

SIDC Space Weather Briefing

03 September 2023-10 September 2023

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& the SIDC forecaster team



Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be

Summary Report

Solar activity from 2023-09-03 12:00 to 2023-09-10 23:59

Active regions	3415, 3416, 3417...3427 – in total 13 numbered ARs
Flares	# C-class flare: 48 # M-class flare: 4 # X-class flare: 0
Coronal Holes	Several small coronal holes (3 negative and 1 positive polarity)
CMEs	No Earth directed halo CMEs

Proton flux	At the background level
Electron flux	At the background level

Solar wind and geomagnetic conditions

ICMEs	No ICMEs
Solar wind conditions	B : 0.13 - 10.3 nT //Bz: -8.71 nT to 9.07 nT //Speed: 306.4 - 545.9km/s
K-indices	max K-index (KBel): 3 max Kp-index (NOAA): 4

All Quiet Alert: none

Solar Activity

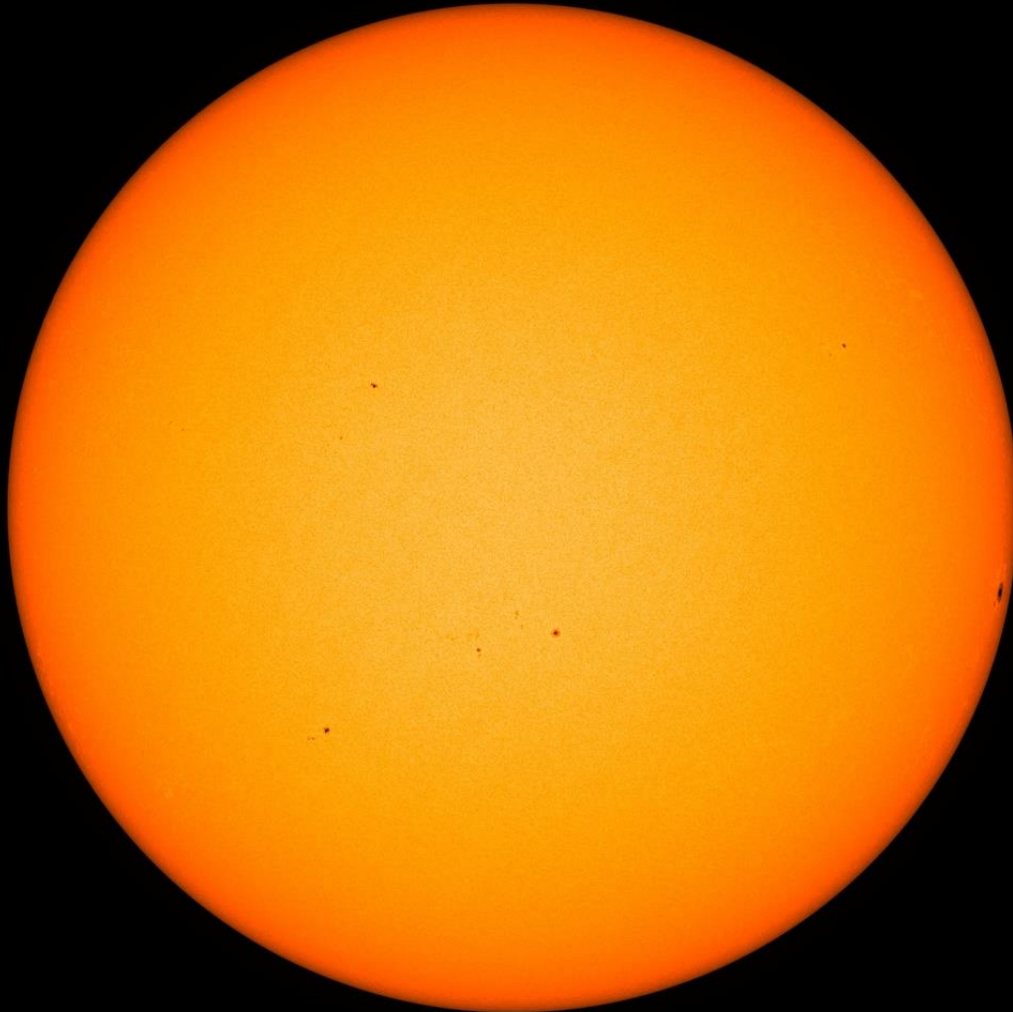


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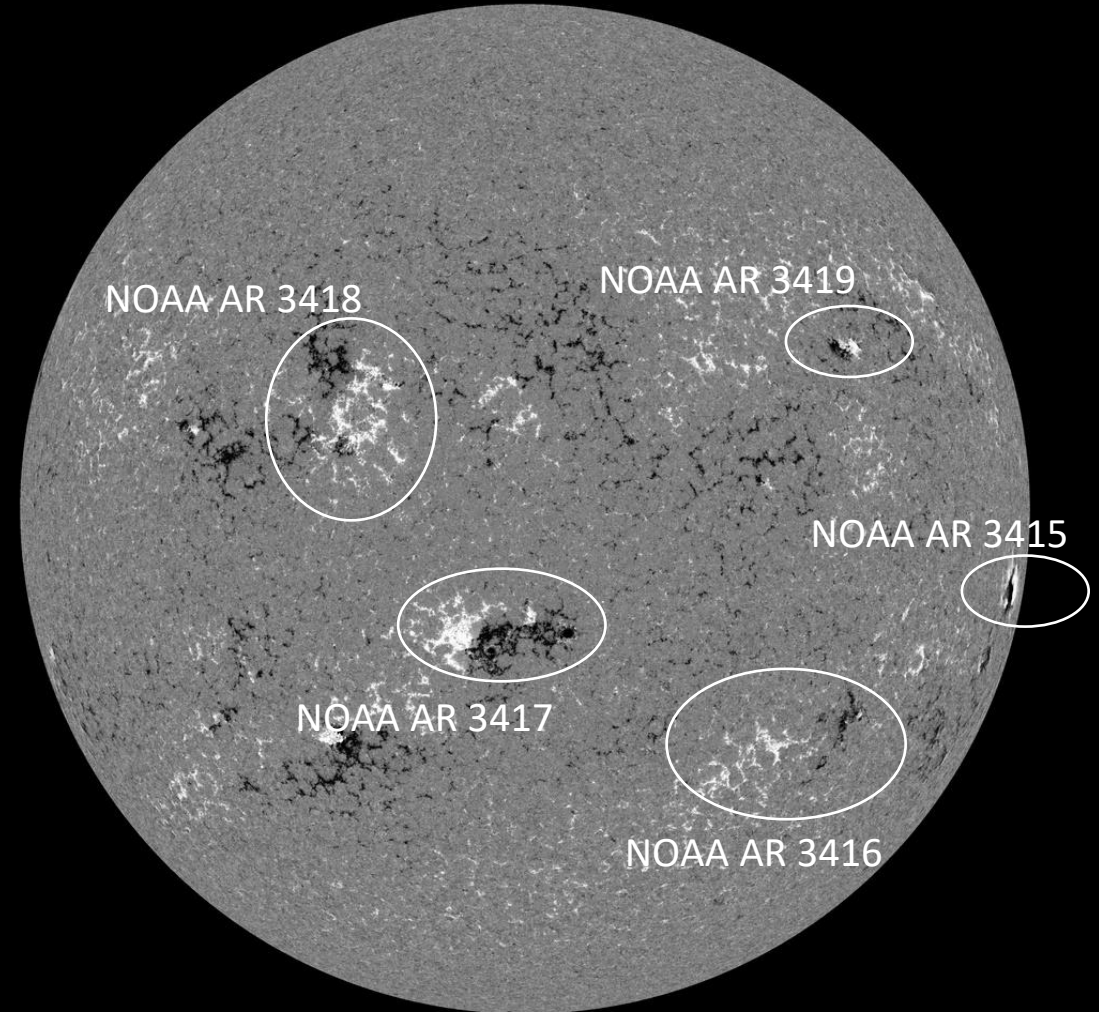
Solar active regions

