

SIDC Space Weather Briefing

24 October 2021 - 31 October 2021

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& the SIDC forecaster team



Solar Influences
Data analysis Centre
www.sidc.be

Summary Report

Solar activity from 2021-10-24 12:00 to 2021-10-31 23:59

Active regions	NOAA ARs 2886, 2887, 2888, 2889, 2891
Flares	# C-class flare: 52 # M-class flare: 5 # X-class flare: 1
Filament eruptions	No filament eruption
Coronal Holes	None

Proton flux	Proton Event on 28 Oct 17:35 that lasted until 30 Oct
Electron flux	Nominal levels

Solar wind and geomagnetic conditions

ICME	Associated with the 28 Oct eruption, arrived at 31 Oct 09:14 UT
SW Conditions	Weak FF shock B : 5 - 10 nT // Speed: 390 – 420 km/s
K-indices	max K-index (Dourbes): 4 max Kp-index (NOAA): 5

All Quiet Alert: OFF

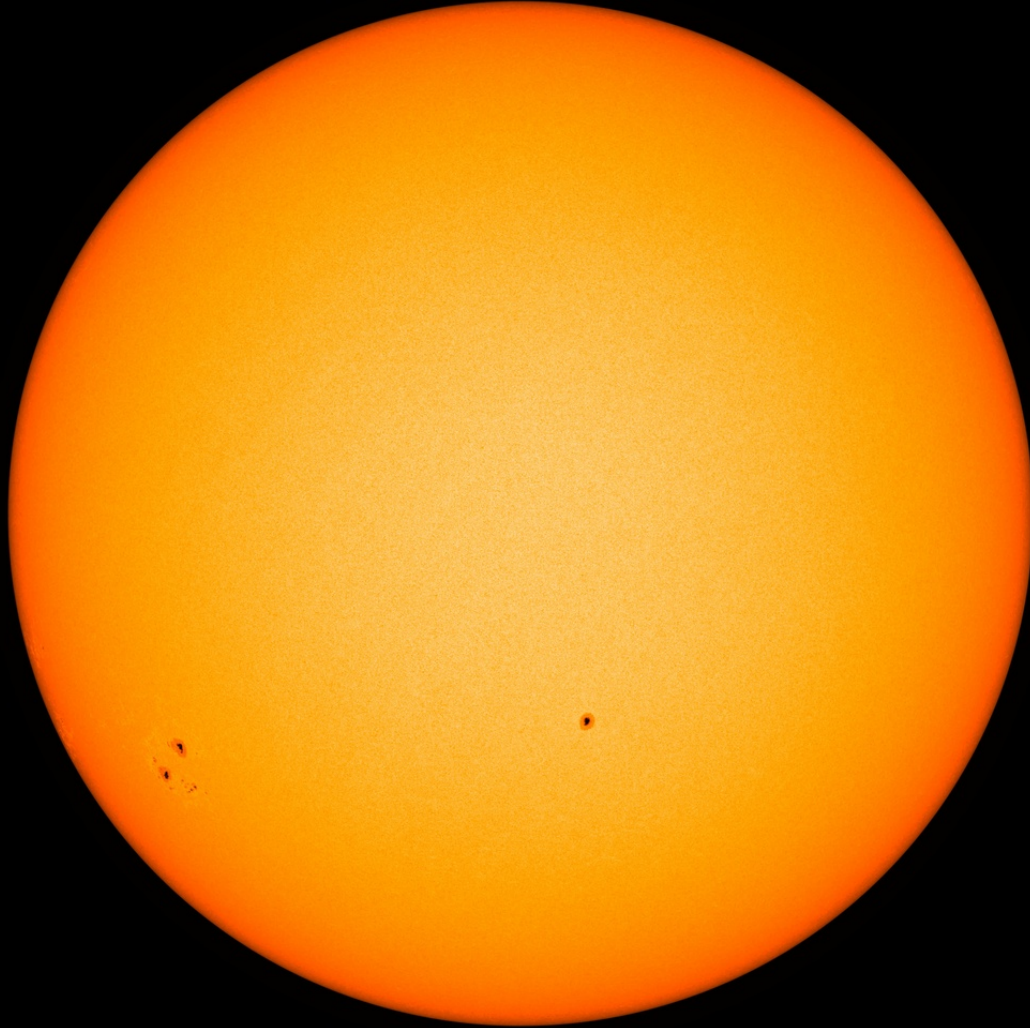
Solar Activity



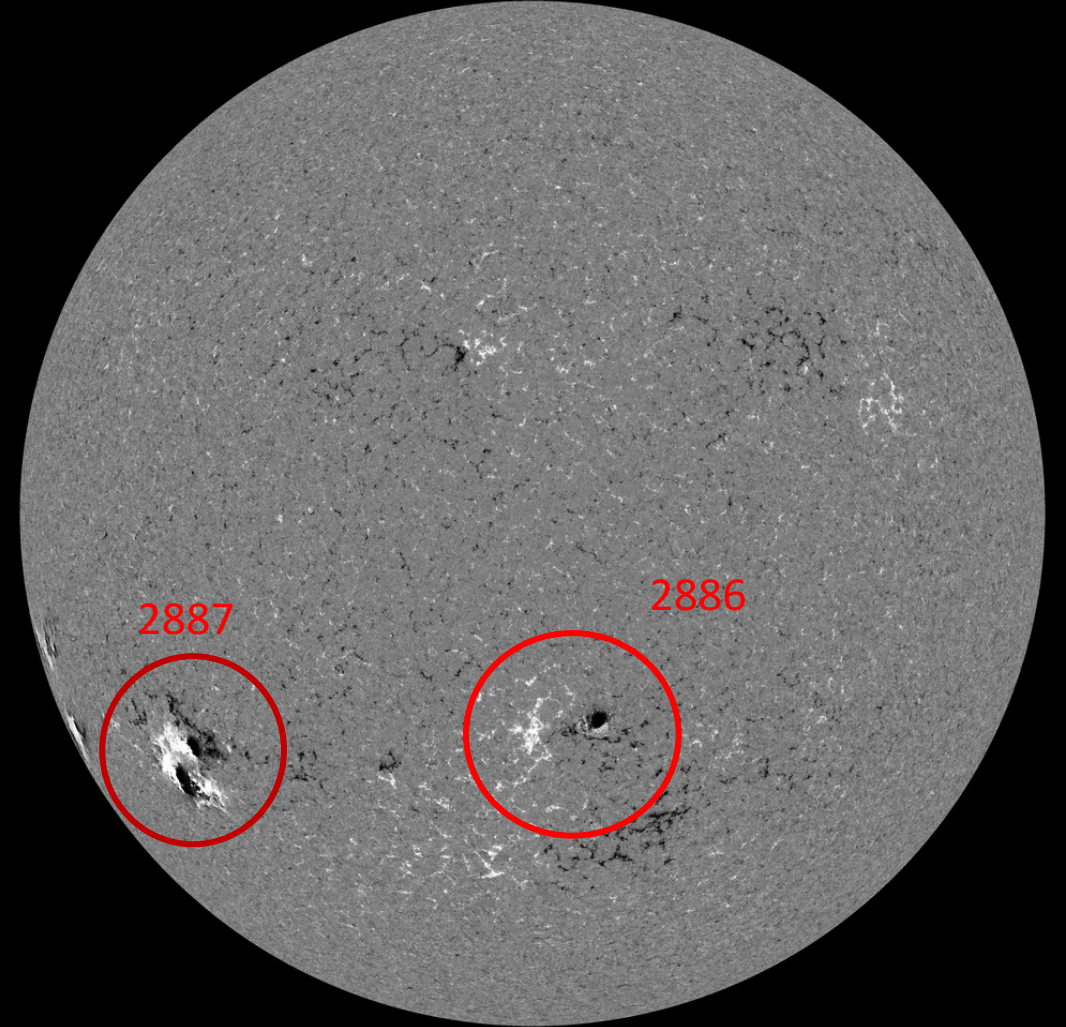
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Solar active regions

