

SIDC Space Weather Briefing

02 June 2024-09 June 2024

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& the SIDC forecaster team



Royal Observatory
of Belgium

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Data analysis Centre
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Summary Report

Solar activity from 2024-06-02 12:00 to 2024-06-09 23:59

Active regions	16 ARs on disk over the week: NOAA AR 3697 was the most active
Flares	# C-class flare: 32 # M-class flare: 19 # X-class flare: 0
Coronal Holes	CH+ CH-
CMEs	One halo CME detected with possible Earth directed component

Proton flux	>10 Mev crossed 10 pfu threshold level
Electron flux	Nominal levels below 1000 pfu threshold

Solar wind and geomagnetic conditions

ICMEs	2 potential ICME arrivals
Solar wind conditions	B : 0.24 - 18.44 nT //Bz: -14.73 nT to 18.38 nT //Speed: 252.1 - 549.7km/s
Geomagnetic conditions	max KBel: 6, max Kp(NOAA): 6, Moderate Storm conditions

All Quiet Alert: Not all quiet

Solar Activity



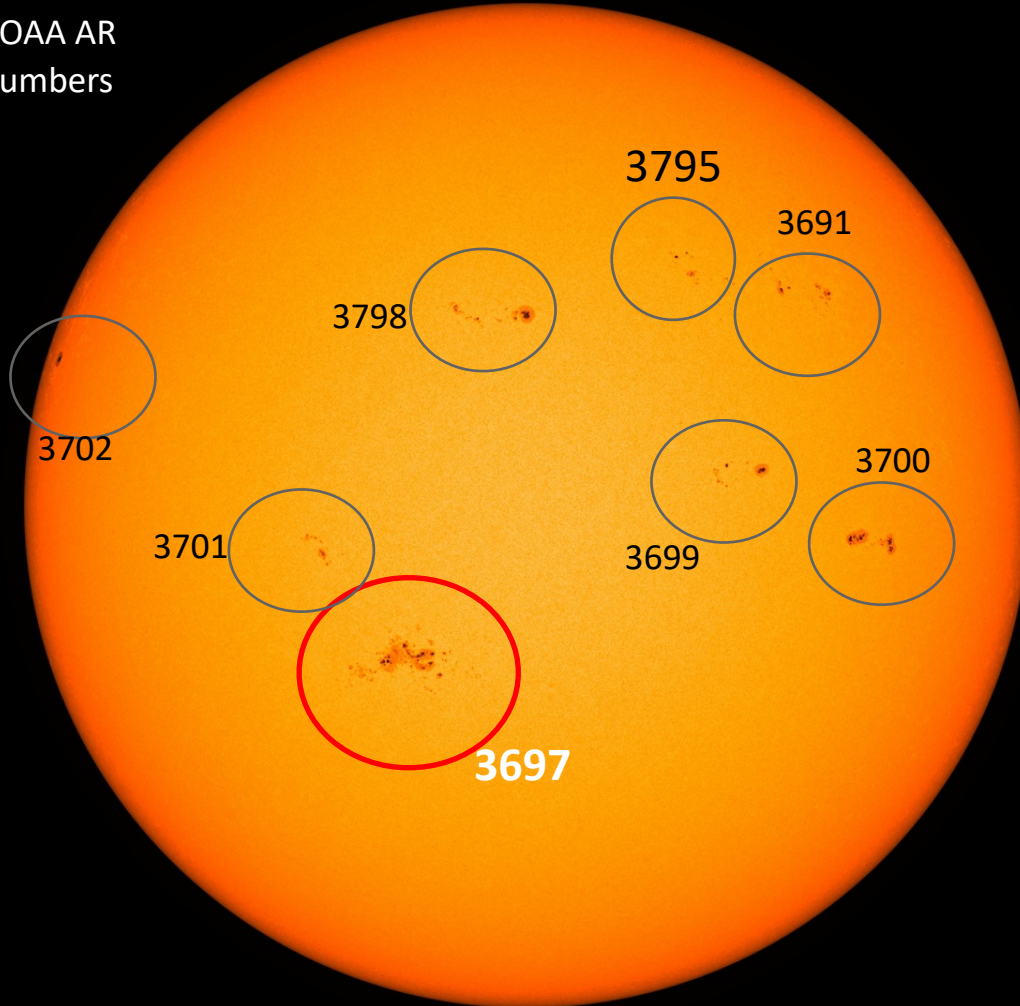
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Solar active regions

