

SIDC Space Weather Briefing

08 December 2024-15 December 2024

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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 2024-12-08 12:00 to 2024-12-15 23:59

Active regions	11 Active Regions, most complex: $\beta\gamma\delta$ (SIDC 288/NOAA 3917)
Flares	# C-class flare: 72 # M-class flare: 13 # X-class flare: 0
Coronal Holes	3 (all positive), SIDC 60, 78, 82
CMEs	A few narrow, two halo (backsided) / expect glancing blow from 2-3 CMEs

Proton flux	Normal
Electron flux	GOES18: over the threshold on December 11 & 12

Solar wind and geomagnetic conditions

ICMEs	None (possible glancing blows starting from 17/12)
Solar wind conditions	B : 1.07 - 12.89 nT //Bz: -9.98 nT to 7.14 nT //Speed: 283.7 - 576.8km/s
Geomagnetic conditions	max K _{Be} : 4.0, max K _p (NOAA): 4.0, Active conditions

Solar Activity

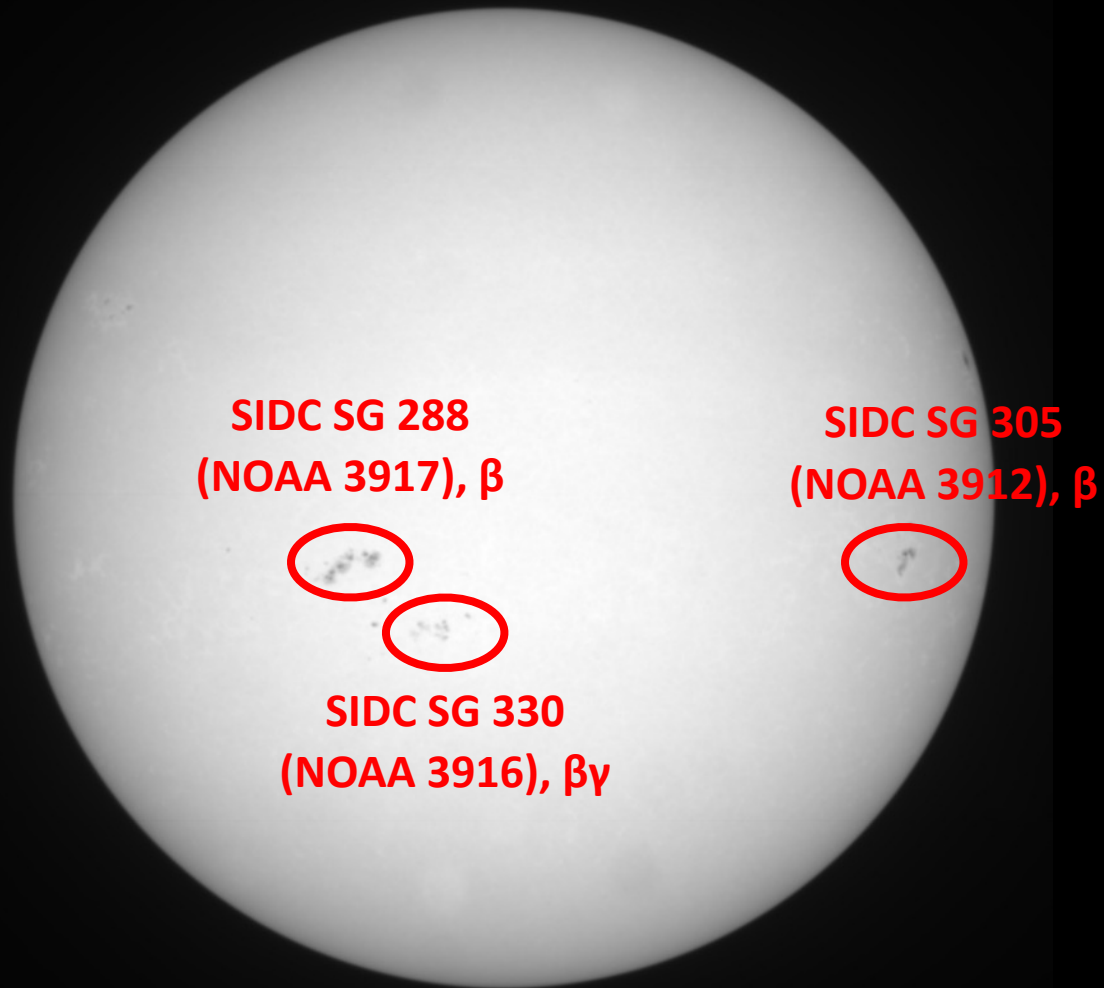


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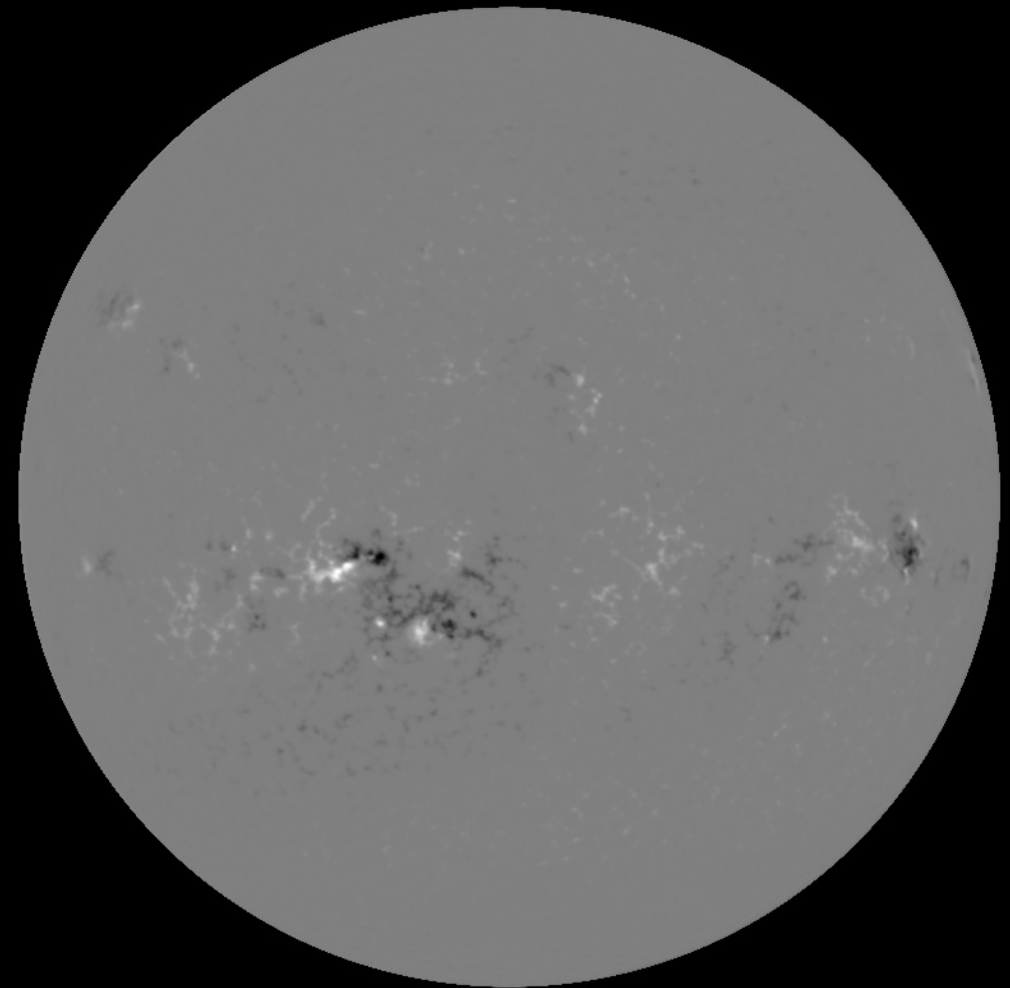
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Solar active regions

