

# SIDC Space Weather Briefing

23 July 2023-30 July 2023

Katsiyannis Thanassis

& the SIDC forecaster team



Royal Observatory  
of Belgium

Solar Influences  
Data analysis Centre  
[www.sidc.be](http://www.sidc.be)

# Summary Report

Solar activity from 2023-07-23 12:00 to 2023-07-30 23:59

Active regions	NOAA AR 3372 (M4 28 Jul), 3376, 3380, 3388, 3390
Flares	# C-class flare: 43 # M-class flare: 10 # X-class flare: 0
Coronal Holes	Crossing in 24 Jul
CMEs	23, 28 Jul

Proton flux	29 Jul, high flux (>100 pfu), low energy (>10 MeV, 13-21 MeV), short duration (~2 days)
Electron flux	Below 1000 pfu threshold with very few, short exceptions

## Solar wind and geomagnetic conditions

ICMEs	Glancing blow 25-26 Jul
Solar wind conditions	B : 2.19 - 15.8 nT //Bz: -13.32 nT to 10.44 nT //Speed: 330.2 - 587.1km/s
K-indices	max K-index (KBel): 4 max Kp-index (NOAA): 4

All Quiet Alert: Not quiet

# Solar Activity

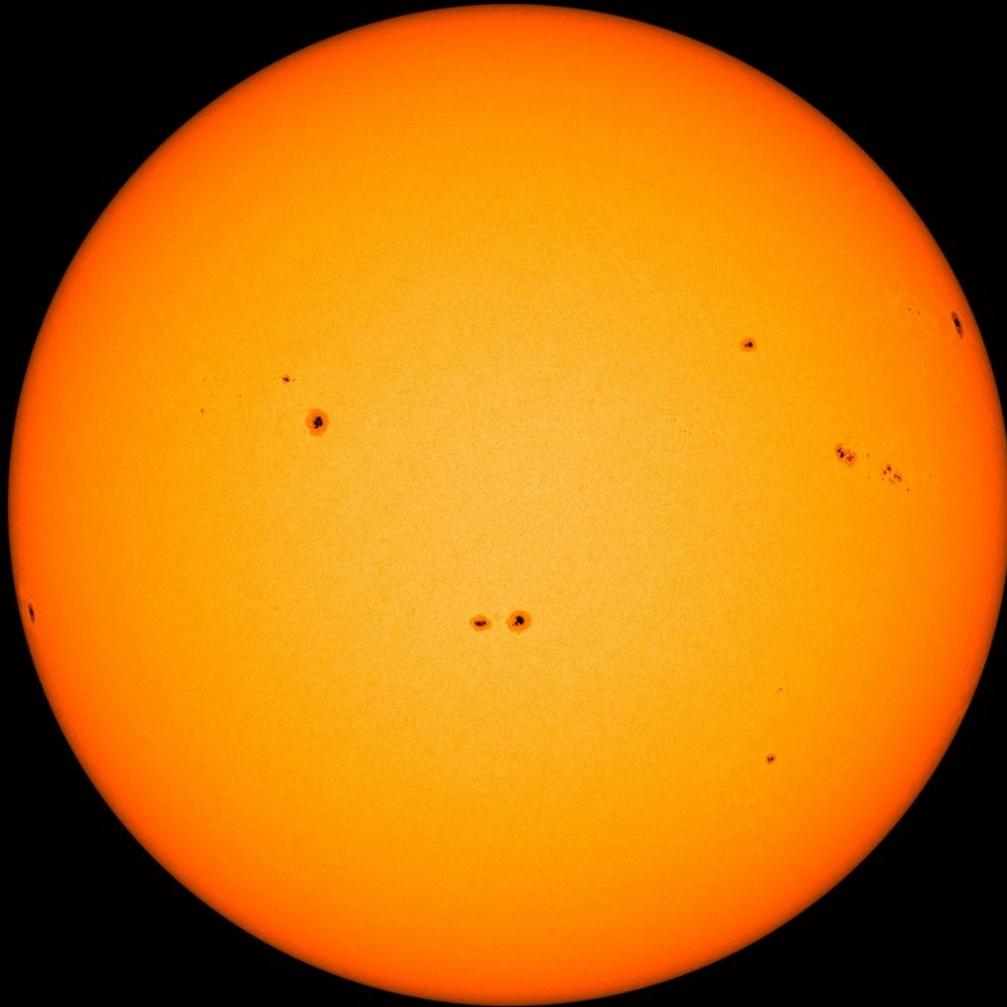


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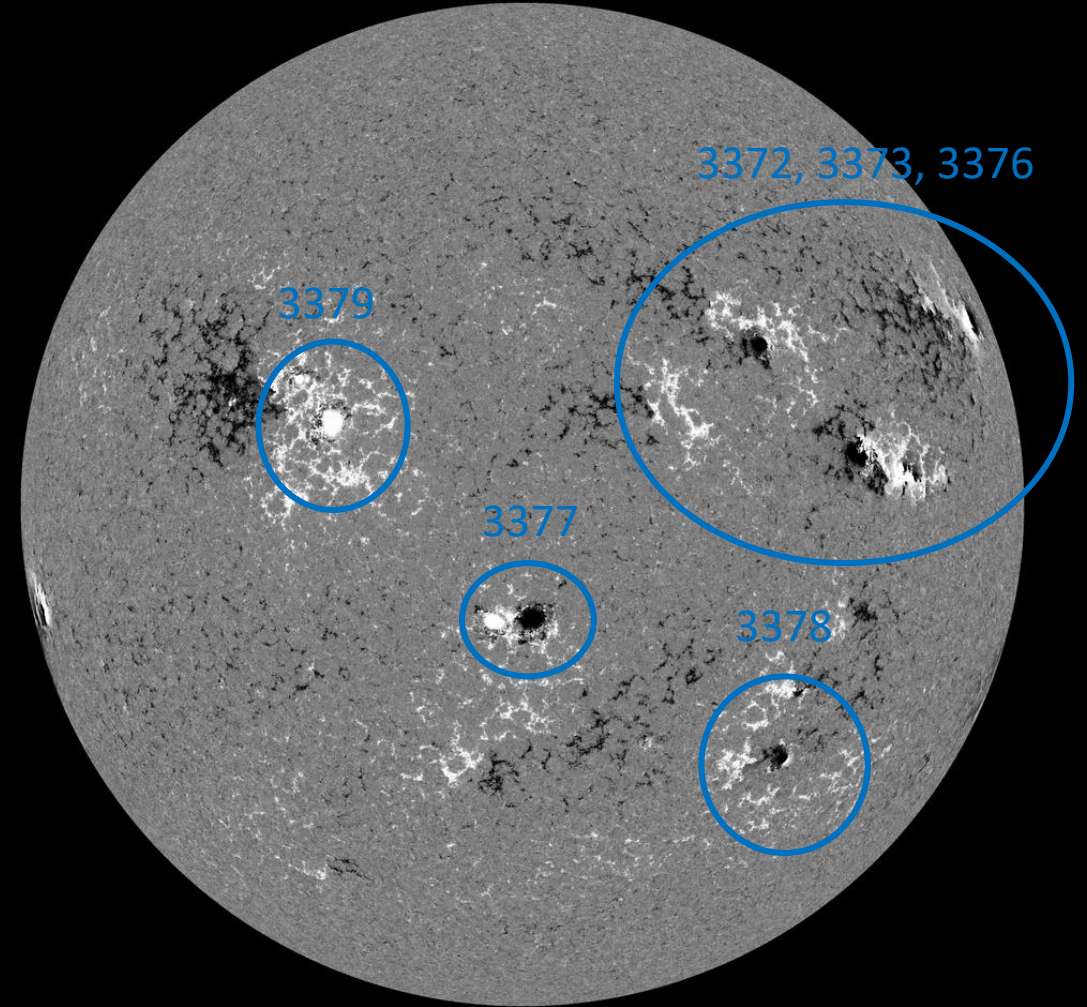
# Solar active regions

