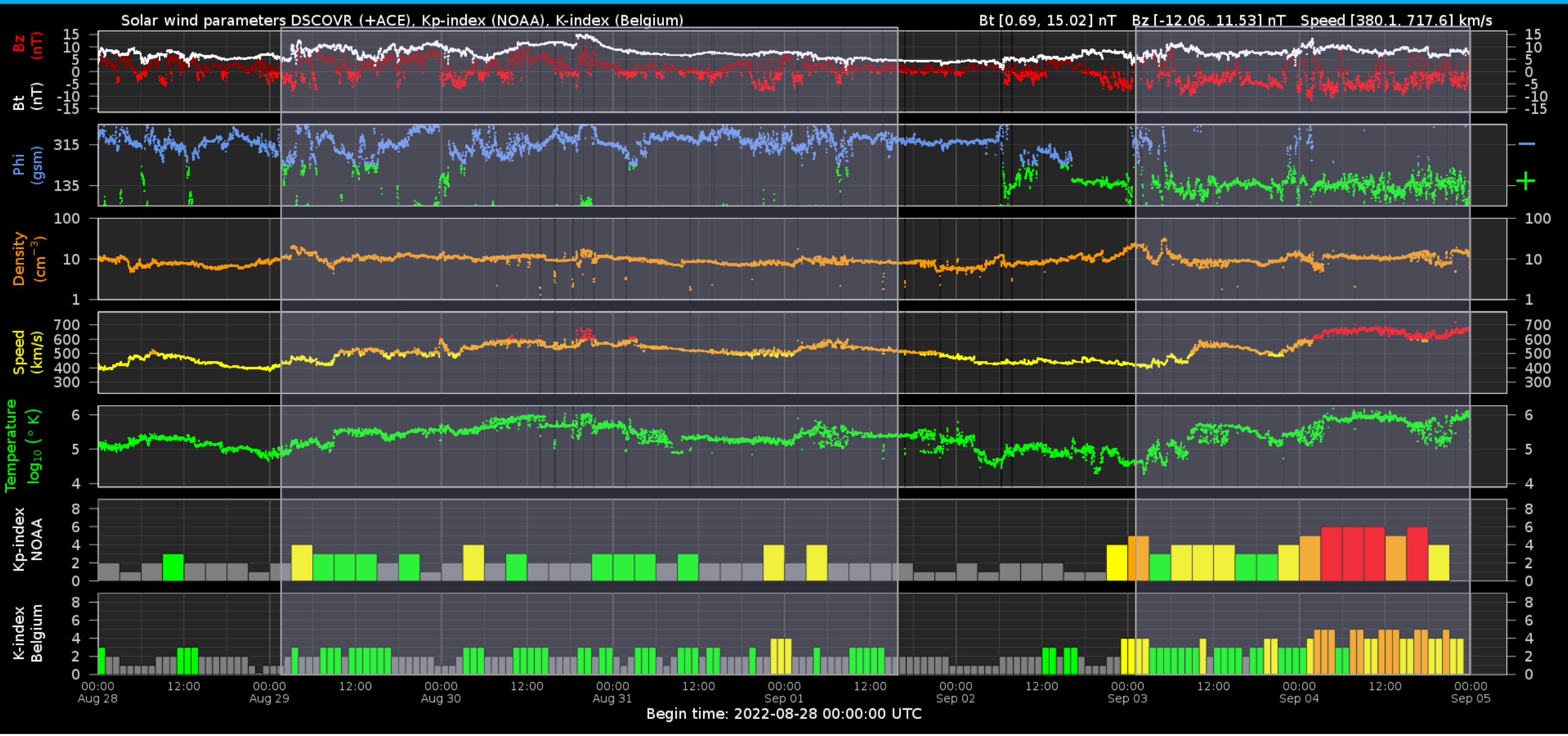
Solar wind parameters

ICME glancing blows + HSS

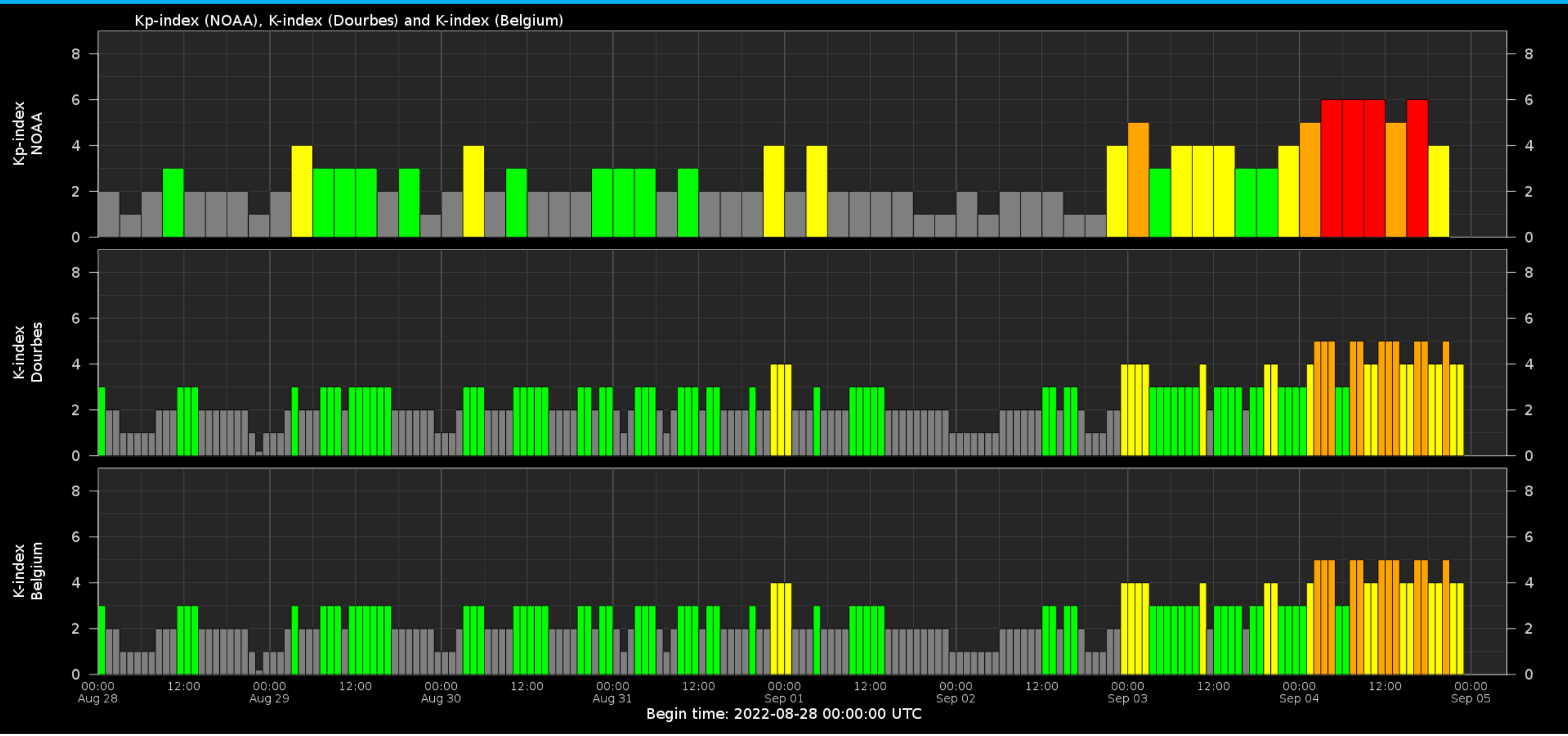
HSS



Solar wind parameters & K-indices