GONG 677 nm 2024-12-08

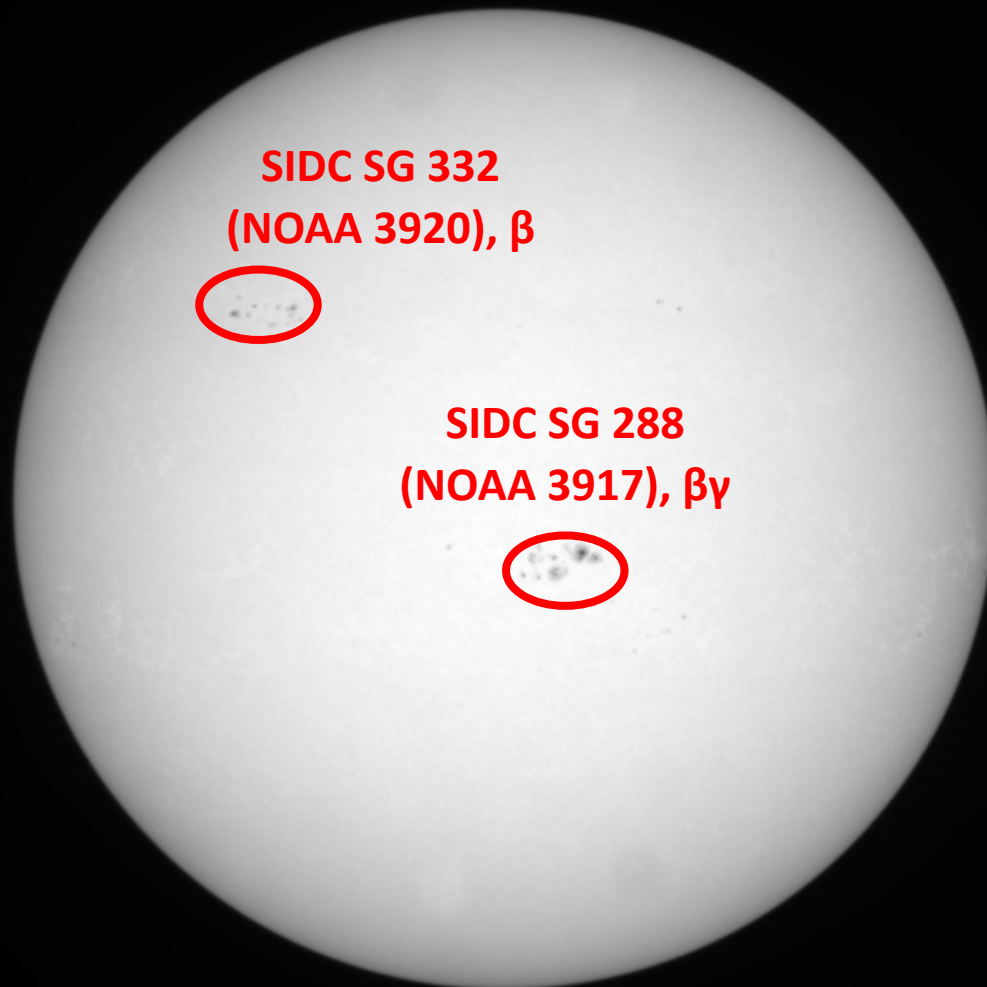


GONG Magnetogram 2024-12-08

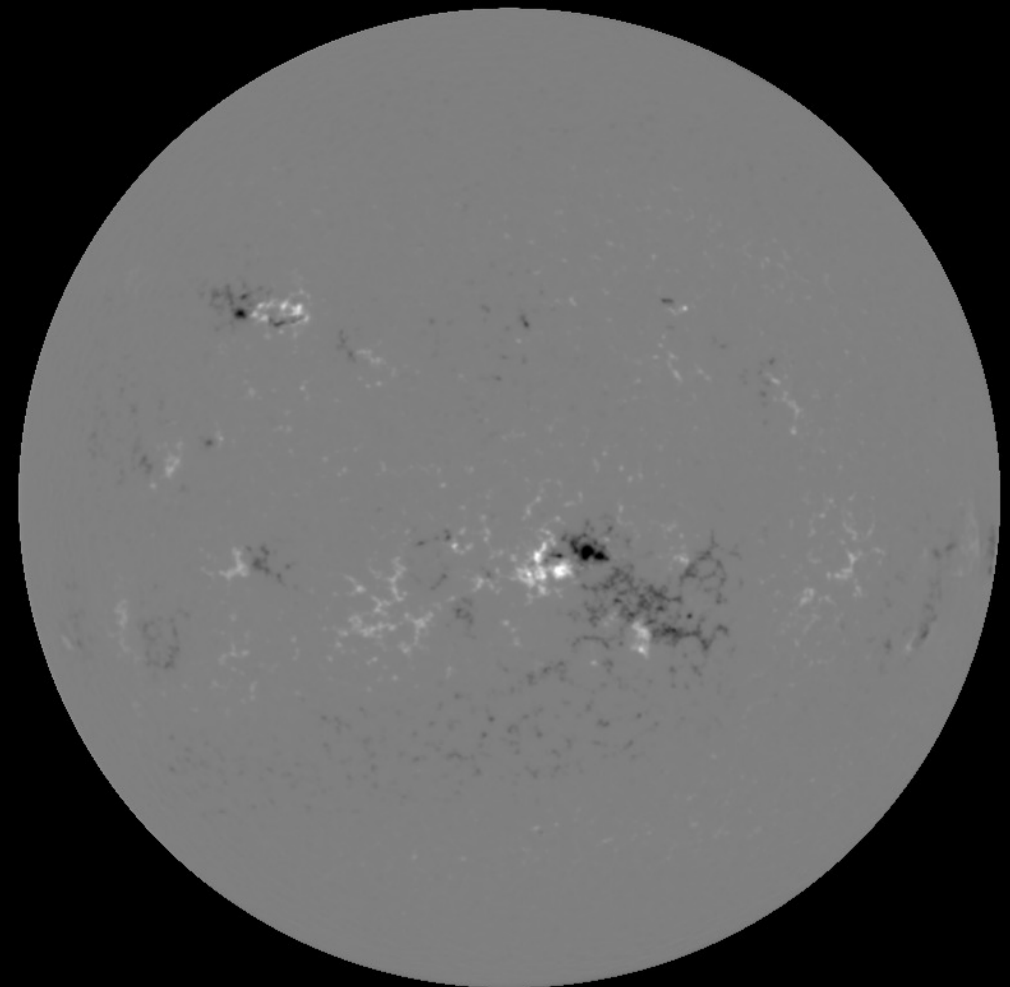


Solar active regions

GONG 677 nm 2024-12-10

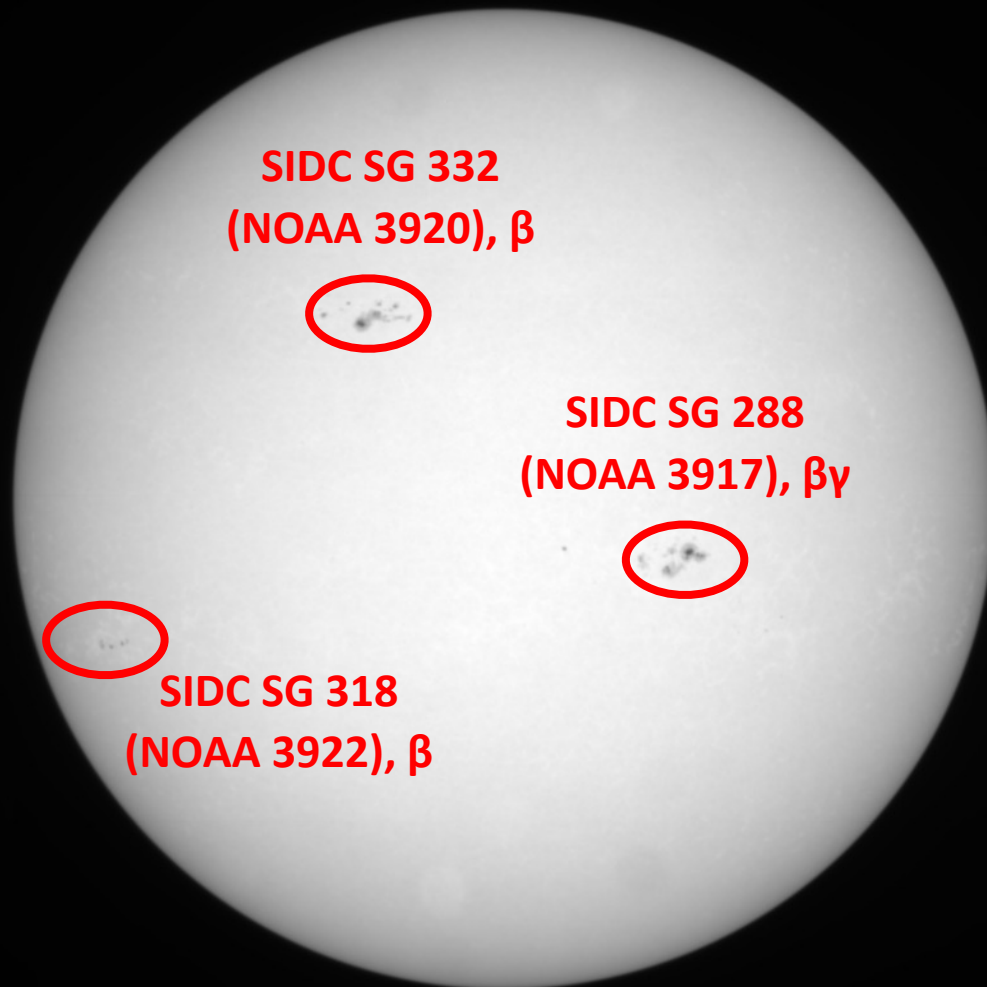


GONG Magnetogram 2024-12-10

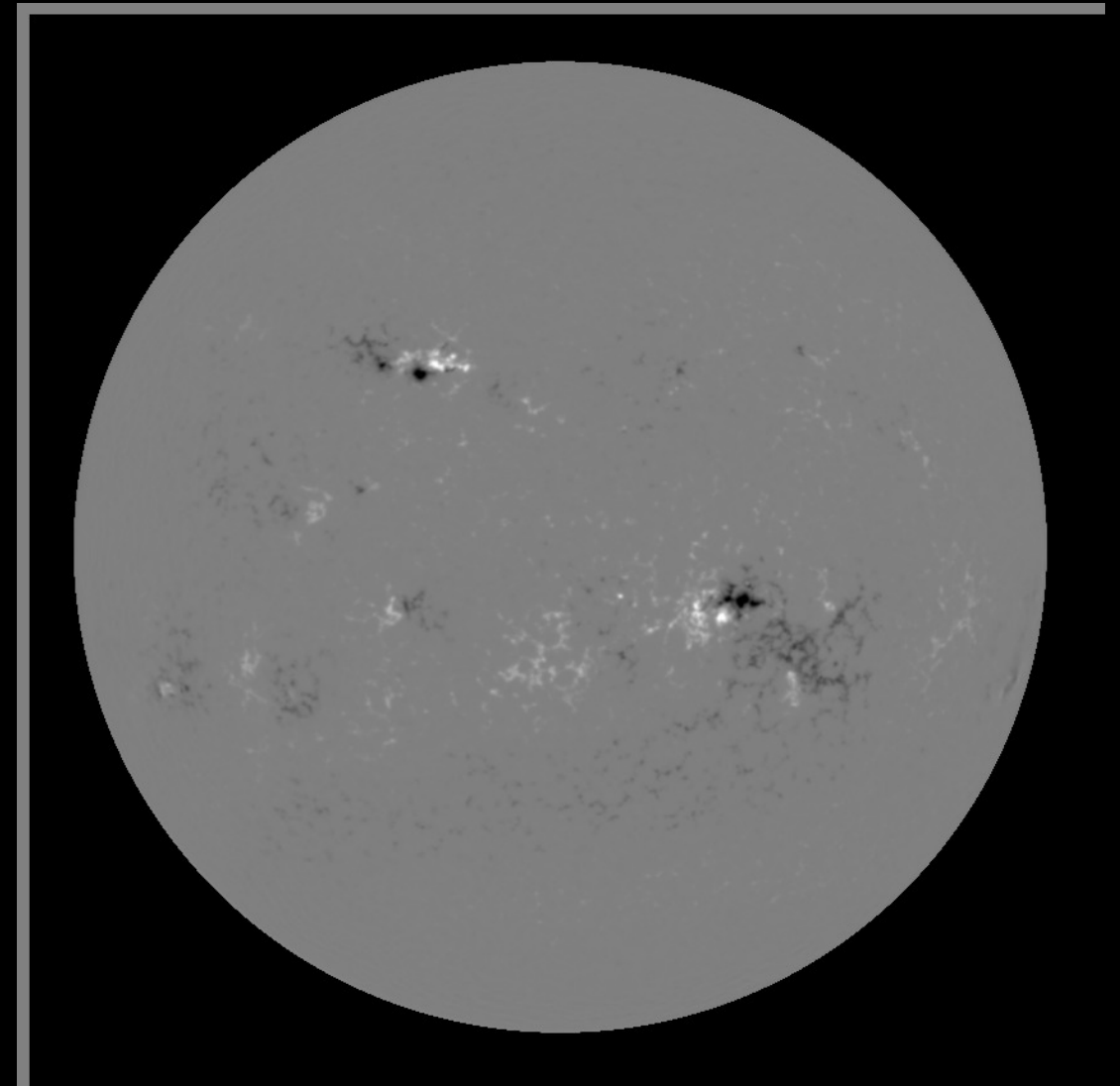


Solar active regions

GONG 677 nm 2024-12-11

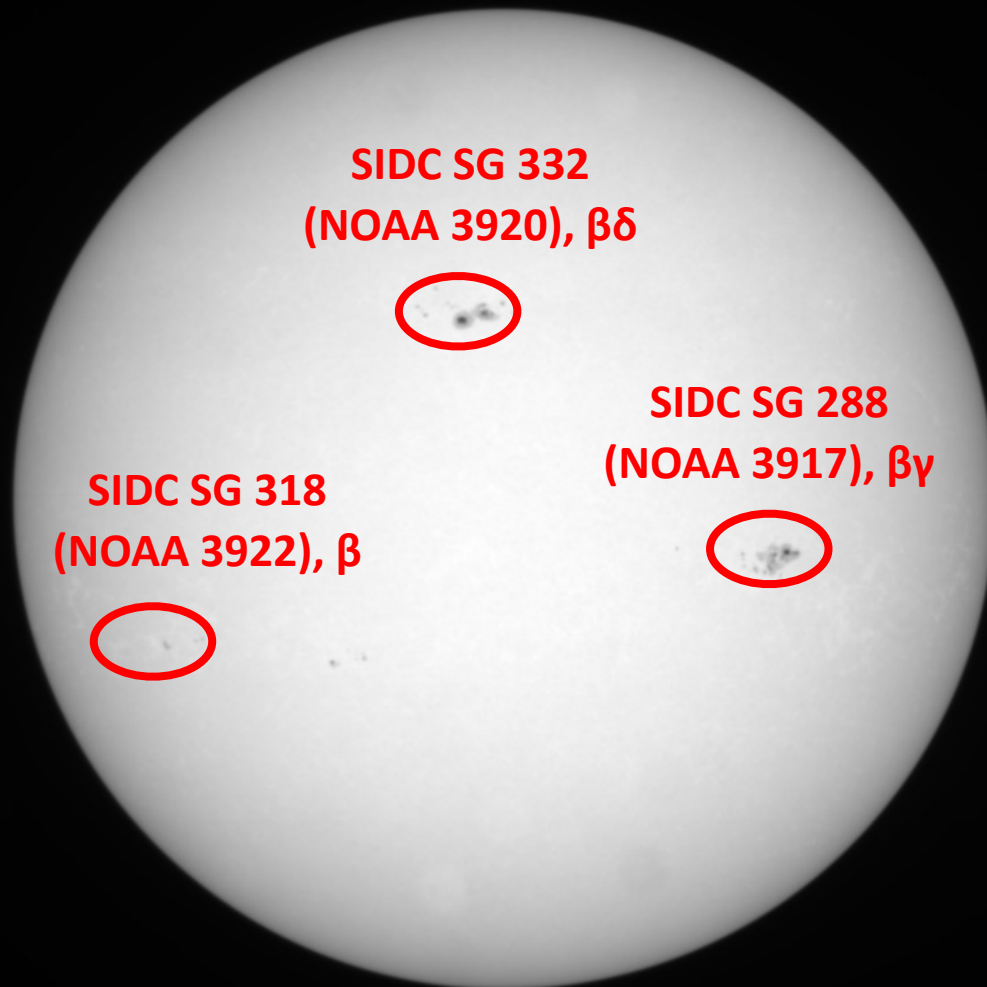


GONG Magnetogram 2024-12-11

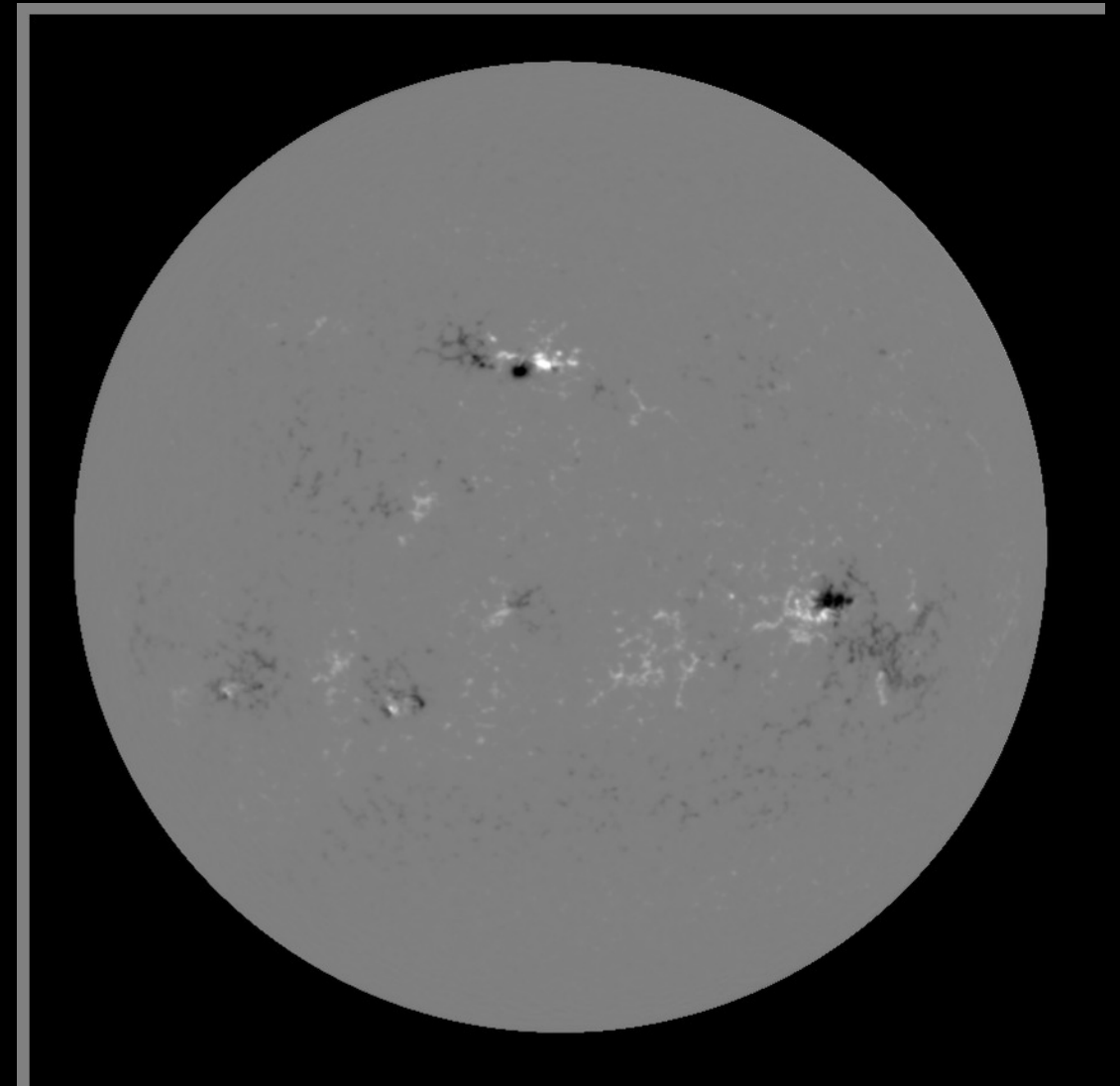


Solar active regions

GONG 677 nm 2024-12-12

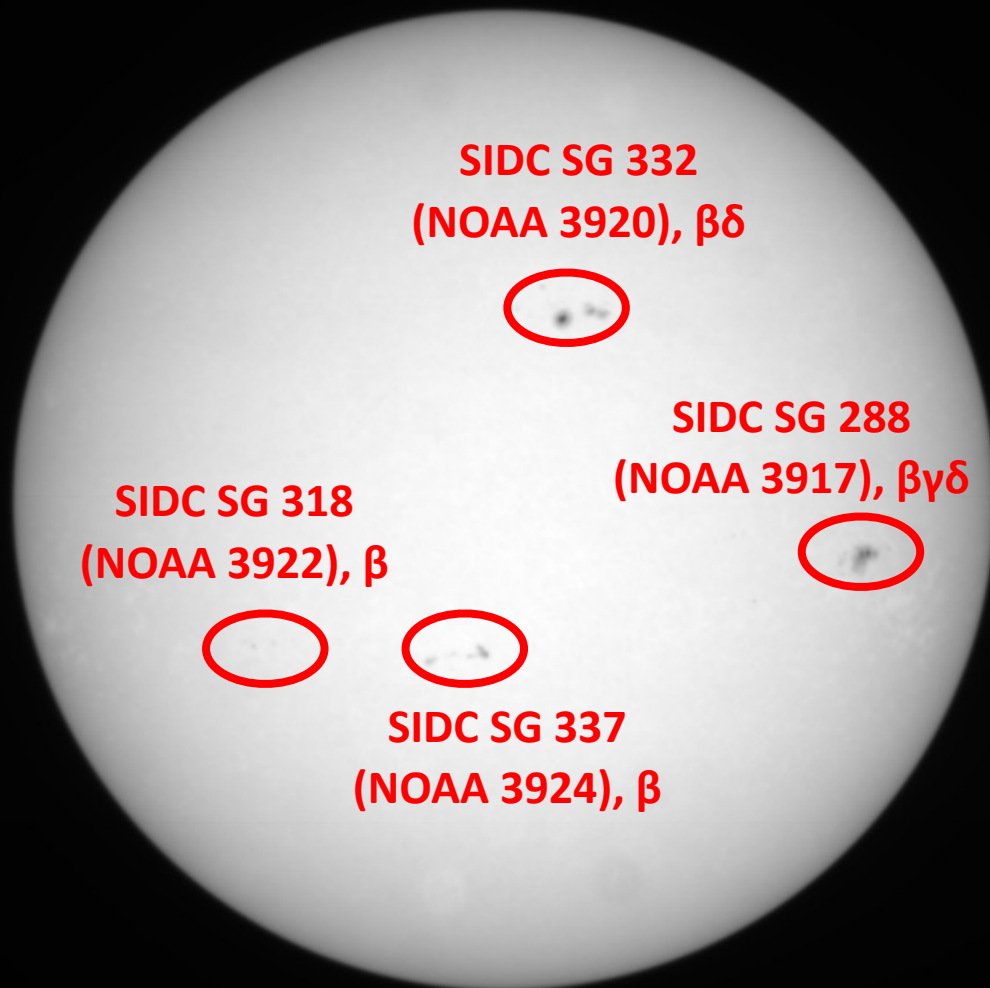


GONG Magnetogram 2024-12-12