SDO/HMI White Light 2023-09-03



SDO/HMI Quick-Look Continuum: 20230903_114500

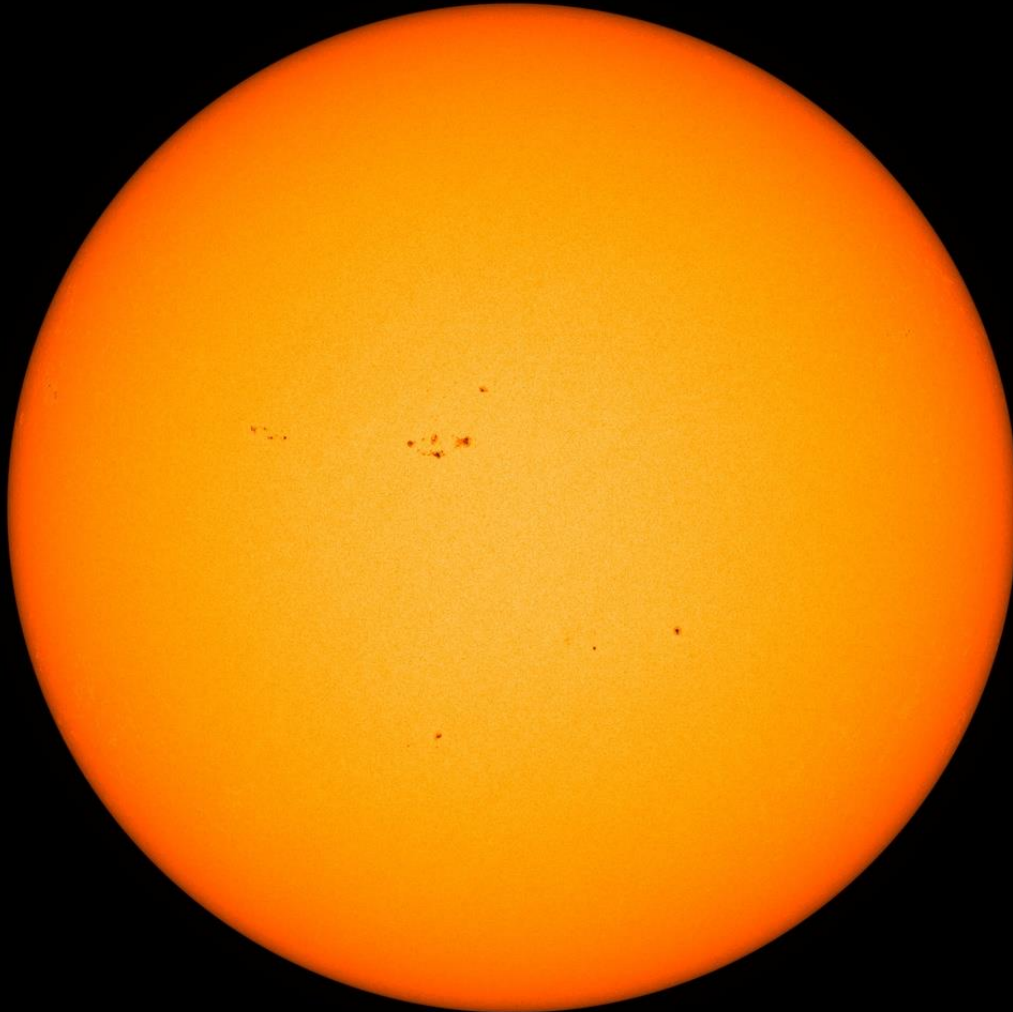
SDO/HMI Magnetogram 2023-09-03



SDO/HMI Quick-Look Magnetogram: 20230903_114500

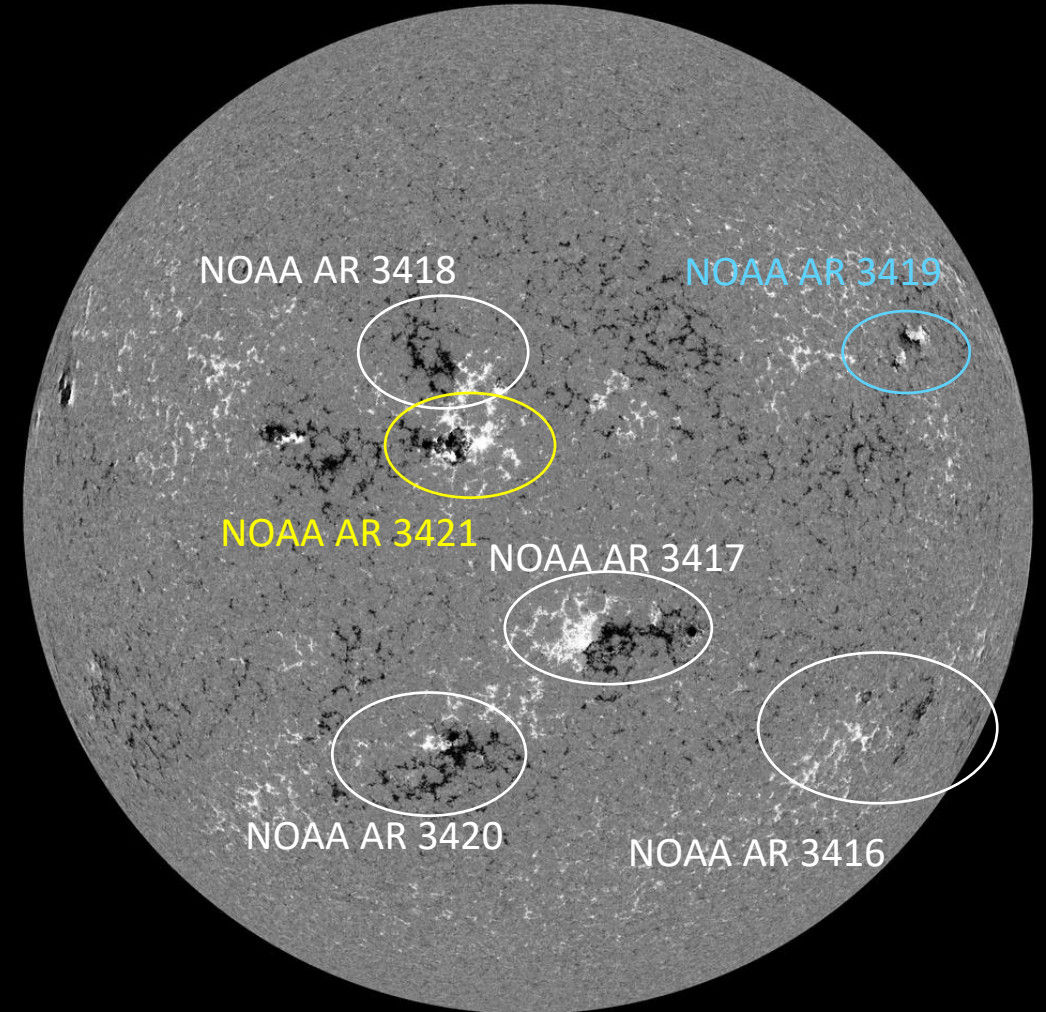
Solar active regions

SDO/HMI White Light 2023-09-04



SDO/HMI Quick-Look Continuum: 20230904_114500

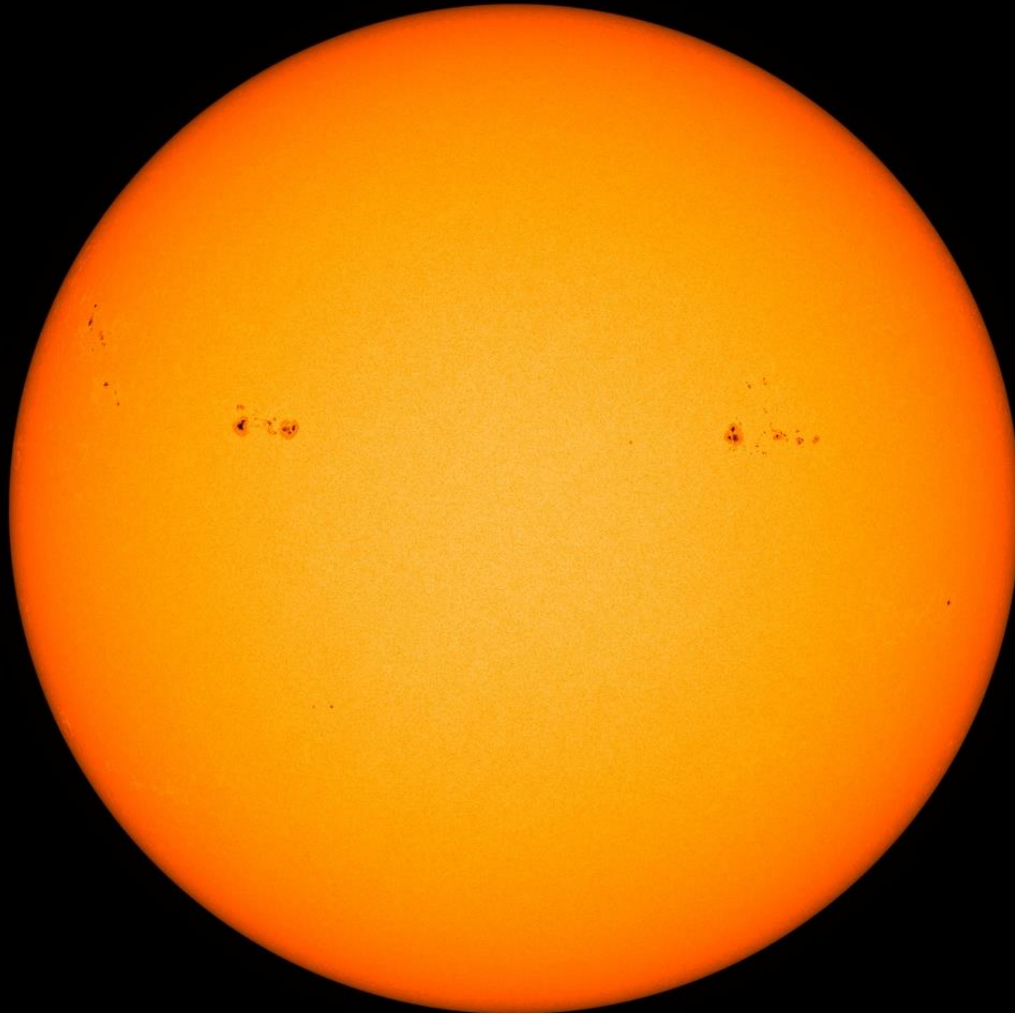
SDO/HMI Magnetogram 2023-09-04



SDO/HMI Quick-Look Magnetogram: 20230904_114500

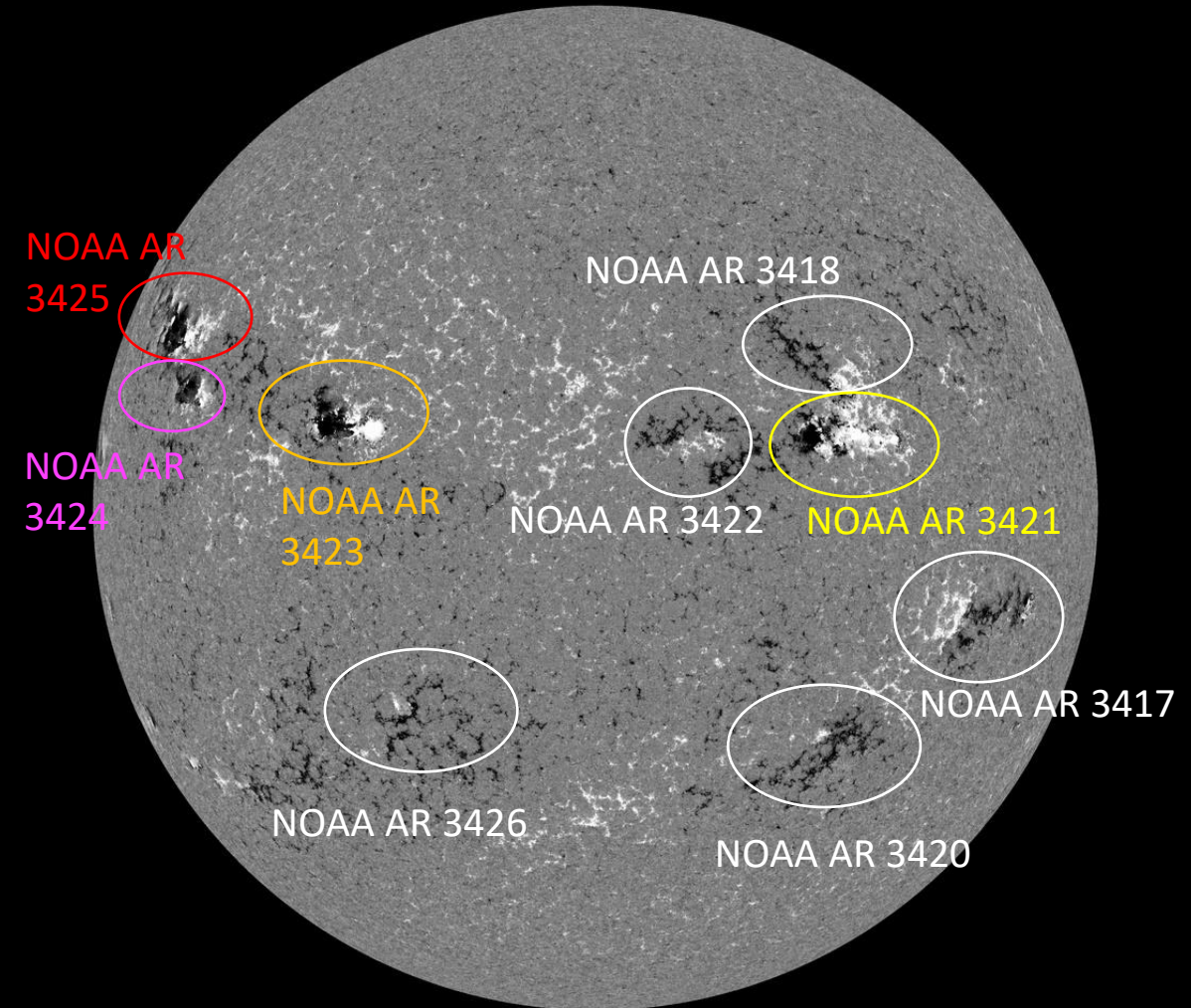
Solar active regions

SDO/HMI White Light 2023-09-07



SDO/HMI Quick-Look Continuum: 20230907_114500