SDO/HMI White Light 2023-07-23



SDO/HMI Quick-Look Continuum: 20230723\_114500

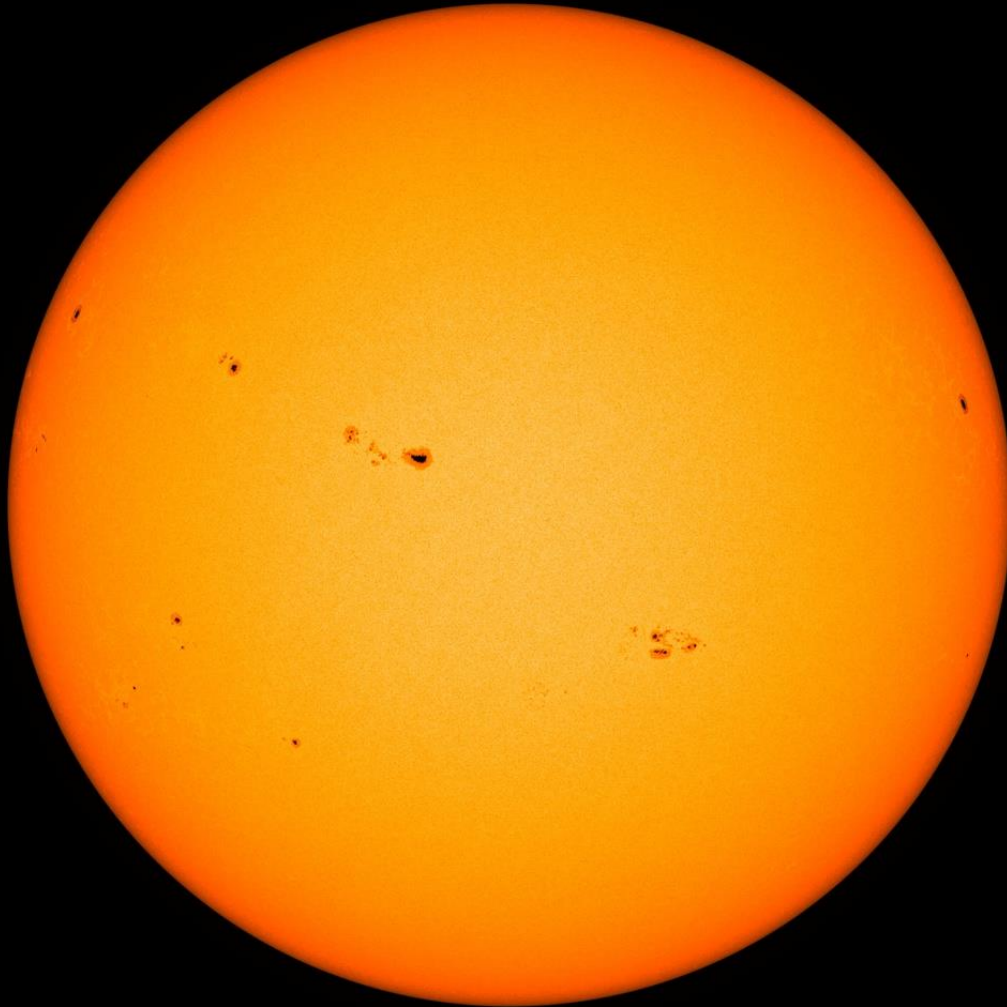
SDO/HMI Magnetogram 2023-07-23



SDO/HMI Quick-Look Magnetogram: 20230723\_114500

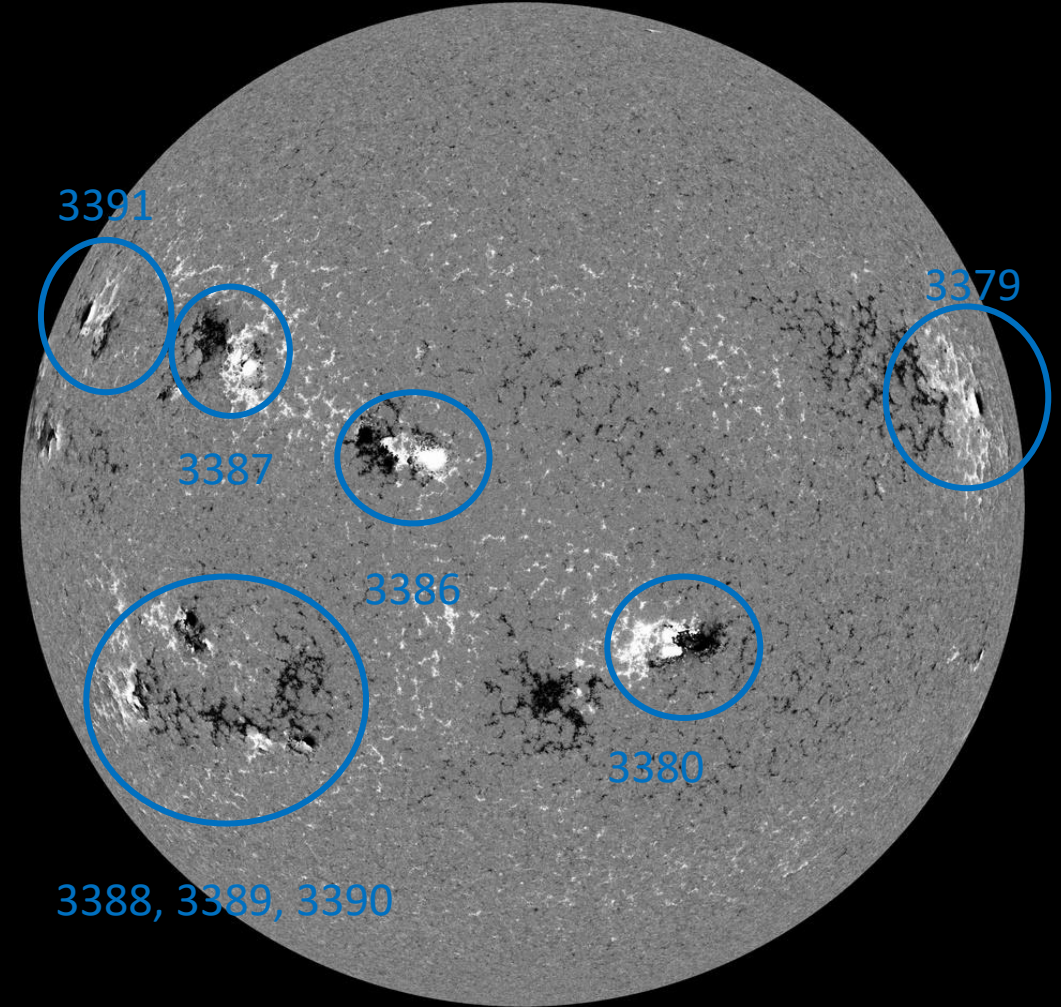
# Solar active regions

SDO/HMI White Light 2023-07-30



SDO/HMI Quick-Look Continuum: 20230730\_114500

SDO/HMI Magnetogram 2023-07-30

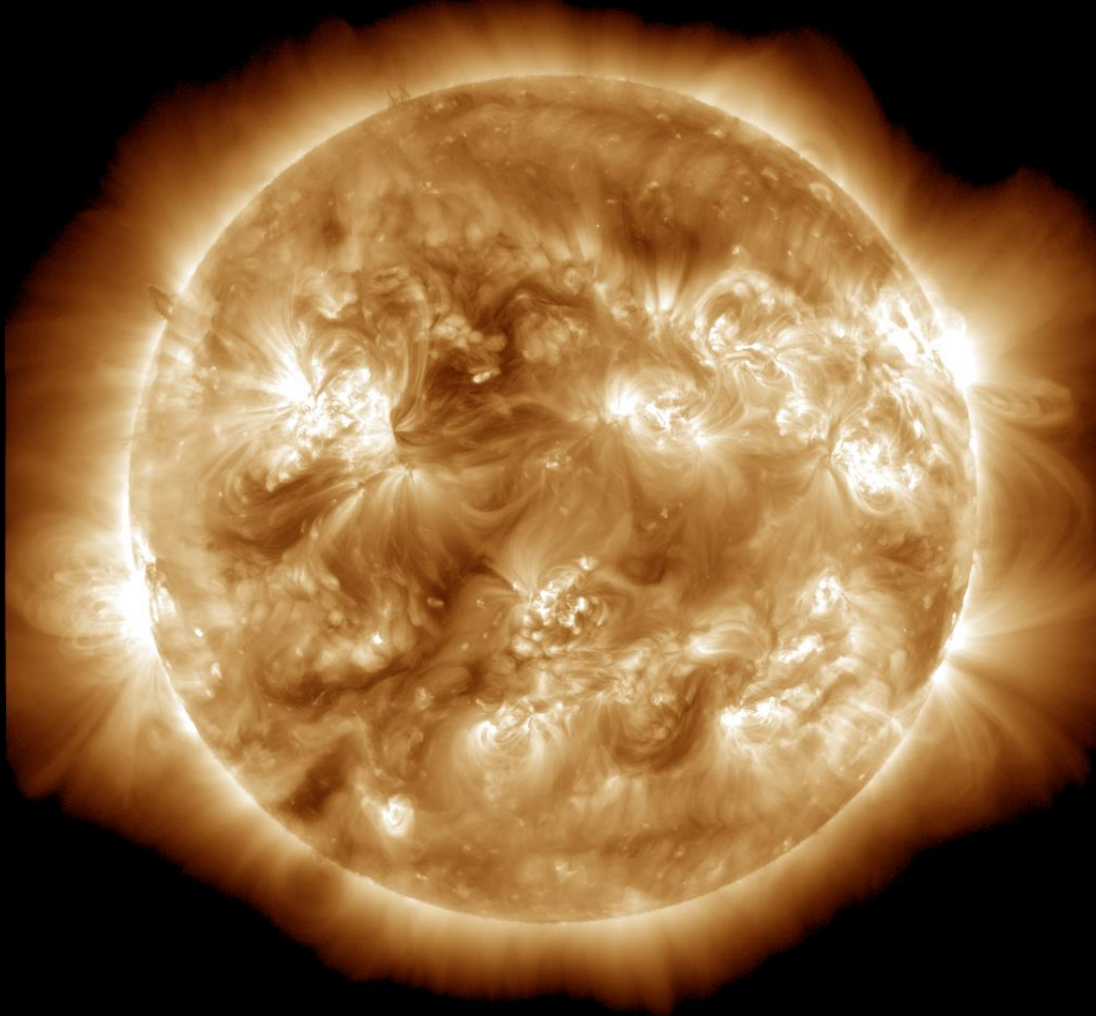


SDO/HMI Quick-Look Magnetogram: 20230730\_114500

# Coronal holes

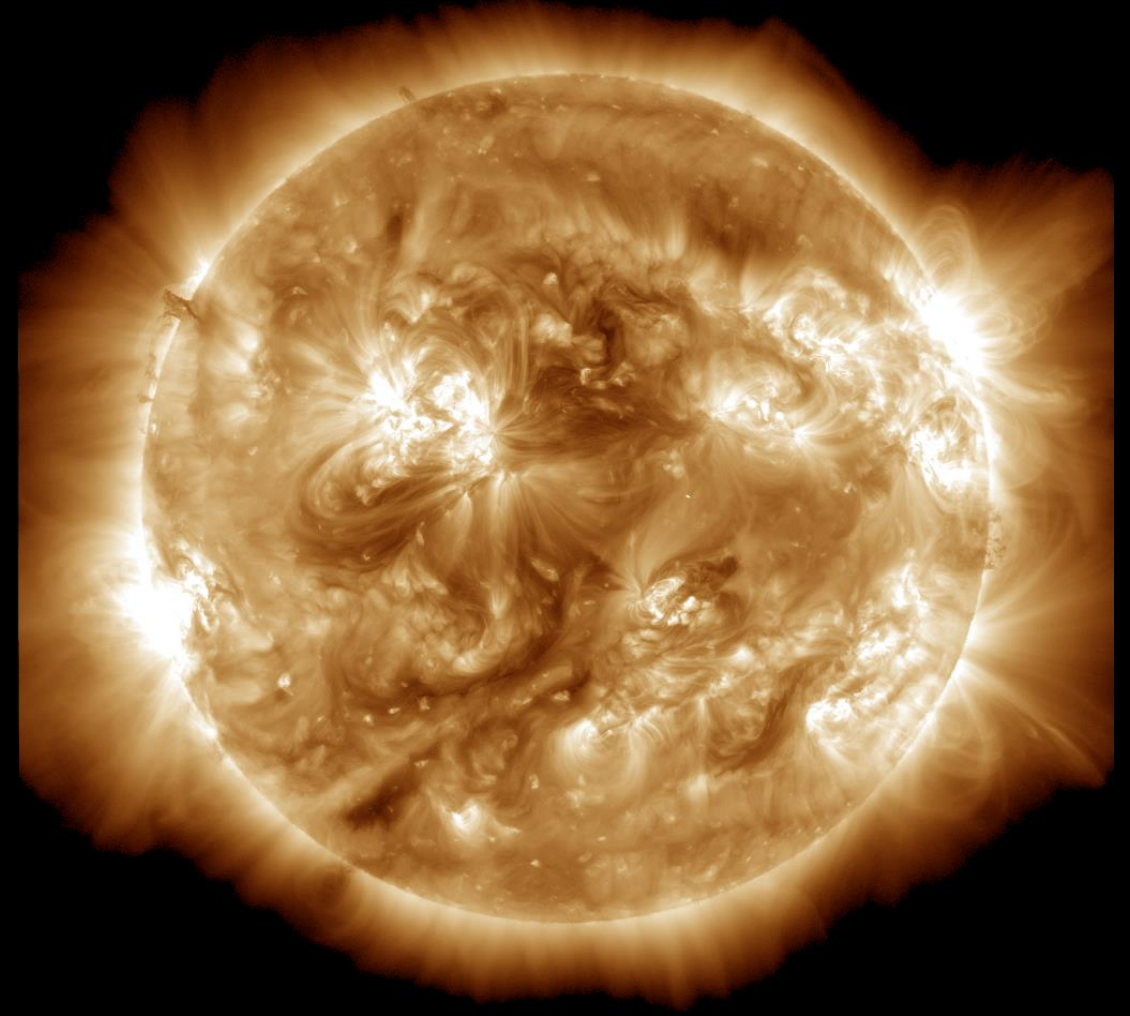
