

SIDC Space Weather Briefing

23 February 2025-02 March 2025

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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 2025-02-23 12:00 to 2025-03-02 23:59

Active regions	> 20 ARs
Flares	# C-class flare: 40 # M-class flare: 5 # X-class flare: 1
Coronal Holes	3 geo-effective CH+
CMEs	Multiple partial-halo CMEs, several filament eruptions

Proton flux	Proton event (minor radiation storm) on Feb 25
Electron flux	Mostly nominal

Solar wind and geomagnetic conditions

ICMEs	possible arrivals on Feb 24, Feb 26
Solar wind conditions	B : 0.88 - 20.07 nT //Bz: -13.06 nT to 16.32 nT //Speed: 260.5 - 1113.8km/s
Geomagnetic conditions	max KBel: 5.0, max Kp(NOAA): 5.67, Moderate Storm conditions

All Quiet Alert: Off

Solar Activity

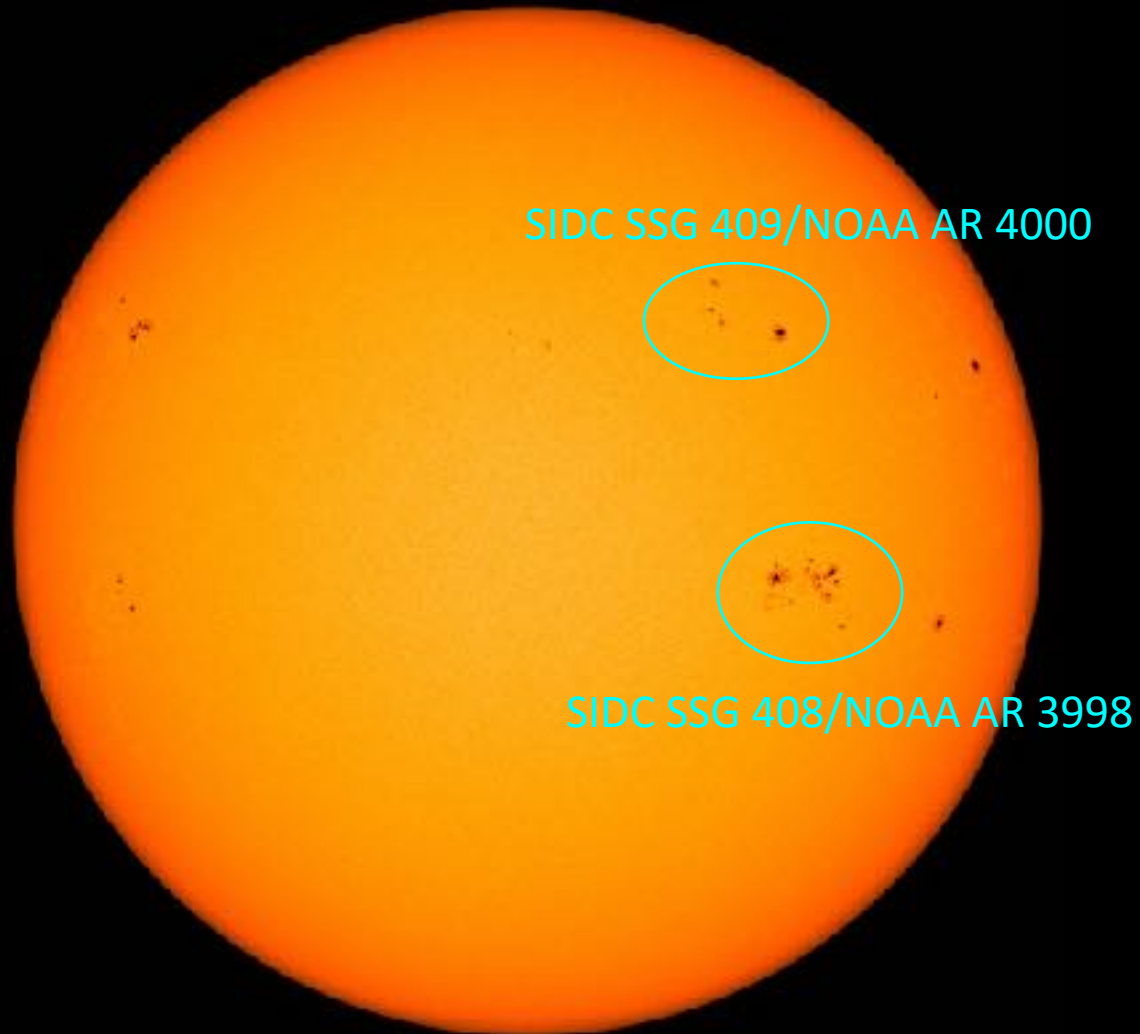


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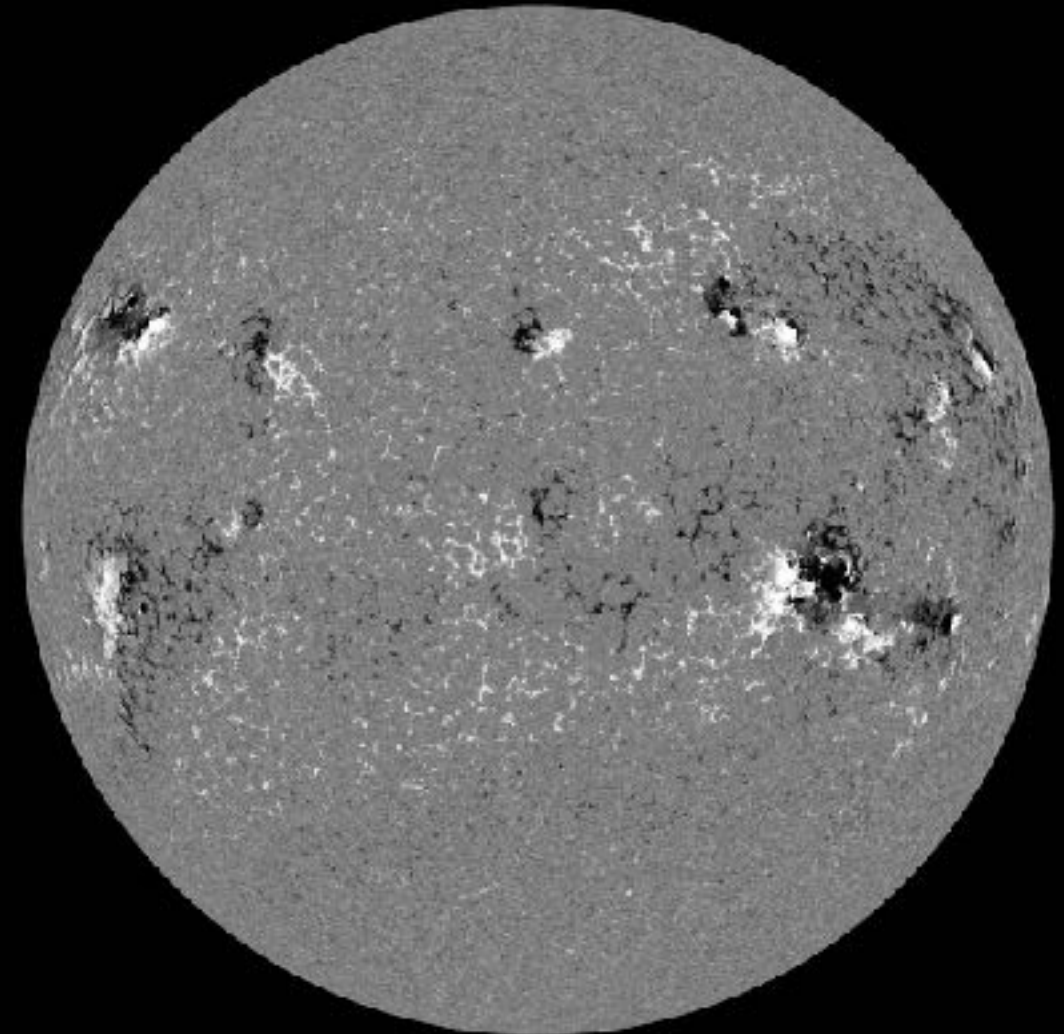
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Solar active regions

SDO/HMI White Light 2025-02-24



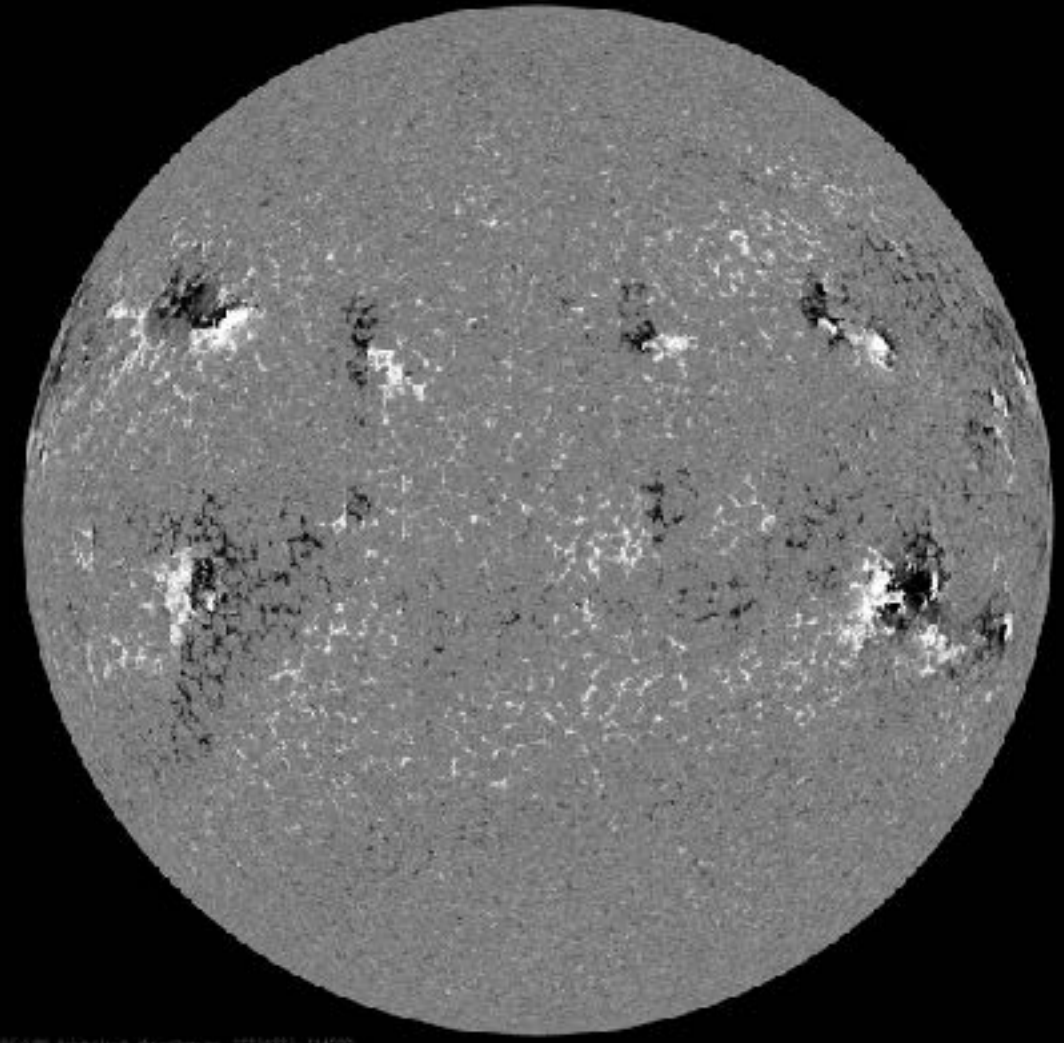
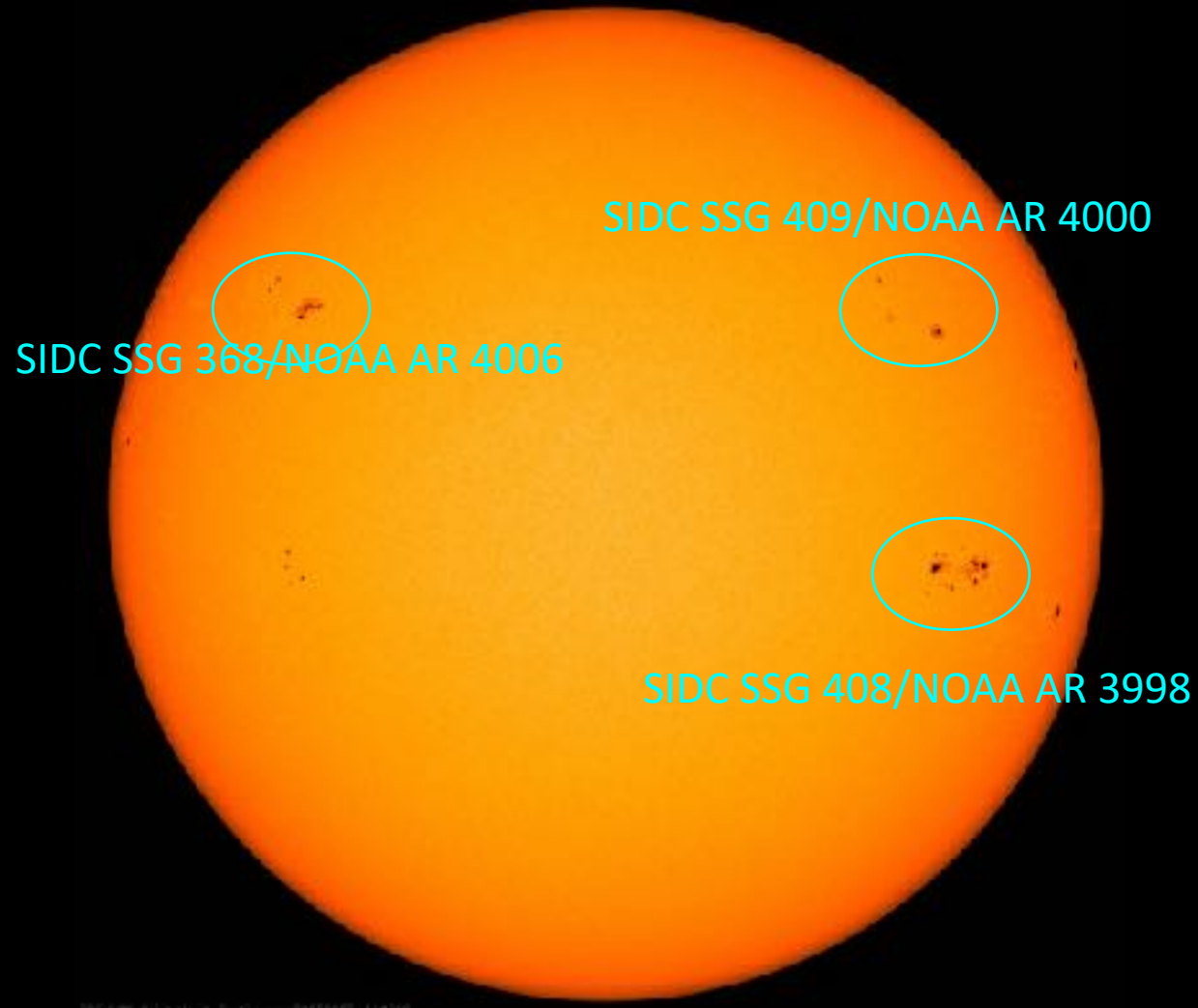
SDO/HMI Magnetogram 2025-02-24