SDO/HMI White Light 2021-10-24



SDO/HMI Magnetogram 2021-10-24

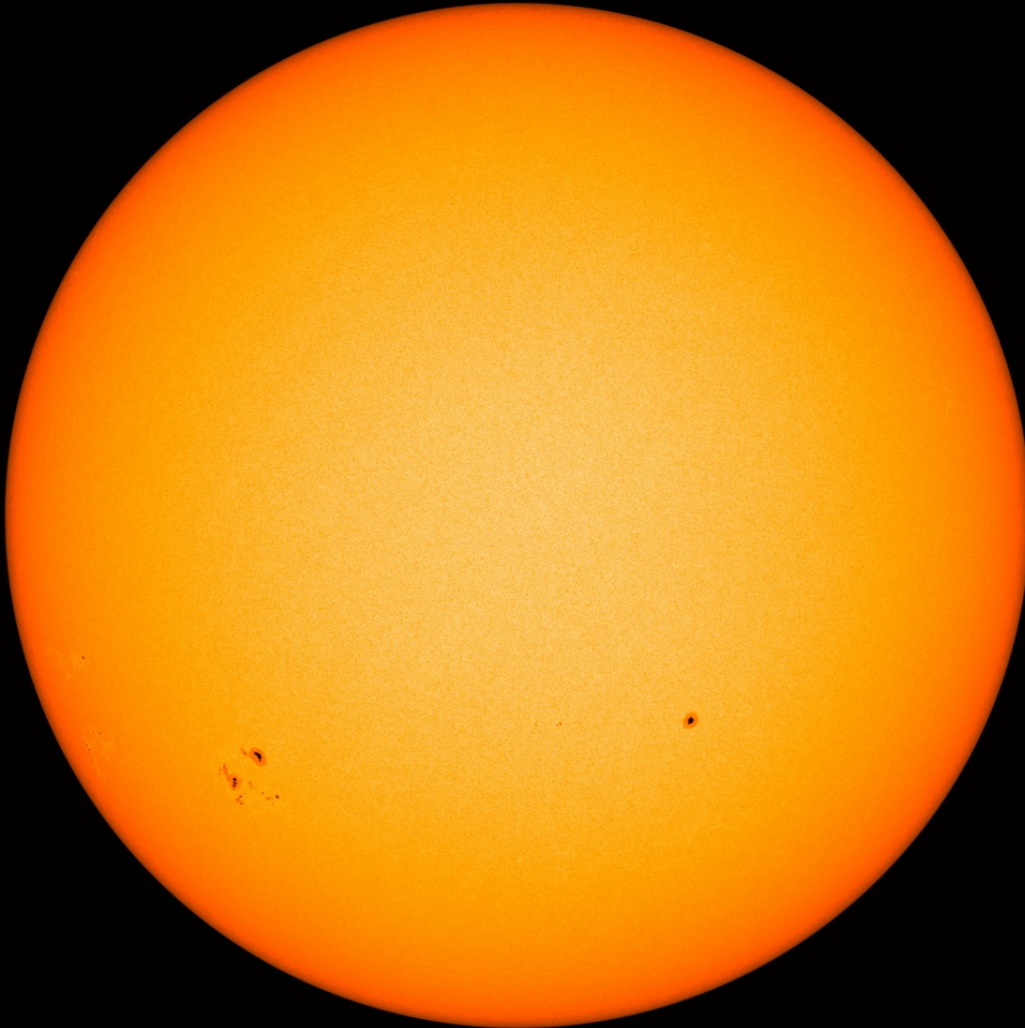


SDO/HMI Quick-Look Continuum: 20211024_114500

SDO/HMI Quick-Look Magnetogram: 20211024_114500

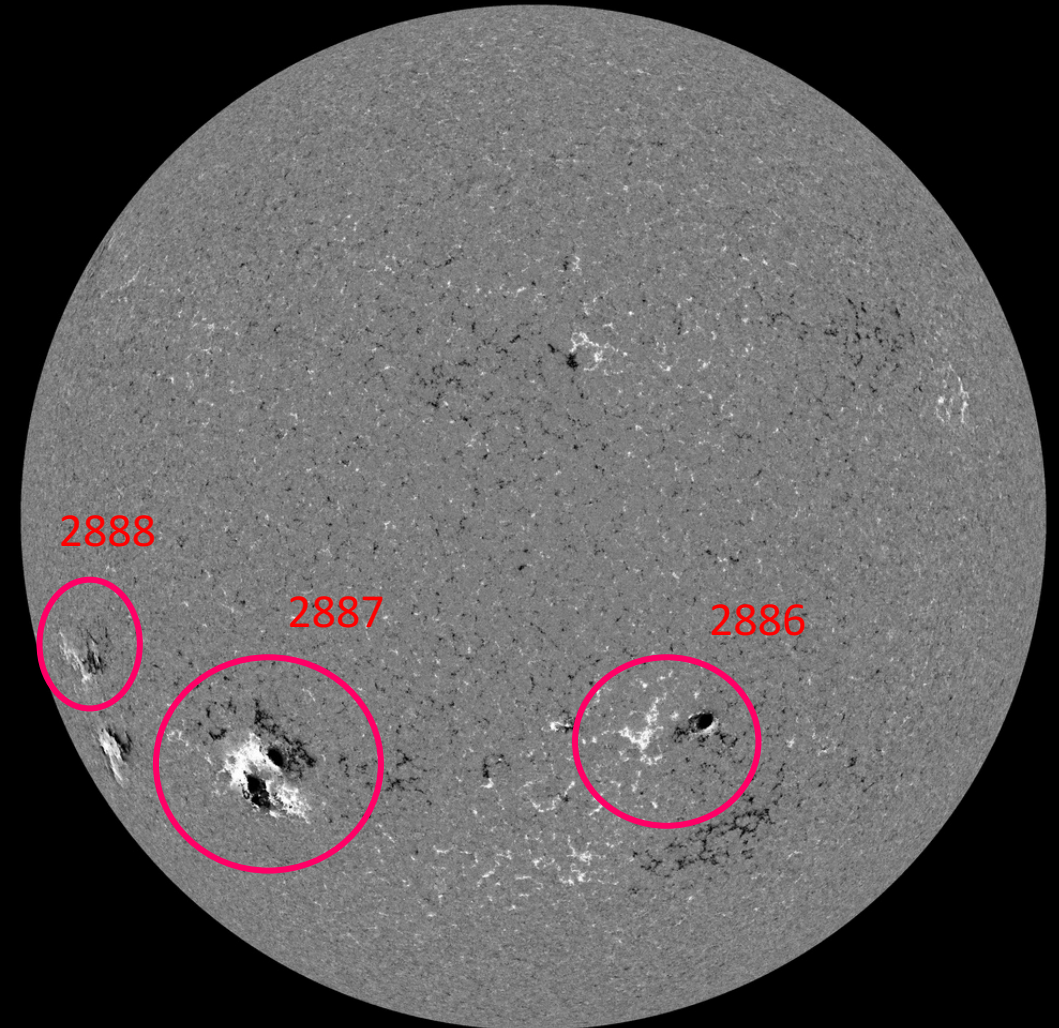
Solar active regions

SDO/HMI White Light 2021-10-25



SDO/HMI Quick-Look Continuum: 20211025_114500

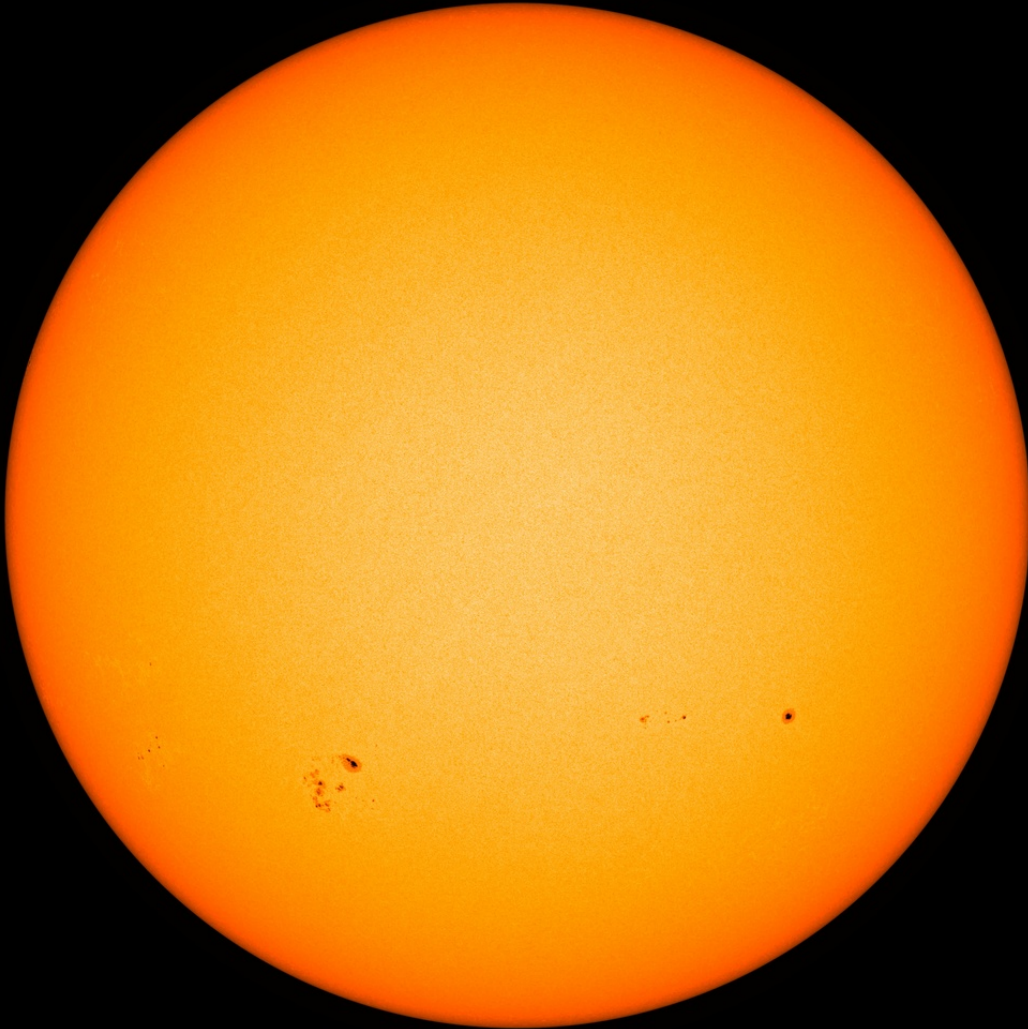
SDO/HMI Magnetogram 2021-10-25



SDO/HMI Quick-Look Magnetogram: 20211025_114500

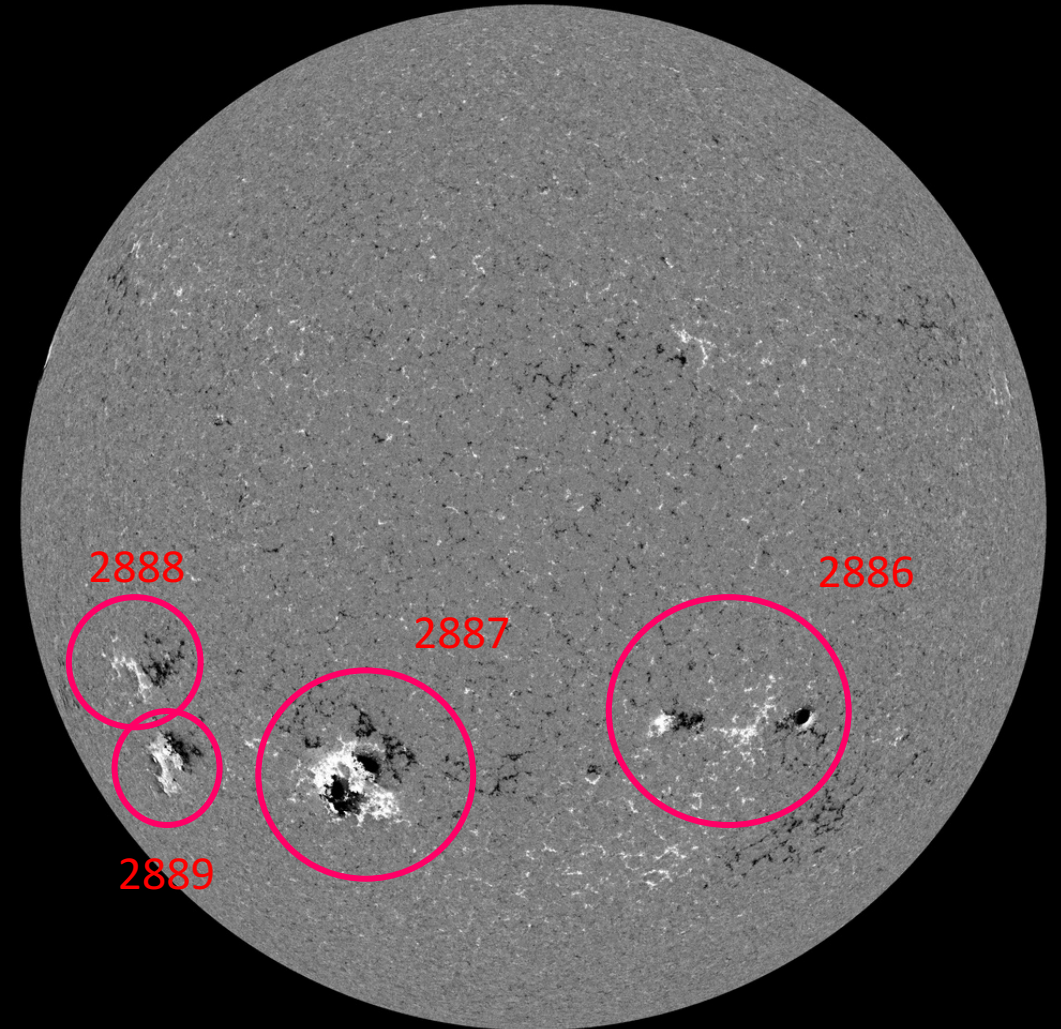
Solar active regions

SDO/HMI White Light 2021-10-26



SDO/HMI Quick-Look Continuum: 20211026_114500

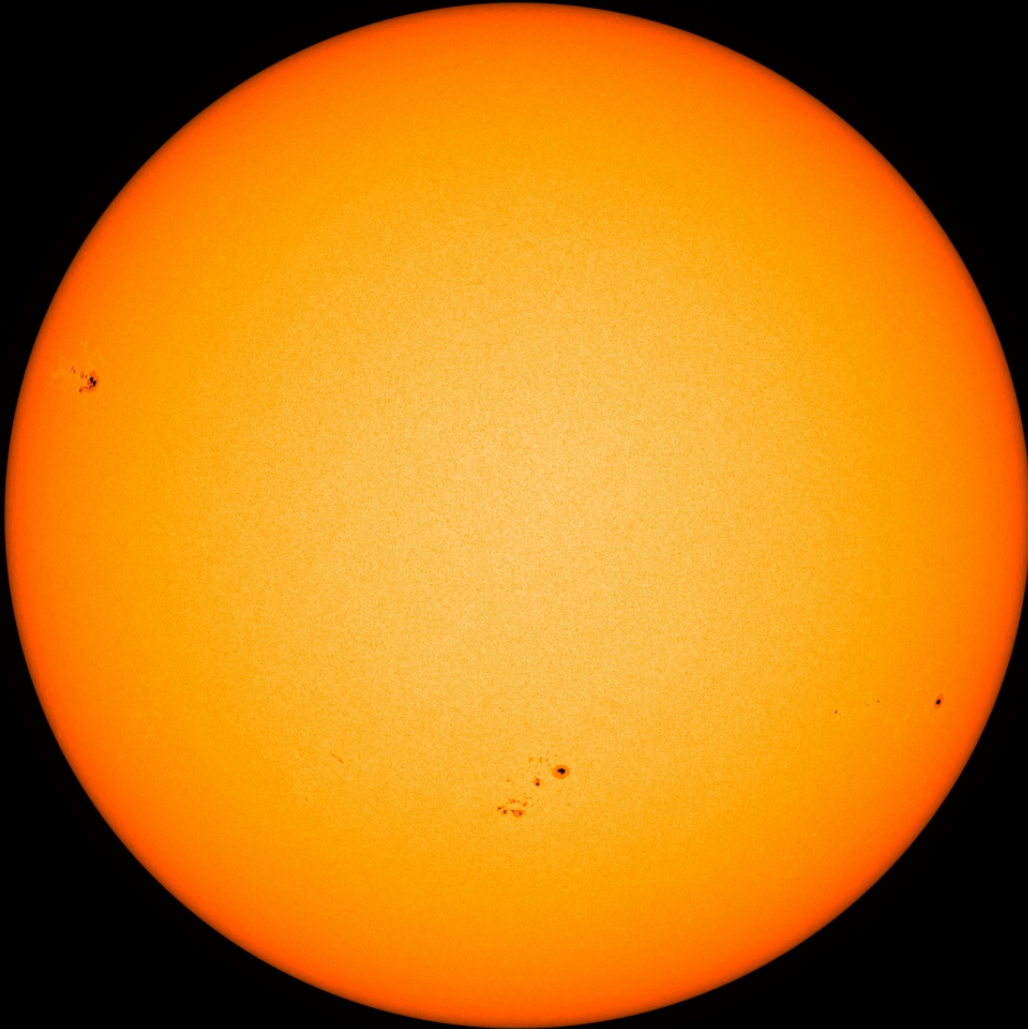
SDO/HMI Magnetogram 2021-10-26



SDO/HMI Quick-Look Magnetogram: 20211026_114500

Solar active regions

SDO/HMI White Light 2021-10-28



SDO/HMI Quick-Look Continuum: 20211028_114500

