

SIDC Space Weather Briefing

12 March 2023-19 March 2023

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& the SIDC forecaster team



Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
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Summary Report

Solar activity from 2023-03-12 12:00 to 2023-03-19 23:59

Active regions	15 Active Regions
Flares	# C-class flare: 23 # M-class flare: 1 # X-class flare: 0
Coronal Holes	2 Equatorial CH
CMEs	Full halo back-sided CME and 3 CMEs with a possible glancing blow

Proton flux	Protons event following the back-sided full halo CME
Electron flux	Below event threshold

Solar wind and geomagnetic conditions

ICMEs	03:39UTC on March 15 (possible source 19:00UTC, March 12)
Solar wind conditions	B : 2.18 - 26.05 nT //Bz: -17.48 nT to 16.6 nT //Speed: 297.3 - 587.5km/s
K-indices	max K-index (KBel): 5 max Kp-index (NOAA): 6-

All Quiet Alert: Not all quiet

Solar Activity

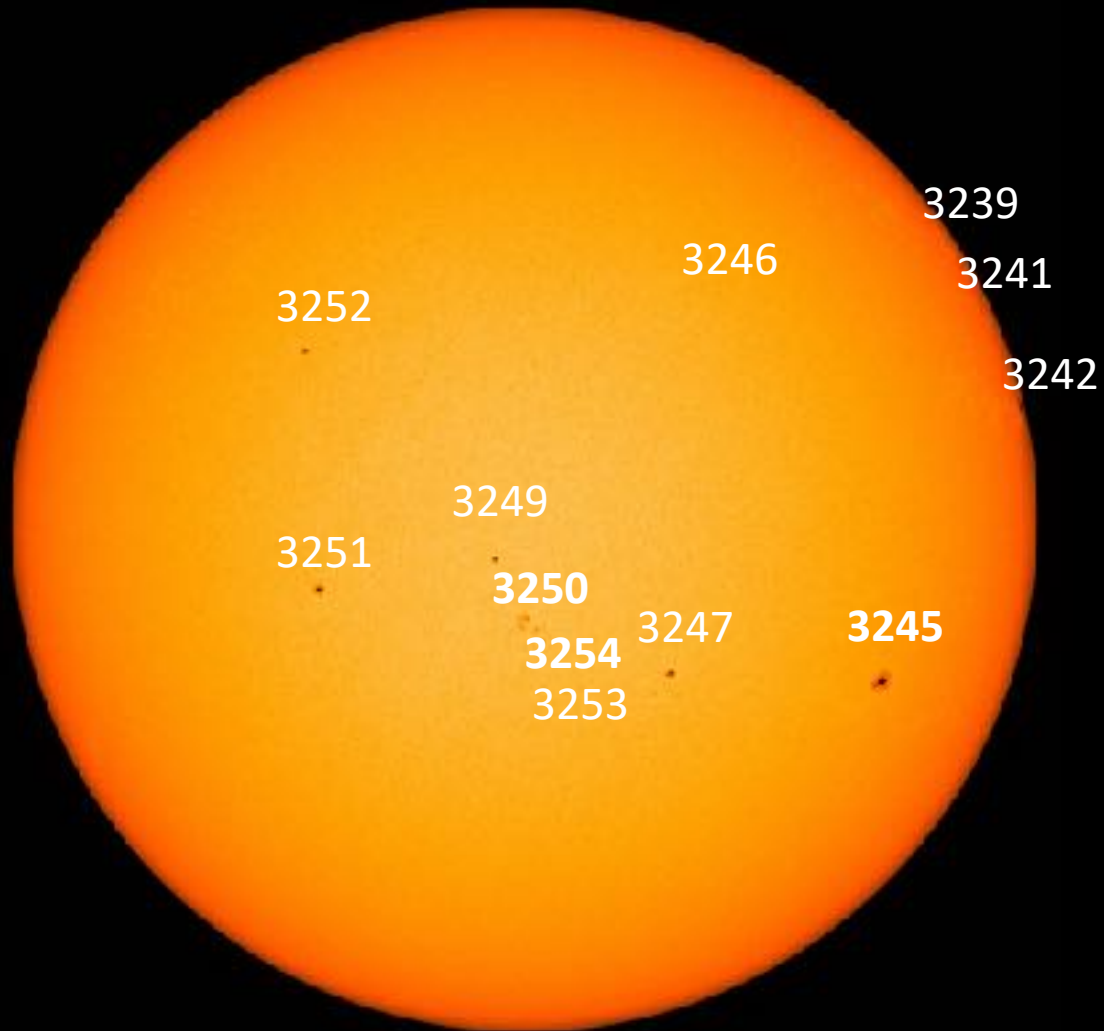


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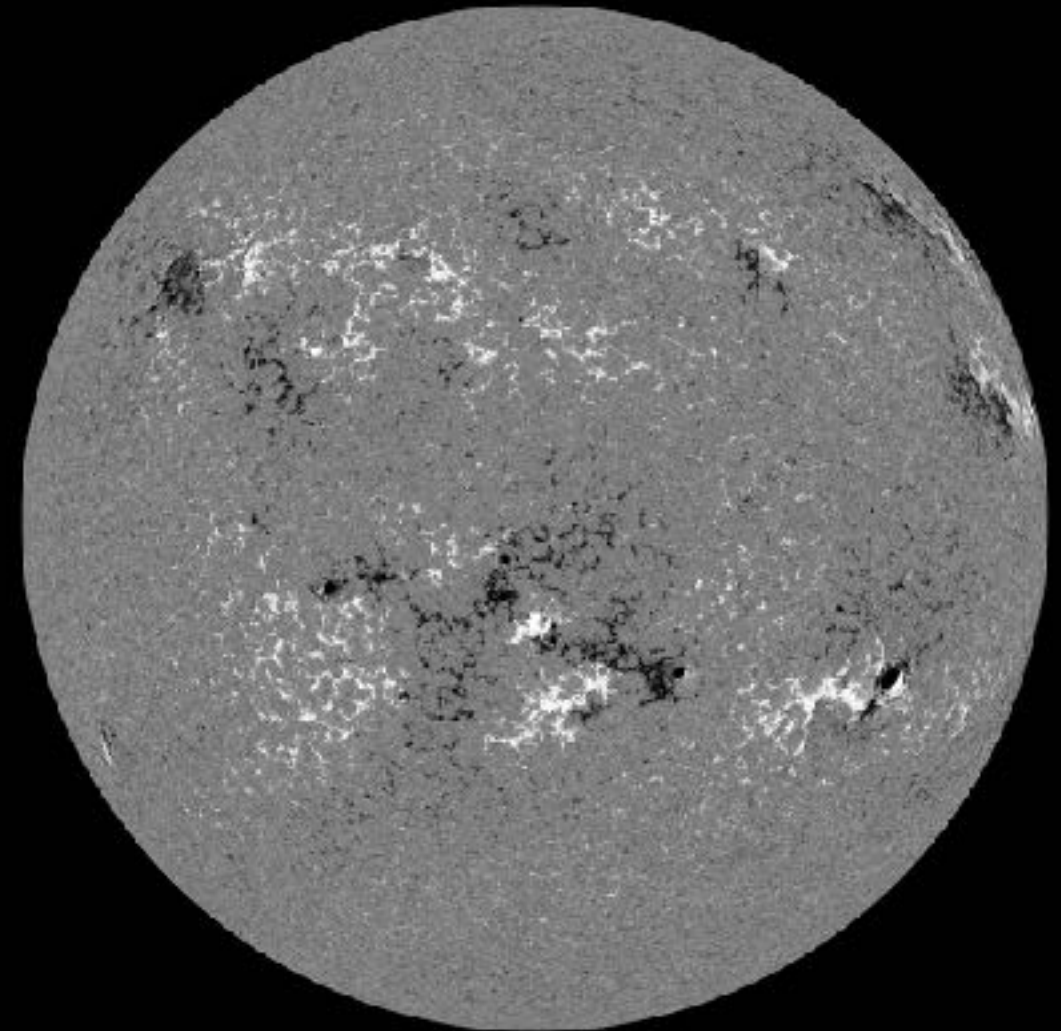
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Solar active regions