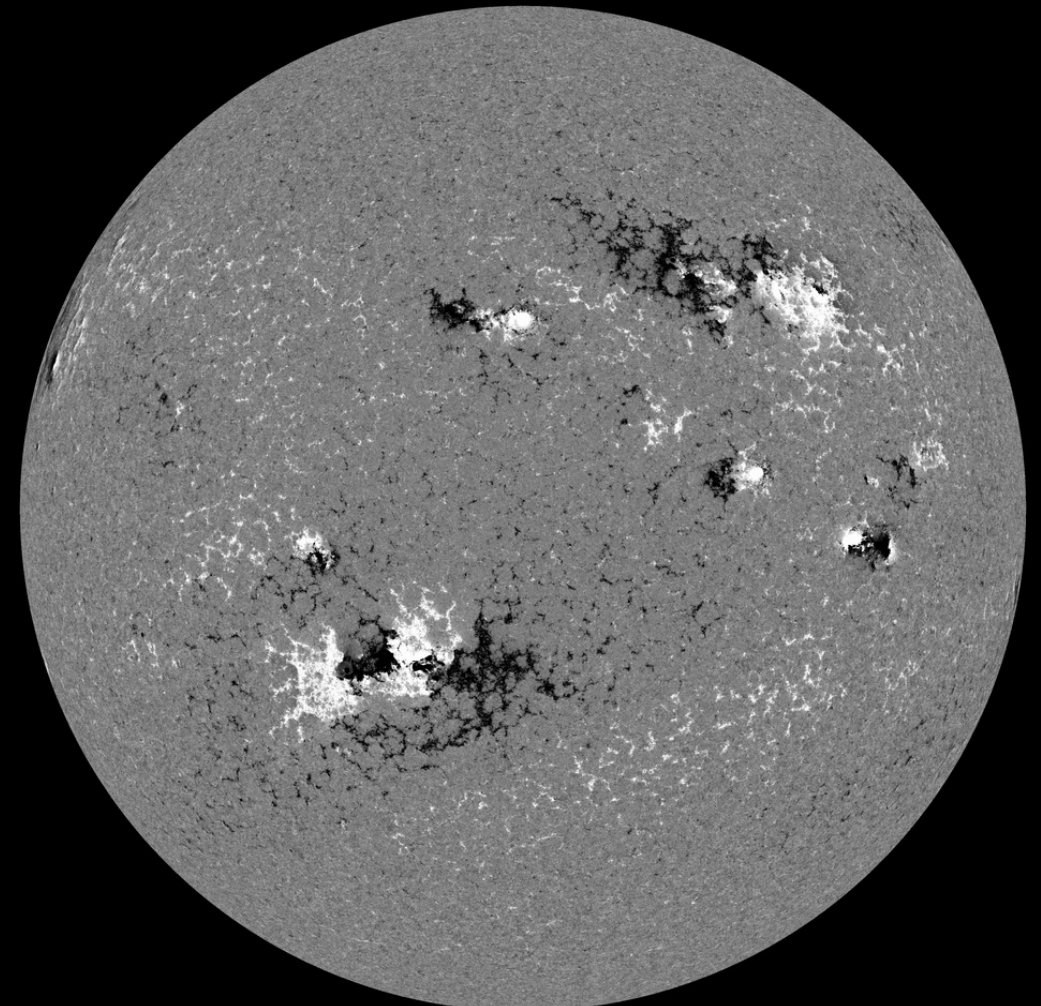
SDO/HMI White Light 2024-06-02

NOAA AR
Numbers



SDO/HMI Quick-Look Continuum: 20240602_114500

SDO/HMI Magnetogram 2024-06-02

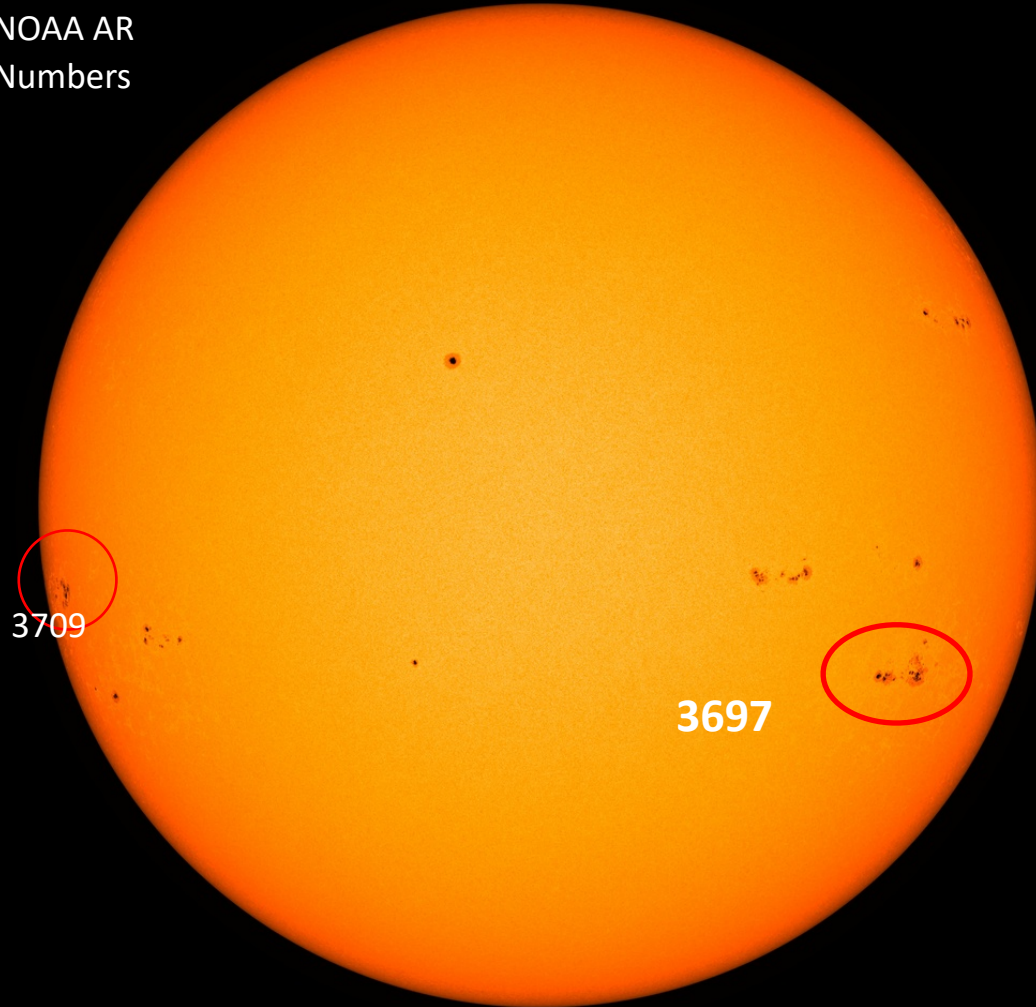


SDO/HMI Quick-Look Magnetogram: 20240602_114500

Solar active regions

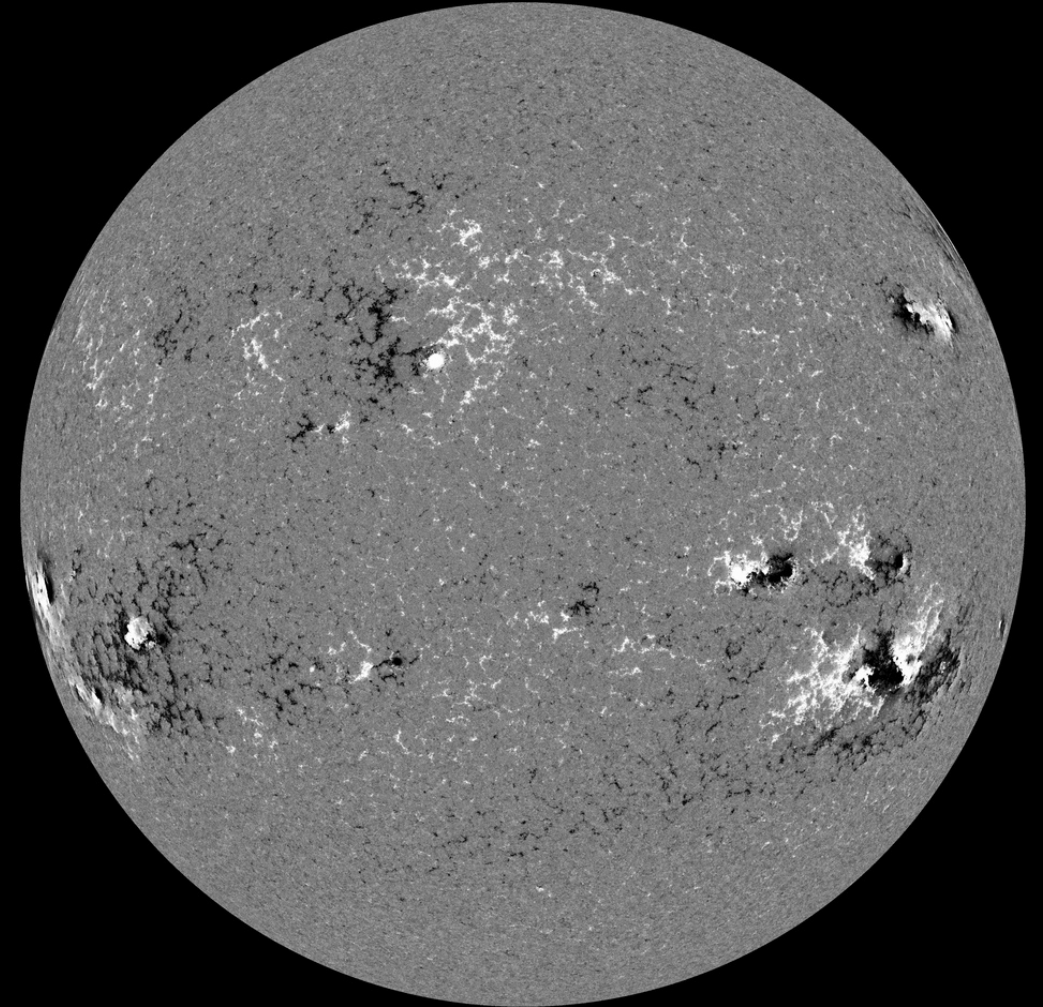
SDO/HMI White Light 2024-06-07

NOAA AR
Numbers



SDO/HMI Quick-Look Continuum: 20240607_114500

SDO/HMI Magnetogram 2024-06-07

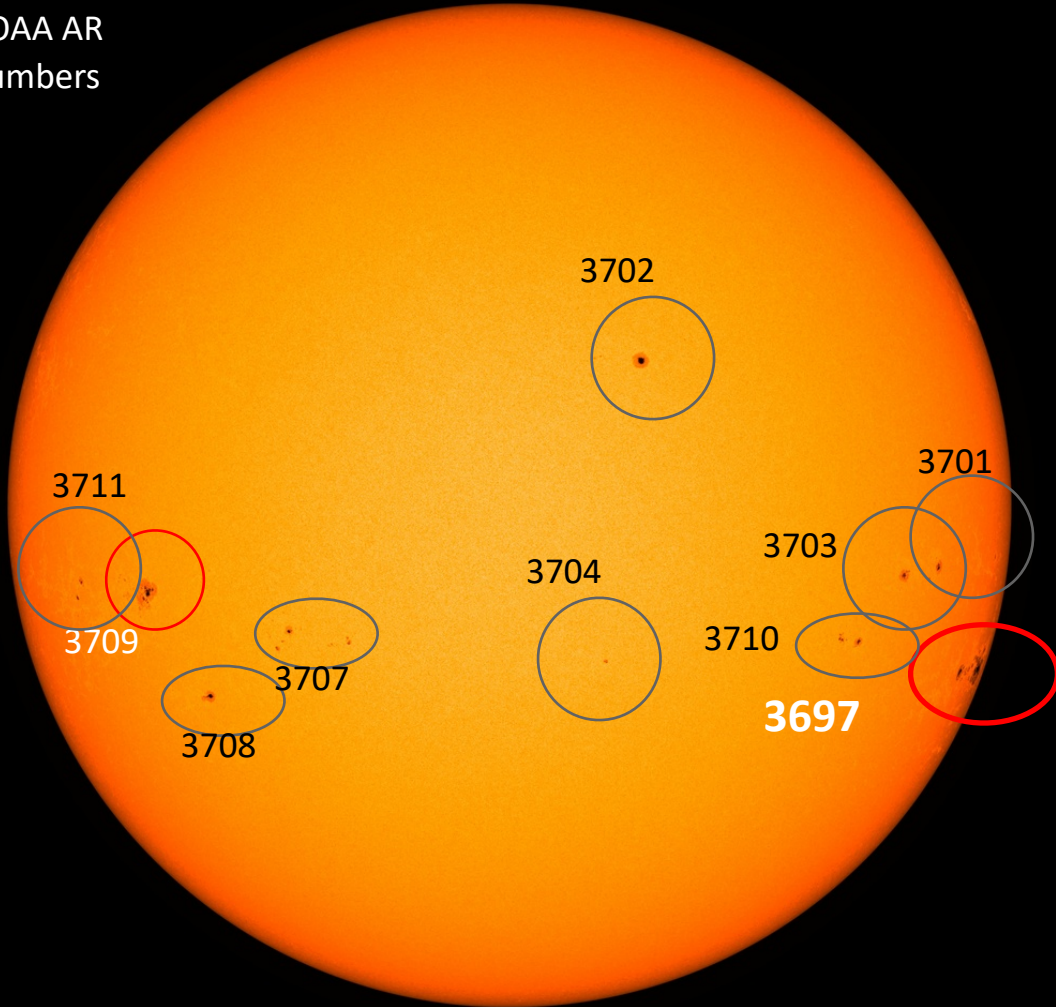


SDO/HMI Quick-Look Magnetogram: 20240607_114500

