

SIDC Space Weather Briefing

04 - 11 December 2022

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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 2022-12-04 12:00 to 2022-12-11 23:59

Active regions	10 Active Regions: NOAA 3153, 3155, 3156, 3157, 3158, 3159, 3160, 3161, 3162, 3163
Flares	# C-class flare: 39 # M-class flare: 0 # X-class flare: 0
Coronal Holes	Large negative polarity equatorial Coronal Hole
CMEs	No Earth-directed Coronal Mass Ejection

Proton flux	Background levels
Electron flux	Has crossed the 1000 pfu threshold

Solar wind and geomagnetic conditions

ICMEs	Probably on 2022-12-07T08:20:00 (possible source: 2022-12-04T01:25:00)
Solar wind conditions	B : 1.86 - 20.53 nT //Bz: -13.85 nT to 16.81 nT //Speed: 310.7 - 610.0km/s
K-indices	max K-index (KDou): 4 max Kp-index (NOAA): 5

All Quiet Alert: Off

Solar Activity

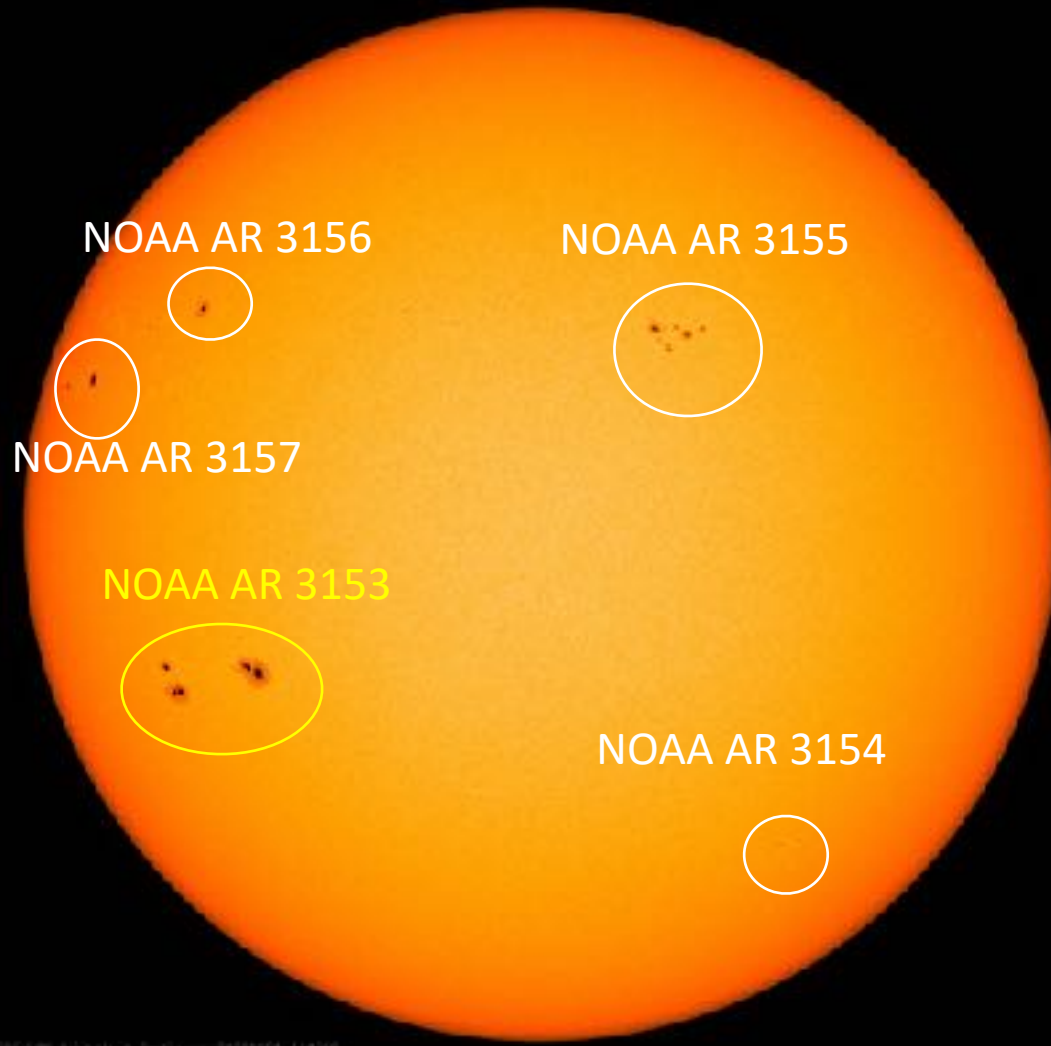


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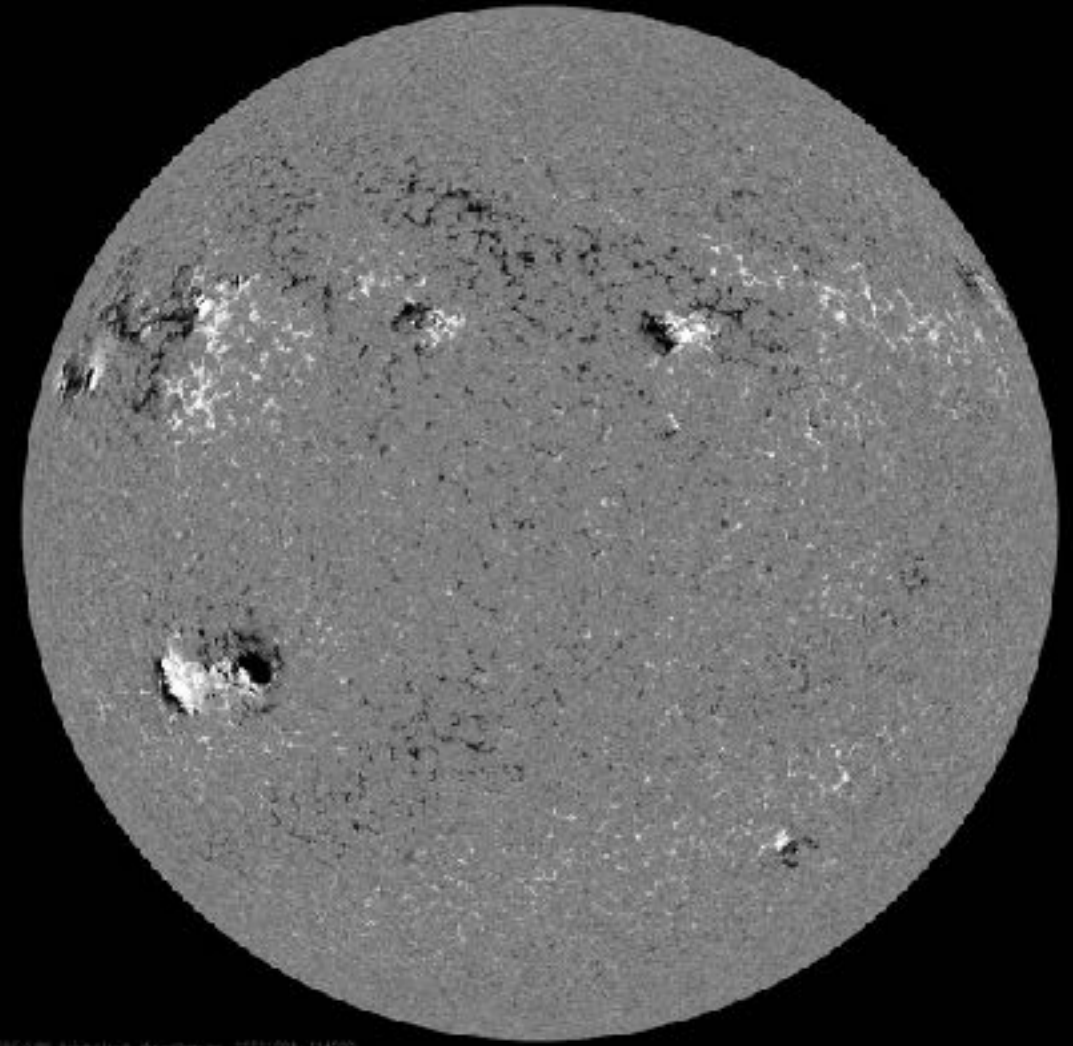
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Solar active regions