SDO/HMI White Light 2023-03-13

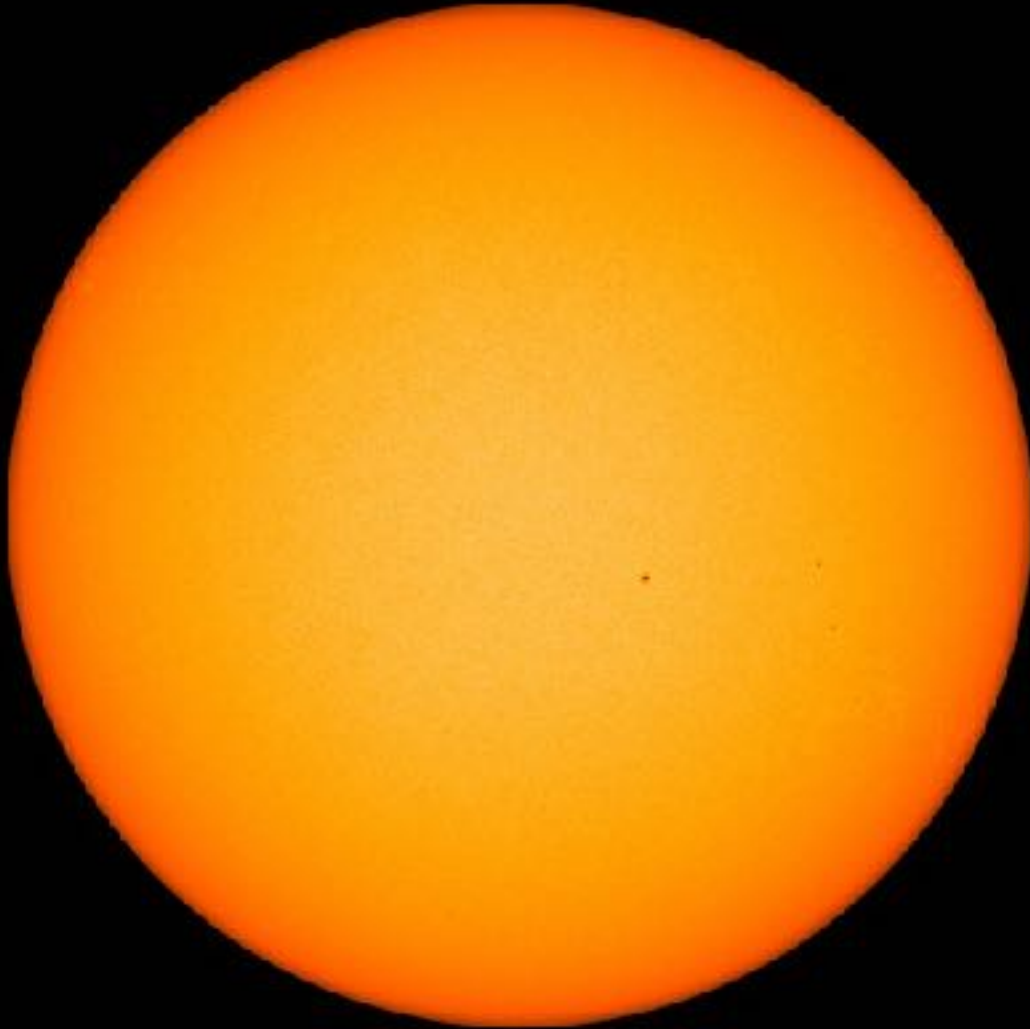


SDO/HMI Magnetogram 2023-03-13

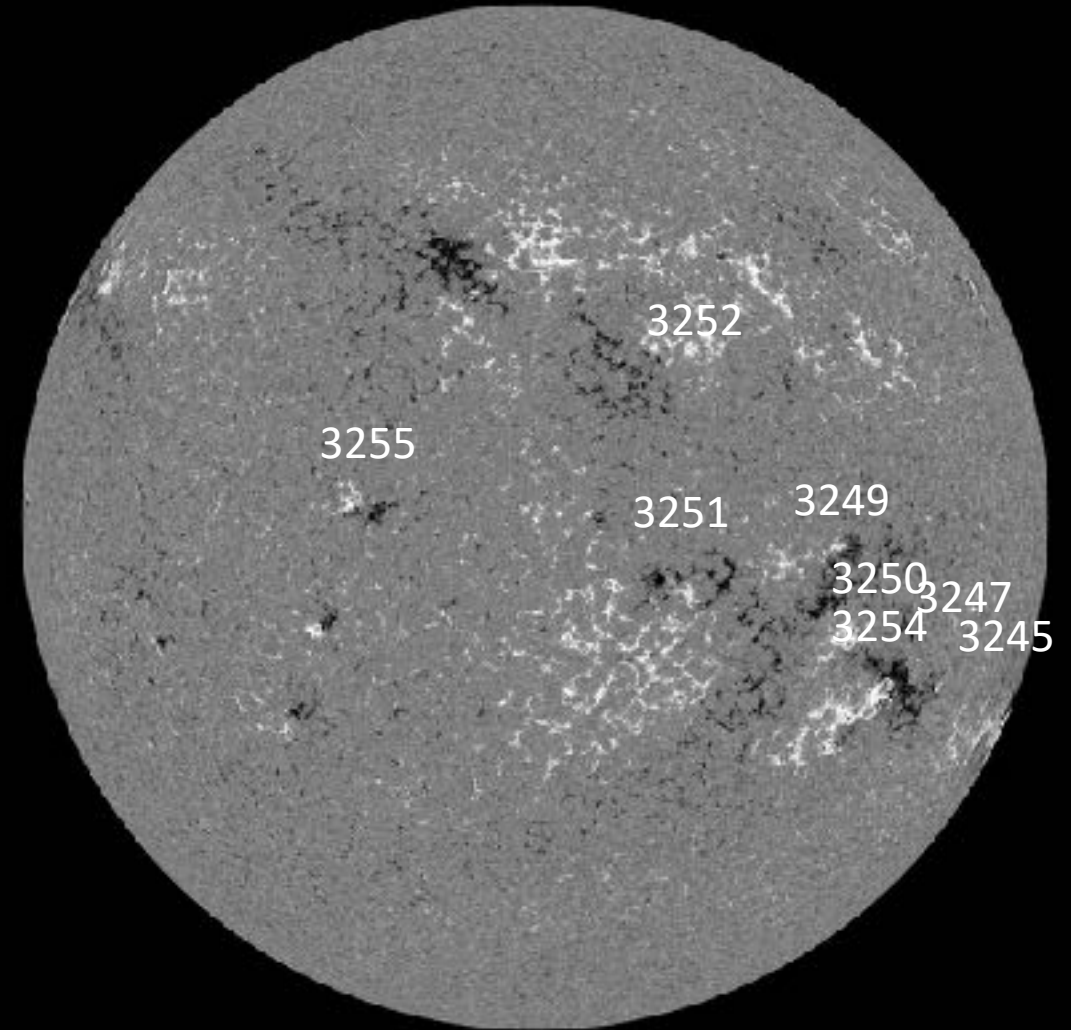


Solar active regions

SDO/HMI White Light 2023-03-16

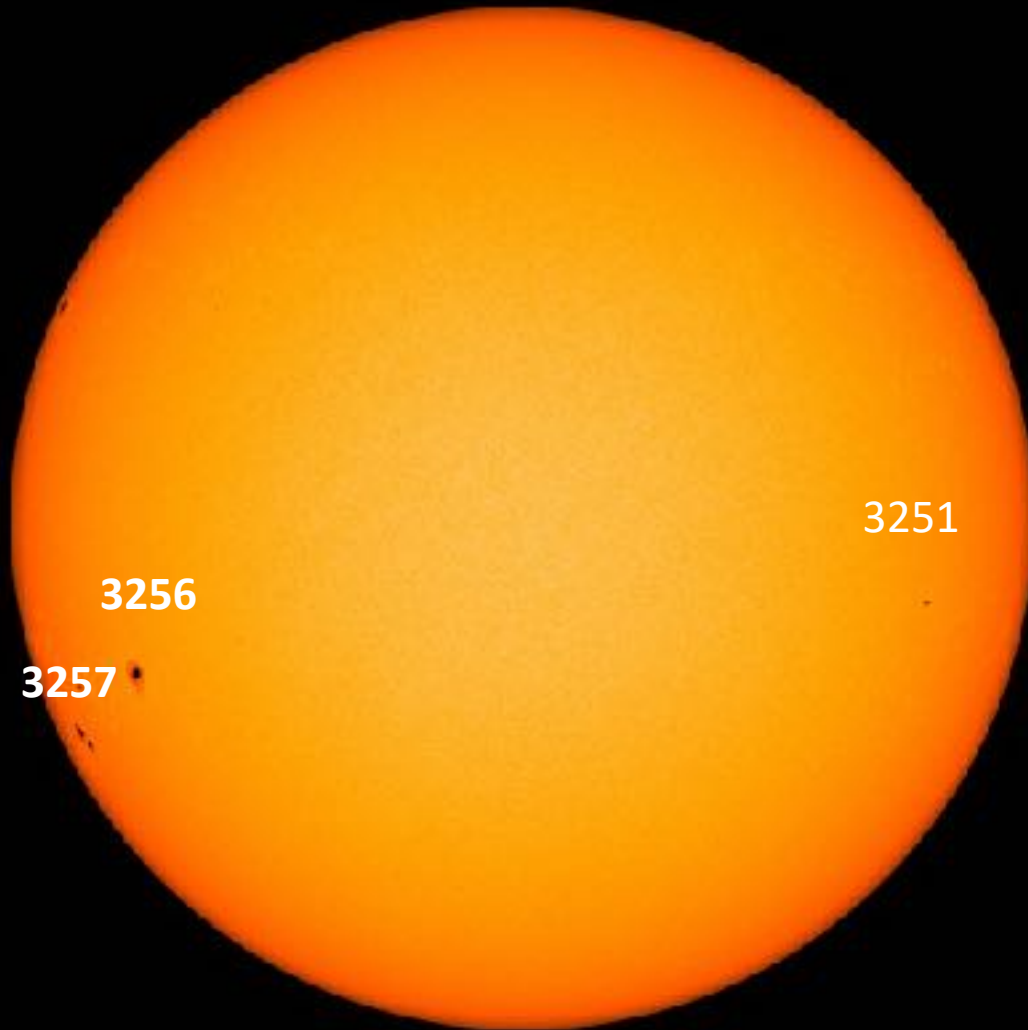


SDO/HMI Magnetogram 2023-03-16

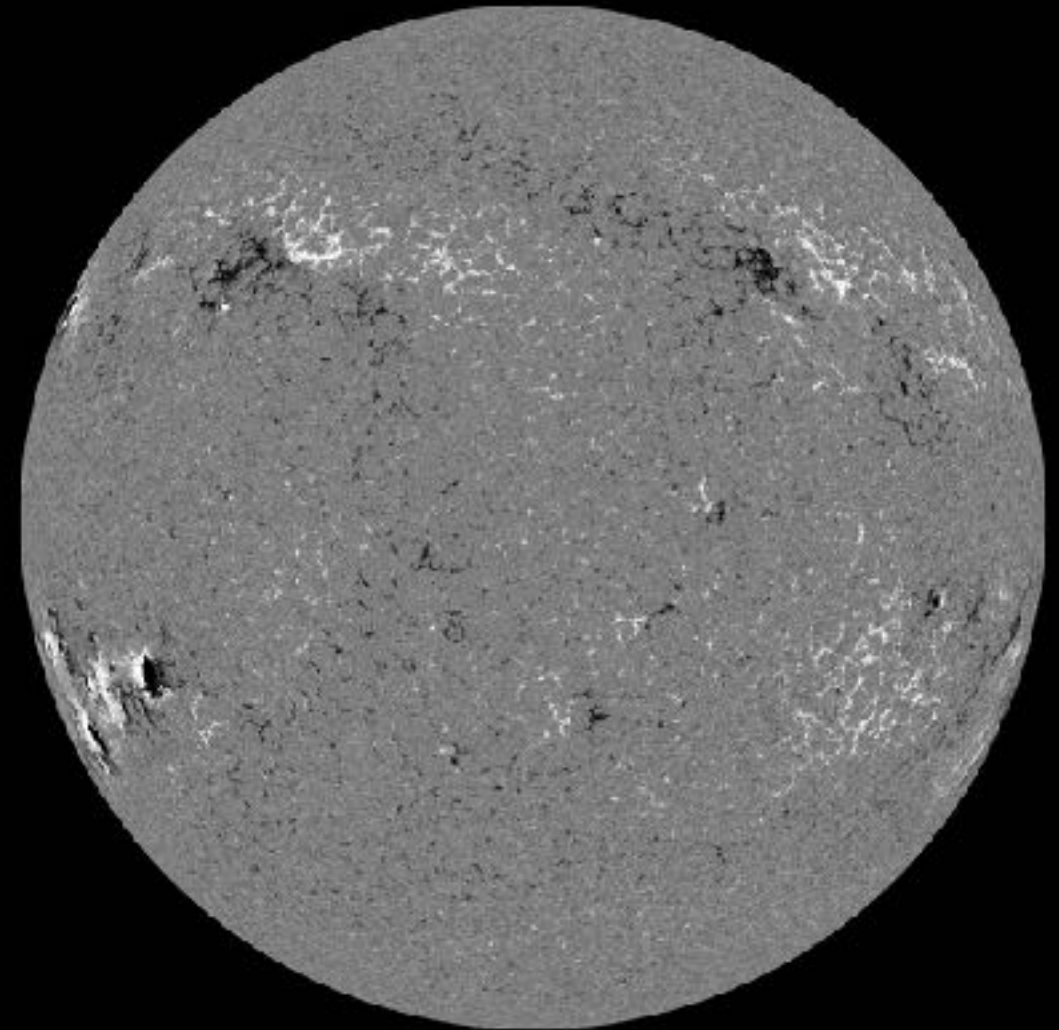


Solar active regions