Solar active regions

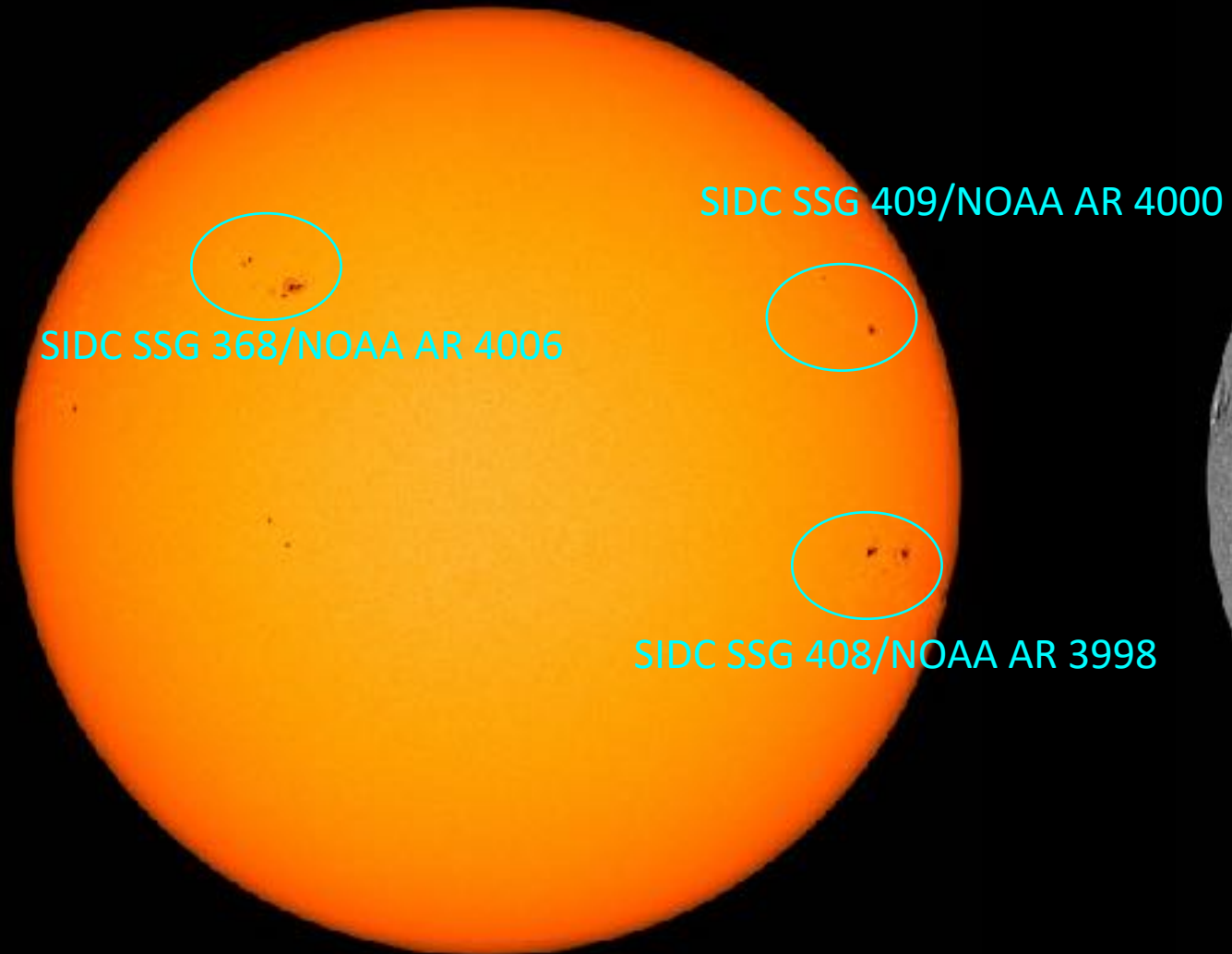
SDO/HMI White Light 2025-02-25

SDO/HMI Magnetogram 2025-02-25

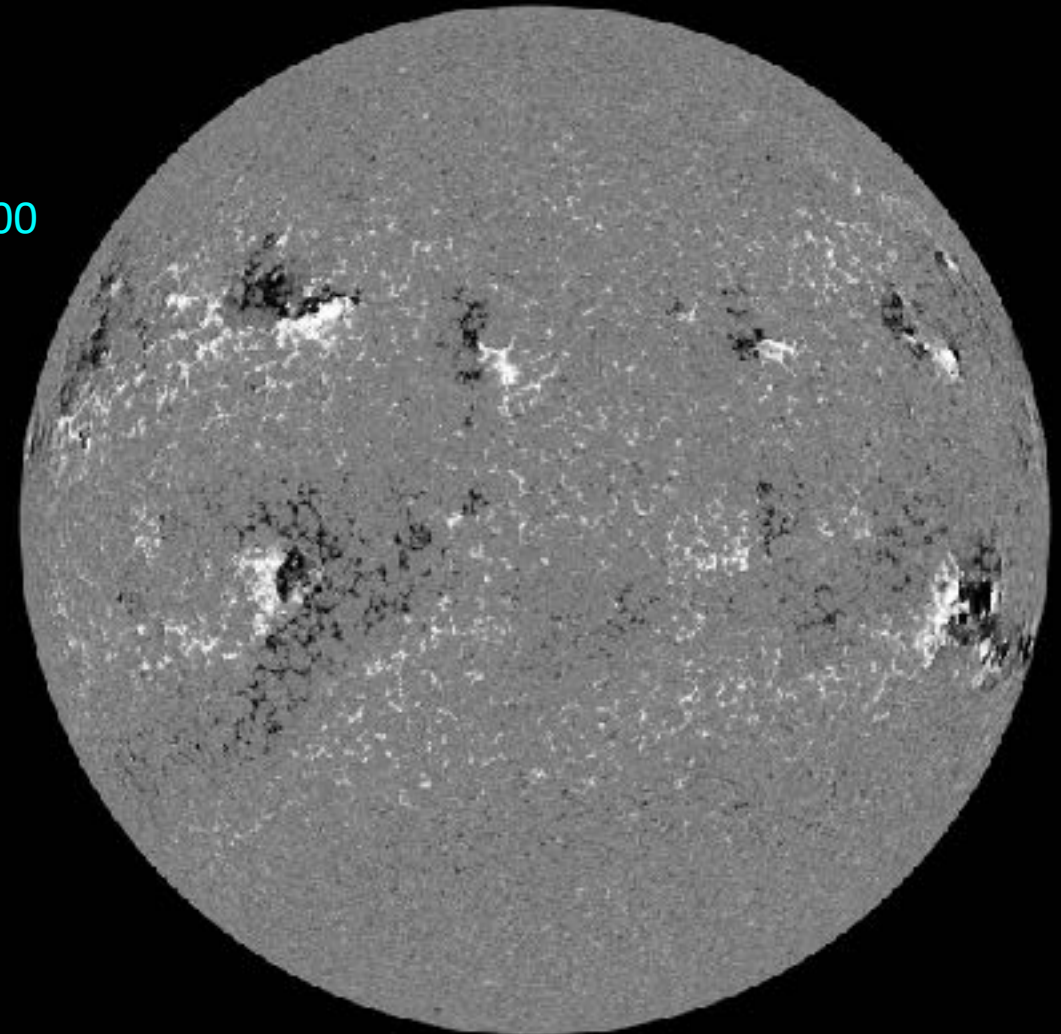


Solar active regions

SDO/HMI White Light 2025-02-26

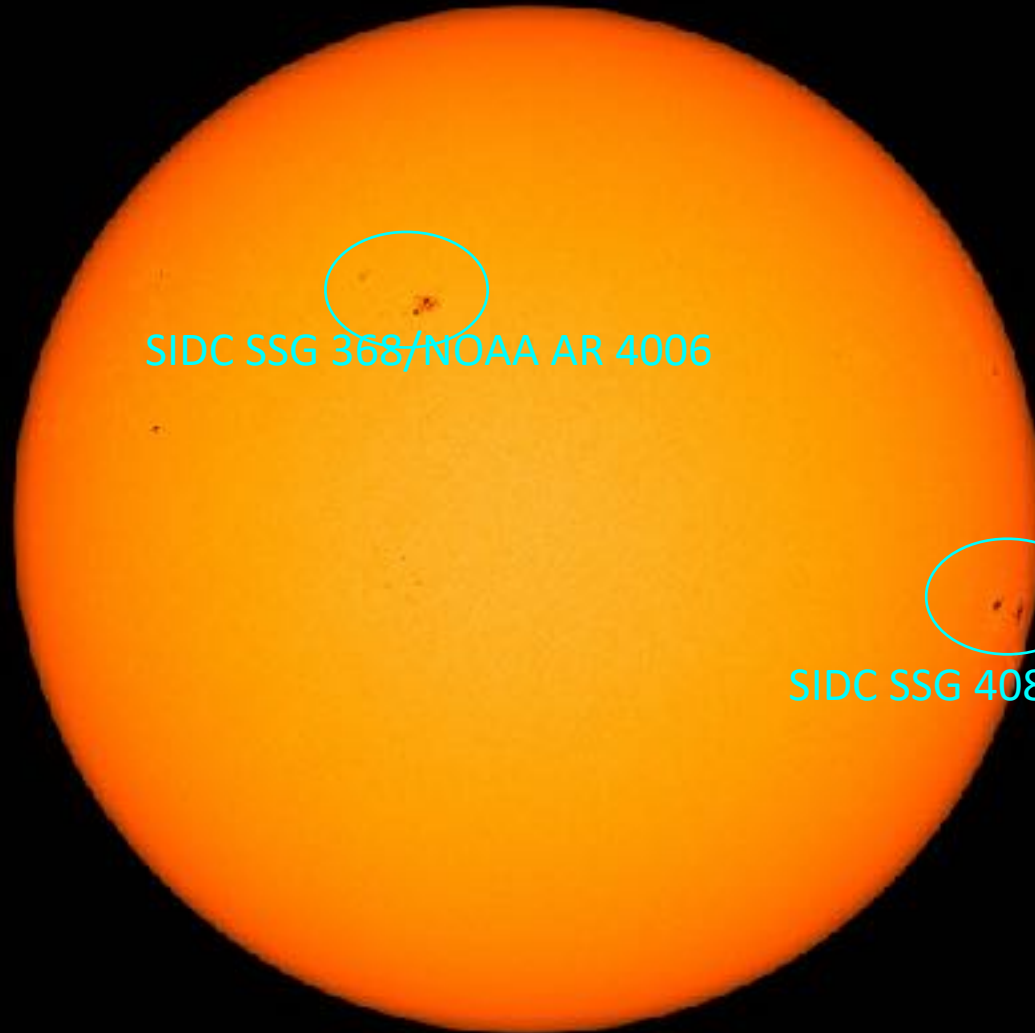


SDO/HMI Magnetogram 2025-02-26



Solar active regions

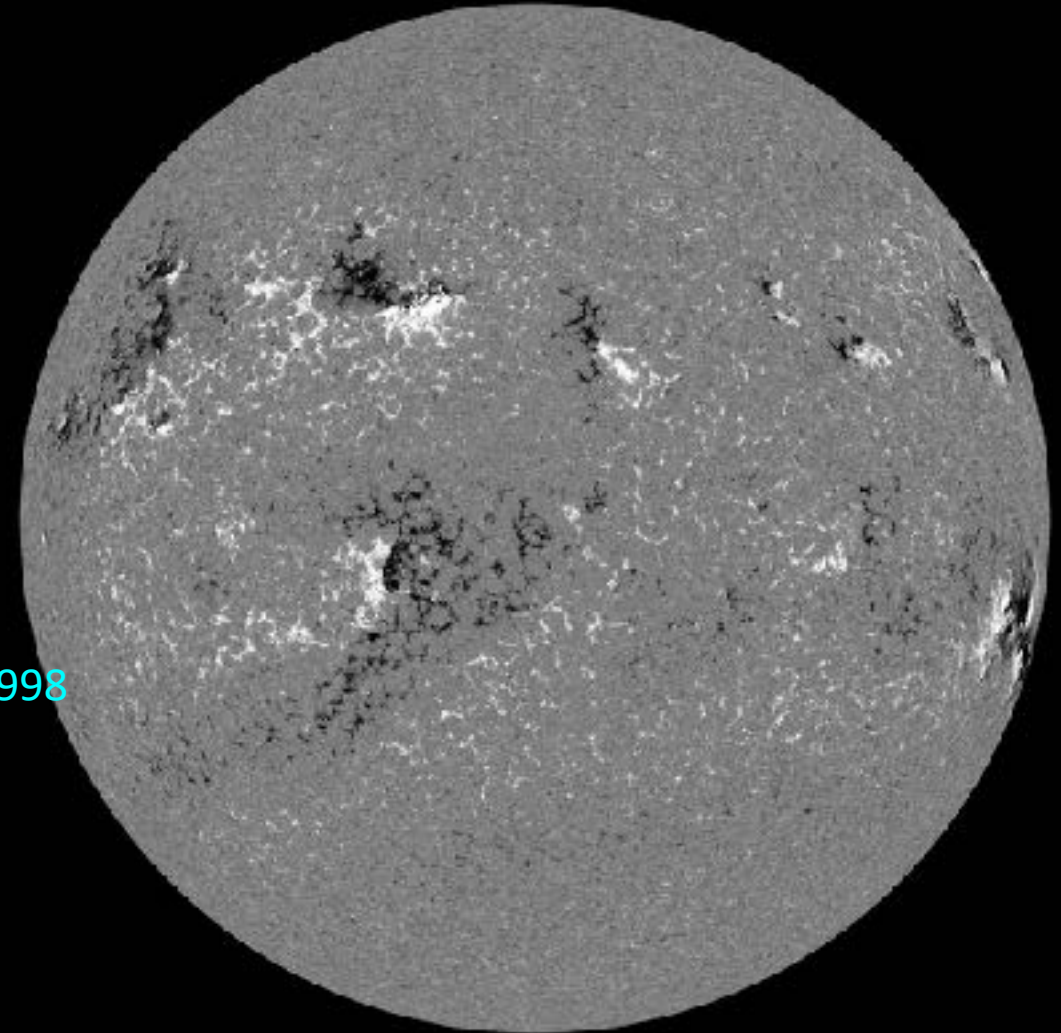
SDO/HMI White Light 2025-02-27



SIDC SSG 368/NOAA AR 4006