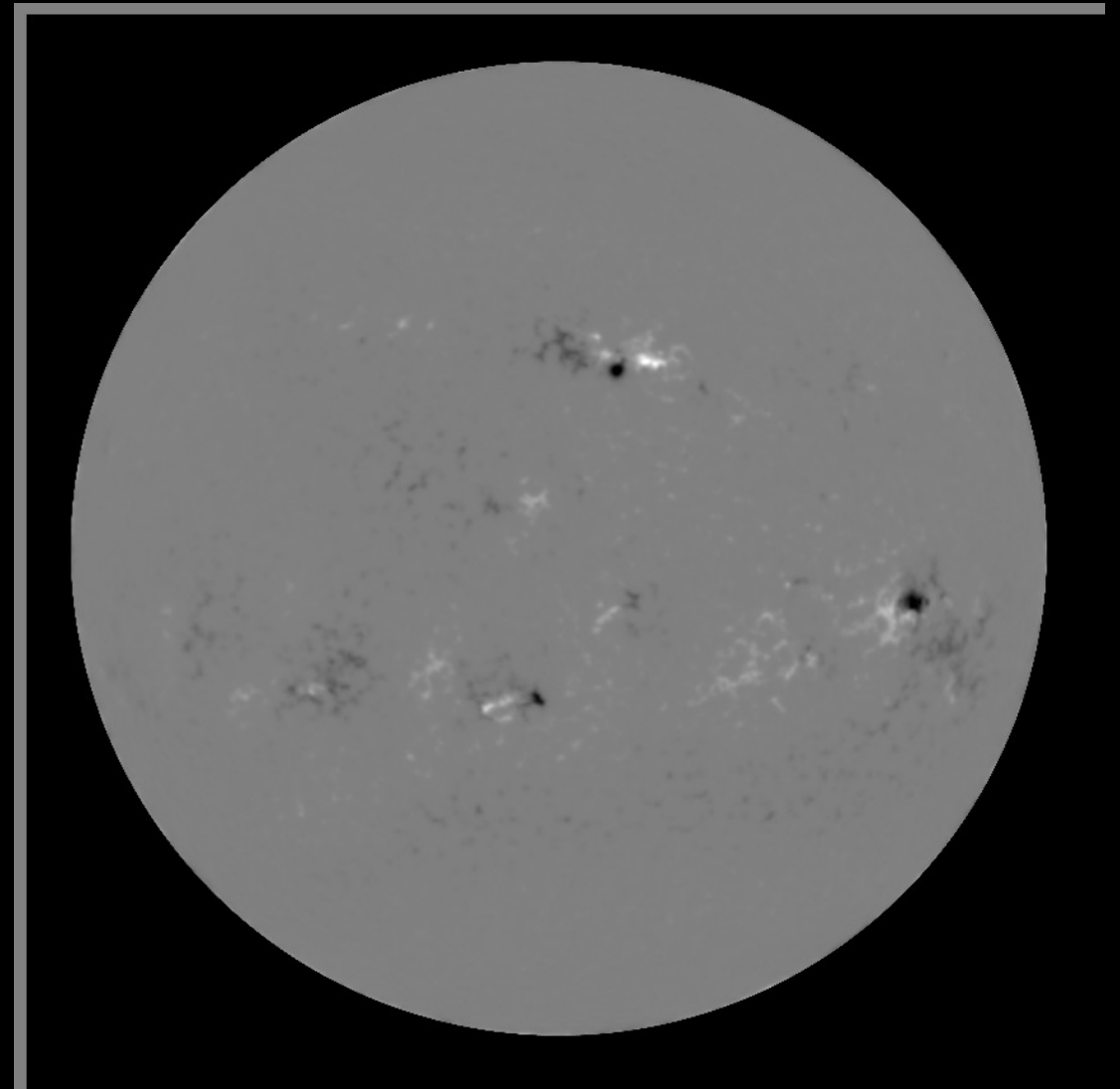


Solar active regions

GONG 677 nm 2024-12-13

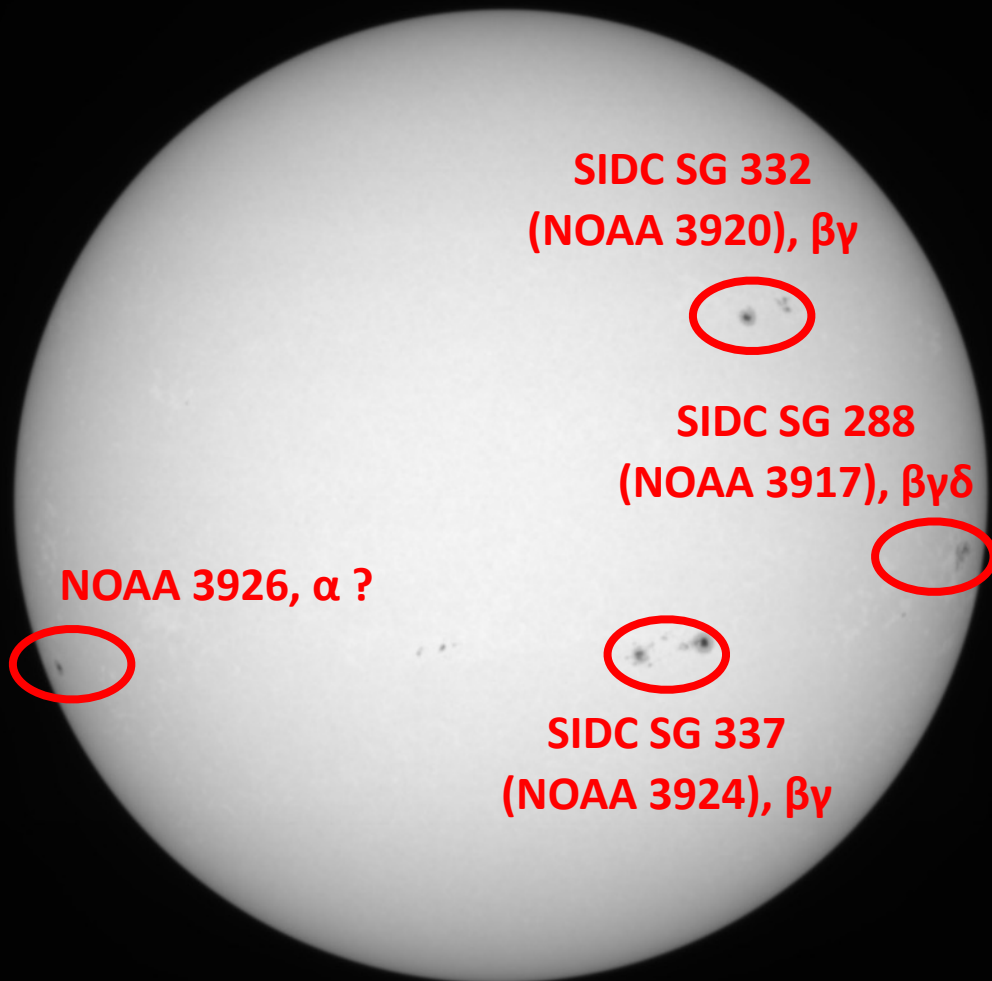


GONG Magnetogram 2024-12-13

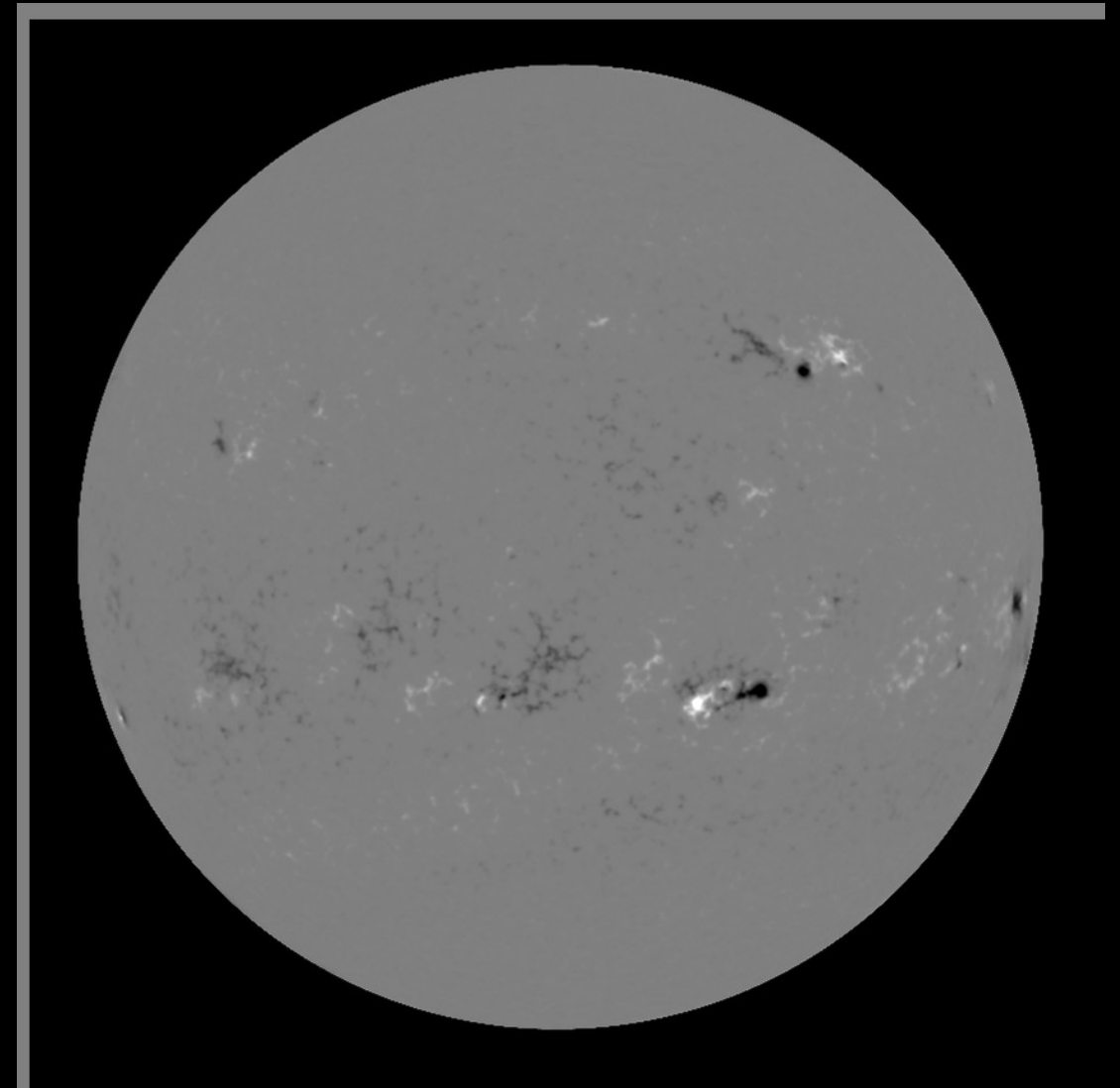


Solar active regions

GONG 677 nm 2024-12-15

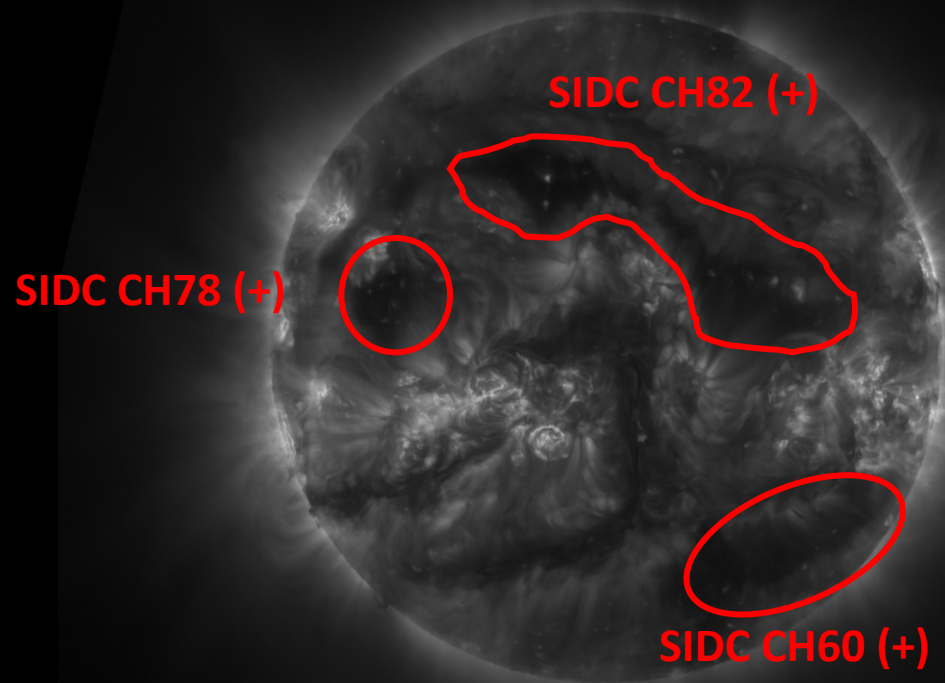


GONG Magnetogram 2024-12-15

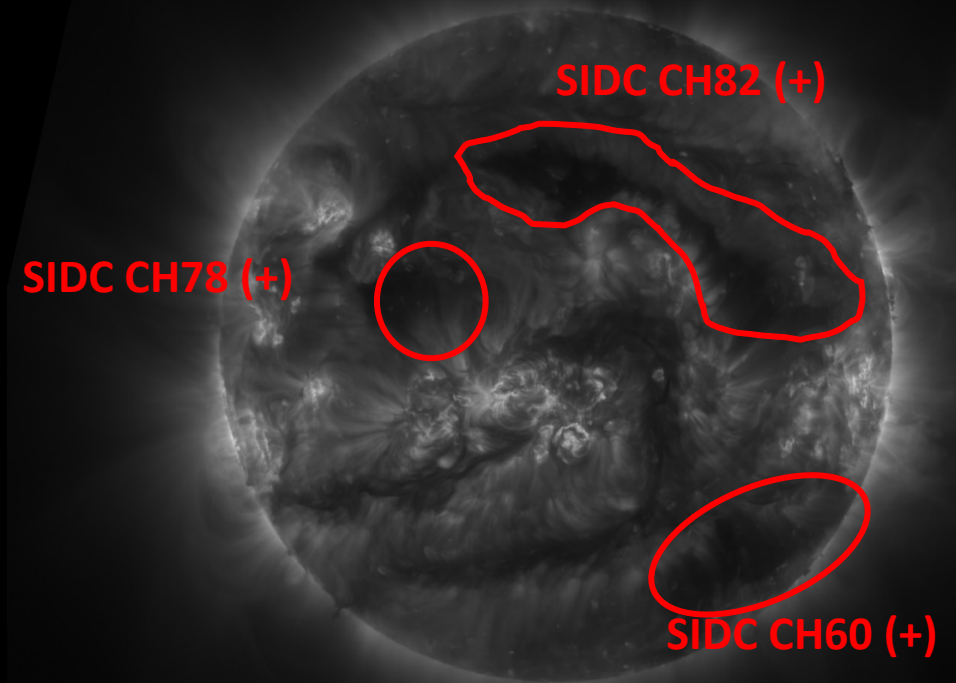


Coronal holes

GOES-R/SUVI 19.5 nm 2024-12-08

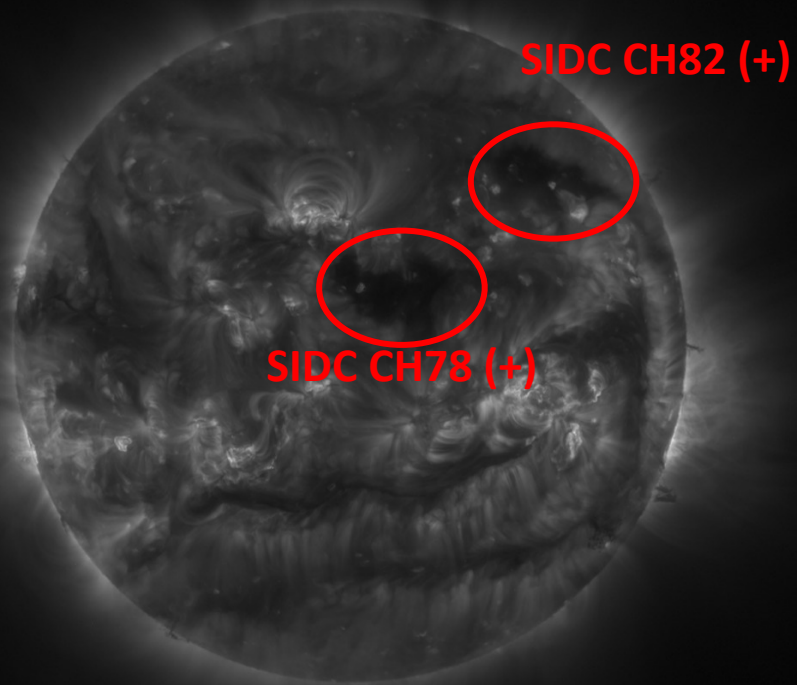


GOES-R/SUVI 19.5 nm 2024-12-09

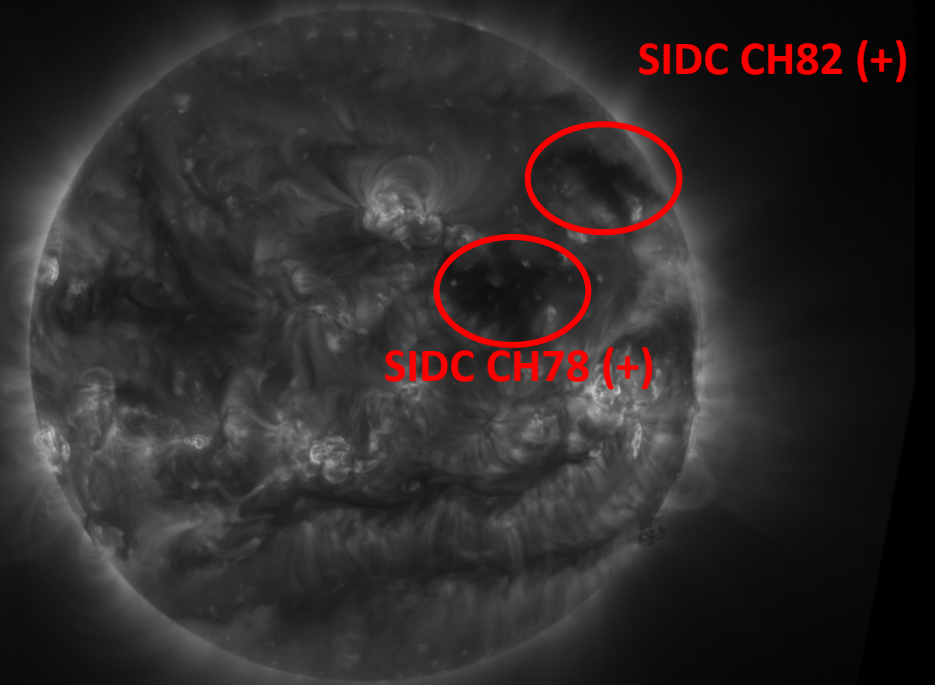


Coronal holes

GOES-R/SUVI 19.5 nm 2024-12-12