SDO/HMI White Light 2023-03-19



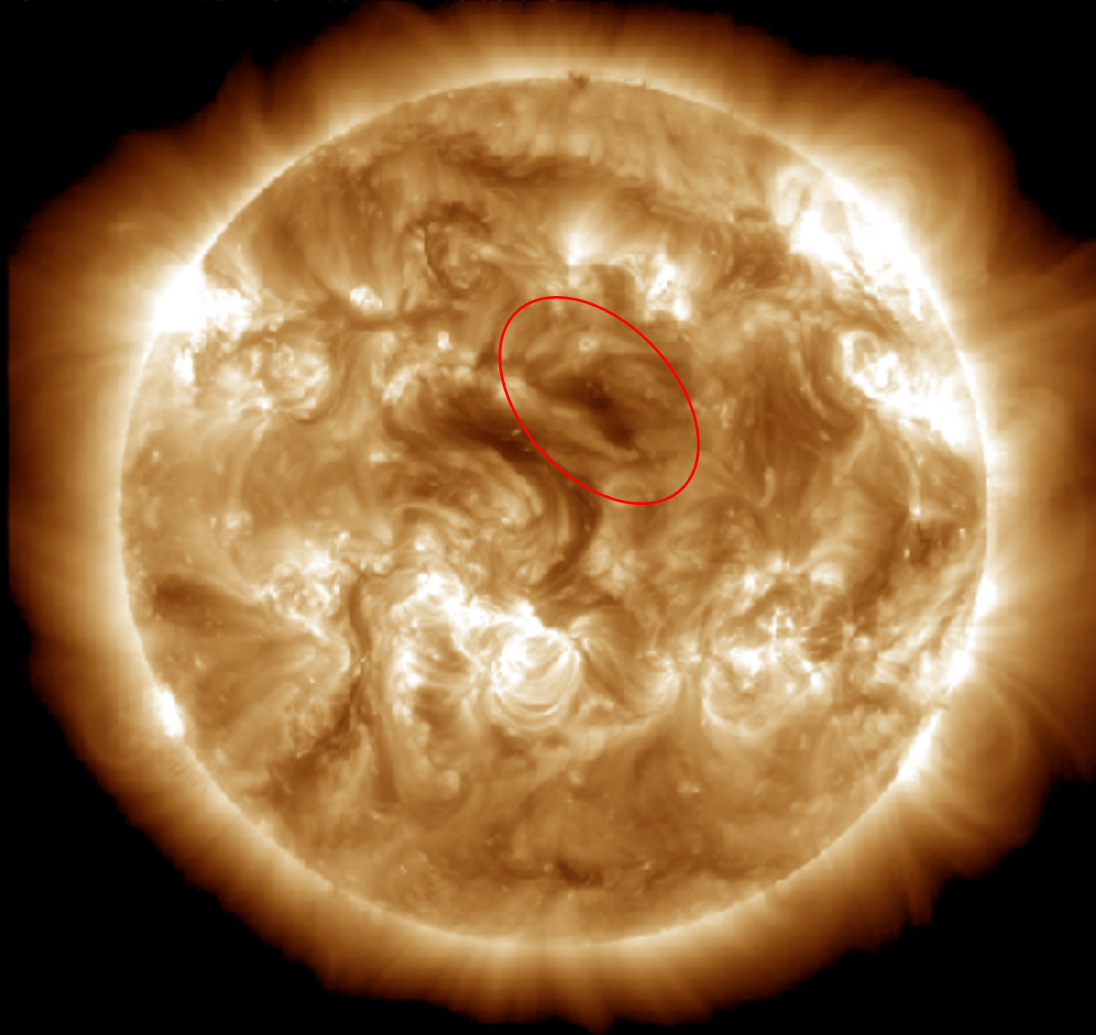
SDO/HMI Magnetogram 2023-03-19



Coronal holes

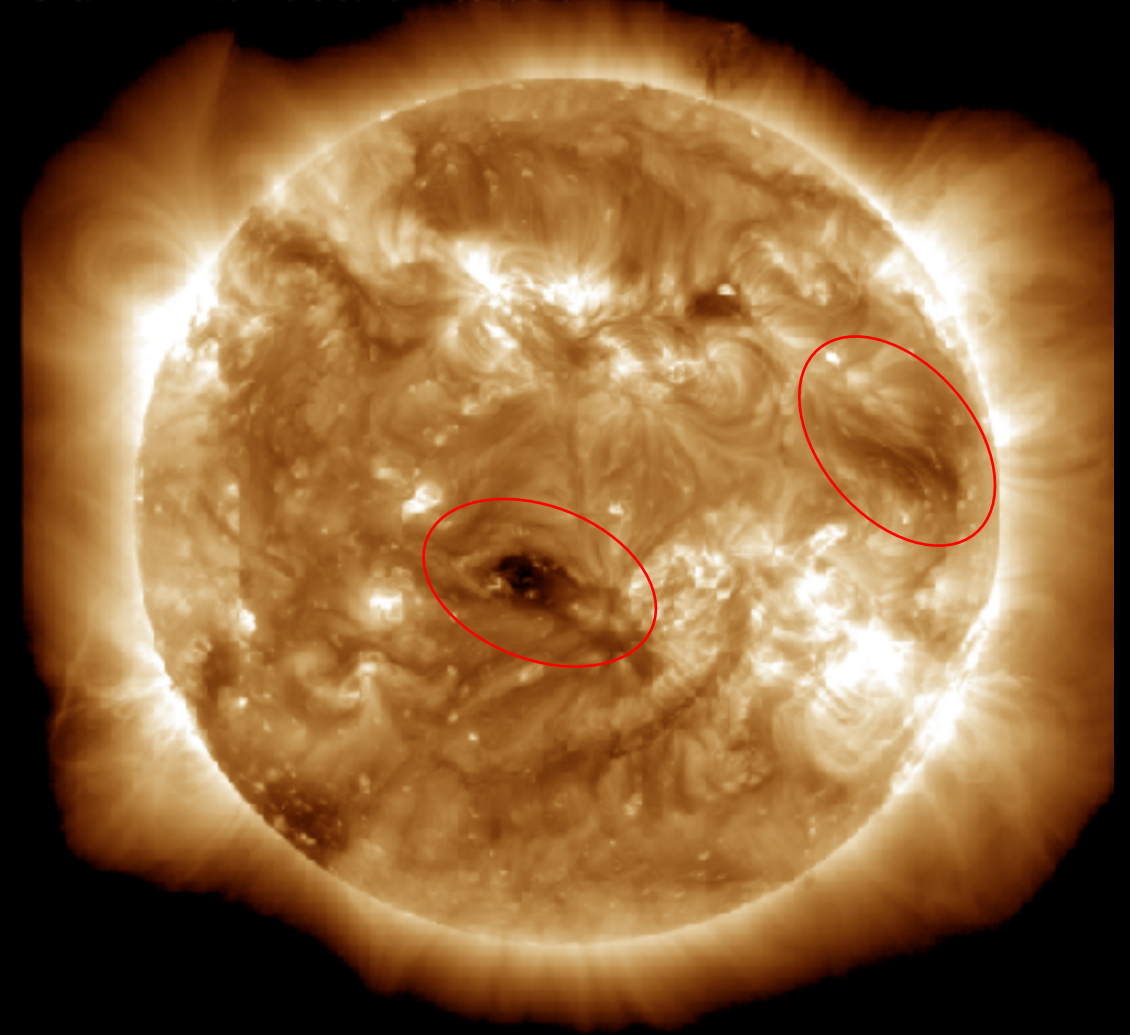
SDO/AIA 19.3 nm 2023-03-12

SDO/AIA AIA_193Å_2023-03-12T12:00:05.843



SDO/AIA 19.3 nm 2023-03-16

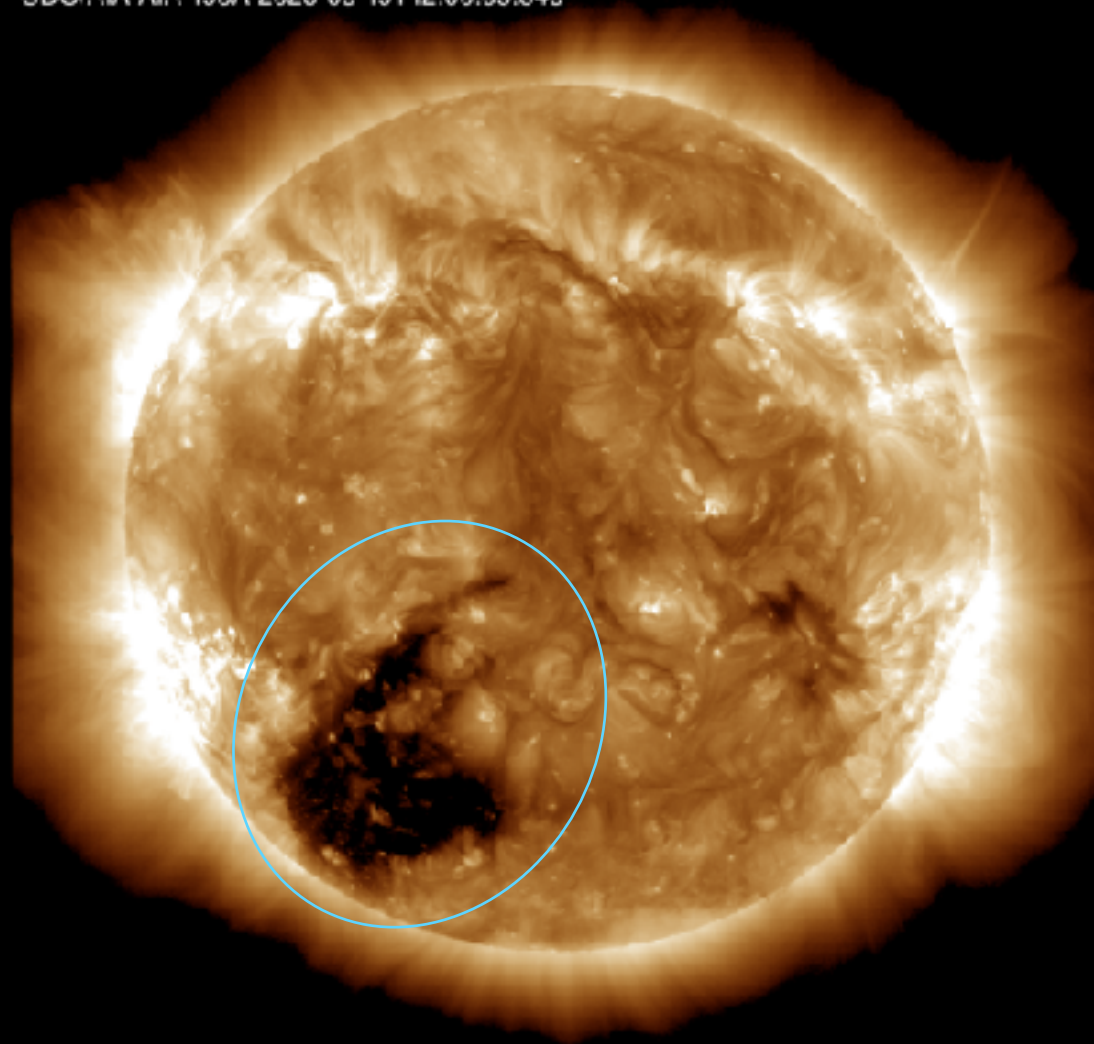
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Coronal holes