Solar active regions

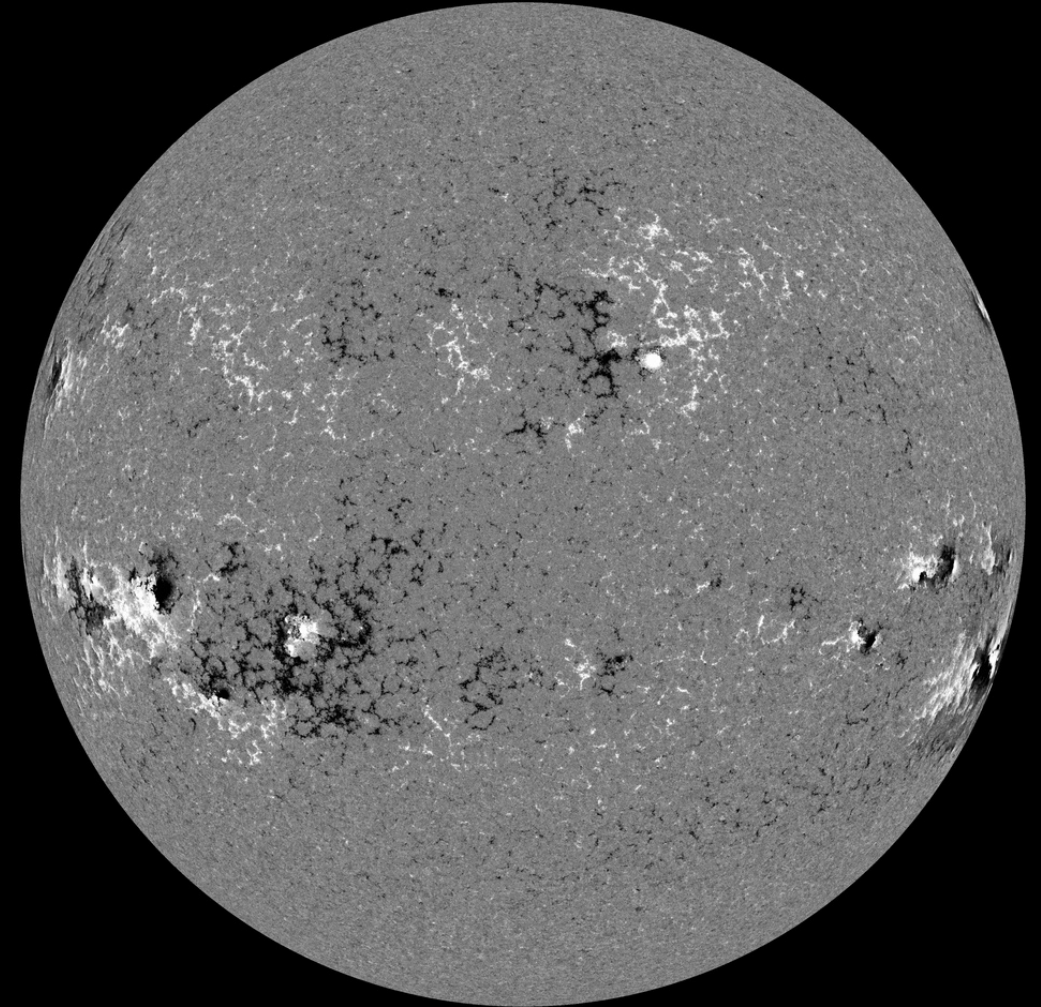
SDO/HMI White Light 2024-06-09

NOAA AR
Numbers



SDO/HMI Quick-Look Continuum: 20240609_114500

SDO/HMI Magnetogram 2024-06-09

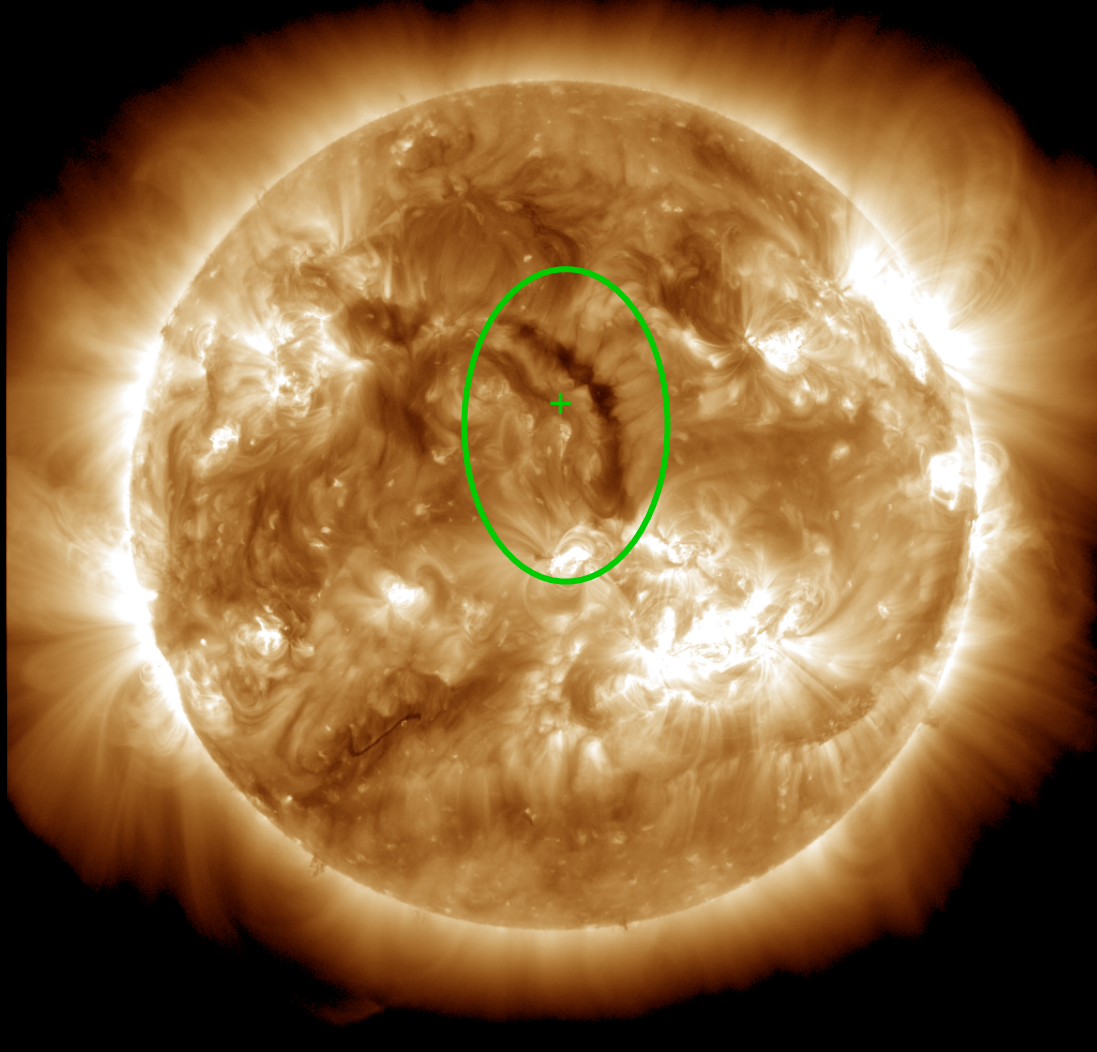


SDO/HMI Quick-Look Magnetogram: 20240609_114500

Coronal holes

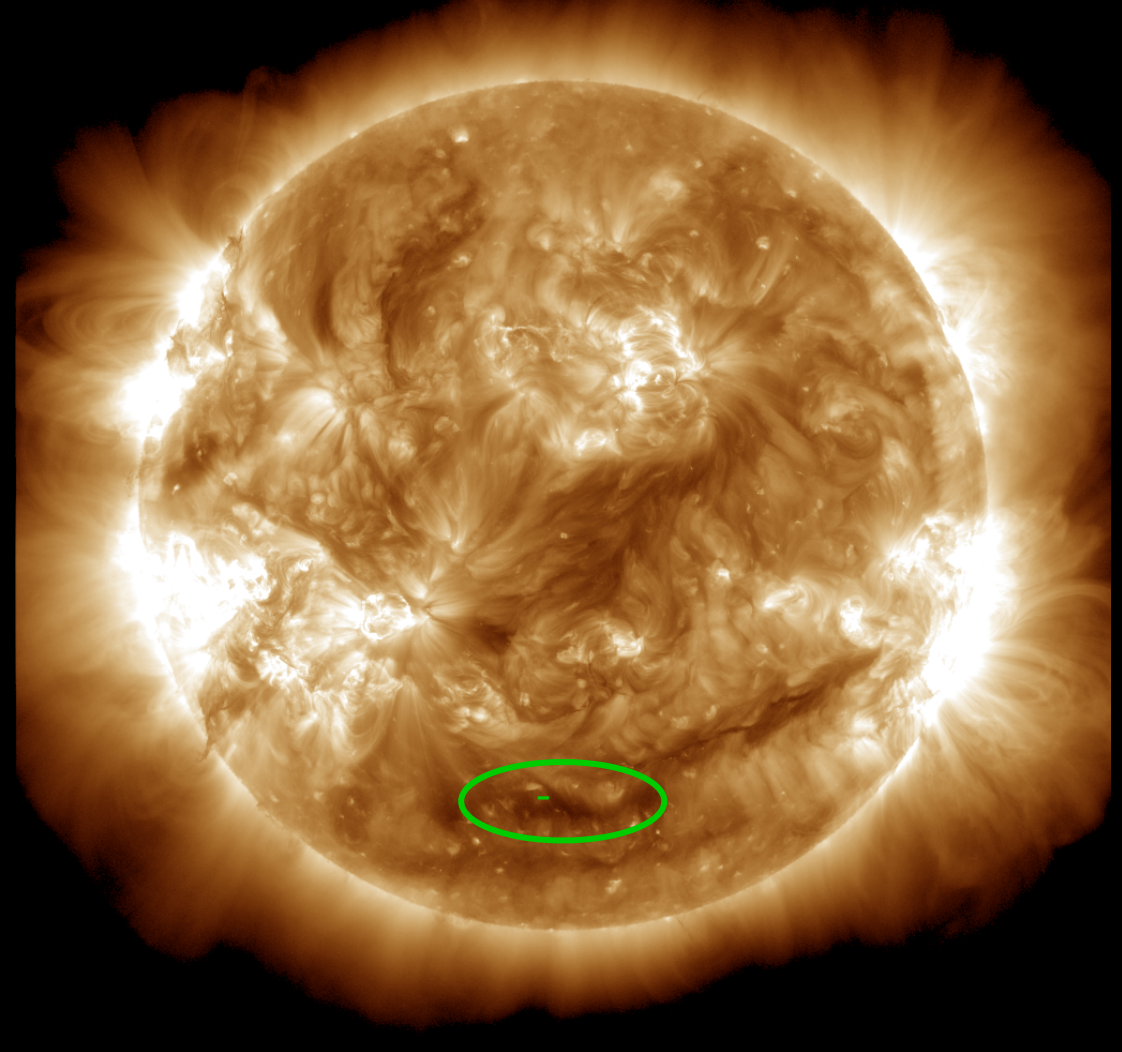
SDO/AIA 19.3 nm 2024-06-05

SDO/AIA AIA 193Å 2024-06-05T12:00:05.843



SDO/AIA 19.3 nm 2024-06-09

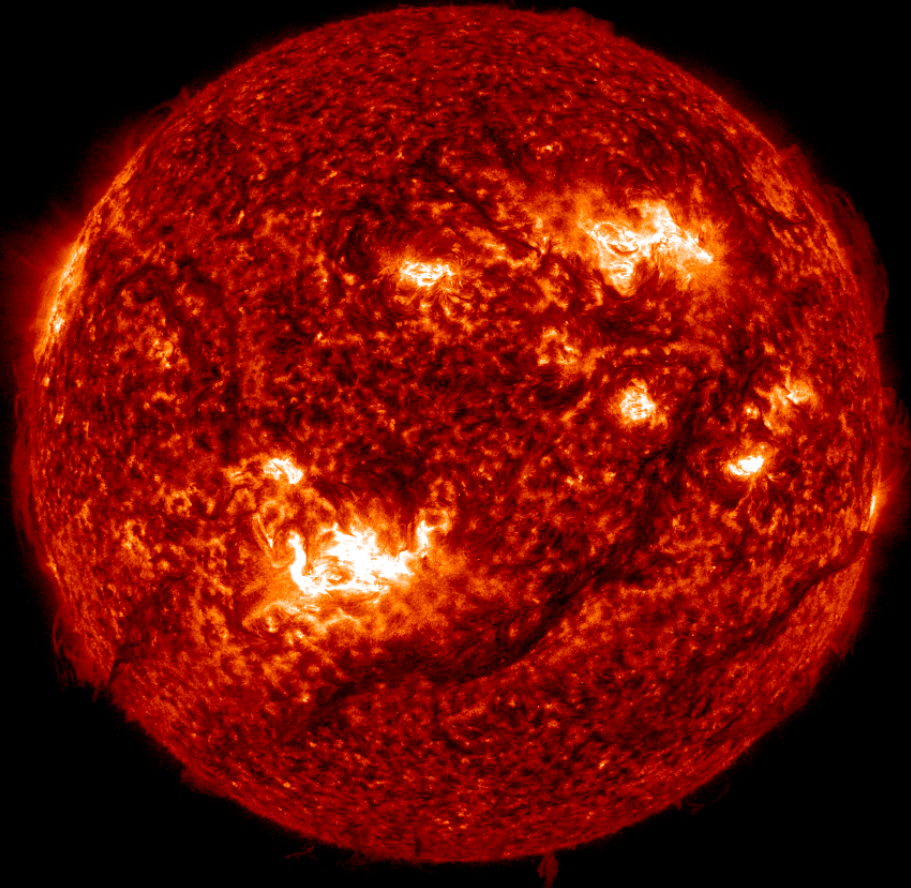
SDO/AIA AIA 193Å 2024-06-09T12:00:05.843