SDO/HMI White Light 2022-12-04

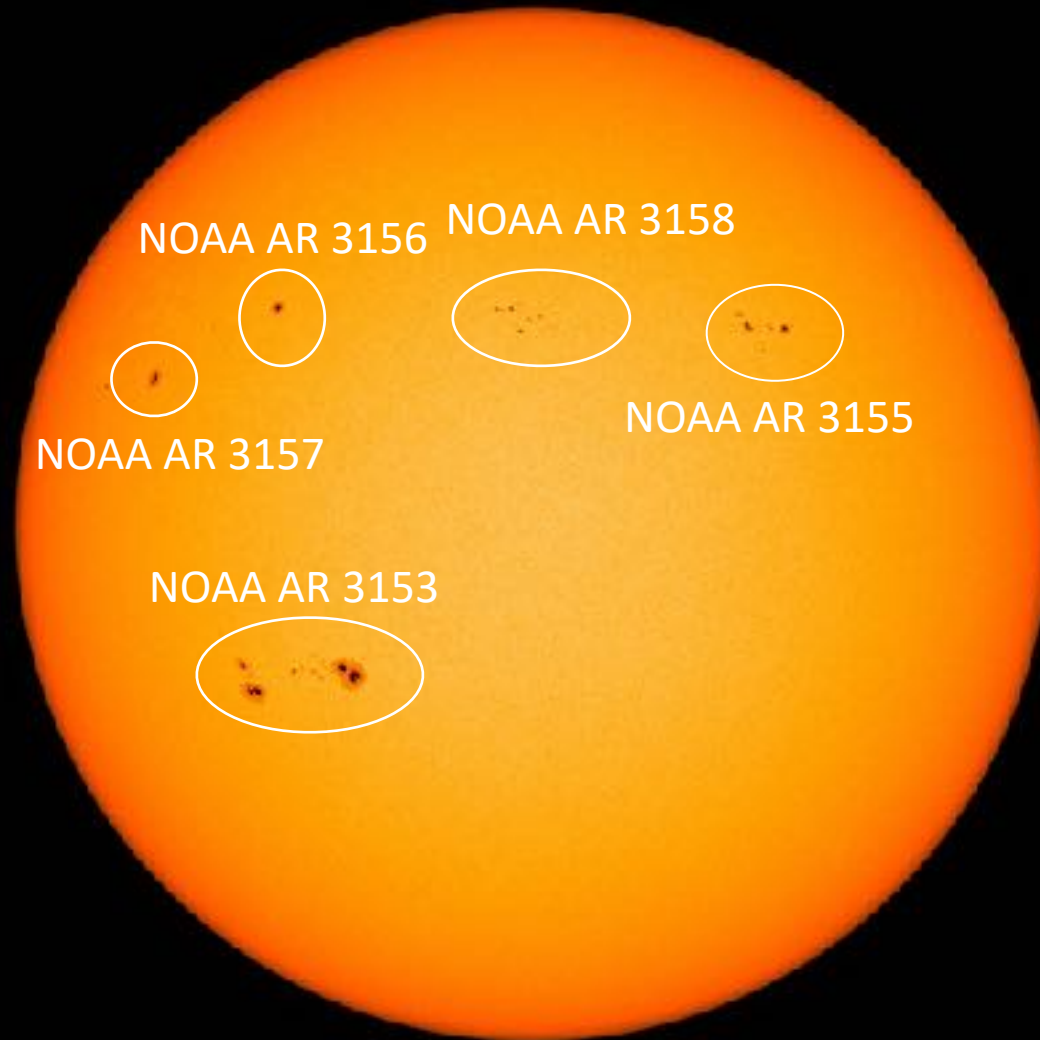


SDO/HMI Magnetogram 2022-12-04

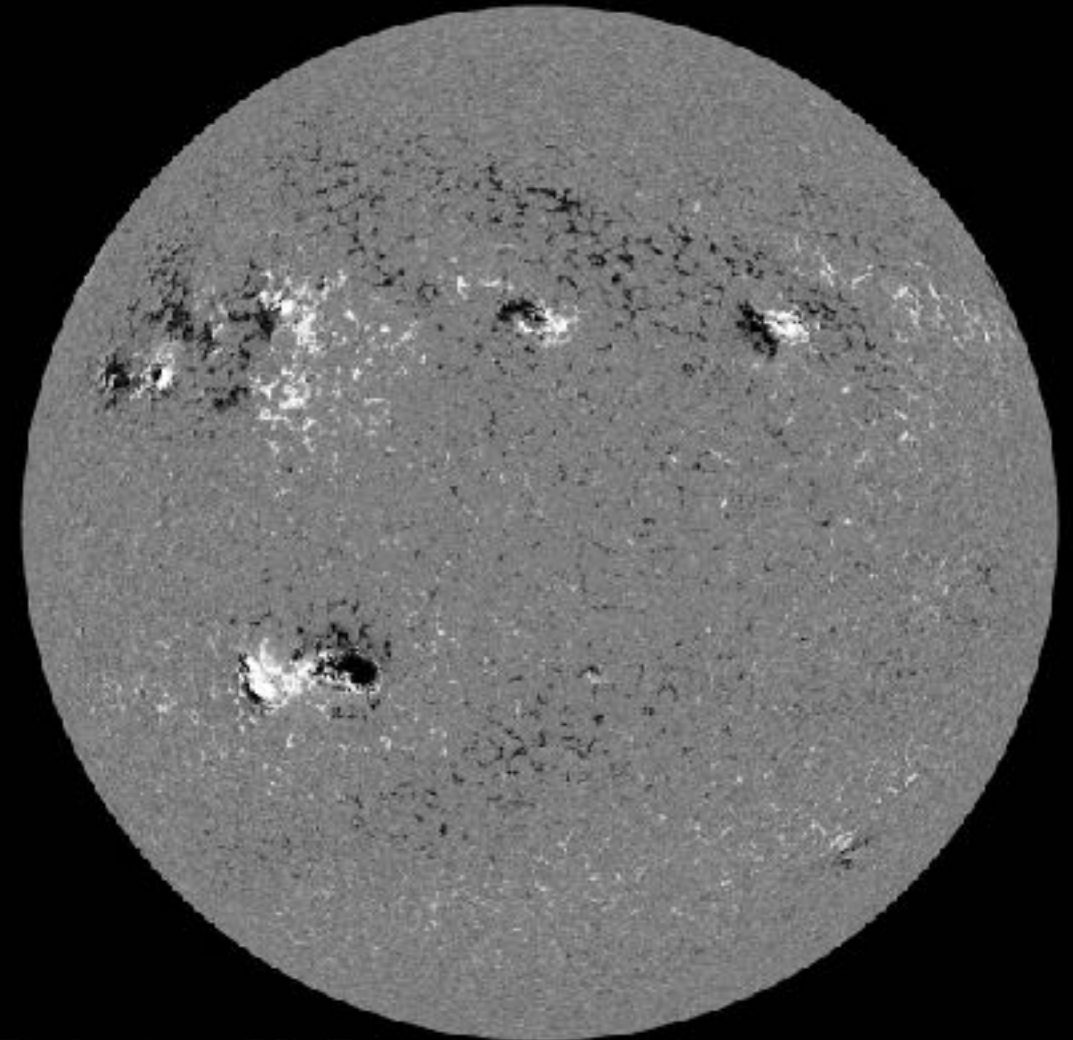


Solar active regions

SDO/HMI White Light 2022-12-05

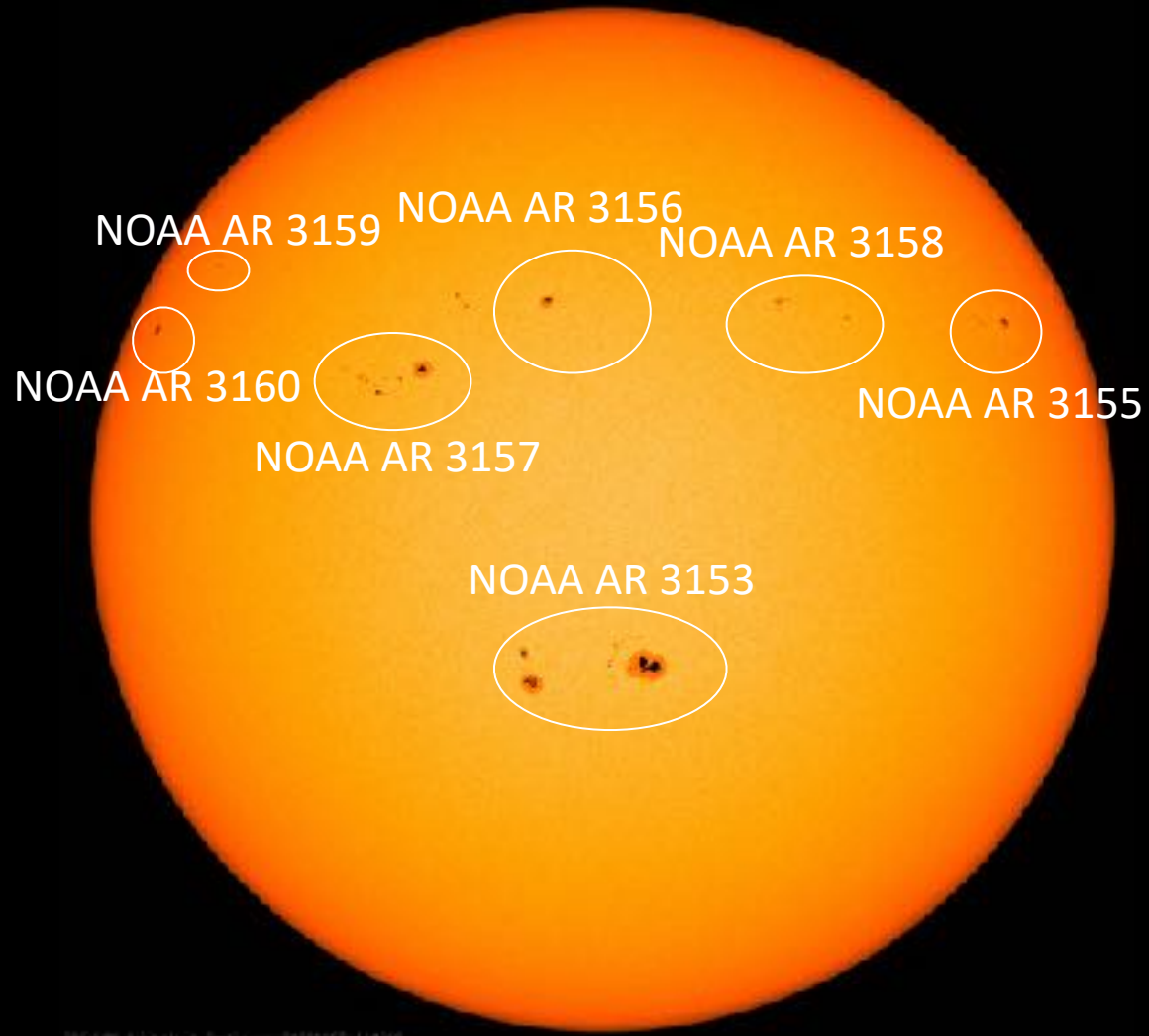


SDO/HMI Magnetogram 2022-12-05