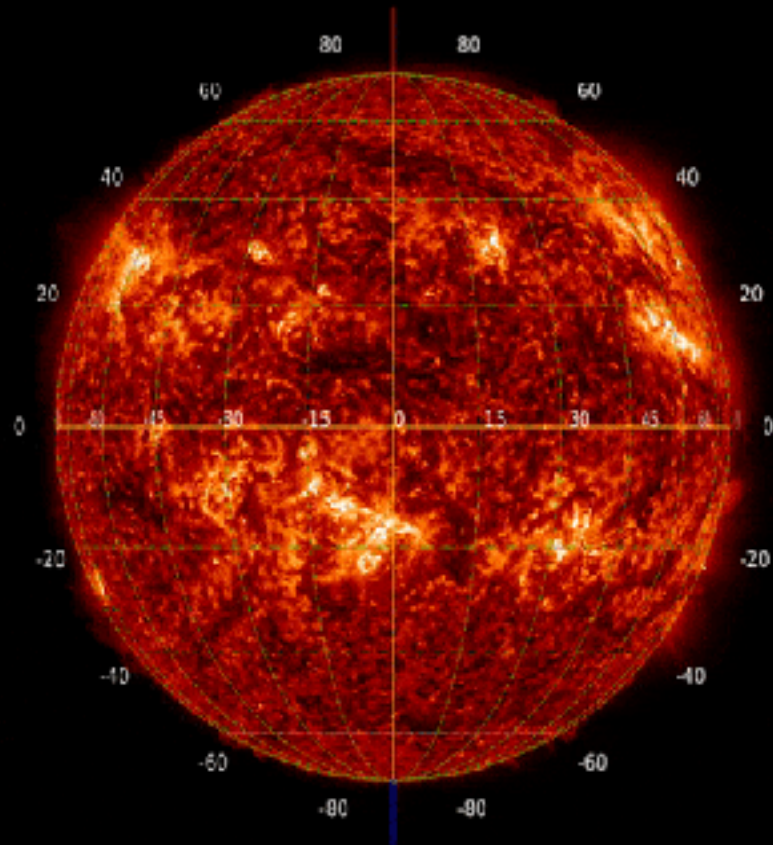
SDO/AIA 19.3 nm 2023-03-19

SDO/AIA AIA 193Å 2023-03-19T12:00:05.843



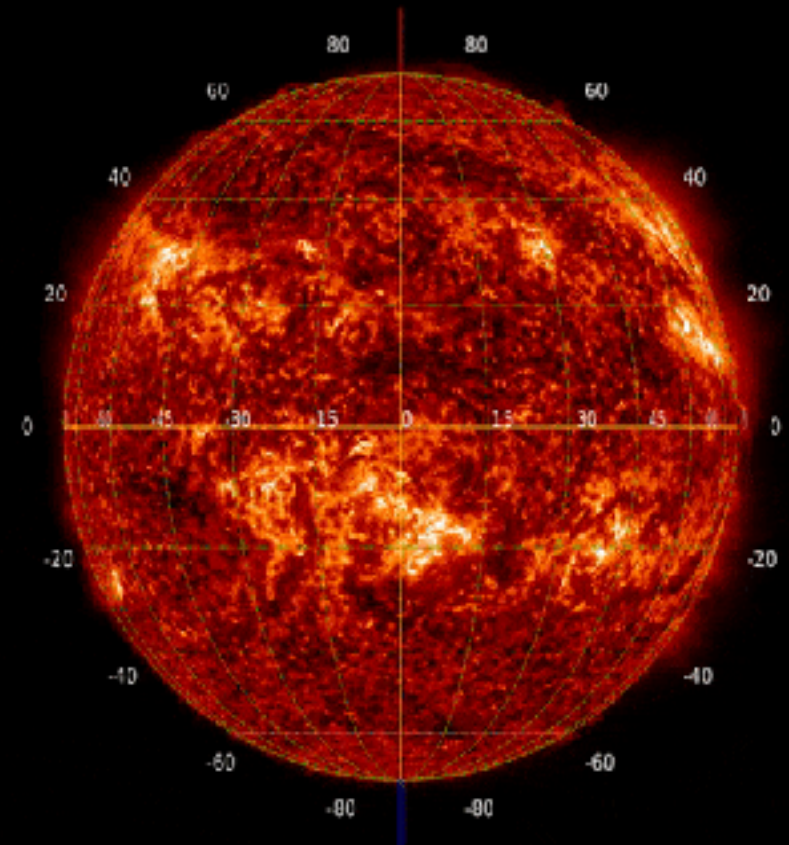
Filaments

SDO/AIA 30.4 nm 2023-03-12



2023-03-12T16:42:41.138

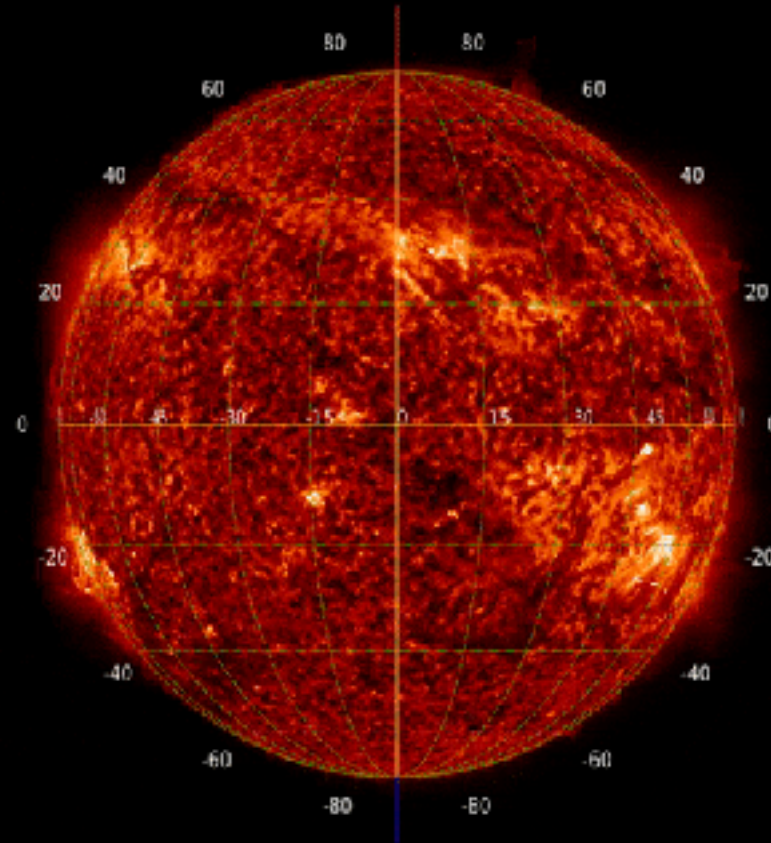
SDO/AIA 30.4 nm 2023-03-13



2023-03-13T07:42:41.130

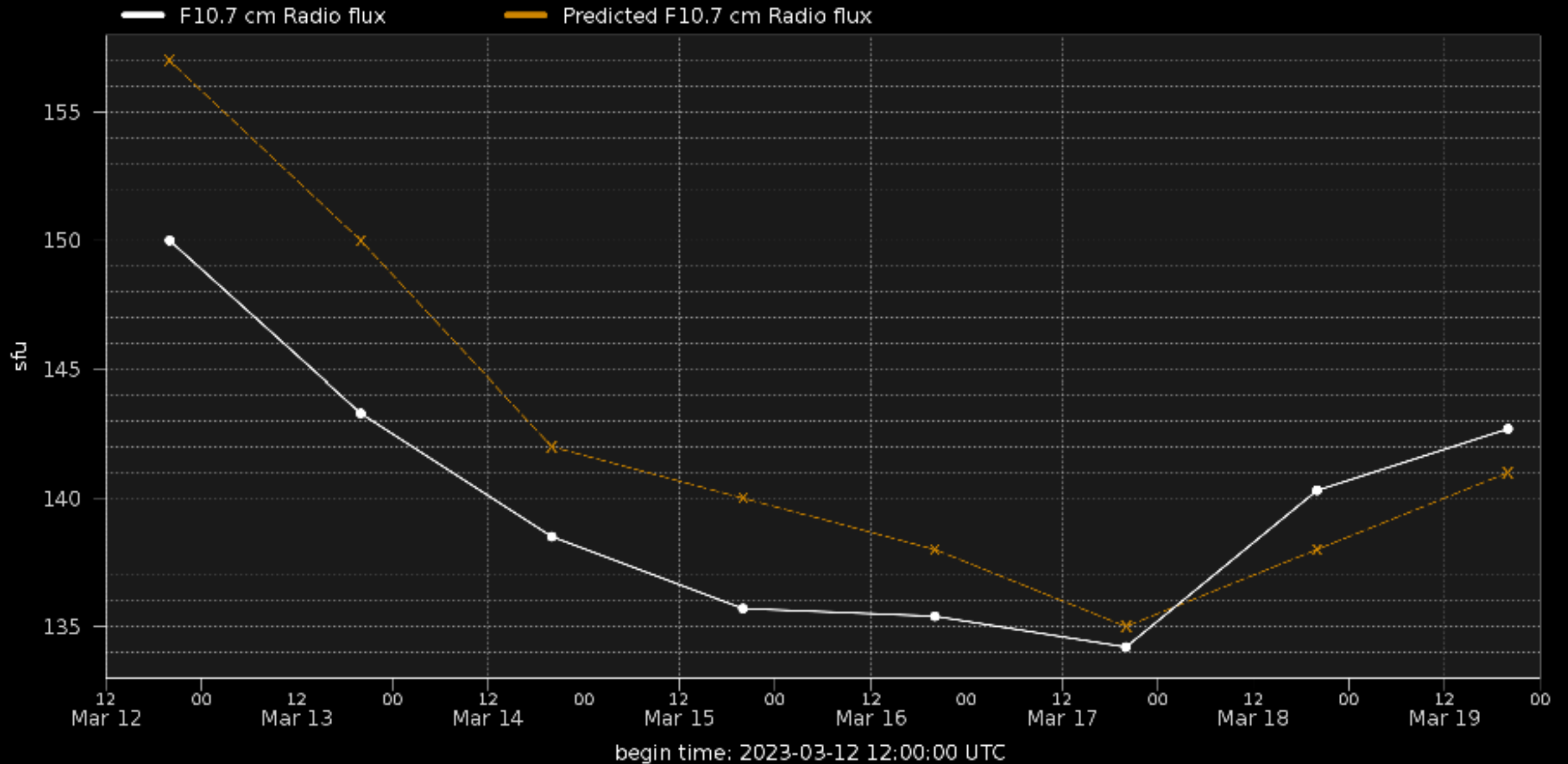
Filaments

SDO/AIA 30.4 nm 2023-03-17

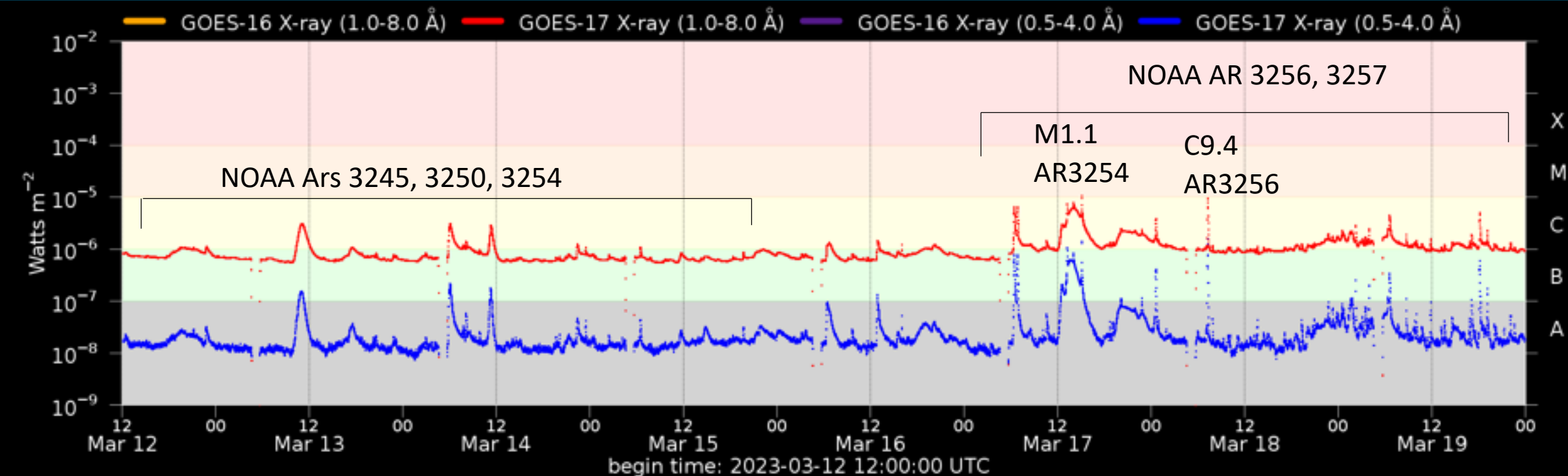


2023-03-17T07:42:53.133

Solar F10.7cm radio flux



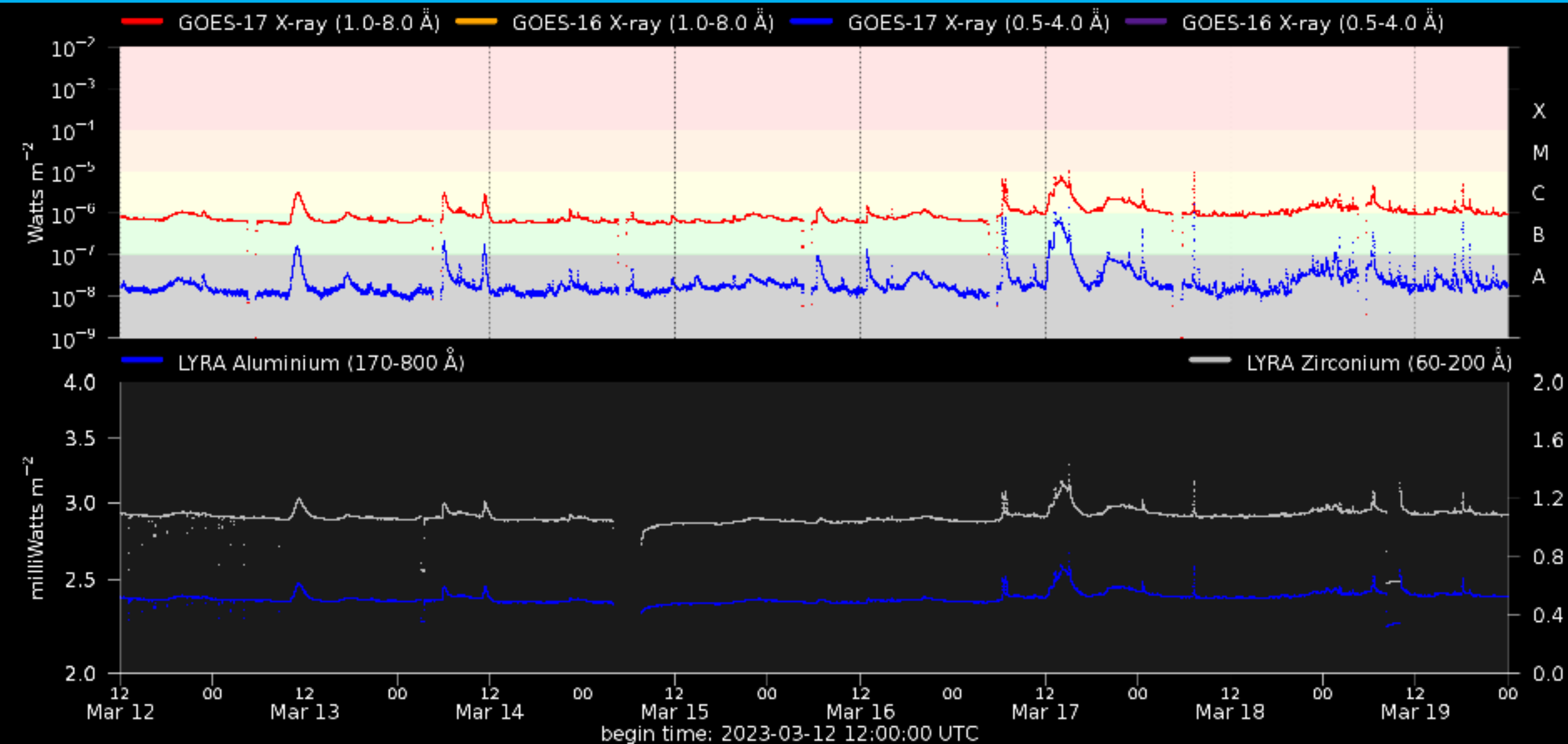
Flaring activity