Filaments

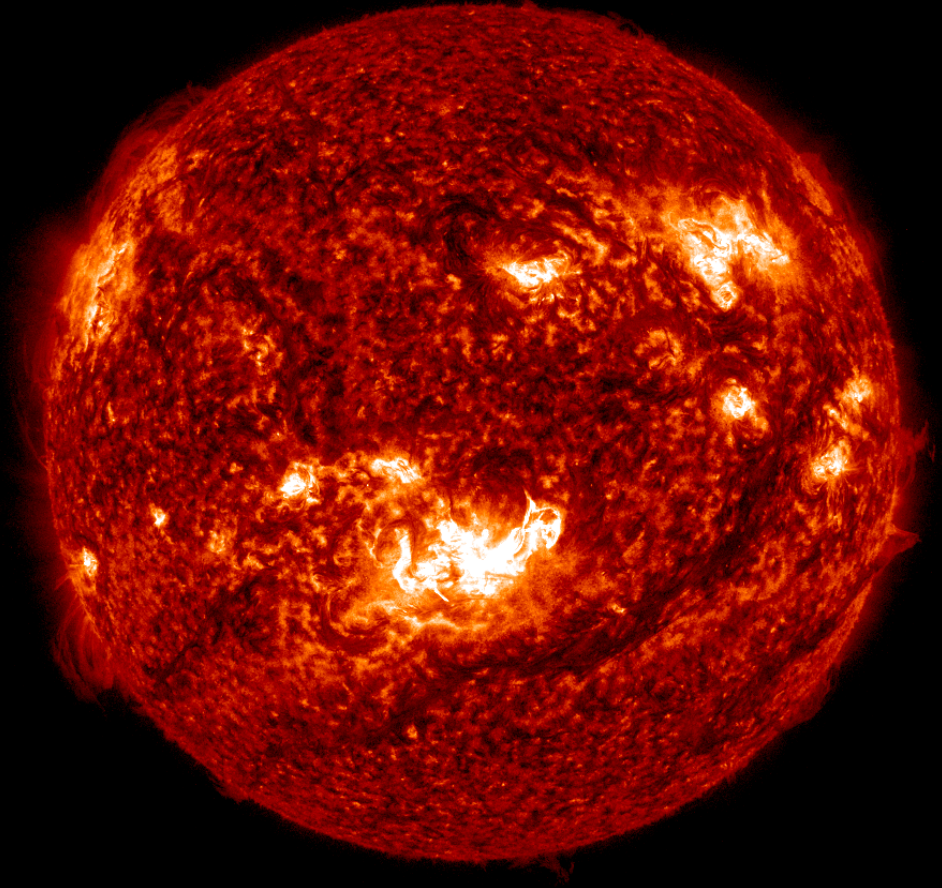
SDO/AIA 30.4 nm 2024-06-02

SDO/AIA AIA 304Å 2024-06-02T12:00:06.580



SDO/AIA 30.4 nm 2024-06-03

SDO/AIA AIA 304Å 2024-06-03T12:00:06.580



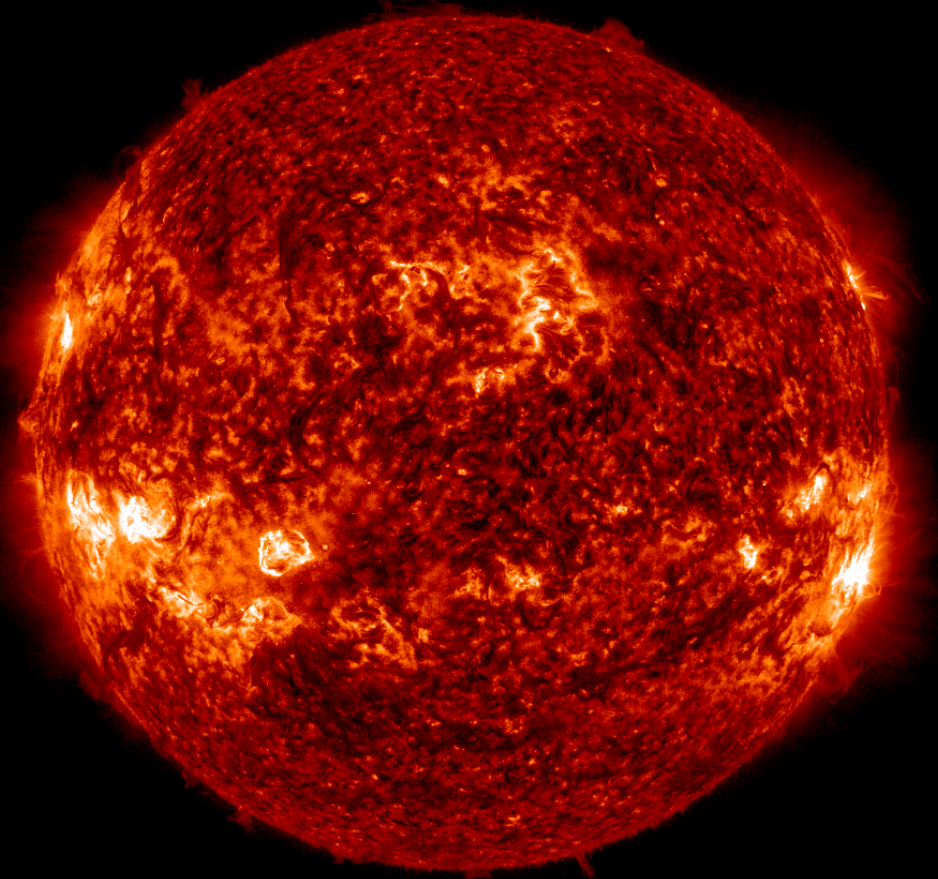
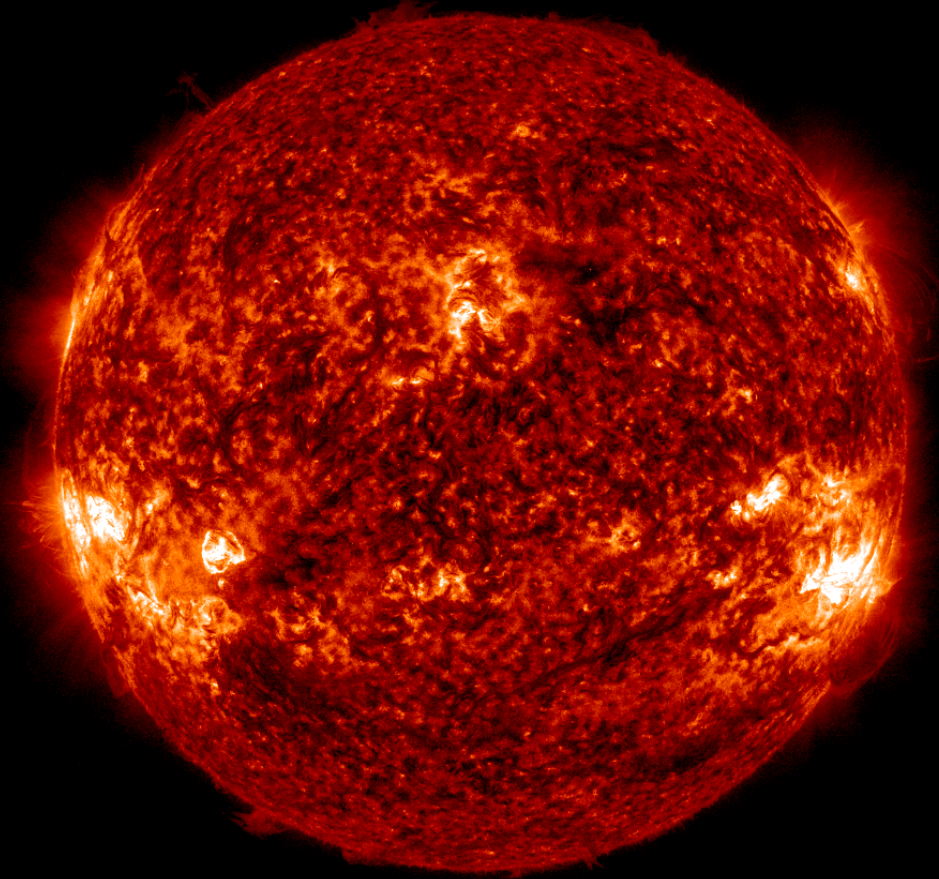
Filaments

SDO/AIA 30.4 nm 2024-06-08

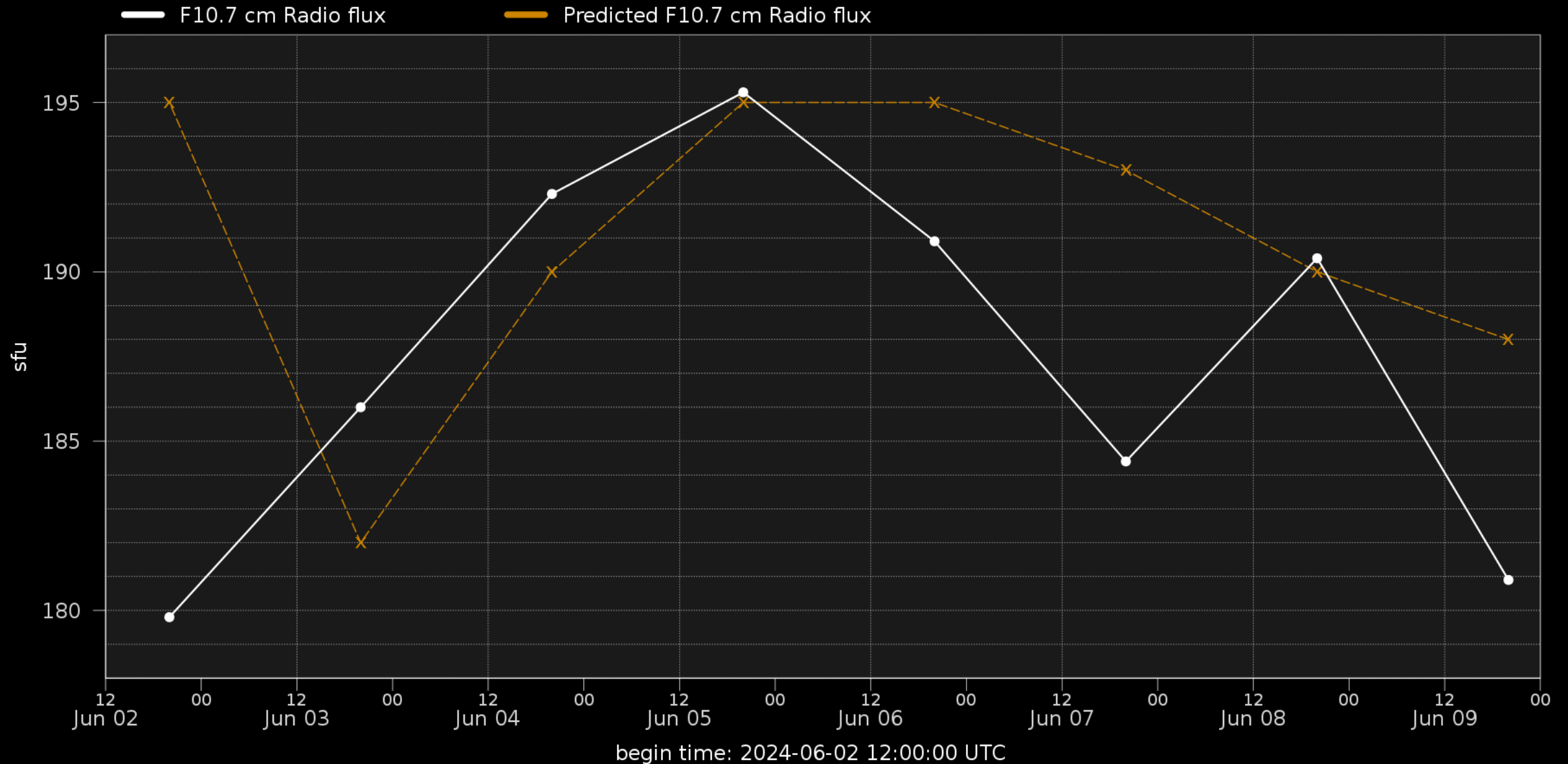
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SDO/AIA 30.4 nm 2024-06-09