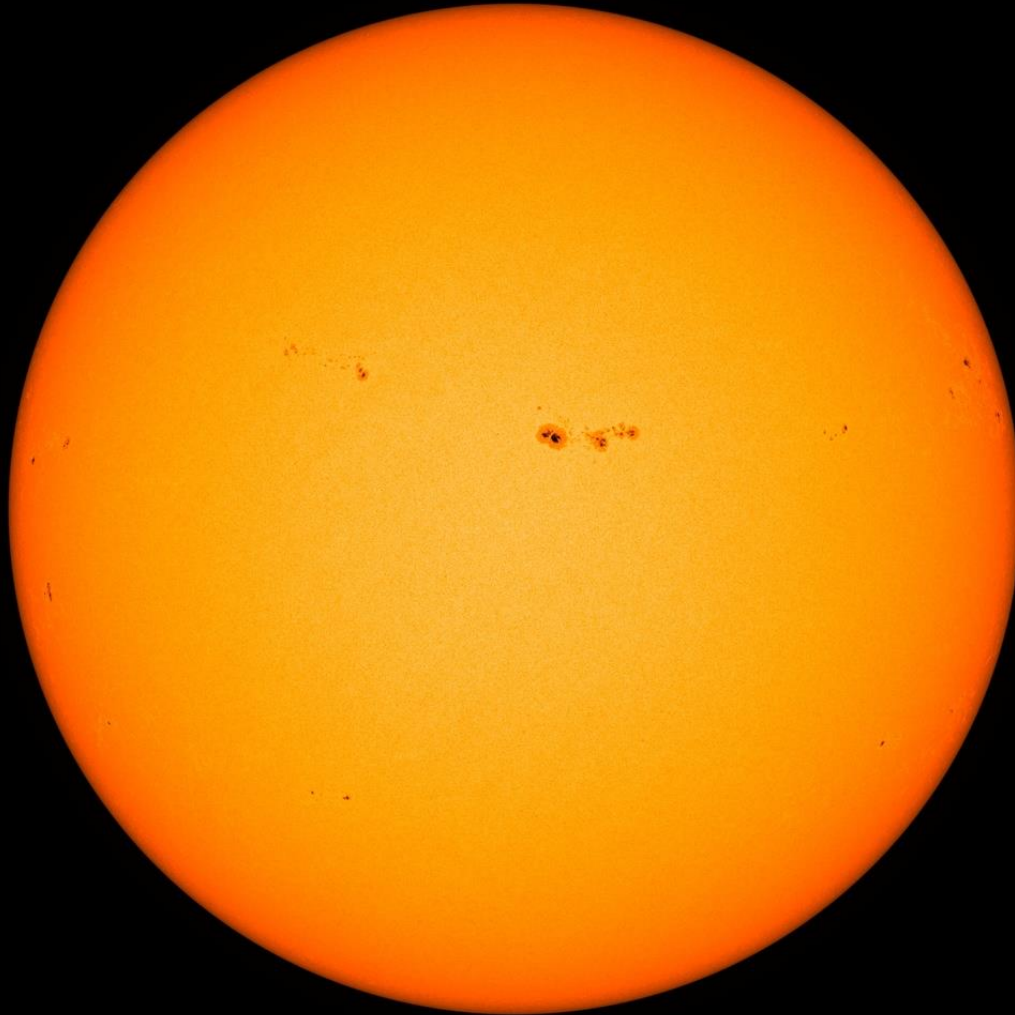
SDO/HMI Magnetogram 2023-09-07



SDO/HMI Quick-Look Magnetogram: 20230907_114500

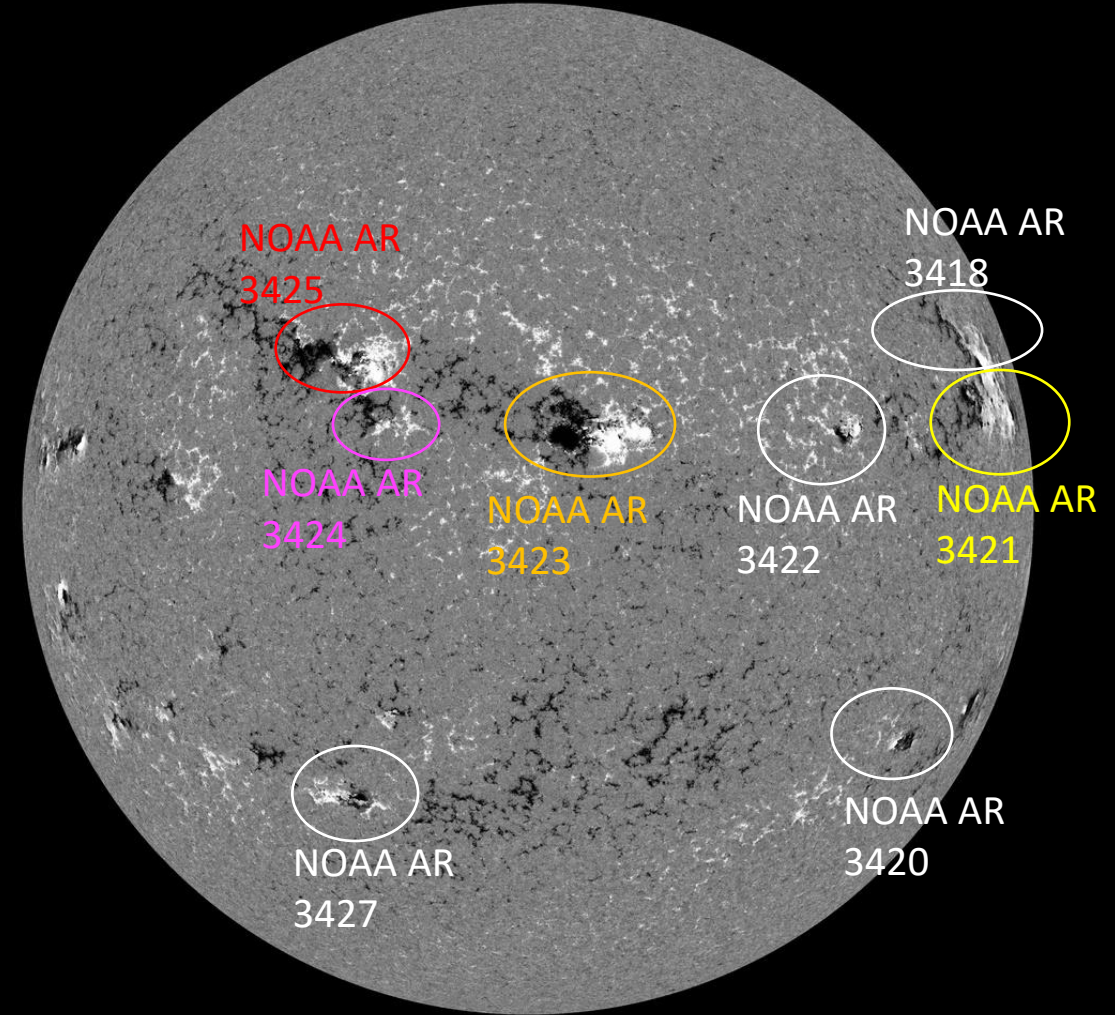
Solar active regions

SDO/HMI White Light 2023-09-10



SDO/HMI Quick-Look Continuum: 20230910_114500

SDO/HMI Magnetogram 2023-09-10

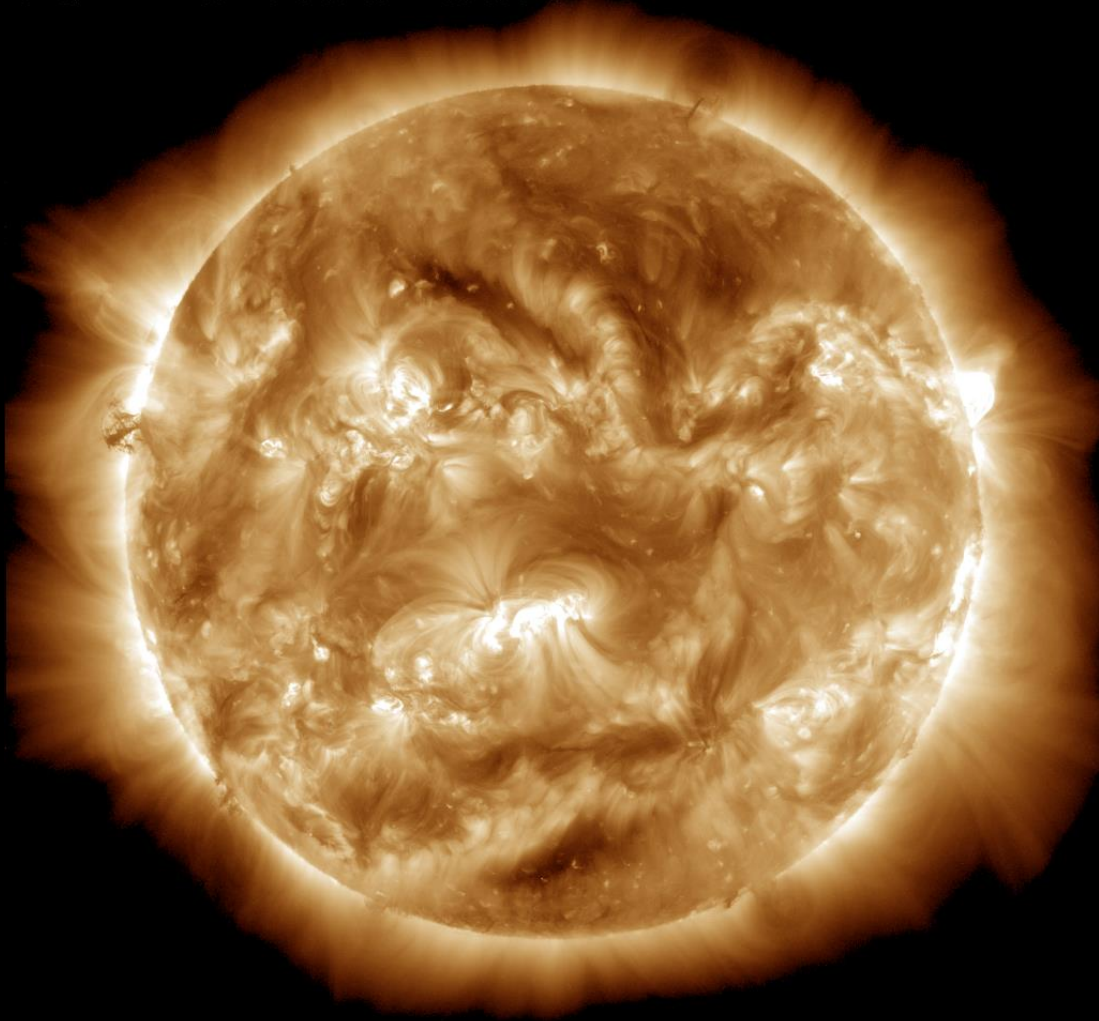


SDO/HMI Quick-Look Magnetogram: 20230910_114500

Coronal holes

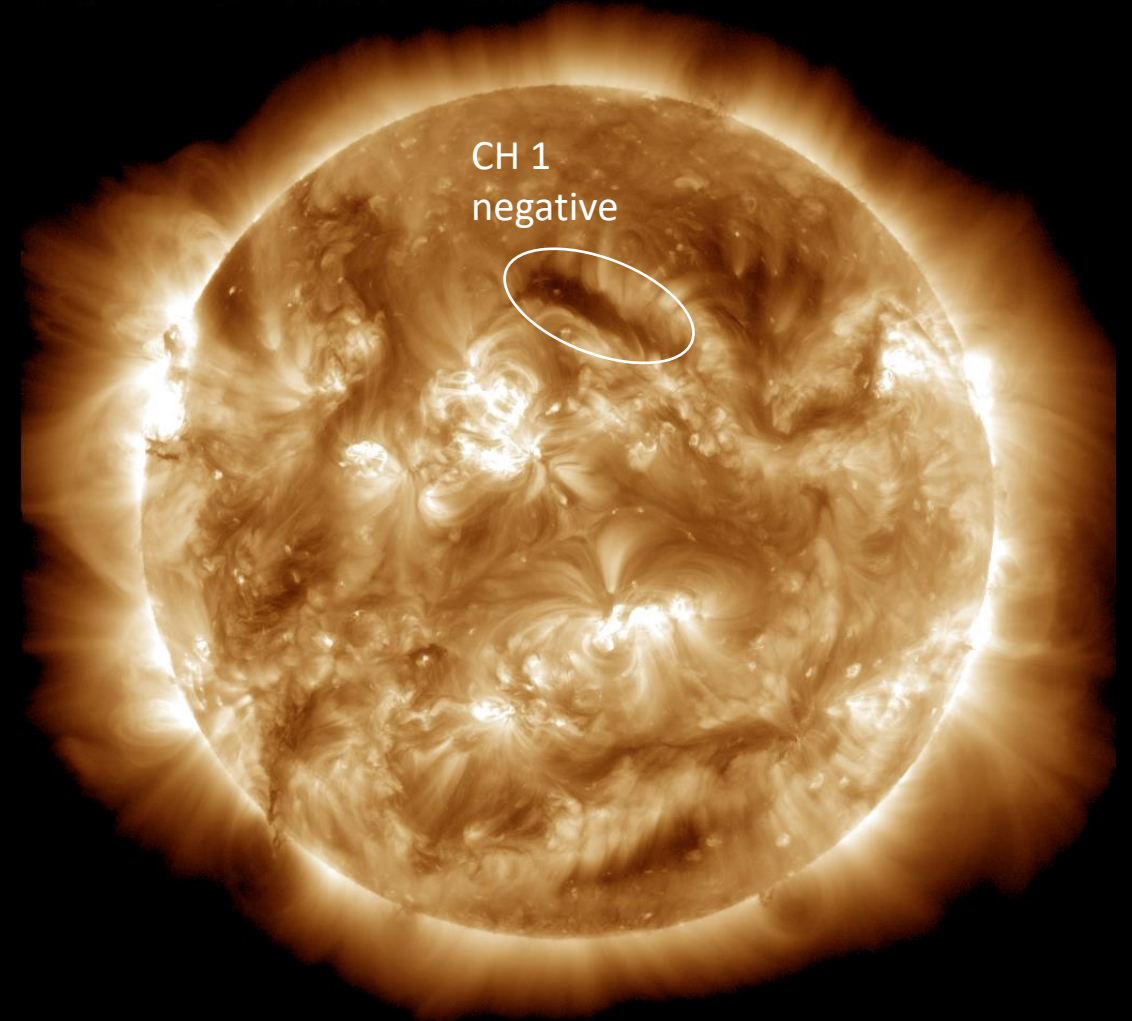
SDO/AIA 19.3 nm 2023-09-03

SDO/AIA AIA 193Å 2023-09-03T12:00:05.846



SDO/AIA 19.3 nm 2023-09-04

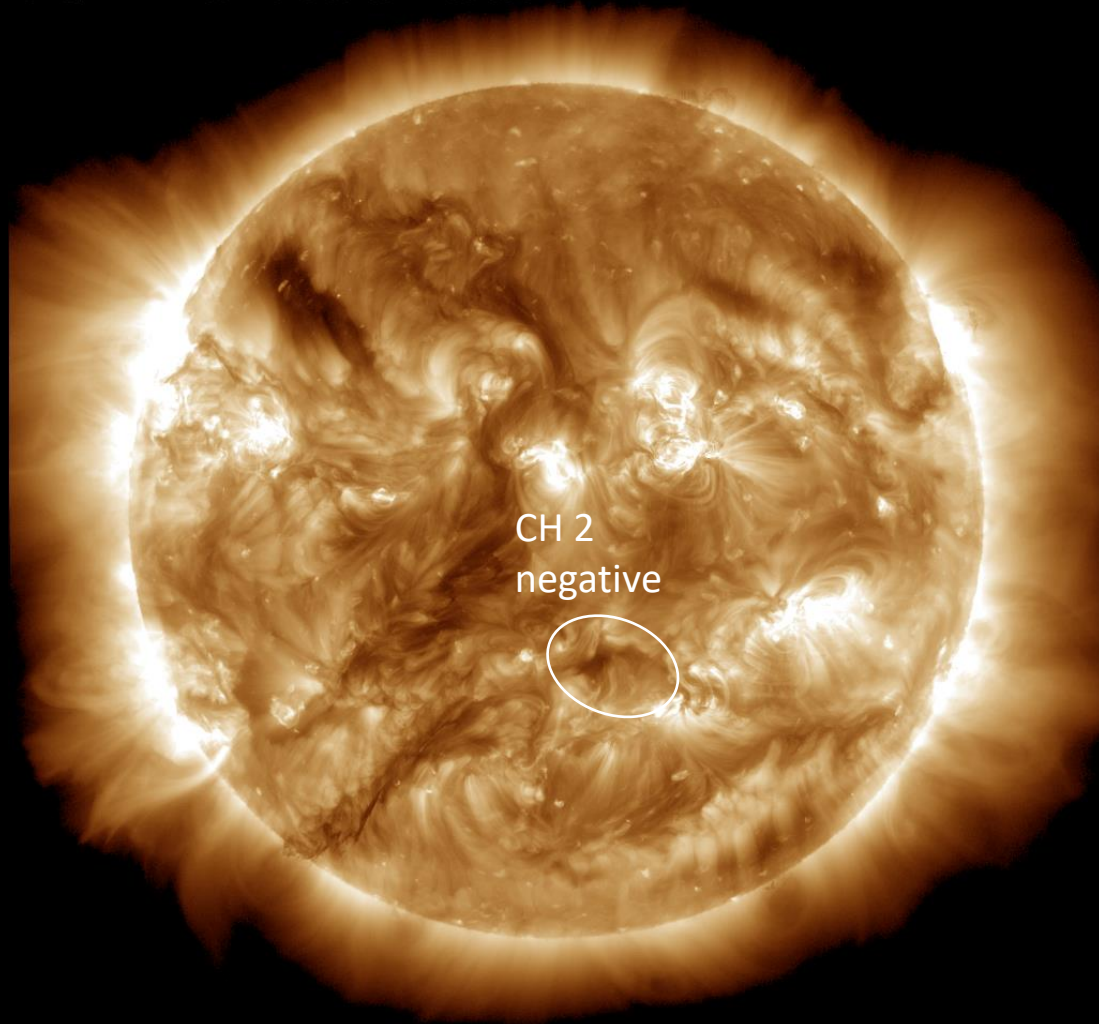
SDO/AIA AIA 193Å 2023-09-04T12:00:05.843