Geomagnetic activity (K-indexes)



Energetic Particles

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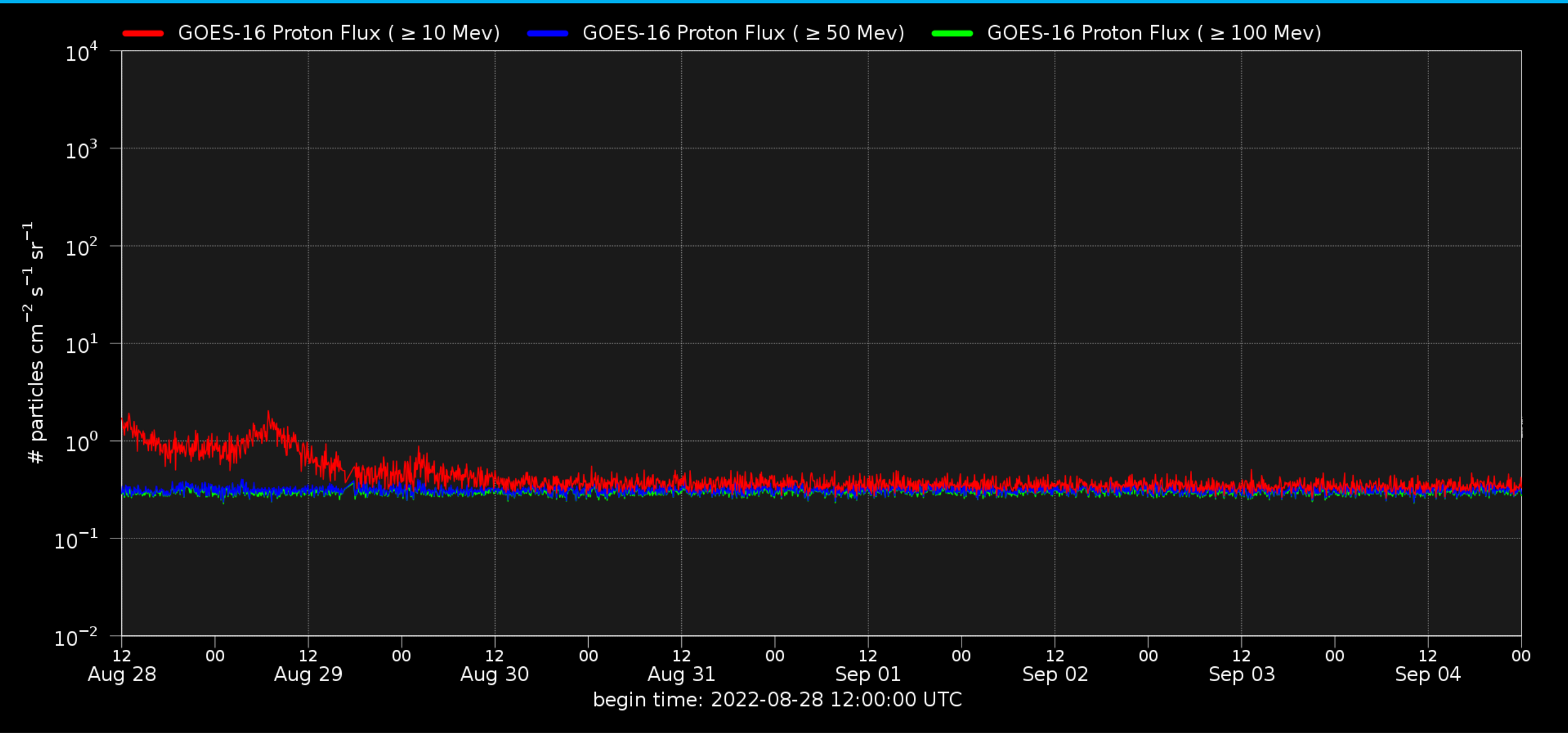
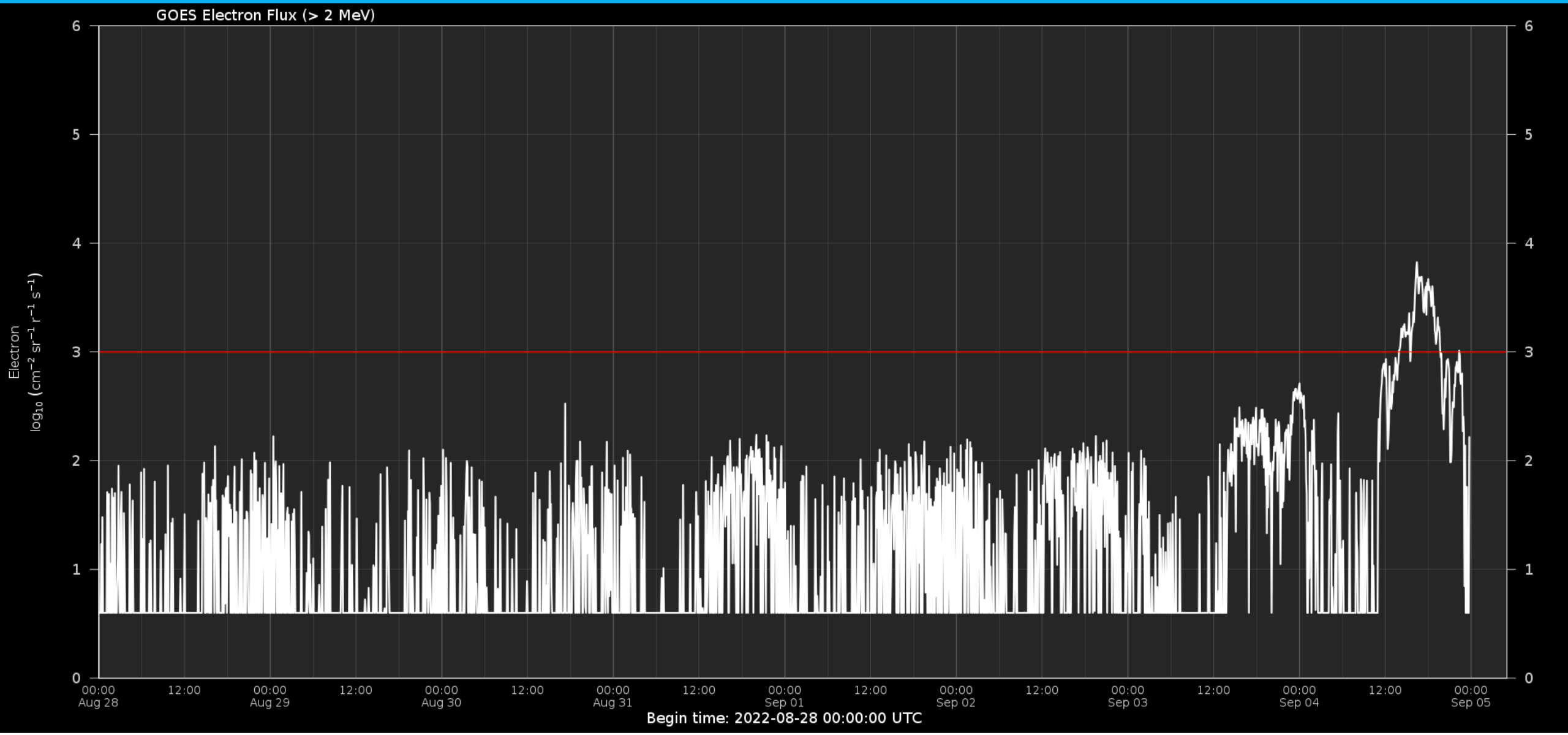