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

Issue date	2023-03-12	2023-03-13	2023-03-14	2023-03-15	2023-03-16	2023-03-17	2023-03-18	2023-03-19
Probability (%)	90 05 01	55 15 05	60 10 05	50 10 05	50 05 03	55 10 05	70 10 05	90 15 05
Observed (#)	00 00 00	03 00 00	02 00 00	01 00 00	04 00 00	04 01 00	06 00 00	03 00 00

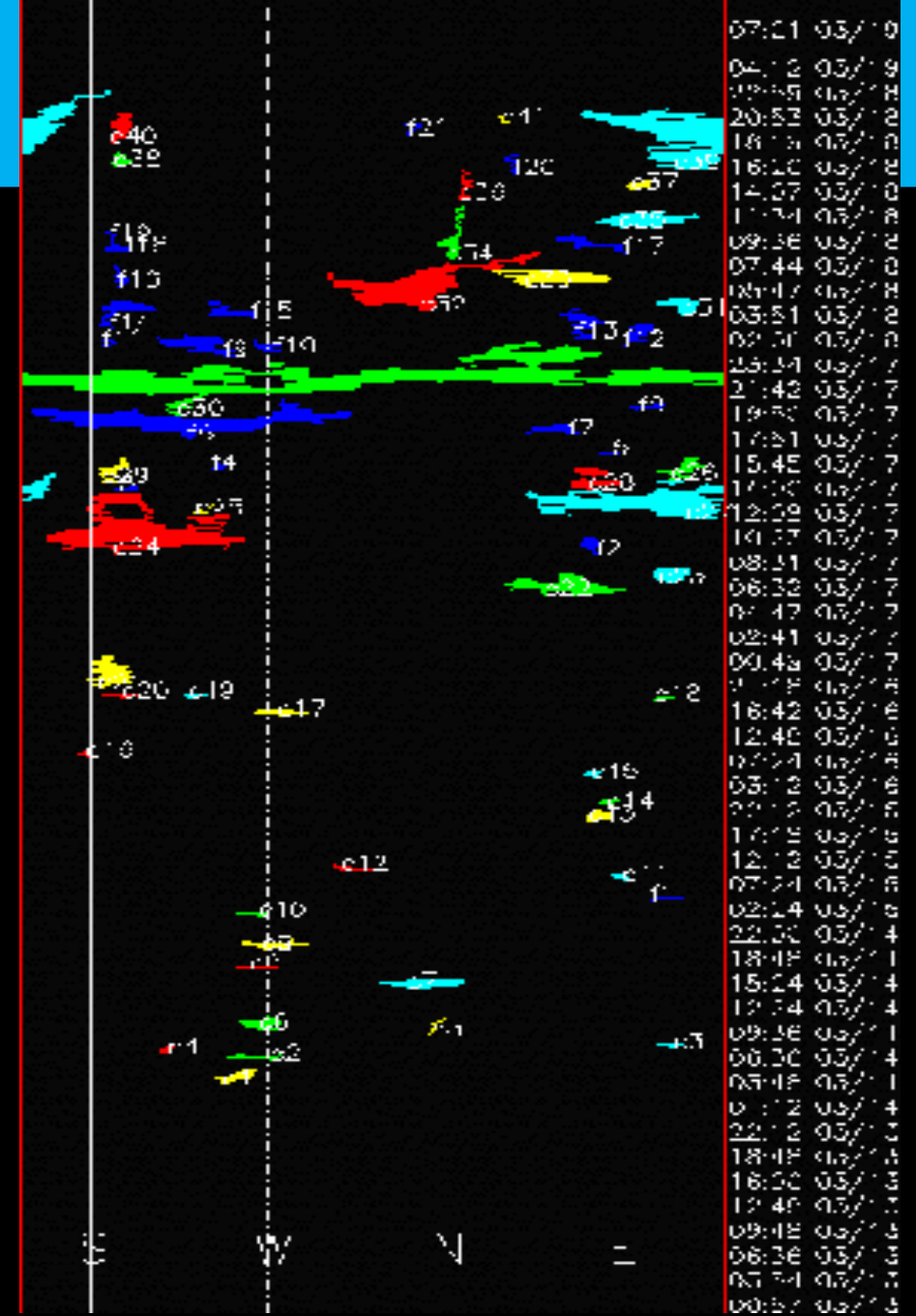
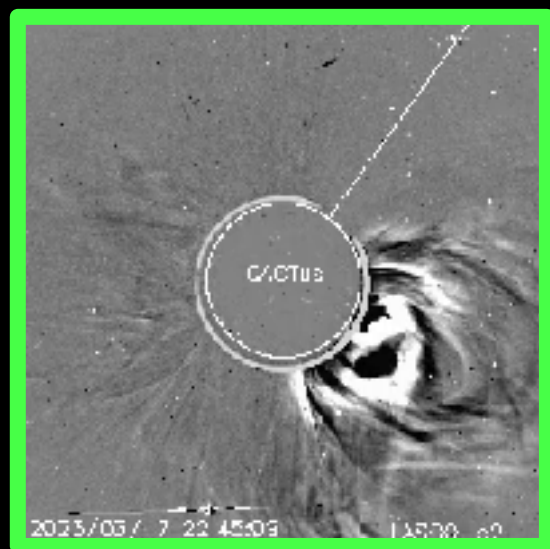
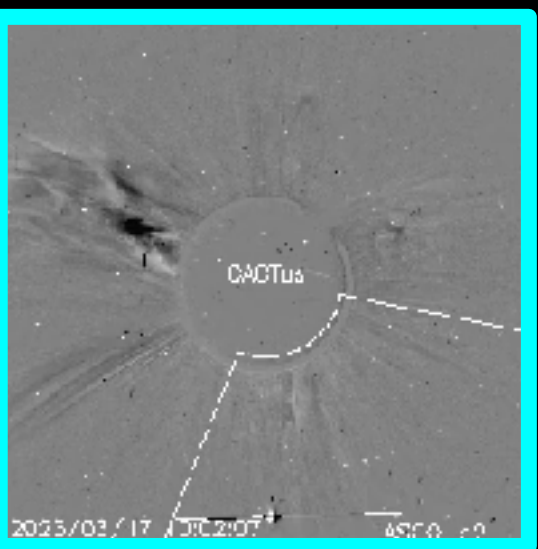
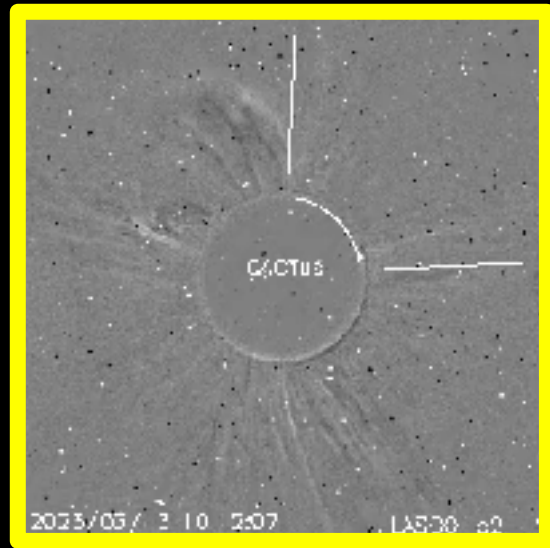
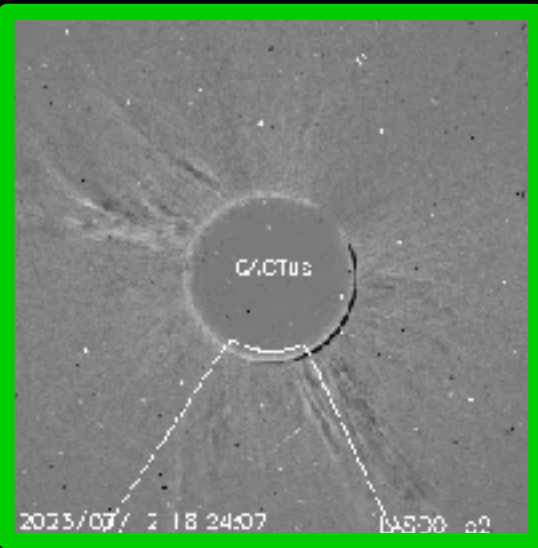
Solar X-Ray and UV flux