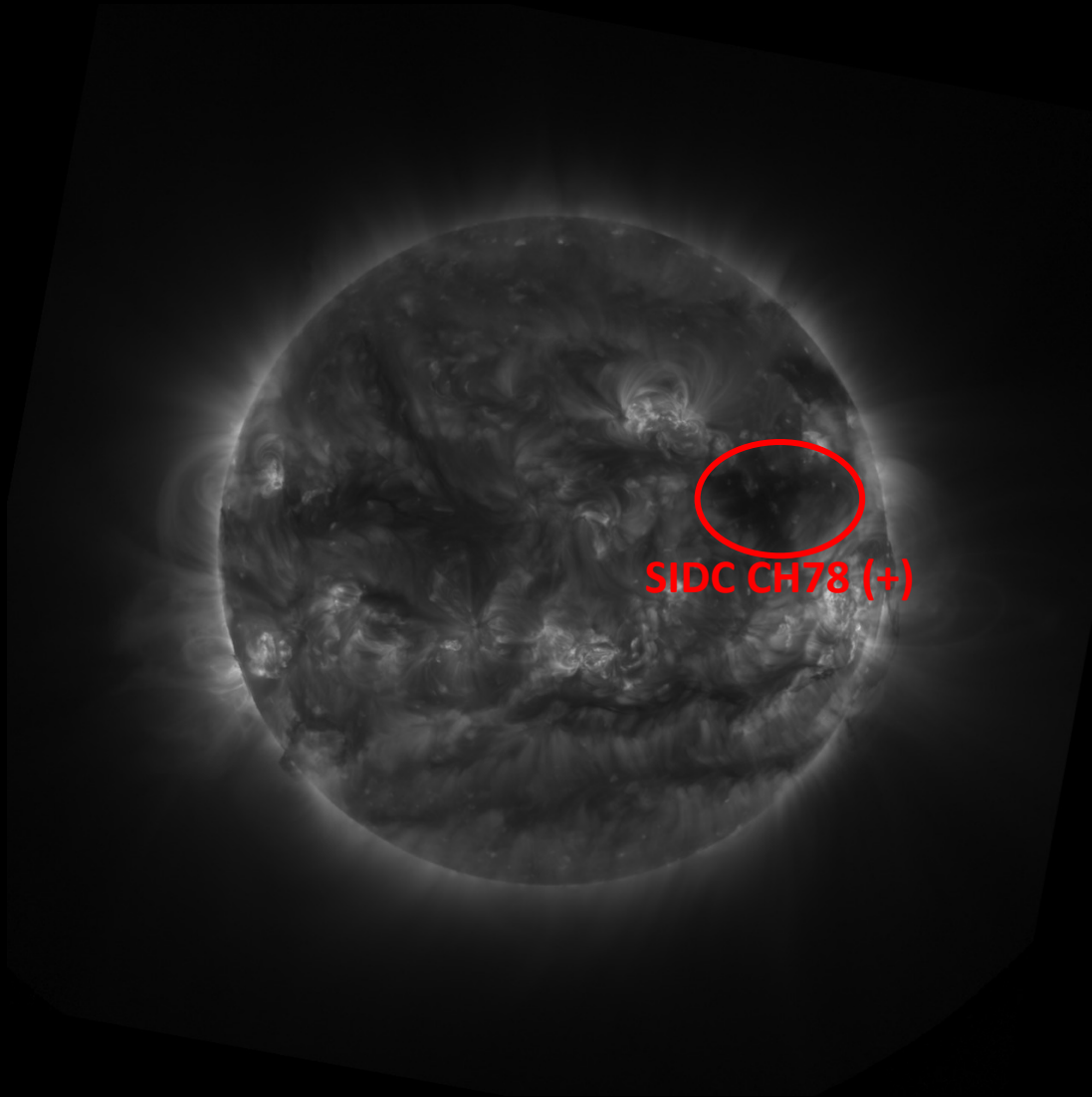


GOES-R/SUVI 19.5 nm 2024-12-13

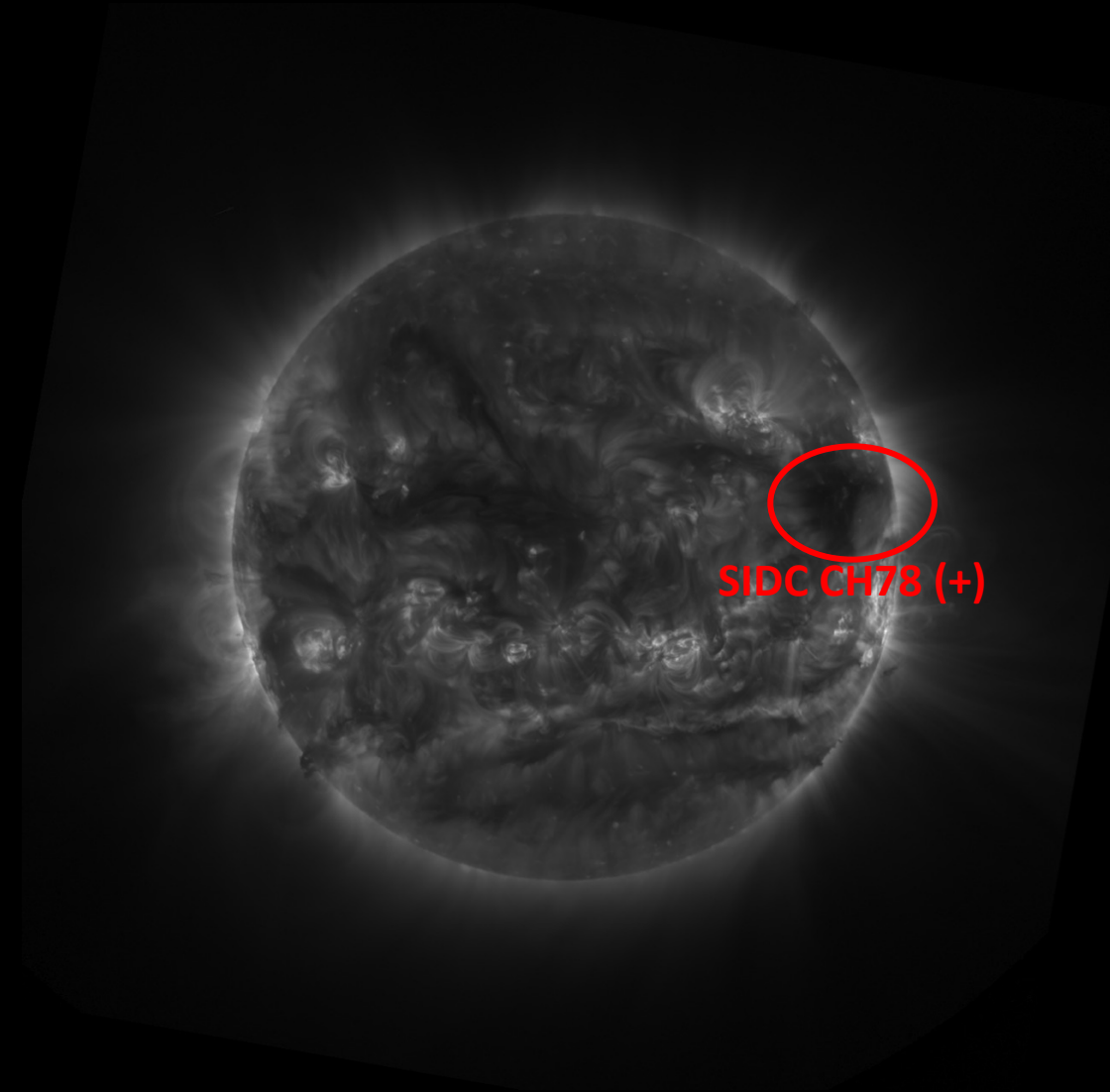


Coronal holes

GOES-R/SUVI 19.5 nm 2024-12-14



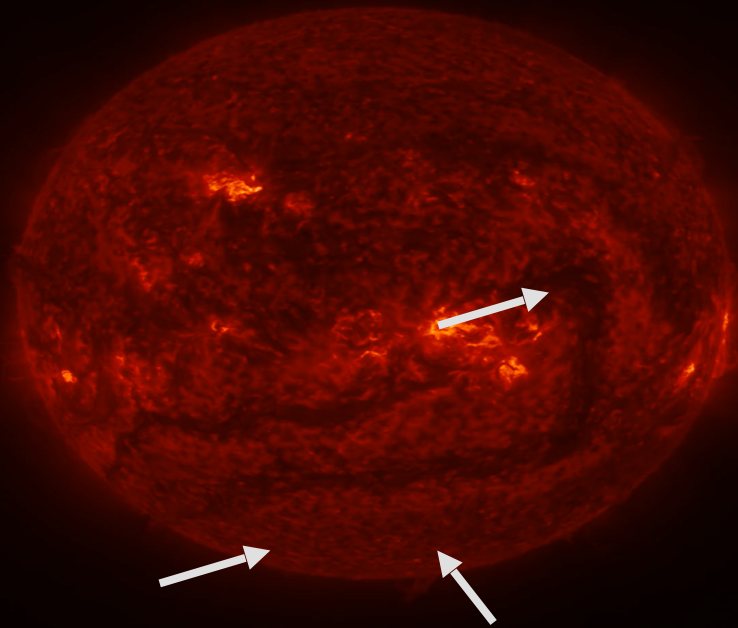
GOES-R/SUVI 19.5 nm 2024-12-15



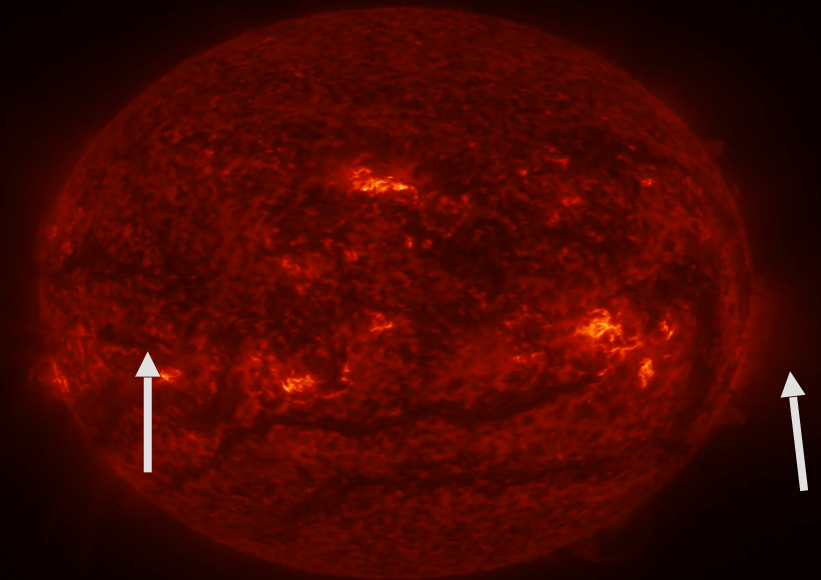
Filaments

GOES-R/SUVI 30.4 nm 2024-12-11

GOES-R/SUVI 30.4 nm 2024-12-09



2024-12-11T00:00:46.380



2024-12-12T18:03:12.926

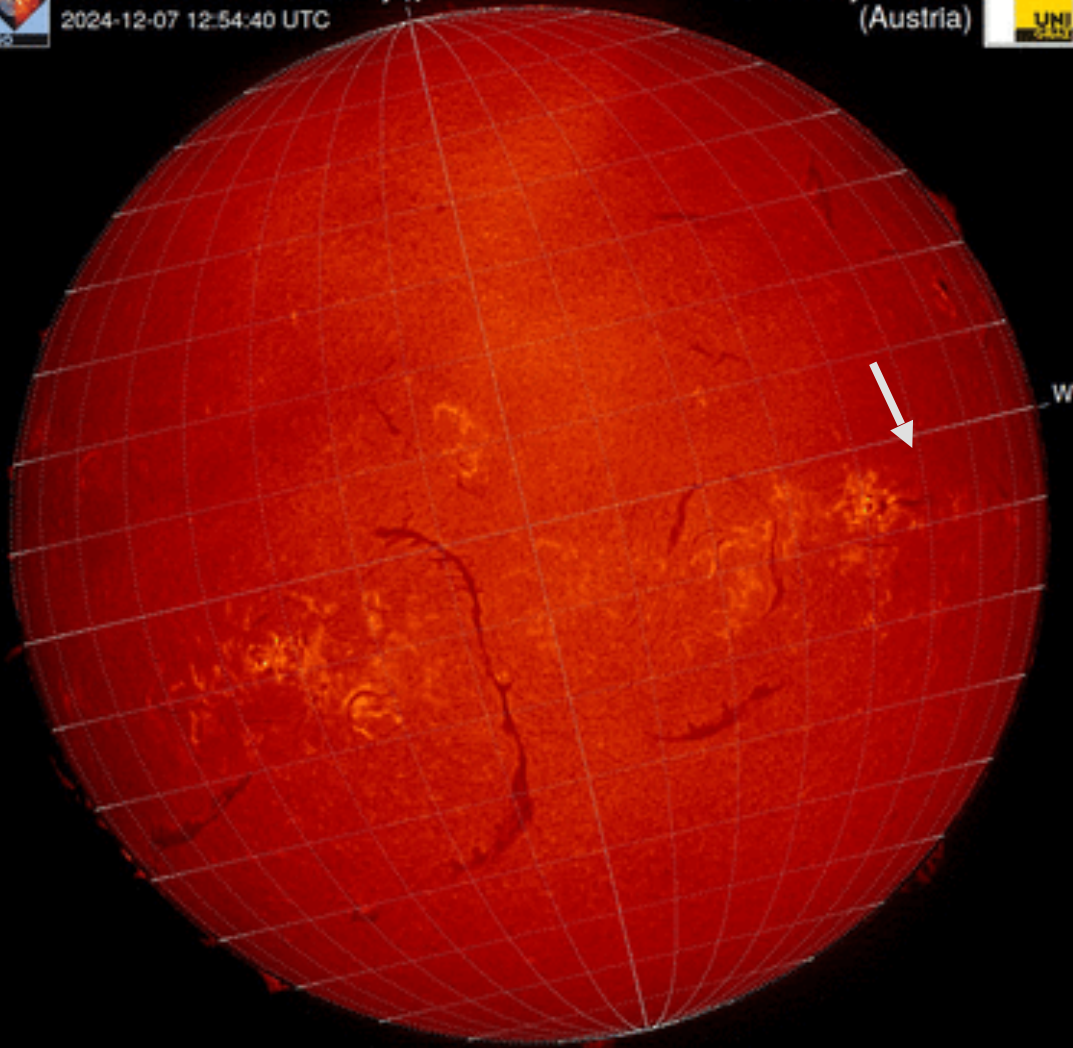
Filaments & Filament eruptions

H-alpha 2024-12-07



Kanzelhöhe Observatory
2024-12-07 12:54:40 UTC

University of Graz
(Austria)