SDO/AIA 19.3 nm 2023-07-23

SDO/AIA AIA 193Å 2023-07-23T12:00:05.842



SDO/AIA 19.3 nm 2023-07-24

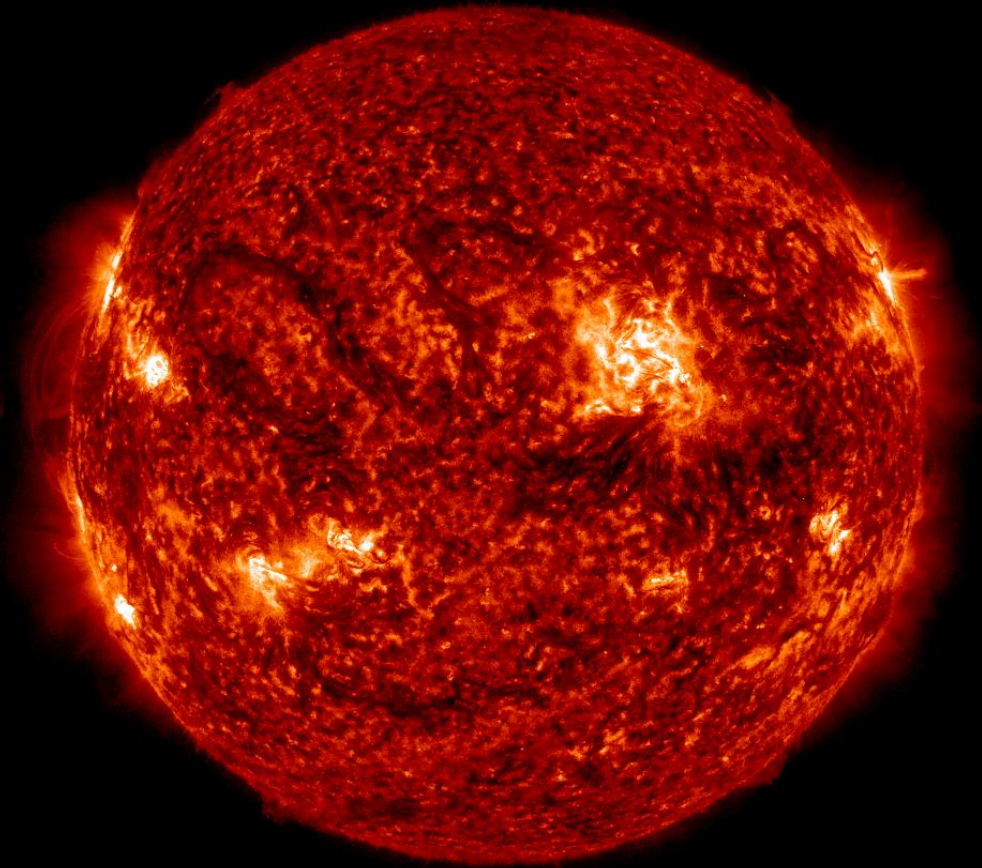
SDO/AIA AIA 193Å 2023-07-24T12:00:05.843



# Filaments

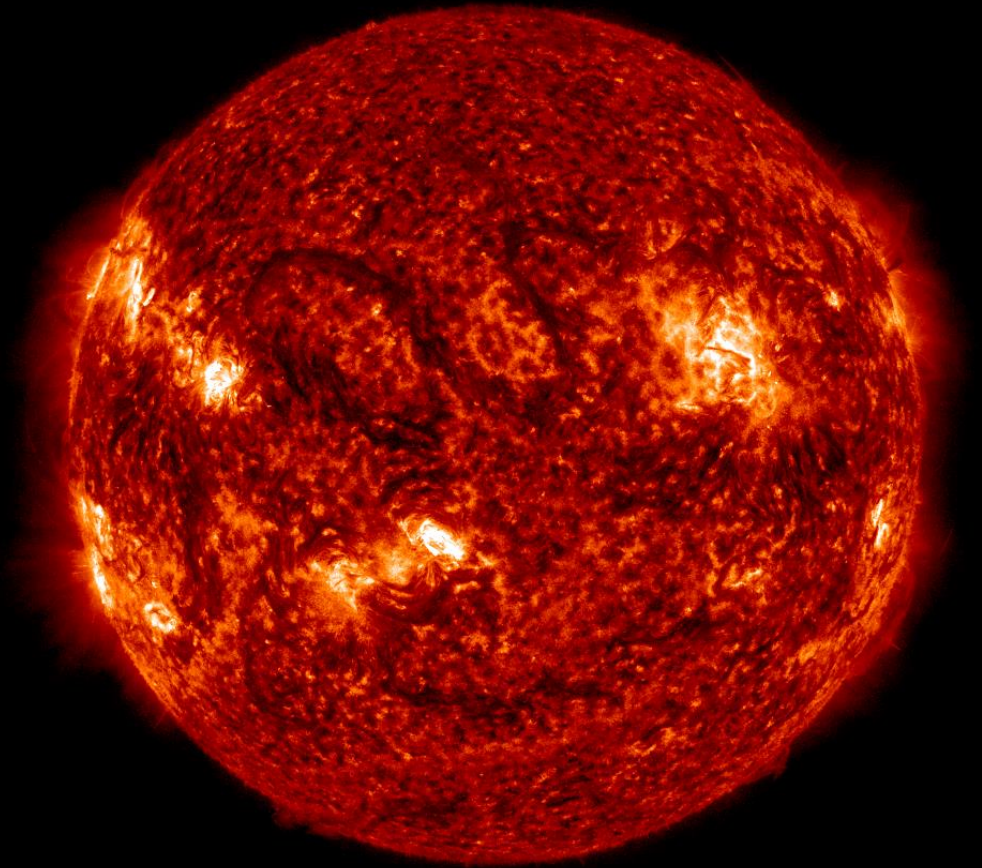
SDO/AIA 30.4 nm 2023-07-27

SDO/AIA AIA 304Å 2023-07-27T12:00:06.580



SDO/AIA 30.4 nm 2023-07-28

SDO/AIA AIA 304Å 2023-07-28T12:00:06.581



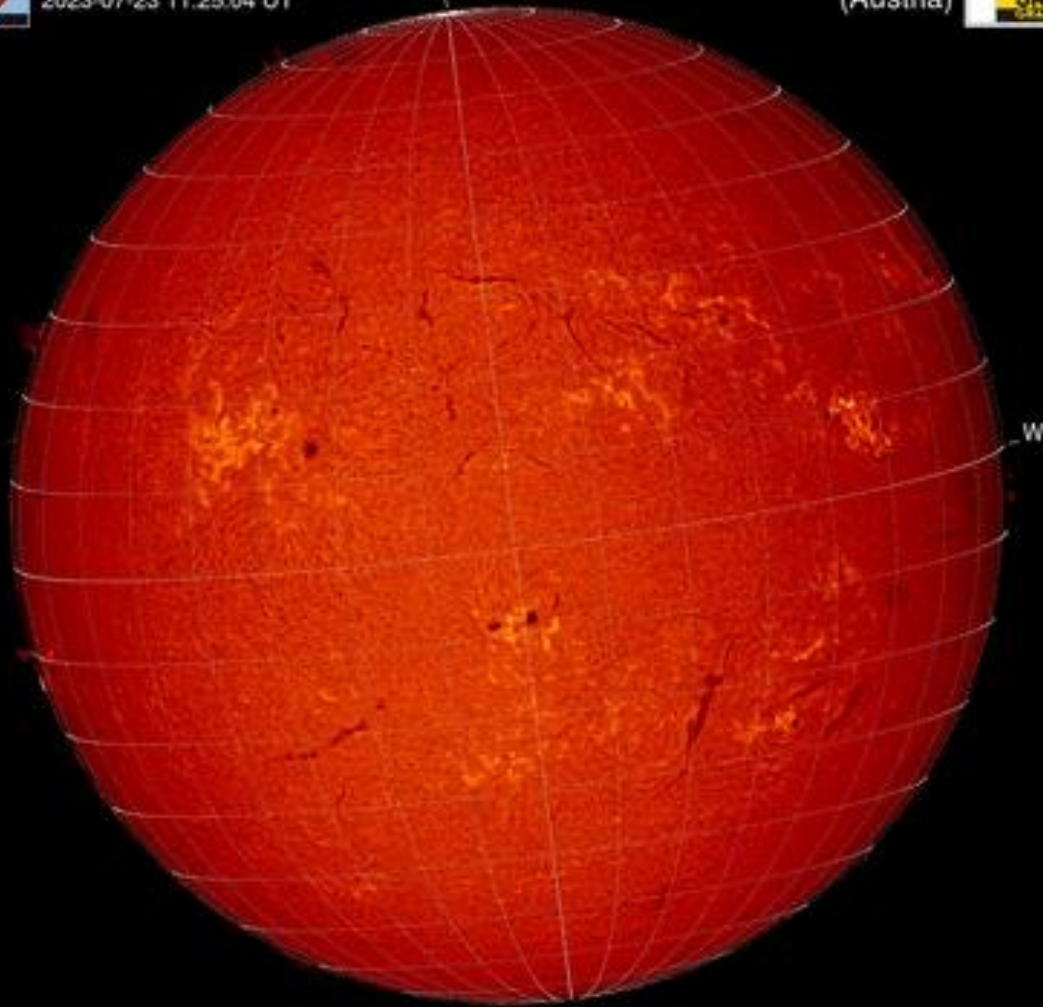
# Filaments & Filament eruptions

H-alpha 2023-07-23



Kanzelhöhe Observatory  
2023-07-23 11:25:04 UT

University of Graz  
(Austria)