Coronal holes

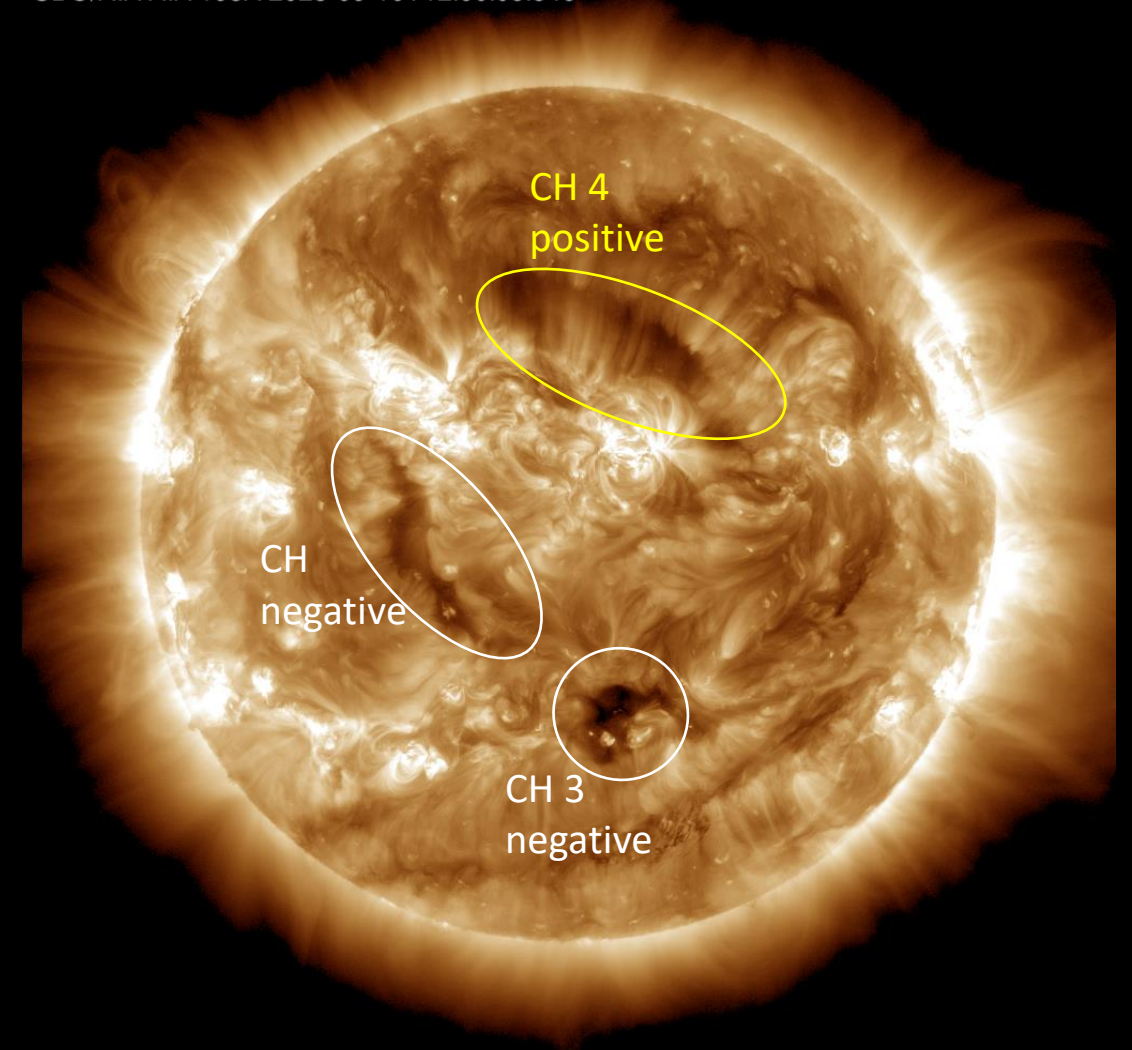
SDO/AIA 19.3 nm 2023-09-06

SDO/AIA AIA 193Å 2023-09-06T12:00:05.843



SDO/AIA 19.3 nm 2023-09-10

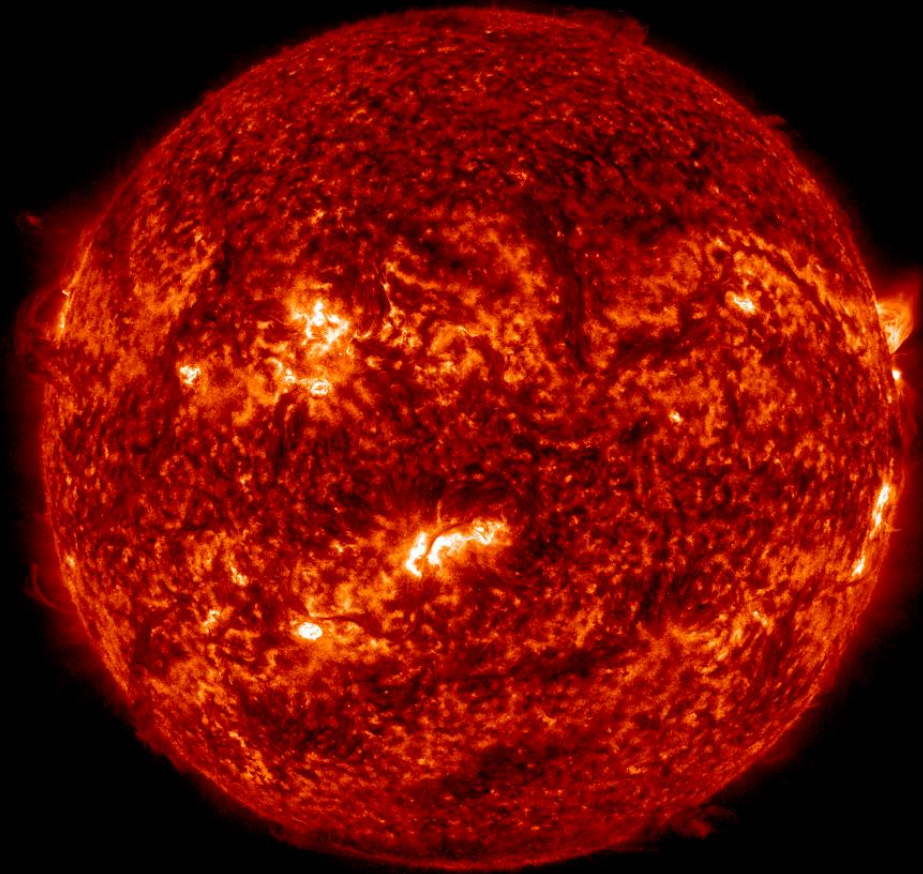
SDO/AIA AIA 193Å 2023-09-10T12:00:05.846



Filaments

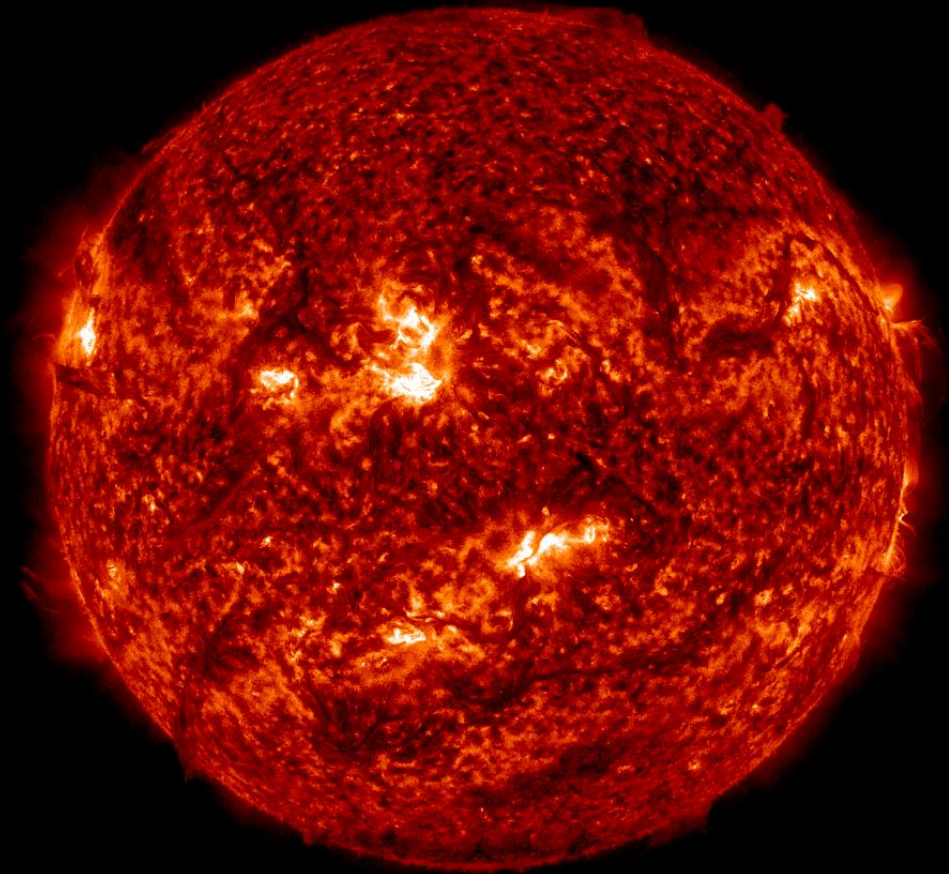
SDO/AIA 30.4 nm 2023-09-03

SDO/AIA AIA 304Å 2023-09-03T12:00:06.580



SDO/AIA 30.4 nm 2023-09-04

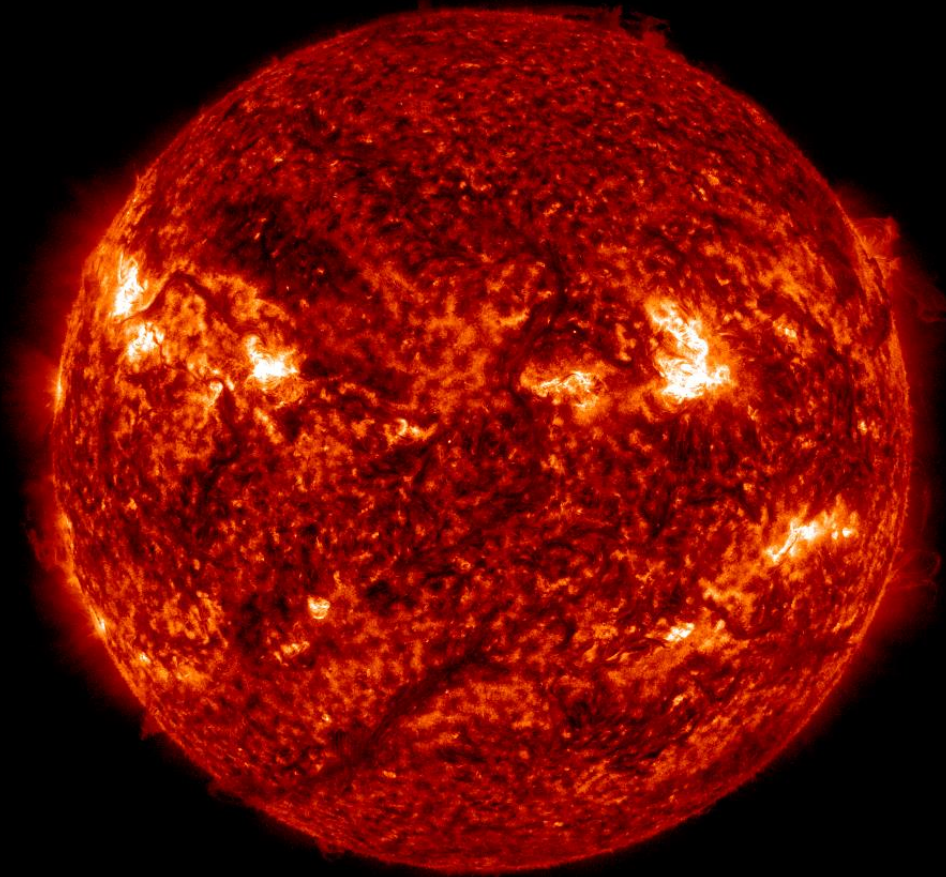
SDO/AIA AIA 304Å 2023-09-04T12:00:06.580