Solar proton flux



Electron flux at GEO



Outlook

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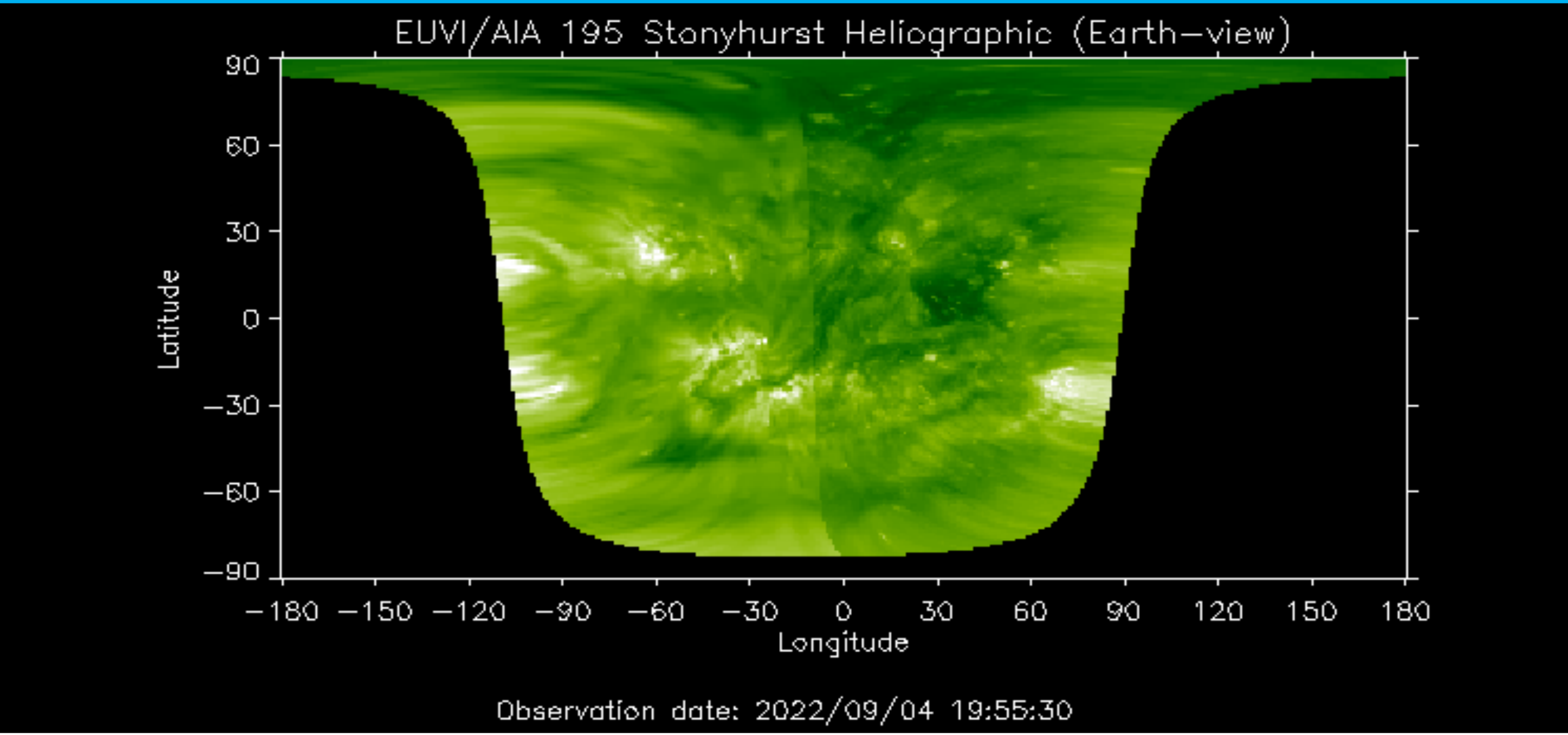
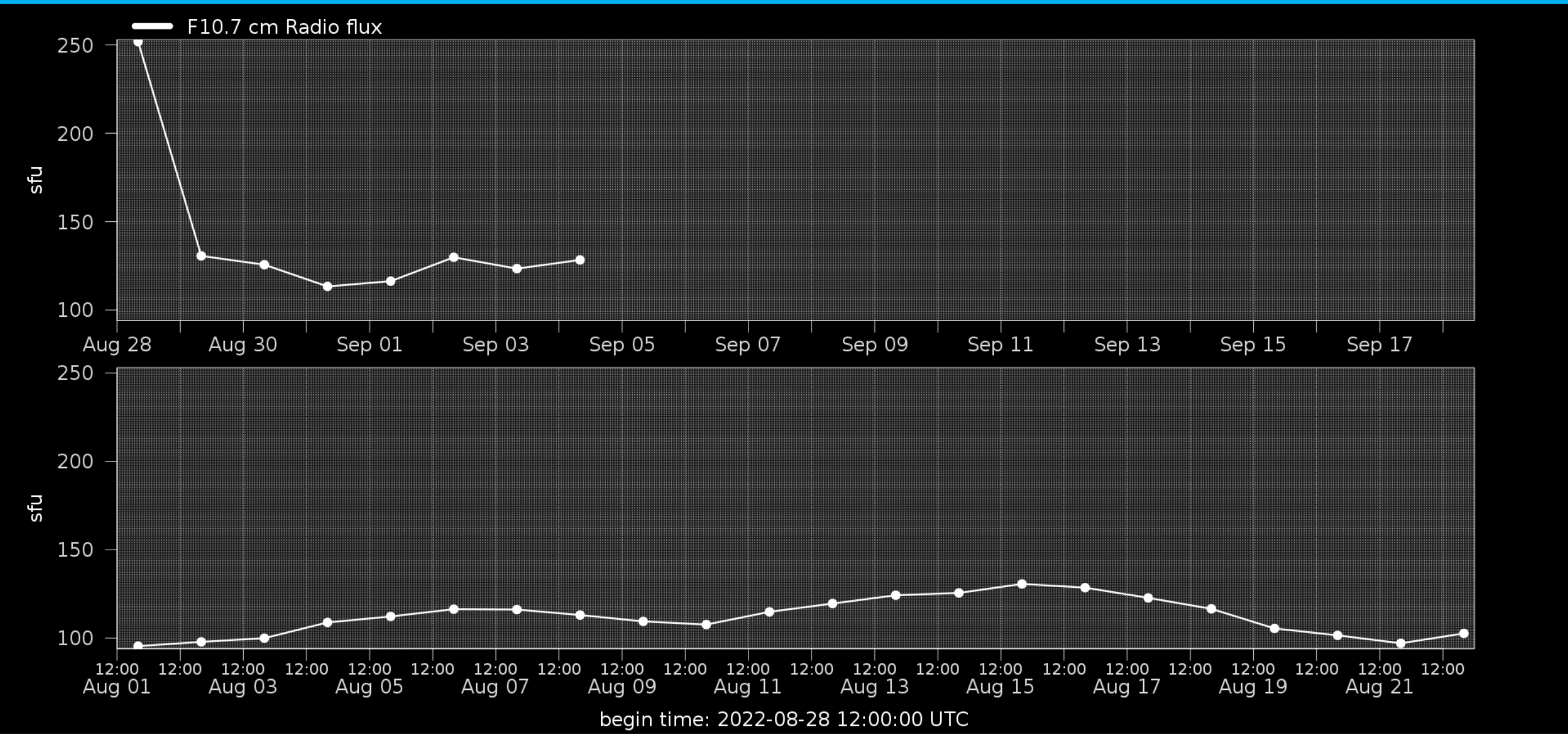