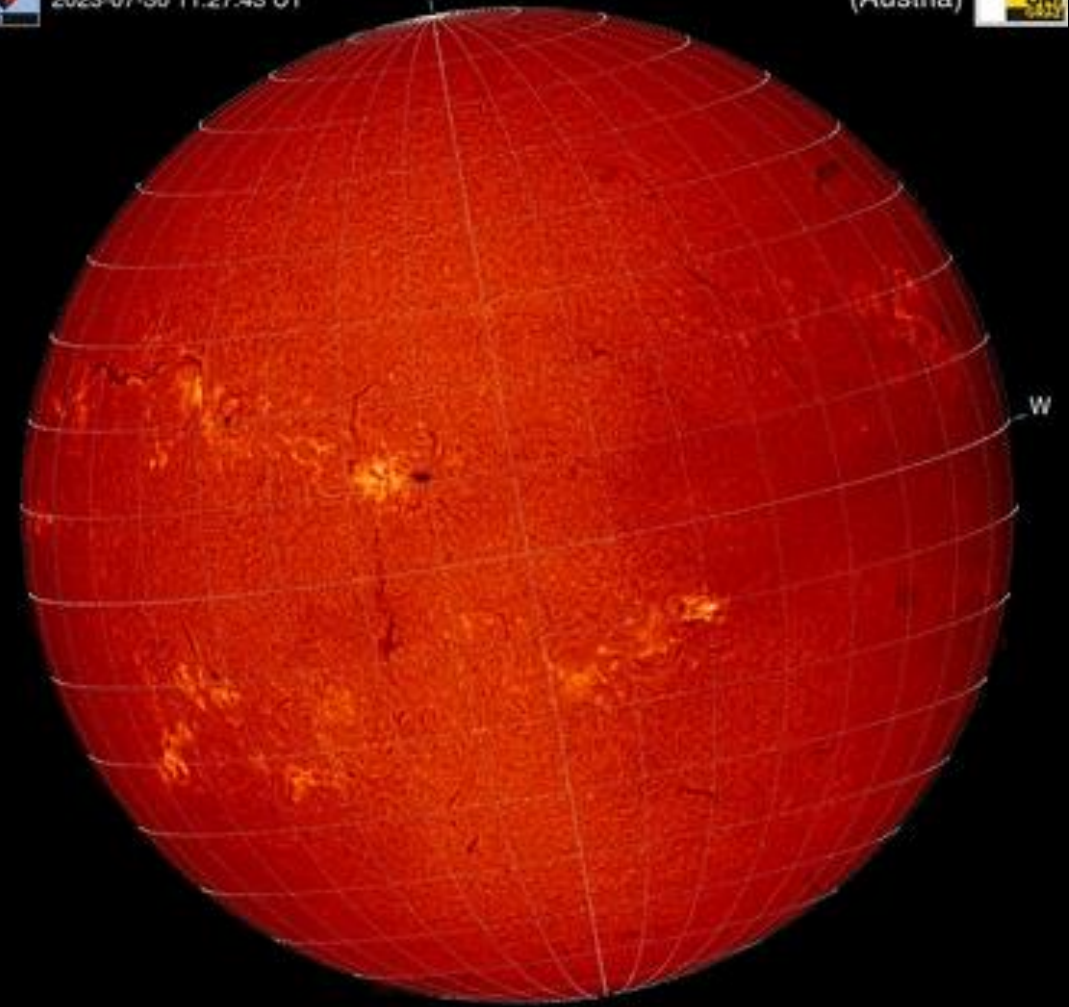


H-alpha 2023-07-30



Kanzelhöhe Observatory  
2023-07-30 11:27:43 UT

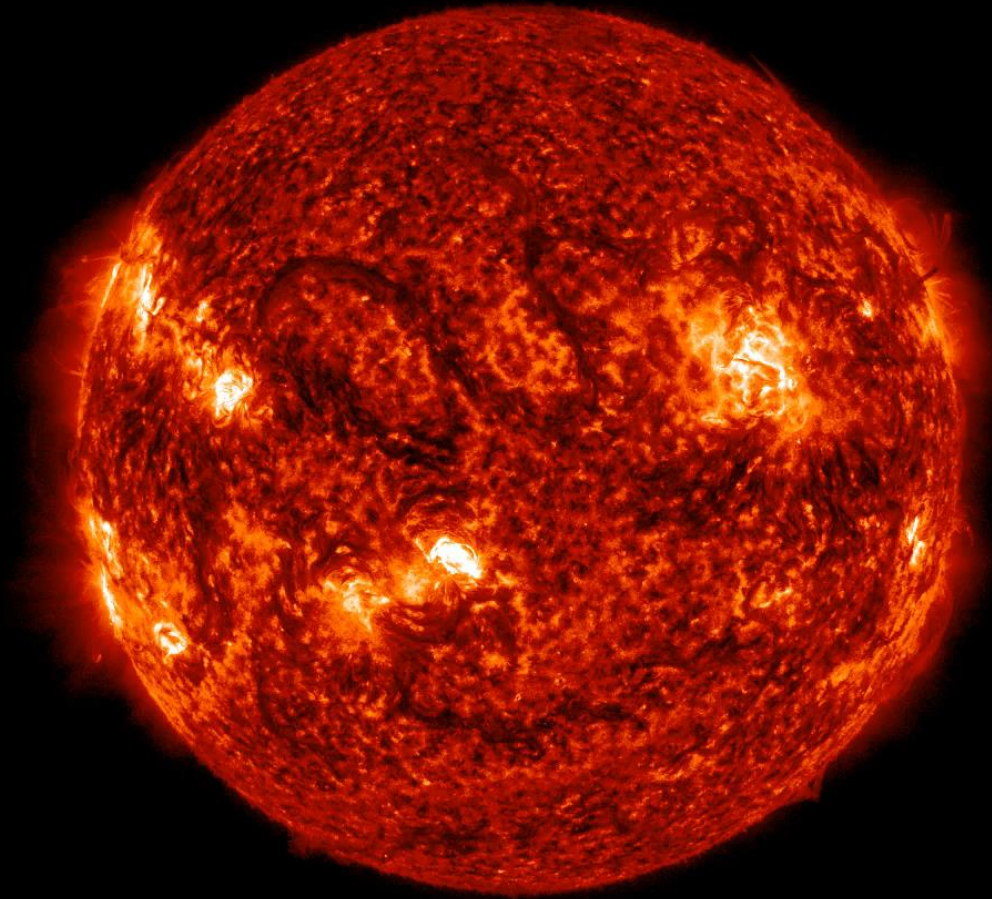
University of Graz  
(Austria)



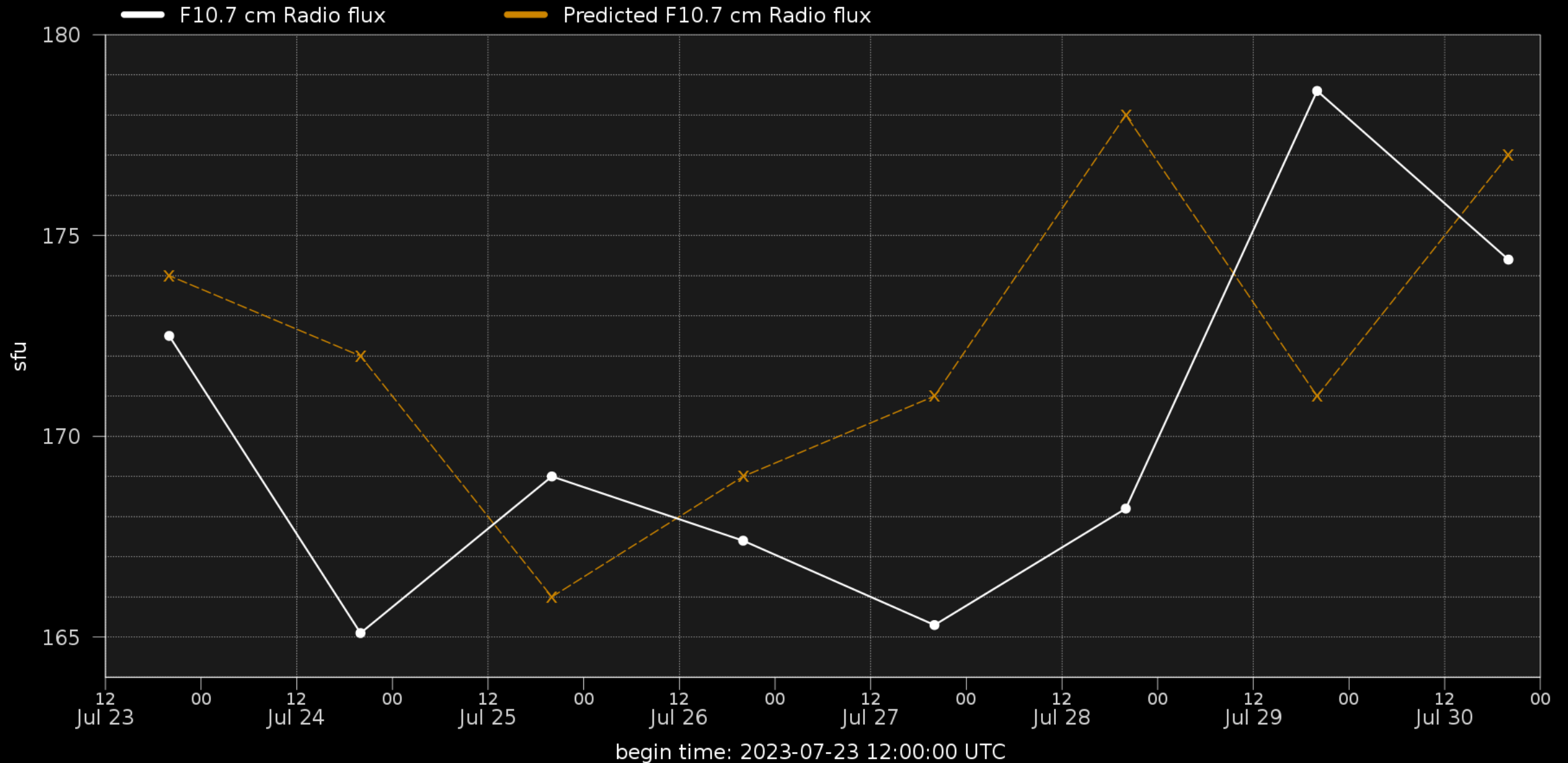


# Filaments & Filament eruptions

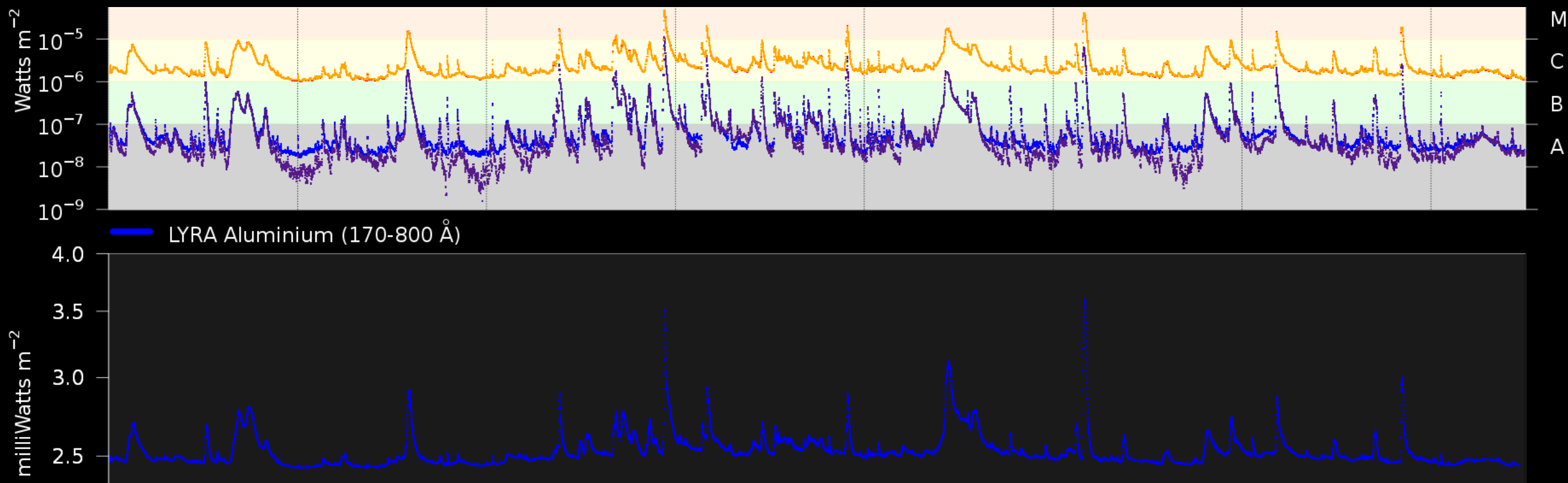
SDO/AIA AIA 304Å 2023-07-28T11:00:06.580