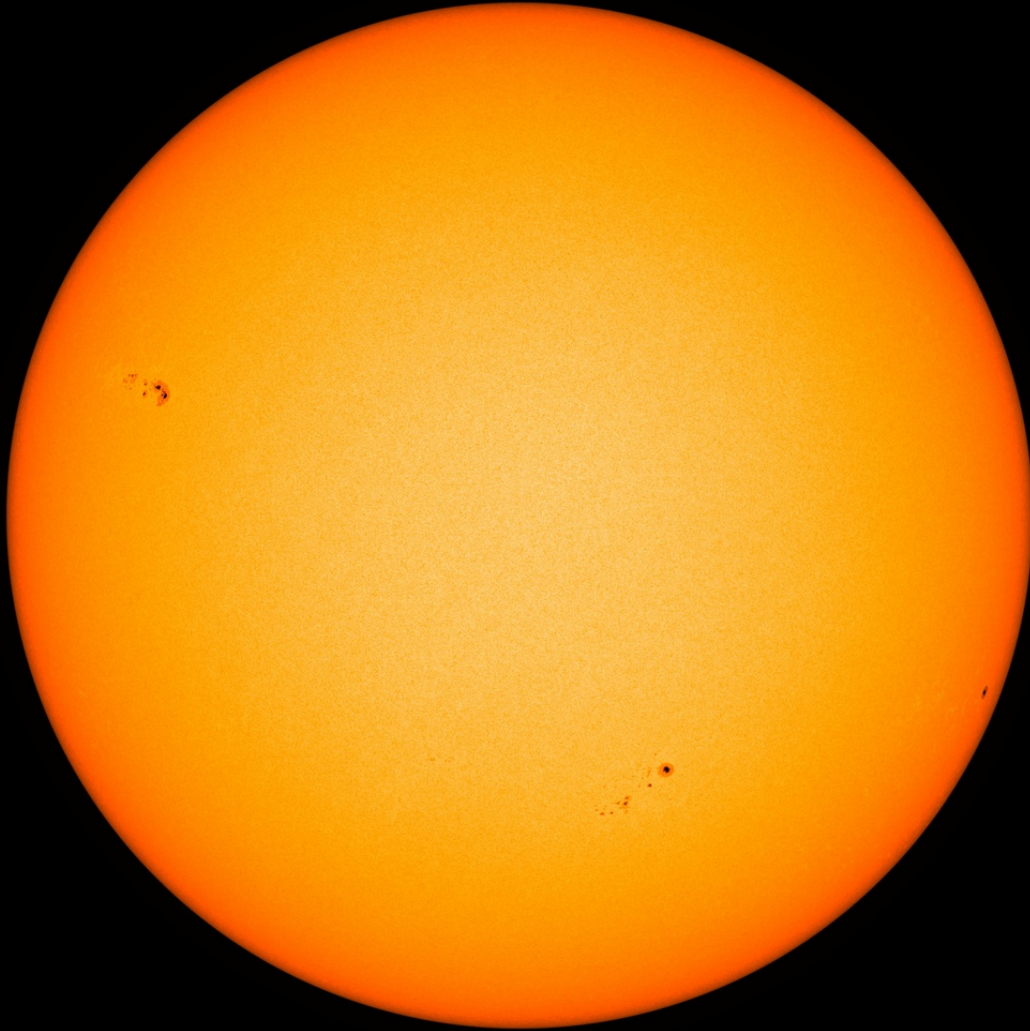
SDO/HMI Magnetogram 2021-10-28



SDO/HMI Quick-Look Magnetogram: 20211028_120000

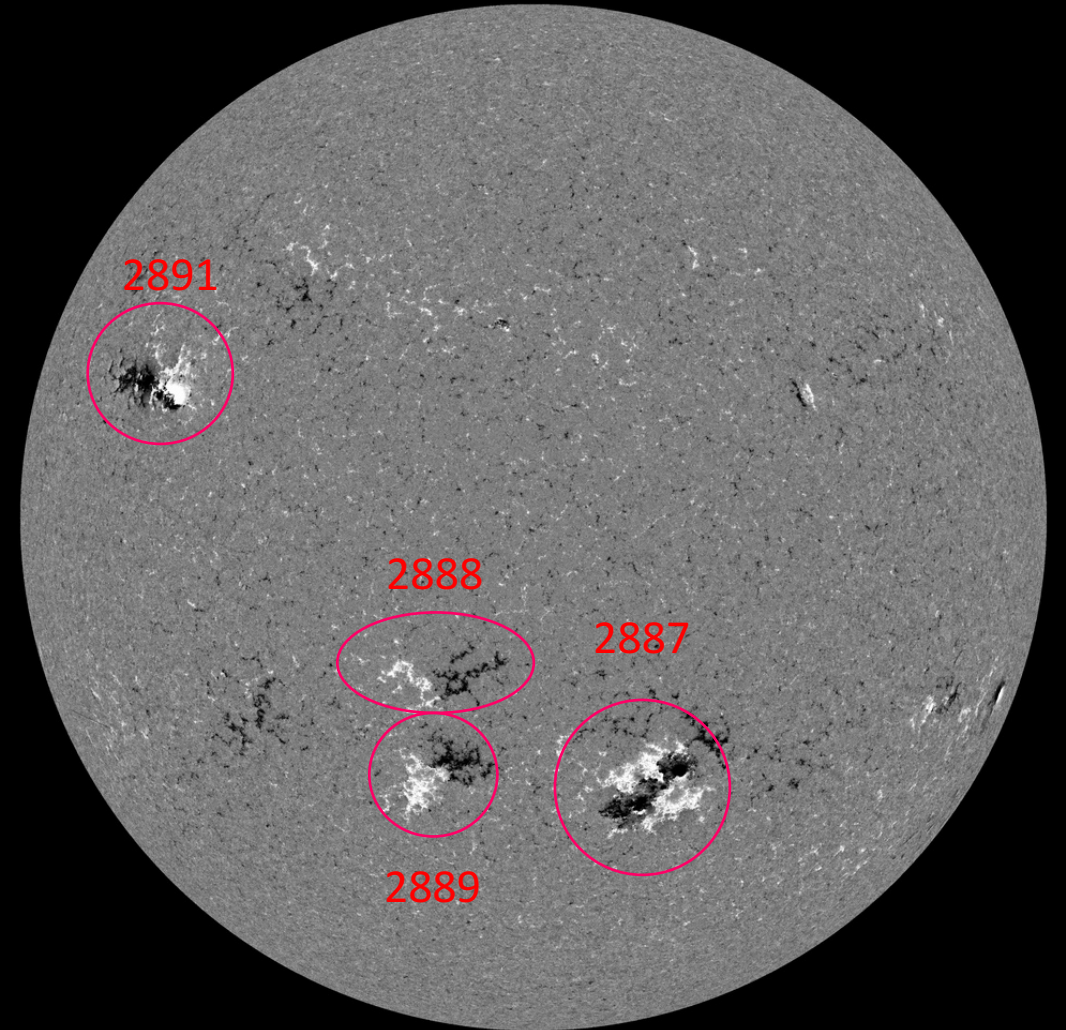
Solar active regions

SDO/HMI White Light 2021-10-29



SDO/HMI Quick-Look Continuum: 20211029_114500

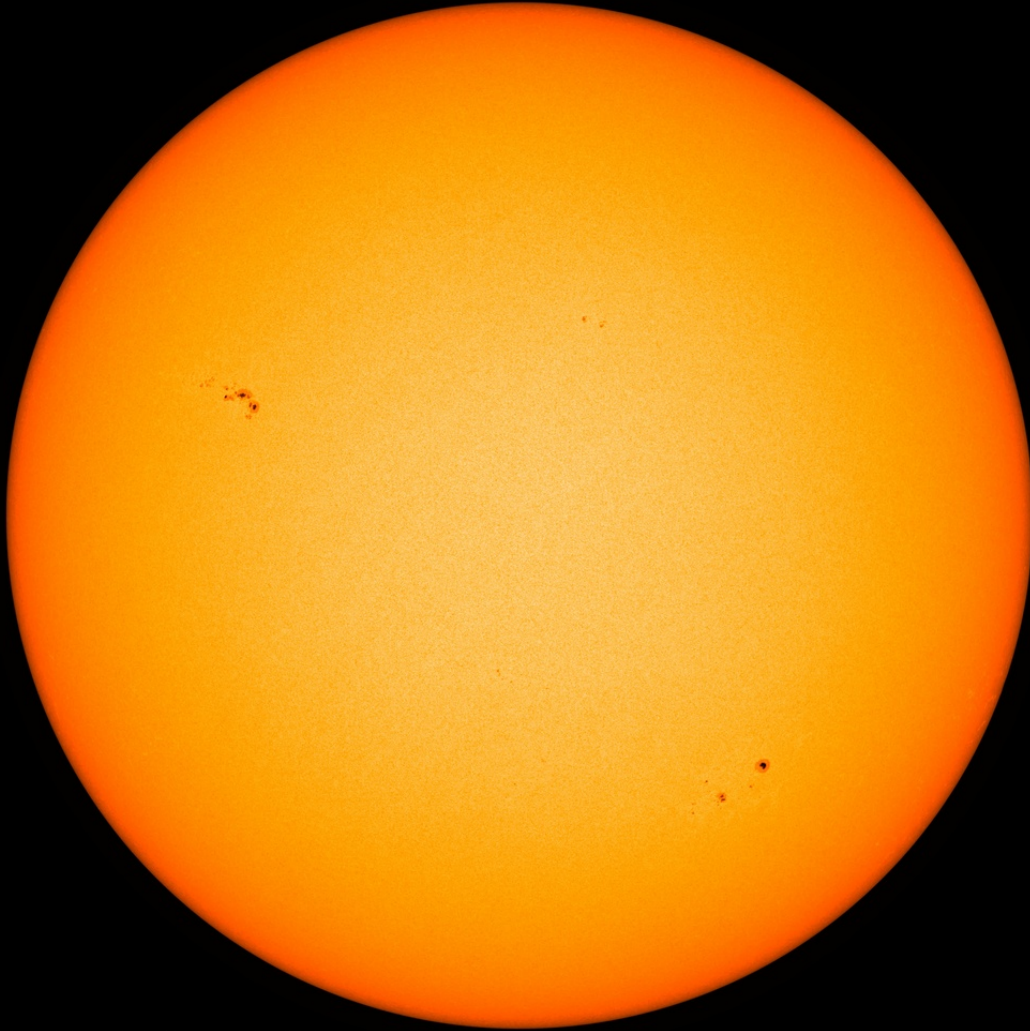
SDO/HMI Magnetogram 2021-10-29



SDO/HMI Quick-Look Magnetogram: 20211029_114500

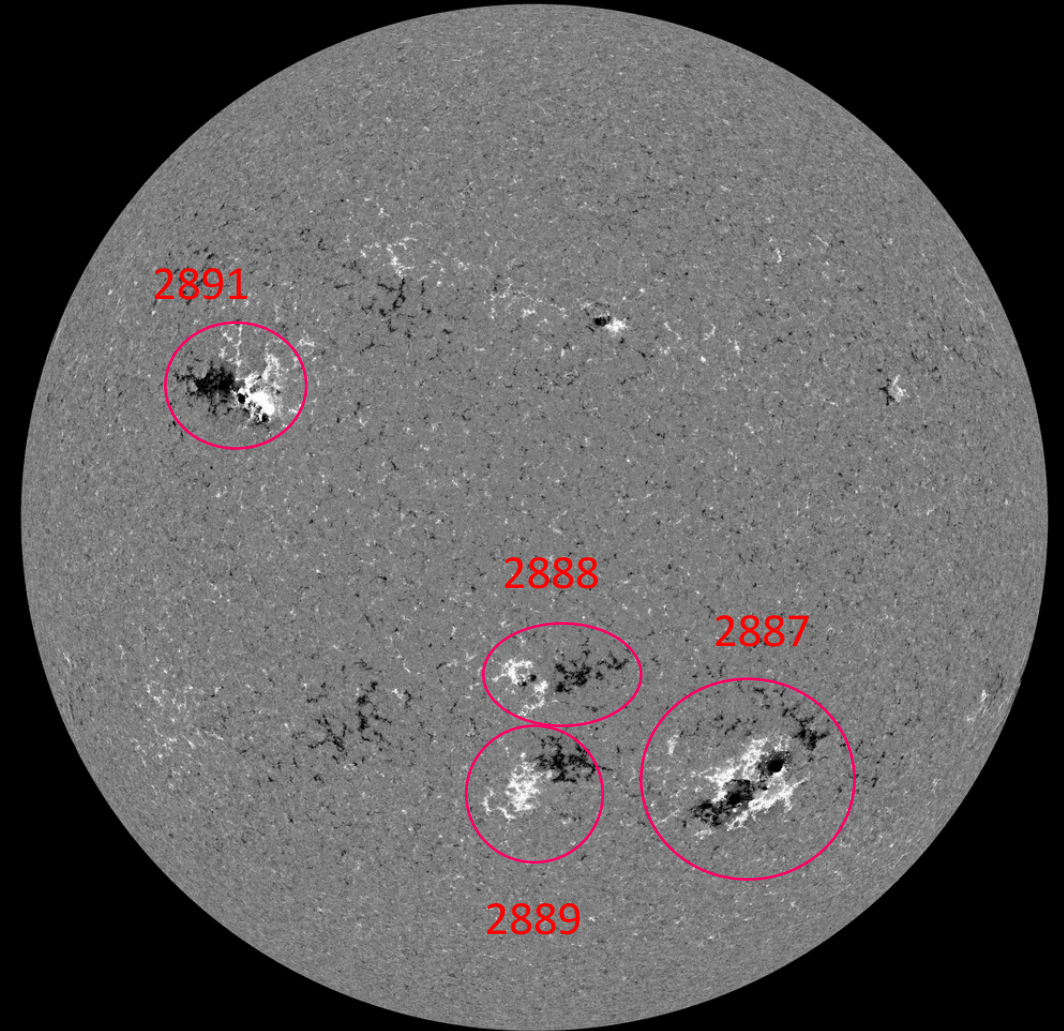
Solar active regions

SDO/HMI White Light 2021-10-30



SDO/HMI Quick-Look Continuum: 20211030_120000

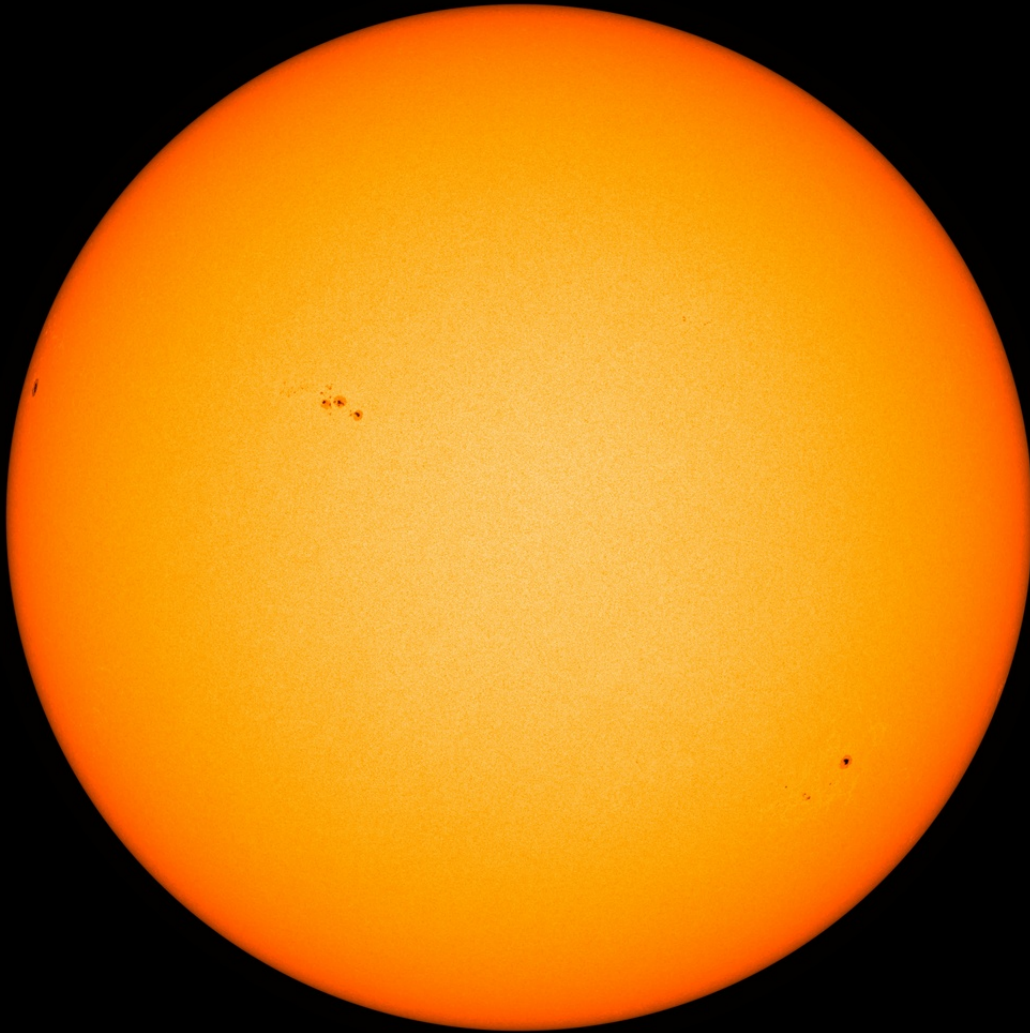
SDO/HMI Magnetogram 2021-10-30



SDO/HMI Quick-Look Magnetogram: 20211030_114500

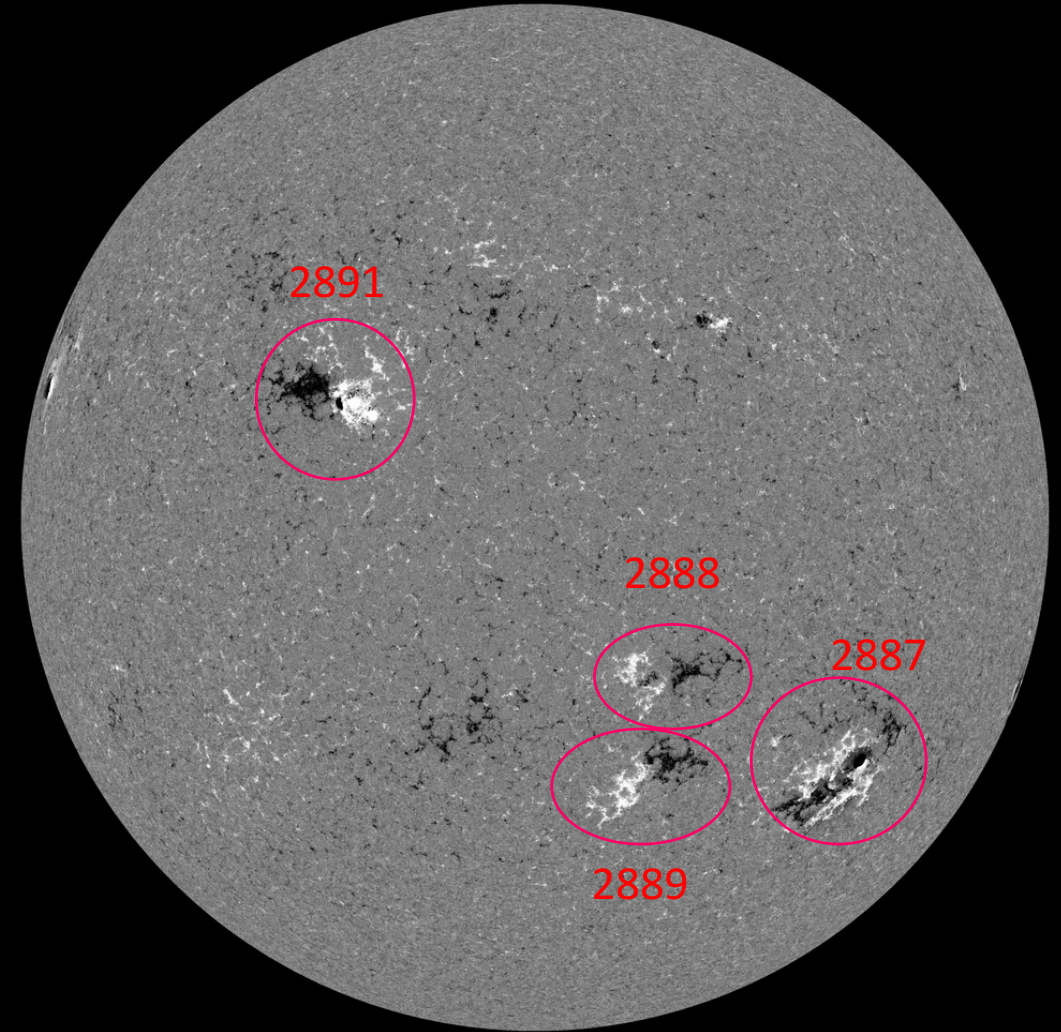
Solar active regions

SDO/HMI White Light 2021-10-31



SDO/HMI Quick-Look Continuum: 20211031_120000