SIDC SSG 408/NOAA AR 3998

SDO/HMI Magnetogram 2025-02-27

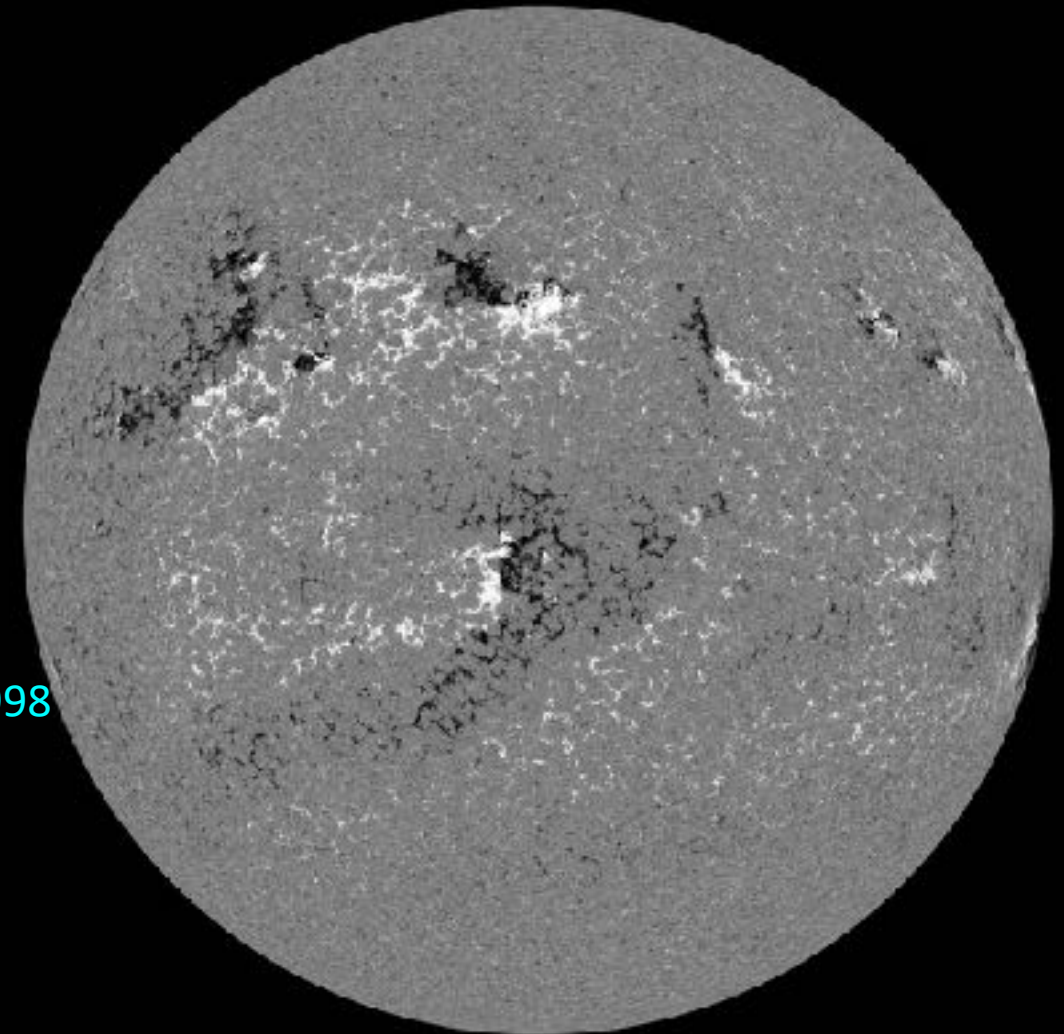


Solar active regions

SDO/HMI White Light 2025-02-28

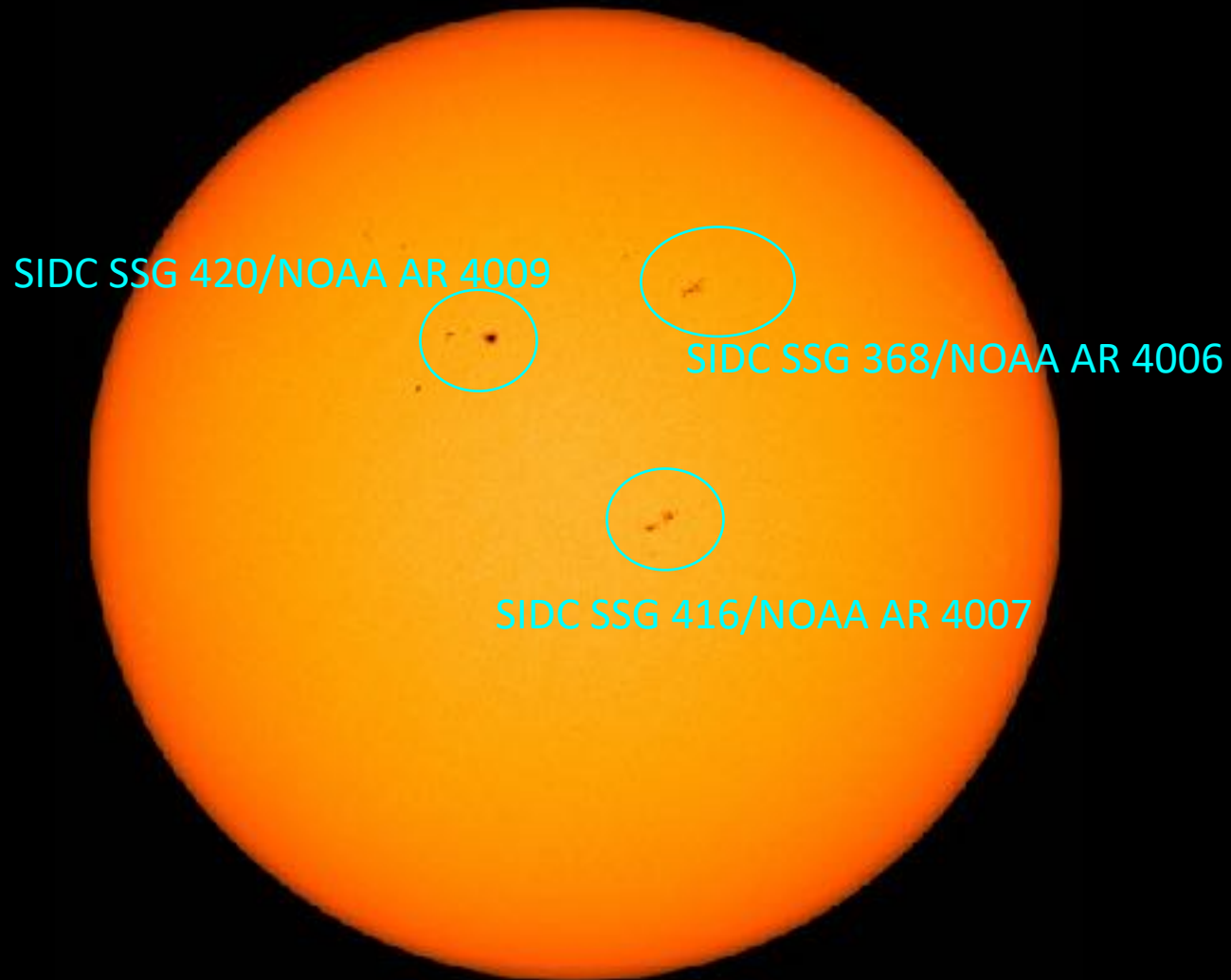


SDO/HMI Magnetogram 2025-02-28

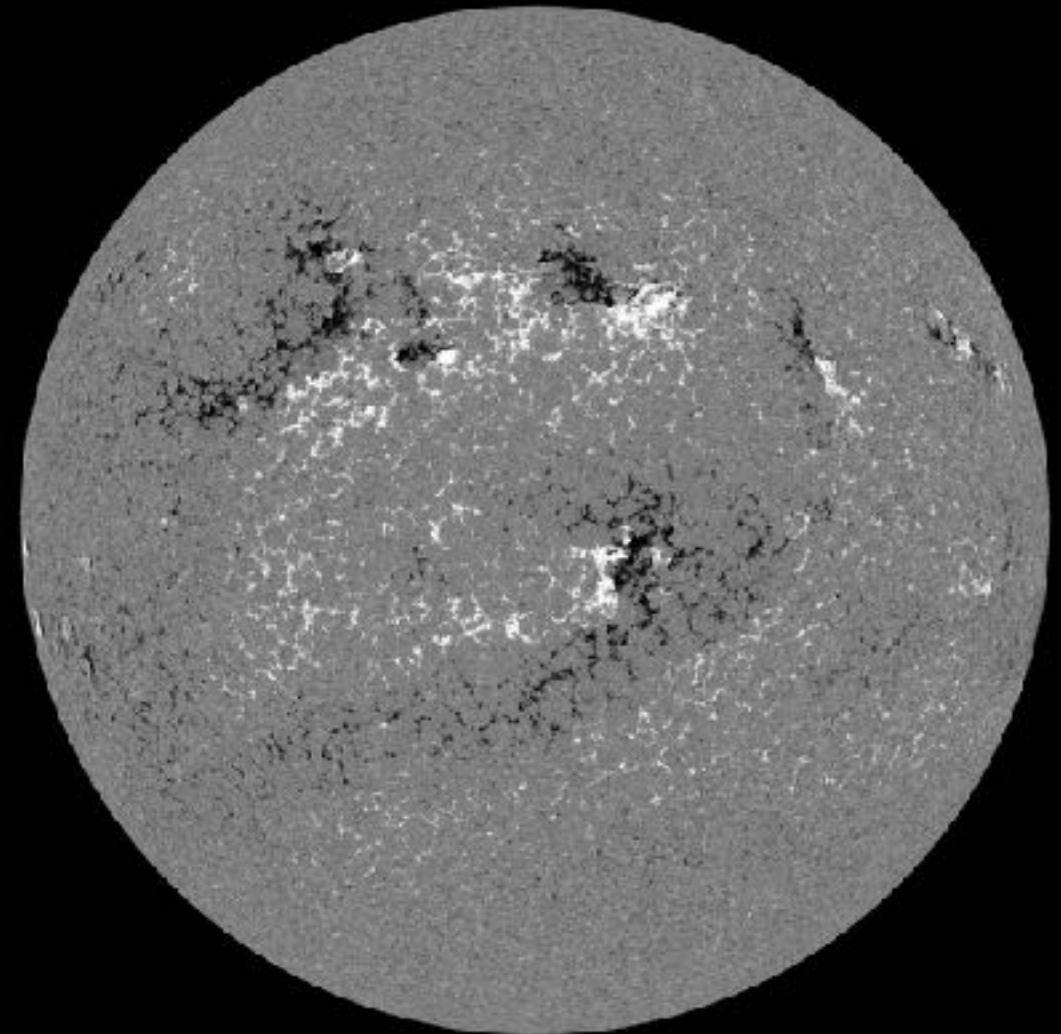


Solar active regions

SDO/HMI White Light 2025-03-01



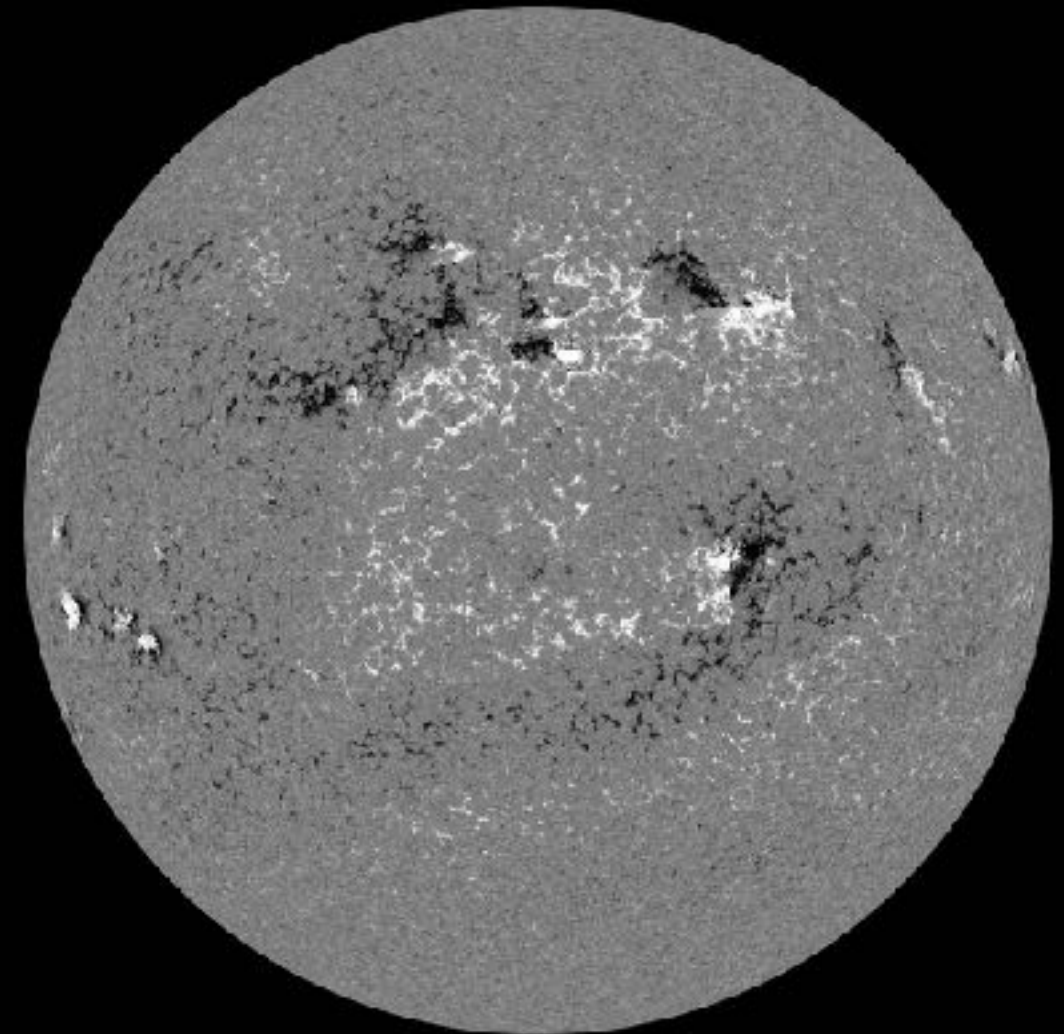
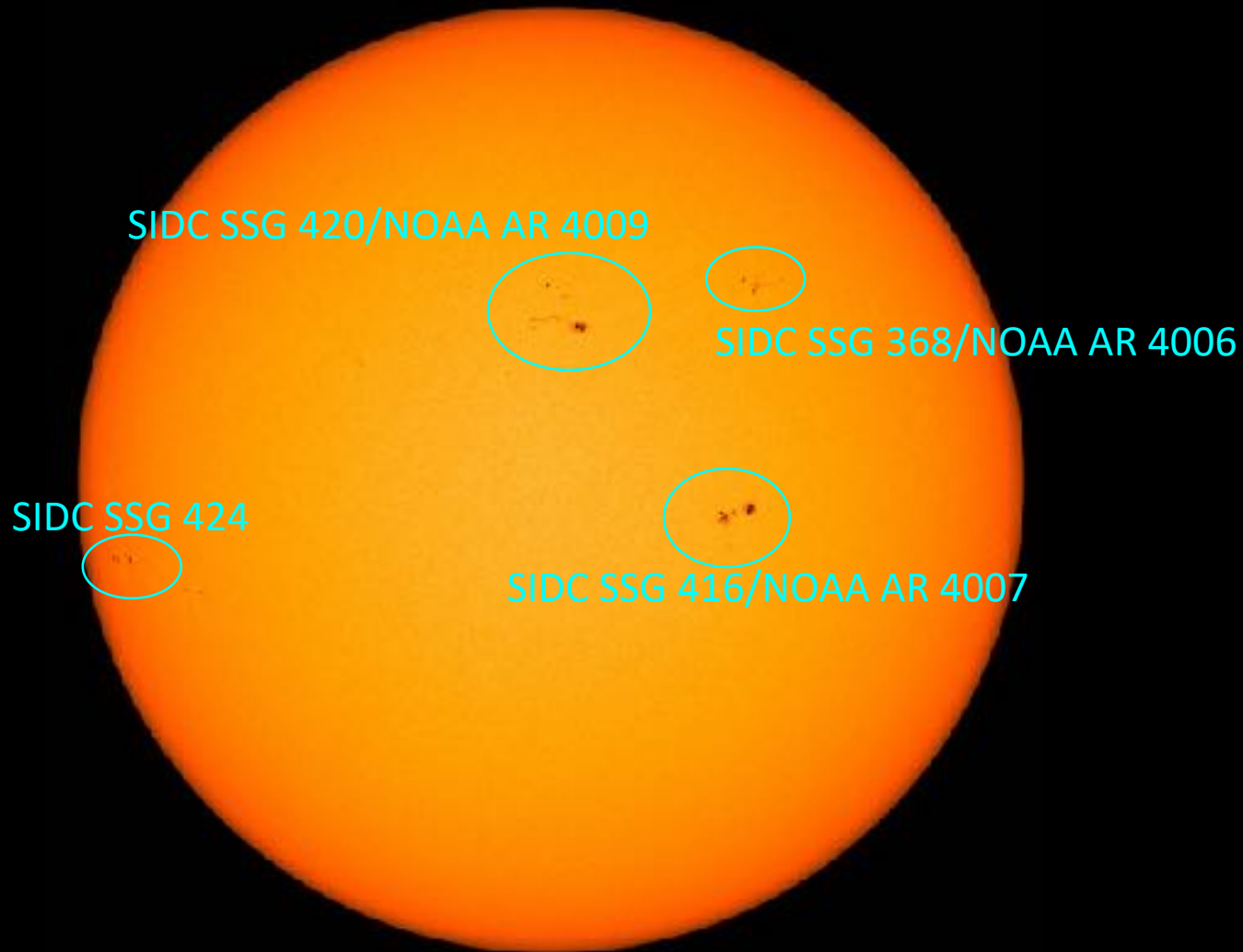
SDO/HMI Magnetogram 2025-03-01