# Solar F10.7cm radio flux



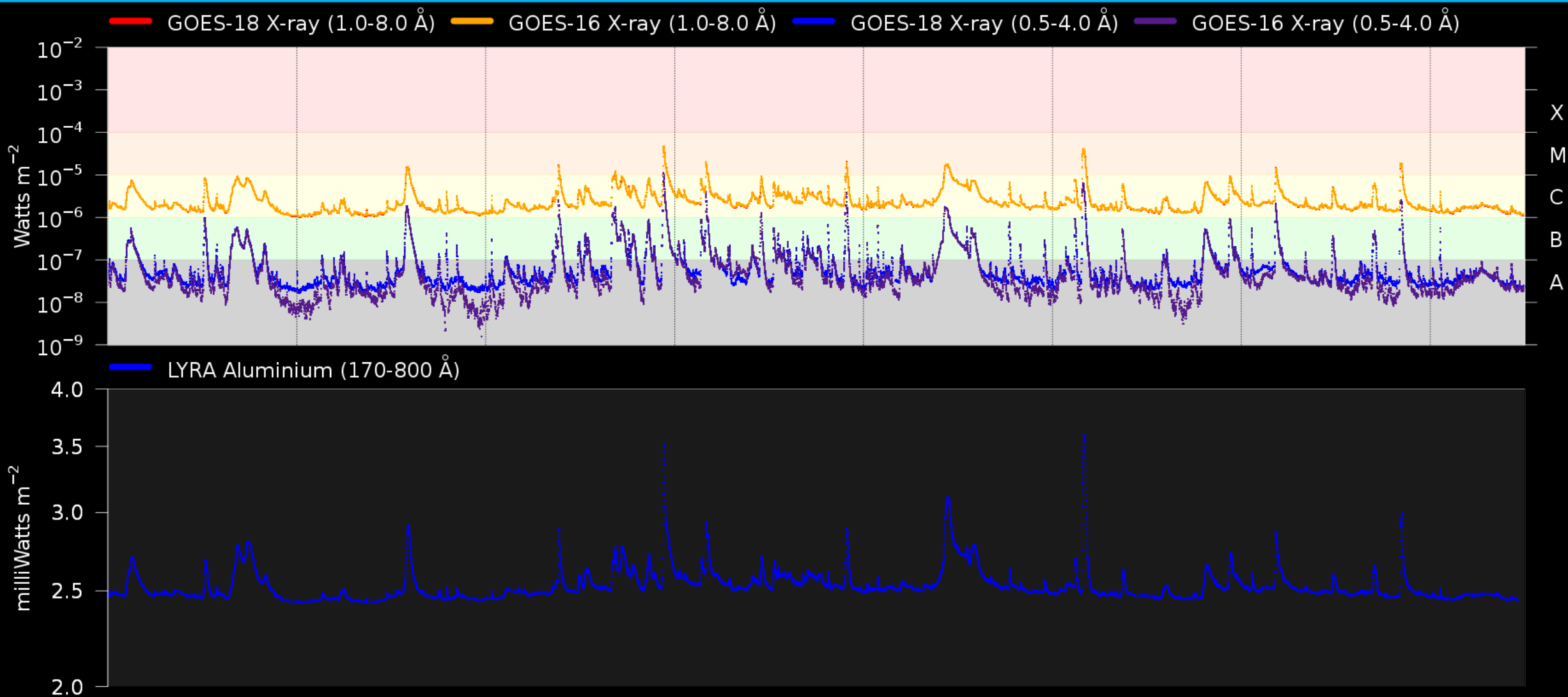
# Flaring activity



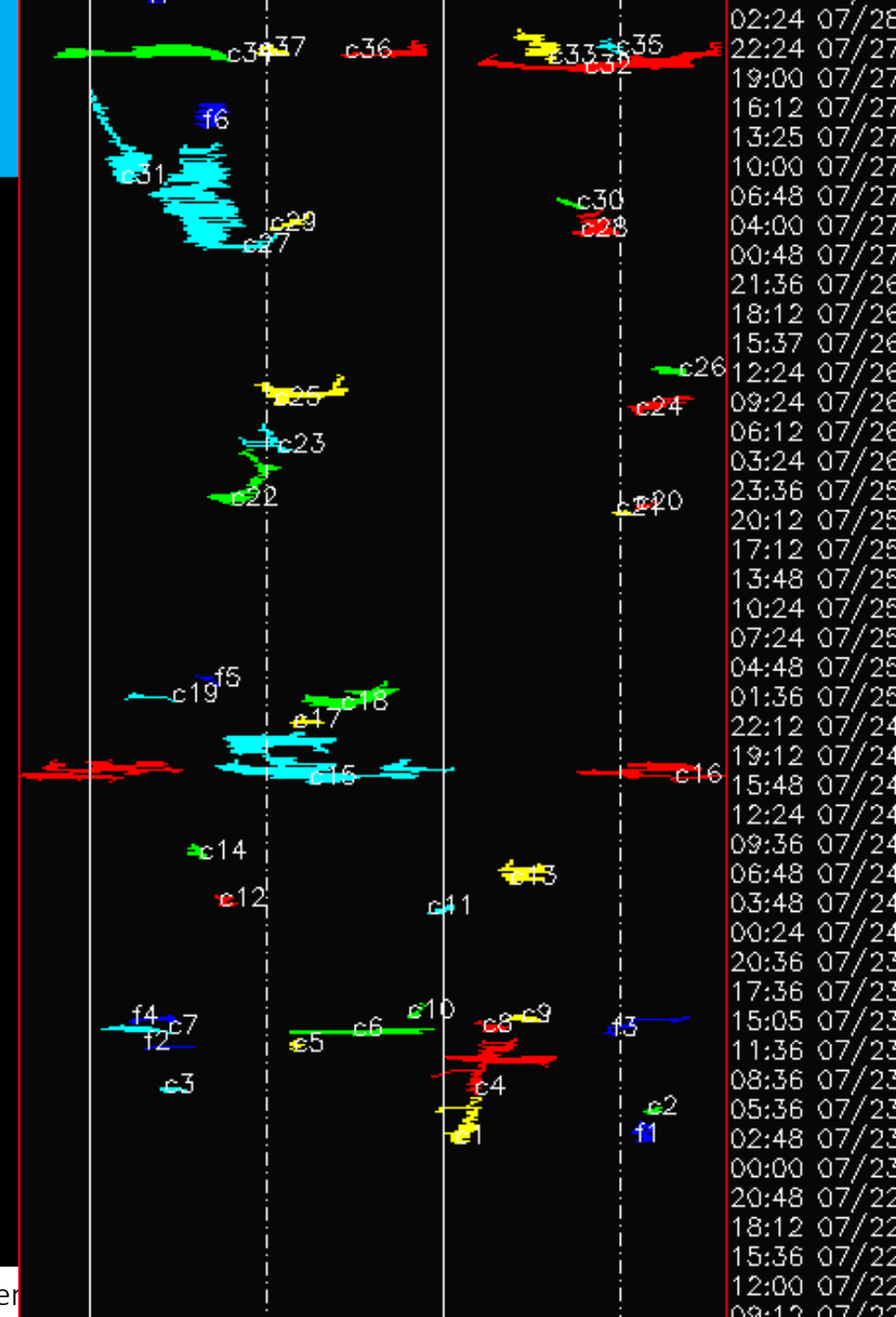
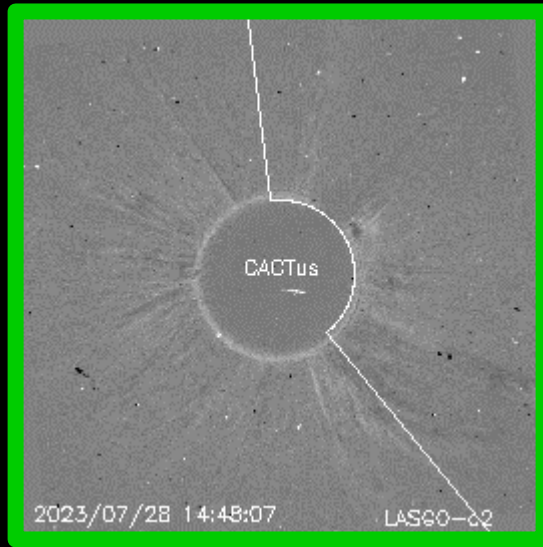
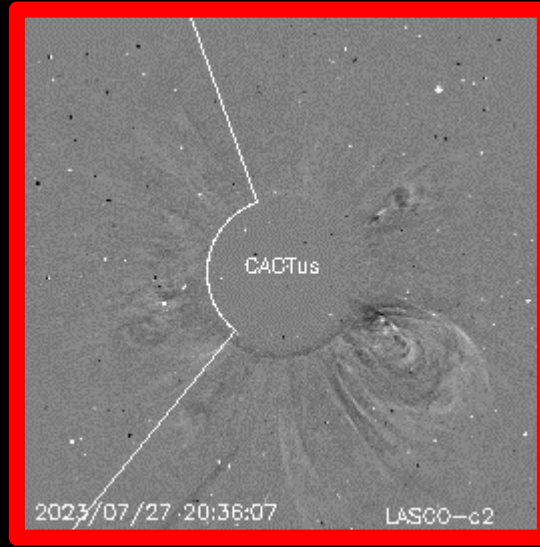
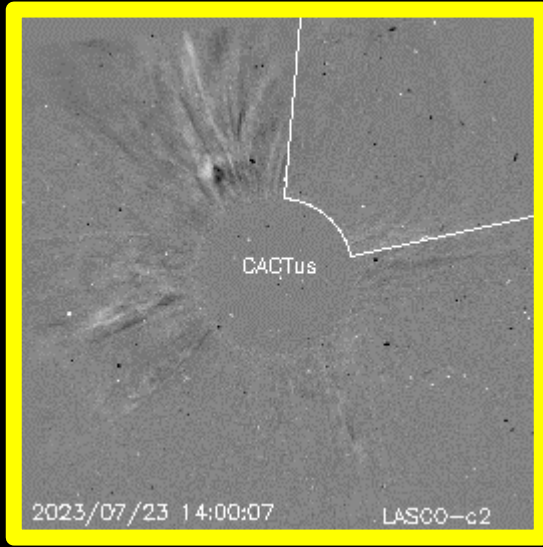
Probabilities (%) and occurrences (#) of C/M/X-flares daily, from noon to noon:

Issue date	2023-07-23	2023-07-24	2023-07-25	2023-07-26	2023-07-27	2023-07-28	2023-07-29	2023-07-30
Probability (%)	99 30 05	99 60 10	99 45 01	99 50 05	98 25 01	99 87 20	99 55 05	99 85 20
Observed (#)	03 00 00	08 01 00	07 03 00	09 02 00	06 01 00	06 01 00	03 02 00	00 00 00