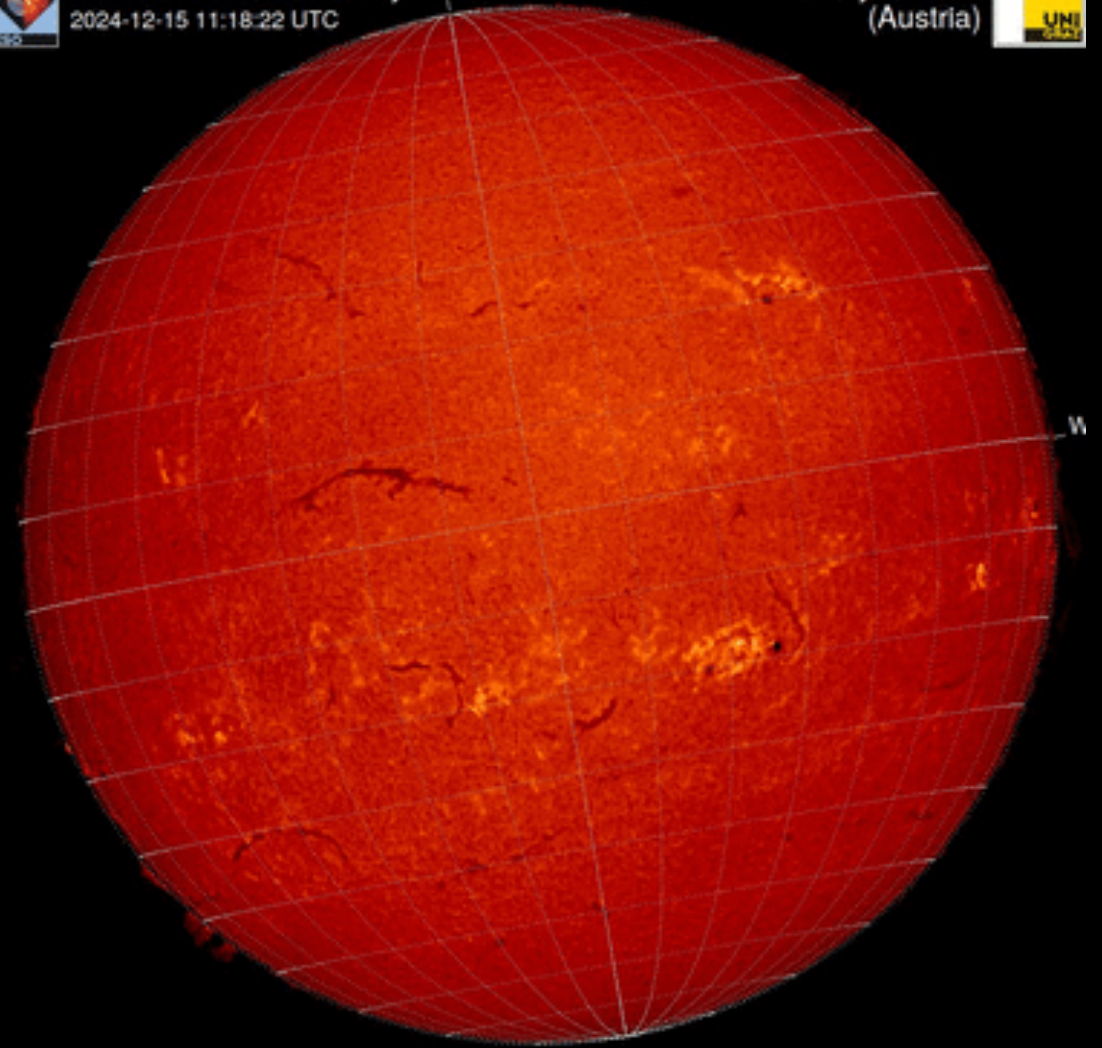


H-alpha 2024-12-15

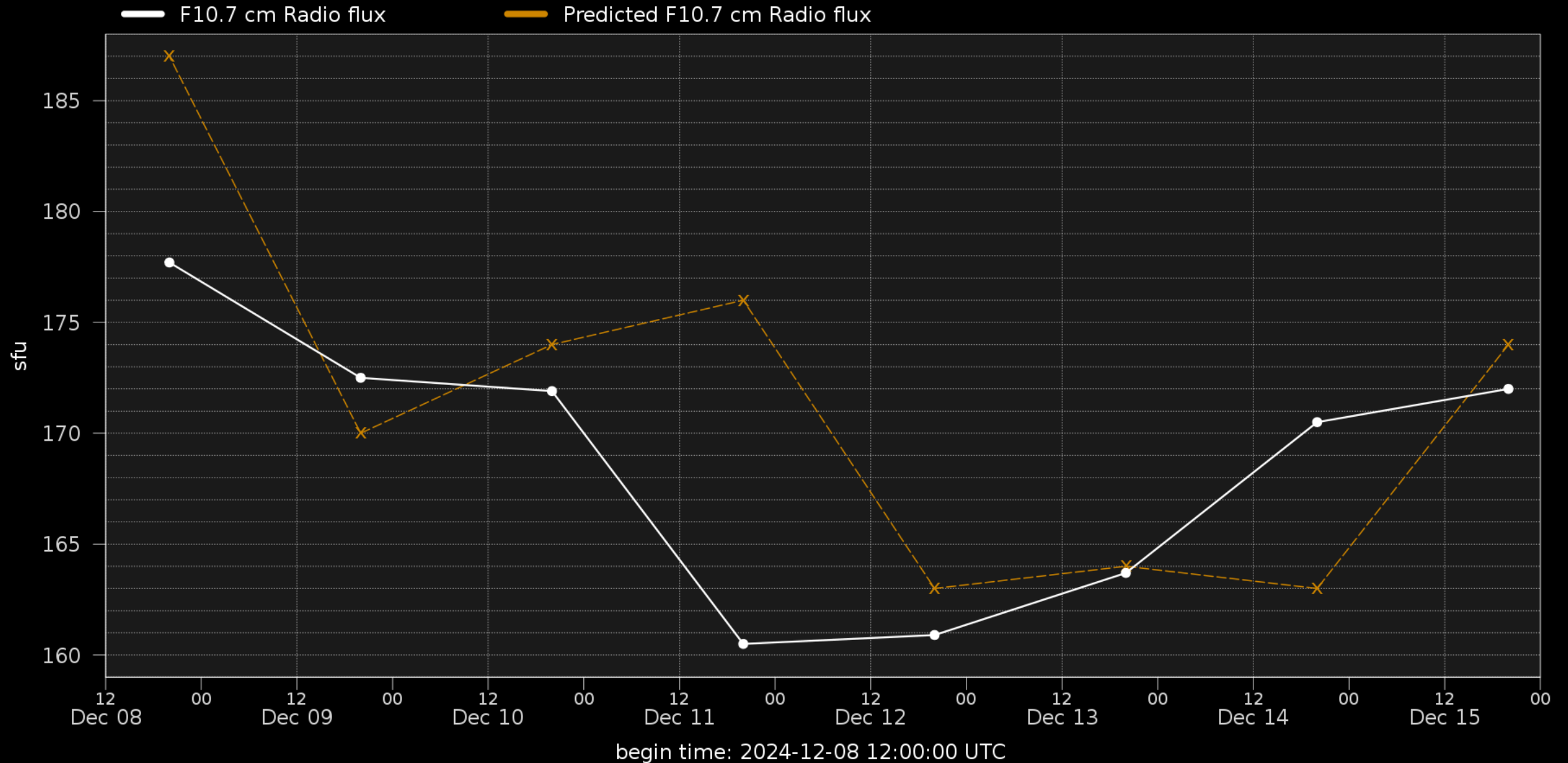


Kanzelhöhe Observatory
2024-12-15 11:18:22 UTC

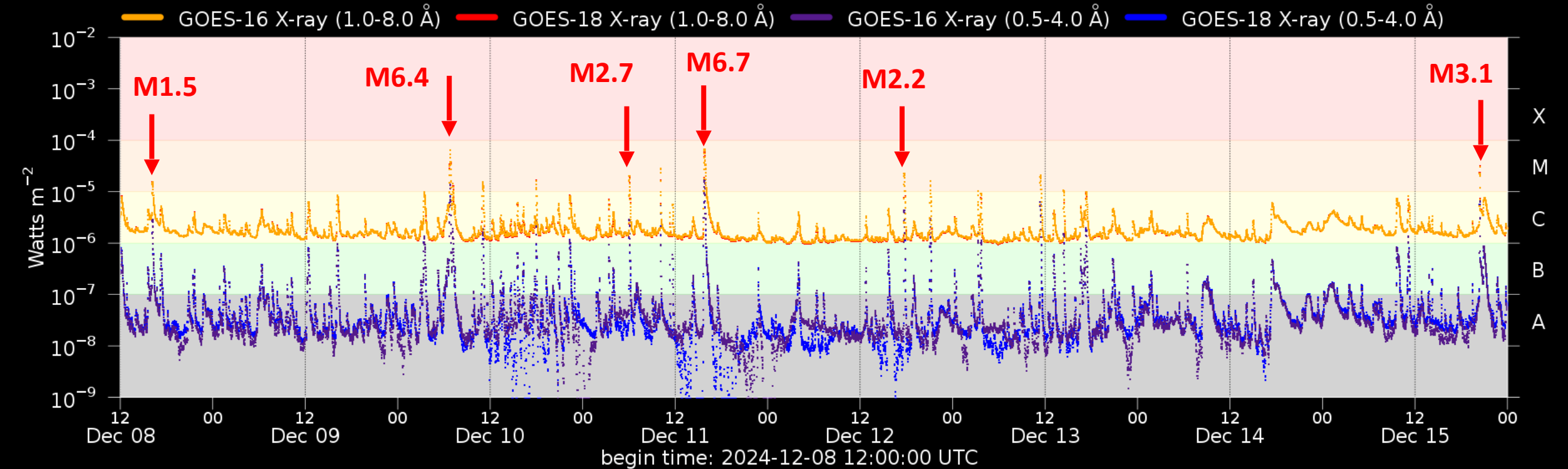
University of Graz
(Austria)



Solar F10.7cm radio flux



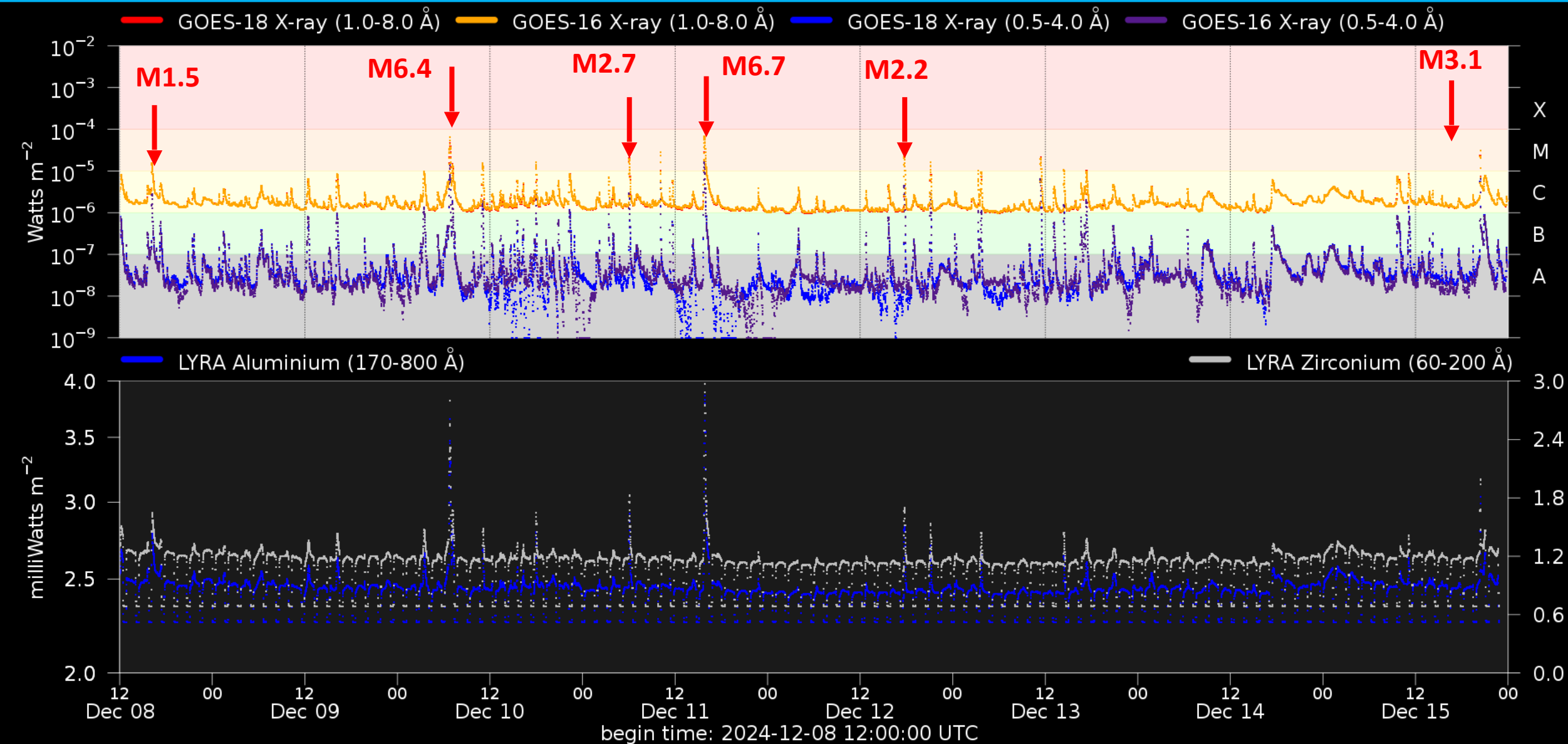
Flaring activity



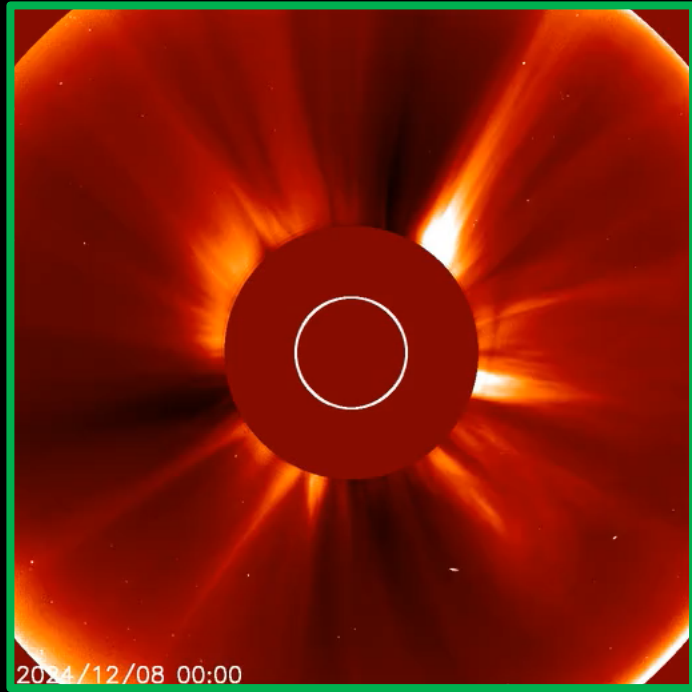
Probabilities (%) and occurrences (#) of C/M/X-flares daily, from noon to noon:

Issue date	2024-12-08	2024-12-09	2024-12-10	2024-12-11	2024-12-12	2024-12-13	2024-12-14	2024-12-15
Probability (%)	99 60 20	99 78 19	96 53 15	99 82 15	99 84 15	99 93 30	99 94 30	98 61 11
Observed (#)	14 01 00	08 02 00	16 03 00	05 01 00	08 04 00	09 01 00	04 00 00	08 01 00