Coronal Mass Ejections



Coronal Mass Ejections



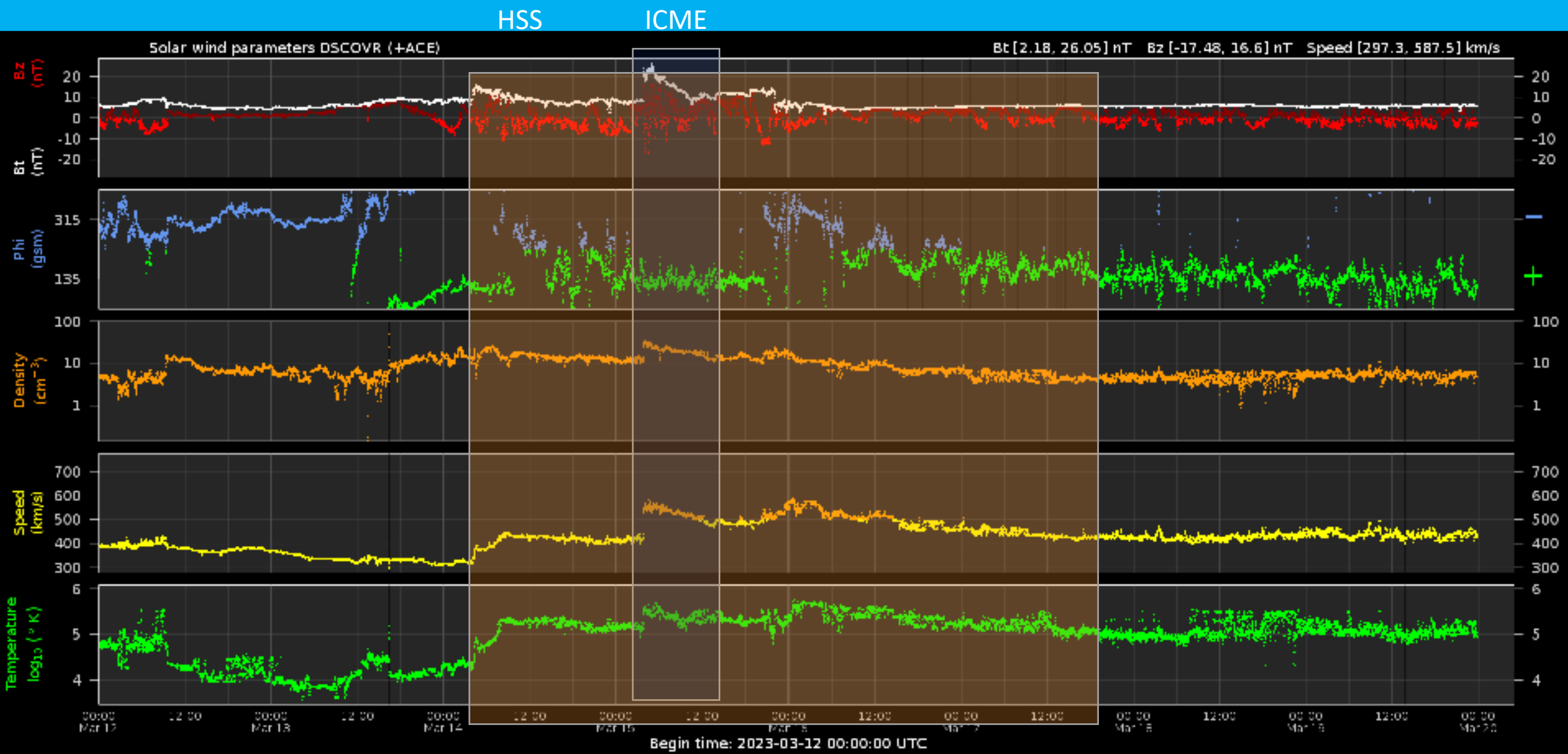
Solar Wind and Geomagnetic Activity



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Solar wind parameters



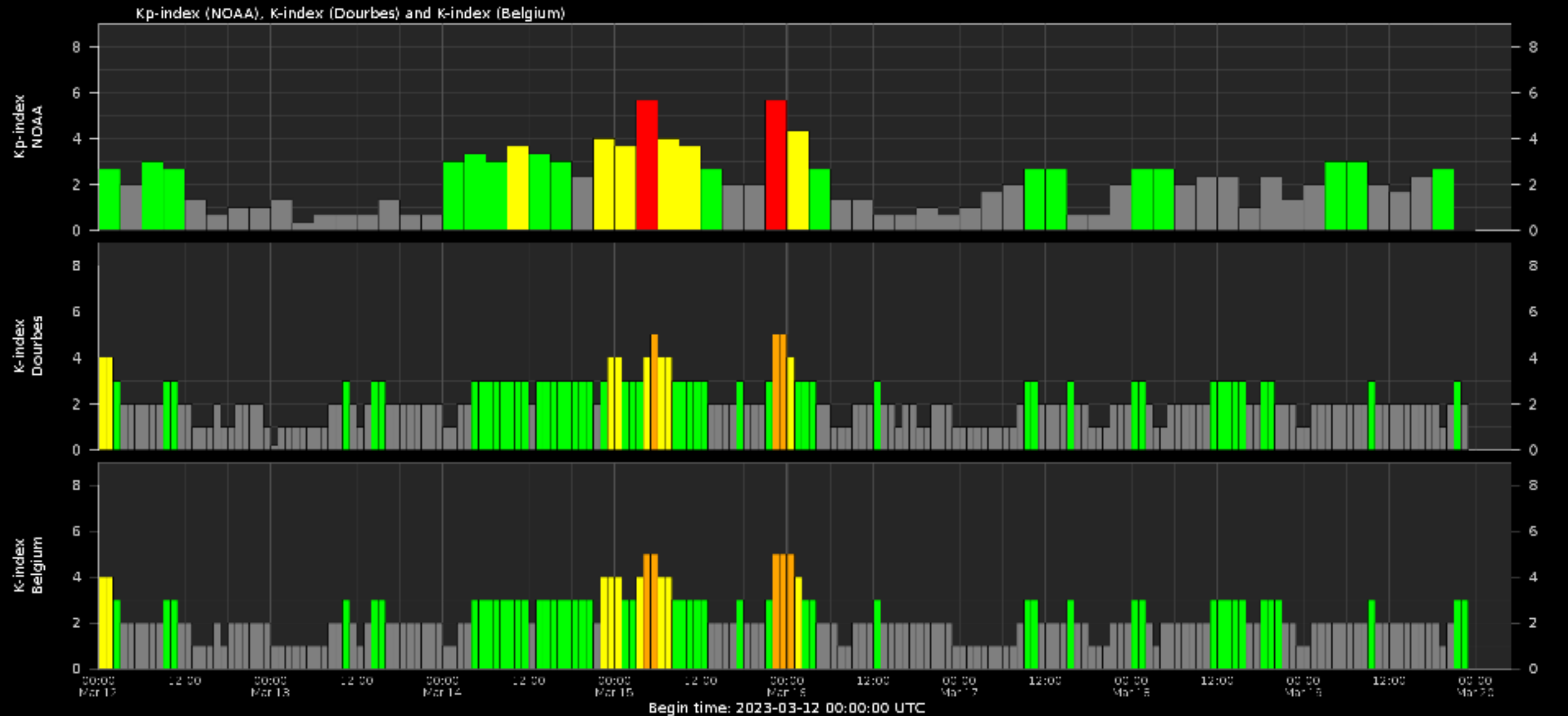
Solar wind parameters & K-indices

HSS

ICME



Geomagnetic activity (K-indexes)