# Solar X-Ray and UV flux



# Coronal Mass Ejections



# Solar Wind and

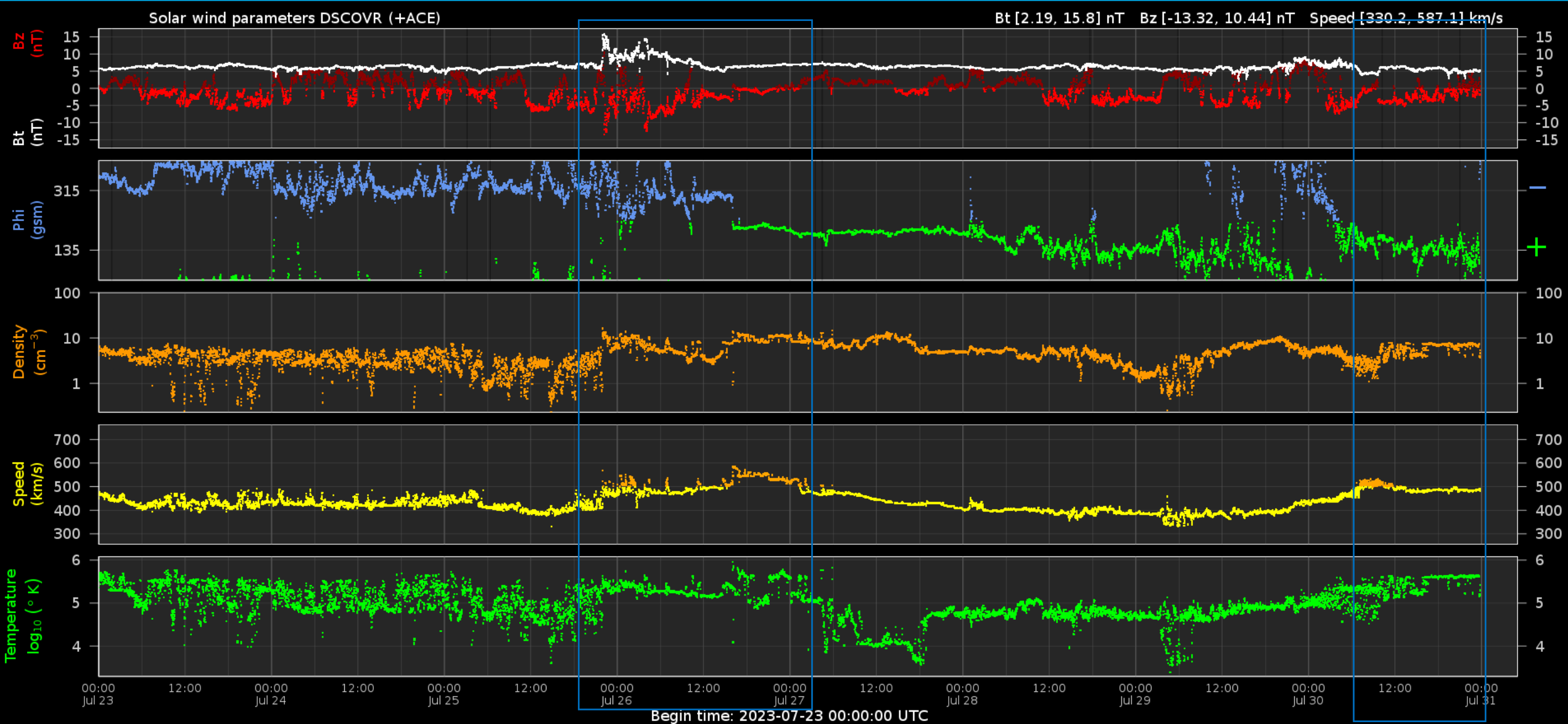
# Geomagnetic Activity



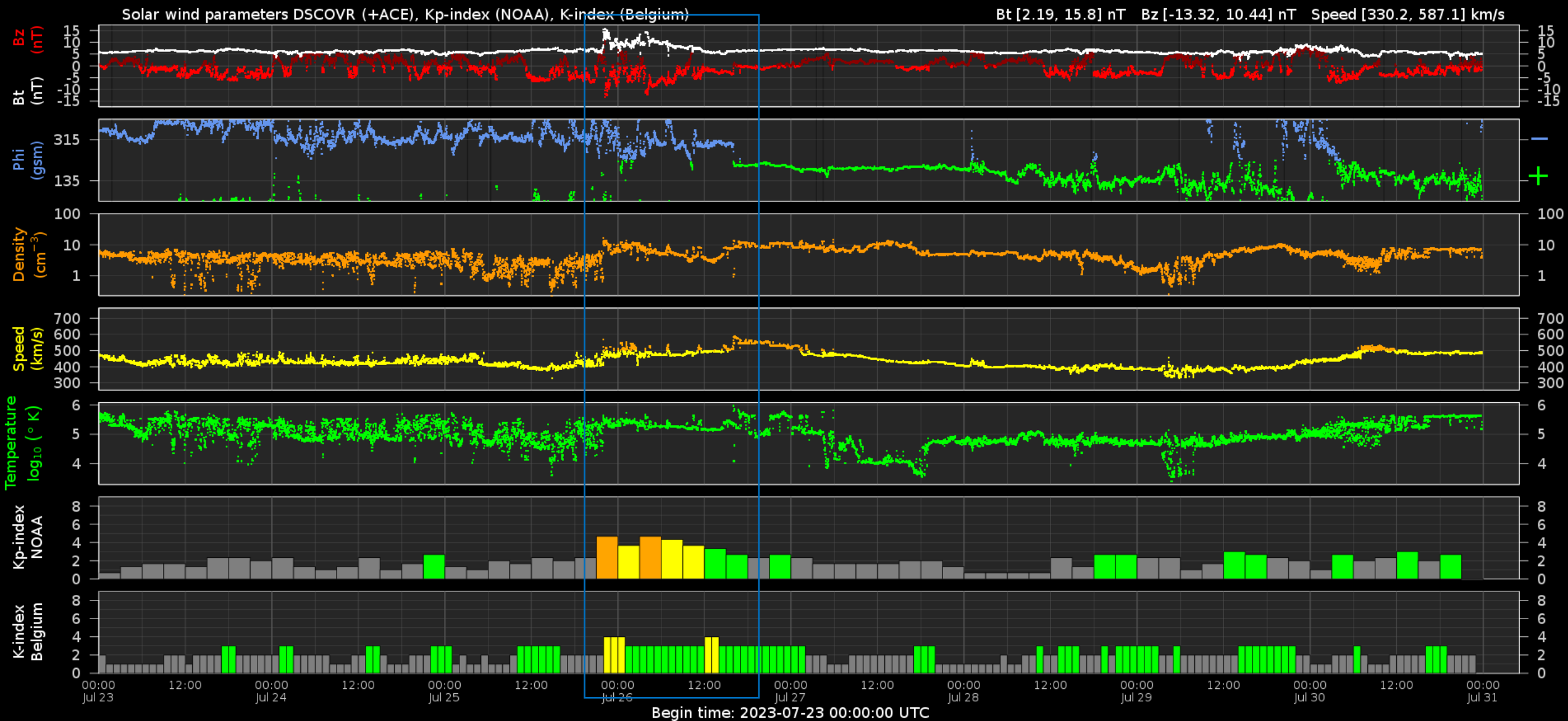
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# Solar wind parameters