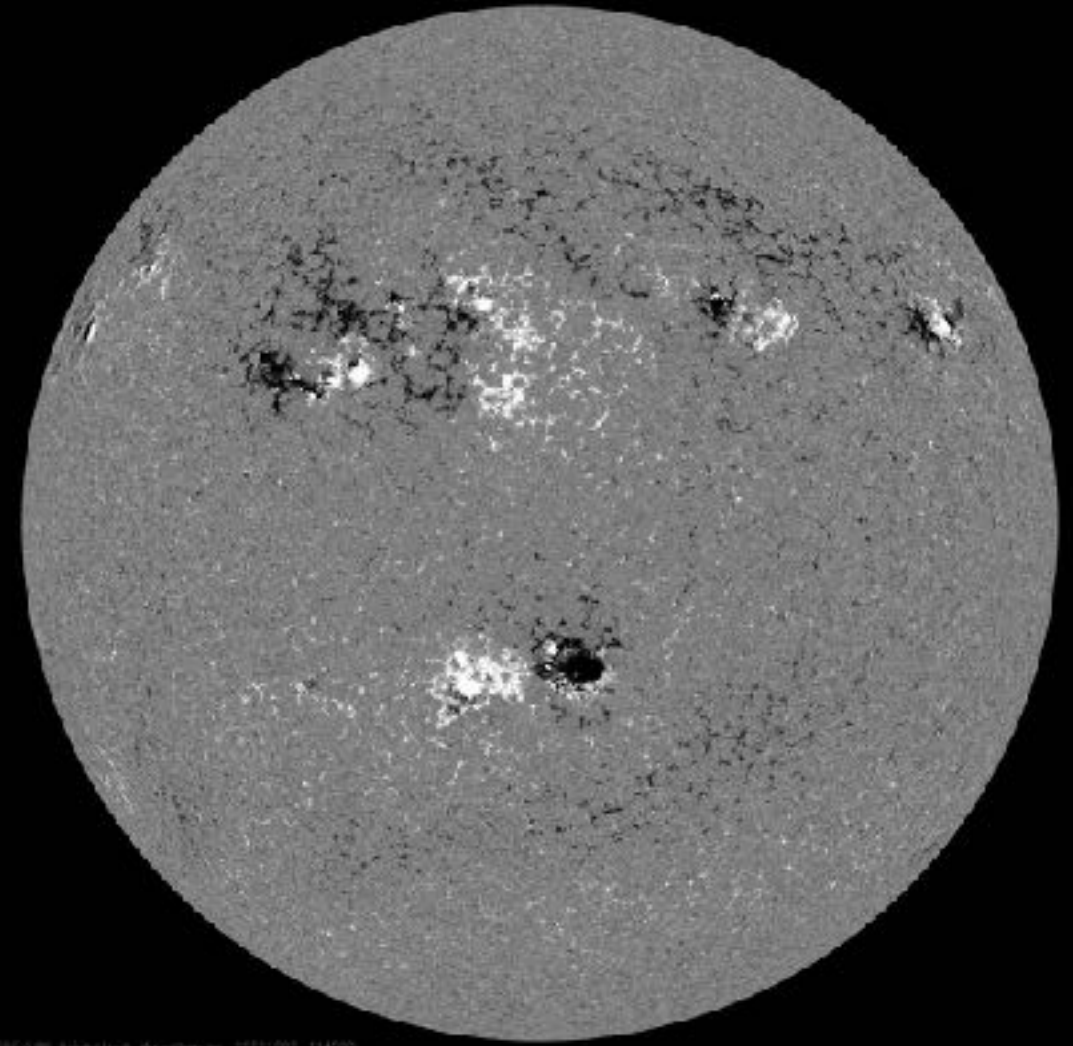


Solar active regions

SDO/HMI White Light 2022-12-07

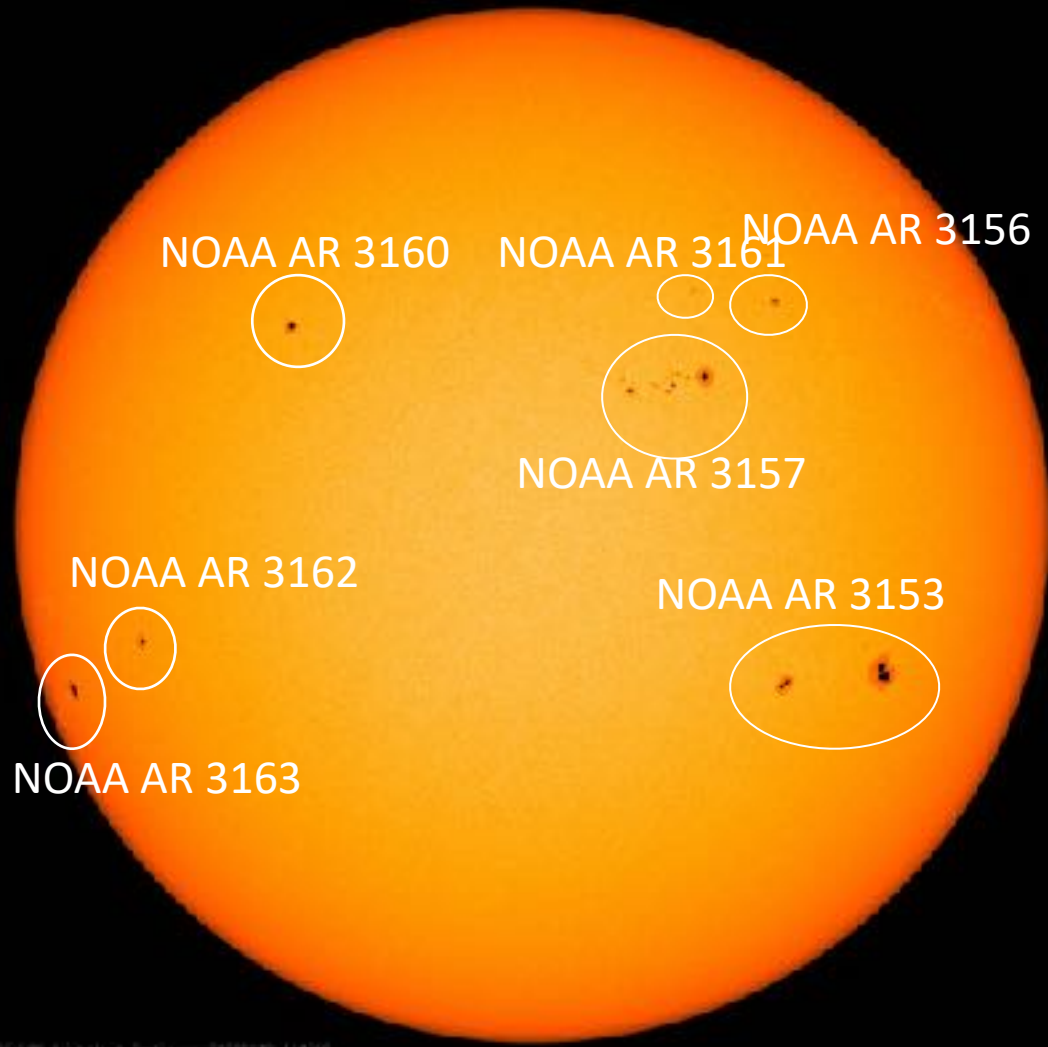


SDO/HMI Magnetogram 2022-12-07

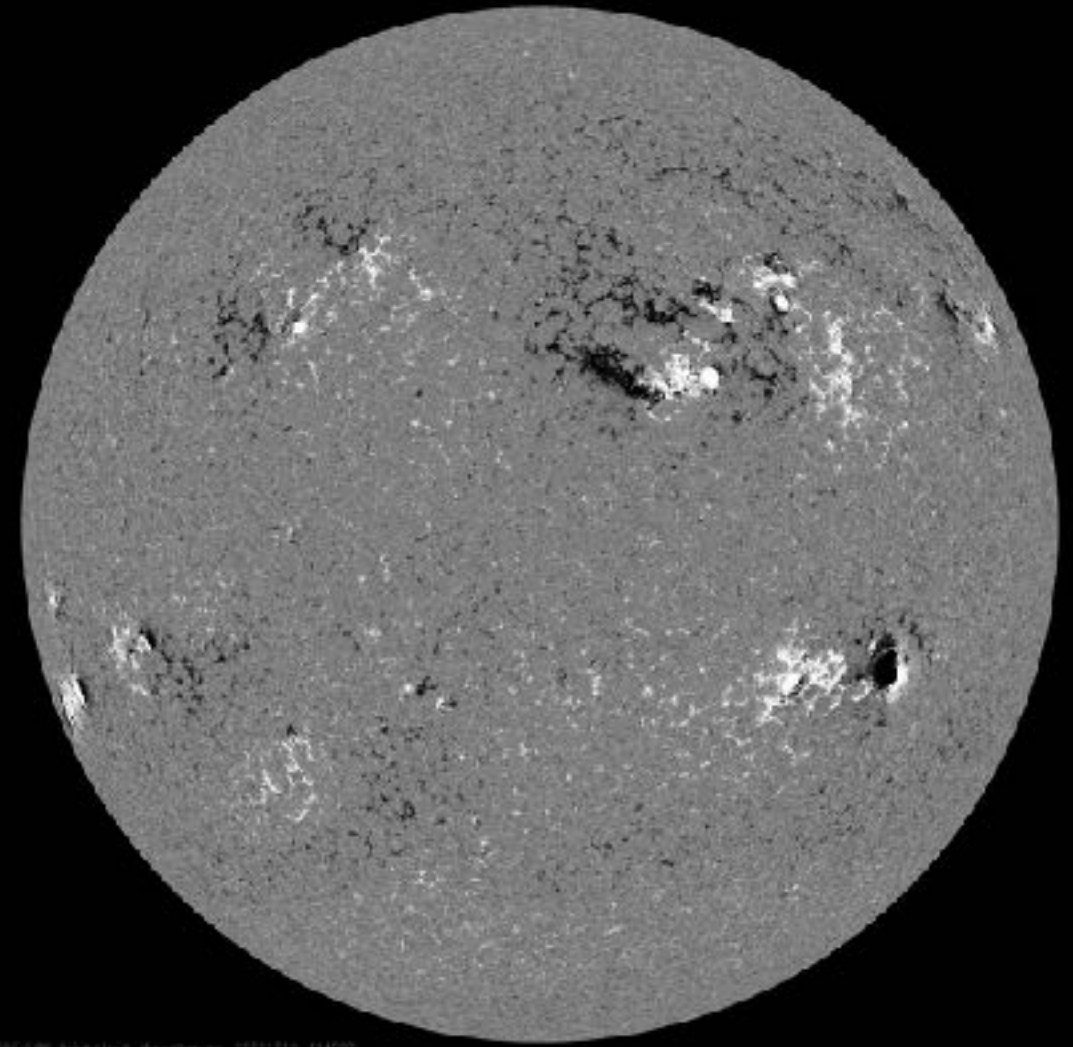


Solar active regions

SDO/HMI White Light 2022-12-10



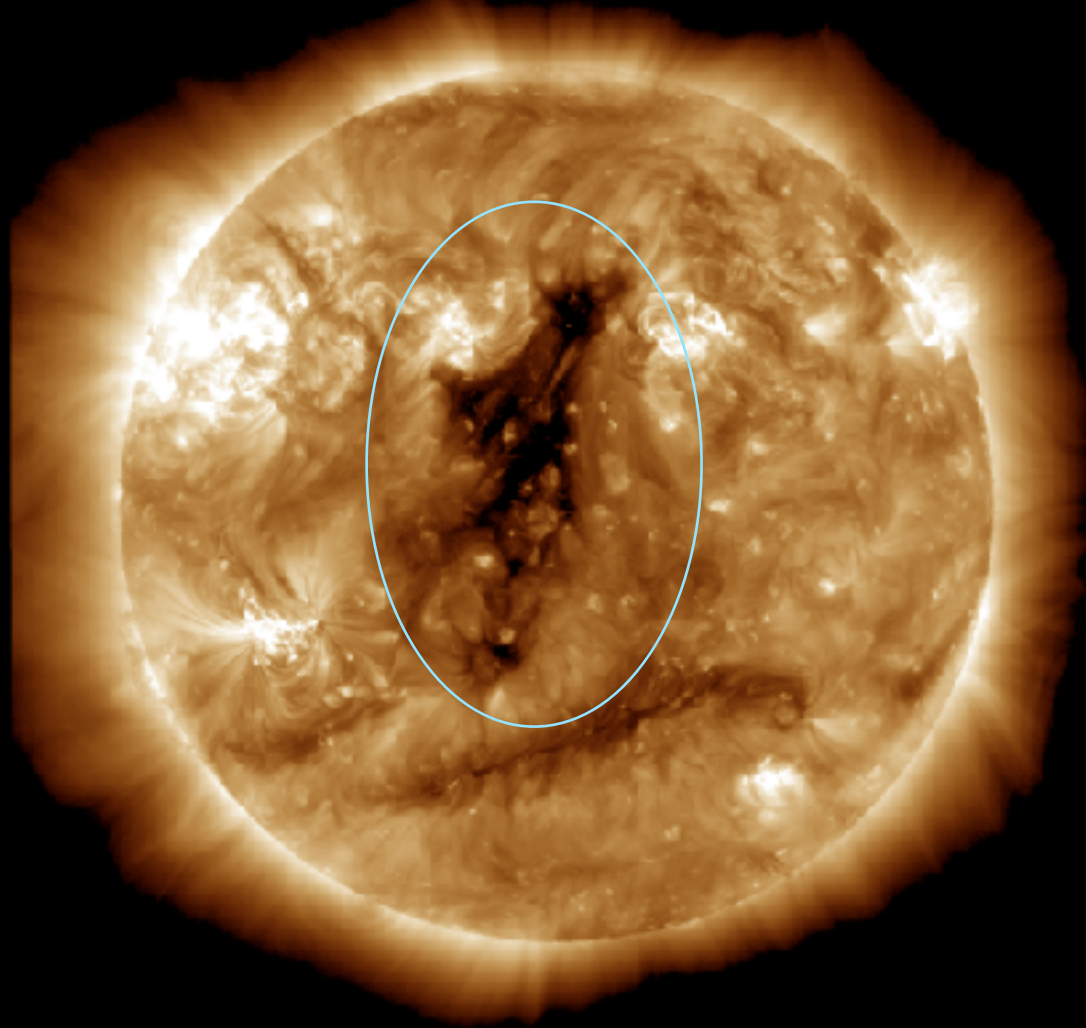