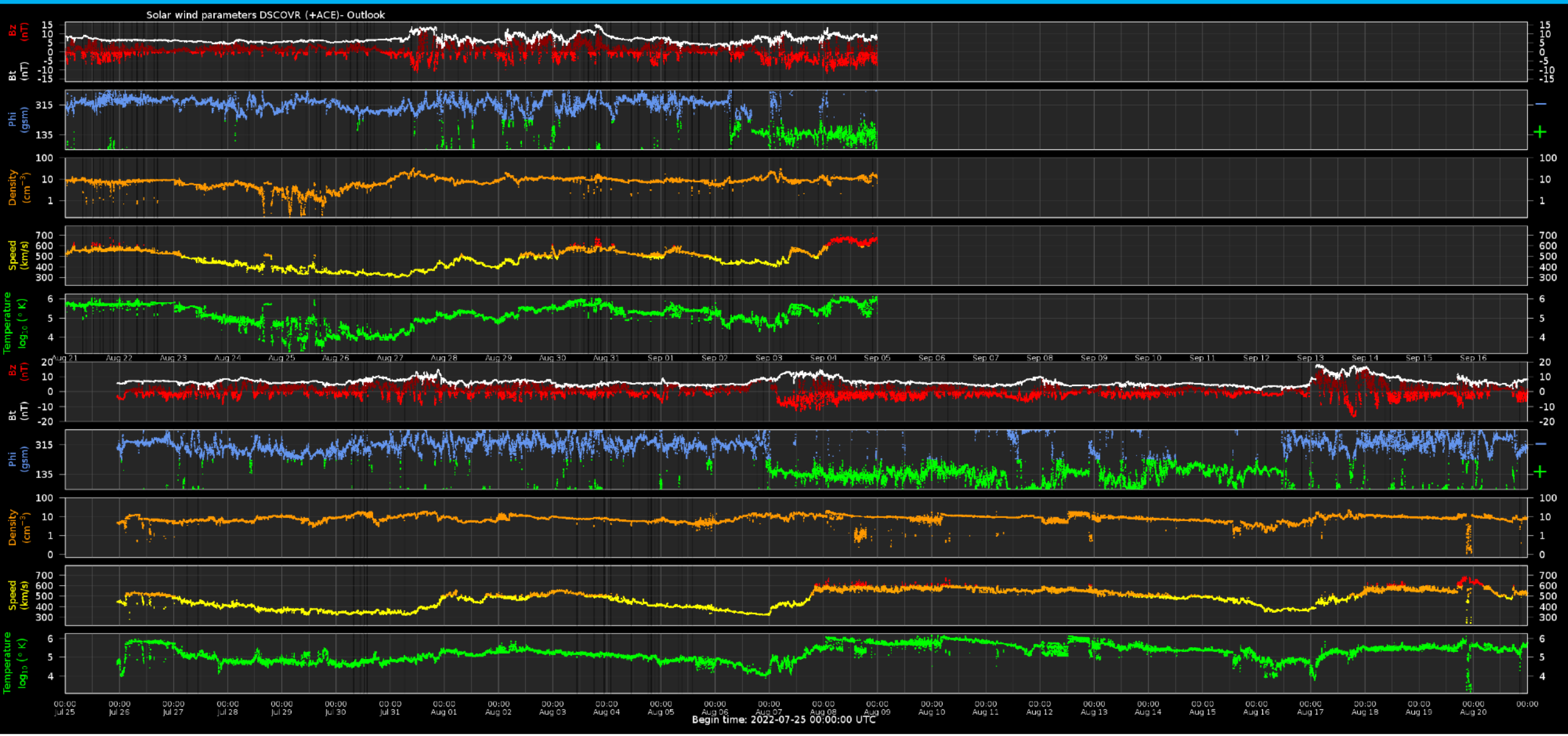
Outlook: Solar activity



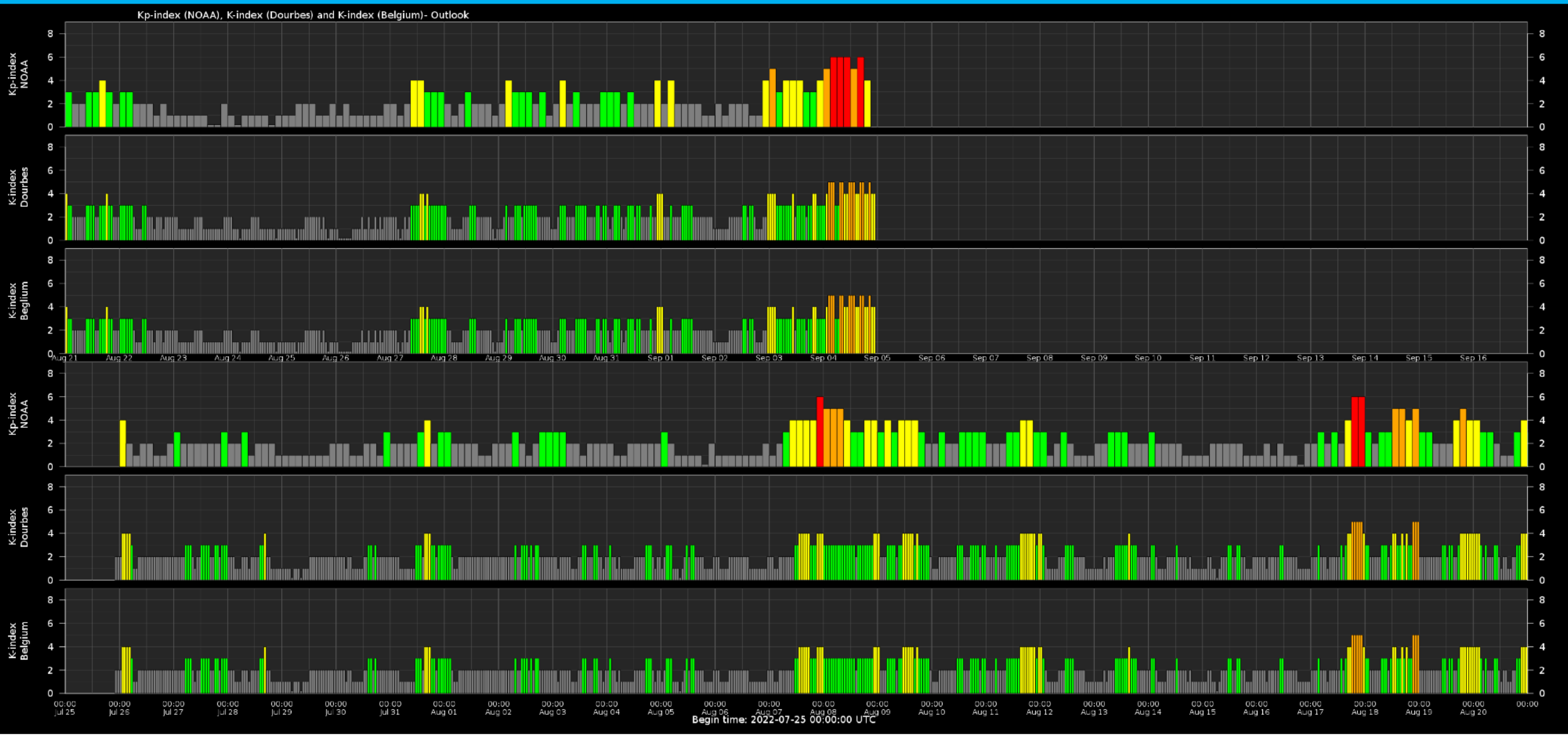
Outlook: Solar F10.7cm radio flux



Outlook: Solar wind parameters



Outlook: Geomagnetic activity



Pecasus

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Pecasus related events

```
SWX ADVISORY

DTG:                20220904/0710Z
SWXC:               PECASUS
ADVISORY NR:        2022/117
SWX EFFECT:         HF COM MOD
OBS SWX:            04/0705Z HNH MNH W020 - E040
FCST SWX  +6 HR:    04/1400Z NOT AVBL
FCST SWX +12 HR:    04/2000Z NOT AVBL
FCST SWX +18 HR:    05/0200Z NOT AVBL
FCST SWX +24 HR:    05/0800Z NOT AVBL
RMK:                SPACE WEATHER EVENT (MAXIMUM USABLE
                    FREQUENCY DEPRESSION) IS IN PROGRESS.