SDO/HMI Magnetogram 2021-10-31

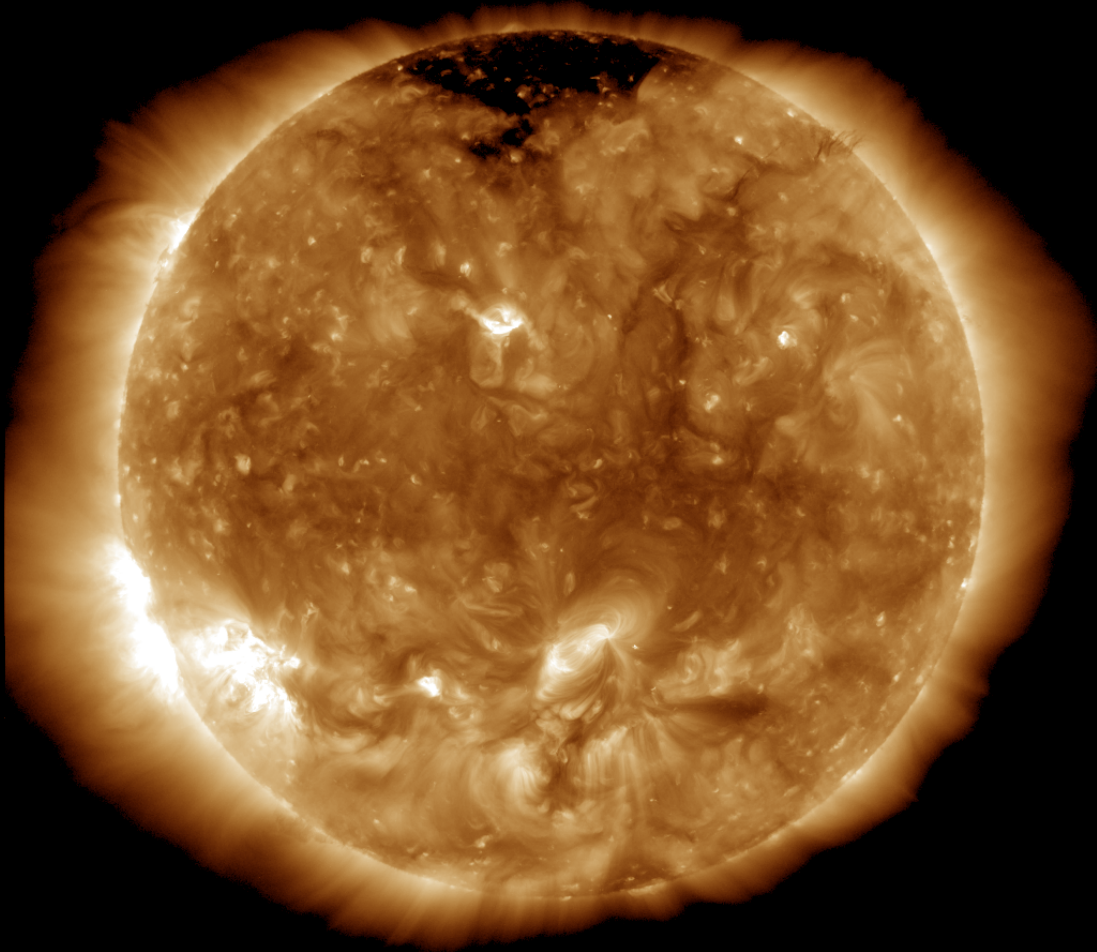


SDO/HMI Quick-Look Magnetogram: 20211031_114500

Coronal holes

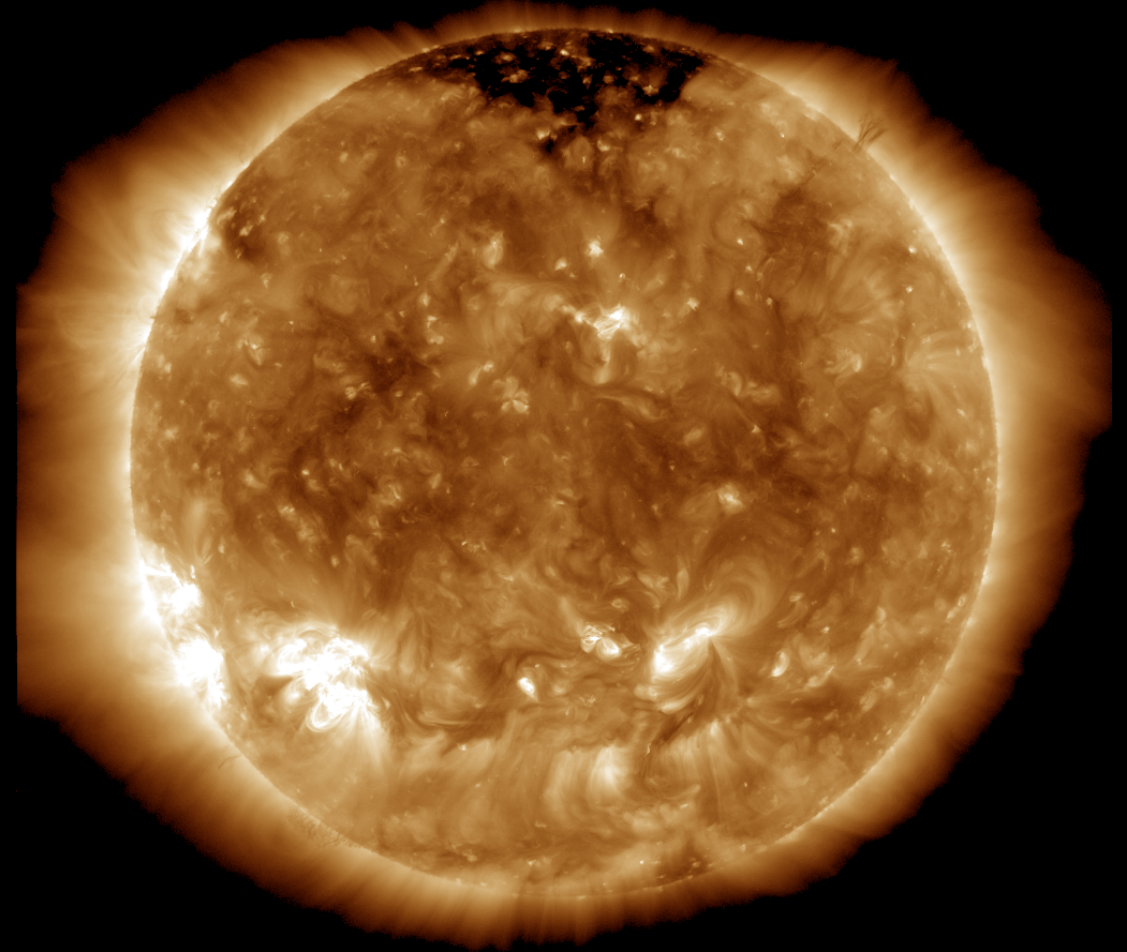
SDO/AIA 19.3 nm 2021-10-24

SDO/AIA AIA 193Å 2021-10-24T12:00:05.843



SDO/AIA 19.3 nm 2021-10-25

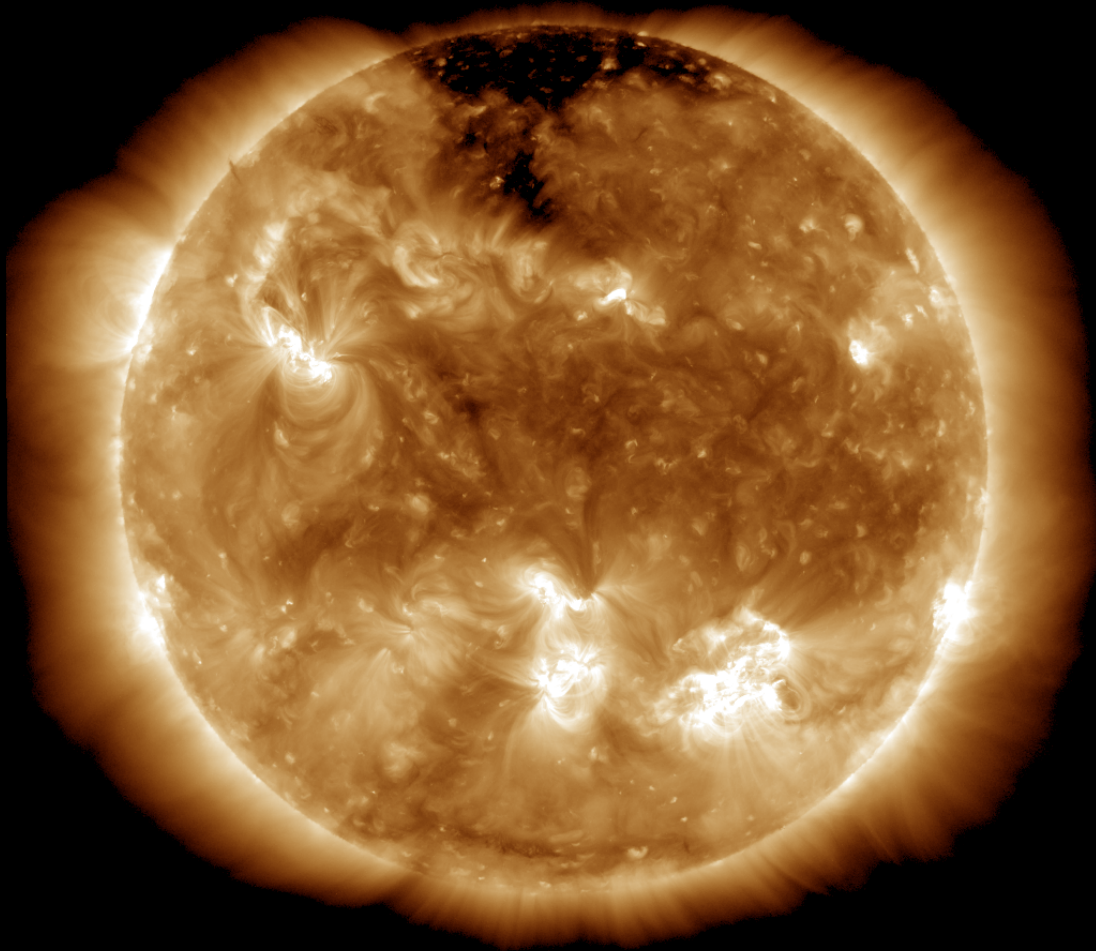
SDO/AIA AIA 193Å 2021-10-25T12:00:05.843



Coronal holes

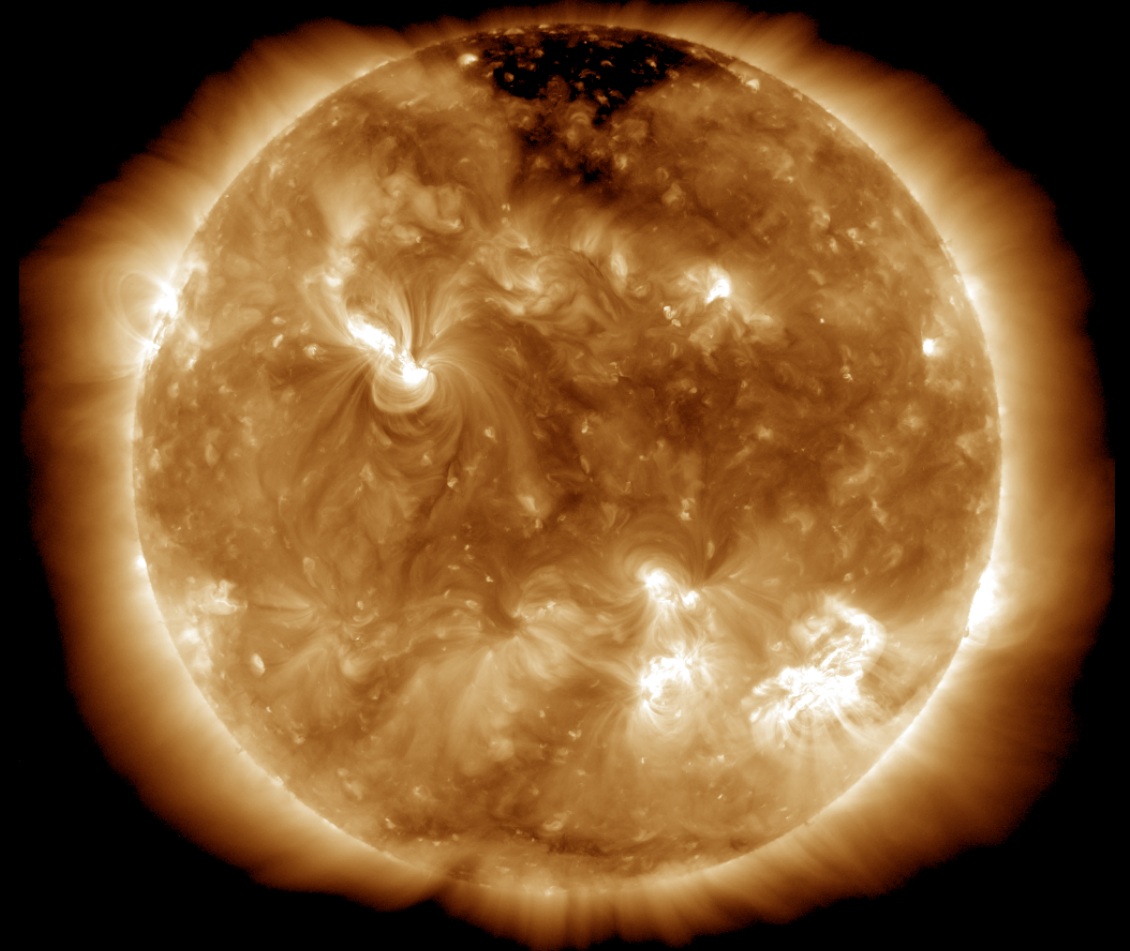
SDO/AIA 19.3 nm 2021-10-30

SDO/AIA AIA 193Å 2021-10-30T12:00:05.843



SDO/AIA 19.3 nm 2021-10-31

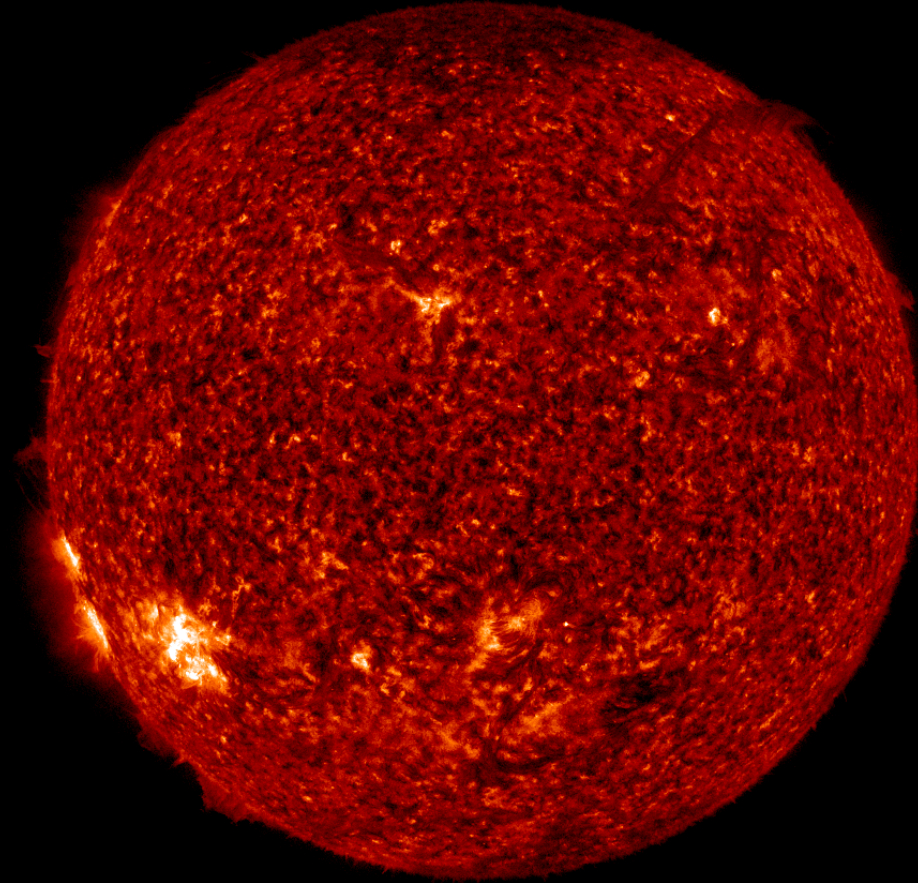
SDO/AIA AIA 193Å 2021-10-31T12:00:05.844



Filaments

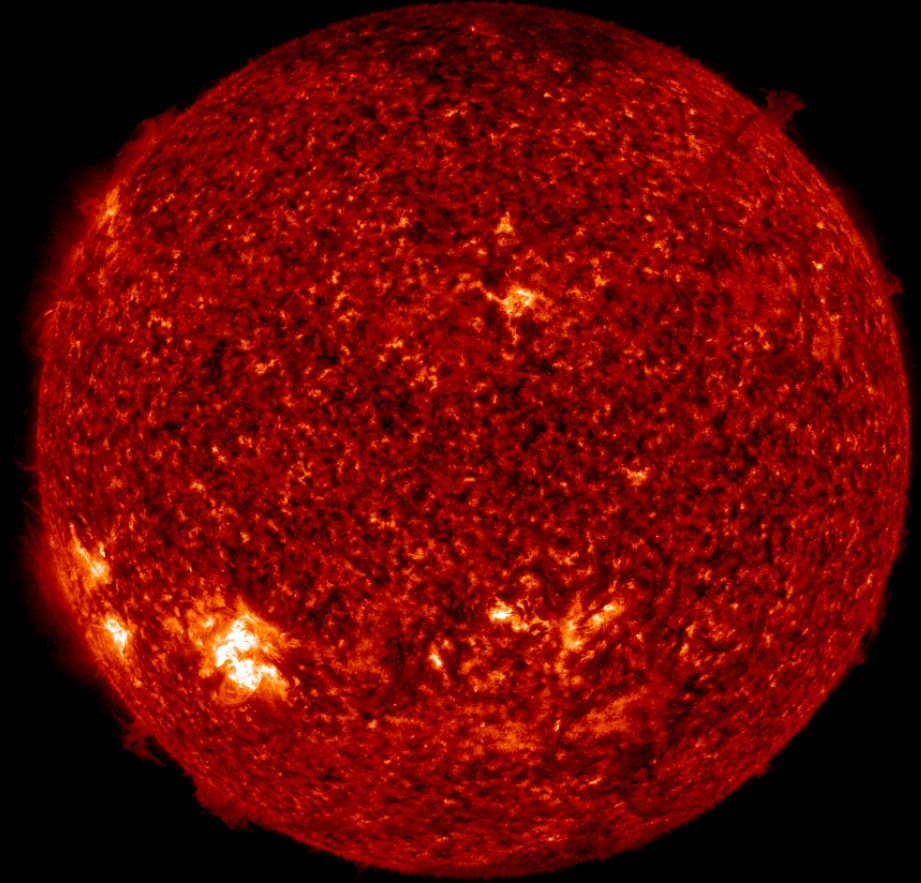
SDO/AIA 30.4 nm 2021-10-24

SDO/AIA AIA 304Å 2021-10-24T12:00:06.580



SDO/AIA 30.4 nm 2021-10-25

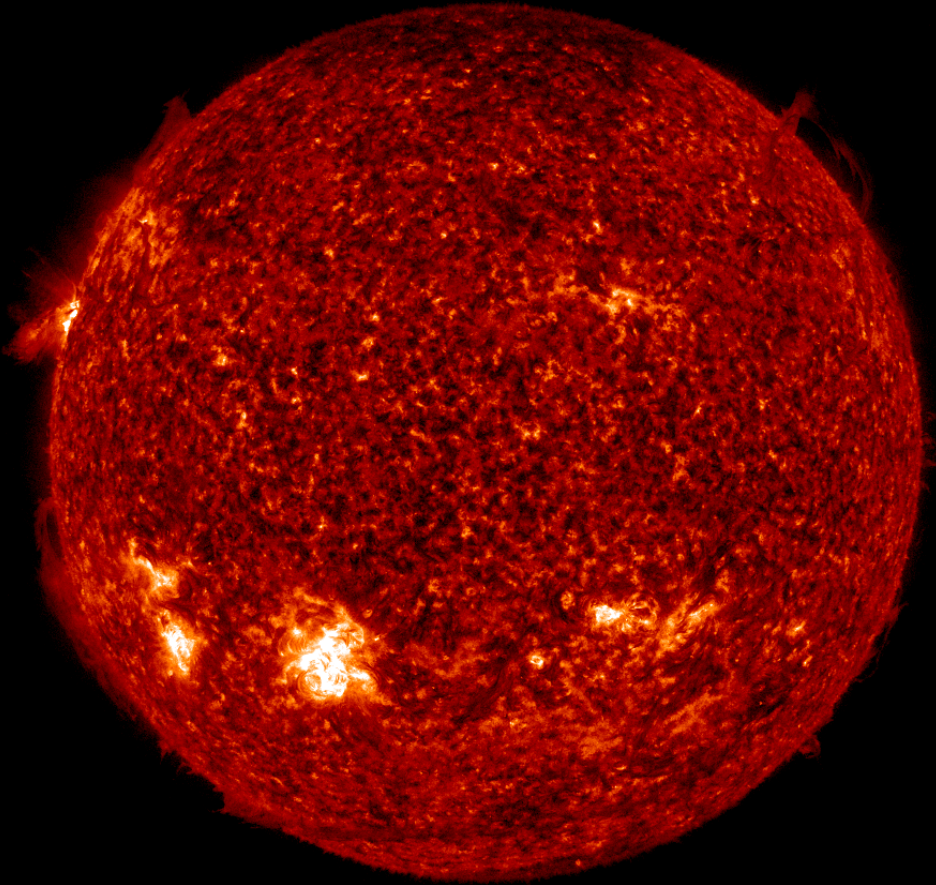
SDO/AIA AIA 304Å 2021-10-25T12:00:06.580