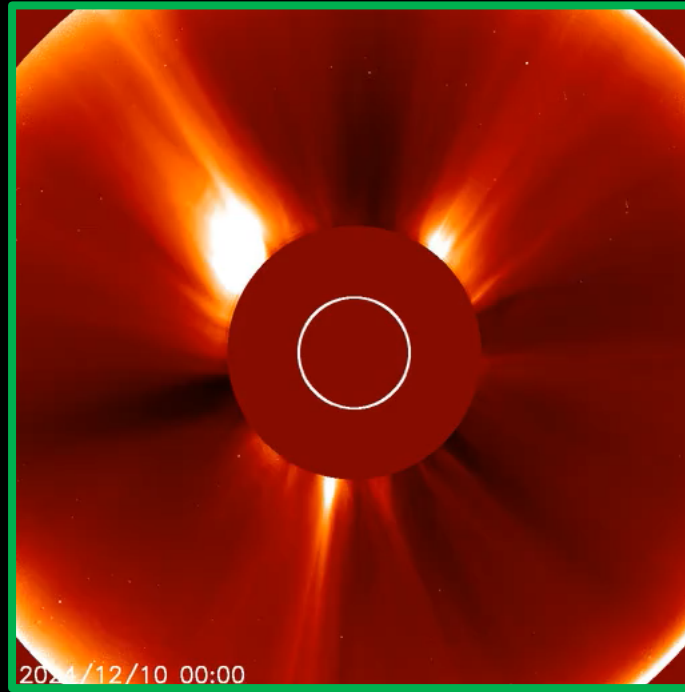
Solar X-Ray and UV flux



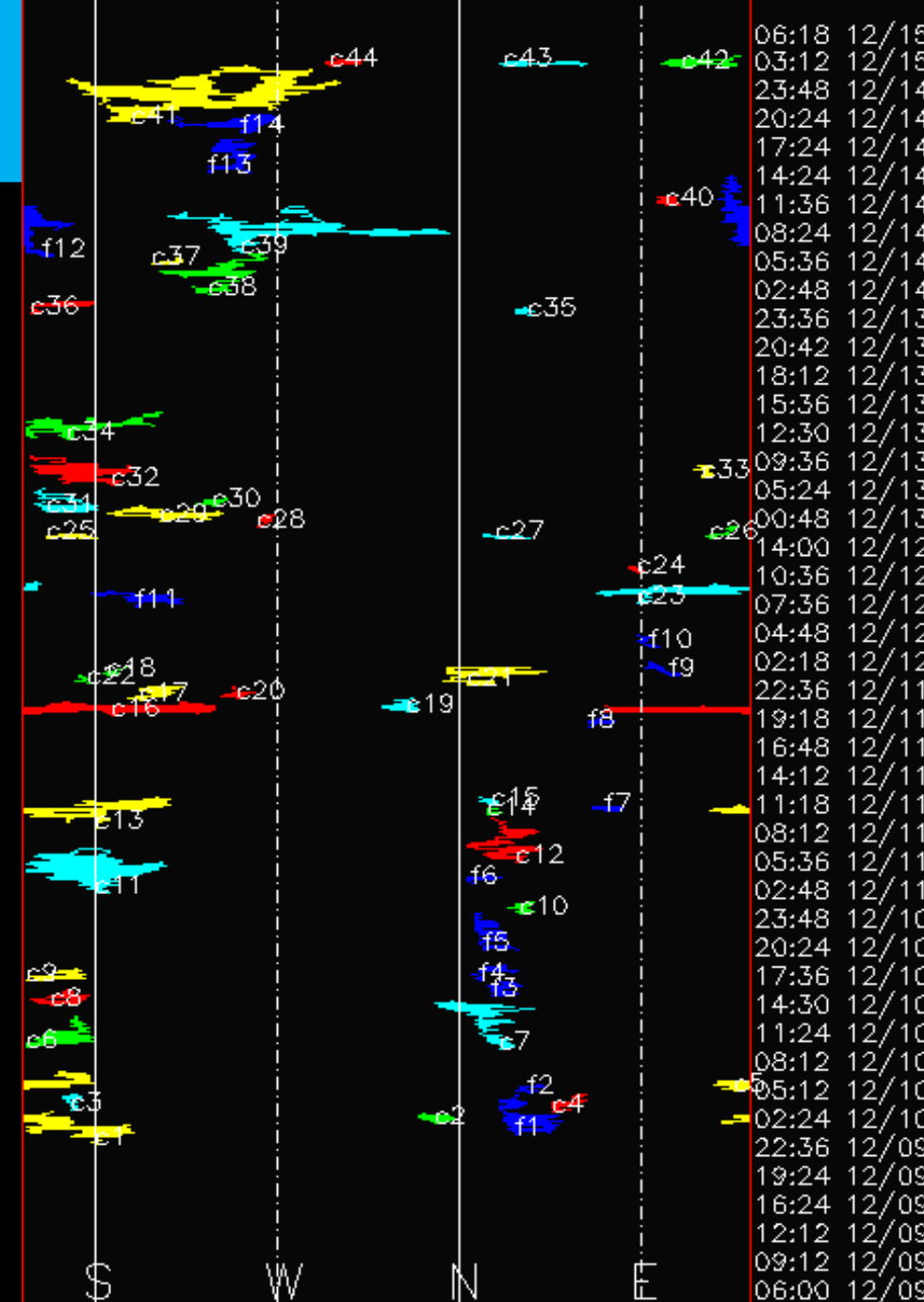
Coronal Mass Ejections



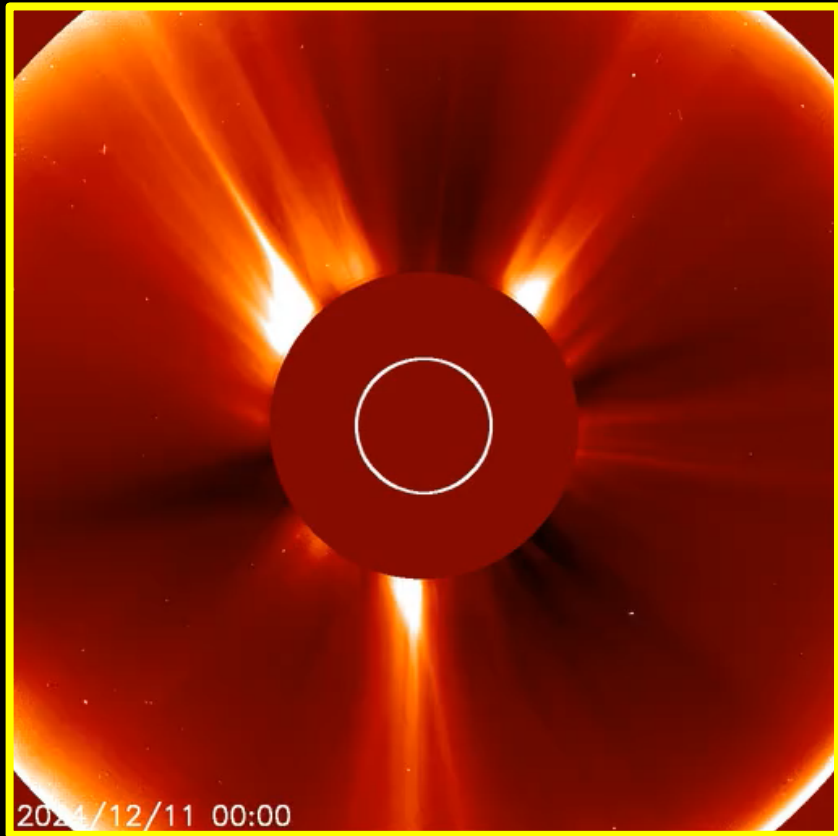
08/12



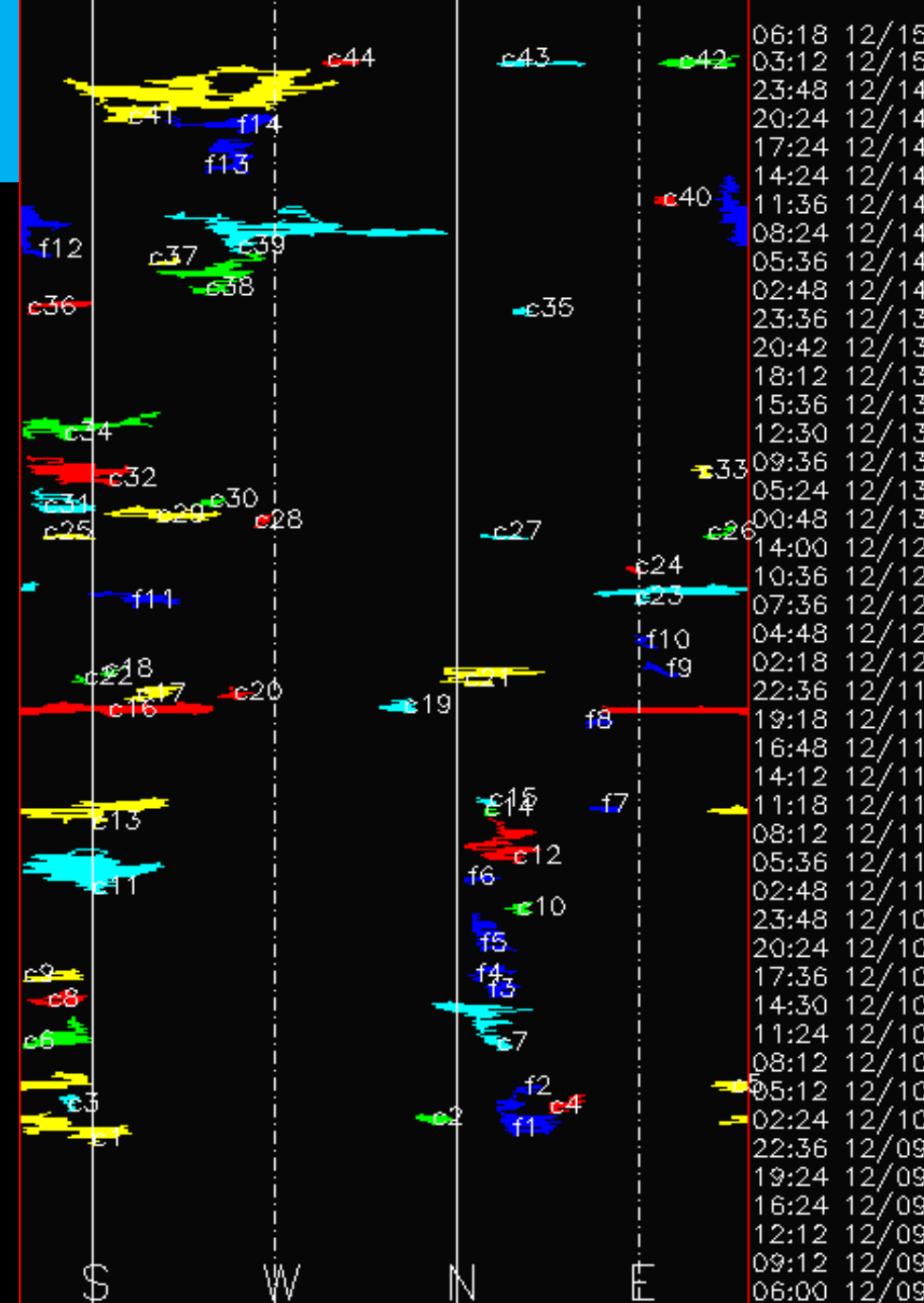
10/12



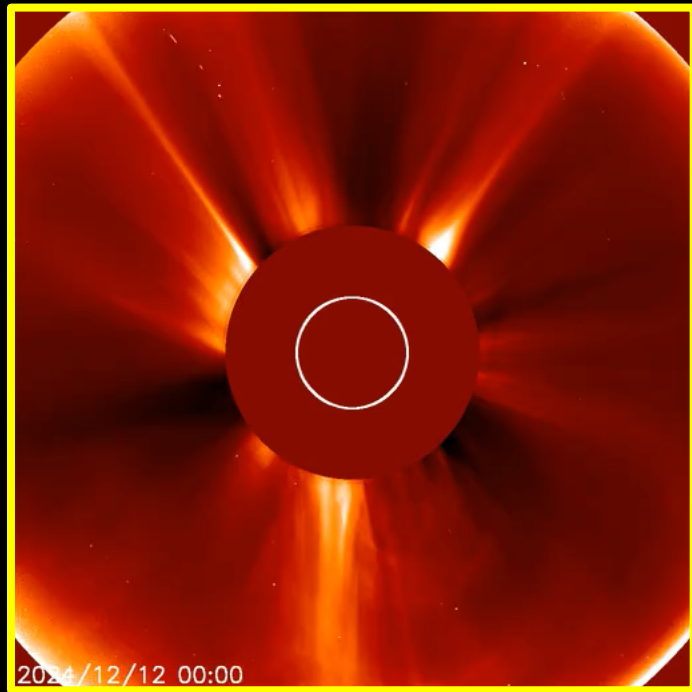
Coronal Mass Ejections



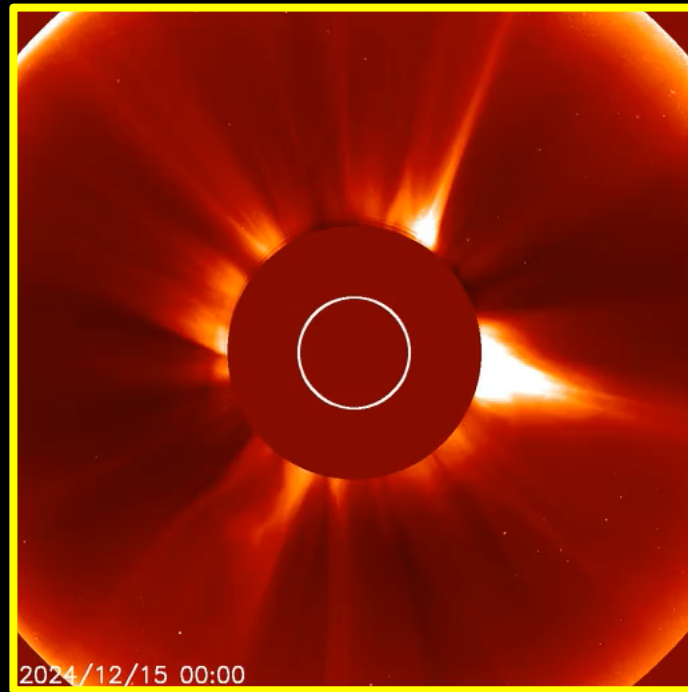
11/12



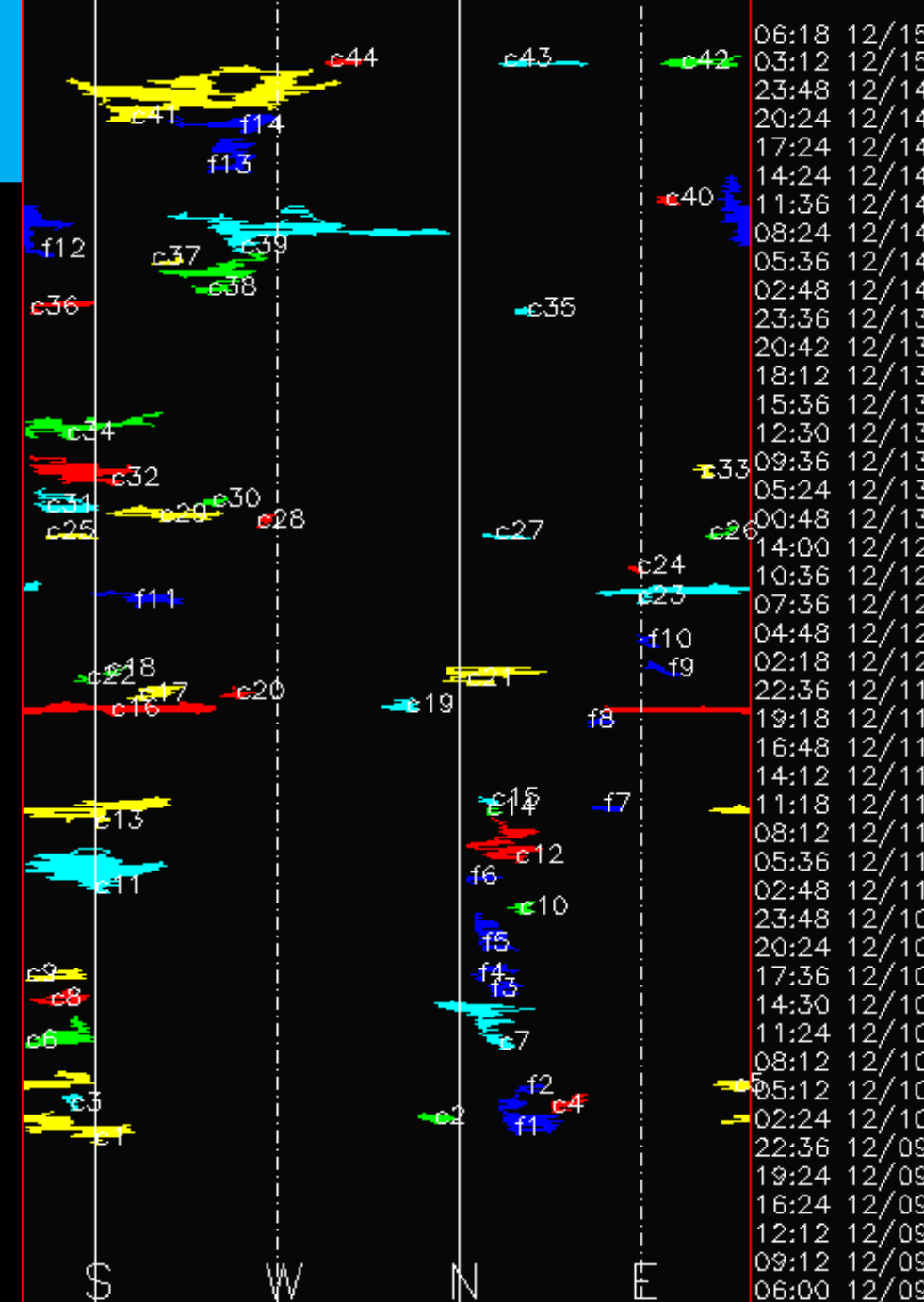
Coronal Mass Ejections



12/12



15/12



Solar Wind and