Solar active regions

SDO/HMI White Light 2025-03-02

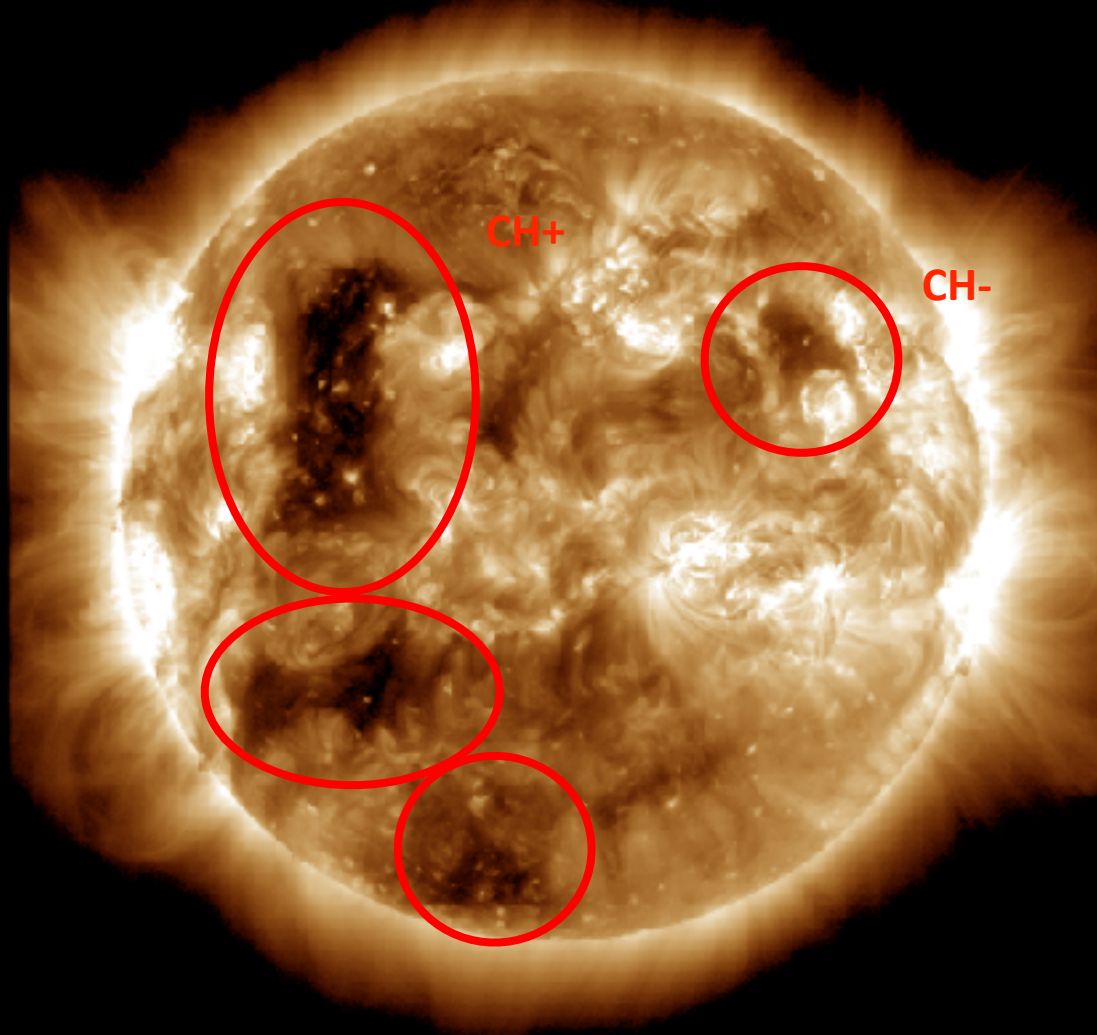
SDO/HMI Magnetogram 2025-03-02



Coronal holes

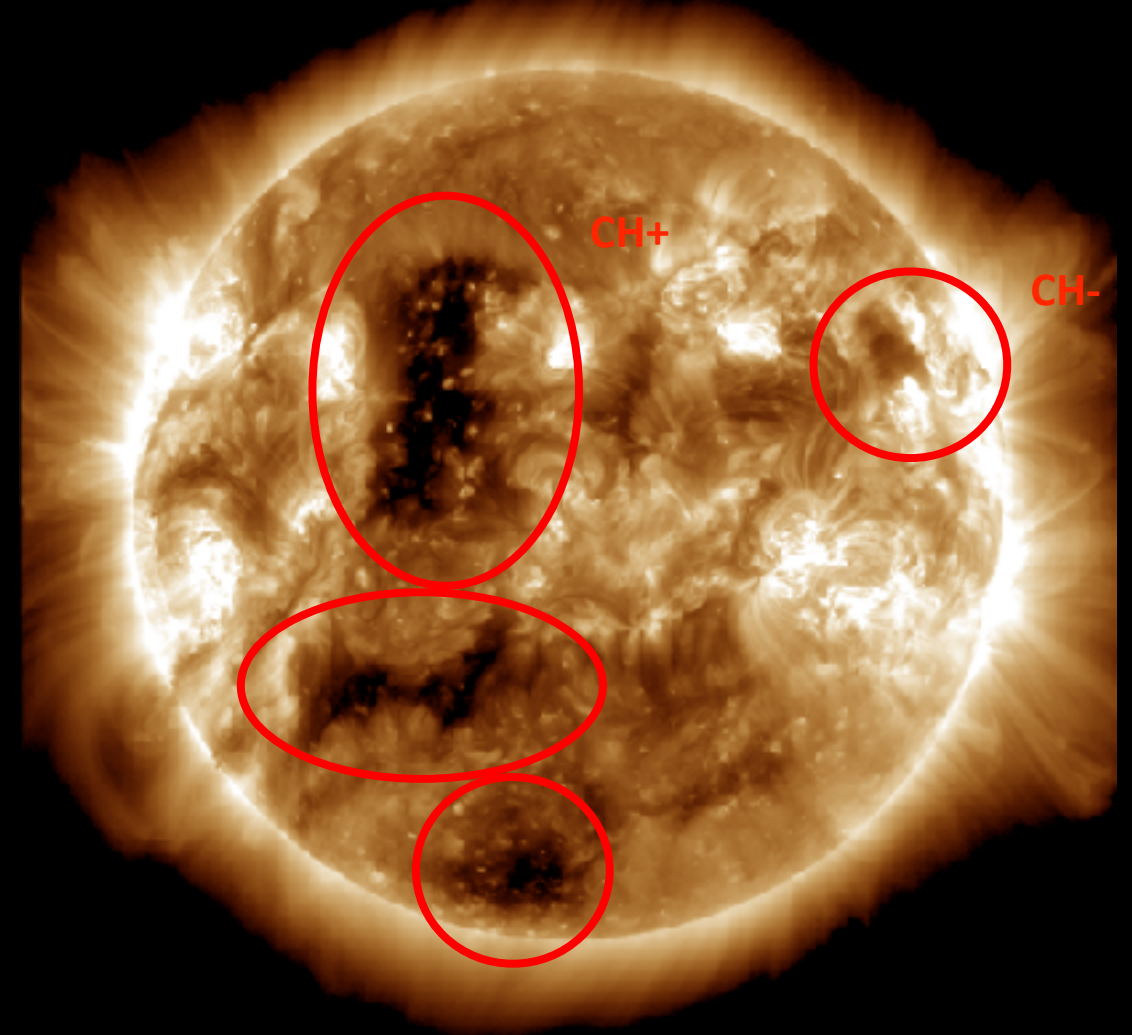
SDO/AIA 19.3 nm 2025-02-23

SDO/AIA AIA 193Å 2025-02-23T12:00:07.166



SDO/AIA 19.3 nm 2025-02-24

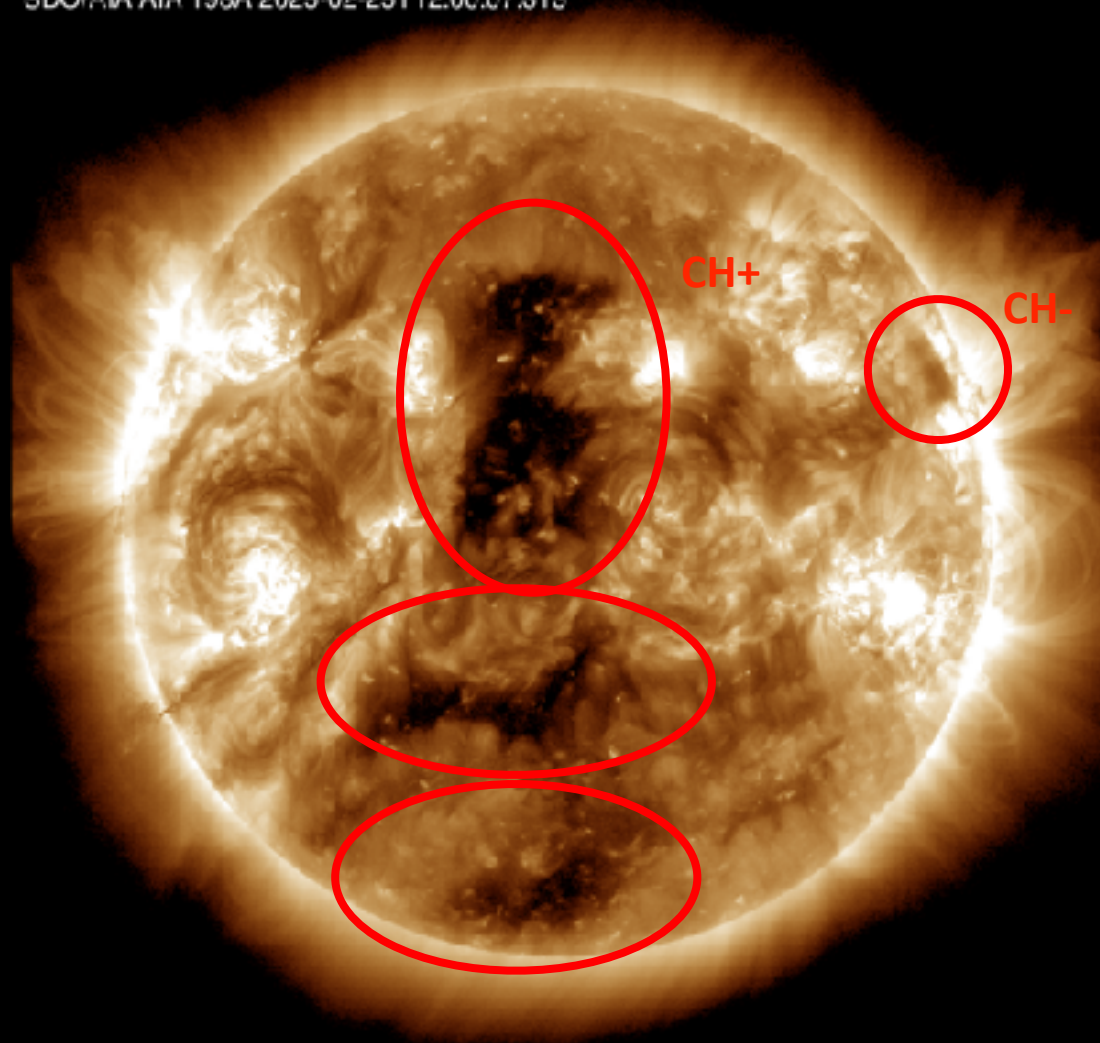
SDO/AIA AIA 193Å 2025-02-24T12:00:05.843



Coronal holes

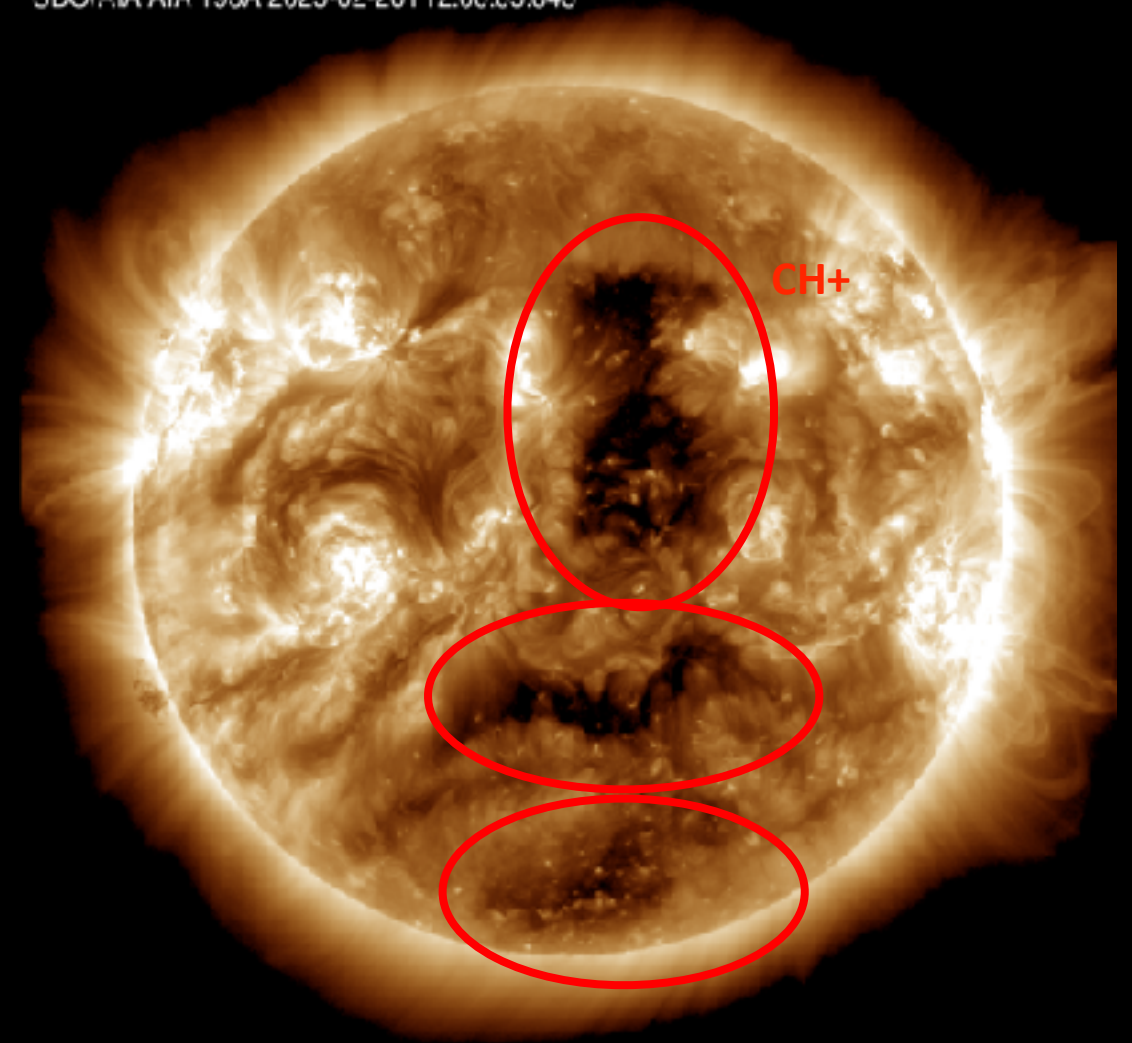
SDO/AIA 19.3 nm 2025-02-25

SDO/AIA AIA 193Å 2025-02-25T12:00:07.313



SDO/AIA 19.3 nm 2025-02-26

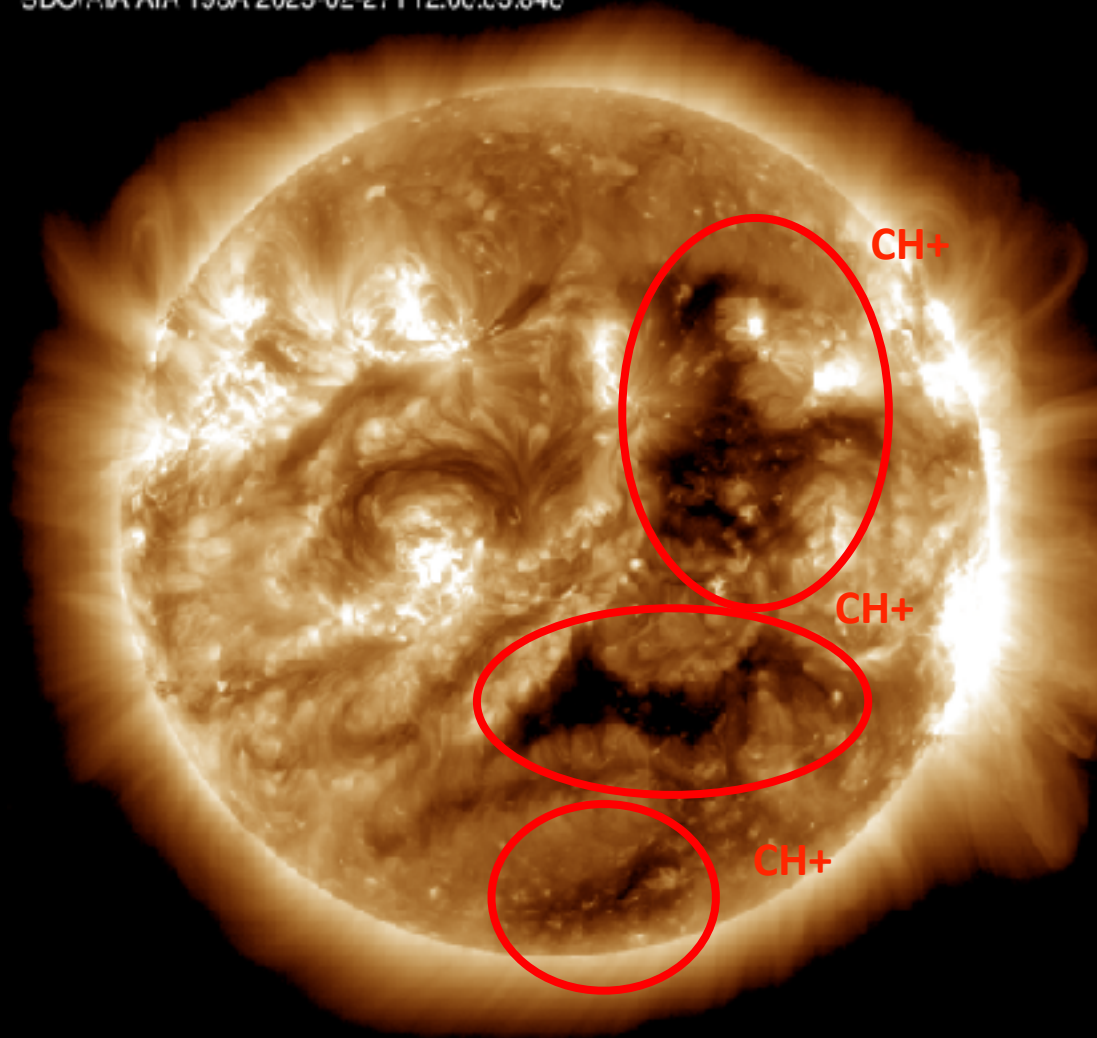
SDO/AIA AIA 193Å 2025-02-26T12:00:05.843