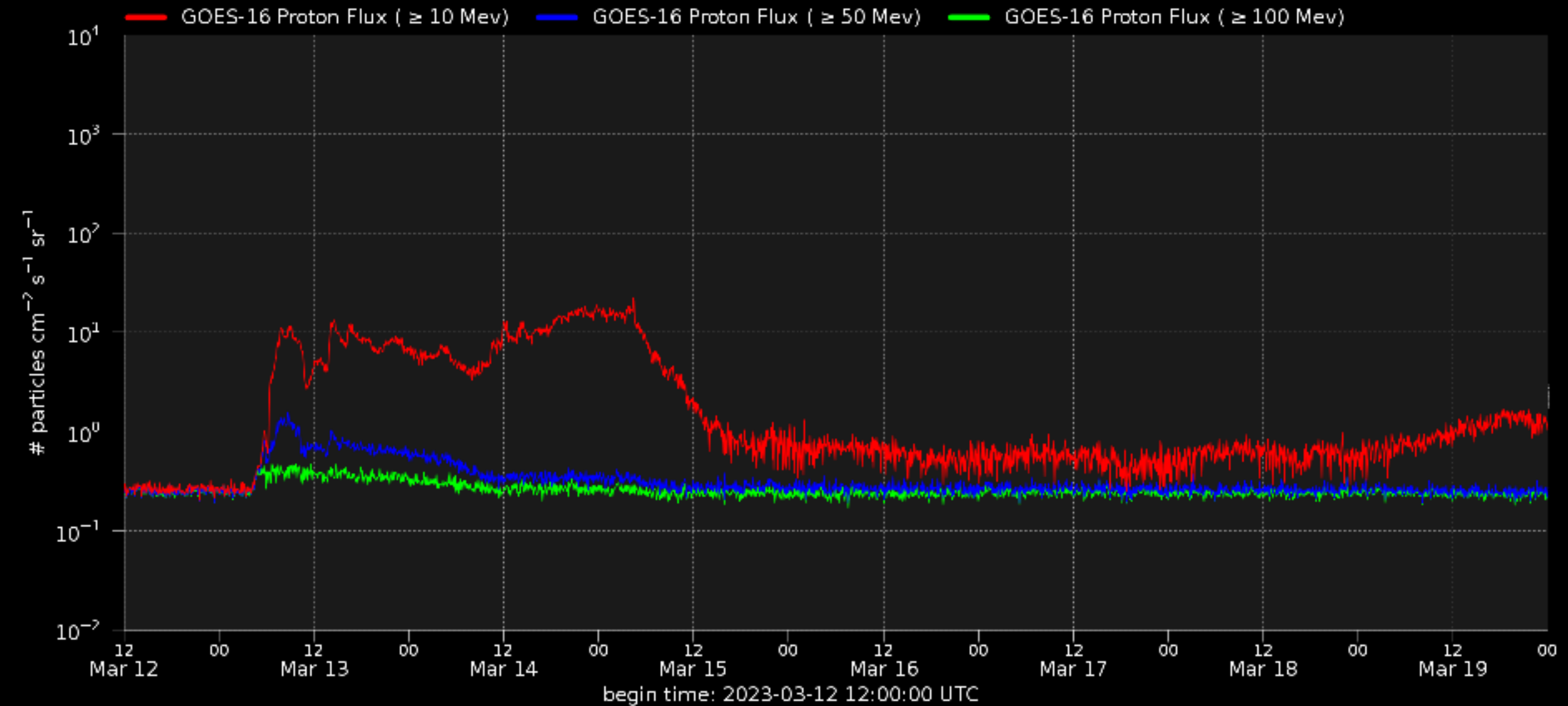
Energetic Particles



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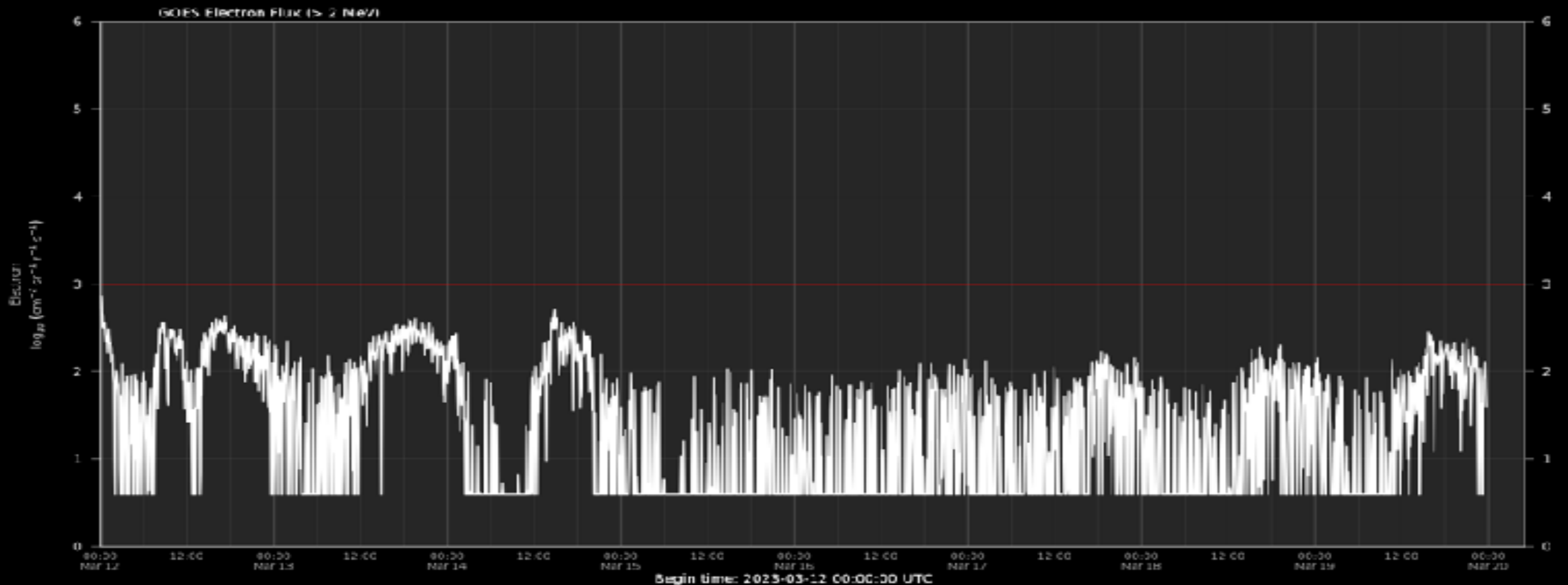
Solar proton flux



Electron flux at GEO

www.stce.be/educational/classification#electrons

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



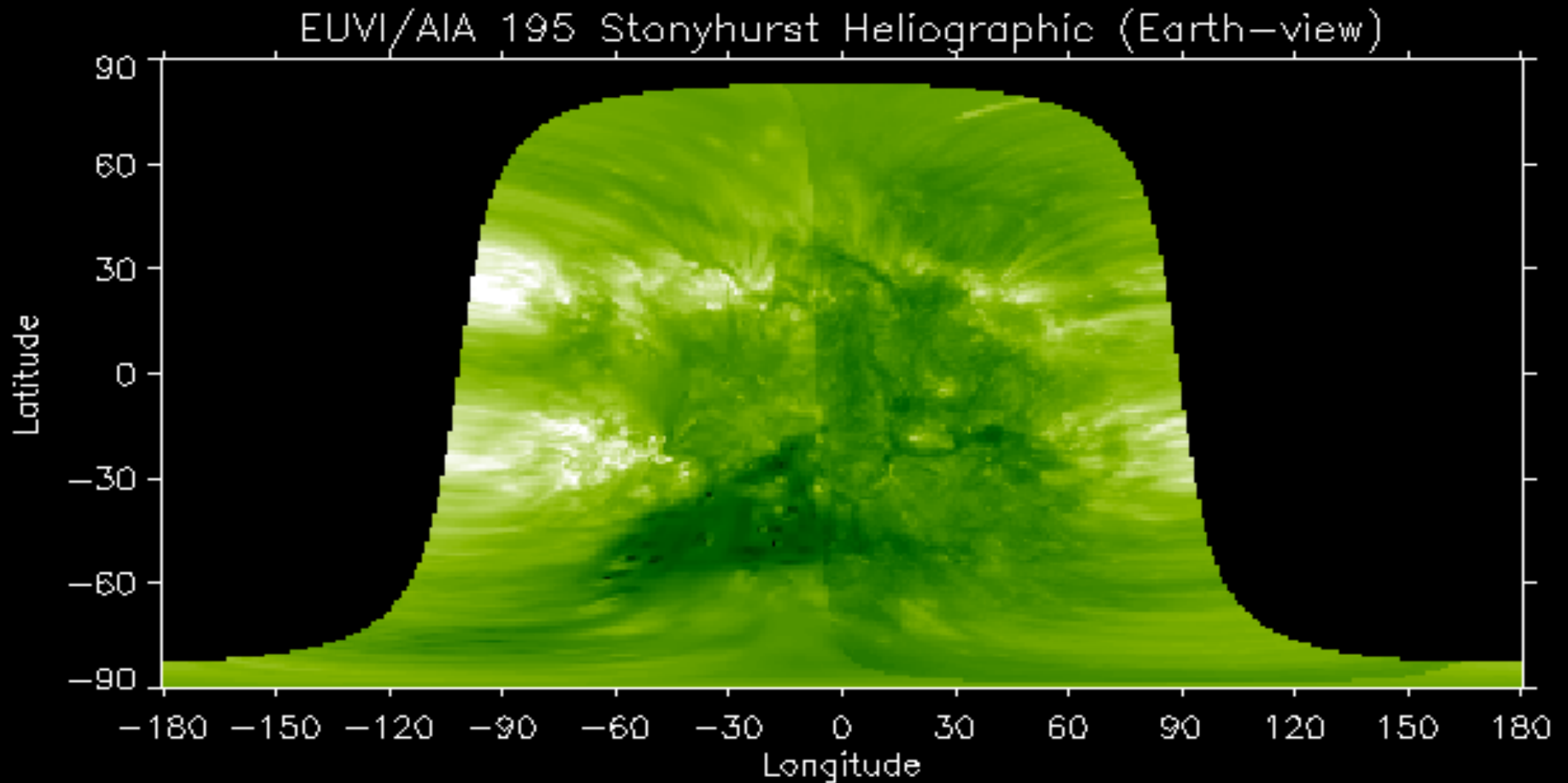
Outlook



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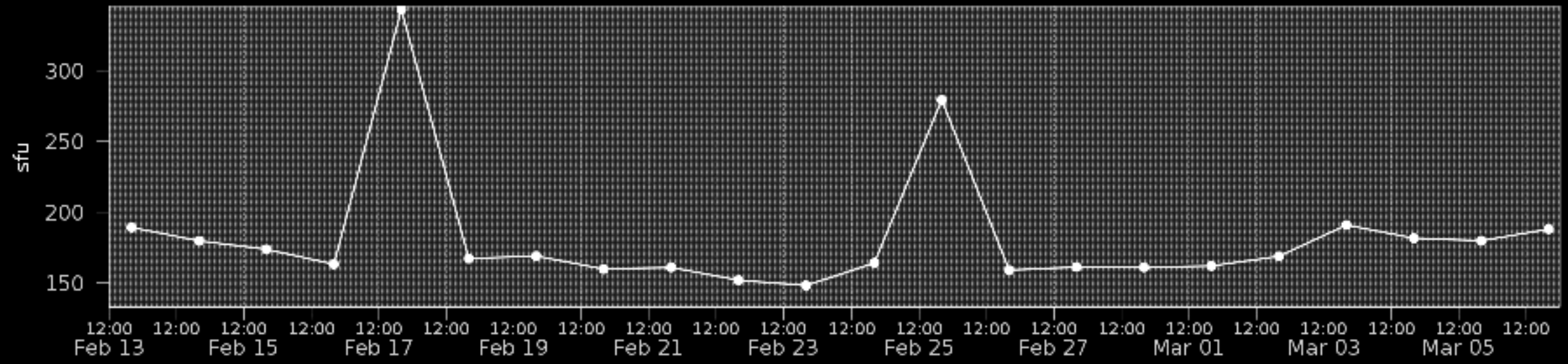
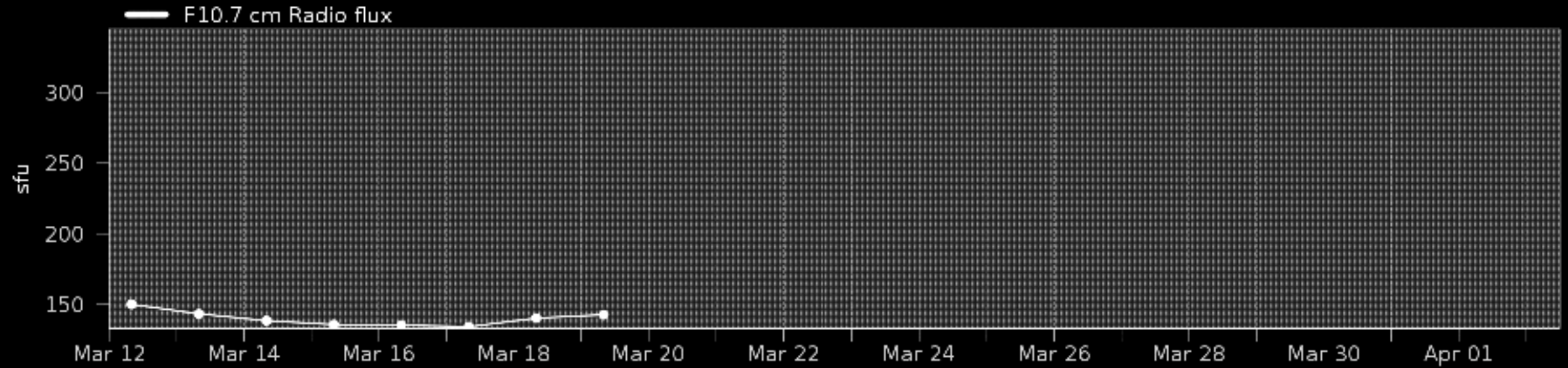
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Outlook: Solar activity