Filaments

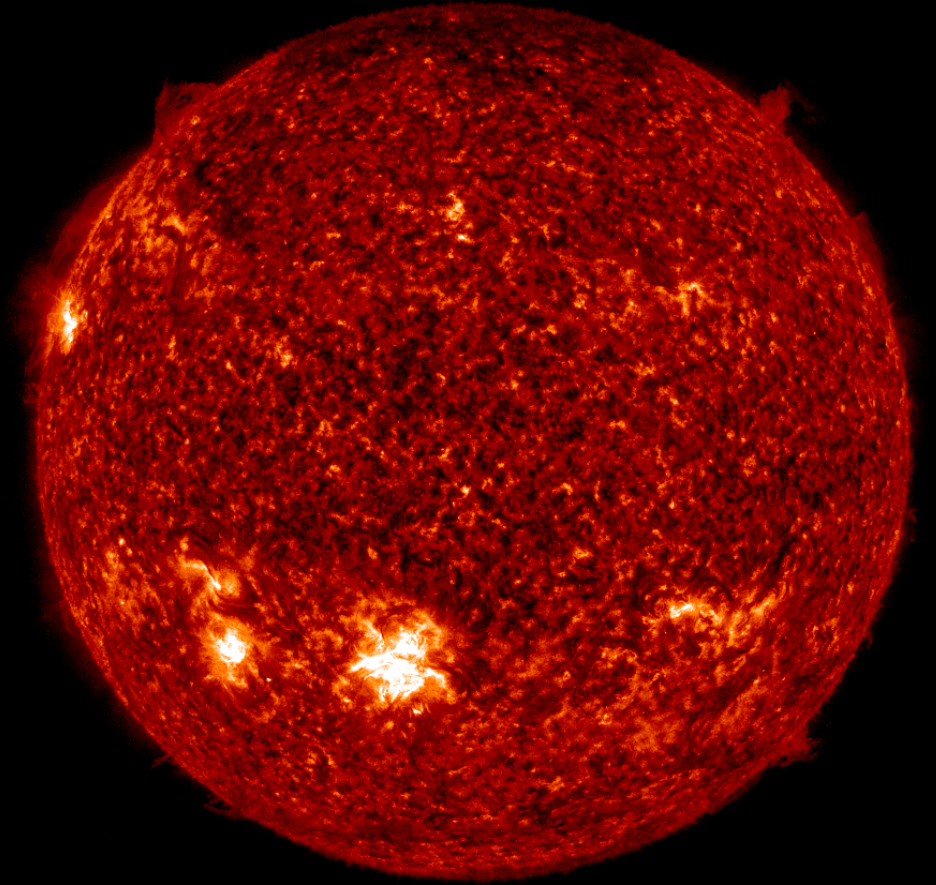
SDO/AIA 30.4 nm 2021-10-26

SDO/AIA AIA 304Å 2021-10-26T12:00:06.597



SDO/AIA 30.4 nm 2021-10-27

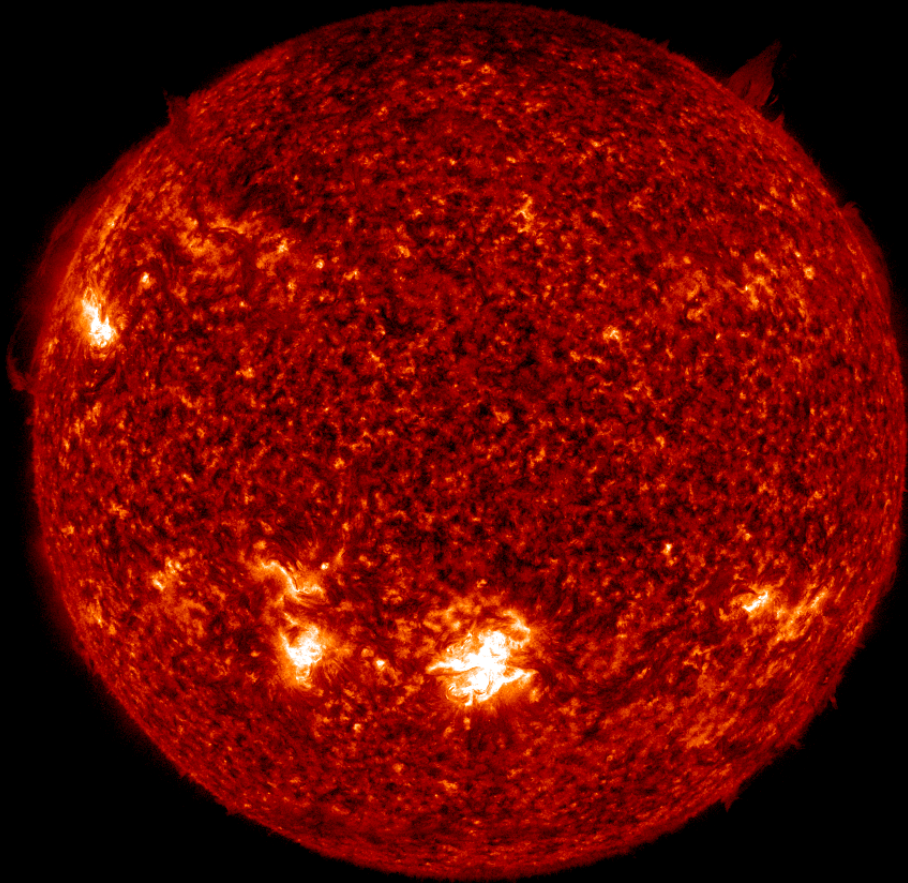
SDO/AIA AIA 304Å 2021-10-27T12:00:06.592



Filaments

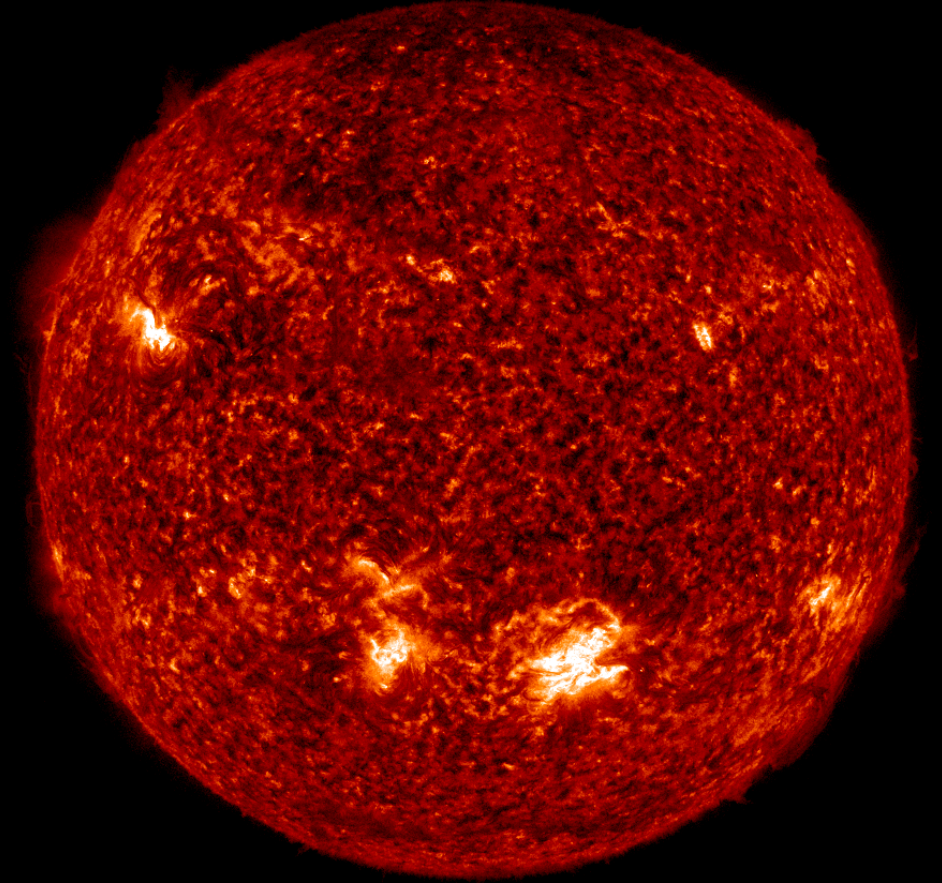
SDO/AIA 30.4 nm 2021-10-28

SDO/AIA AIA 304Å 2021-10-28T12:00:06.573



SDO/AIA 30.4 nm 2021-10-29

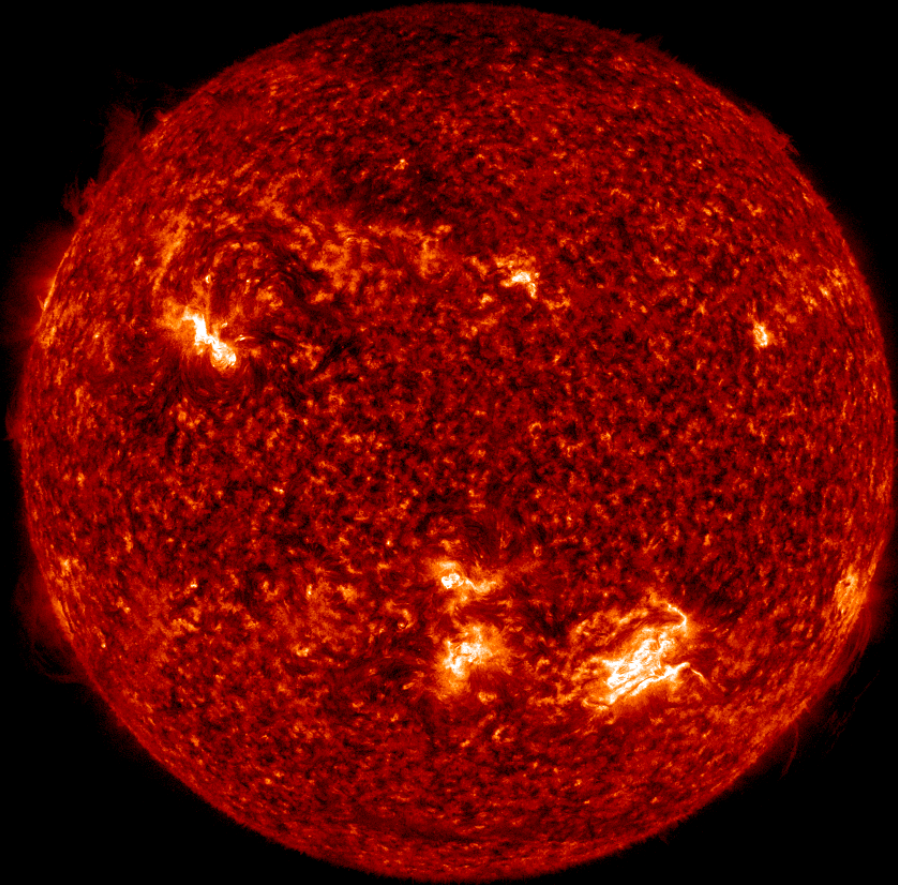
SDO/AIA AIA 304Å 2021-10-29T12:00:06.580