Coronal holes

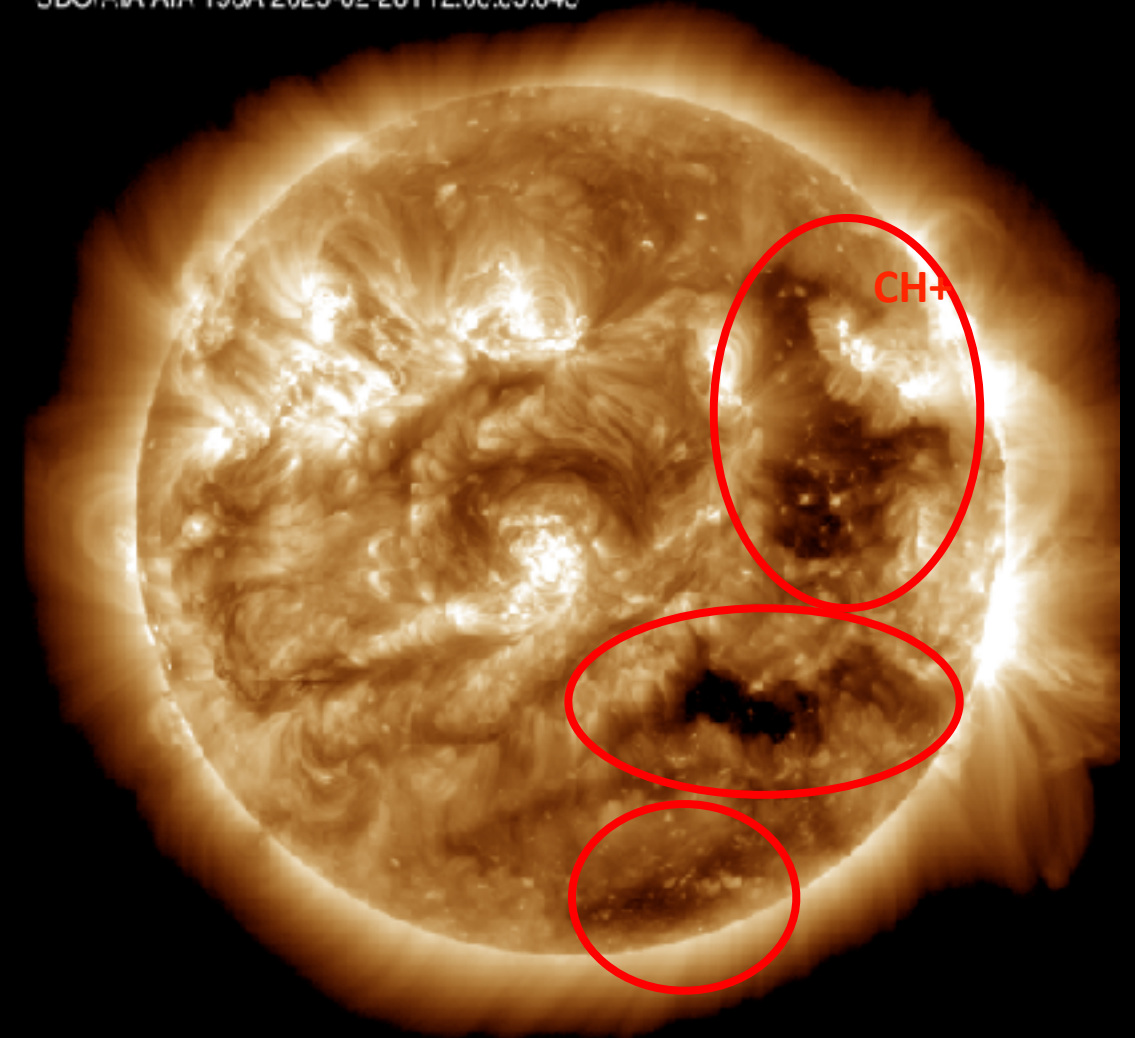
SDO/AIA 19.3 nm 2025-02-27

SDO/AIA AIA 193Å 2025-02-27T12:00:05.846



SDO/AIA 19.3 nm 2025-02-28

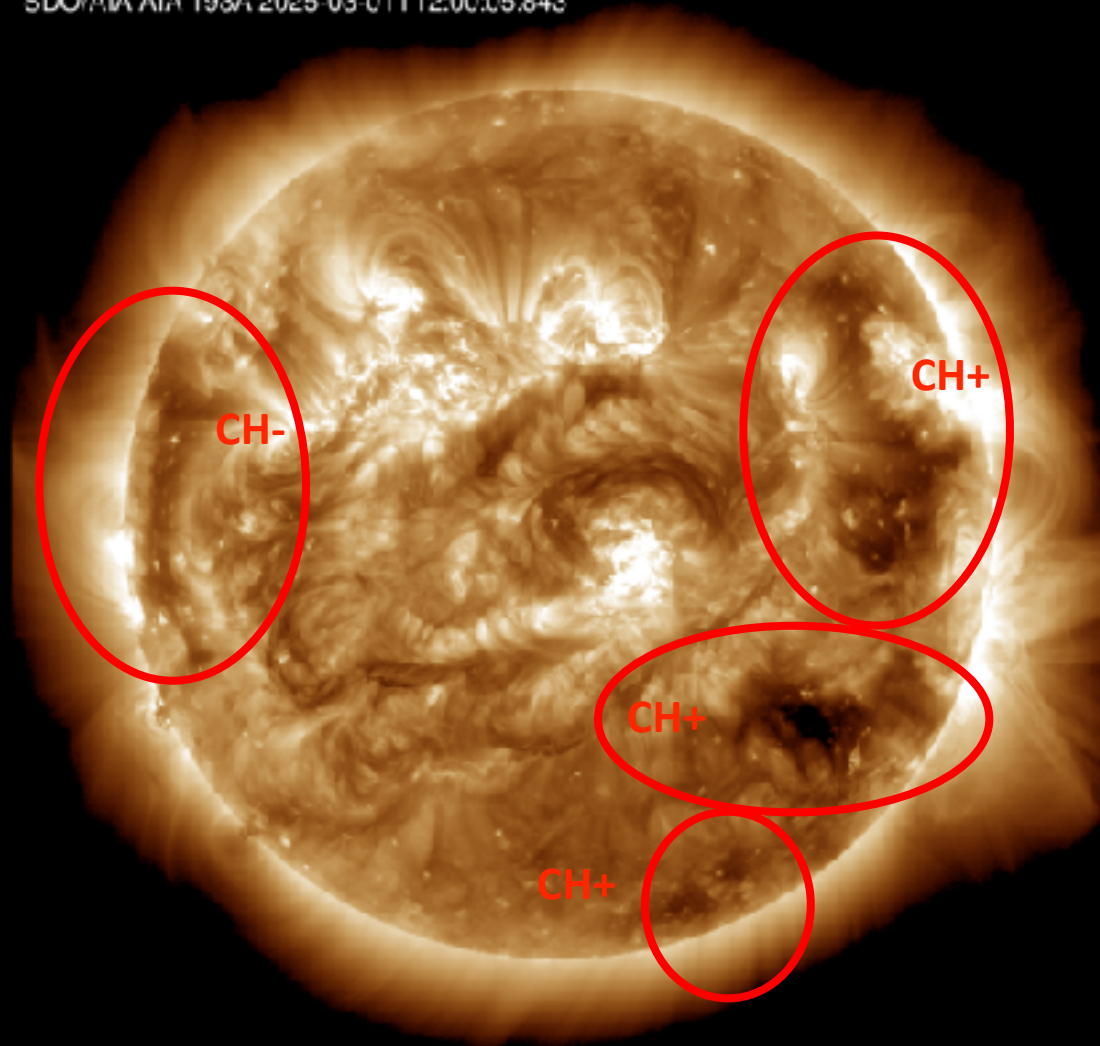
SDO/AIA AIA 193Å 2025-02-28T12:00:05.848



Coronal holes

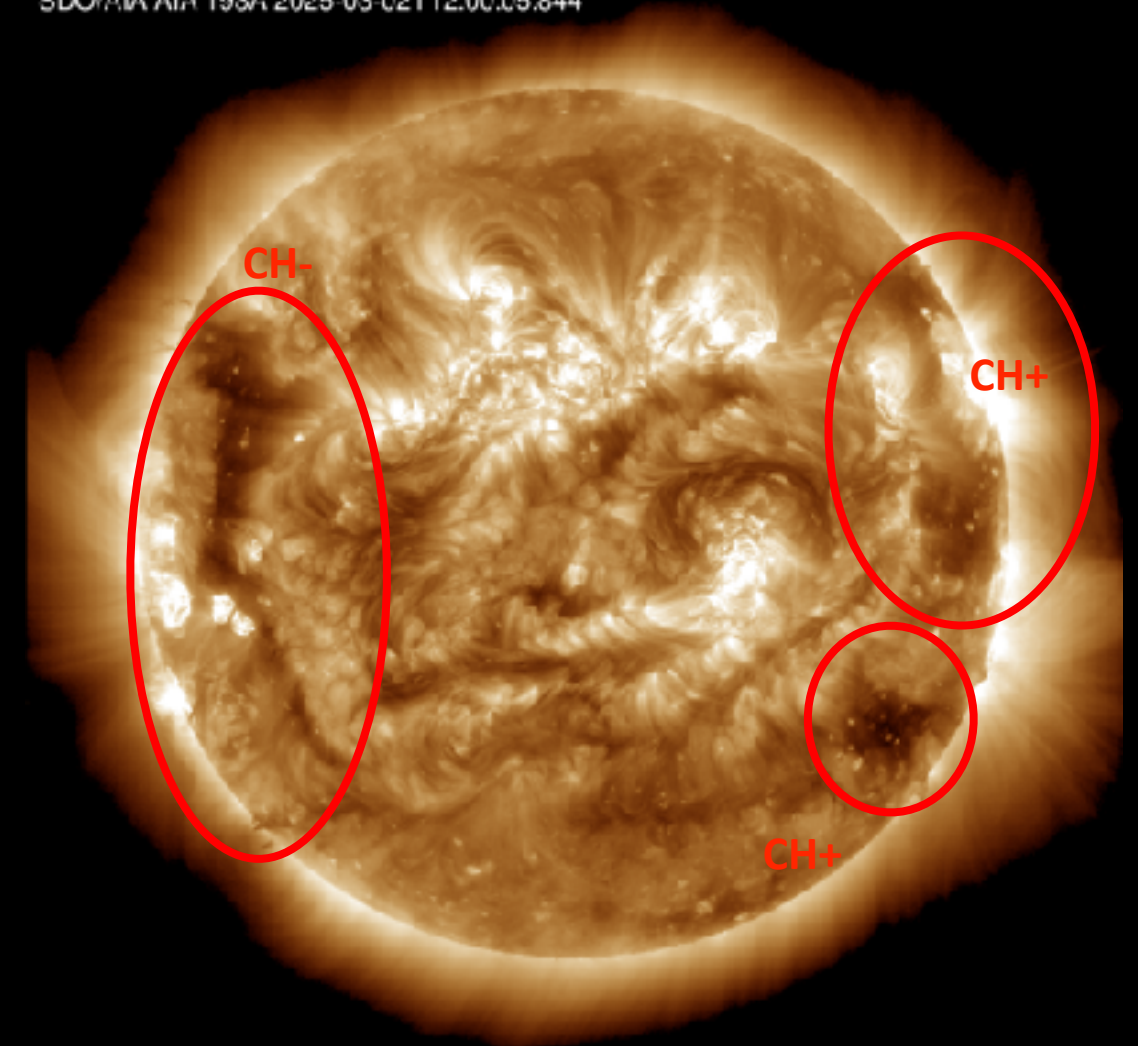
SDO/AIA 19.3 nm 2025-03-01

SDO/AIA AIA 193Å 2025-03-01T12:00:05.843



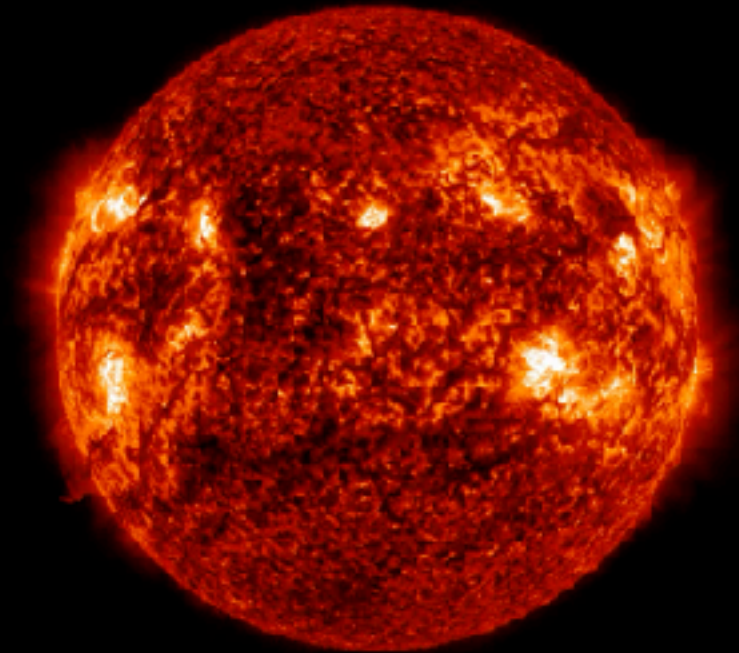
SDO/AIA 19.3 nm 2025-03-02

SDO/AIA AIA 193Å 2025-03-02T12:00:05.844



Filaments

SDO/AIA 30.4 nm 2025-02-24 to 2025-03-02



2025-02-24T10:33 41.130

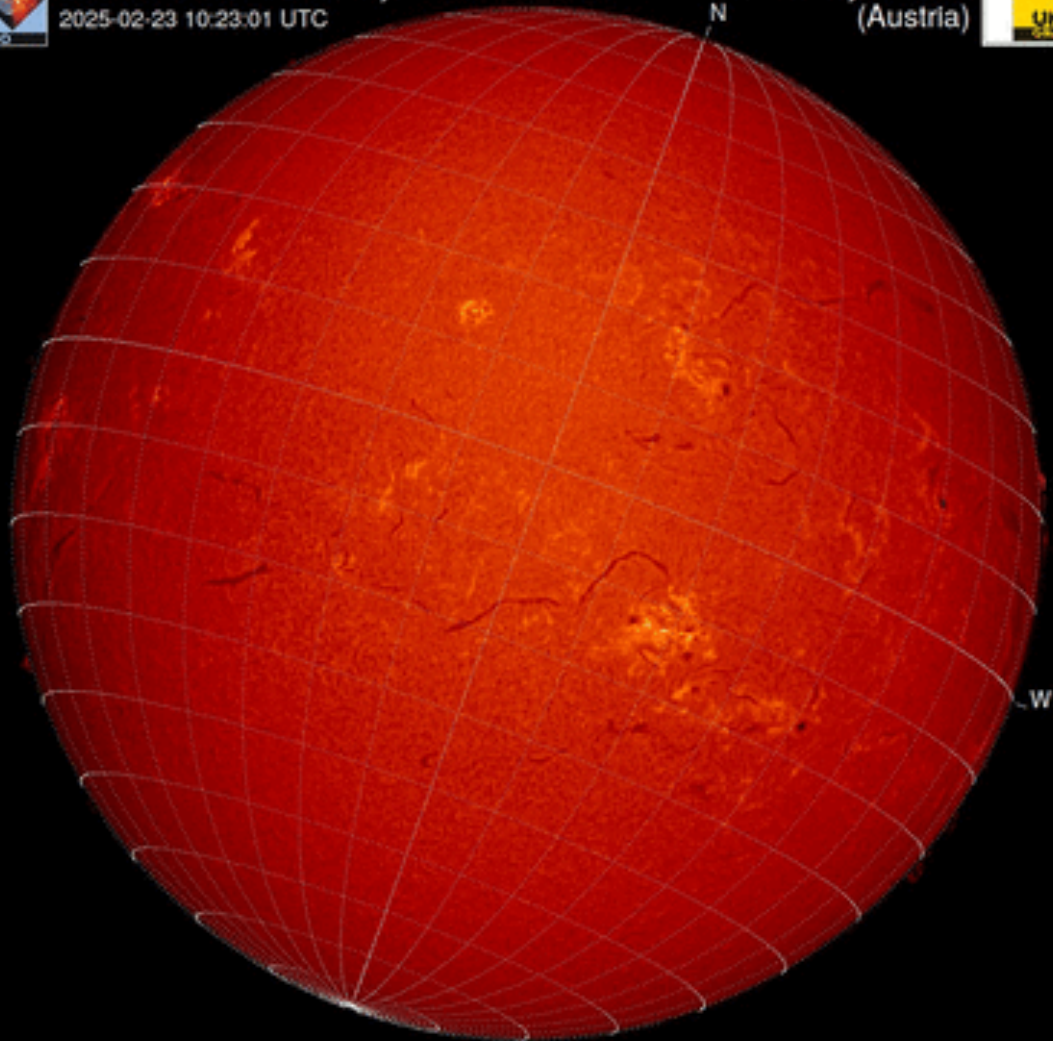
Filaments & Filament eruptions

H-alpha 2025-02-23



Kanzelhöhe Observatory
2025-02-23 10:23:01 UTC

University of Graz
(Austria)