SDO/HMI Magnetogram 2022-12-10



Coronal holes

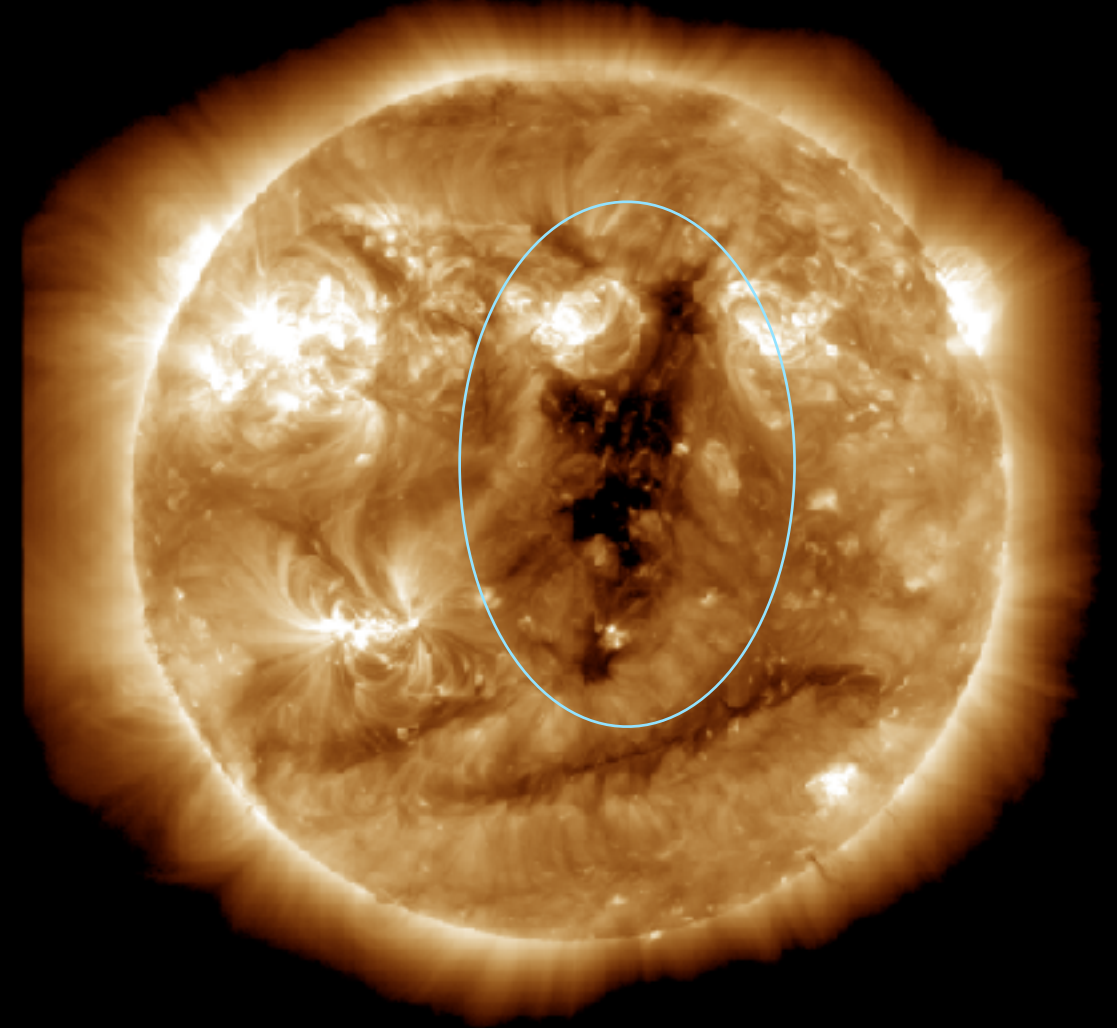
SDO/AIA 19.3 nm 2022-12-04

SDO/AIA AIA_193Å_2022-12-04T12:00:05.843



SDO/AIA 19.3 nm 2022-12-05

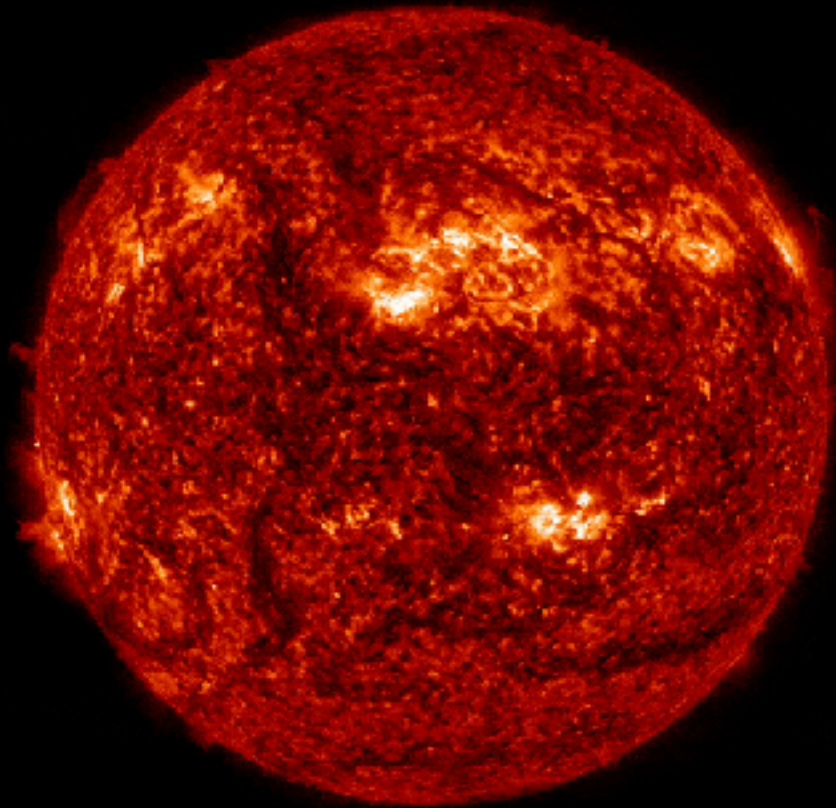
SDO/AIA AIA_193Å_2022-12-05T12:00:05.843