Filaments

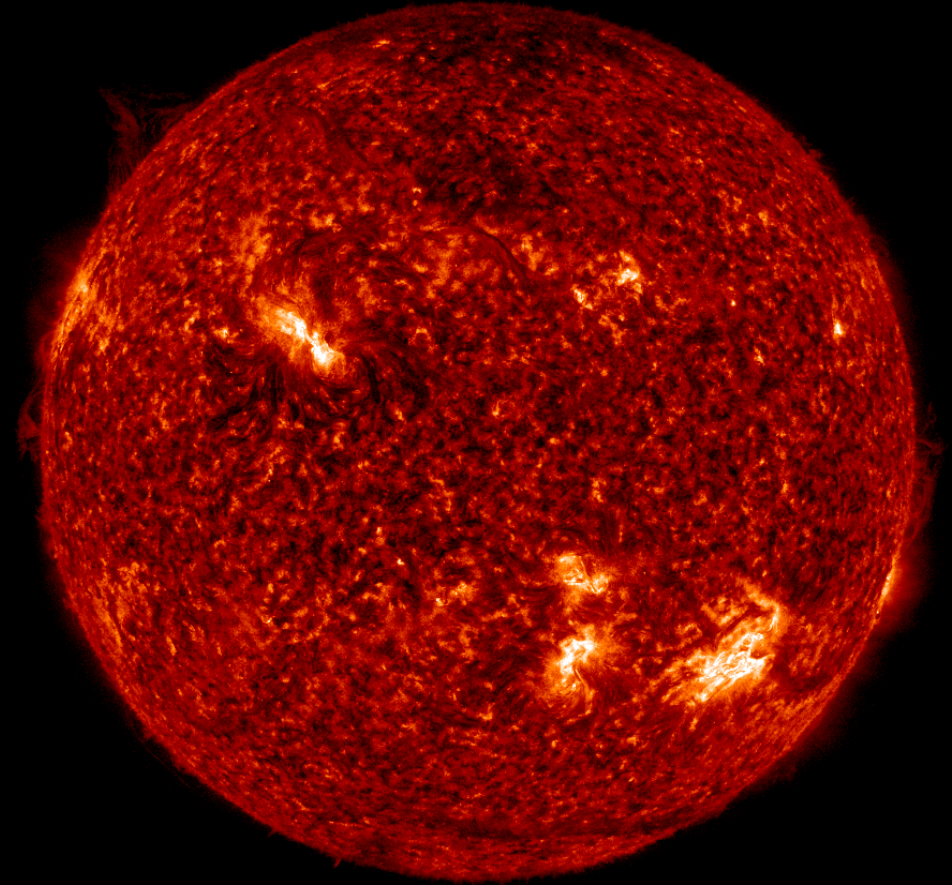
SDO/AIA 30.4 nm 2021-10-30

SDO/AIA AIA 304Å 2021-10-30T12:00:06.580

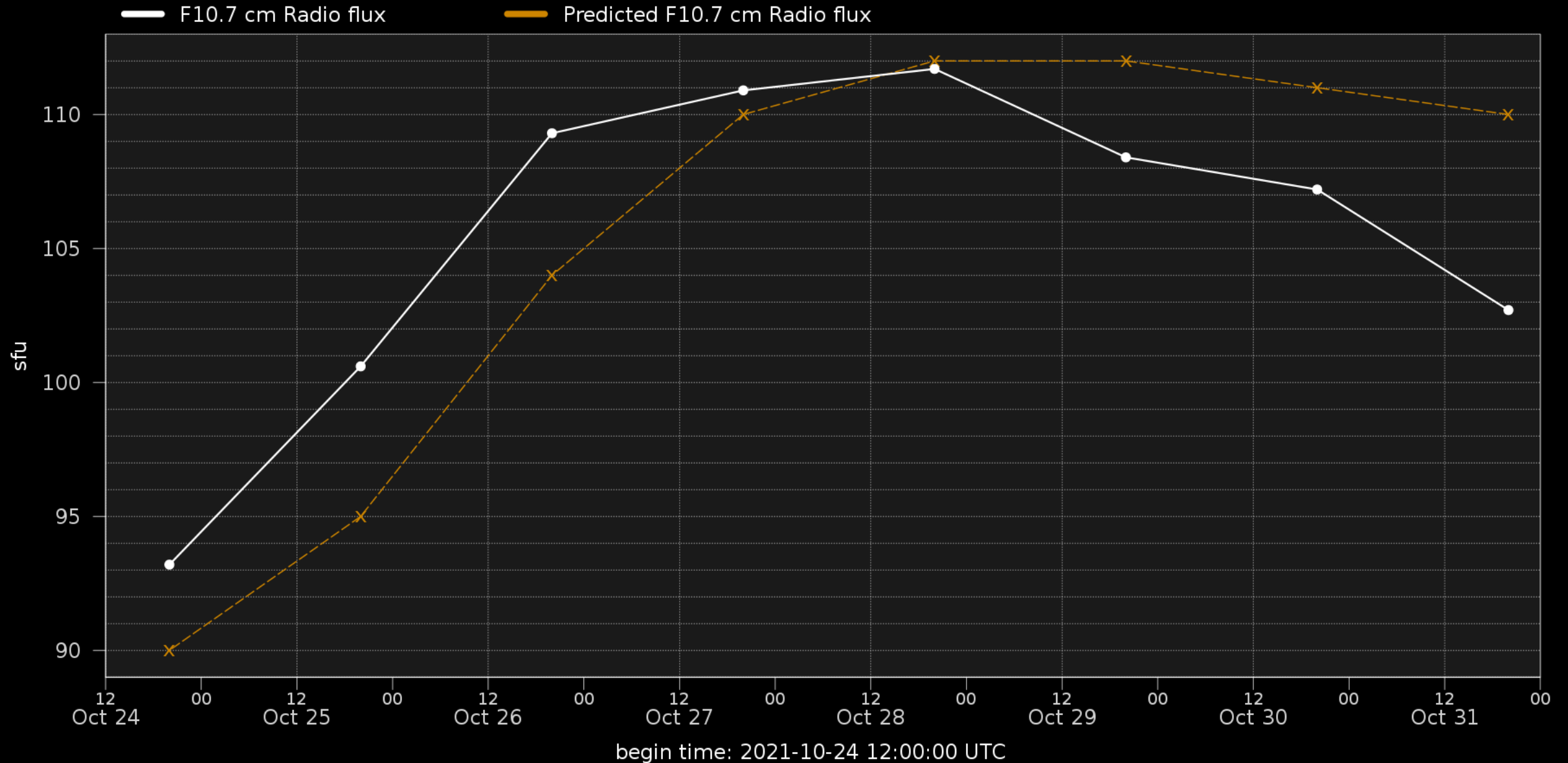


SDO/AIA 30.4 nm 2021-10-31

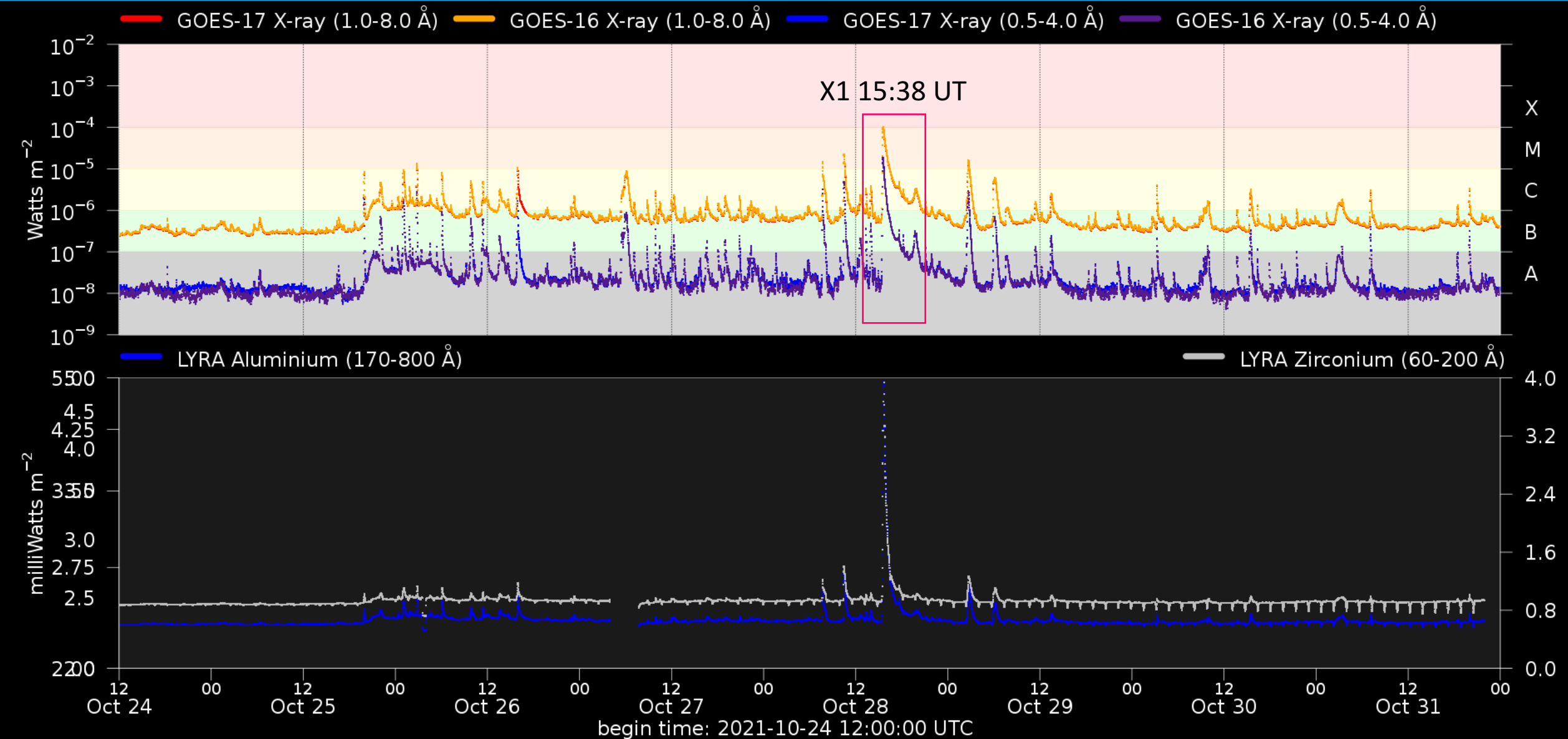
SDO/AIA AIA 304Å 2021-10-31T12:00:06.575



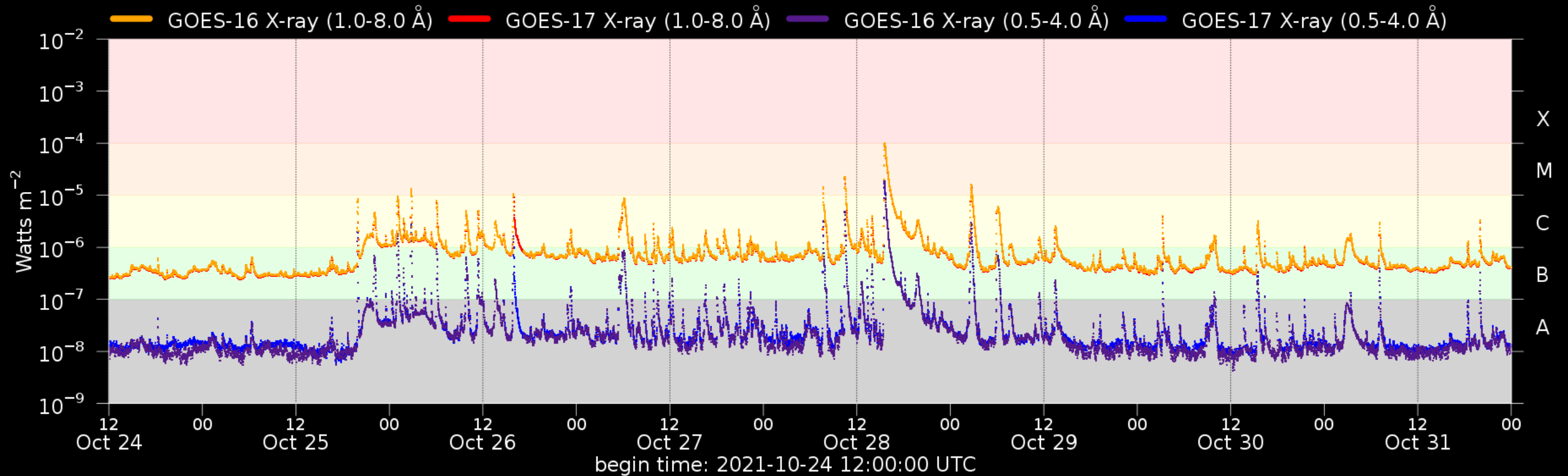
Solar F10.7cm radio flux



Solar X-Ray and UV flux



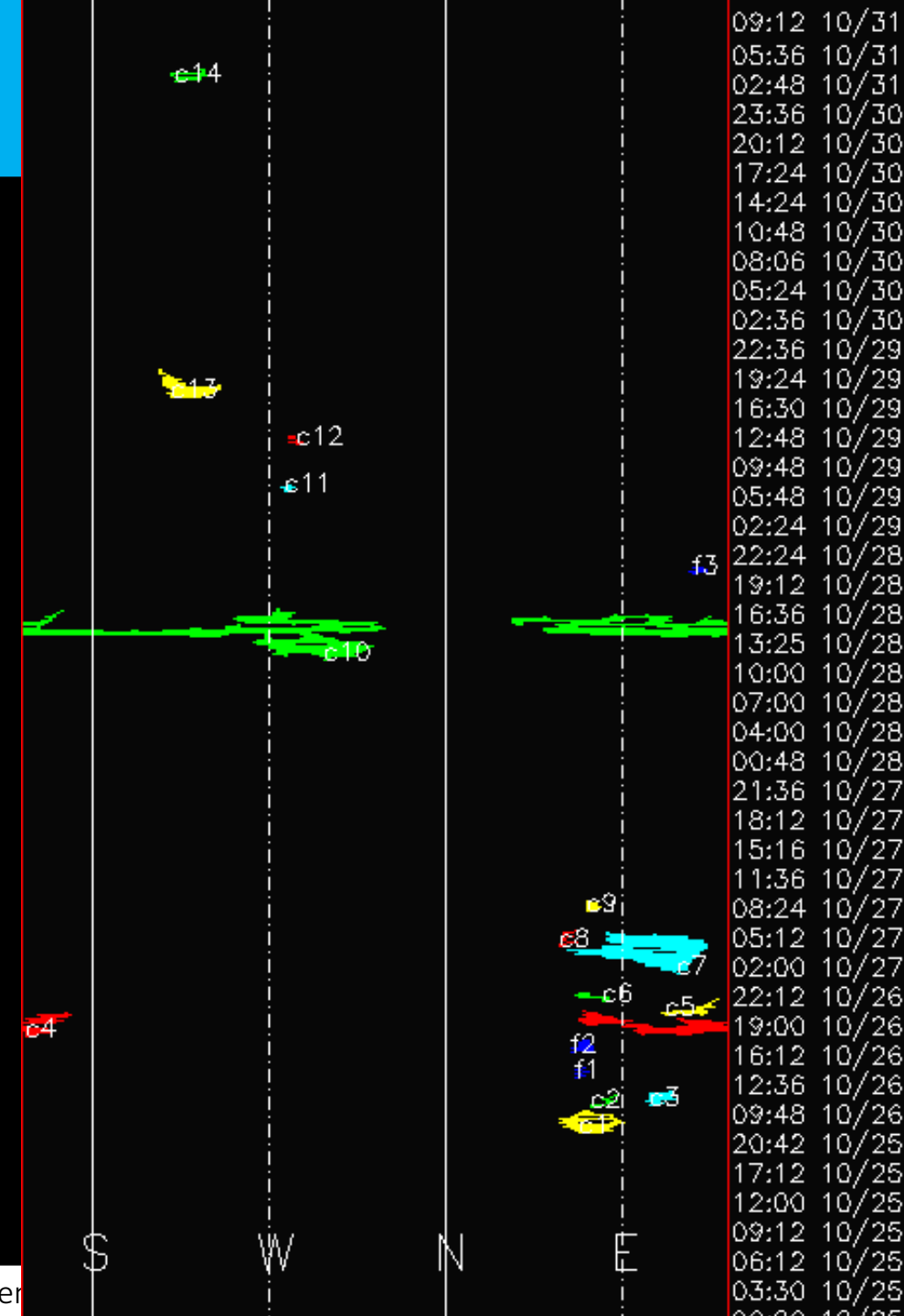
Flaring activity



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

Issue date	2021-10-24	2021-10-25	2021-10-26	2021-10-27	2021-10-28	2021-10-29	2021-10-30	2021-10-31
Probability (%)	55 10 01	30 01 01	98 50 05	95 40 01	95 60 05	99 75 15	95 55 15	98 35 03
Observed (#)	00 00 00	12 01 00	10 01 00	10 02 00	09 01 01	04 00 00	05 00 00	02 00 00