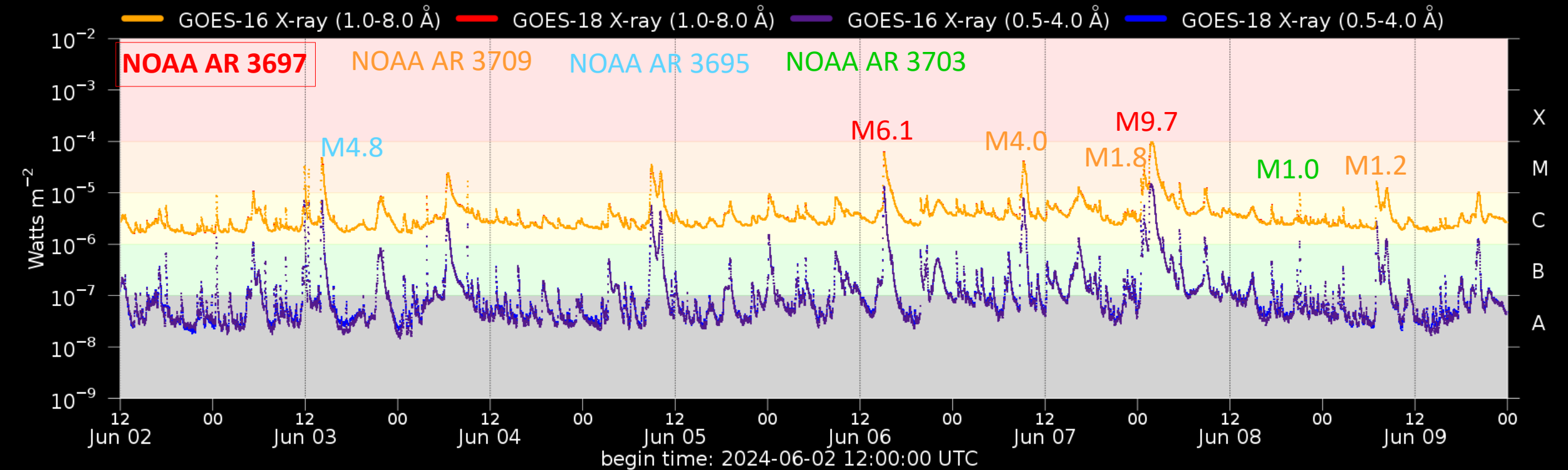
SDO/AIA AIA 304Å 2024-06-09T12:00:06.580



Solar F10.7cm radio flux



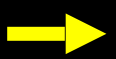
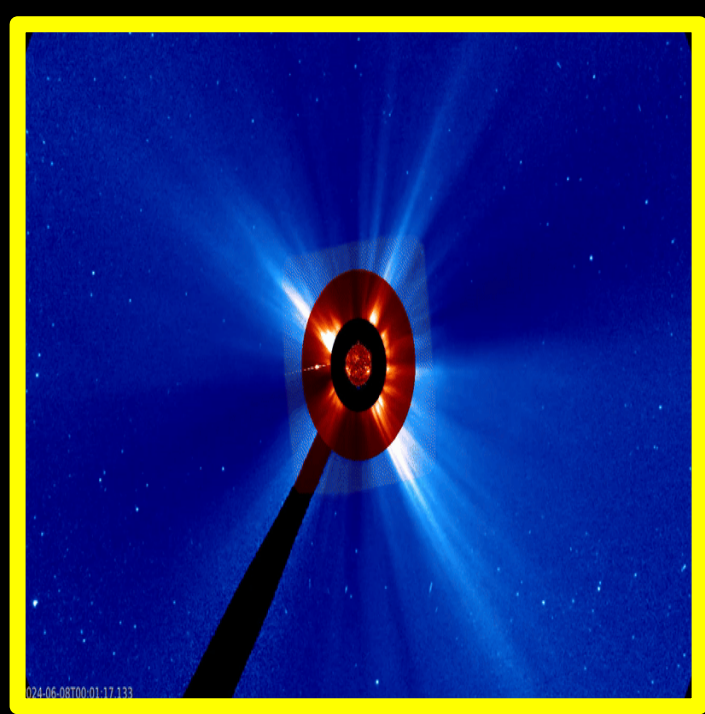
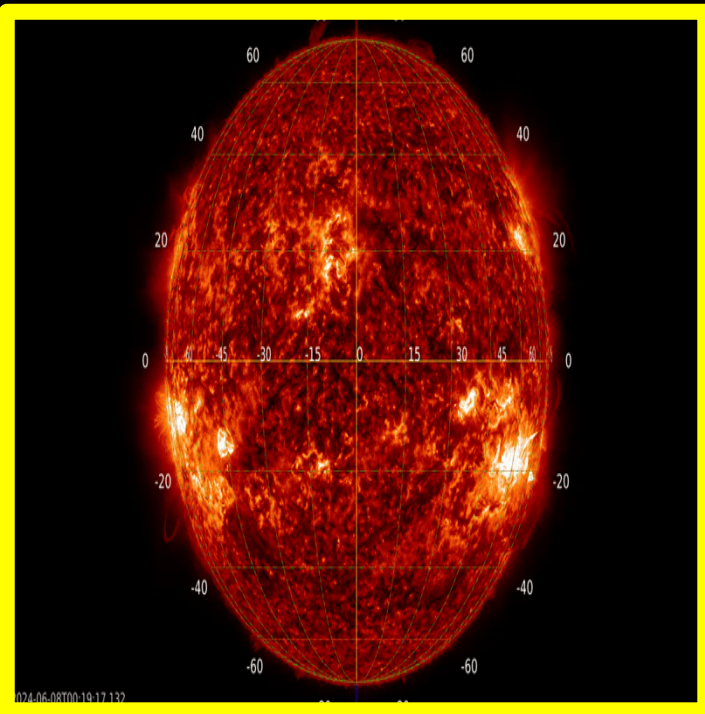
Flaring activity



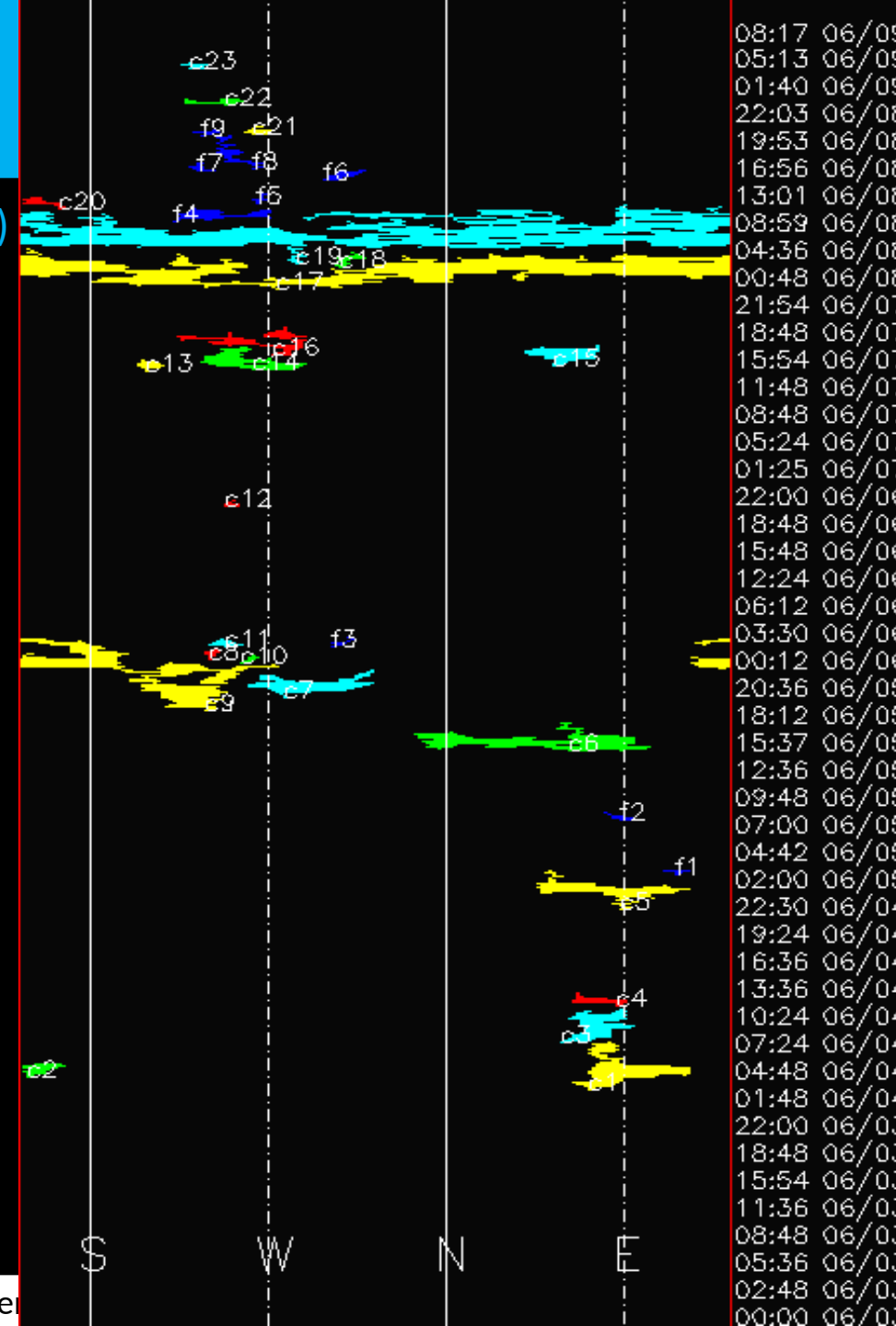
Probabilities (%) and occurrences (#) of C/M/X-flares daily, from noon to noon:

Issue date	2024-06-02	2024-06-03	2024-06-04	2024-06-05	2024-06-06	2024-06-07	2024-06-08	2024-06-09
Probability (%)	99 75 40	99 70 20	99 80 25	99 60 15	99 70 15	99 65 15	99 75 15	99 75 15
Observed (#)	08 02 00	03 04 00	03 02 00	04 00 00	05 02 00	04 06 00	03 02 00	02 01 00

Coronal Mass Ejections

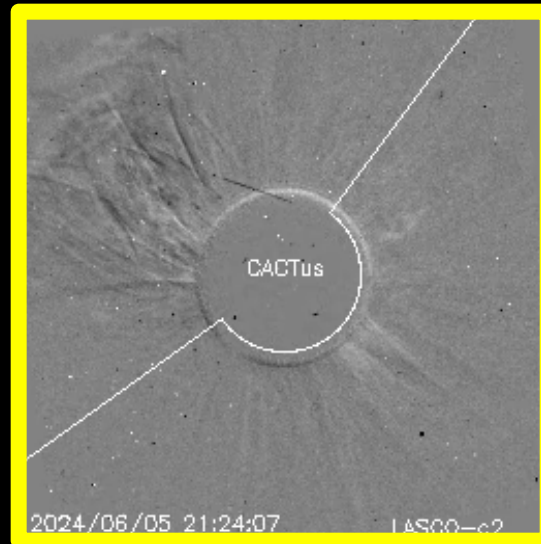


Halo CME to the West.
 In LASCO/C2 from 01:54 UTC June 08
 Speed over 1000 km/s
 Associated with M9.7- flare from NOAA AR 3697
 Glancing blow expected June 10 midday
 (*) wrong detection due to particles impacting sensors

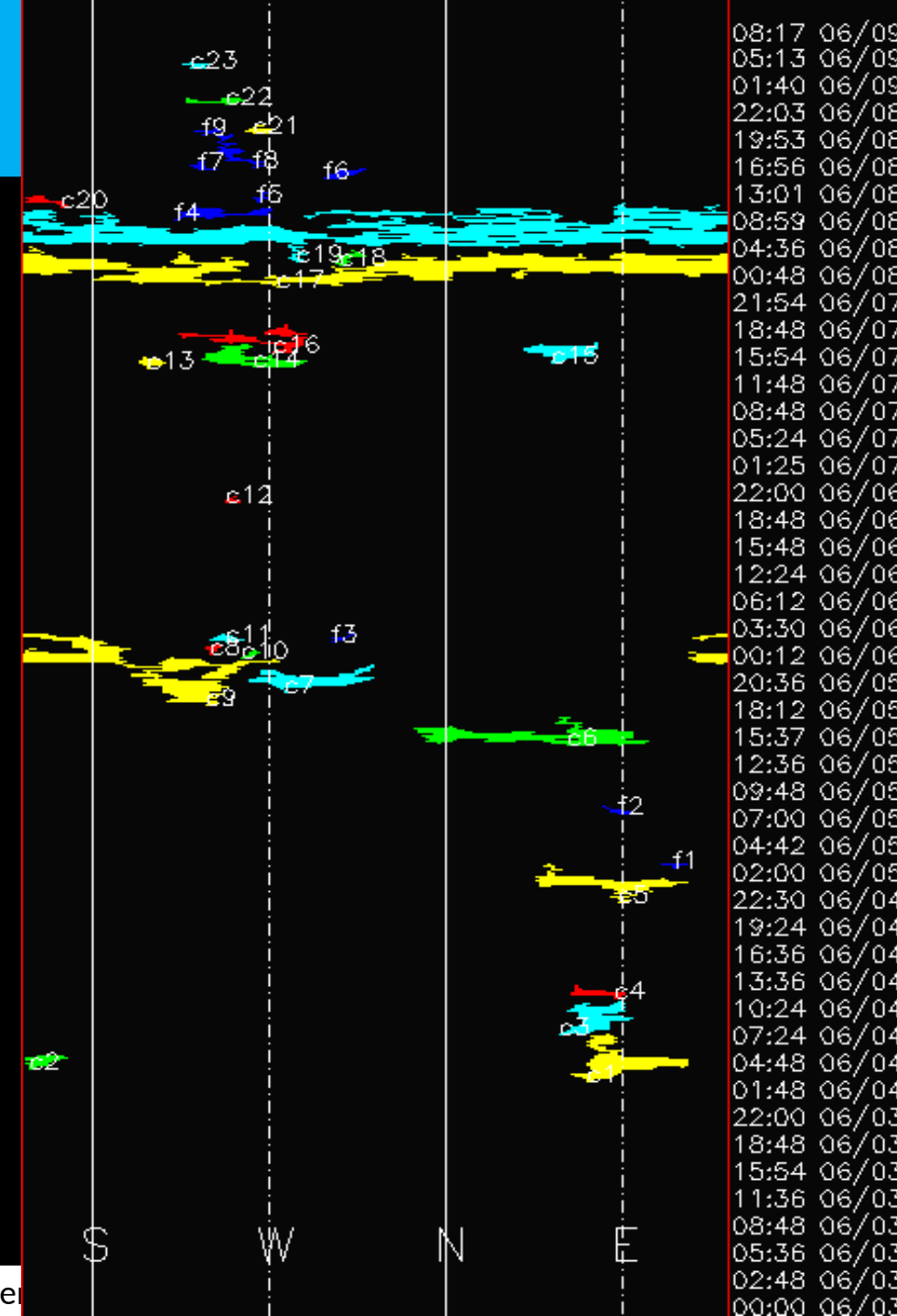


Coronal Mass Ejections

Wrong detection due to particles impacting sensors



Combination of 3 more narrow CMEs
No impact on Earth was expected



Solar Wind and

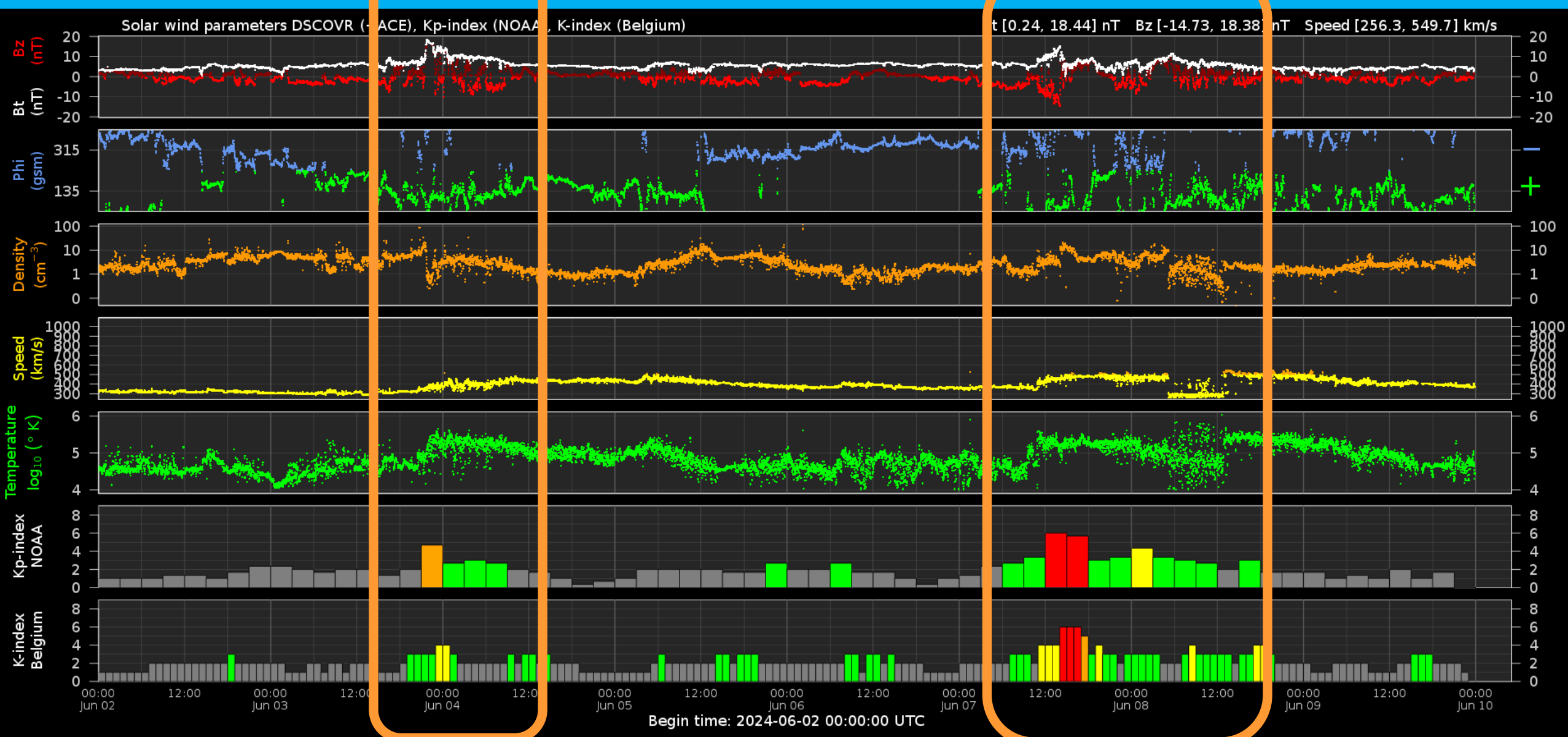
Geomagnetic Activity



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Solar wind parameters & K-indices