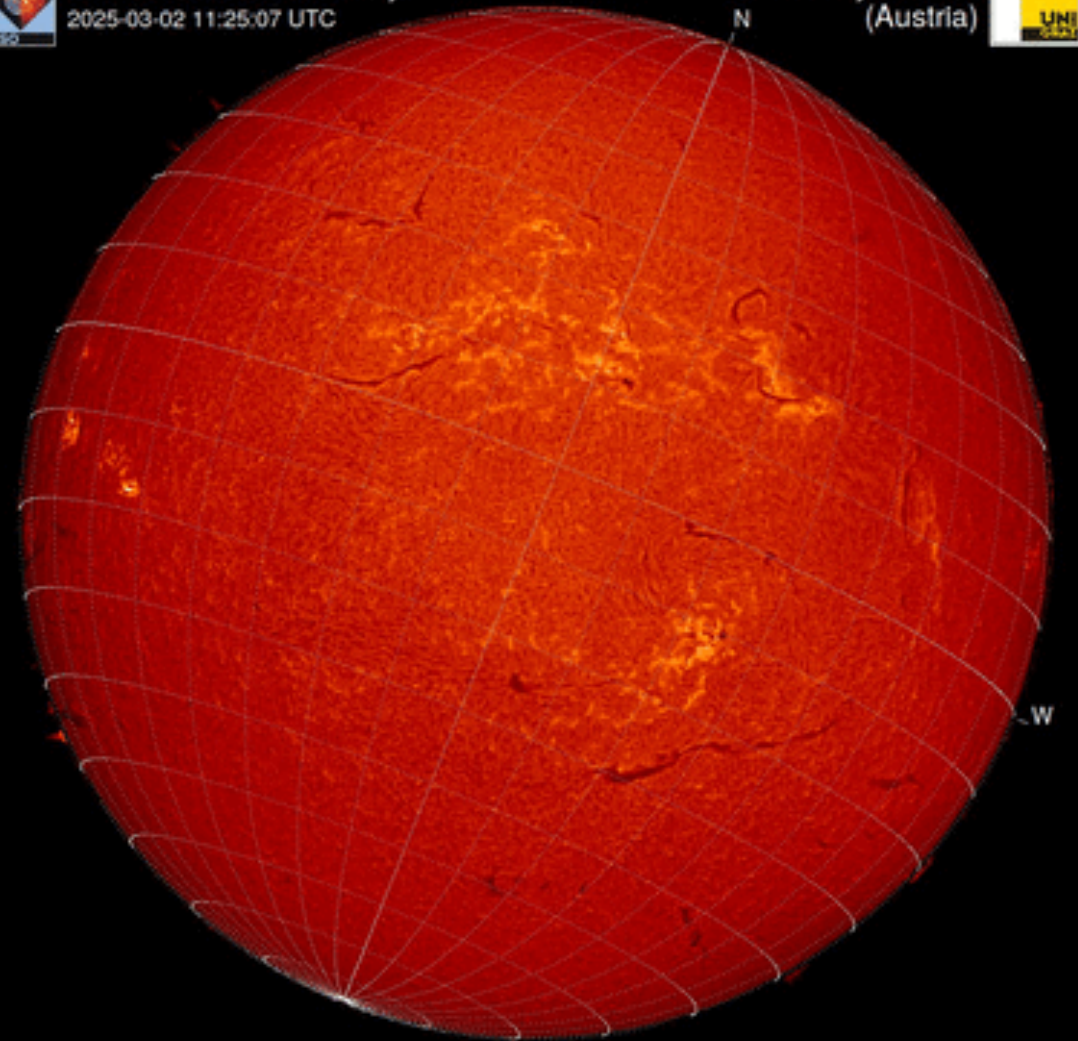


H-alpha 2025-03-02

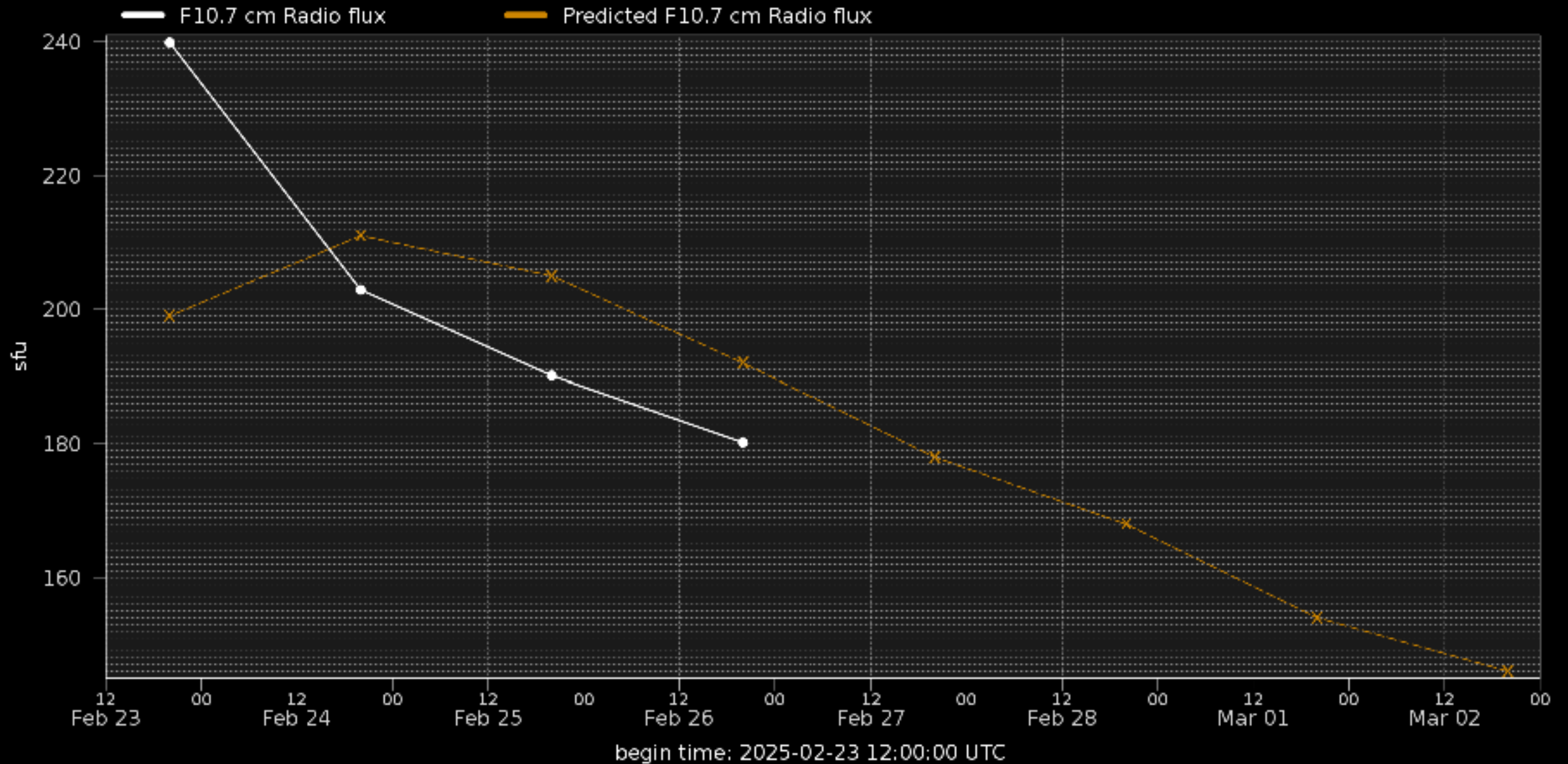


Kanzelhöhe Observatory
2025-03-02 11:25:07 UTC

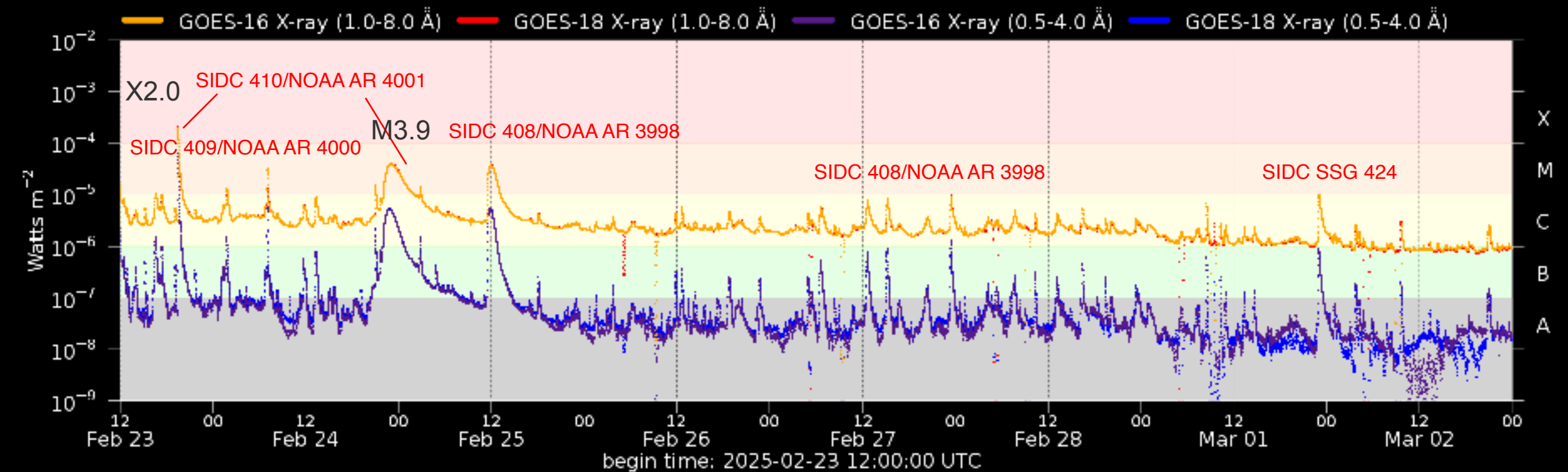
University of Graz
(Austria)



Solar F10.7cm radio flux



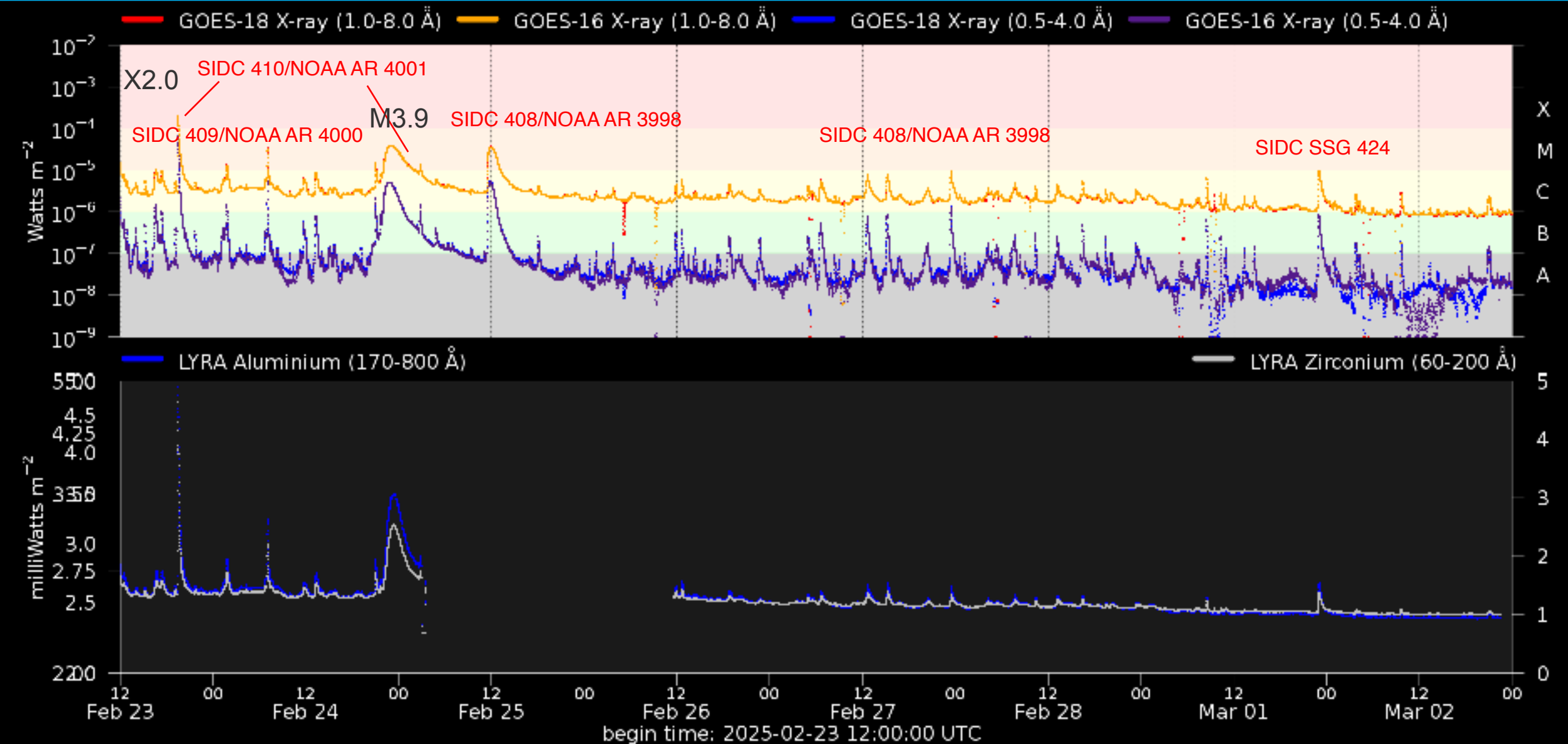
Flaring activity



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

Issue date	2025-02-23	2025-02-24	2025-02-25	2025-02-26	2025-02-27	2025-02-28	2025-03-01	2025-03-02
Probability (%)	99 70 20	99 95 25	99 95 25	99 55 10	99 70 15	99 80 15	90 30 05	95 30 05
Observed (#)	06 03 01	01 02 00	04 00 00	07 00 00	05 00 00	08 00 00	06 00 00	03 00 00

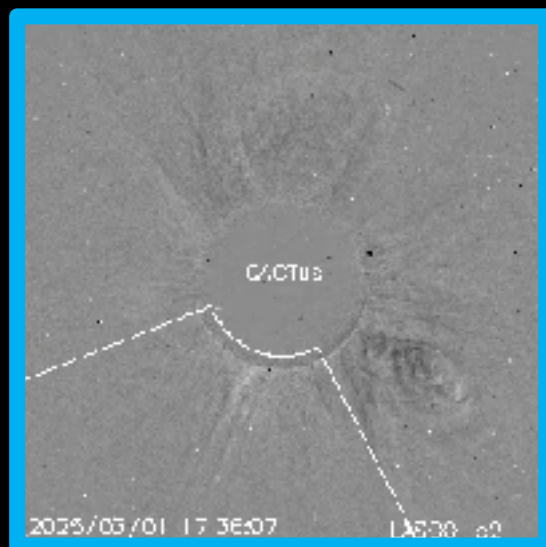
Solar X-Ray and UV flux



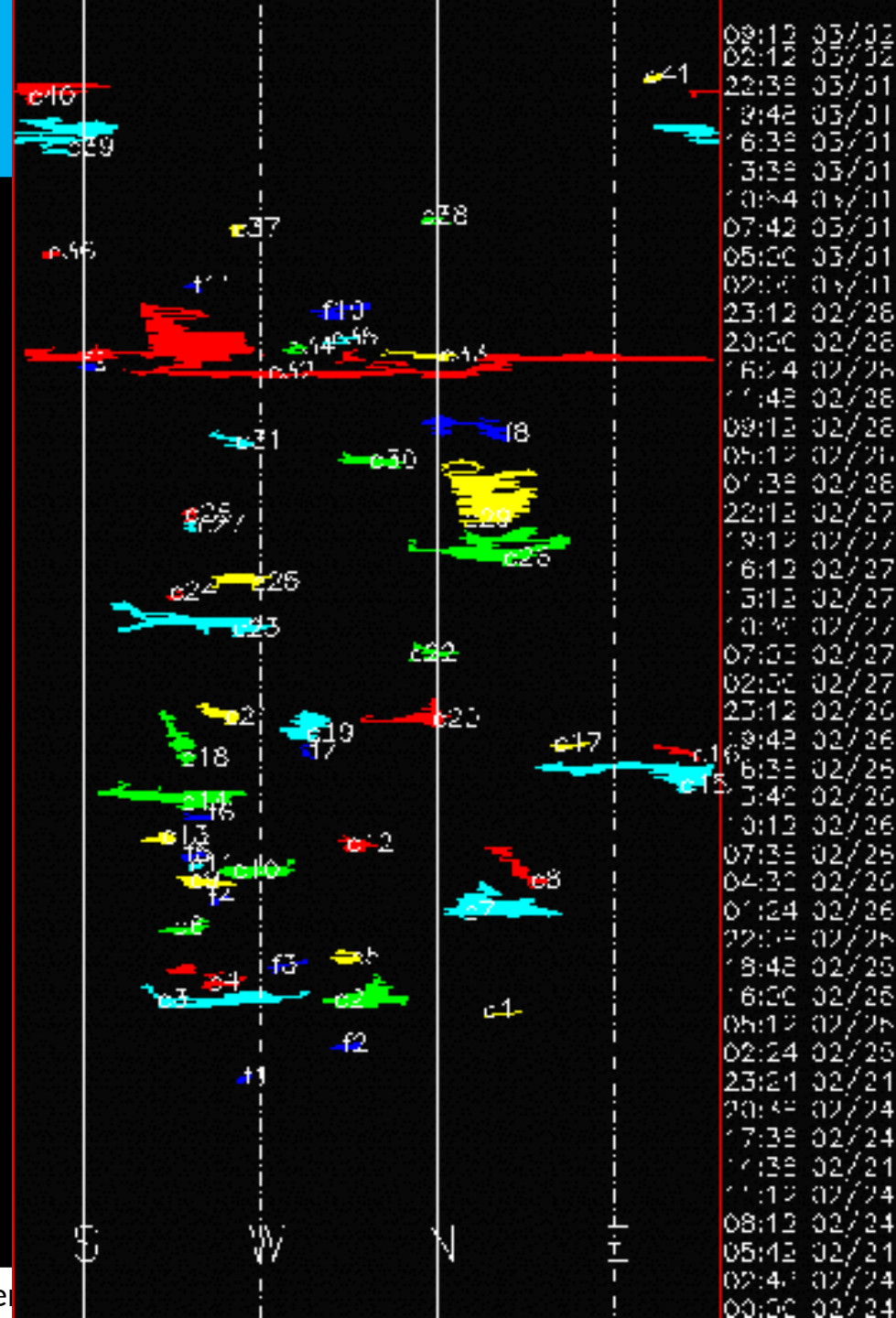
Coronal Mass Ejections



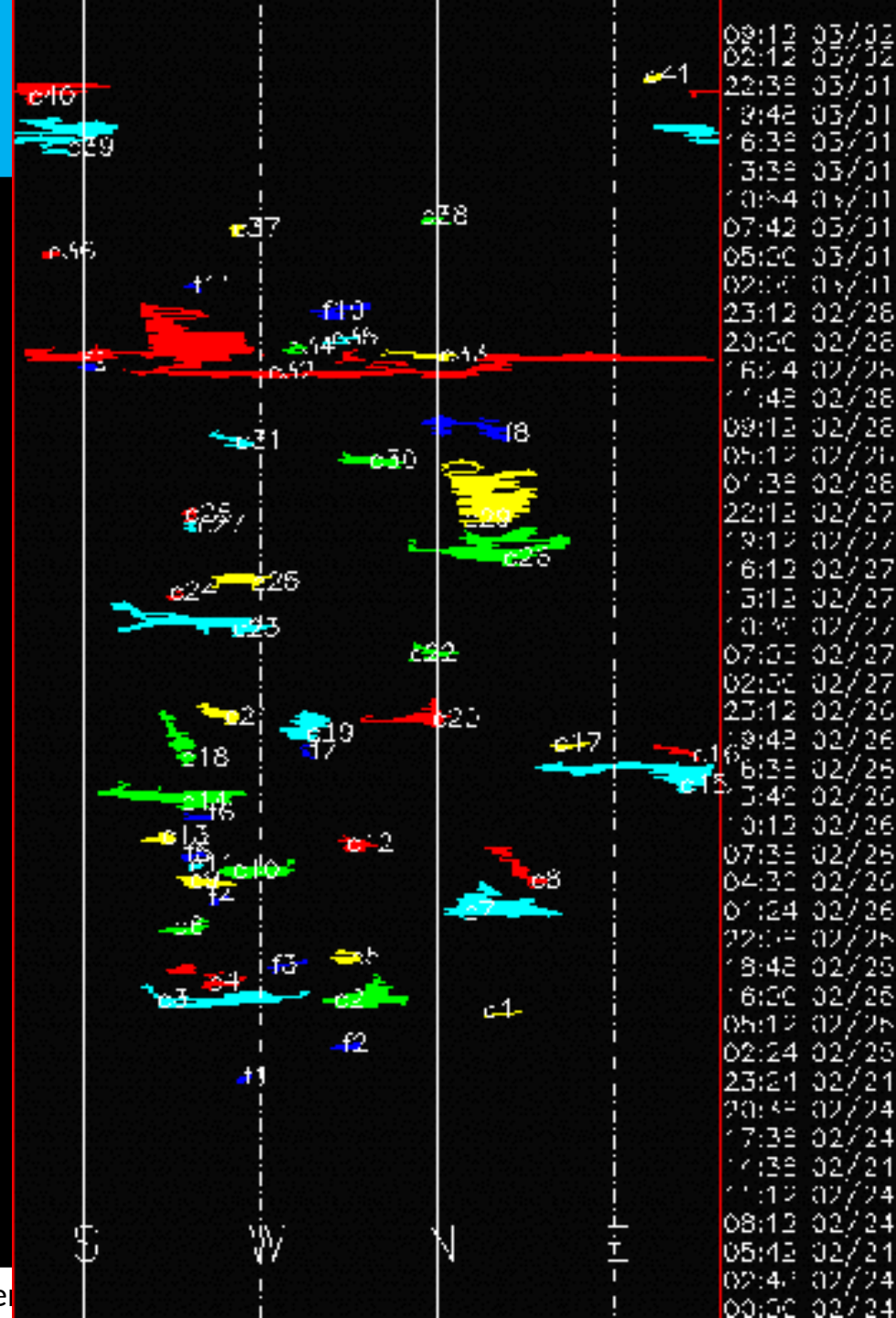
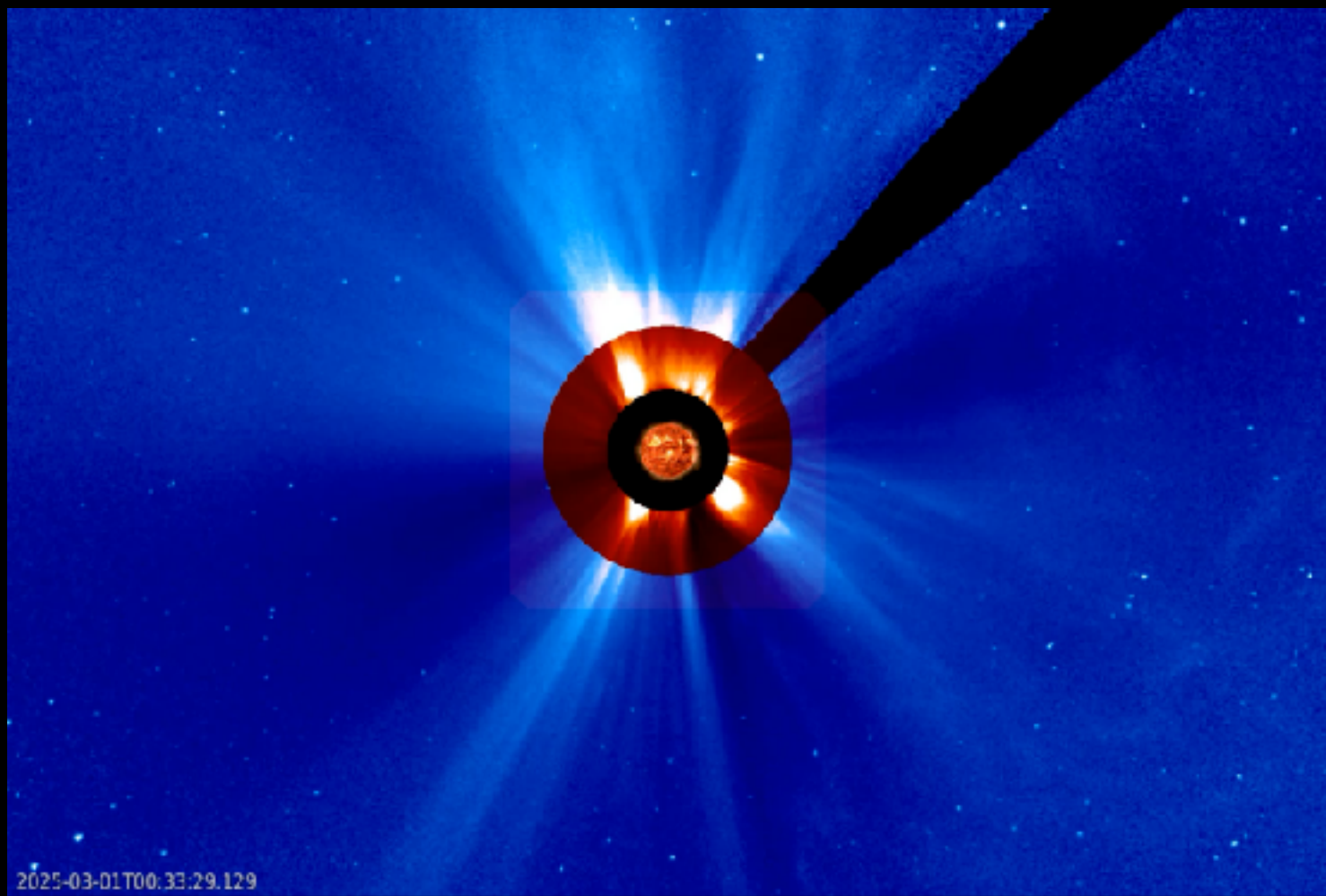
Back-sided