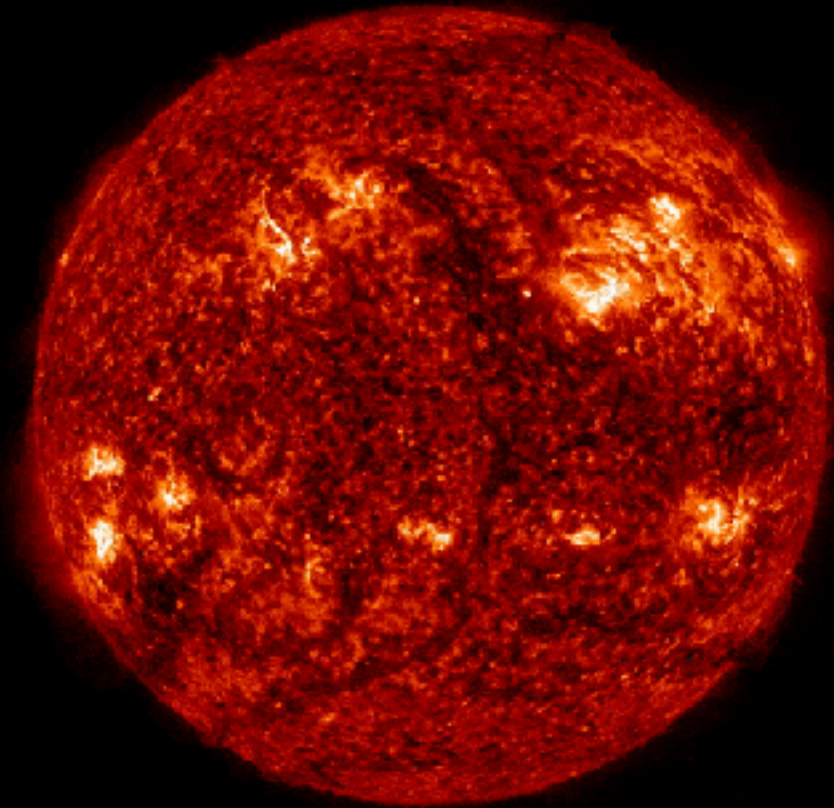
Filaments

SDO/AIA 30.4 nm 2022-12-06

SDO/AIA 30.4 nm 2022-12-07

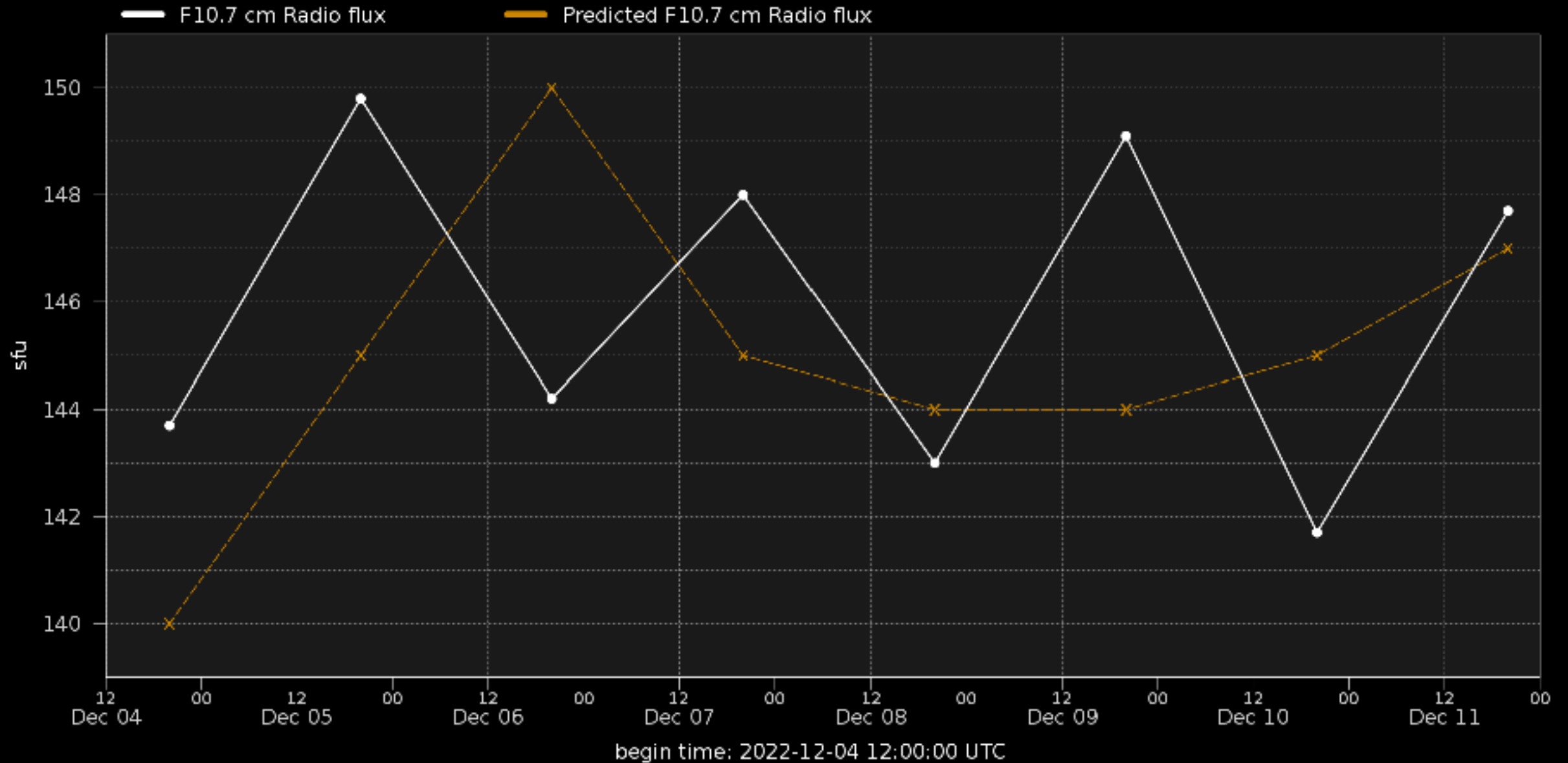


2022-12-09T03:30:41.133

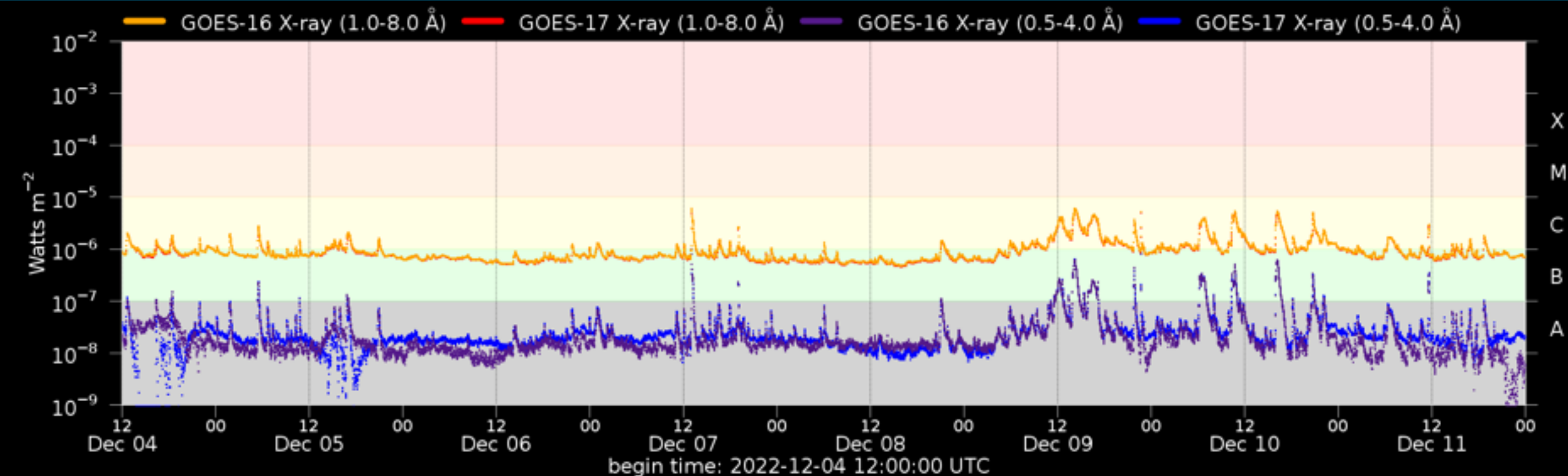


2022-12-11T10:35:53.129

Solar F10.7cm radio flux



Flaring activity



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

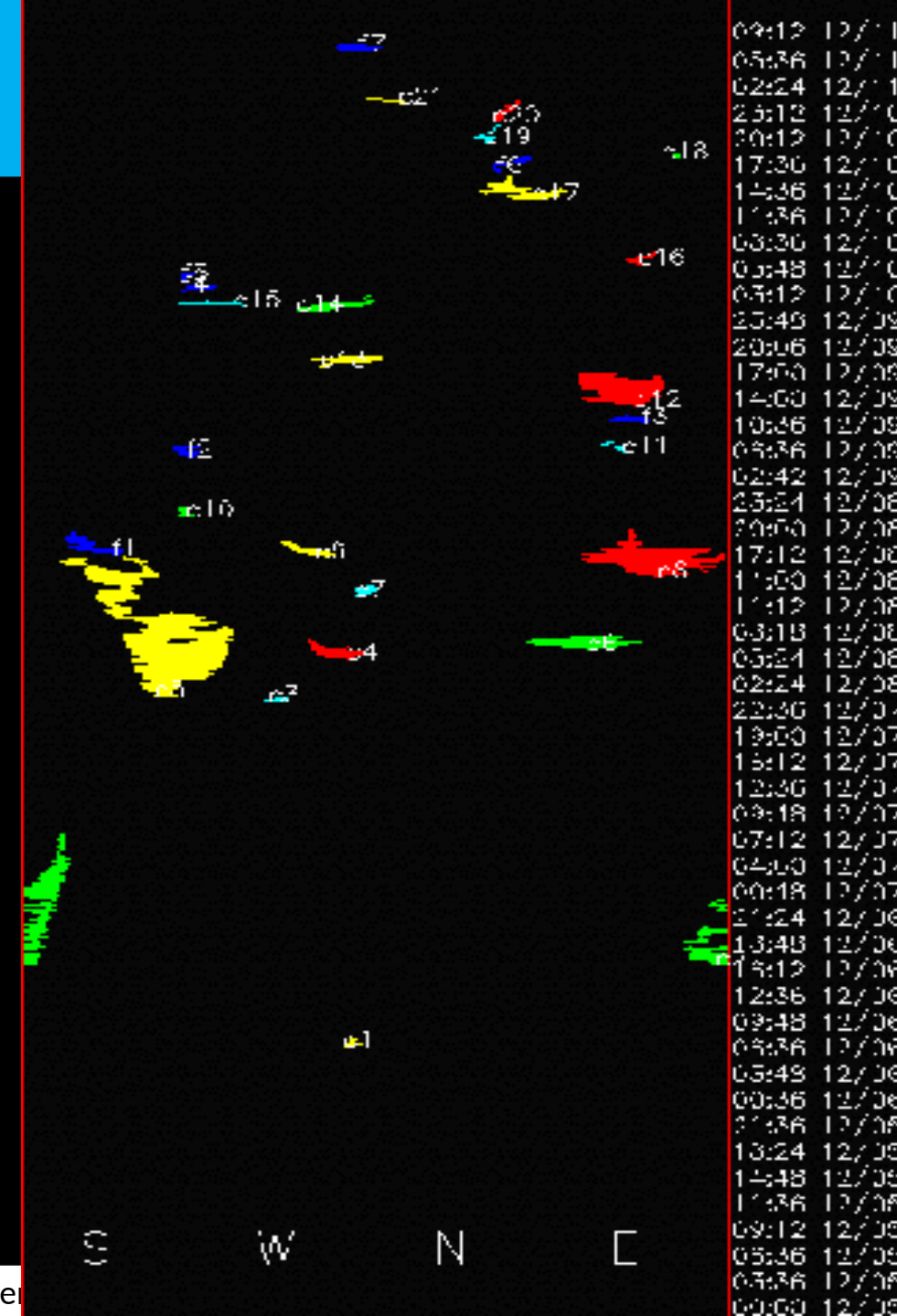
Issue date	2022-12-04	2022-12-05	2022-12-06	2022-12-07	2022-12-08	2022-12-09	2022-12-10	2022-12-11
Probability (%)	75 20 05	80 25 02	85 45 10	60 10 03	75 20 05	85 25 05	90 35 05	90 30 05
Observed (#)	09 00 00	02 00 00	02 00 00	08 00 00	01 00 00	09 00 00	04 00 00	04 00 00