                    IMPACT ON HIGHER HF COM FREQUENCY BANDS
                    EXPECTED. LOWER FREQUENCY BANDS MAY BE
                    LESS IMPACTED.
NXT ADVISORY:       WILL BE ISSUED BY 20220904/1305Z
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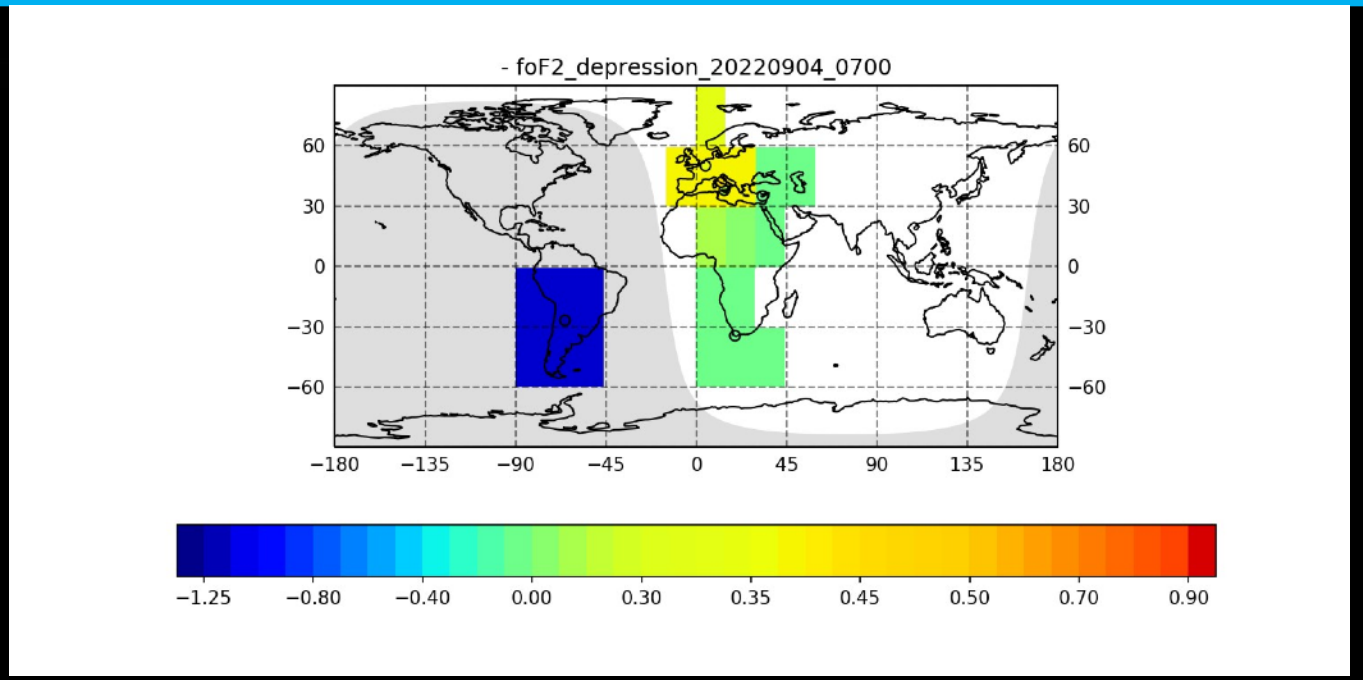

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See you at our next briefing!

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