Related to filament eruption.
Estimated projected velocity ~ 500 km/s
Possible glancing blow arrival
late on Mar 05



Coronal Mass Ejections



Solar Wind and

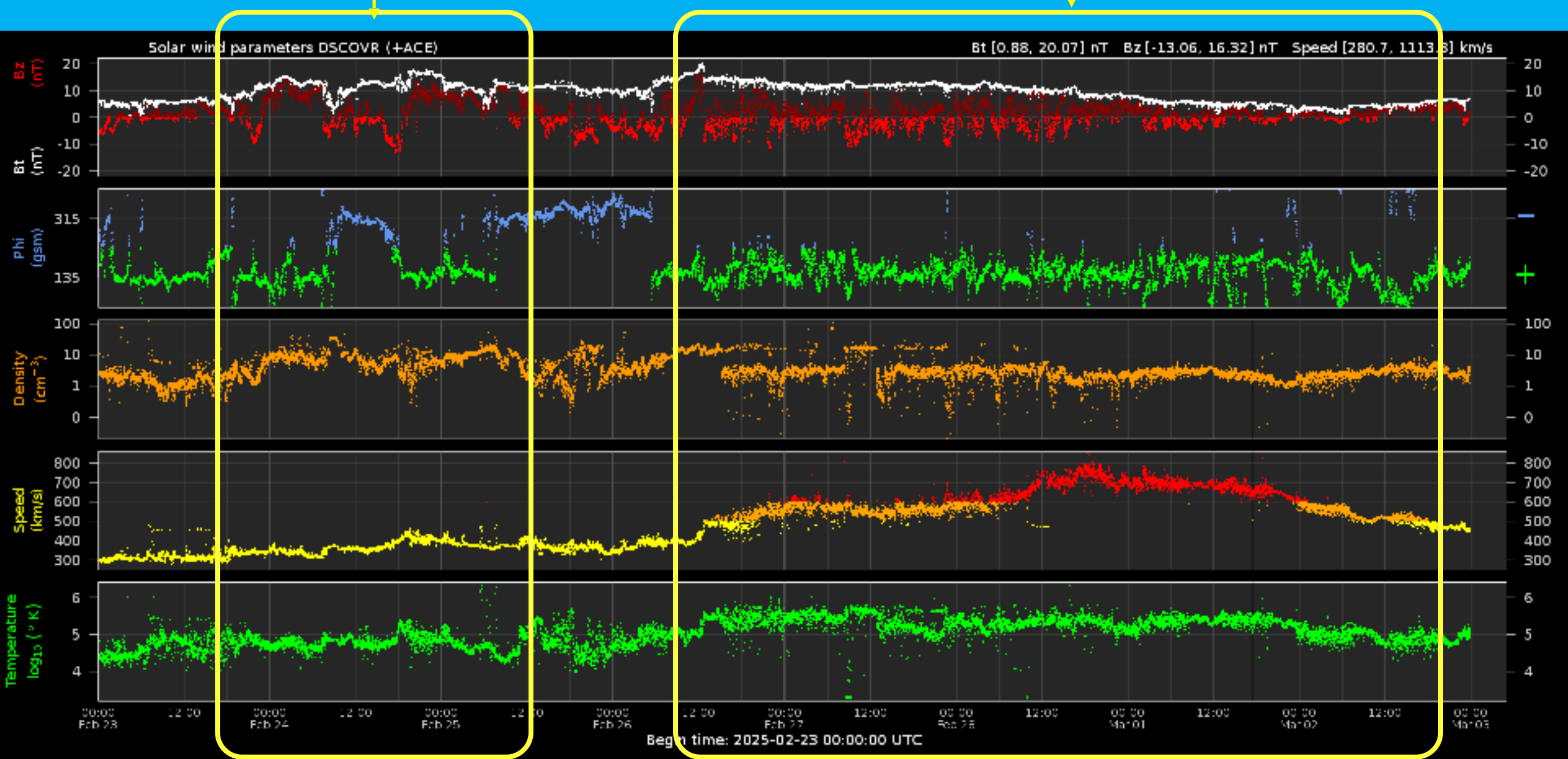
Geomagnetic Activity



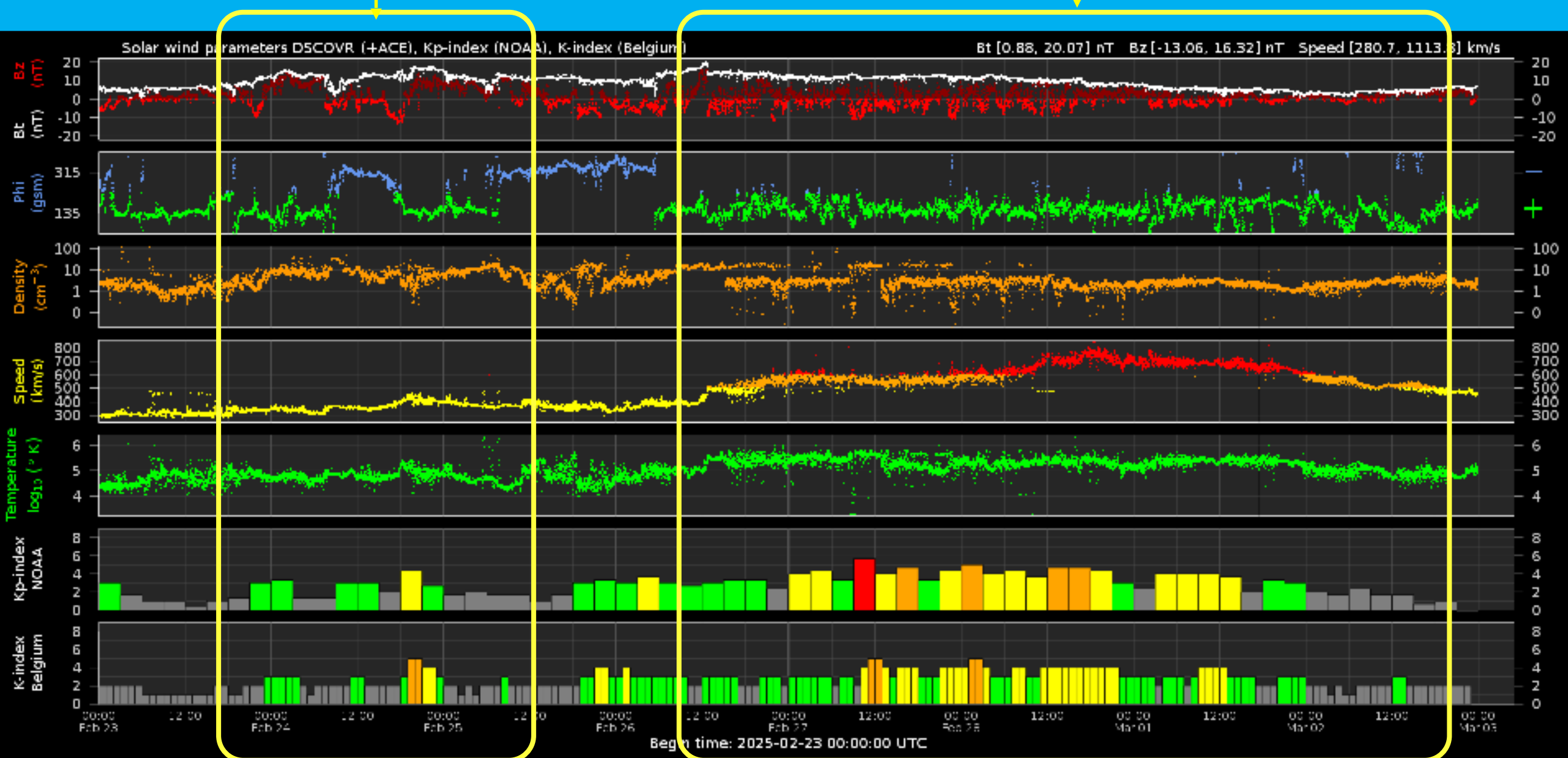
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Solar wind parameters



Solar wind parameters & K-indices



Geomagnetic activity (K-indexes)



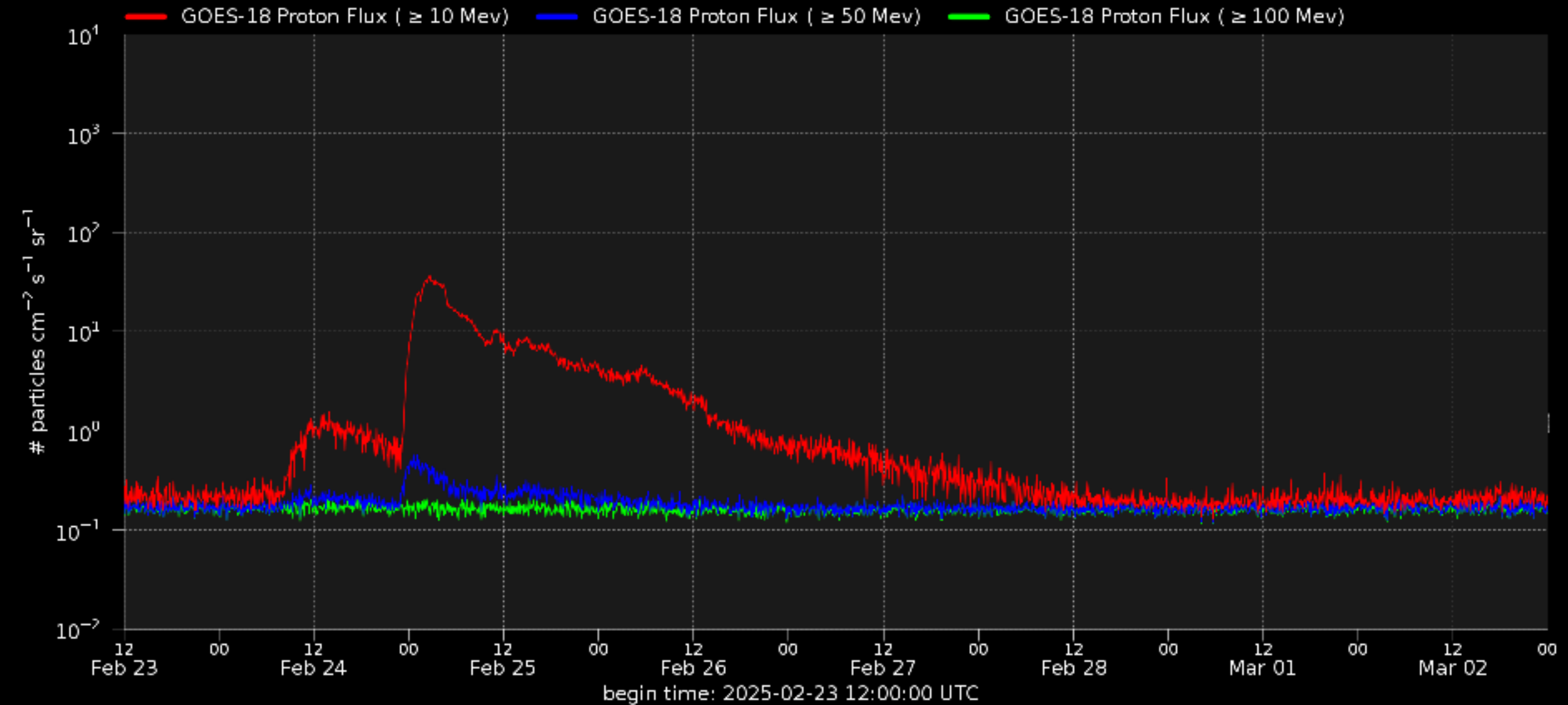
Energetic Particles



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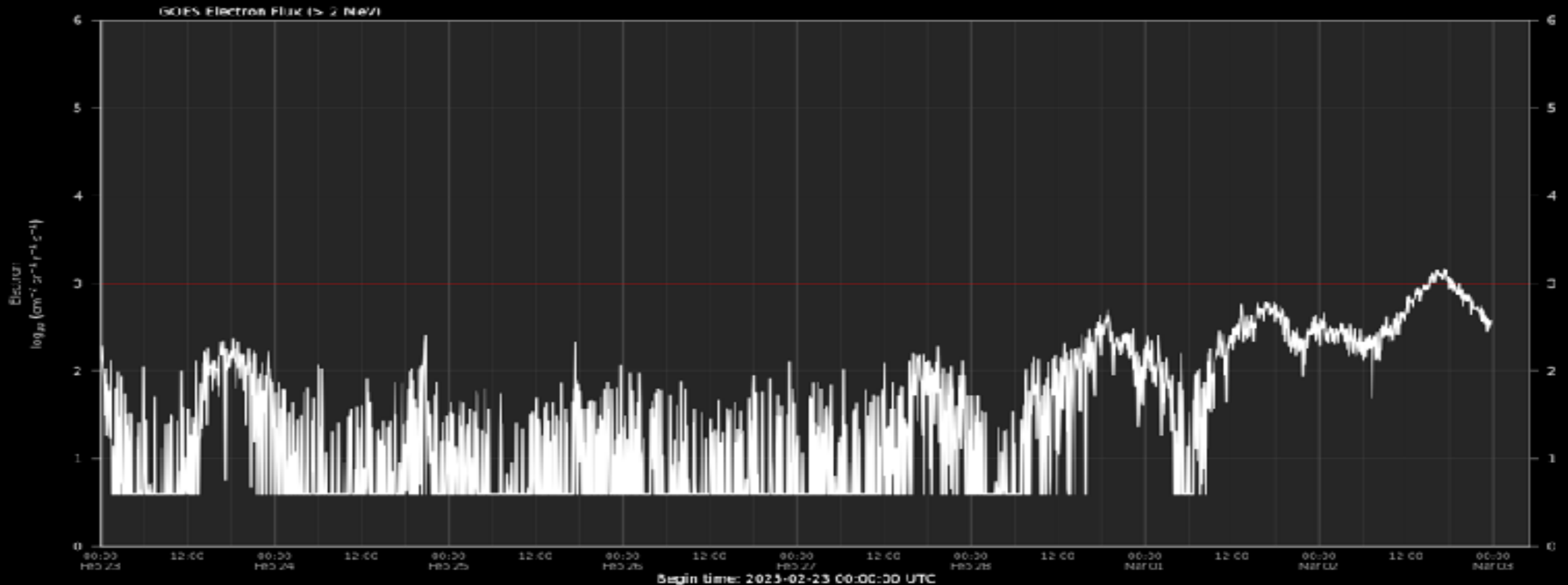
Solar proton flux