Solar X-Ray and UV flux



Coronal Mass Ejections

No Earth directed CME



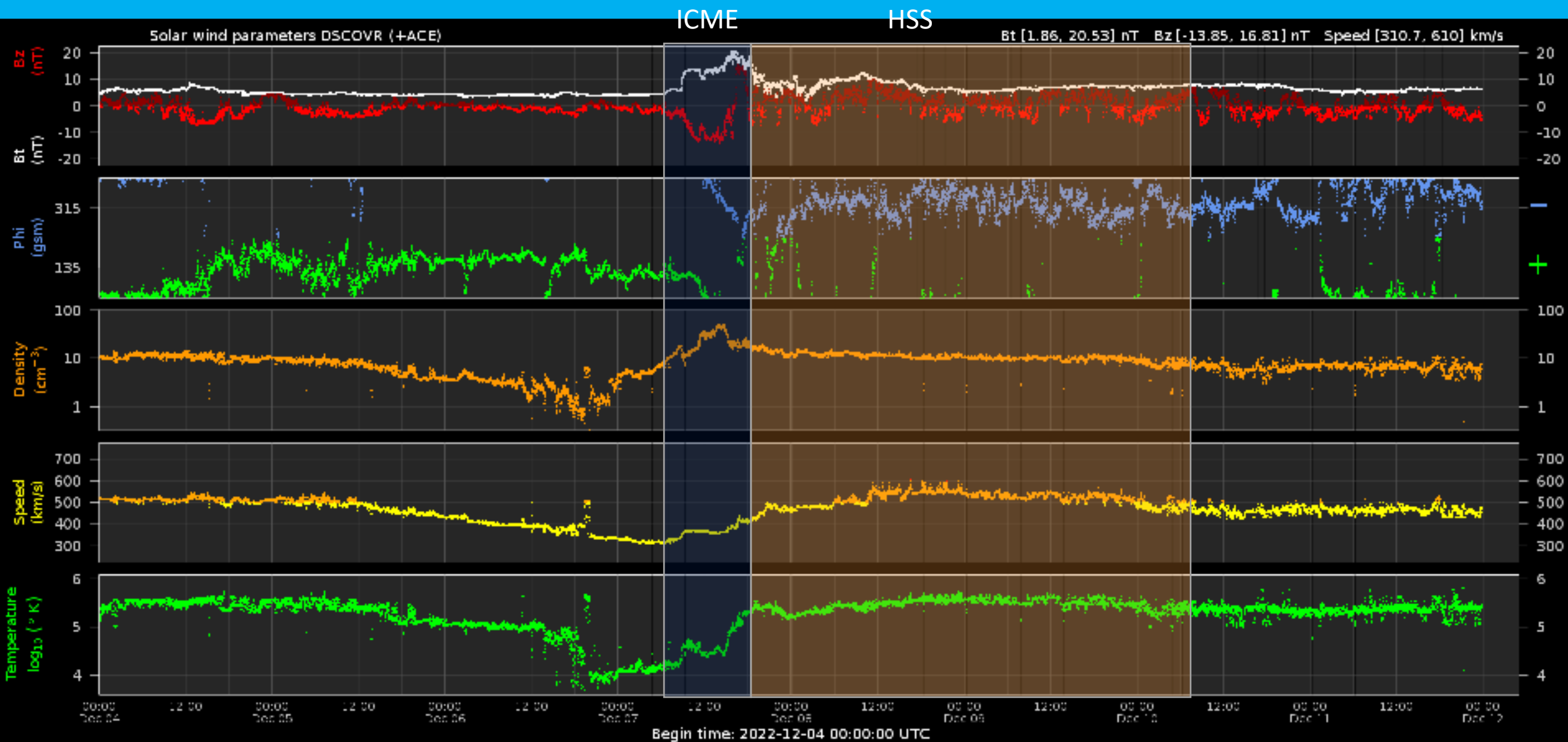
Solar Wind and Geomagnetic Activity



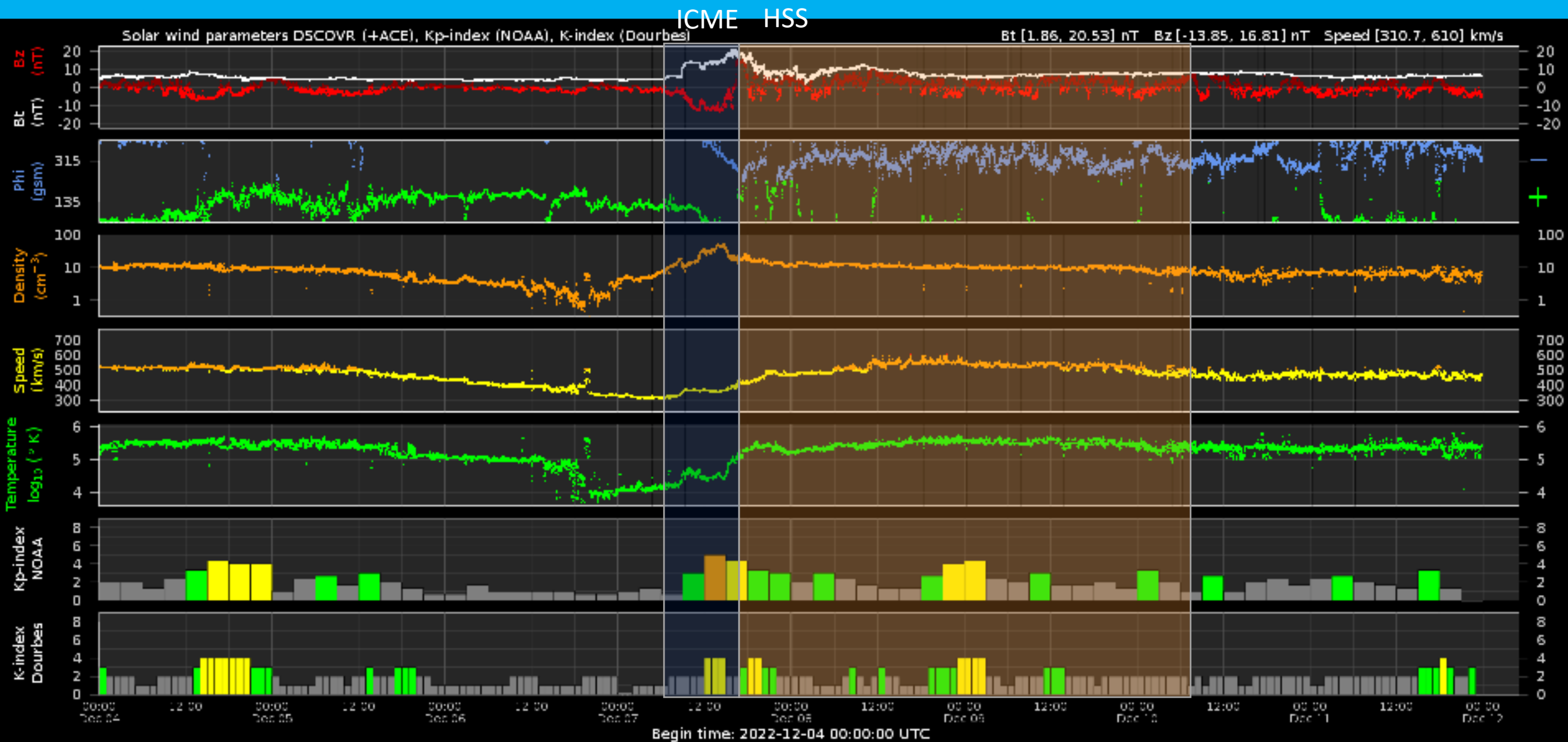
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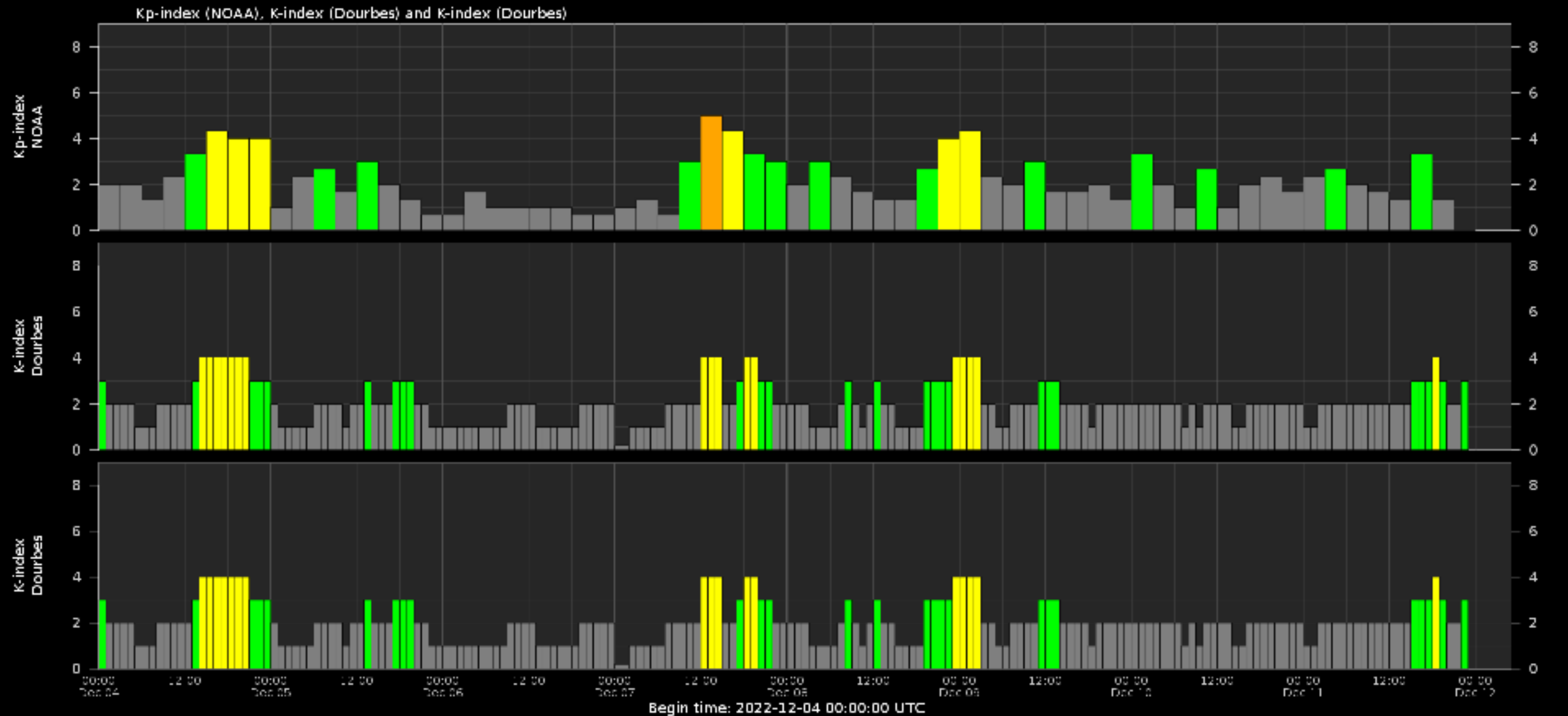
Solar wind parameters