Observation date: 2023/03/19 23:10:30

Outlook: Solar F10.7cm radio flux

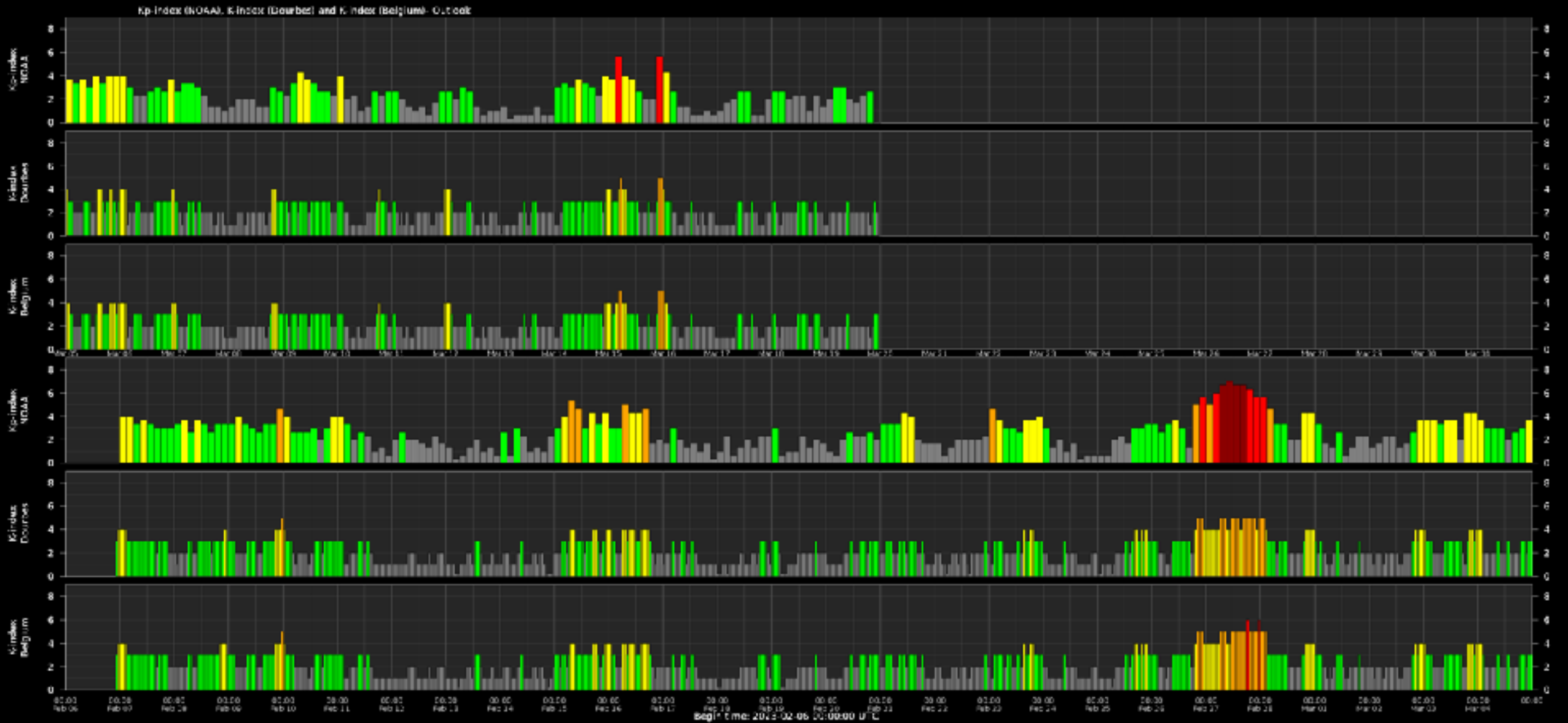


begin time: 2023-03-12 12:00:00 UTC

Outlook: Solar wind parameters



Outlook: Geomagnetic activity



Outlook: Electron Flux at GEO Outlook



Pegasus

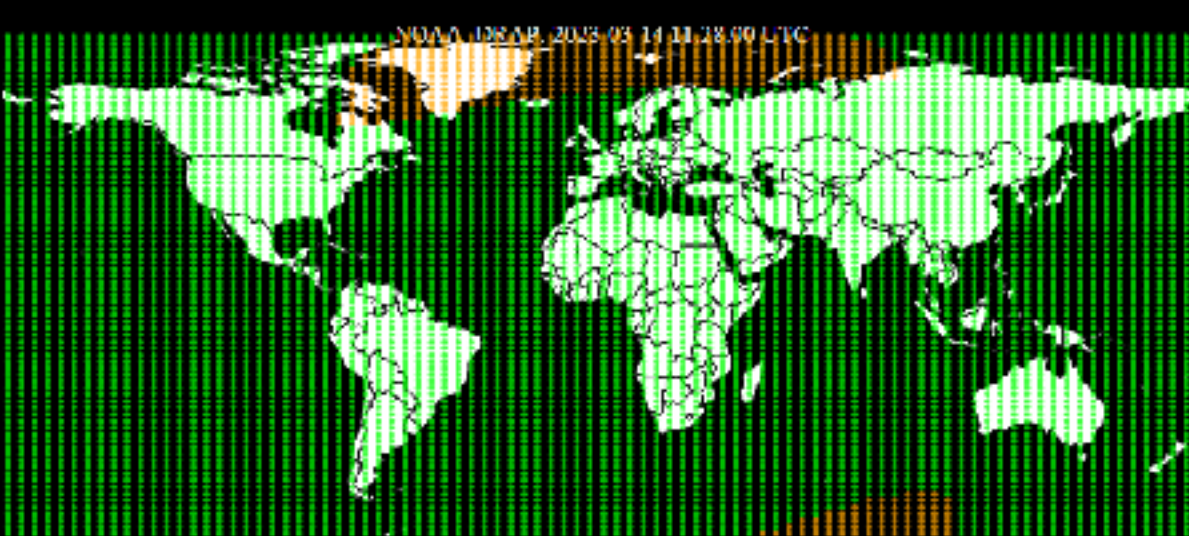


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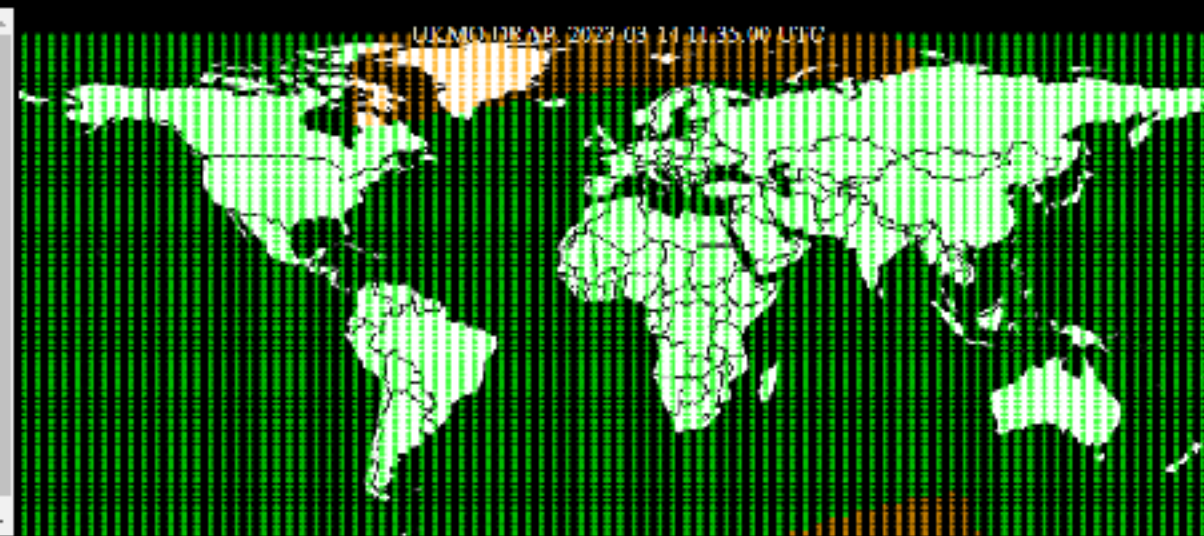
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Pegasus related events

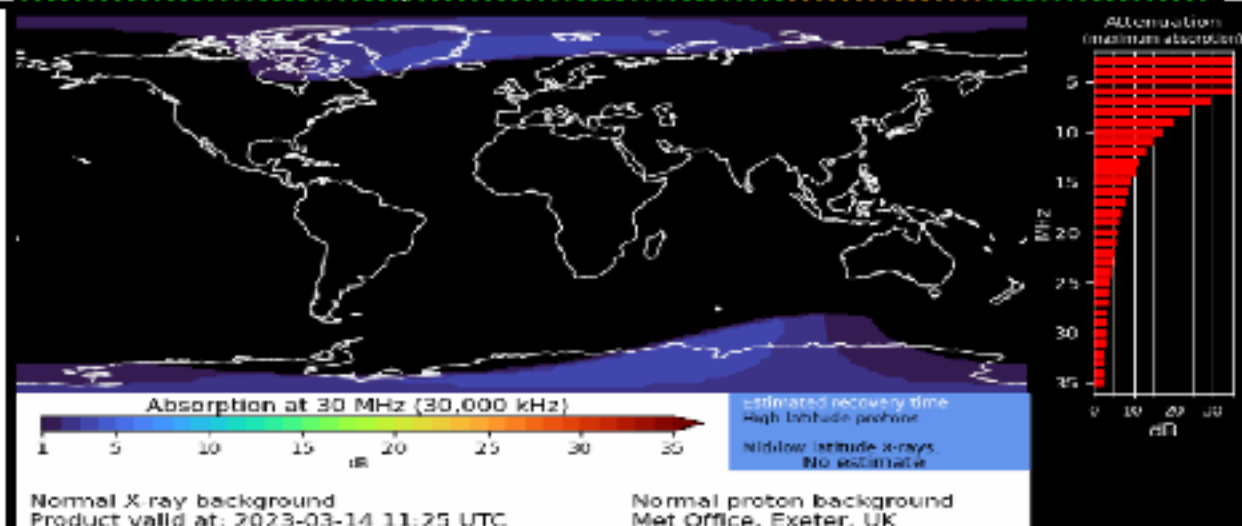
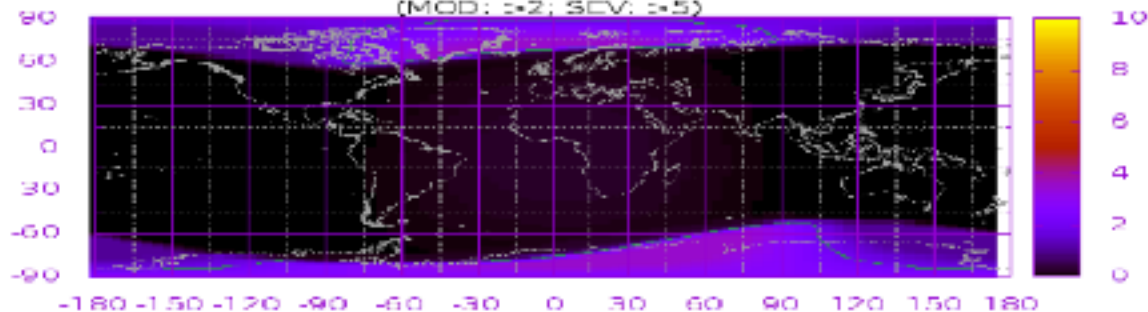
HF/PCA (dB from 30MHz data) - NOAA



HF/PCA (dB from 30MHz data) - UKMO



Absorption [dB] at 30 MHz on 2023-03-14 11:28 UTC
(MOD: >=2; SEV: >=5)



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See you at our next briefing!

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