Electron flux at GEO

www.stce.be/educational/classification#electrons

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



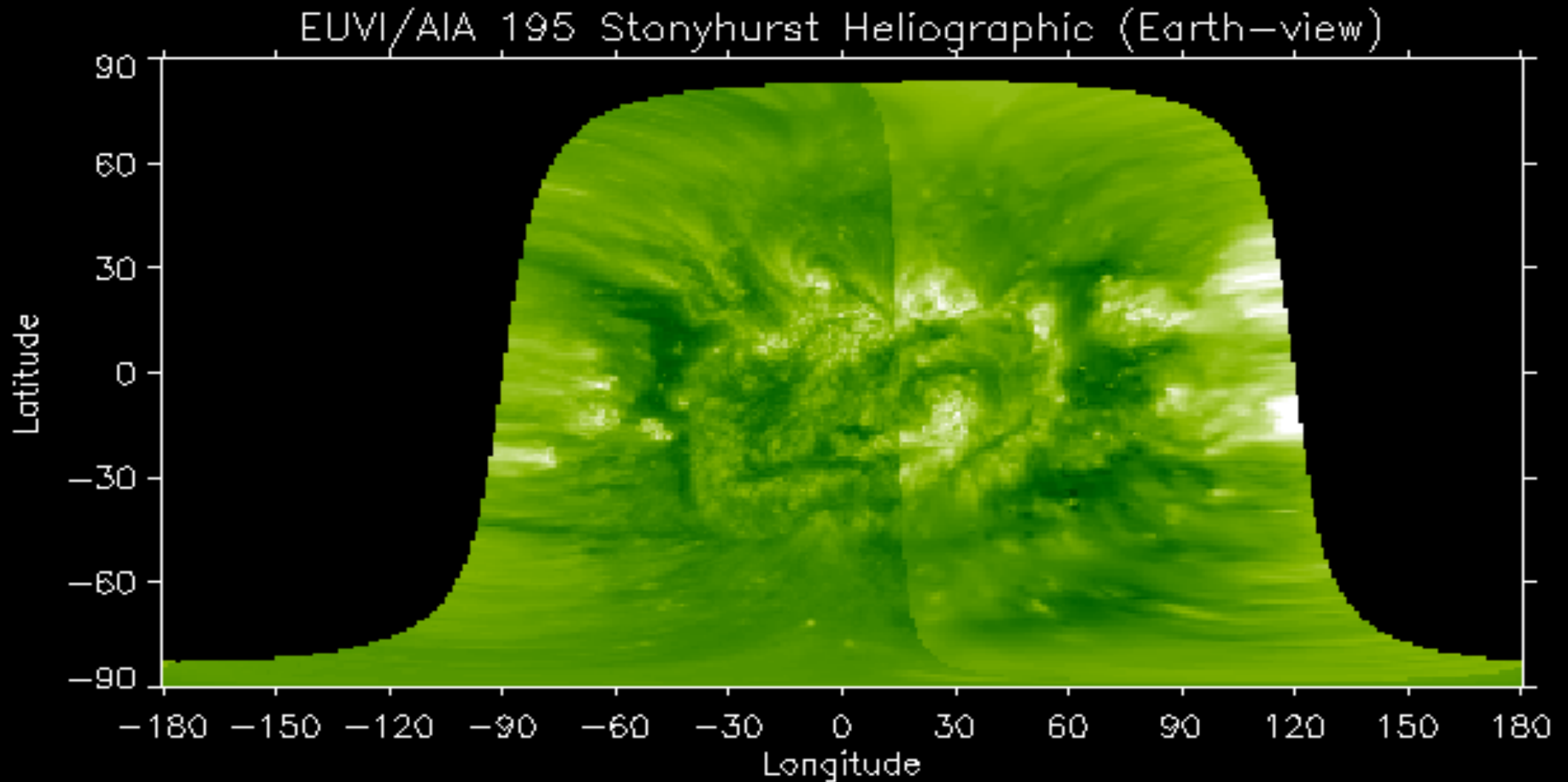
Outlook



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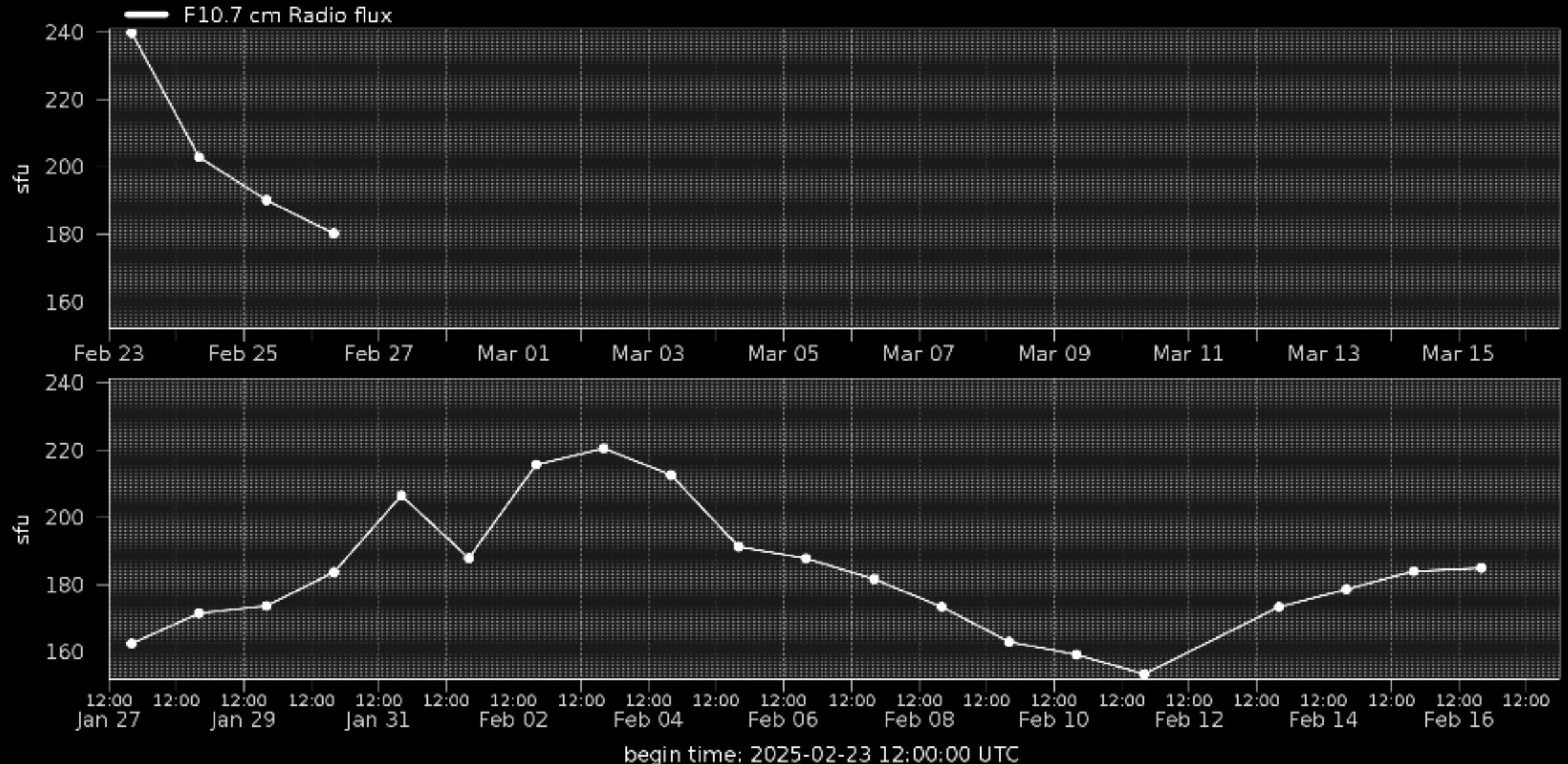
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Outlook: Solar activity

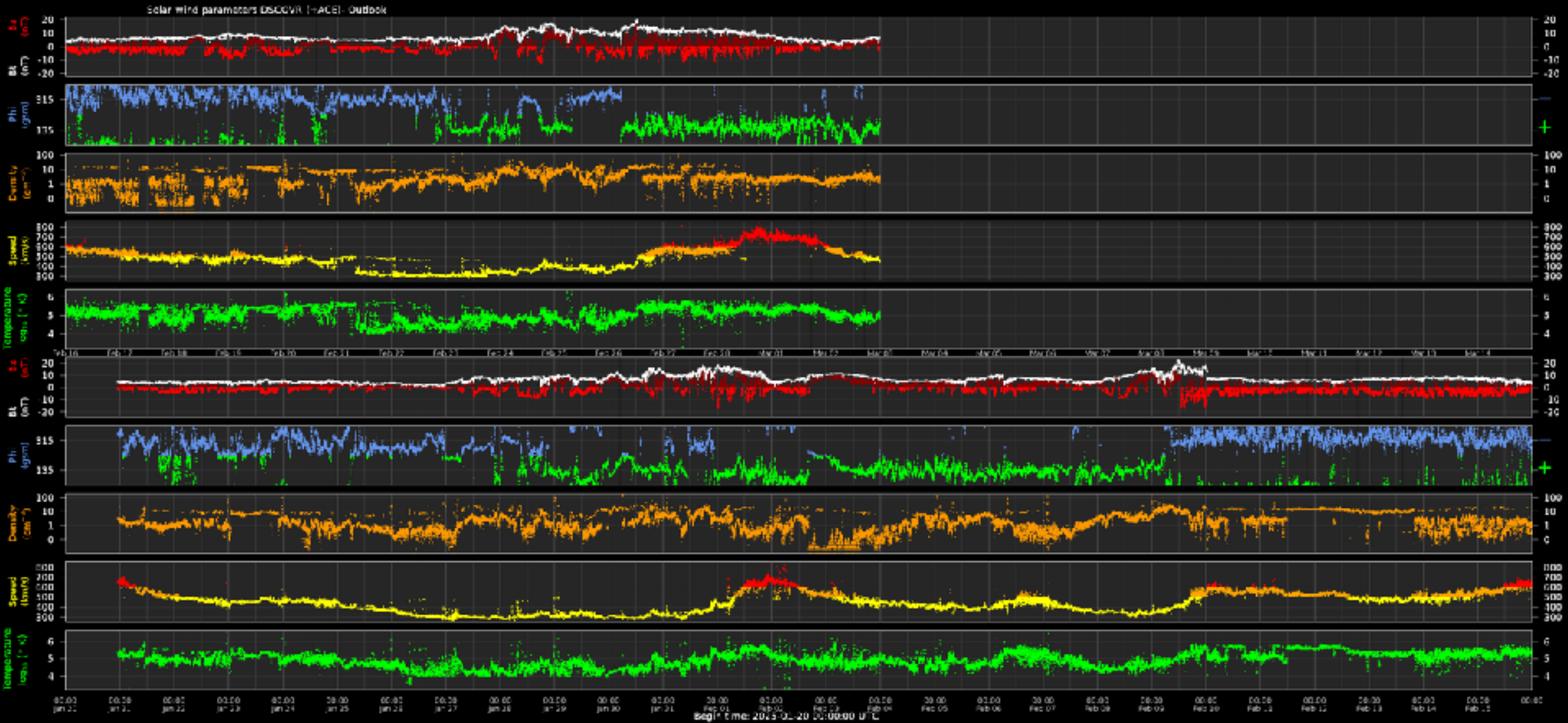


Observation date: 2025/03/02 23:05:00

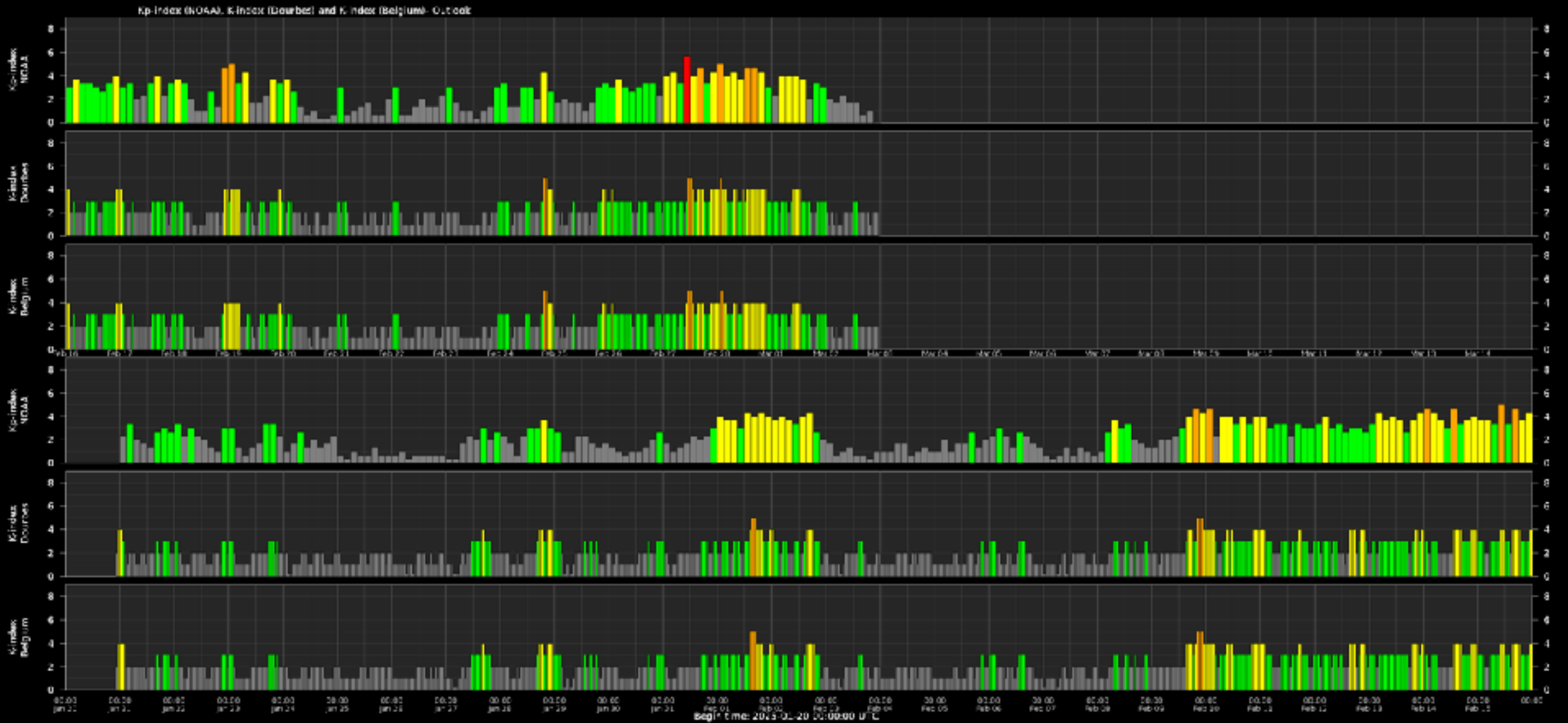
Outlook: Solar F10.7cm radio flux



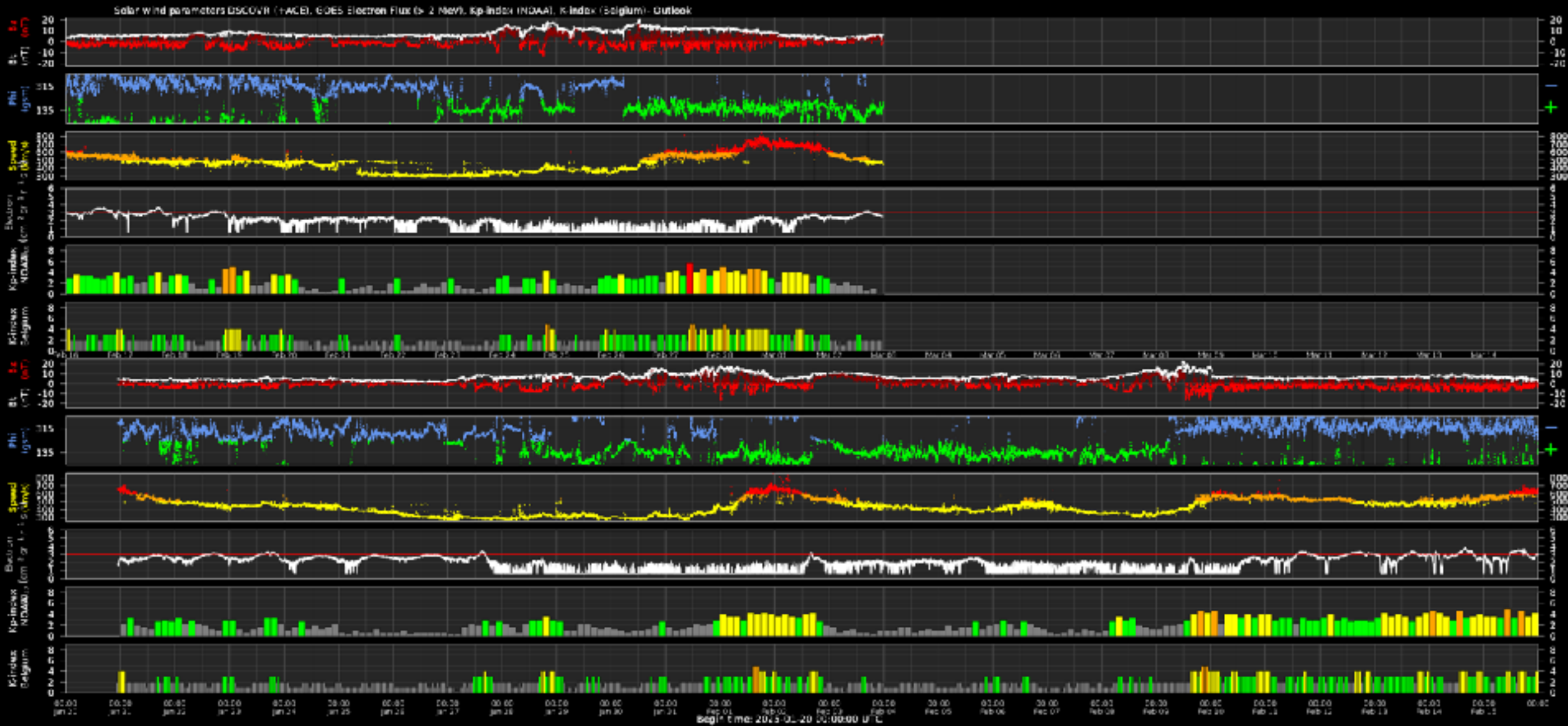
Outlook: Solar wind parameters



Outlook: Geomagnetic activity



Outlook: Electron Flux at GEO Outlook



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Pegasus related events

SWF, PSD, polar + equatorial scintillations

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See you at our next briefing!

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