Solar wind parameters & K-indices



Geomagnetic activity (K-indexes)



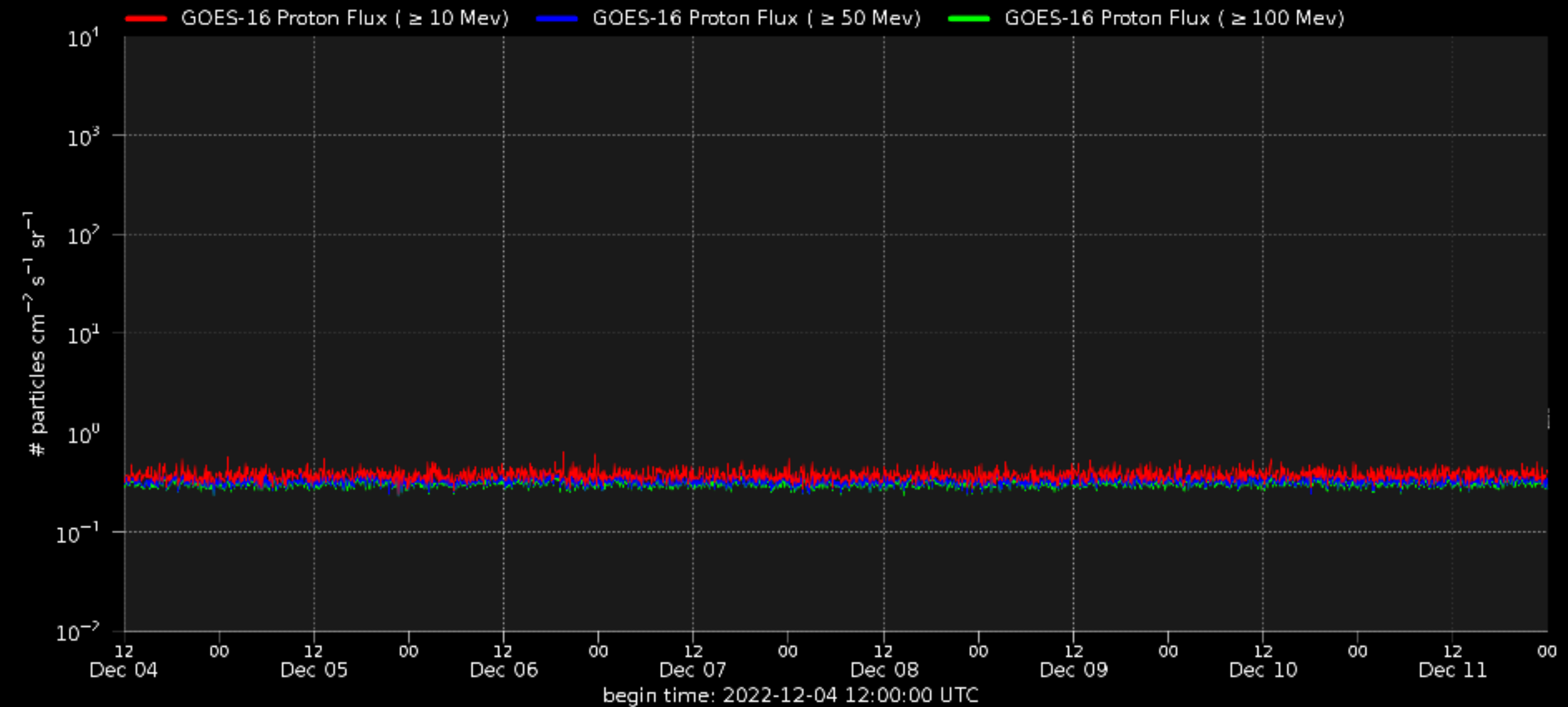
Energetic Particles



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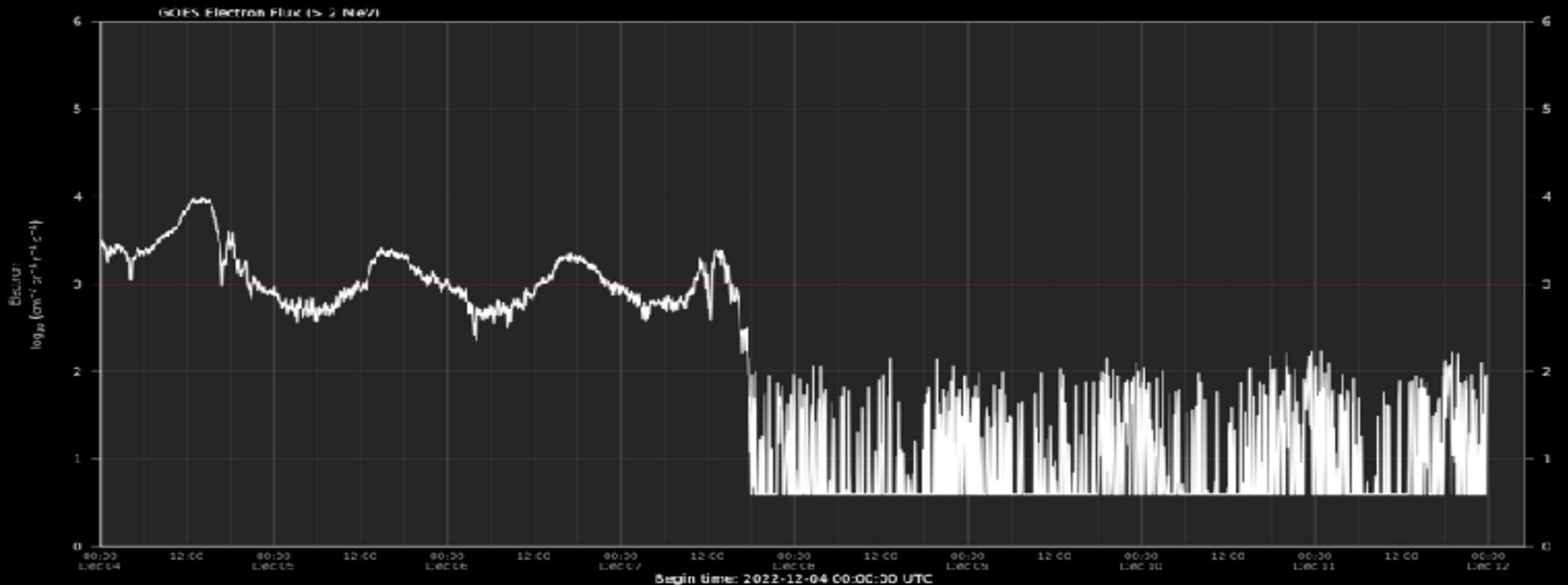
Solar proton flux