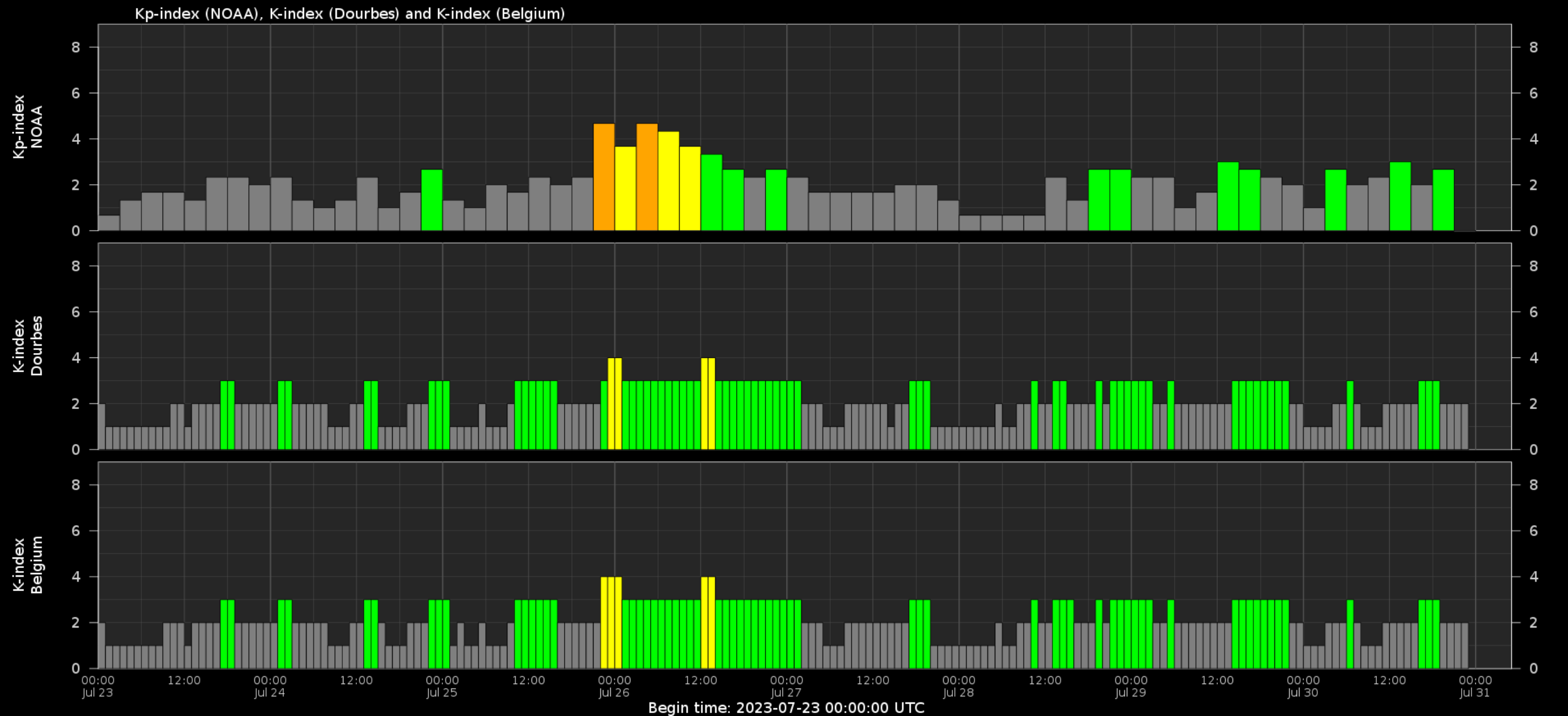


# Solar wind parameters & K-indices





# Geomagnetic activity (K-indexes)



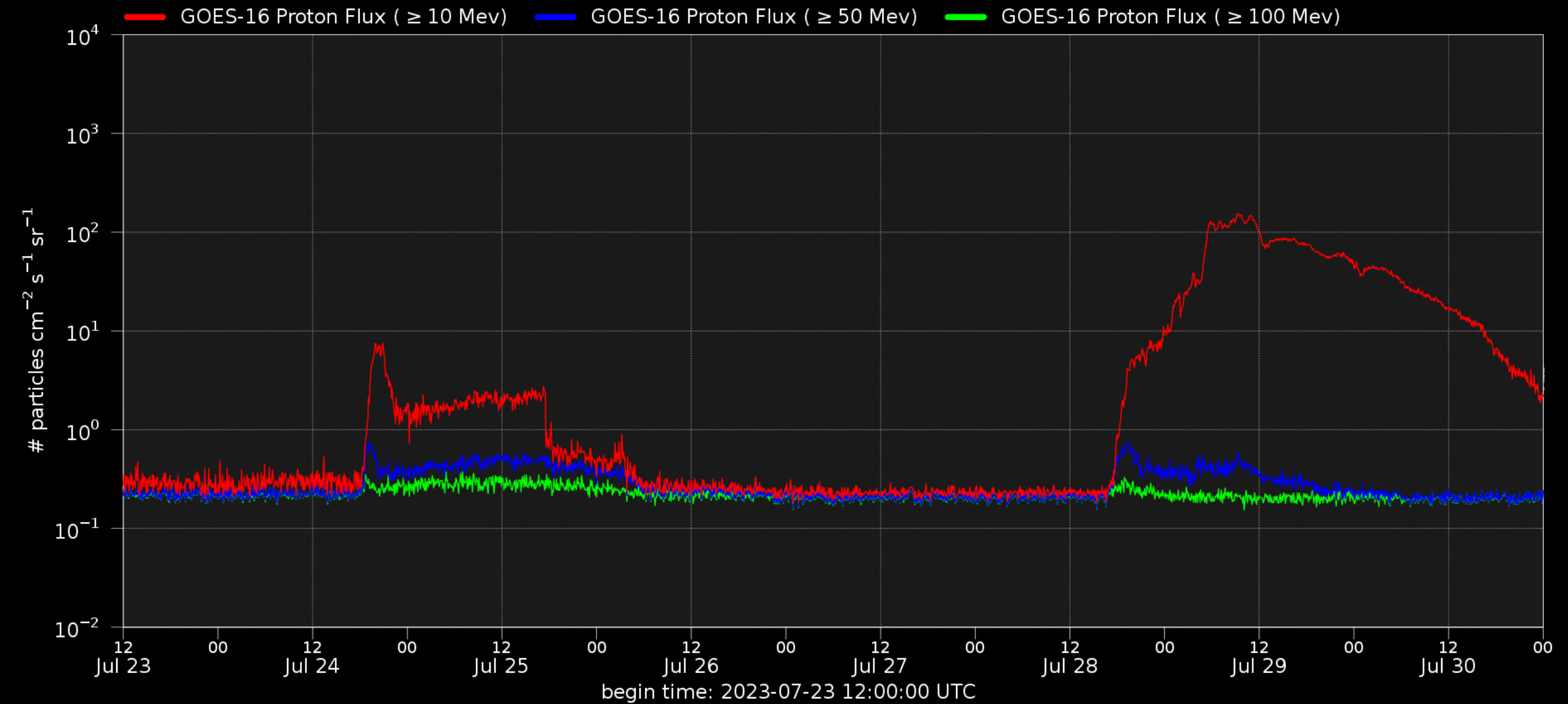
# Energetic Particles



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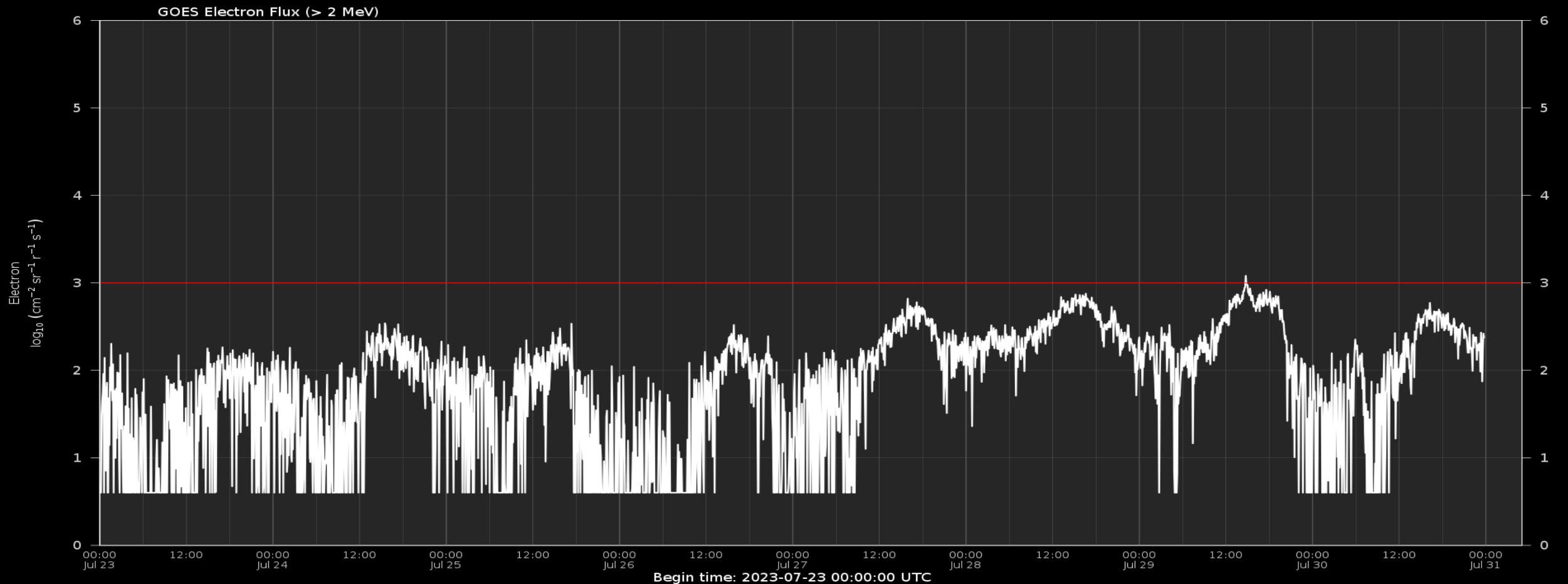
# Solar proton flux



# Electron flux at GEO

[www.stce.be/educational/classification#electrons](http://www.stce.be/educational/classification#electrons)

[www.spaceweather.gc.ca/forecast-prevision/space-spatiale/sffl-en.php](http://www.spaceweather.gc.ca/forecast-prevision/space-spatiale/sffl-en.php)