Coronal Mass Ejections



Solar Wind and Geomagnetic Activity

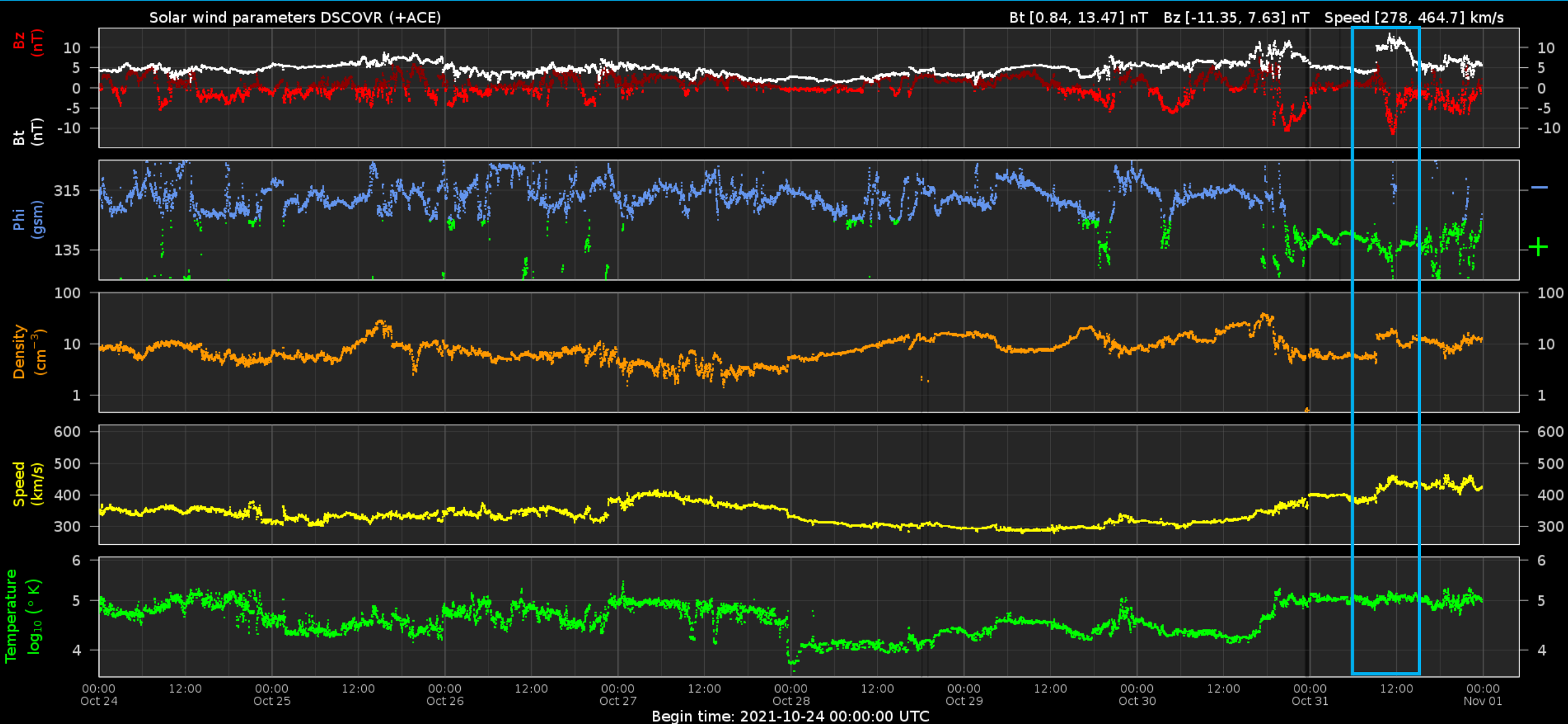


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Solar wind parameters

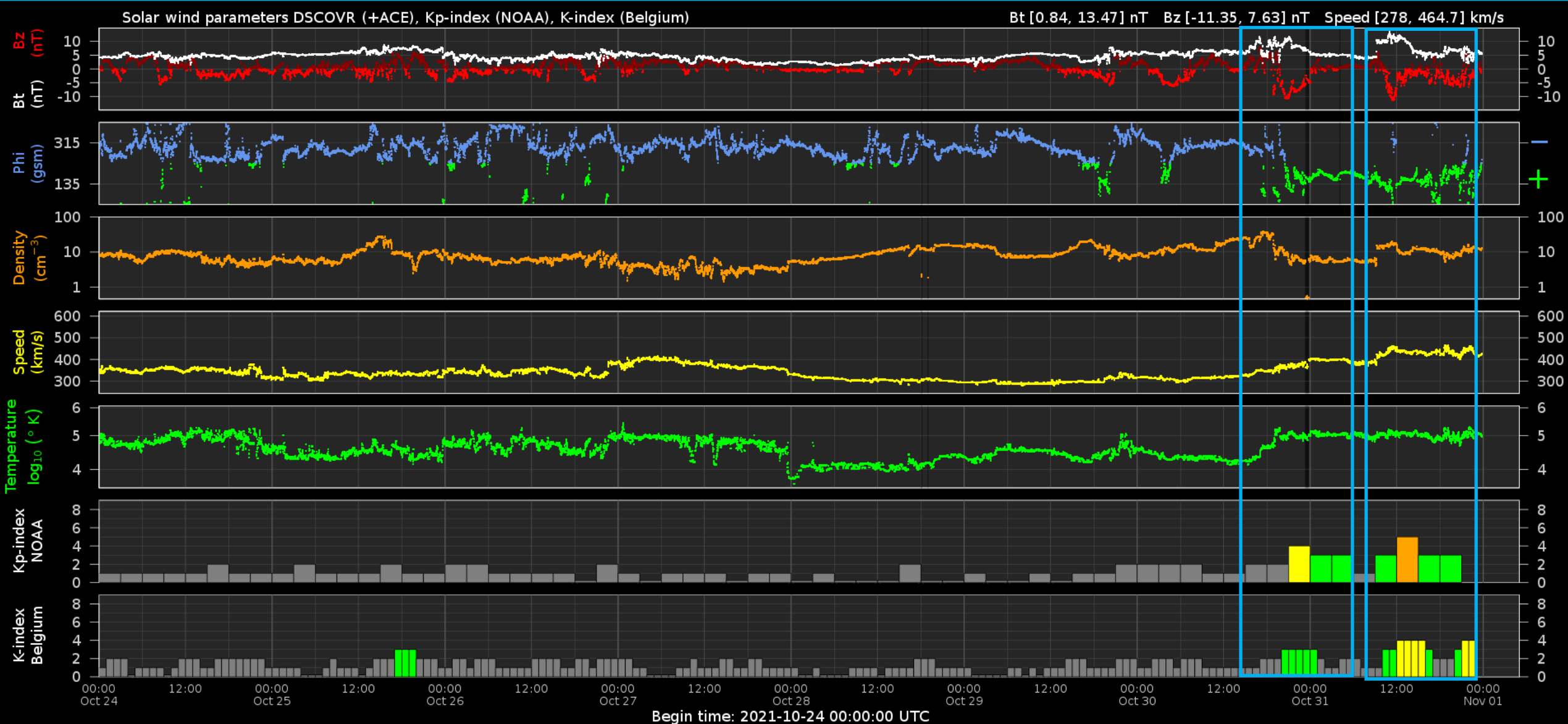
Weak FF Shock
from 28 Oct flare



Solar wind parameters & K-indices

Possible CME
arrival from 27
Oct 04:36 UT

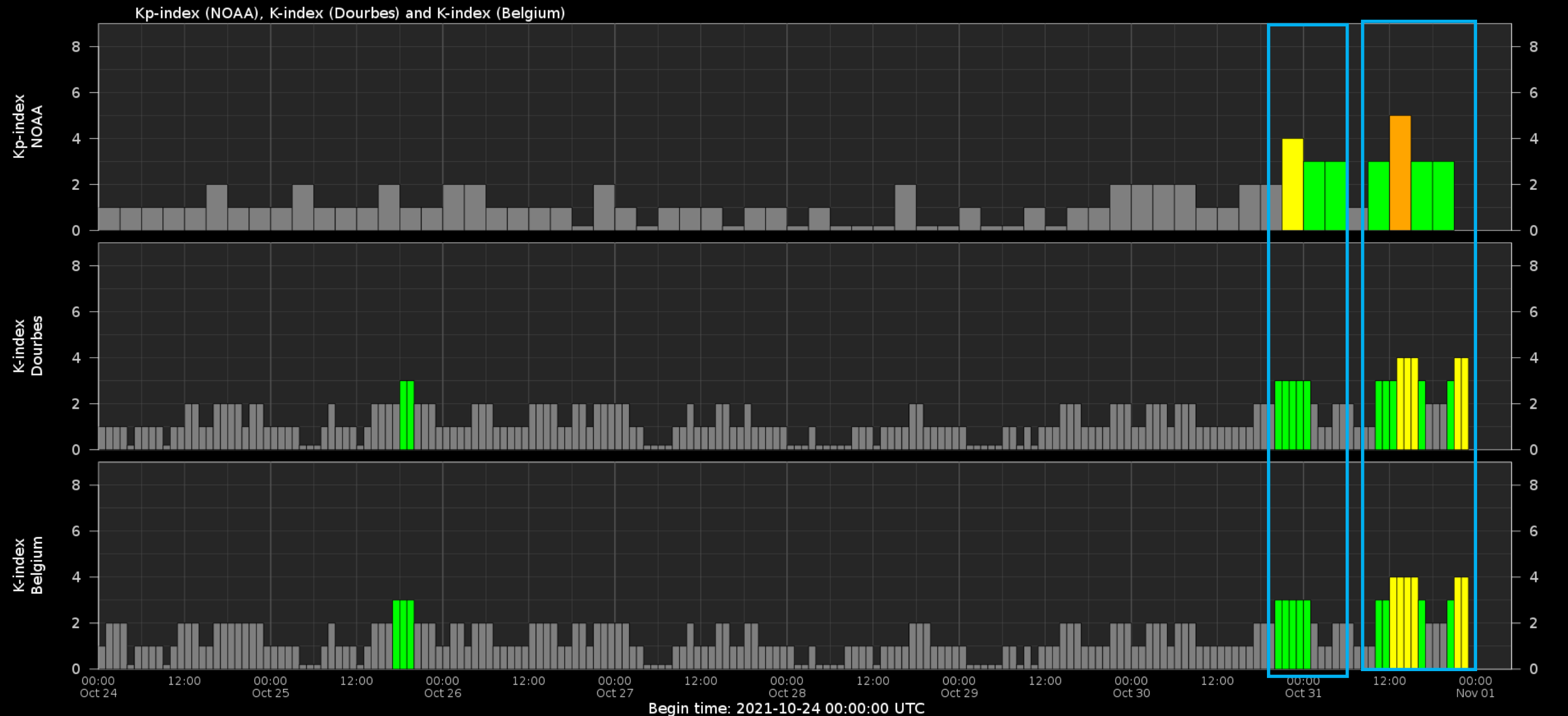
Weak FF
shock



Geomagnetic activity (K-indexes)