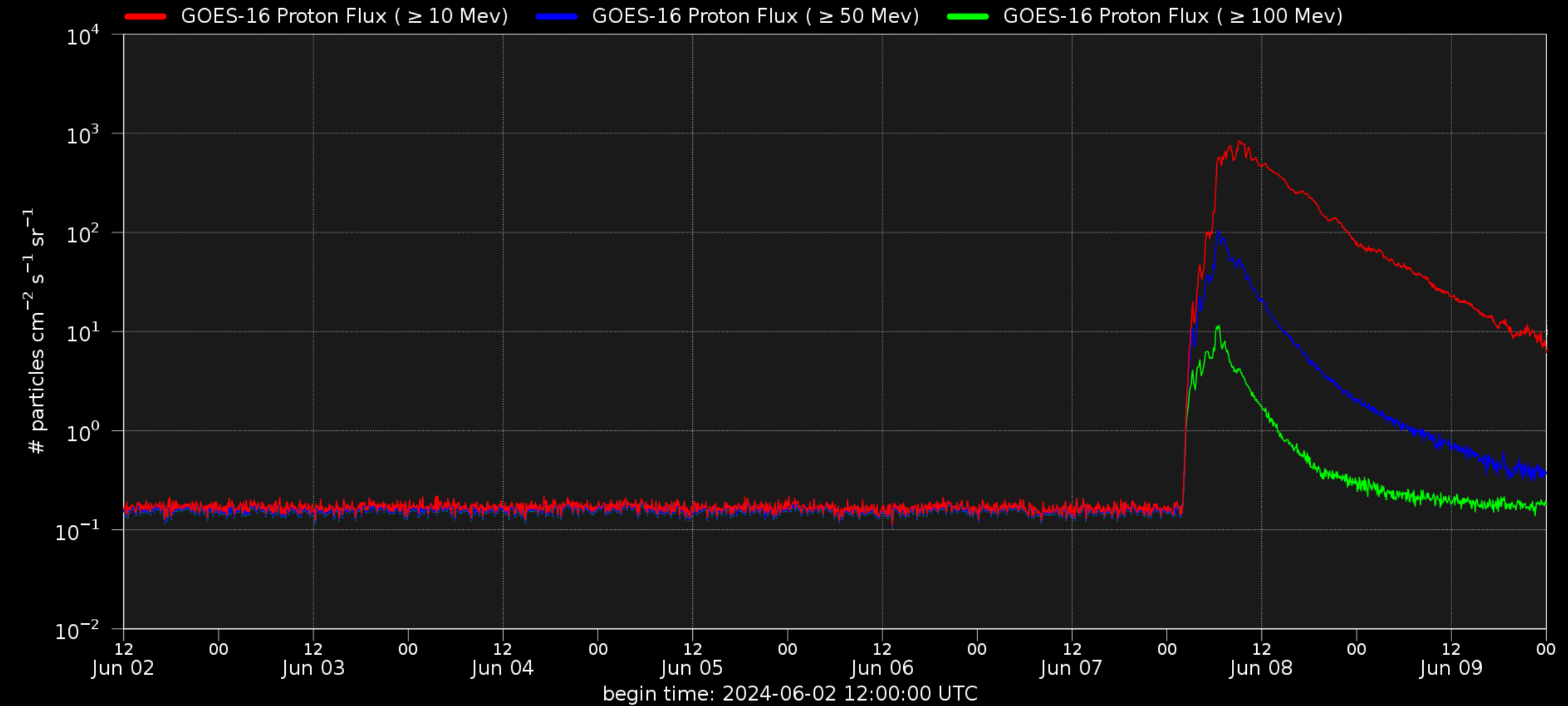
Energetic Particles



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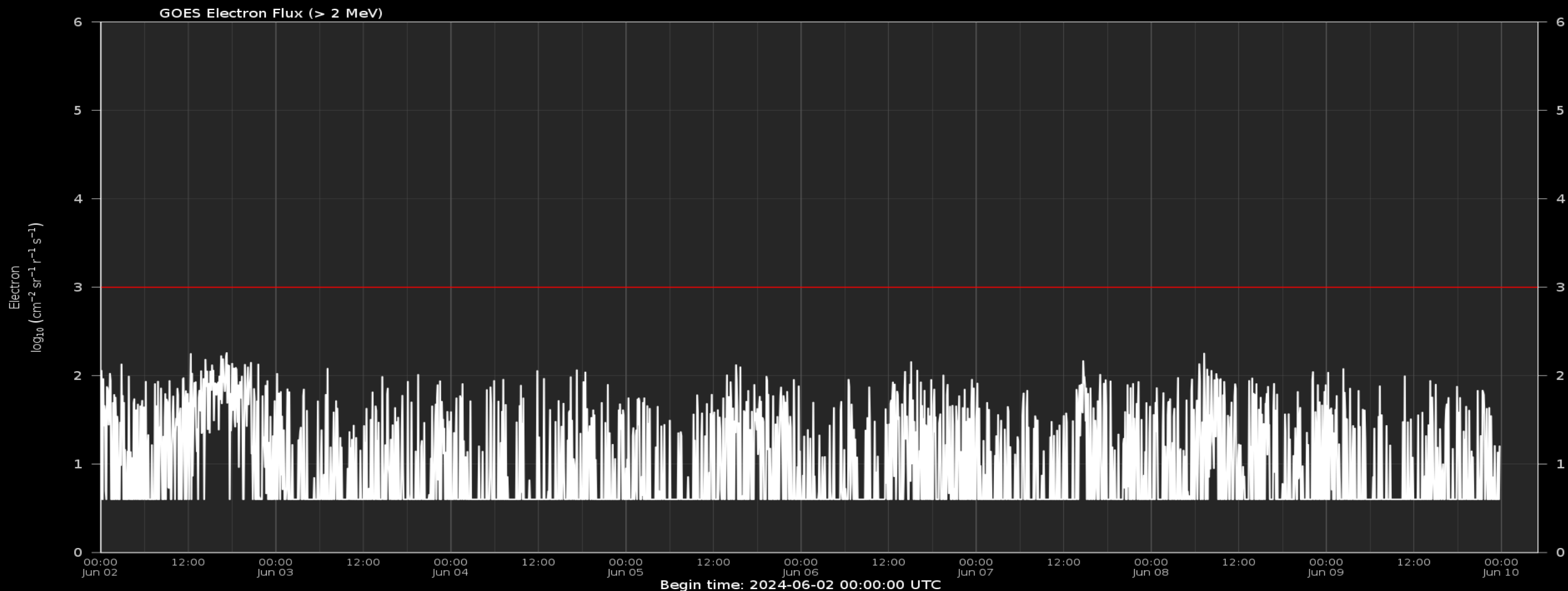
Solar proton flux