Filaments

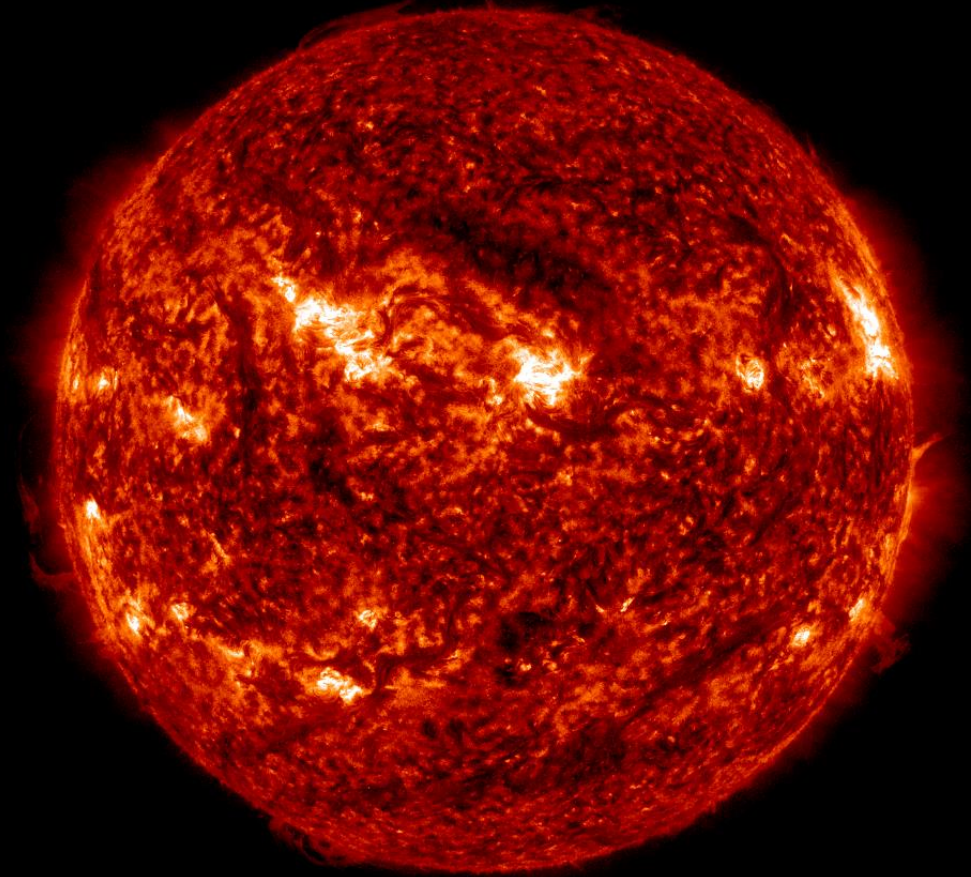
SDO/AIA 30.4 nm 2023-09-07

SDO/AIA AIA 304Å 2023-09-07T12:00:06.580



SDO/AIA 30.4 nm 2023-09-10

SDO/AIA AIA 304Å 2023-09-10T12:00:06.597



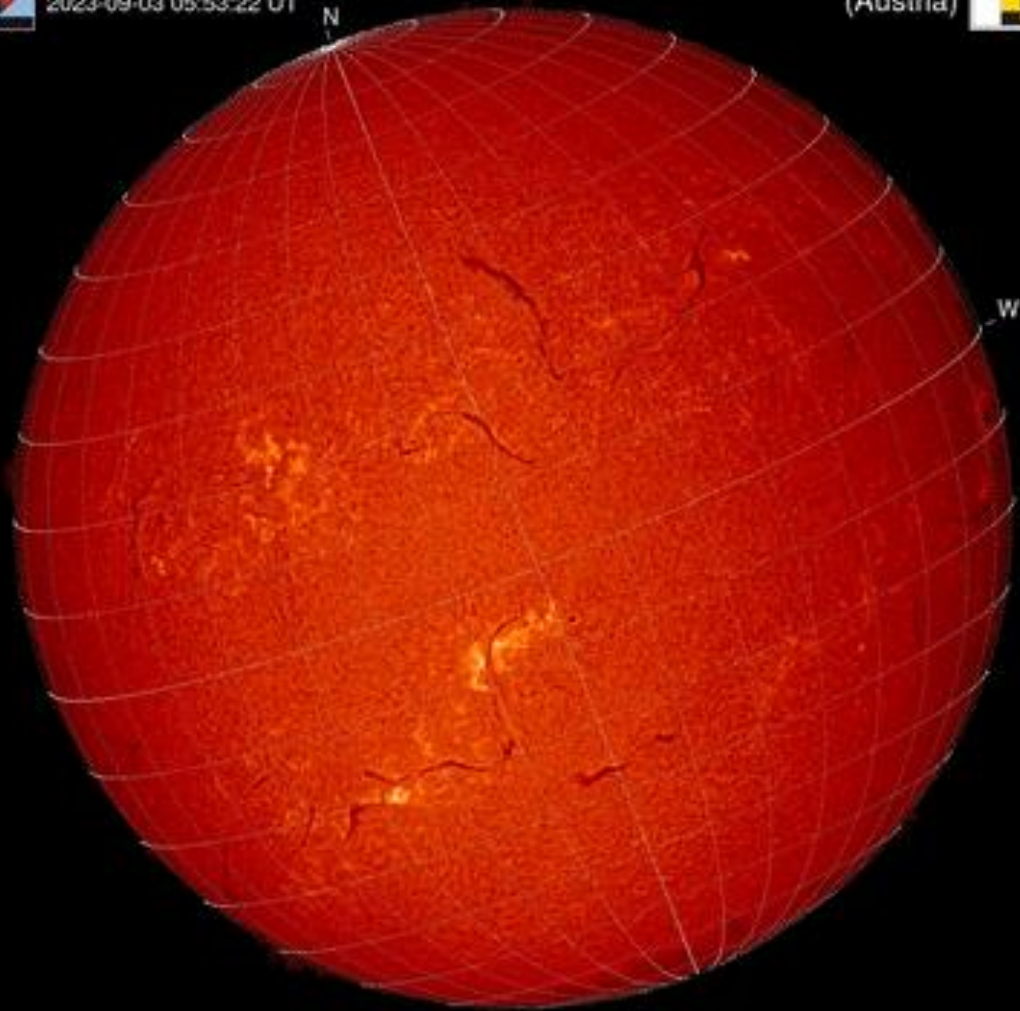
Filaments & Filament eruptions

H-alpha 2023-09-03



Kanzelhöhe Observatory
2023-09-03 05:53:22 UT

University of Graz
(Austria)