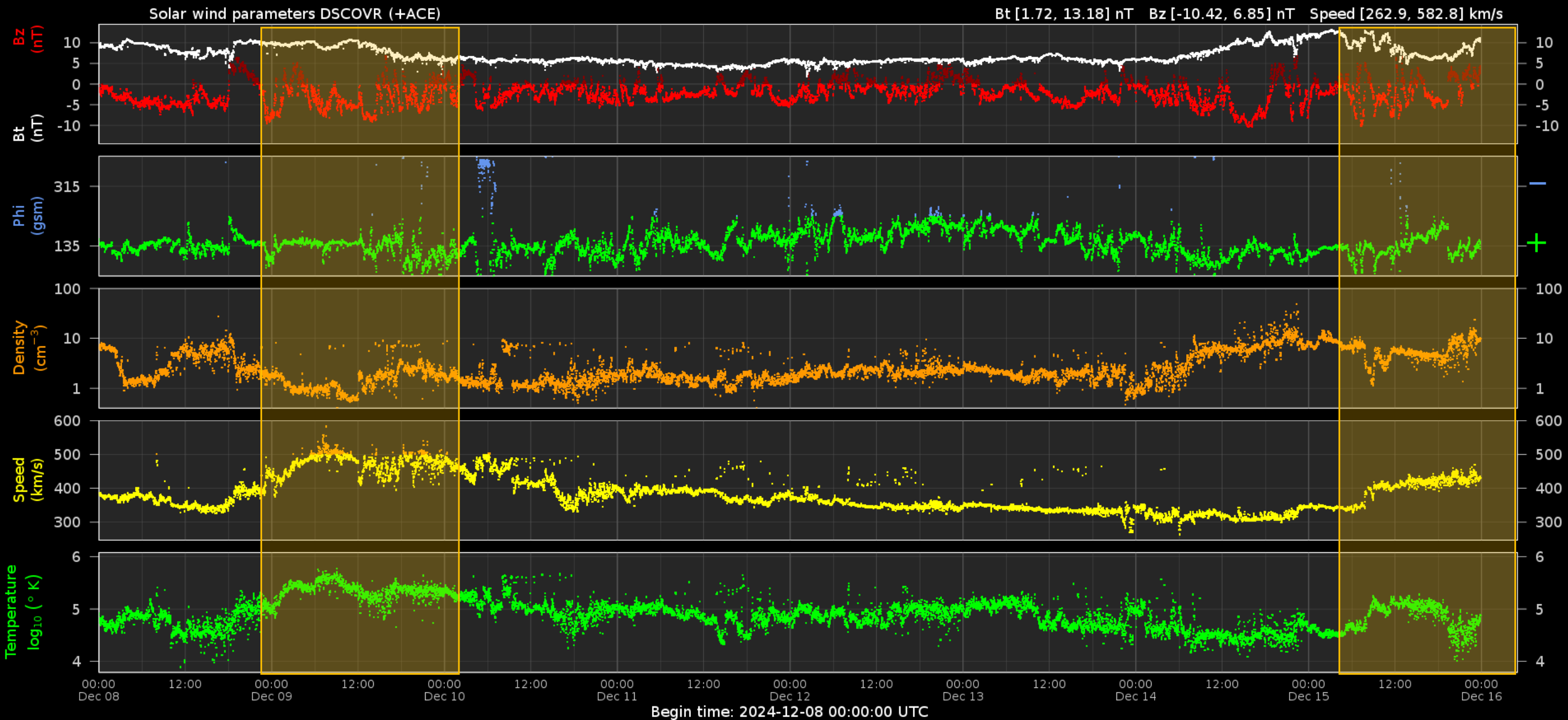
Geomagnetic Activity



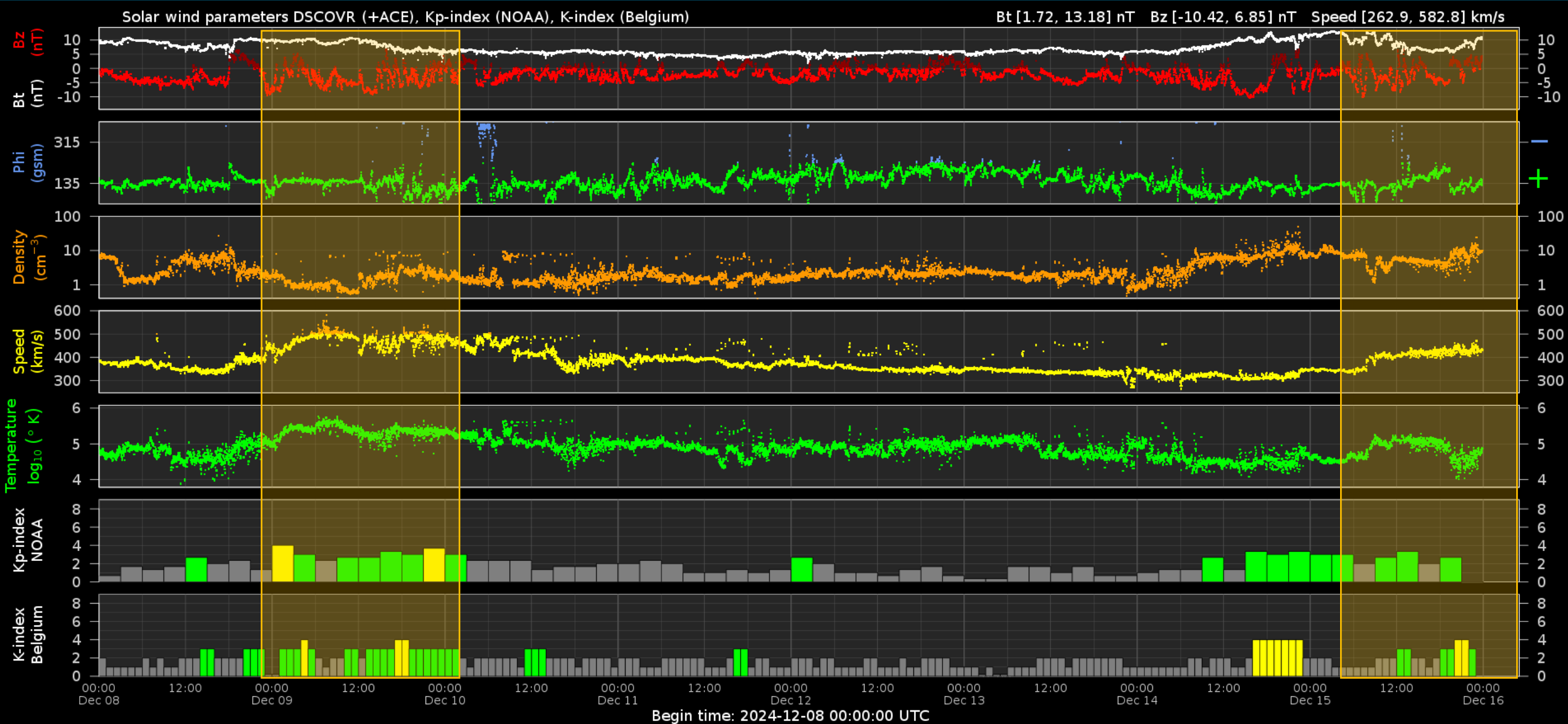
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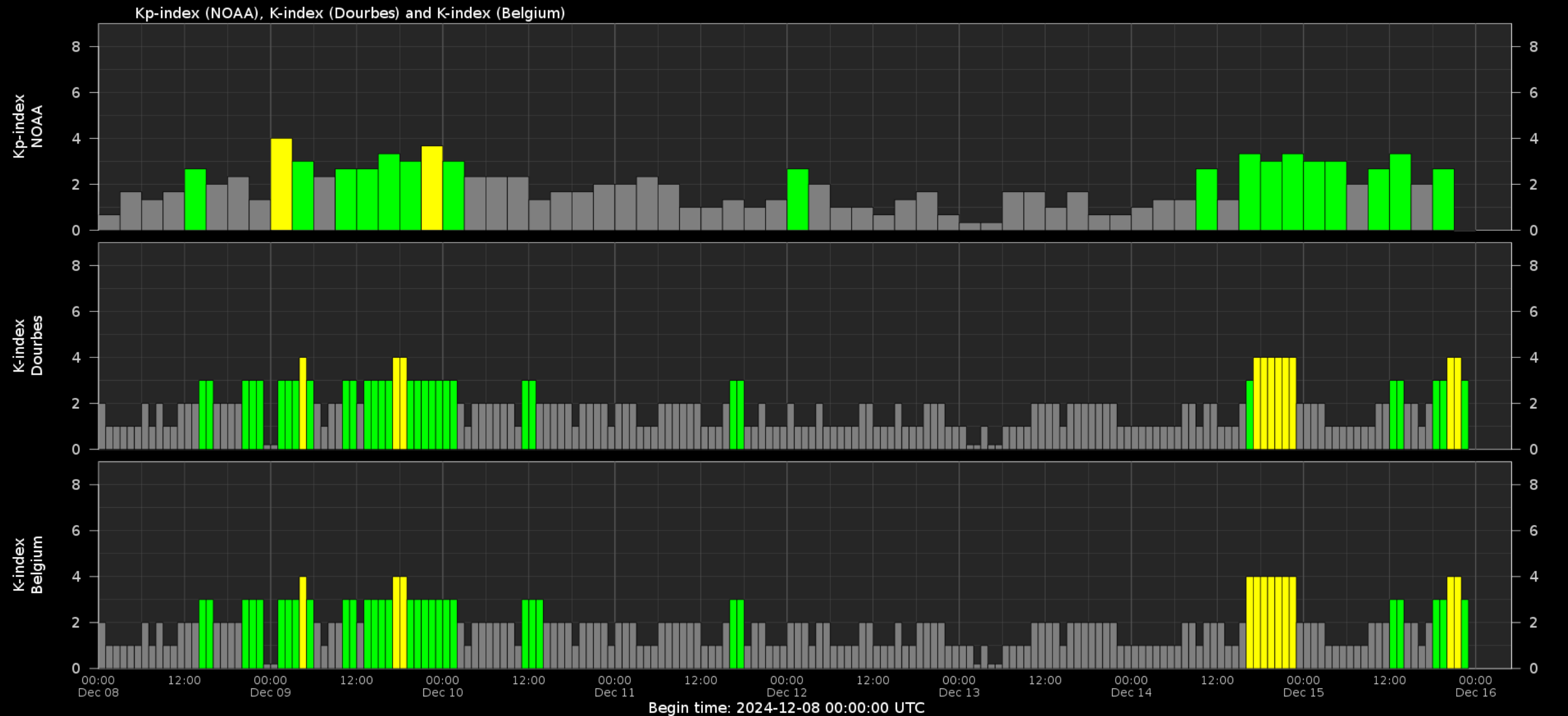
Solar wind parameters



Solar wind parameters & K-indices



Geomagnetic activity (K-indexes)



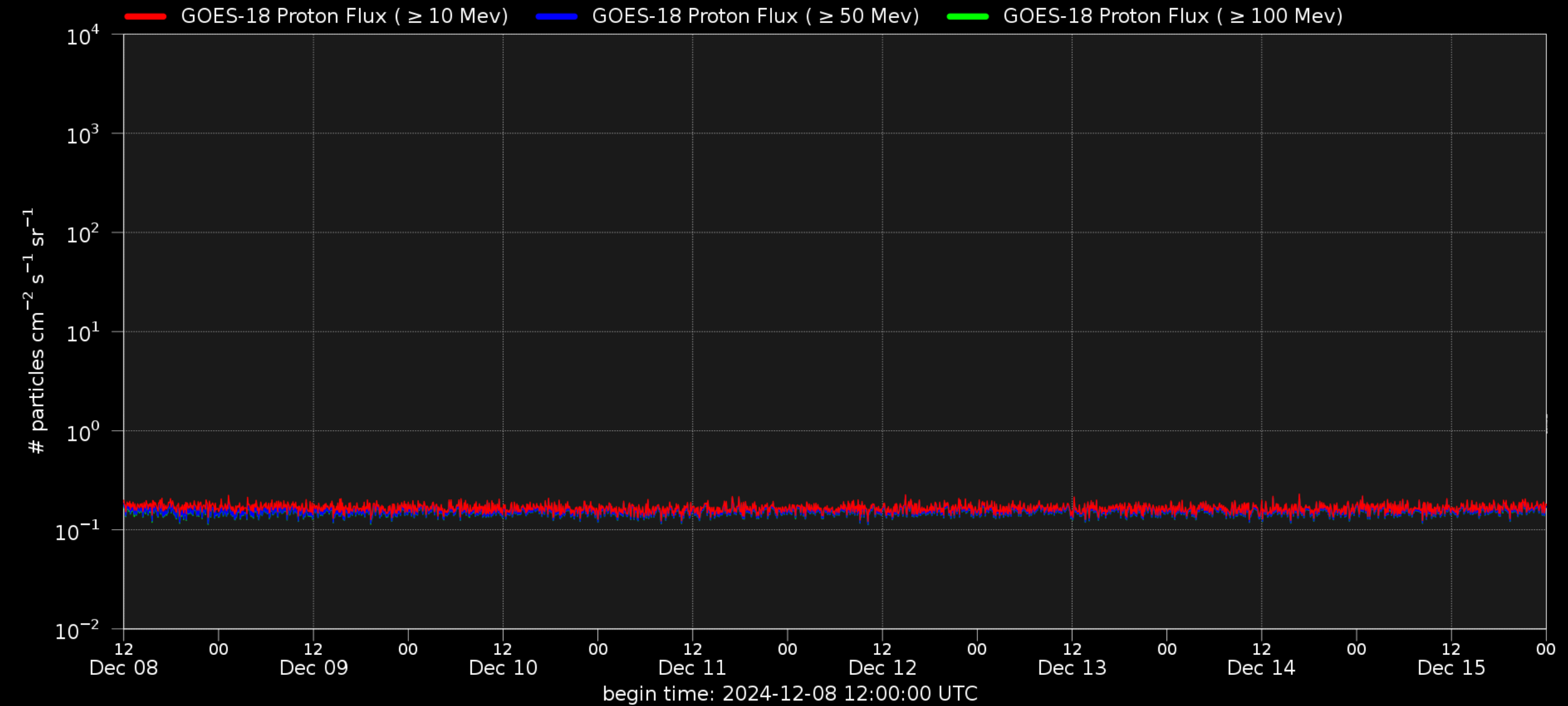
Energetic Particles



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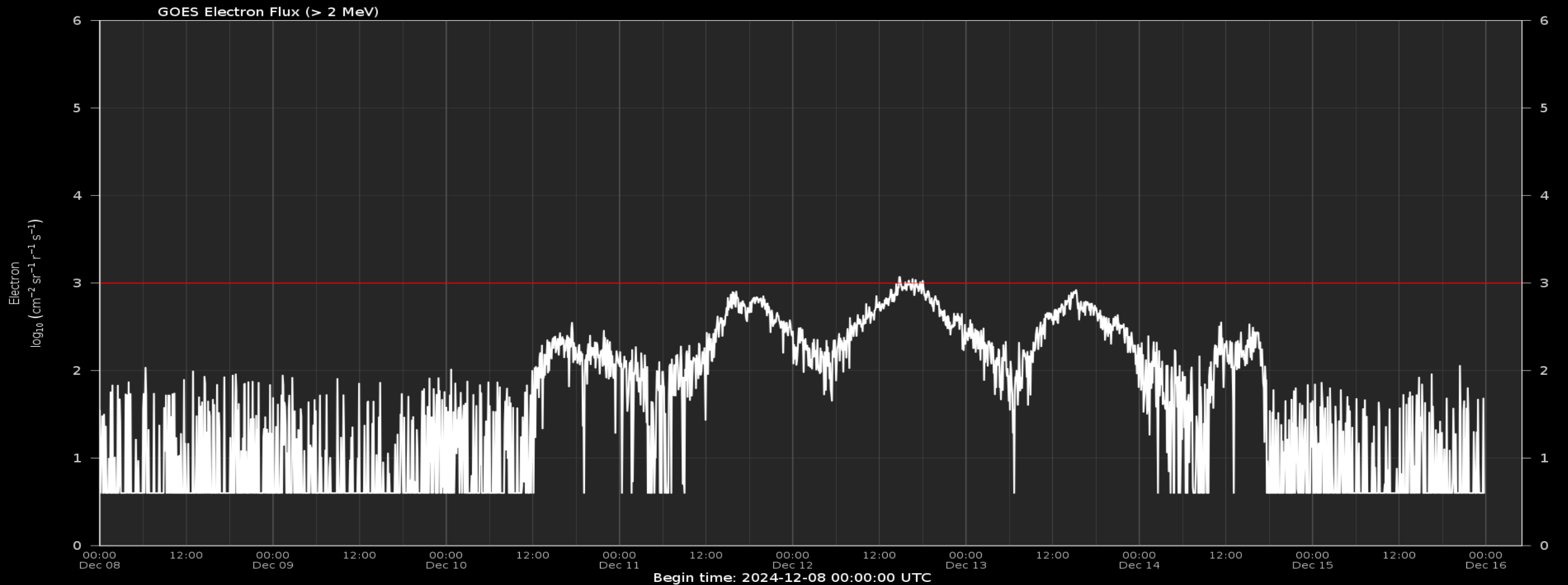
Solar proton flux