Electron flux at GEO

www.stce.be/educational/classification#electrons

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



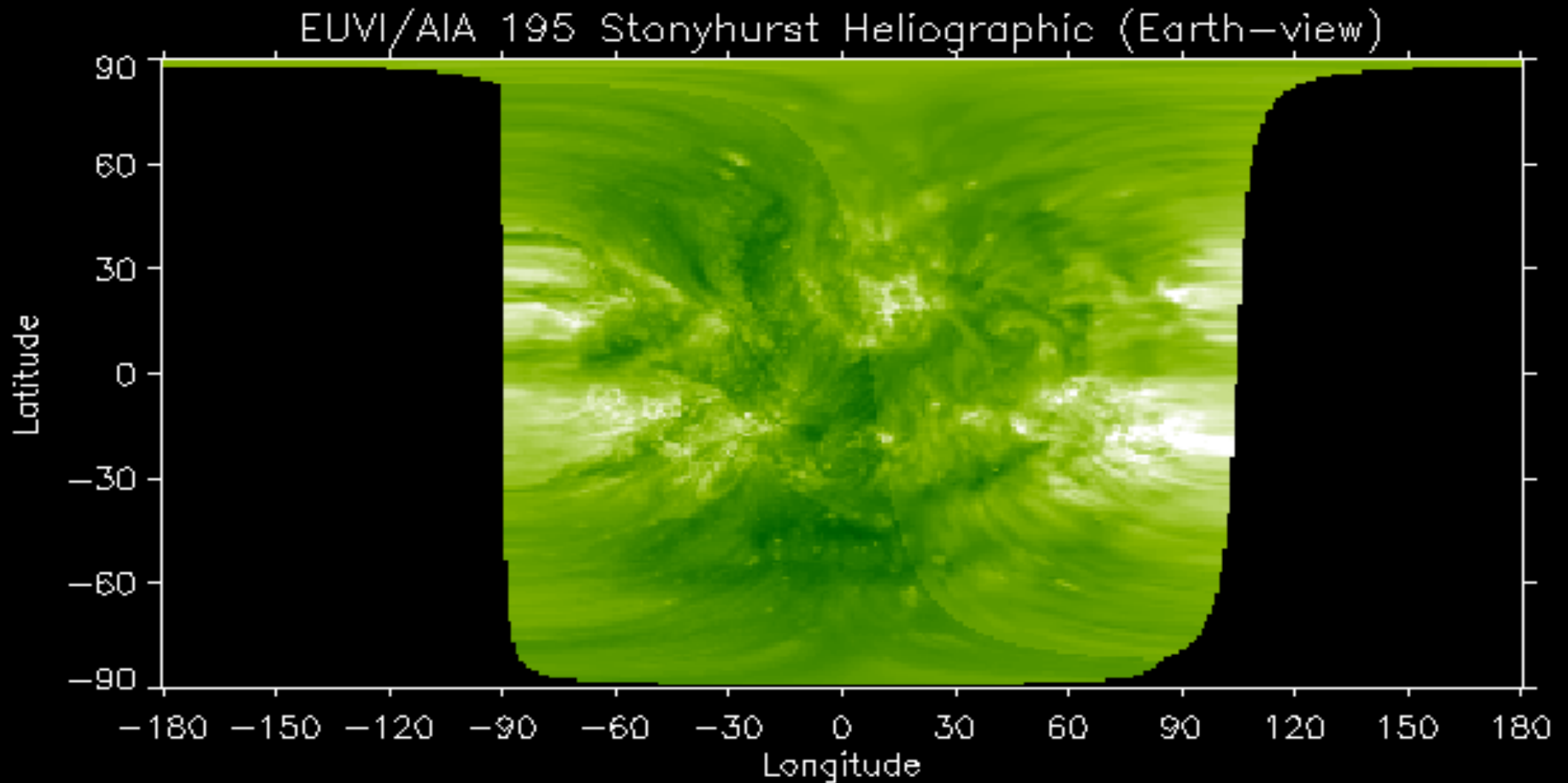
Outlook



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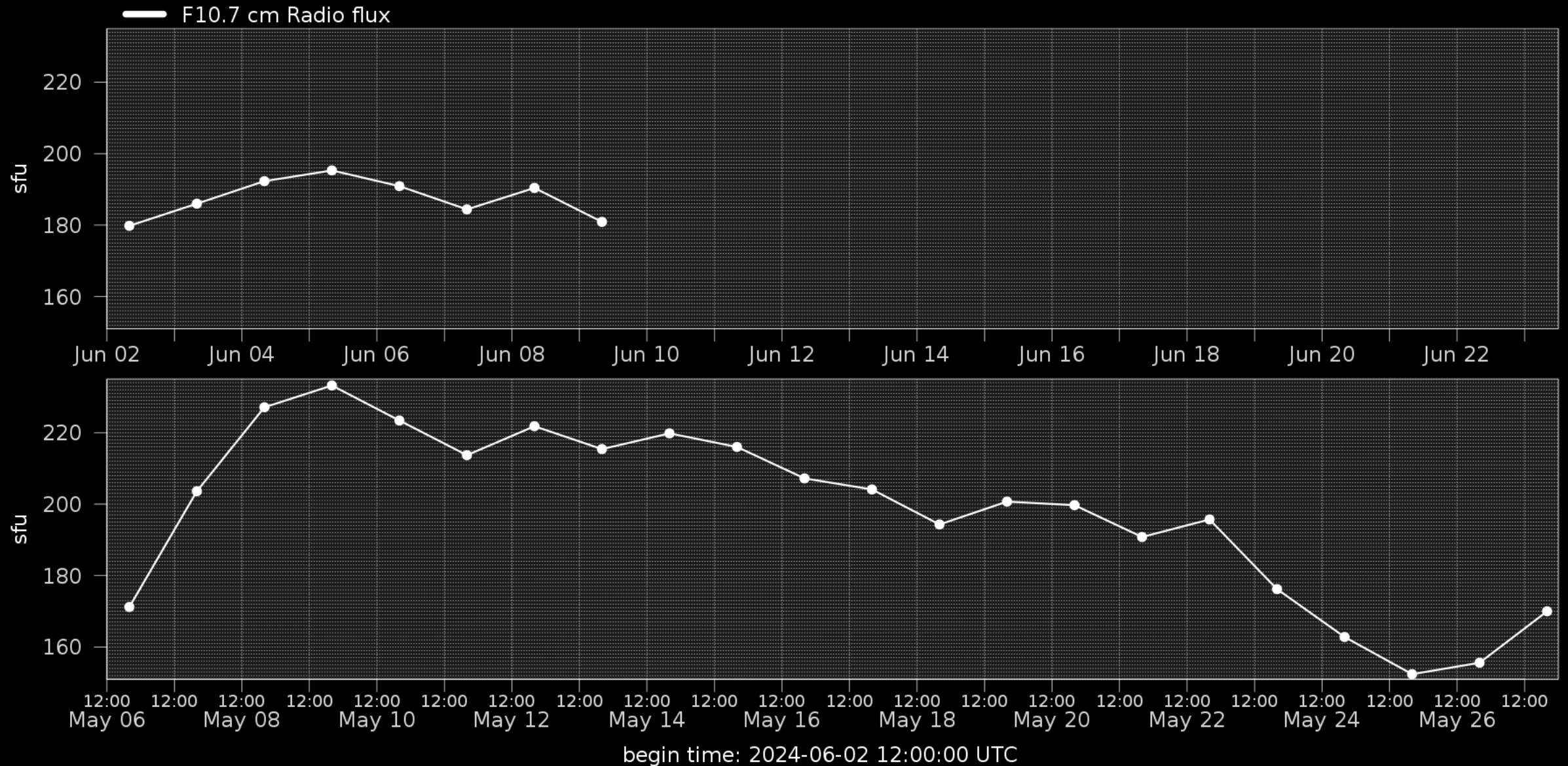
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Outlook: Solar activity

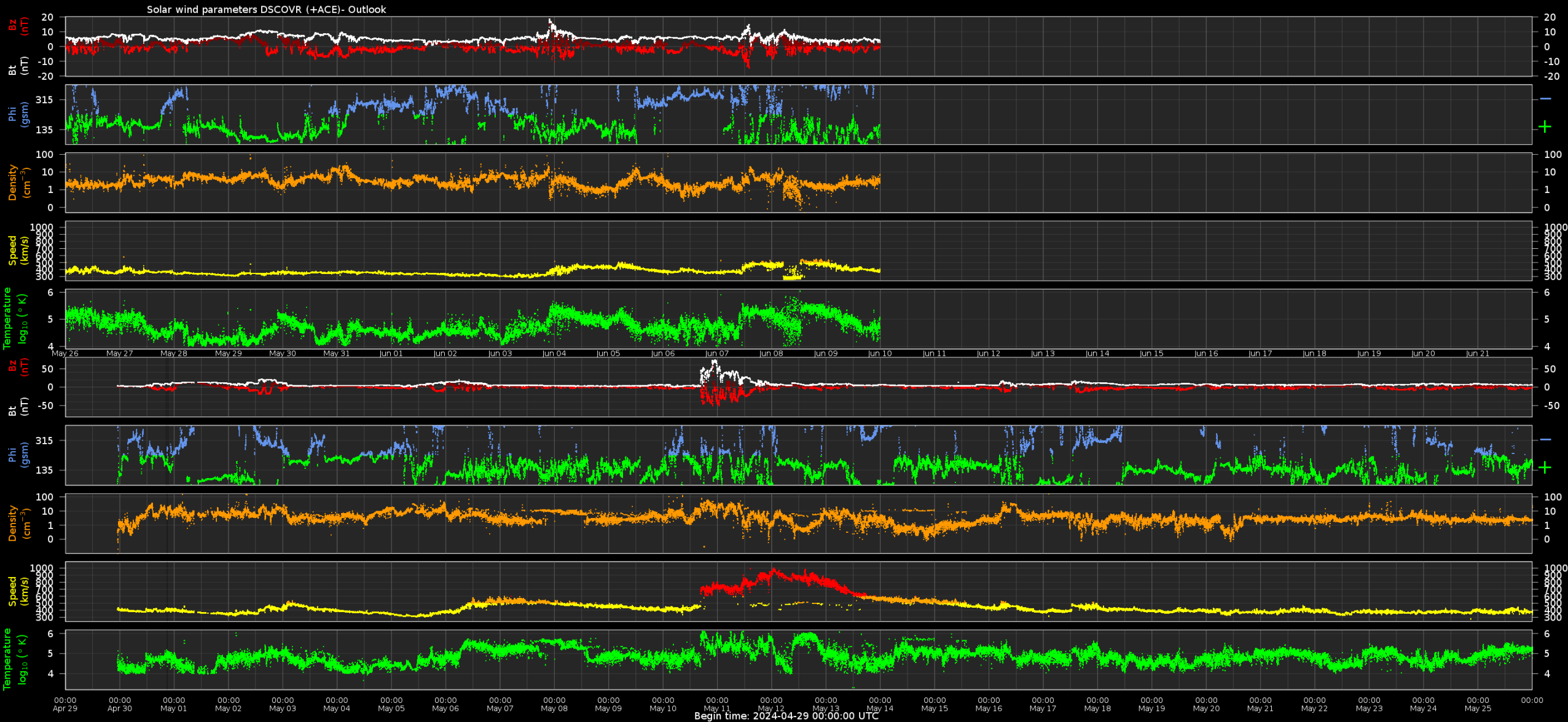


Observation date: 2024/06/09 16:25:00

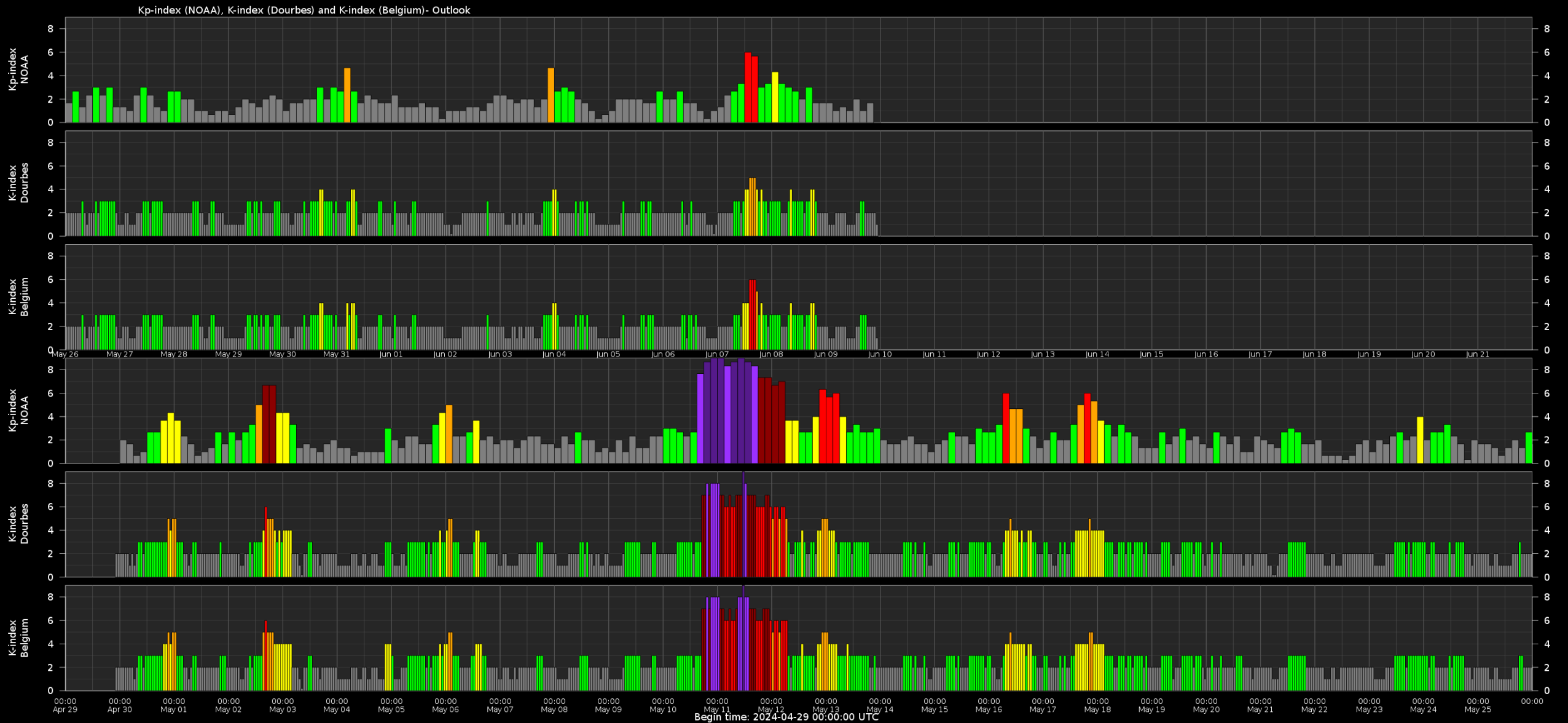
Outlook: Solar F10.7cm radio flux



Outlook: Solar wind parameters



Outlook: Geomagnetic activity



Outlook: Electron Flux at GEO Outlook



PECASUS



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Pegasus related events

HF Advisories for reduced Maximum Useable Frequencies issues since June 06 (due to Kp6) - Still ongoing

HF Advisories for Absorption of lower HF frequencies at the poles since June 08 morning (due to Proton Storm) - Ended June 10 morning

SIDC Space Weather Briefing

See you at our next briefing!

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