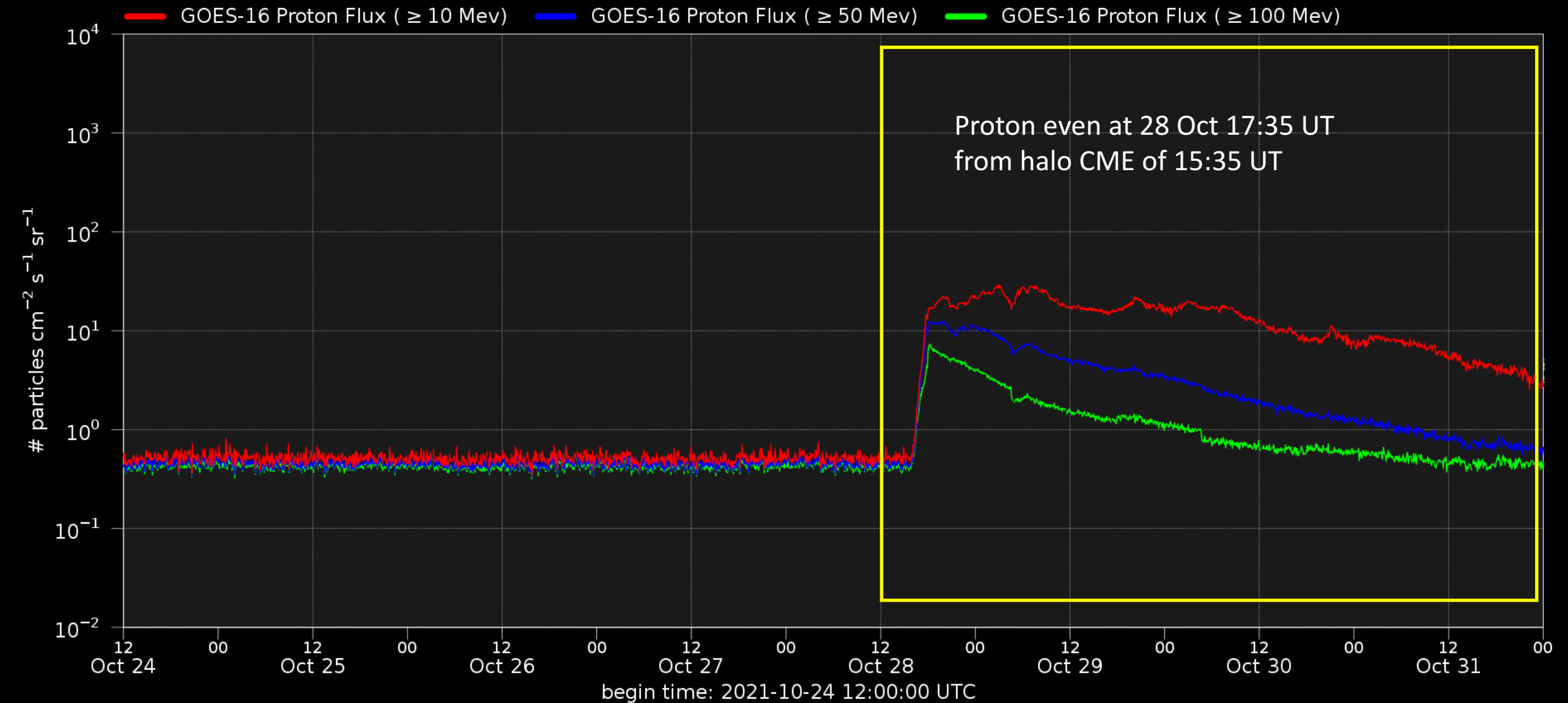
CME of
27 Oct

Halo CME of
28 Oct

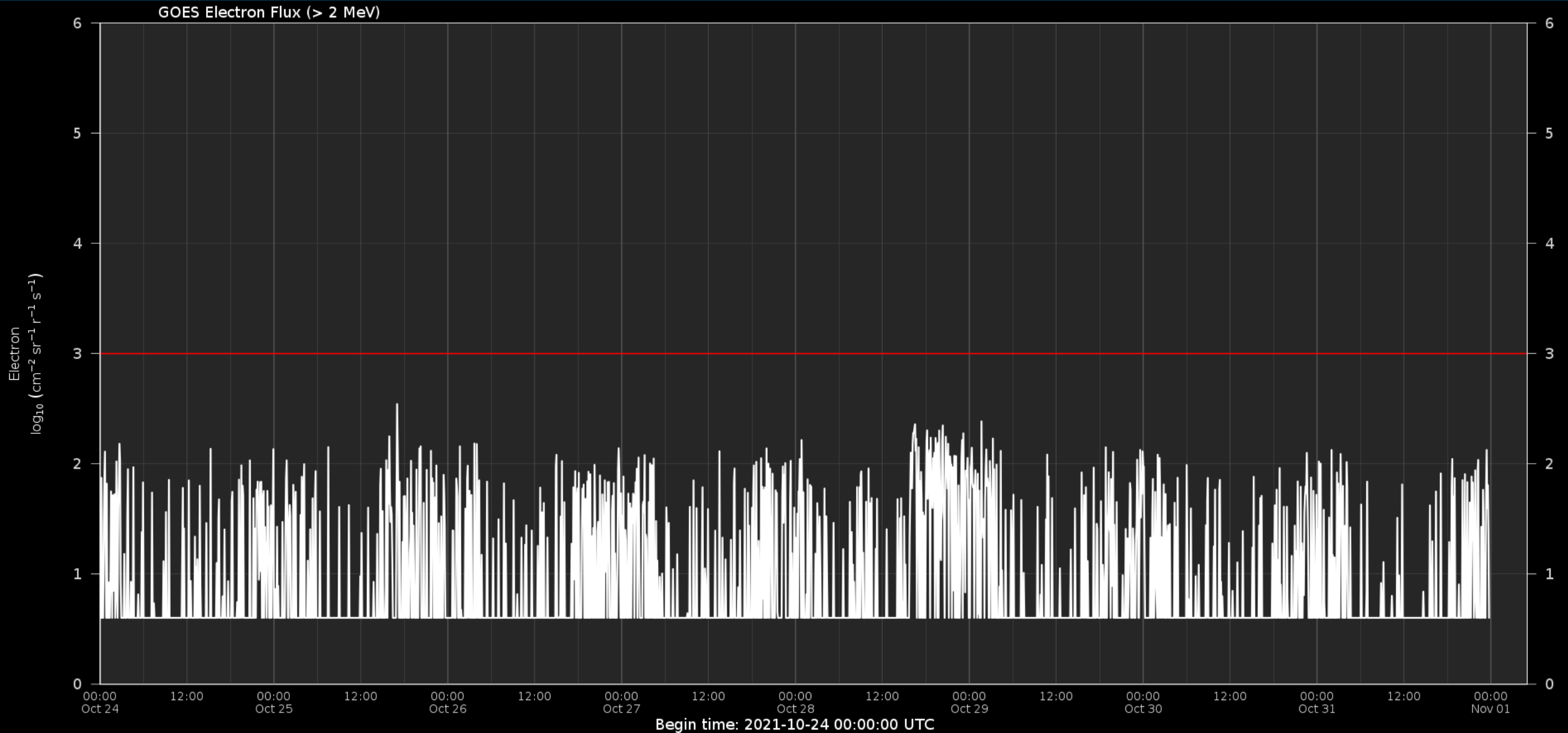


Energetic Particles

Solar proton flux



Electron flux at GEO



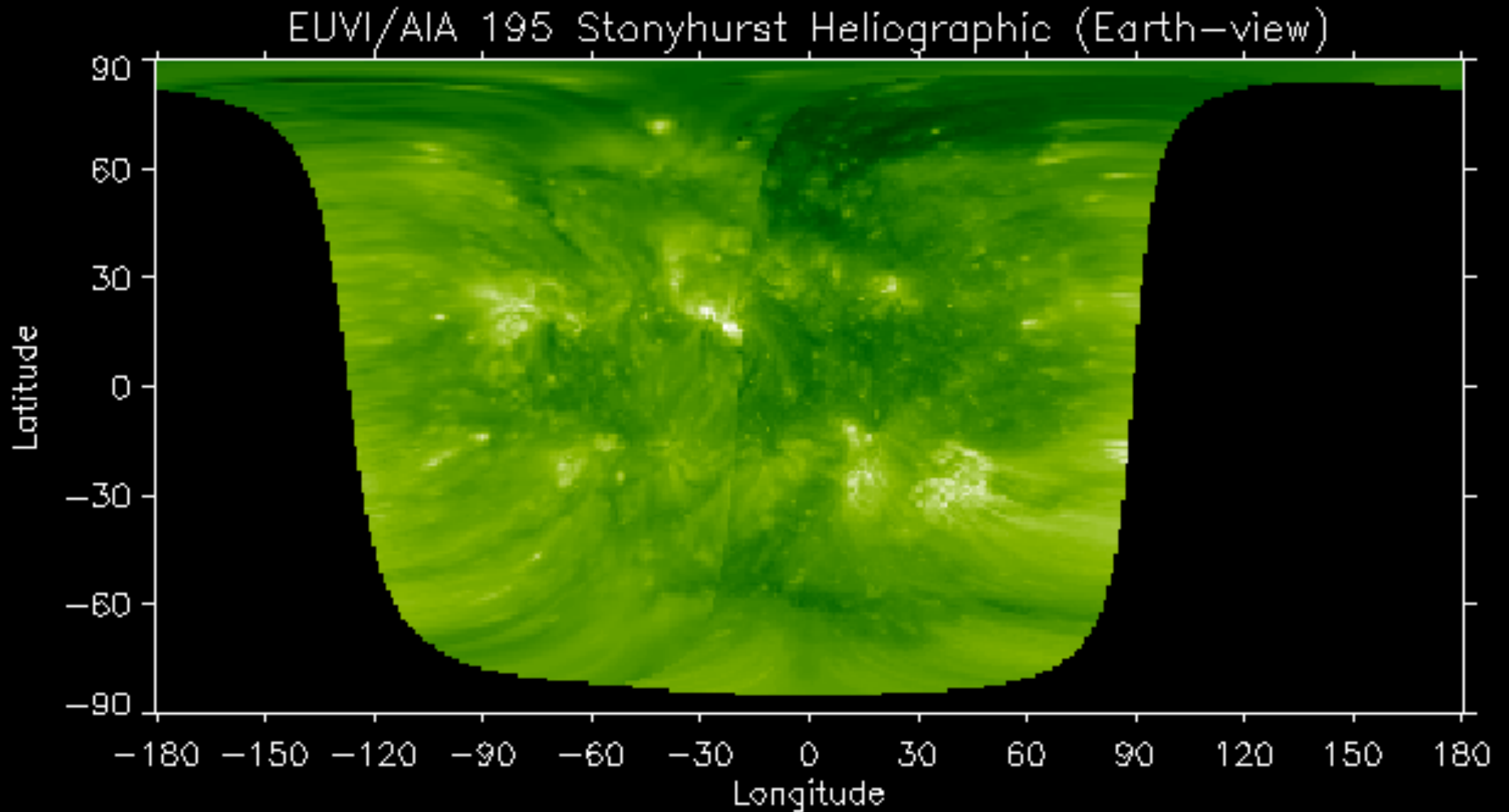
Outlook



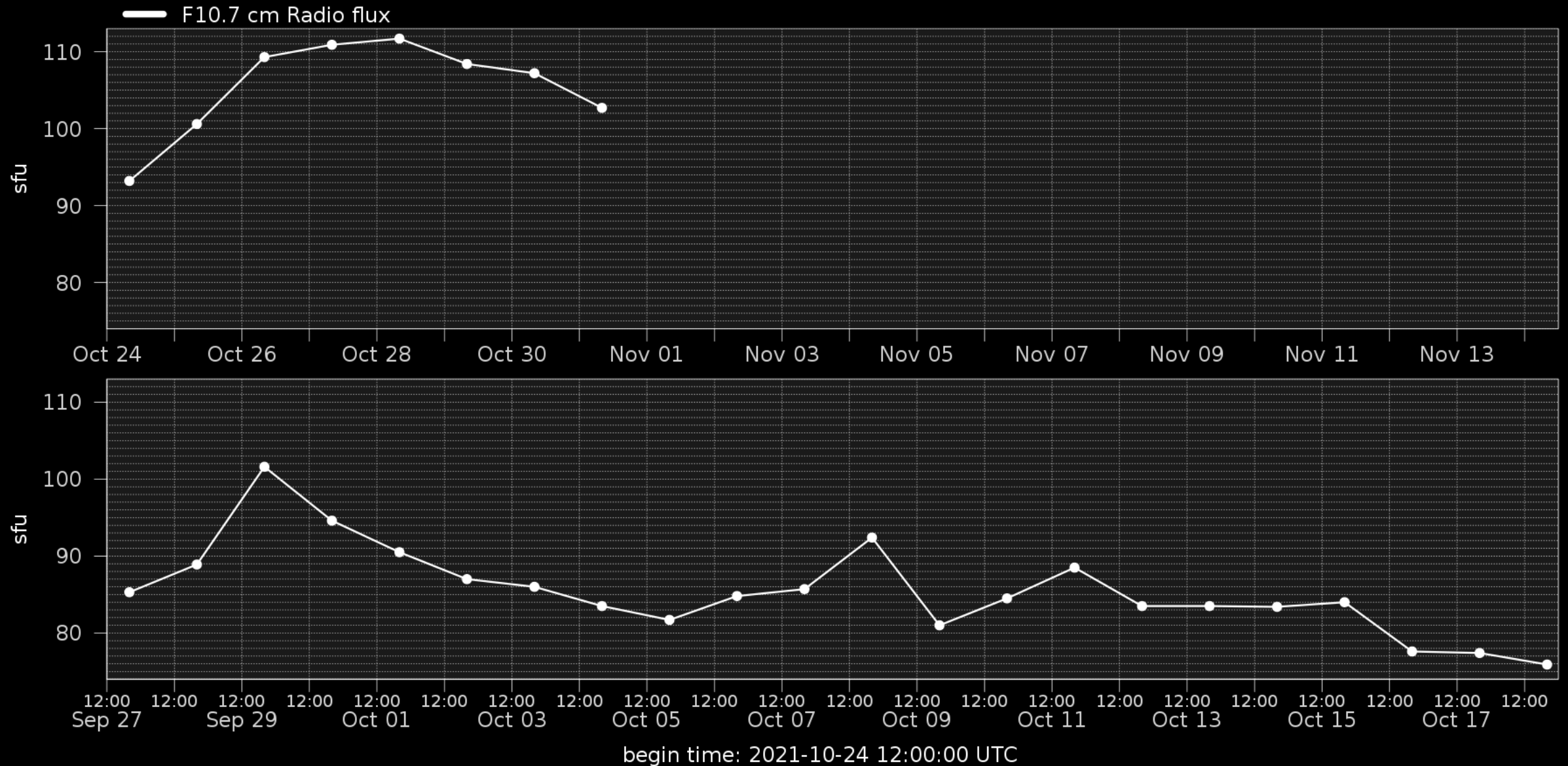
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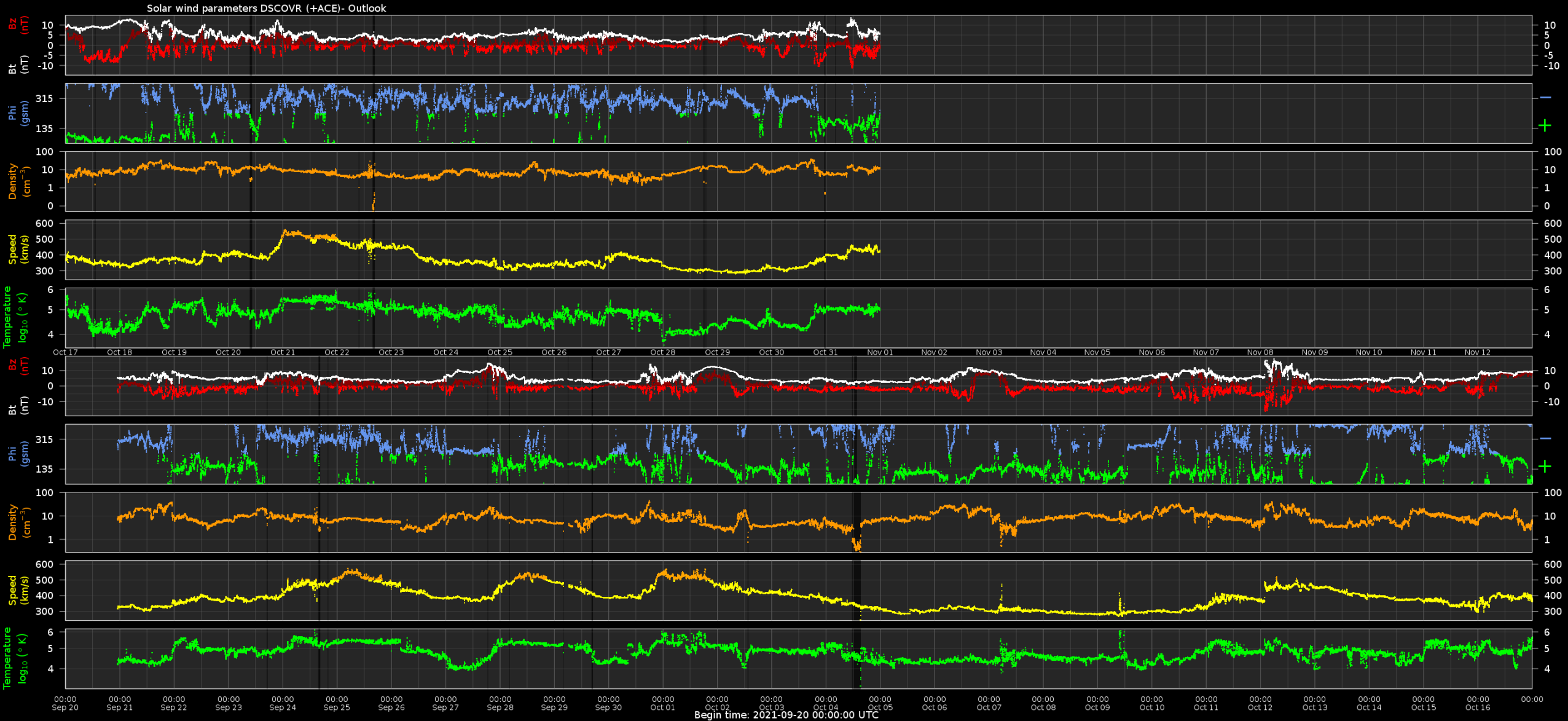
Outlook: Solar activity



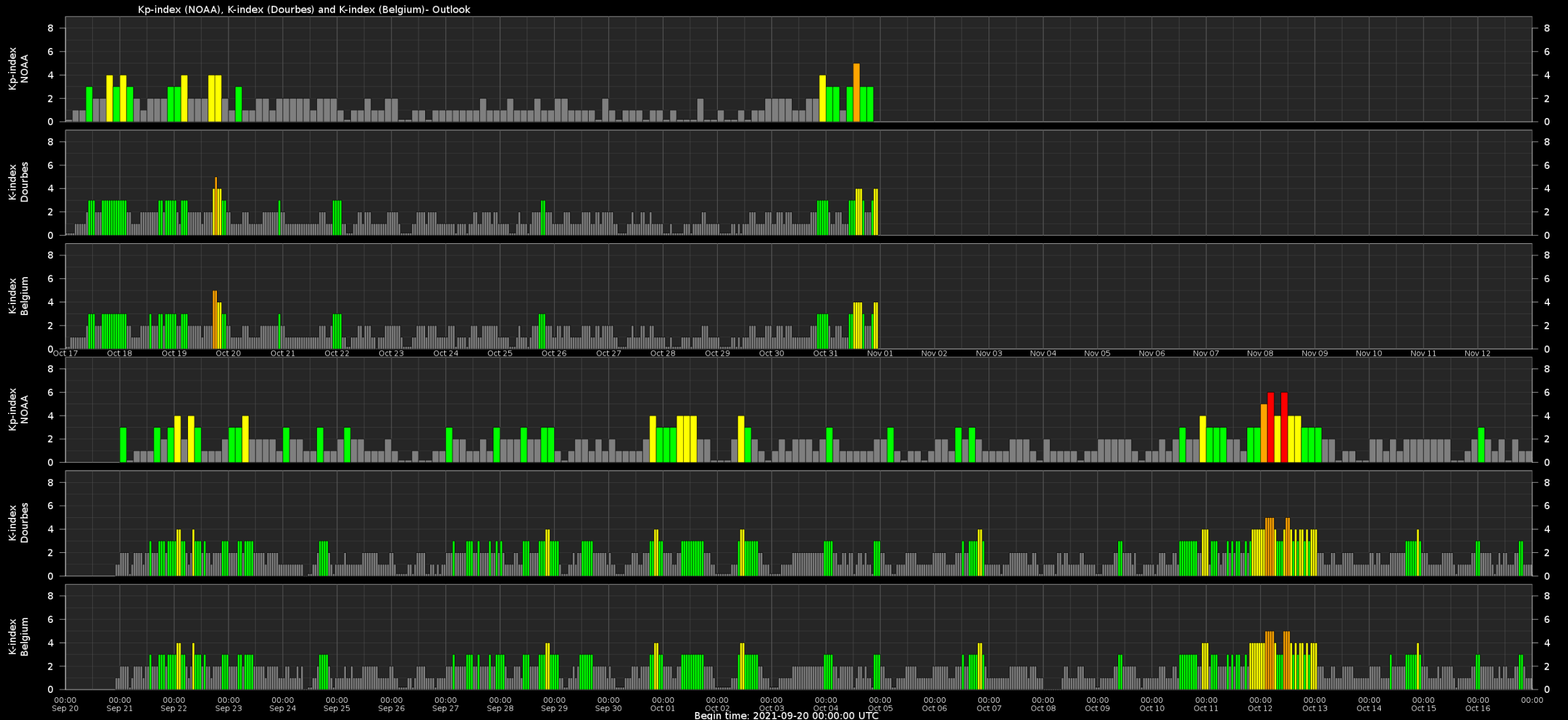
Outlook: Solar F10.7cm radio flux



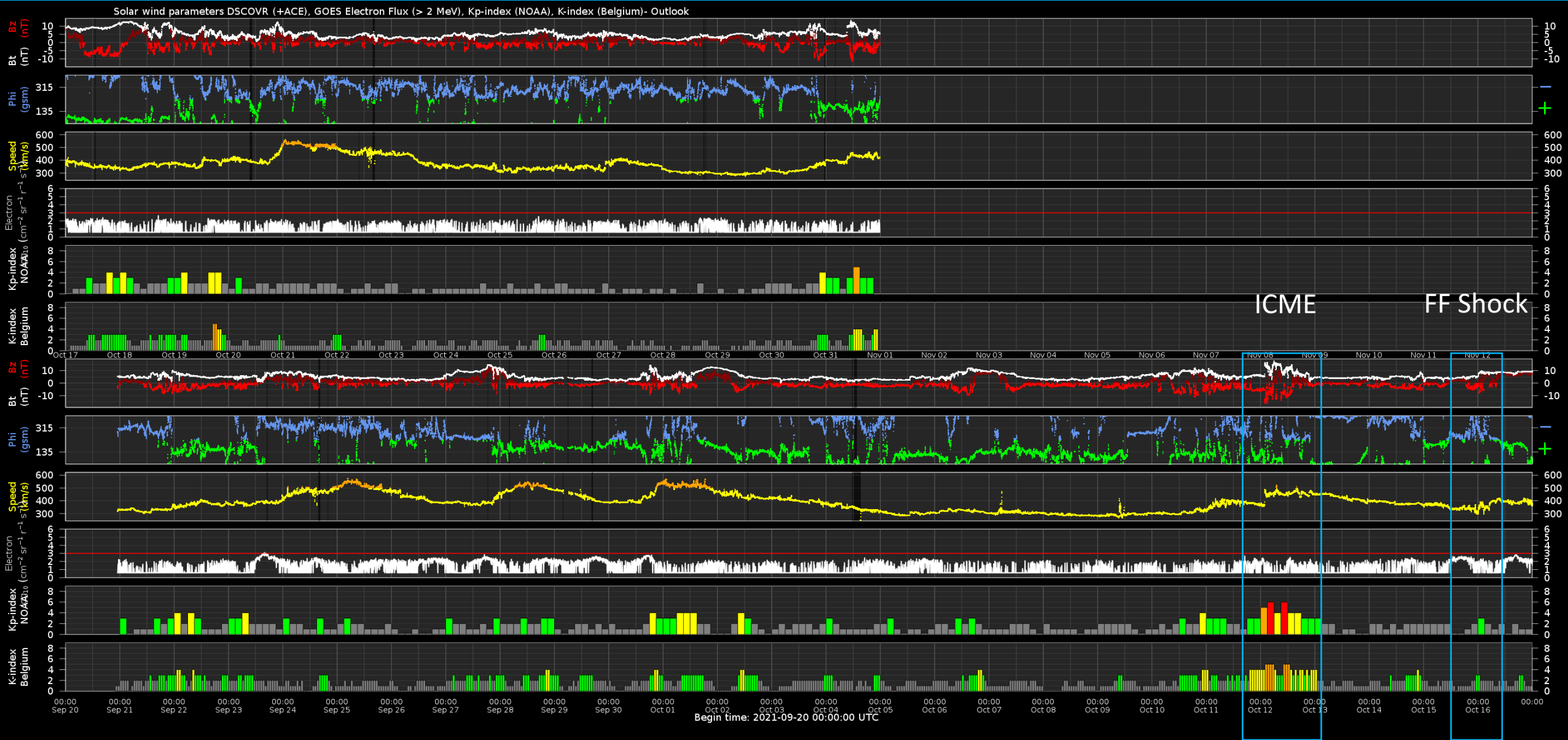
Outlook: Solar wind parameters



Outlook: Geomagnetic activity



Outlook: Electron Flux at GEO Outlook



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See you at our next briefing!

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