Electron flux at GEO

www.stce.be/educational/classification#electrons

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



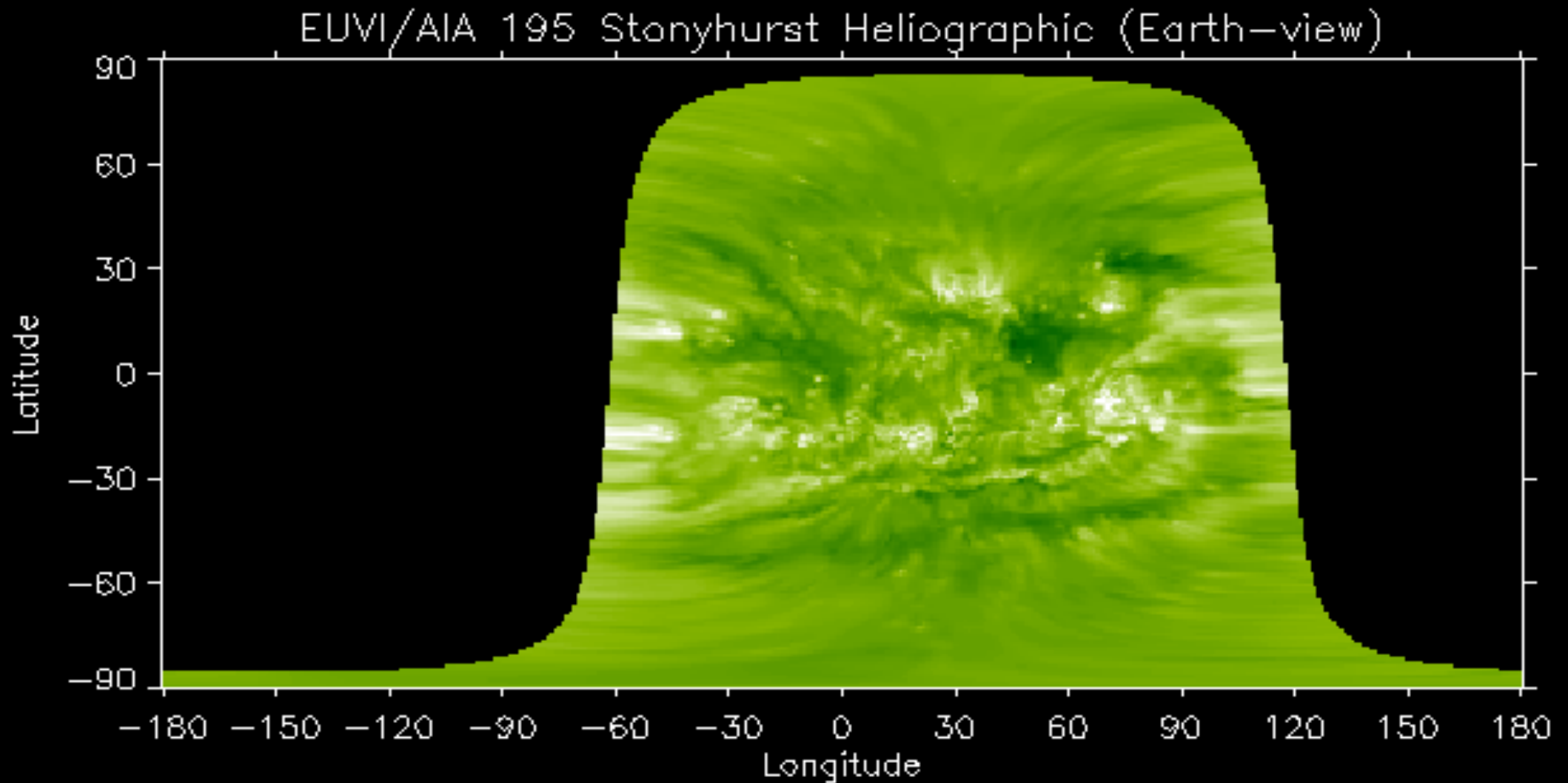
Outlook



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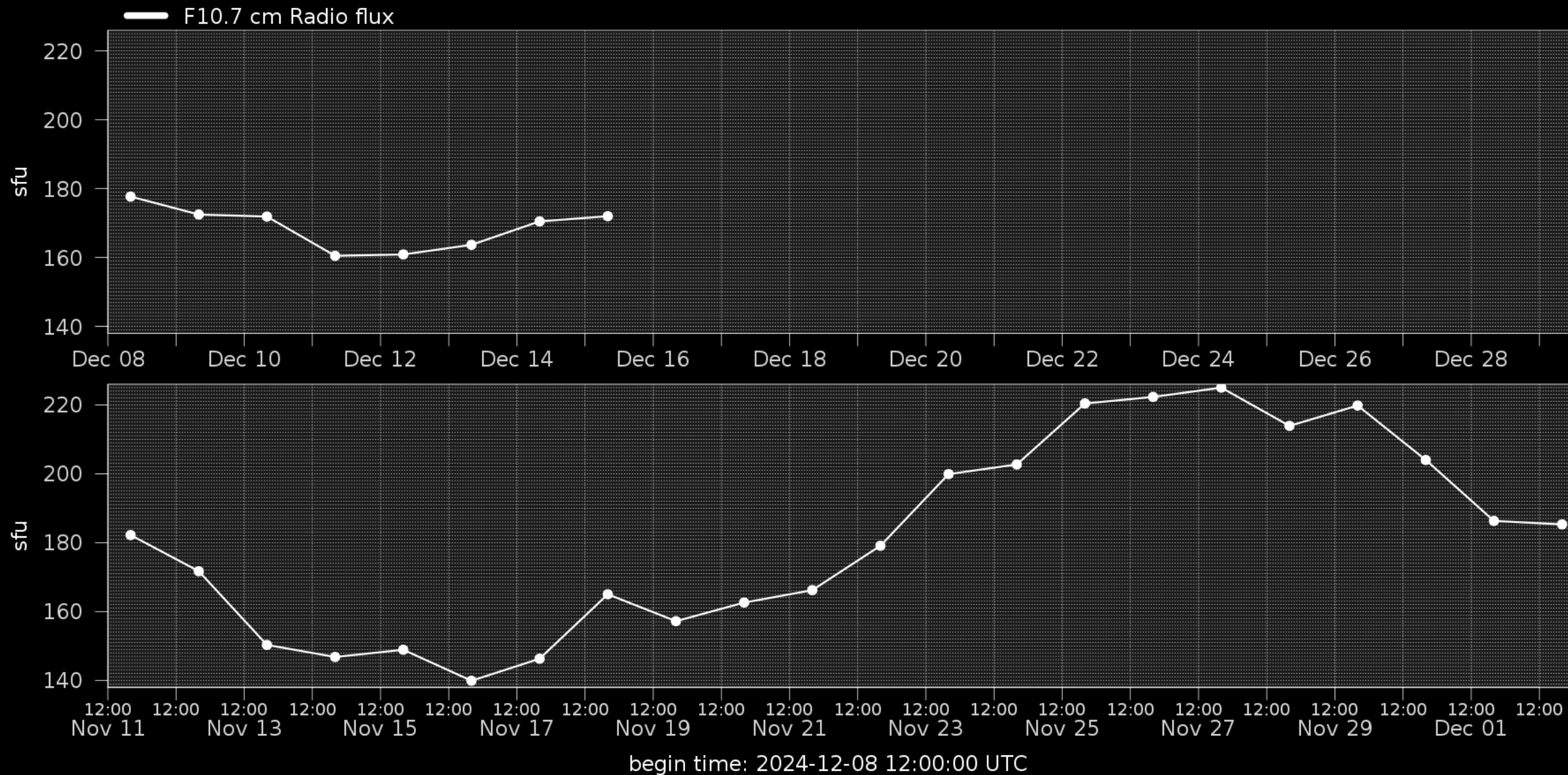
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Outlook: Solar activity

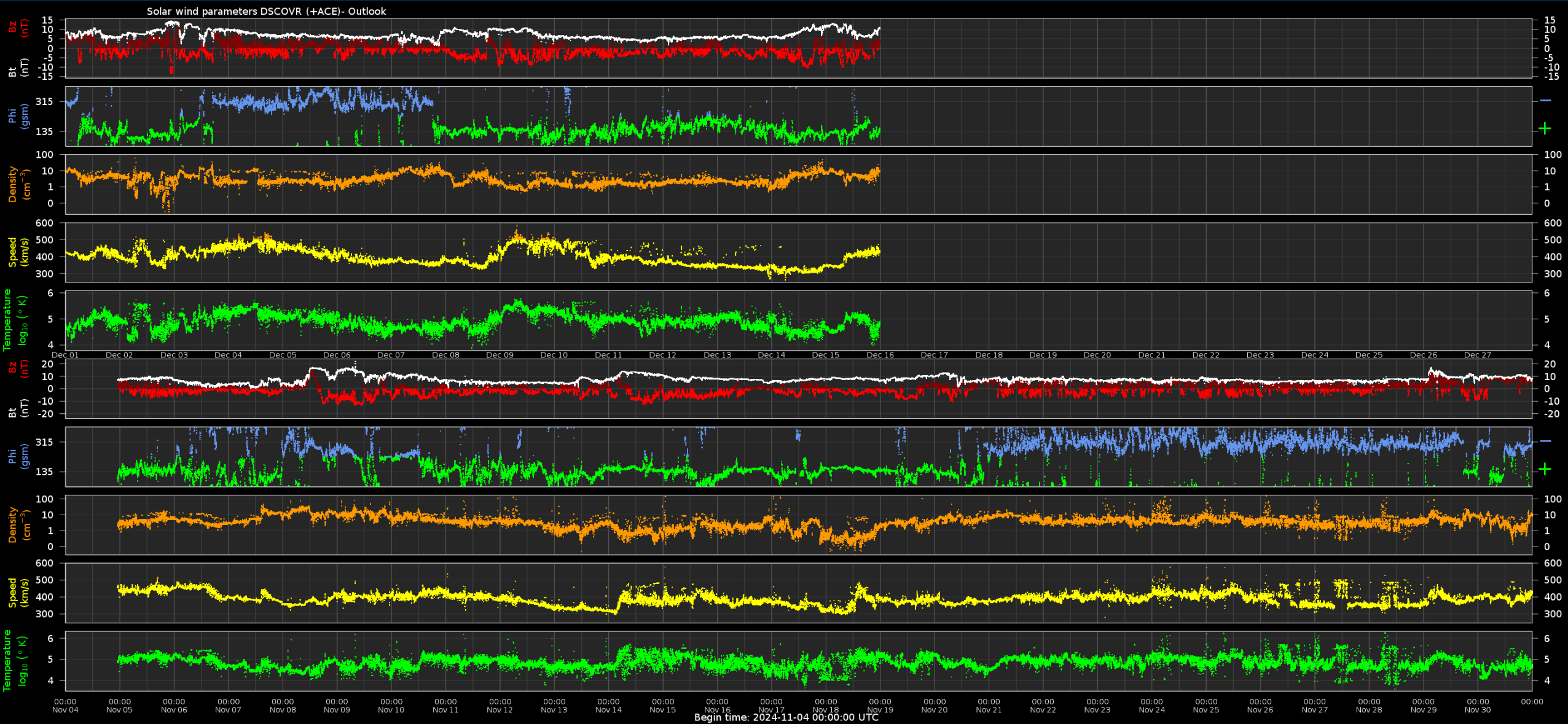


Observation date: 2024/12/15 11:35:00

Outlook: Solar F10.7cm radio flux



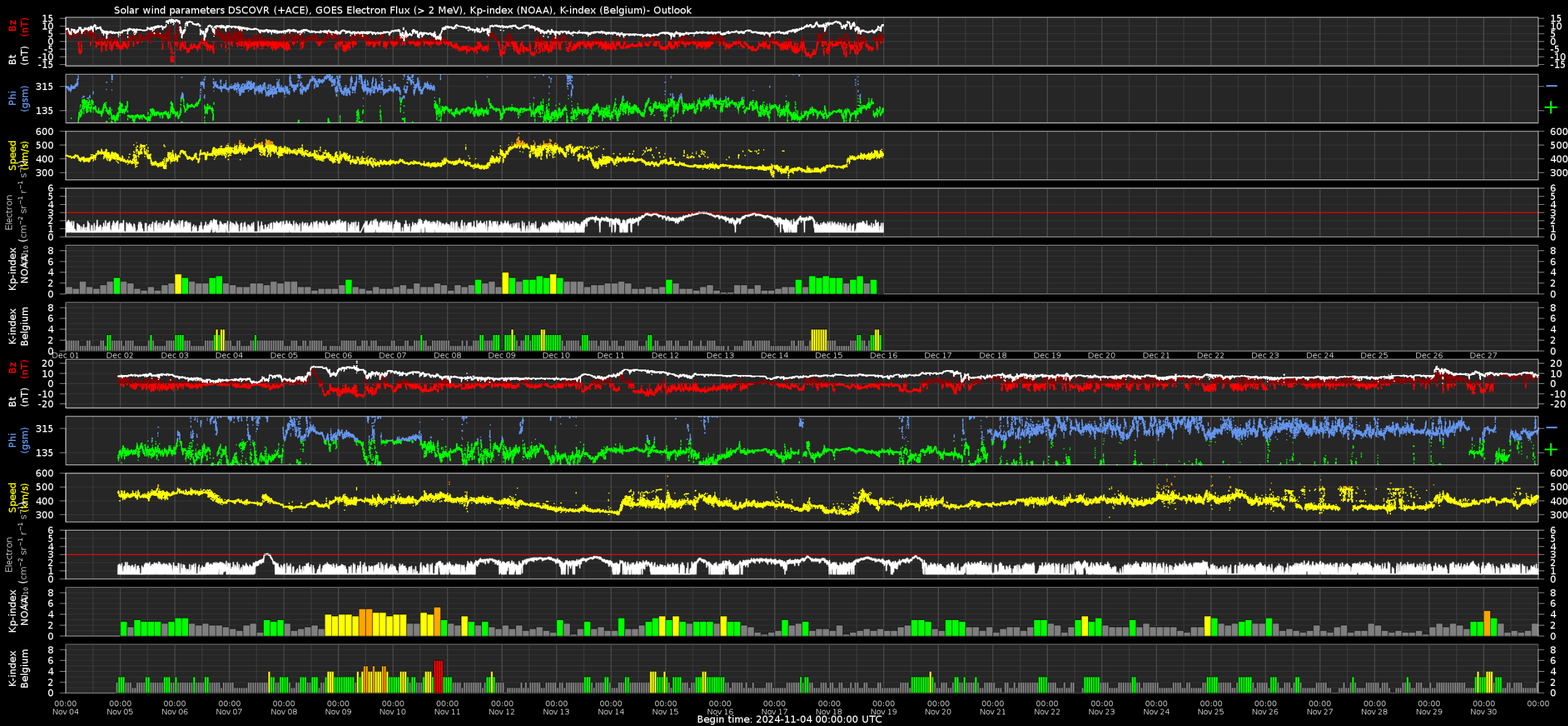
Outlook: Solar wind parameters



Outlook: Geomagnetic activity



Outlook: Electron Flux at GEO Outlook



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Pegasus related events

GNSS Advisories: Amplitude and Phase Scintillations (Daily)

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