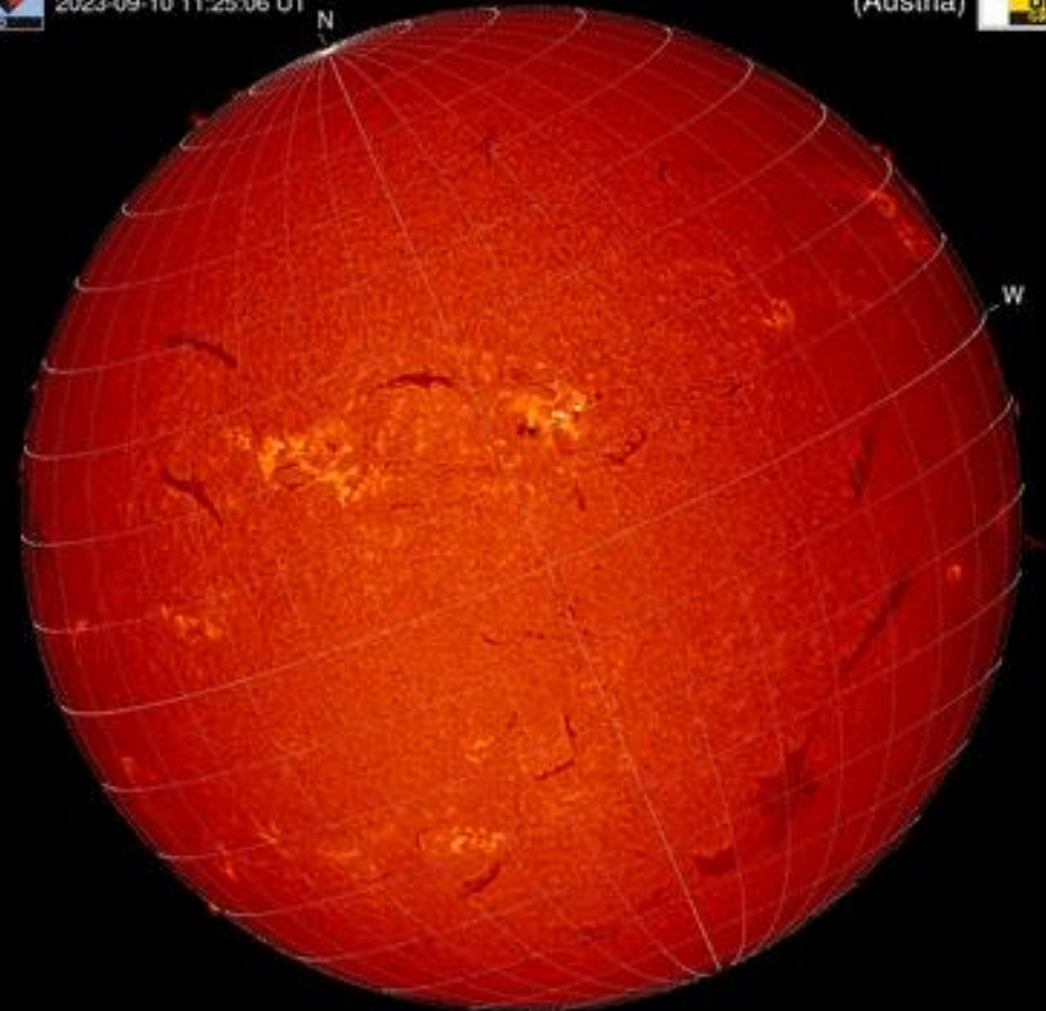


H-alpha 2023-09-10

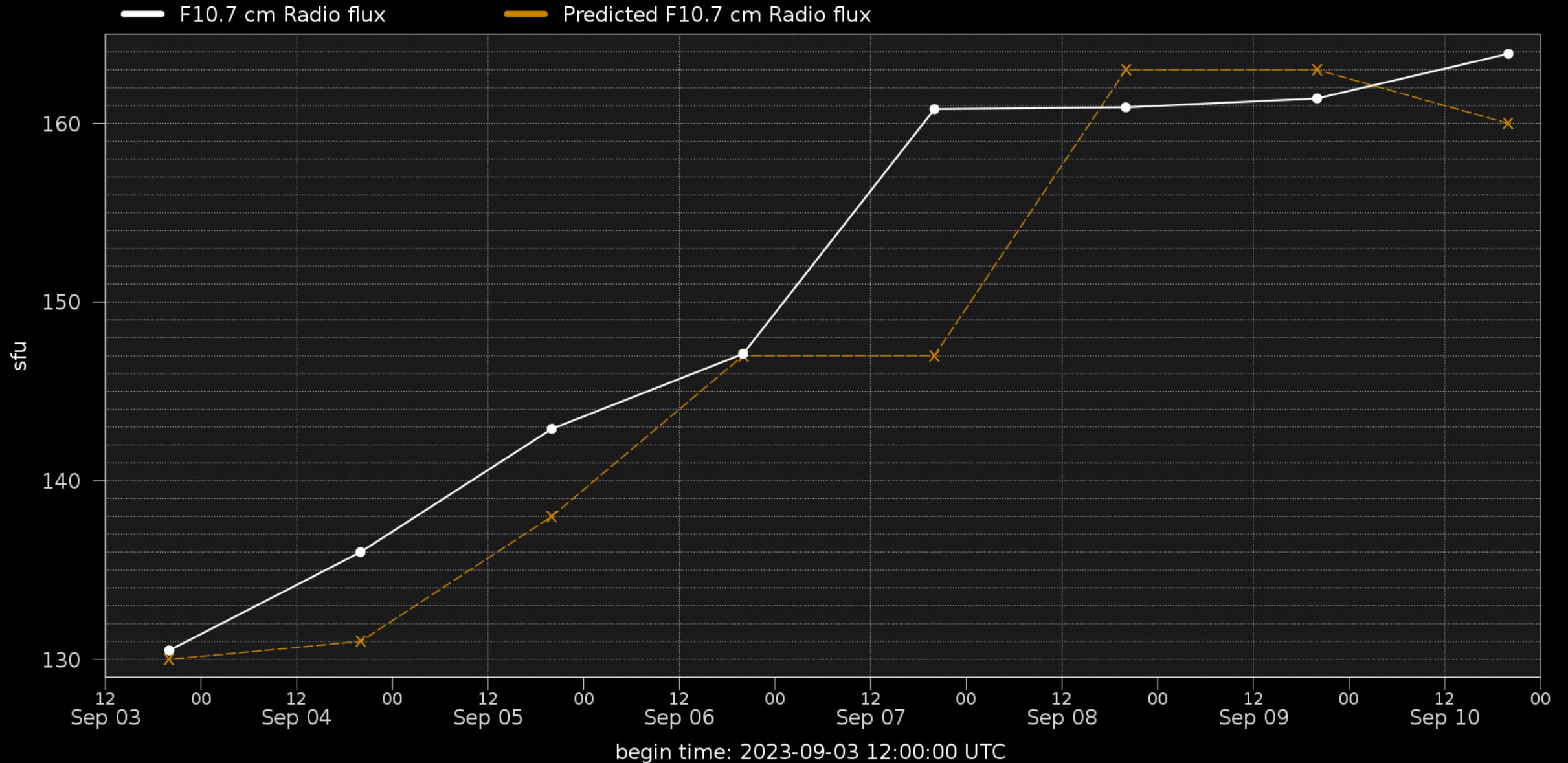


Kanzelhöhe Observatory
2023-09-10 11:25:06 UT

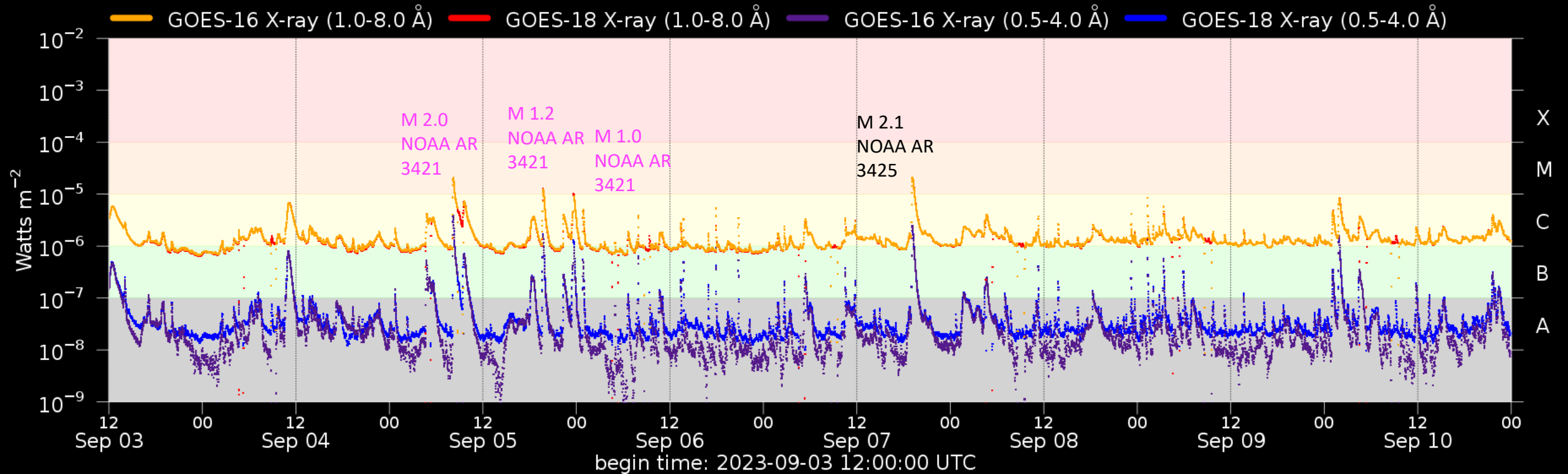
University of Graz
(Austria)



Solar F10.7cm radio flux



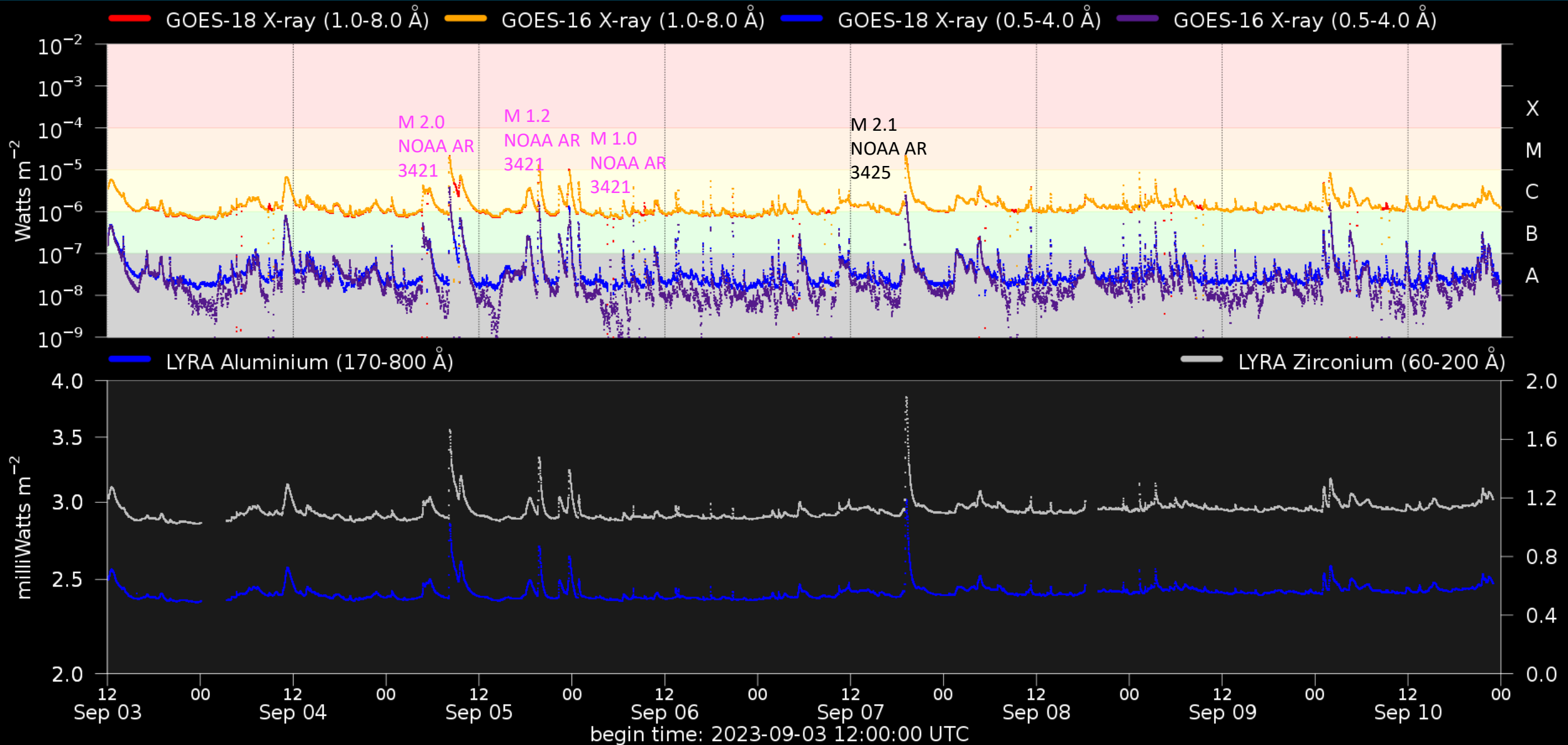
Flaring activity



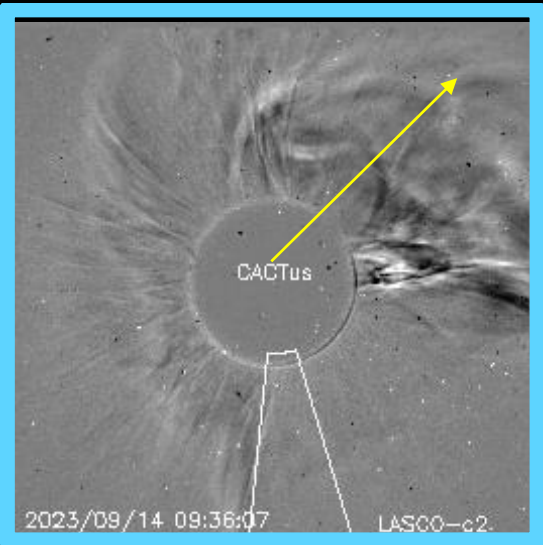
Probabilities (%) and occurrences (#) of C/M/X-flares daily, from noon to noon:

Issue date	2023-09-03	2023-09-04	2023-09-05	2023-09-06	2023-09-07	2023-09-08	2023-09-09	2023-09-10
Probability (%)	95 40 10	55 04 01	80 25 01	95 25 05	99 10 01	99 50 05	90 20 05	75 15 01
Observed (#)	02 00 00	03 01 00	08 02 00	10 00 00	04 01 00	13 00 00	06 00 00	02 00 00

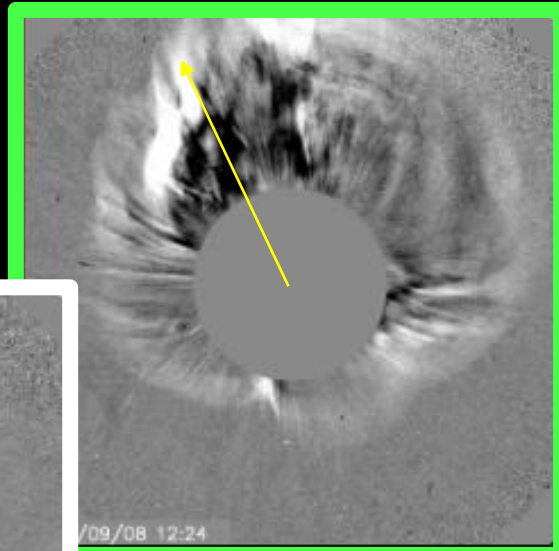
Solar X-Ray and UV flux



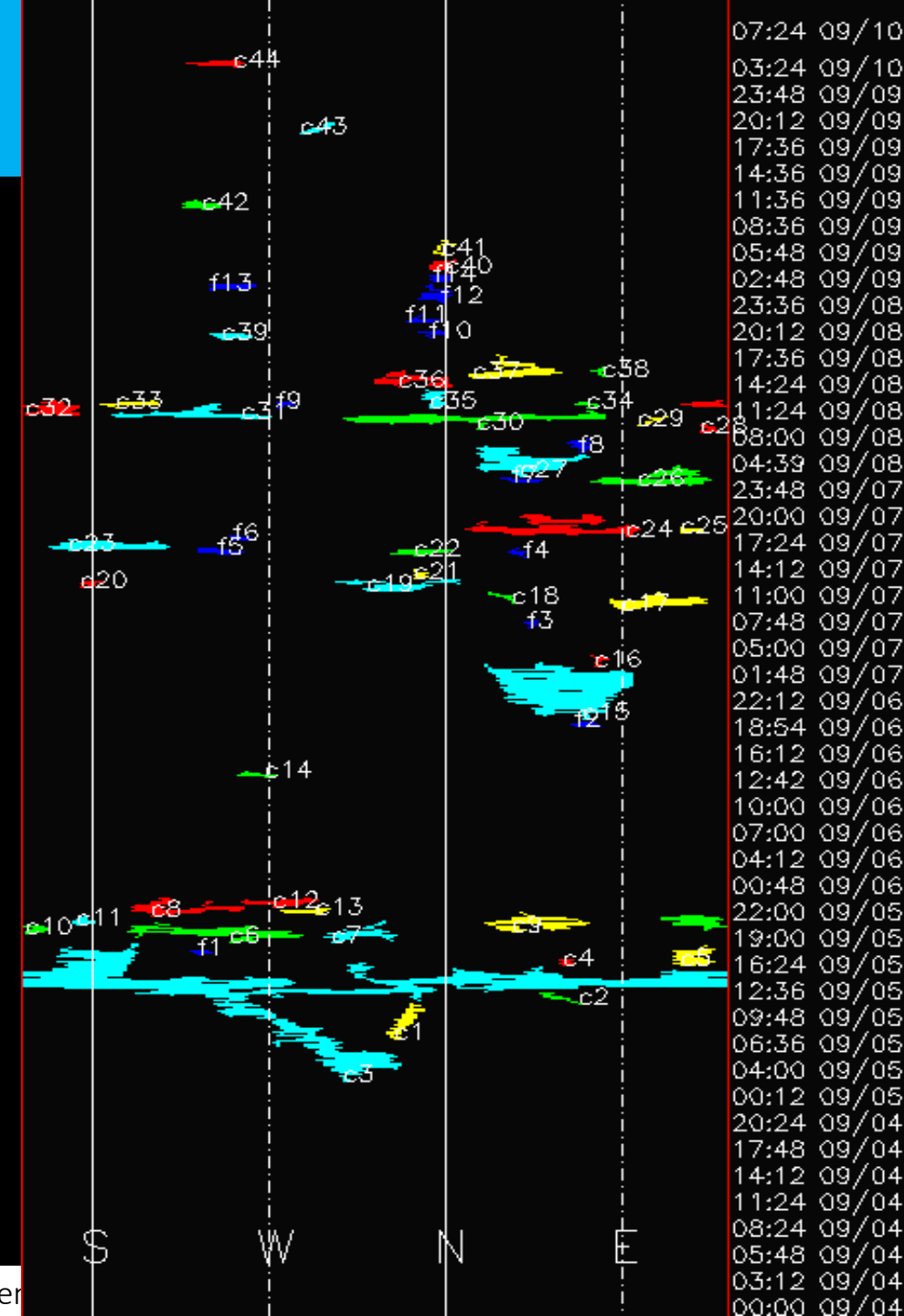
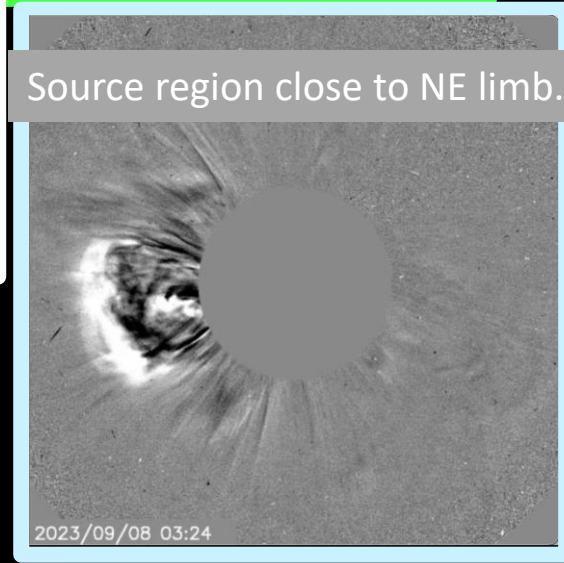
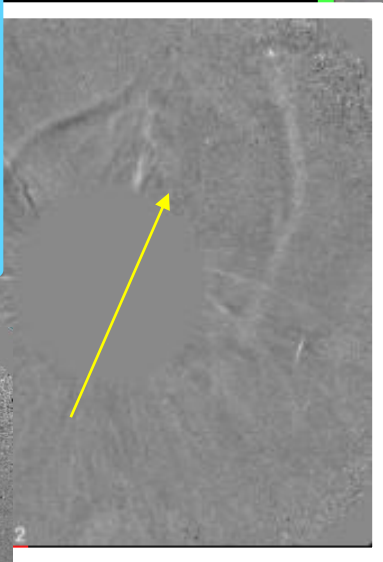
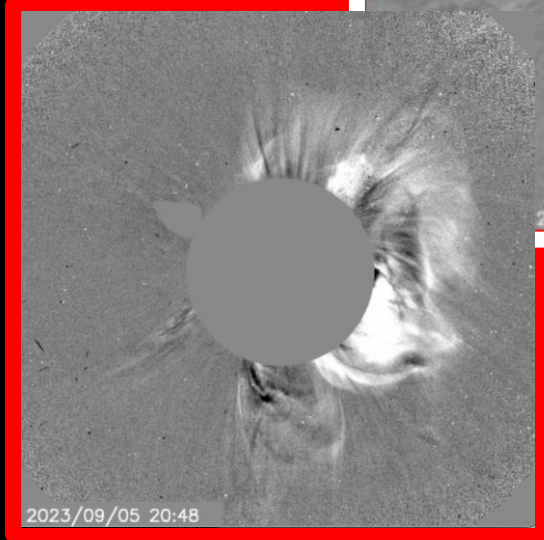
Coronal Mass Ejections



Back side CMEs



Source region close to NE limb.