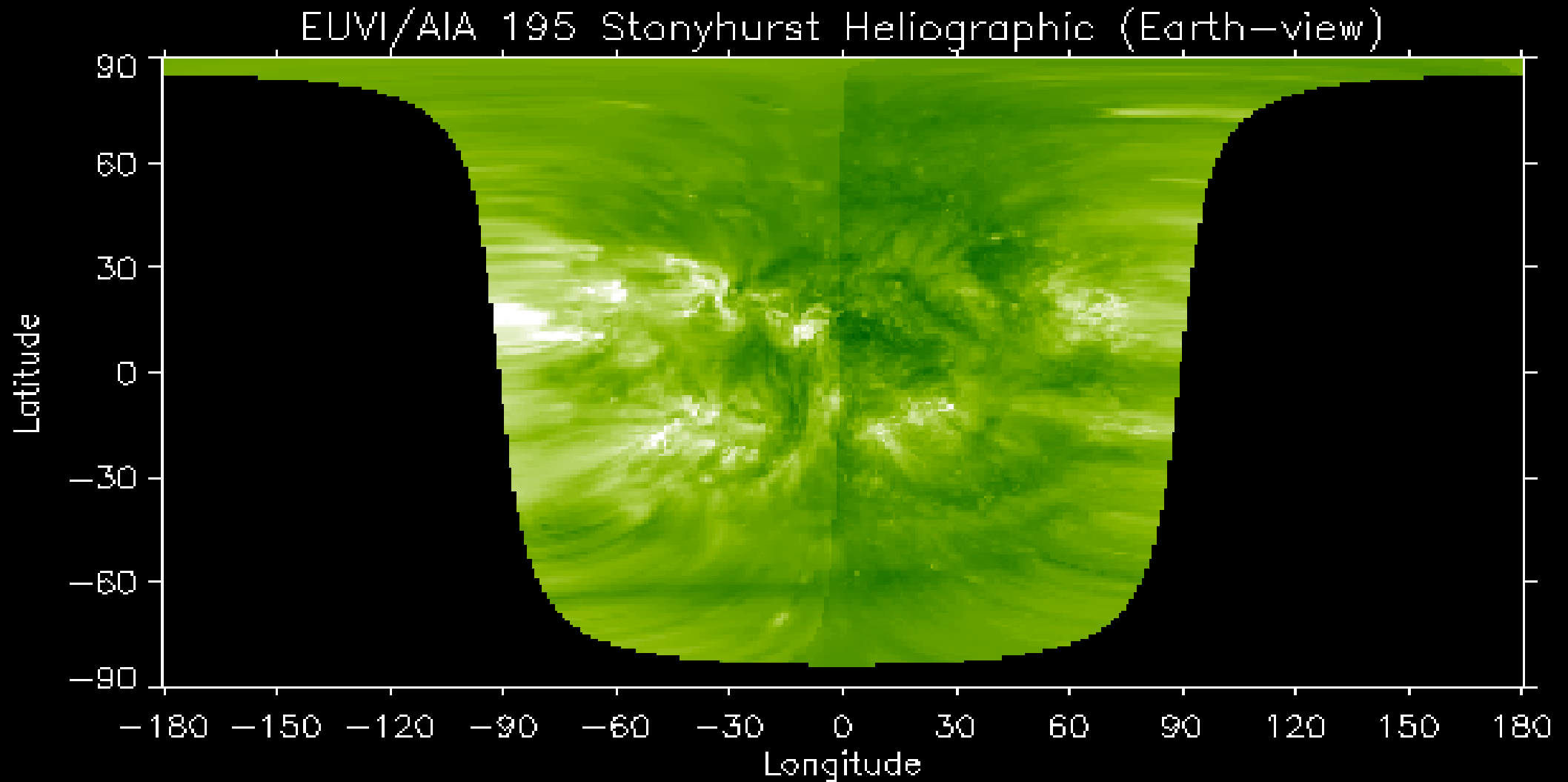
# Outlook



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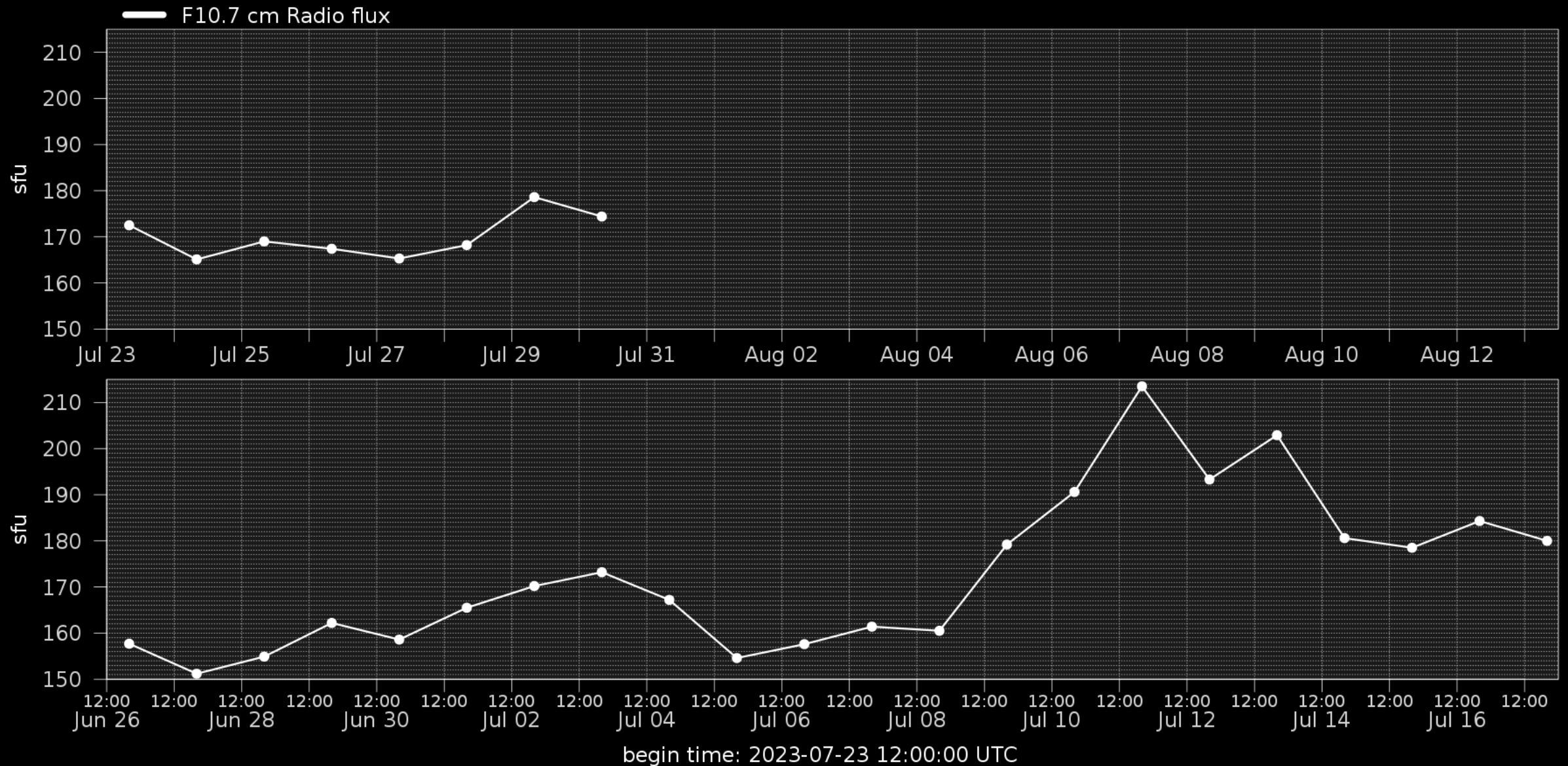
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# Outlook: Solar activity

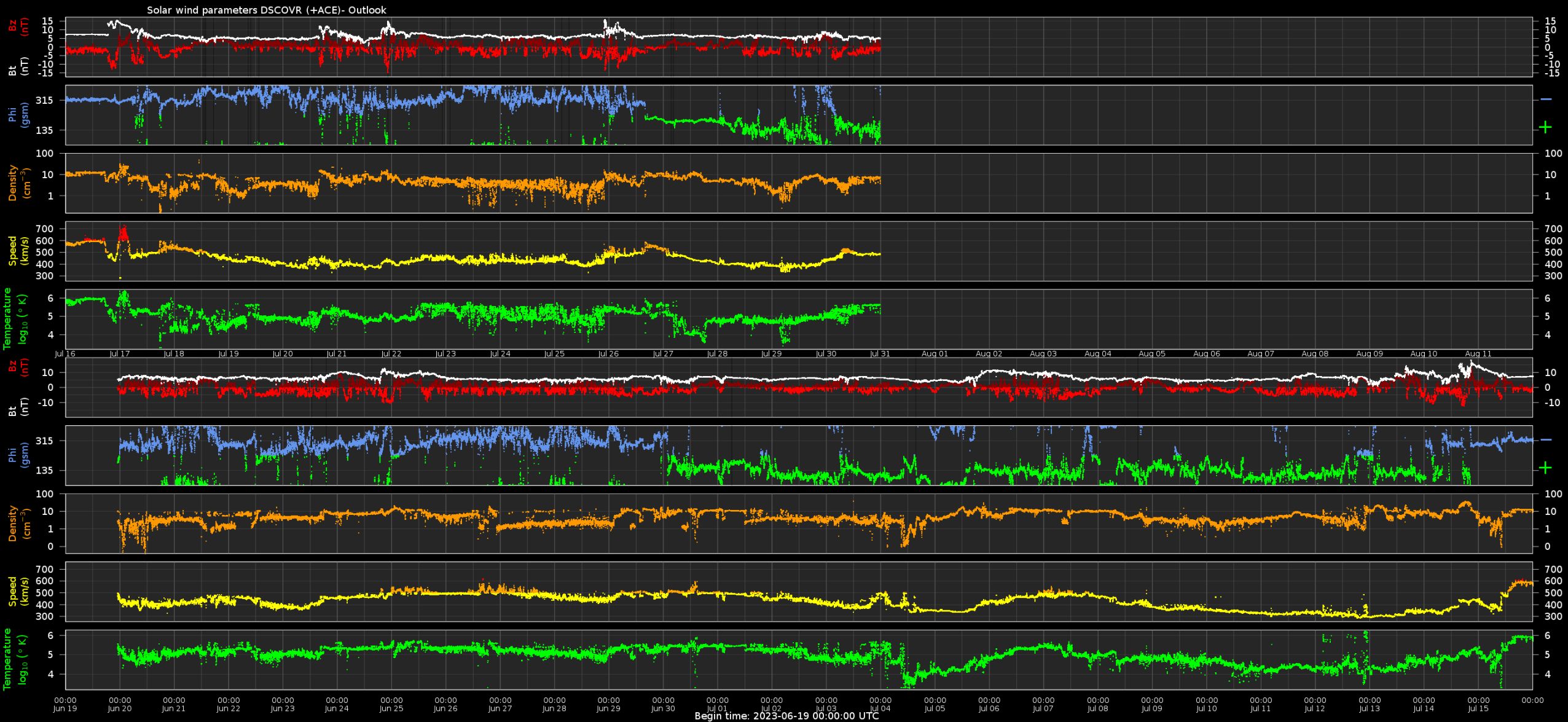


Observation date: 2023/07/30 23:25:00

# Outlook: Solar F10.7cm radio flux

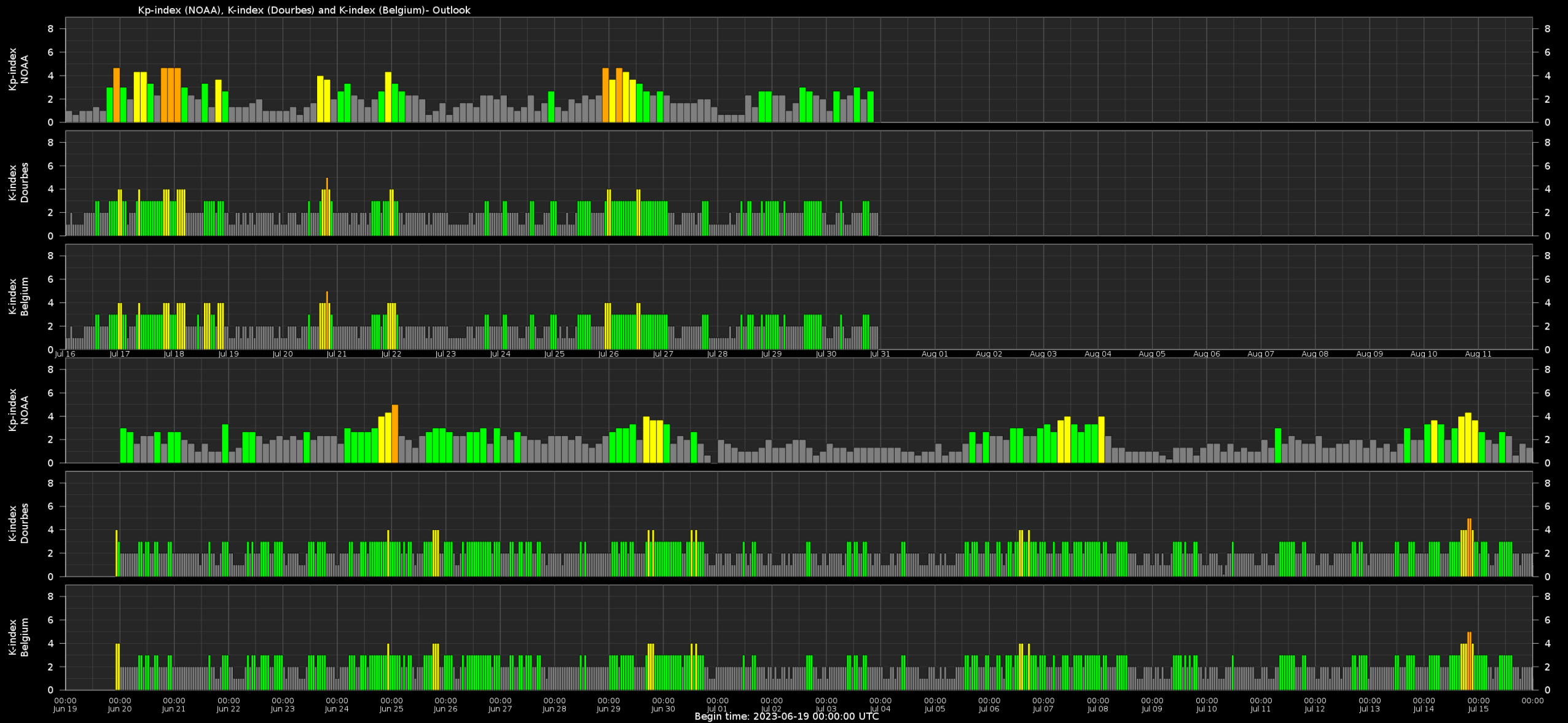


# Outlook: Solar wind parameters





# Outlook: Geomagnetic activity



# Outlook: Electron Flux at GEO Outlook



# Pegasus



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# Pecasus related events

29-30 July: Polar Cap Absorption event. Advisories issued for lower HF radio communication.

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See you at our next briefing!

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