Electron flux at GEO

www.stce.be/educational/classification#electrons

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



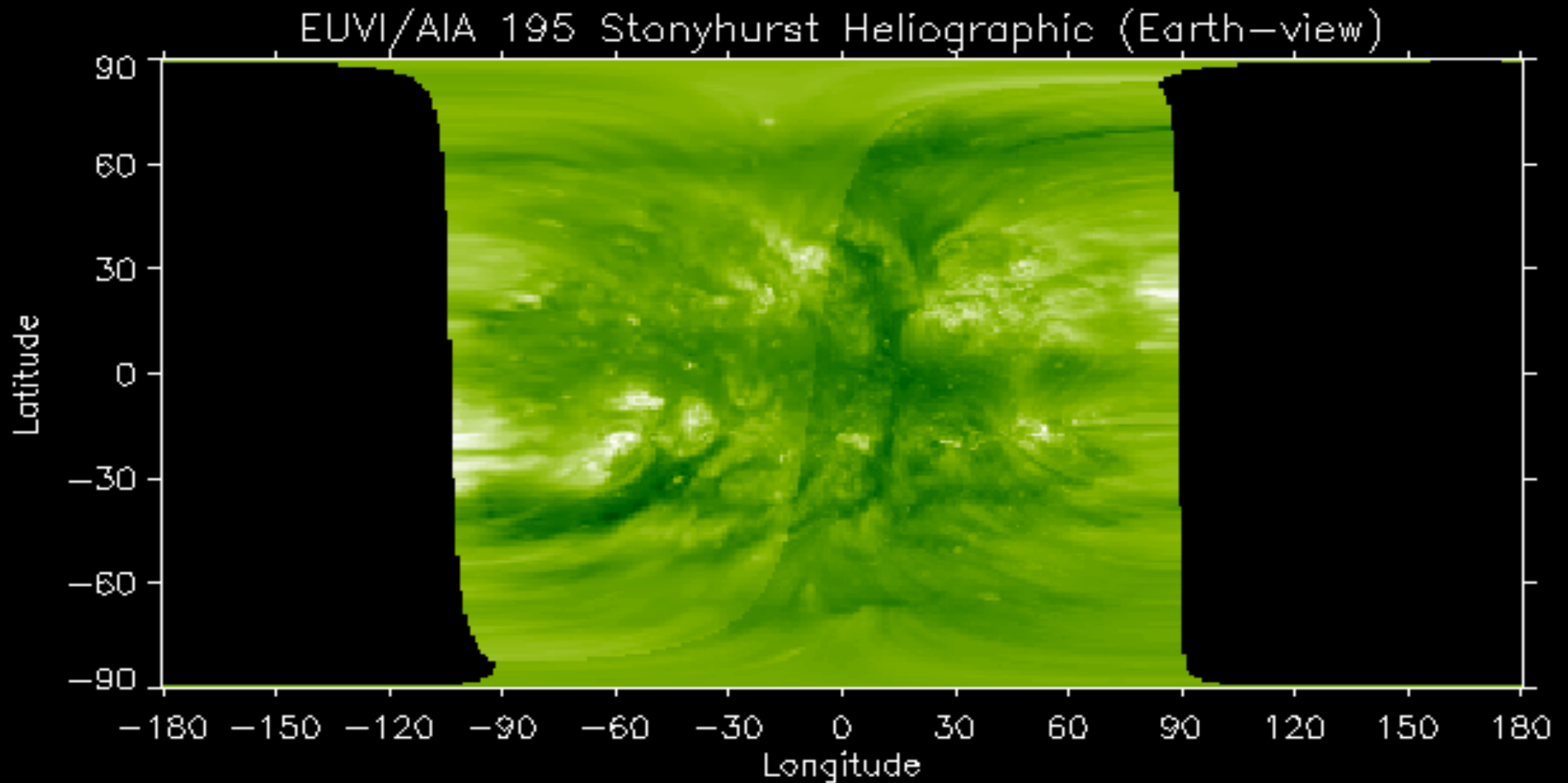
Outlook



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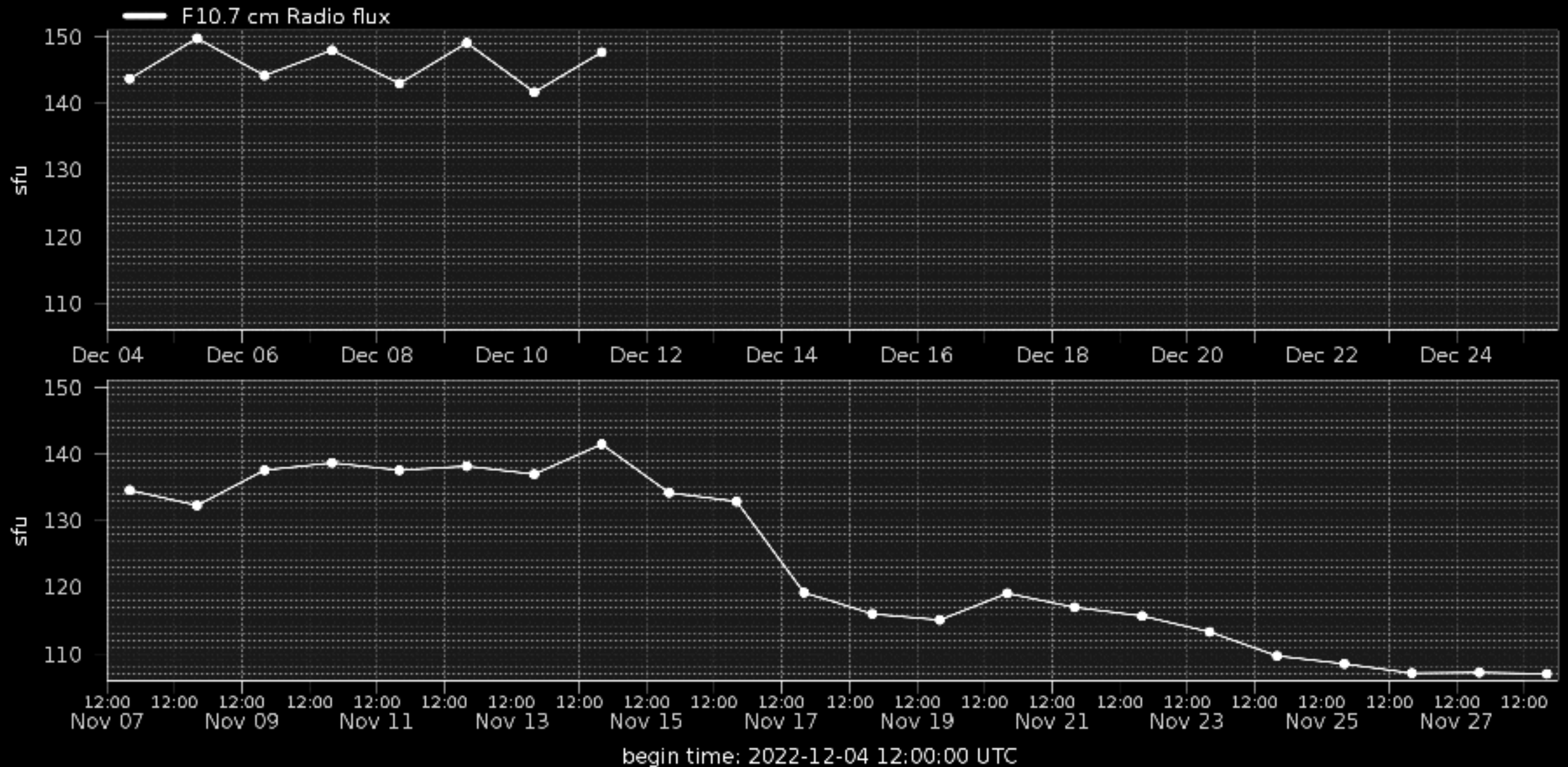
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Outlook: Solar activity

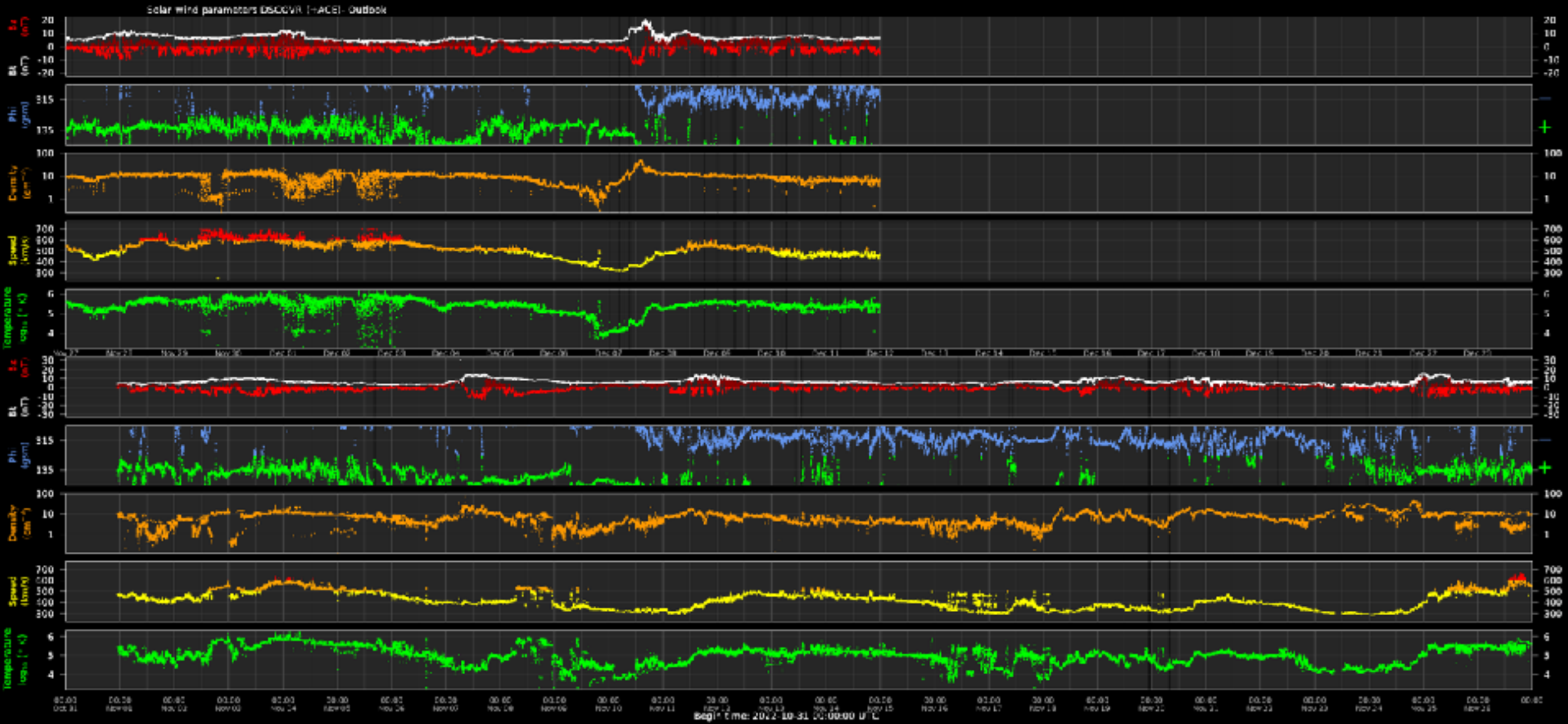


Observation date: 2022/12/11 18:05:00

Outlook: Solar F10.7cm radio flux



Outlook: Solar wind parameters



Outlook: Electron Flux at GEO Outlook



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