Solar Wind and

Geomagnetic Activity



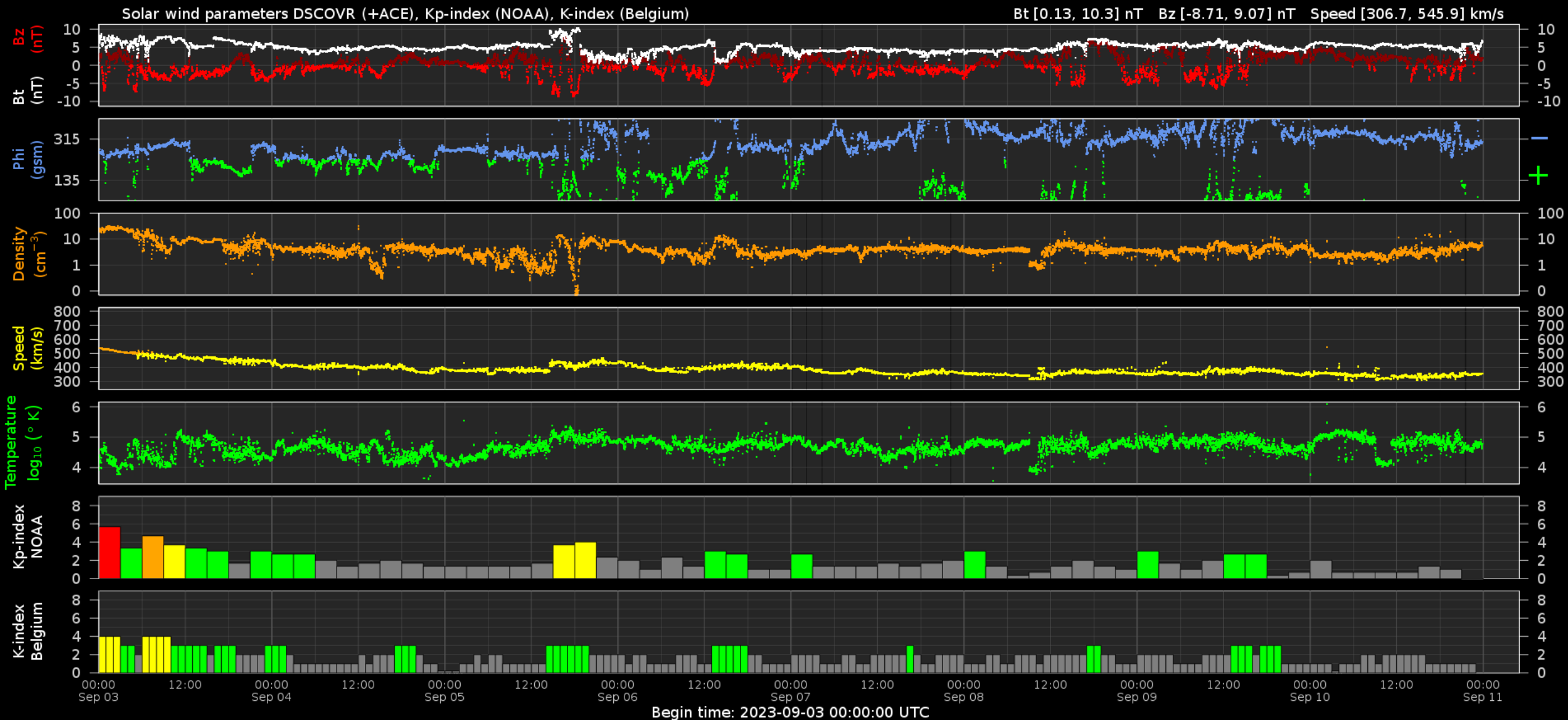
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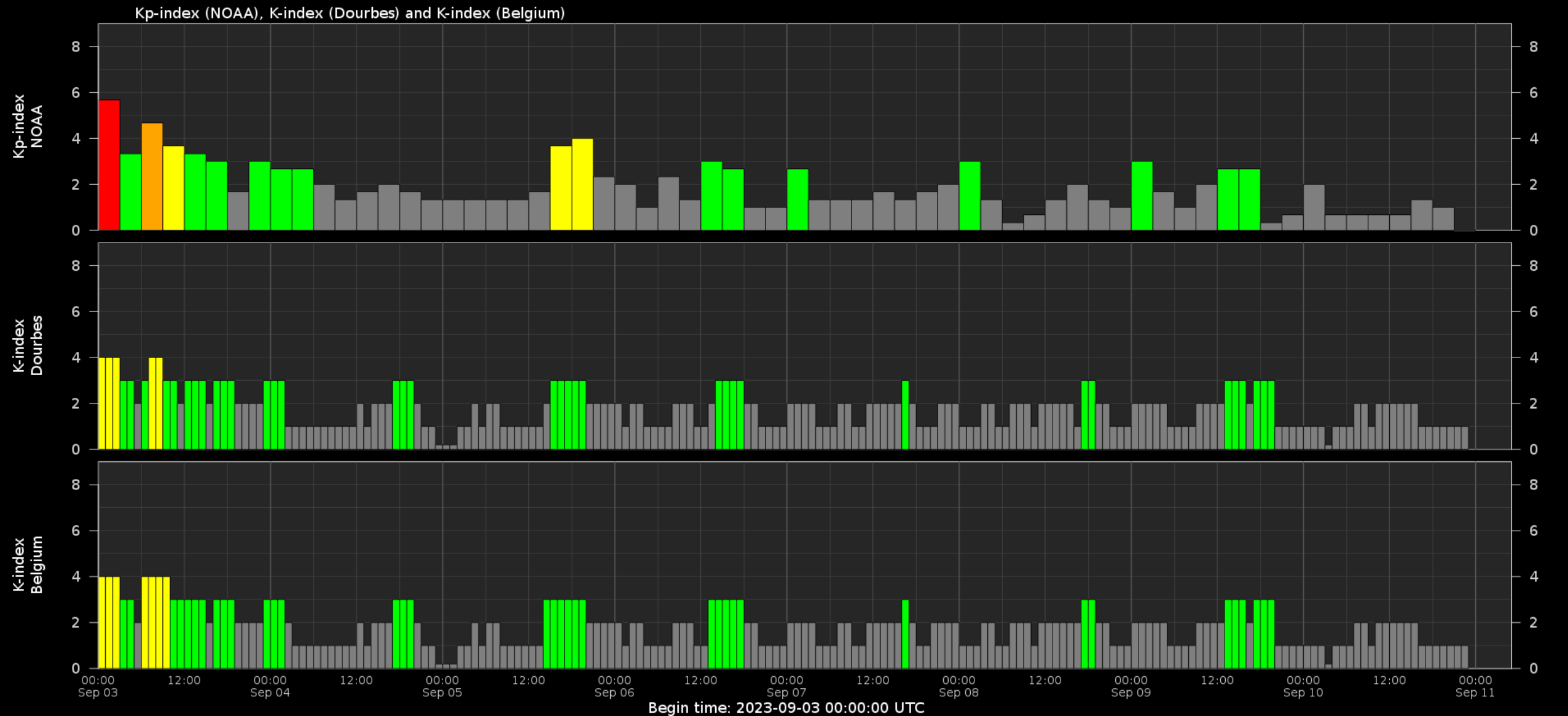
Solar wind parameters



Solar wind parameters & K-indices



Geomagnetic activity (K-indexes)



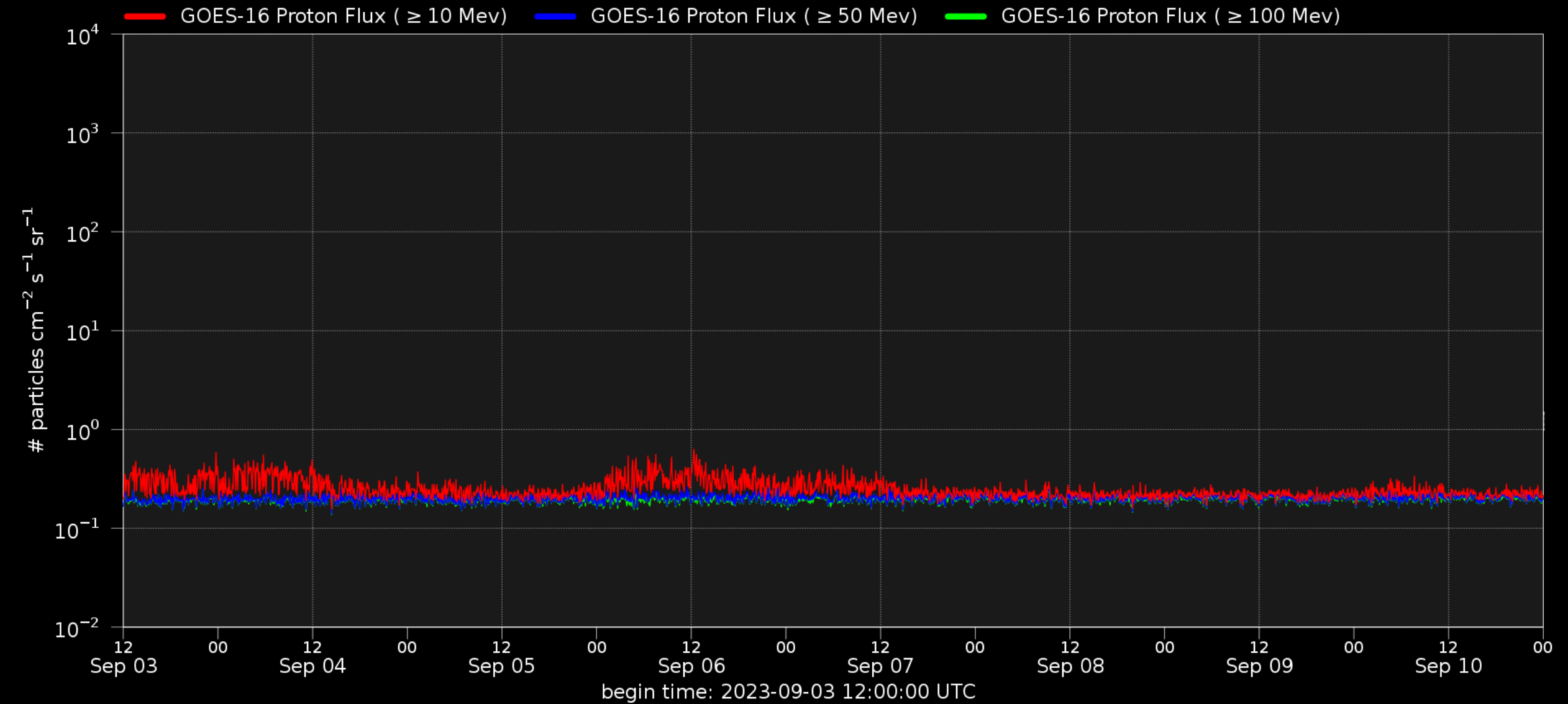
Energetic Particles



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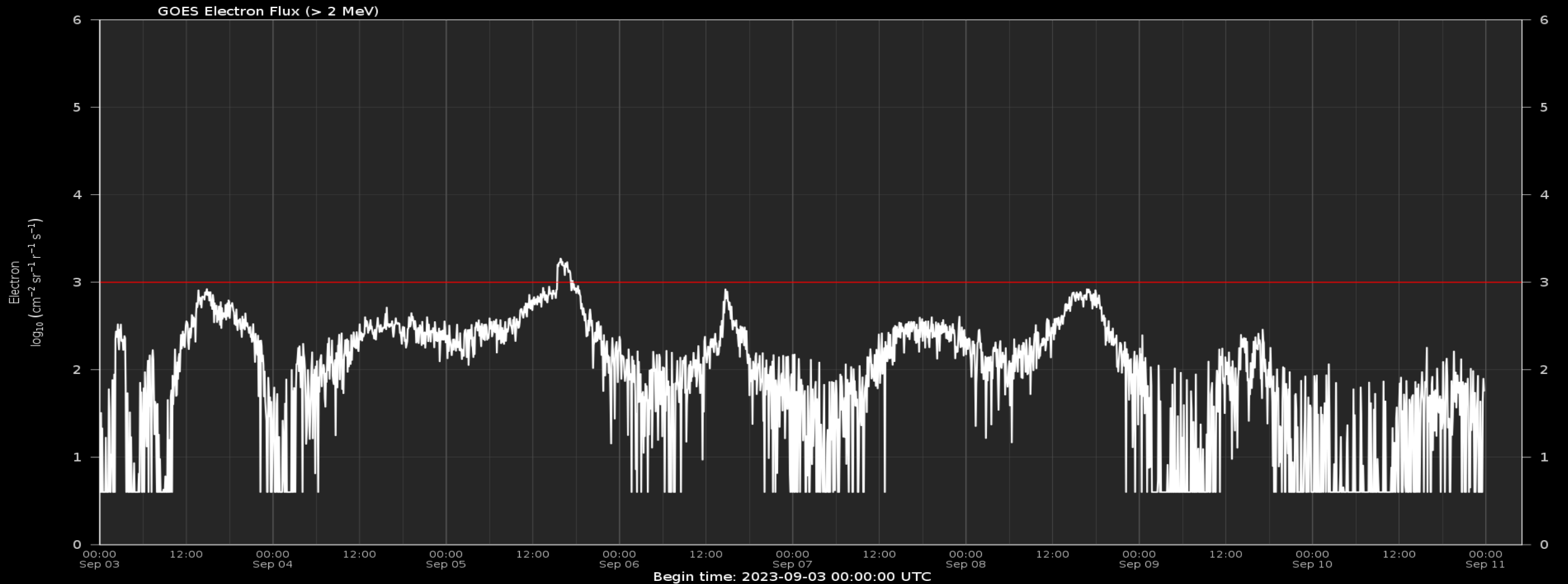
Solar proton flux



Electron flux at GEO

www.stce.be/educational/classification#electrons

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



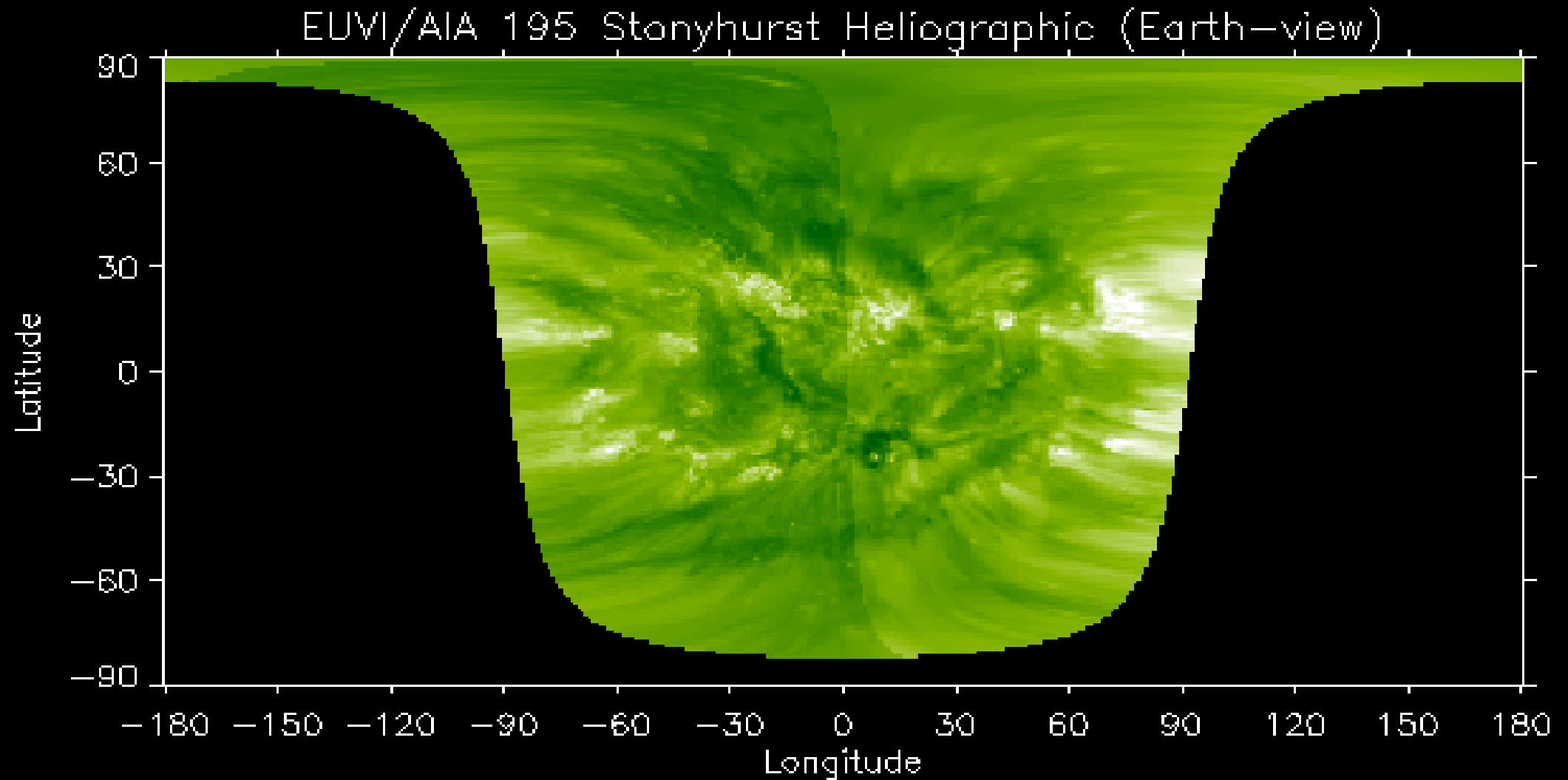
Outlook



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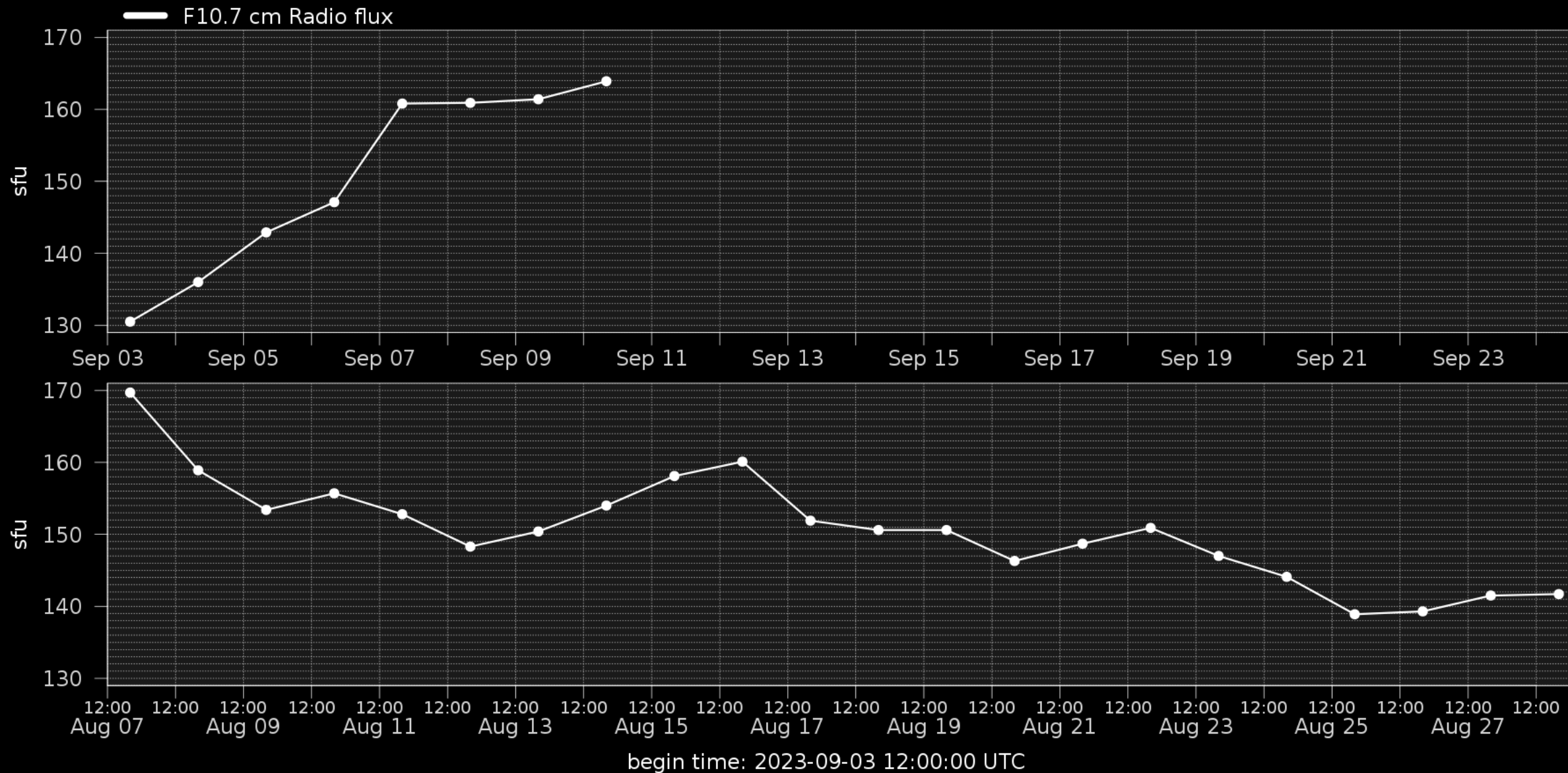
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Outlook: Solar activity

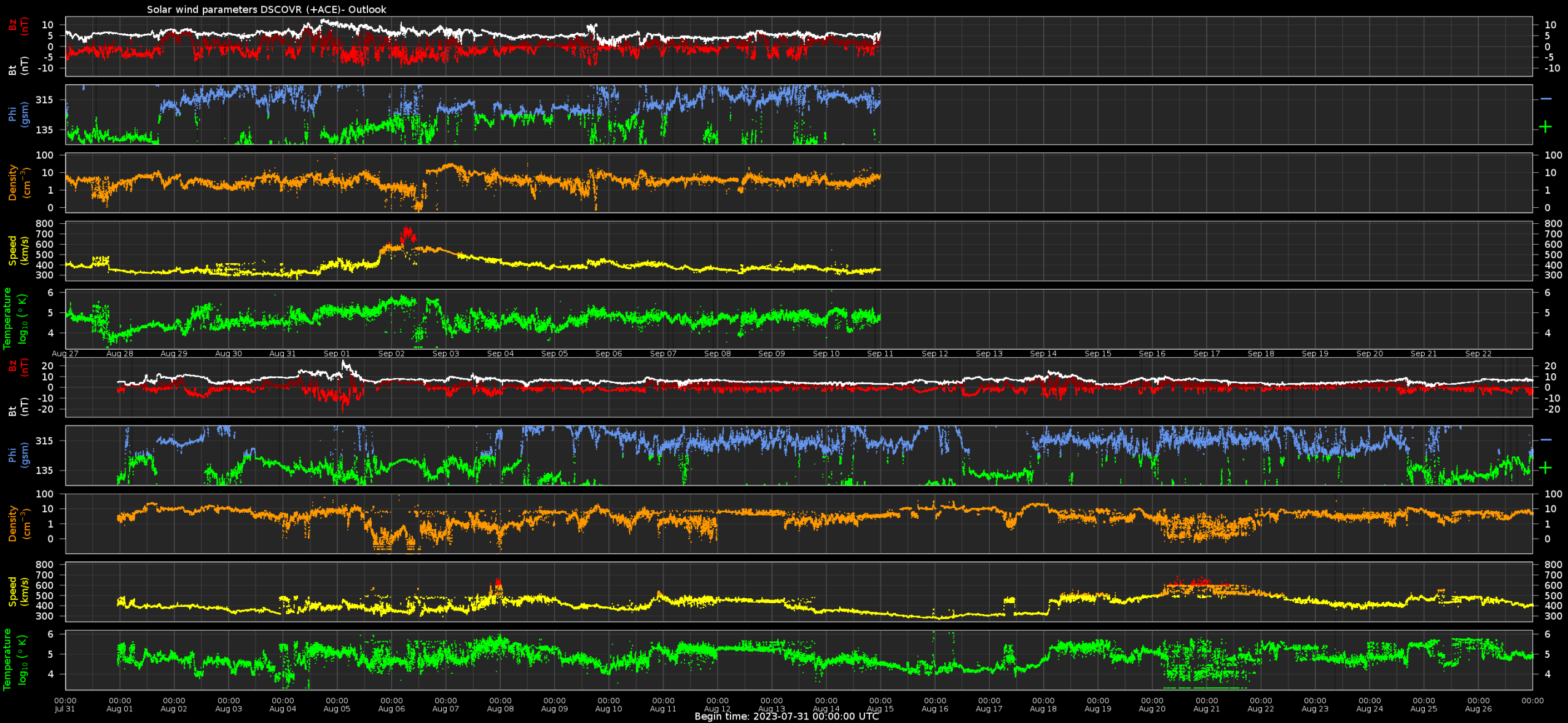


Observation date: 2023/09/10 16:25:00

Outlook: Solar F10.7cm radio flux



Outlook: Solar wind parameters



Outlook: Electron Flux at GEO Outlook



Pegasus



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