

SIDC Space Weather Briefing

14 April 2024-21 April 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 2024-04-14 12:00 to 2024-04-21 23:59

Active regions	25 Active Regions: NOAA AR 3628, 3633-3656
Flares	# C-class flare: 71 # M-class flare: 19 # X-class flare: 0
Coronal Holes	CH- and CH+
CMEs	Faint partial halo CME on Apr 15

Proton flux	Nominal levels
Electron flux	Below event threshold

Solar wind and geomagnetic conditions

ICMEs	17:27 on Apr 15 (possible source 02:00UTC, Apr 12), 04:53 on Apr 19 (possible source 06:48UTC, Apr 15)
Solar wind conditions	B : 0.16 - 18.16 nT //Bz: -17.31 nT to 9.93 nT //Speed: 281.1 - 589.3km/s
Geomagnetic conditions	max KBel: 5, max Kp(NOAA): 7, Major Storm conditions globally

All Quiet Alert: Not all quiet

Solar Activity

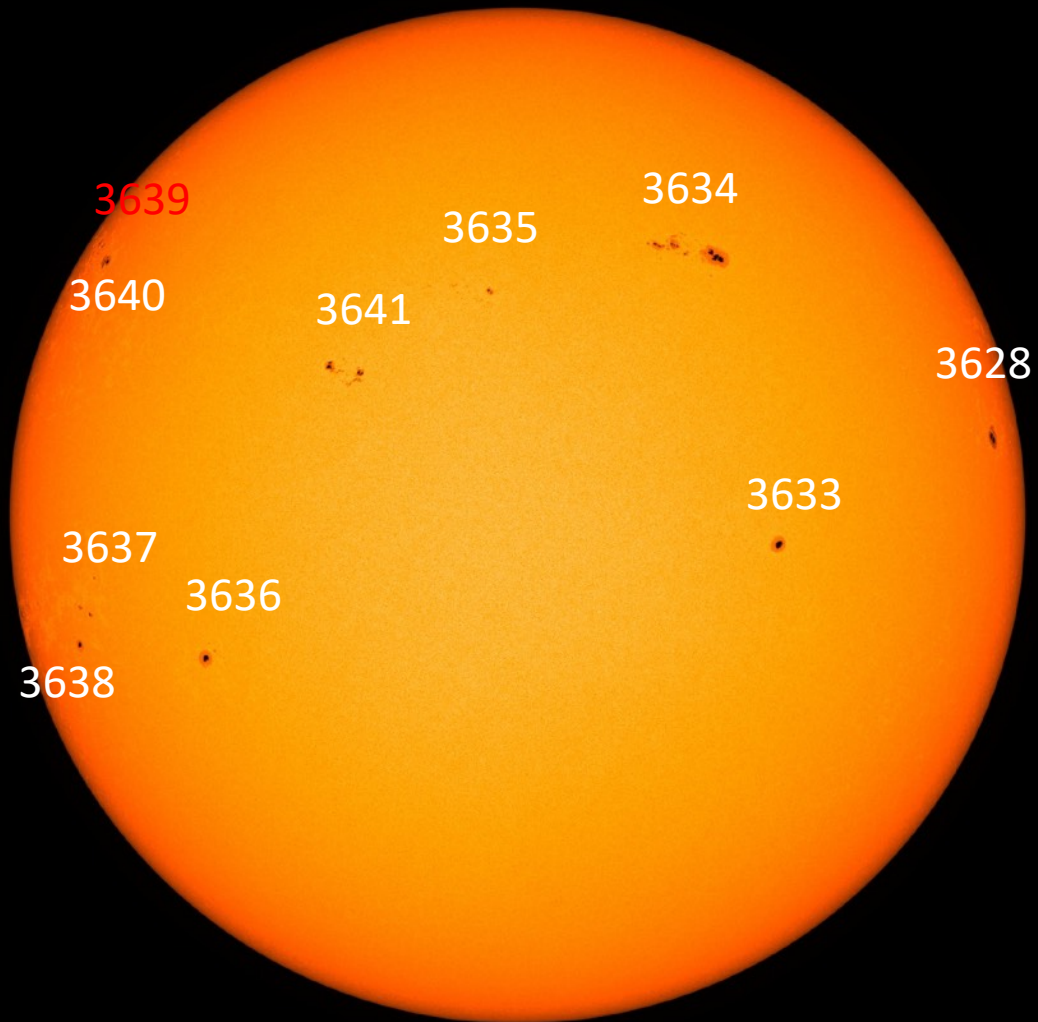


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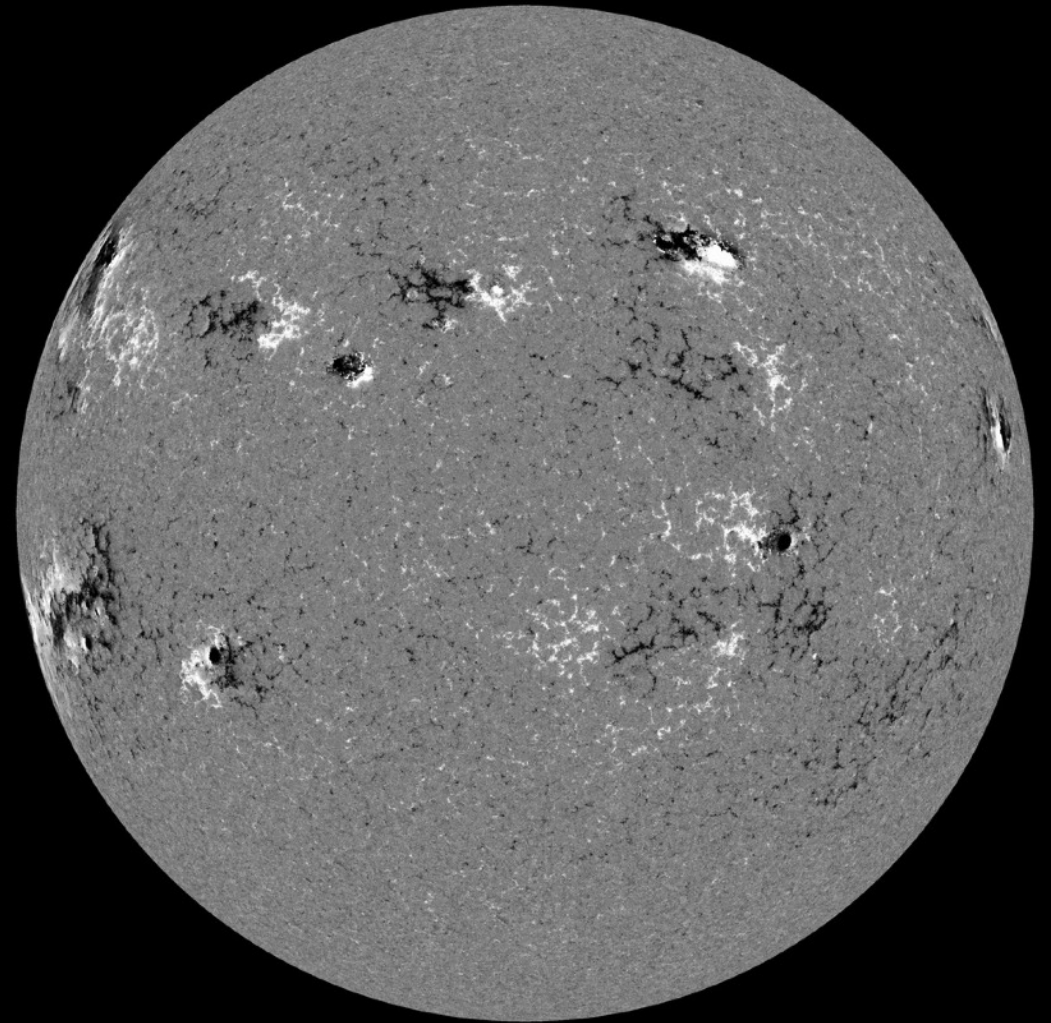
Solar active regions

SDO/HMI White Light 2024-04-14



SDO/HMI Quick-Look Continuum: 20240414_114500

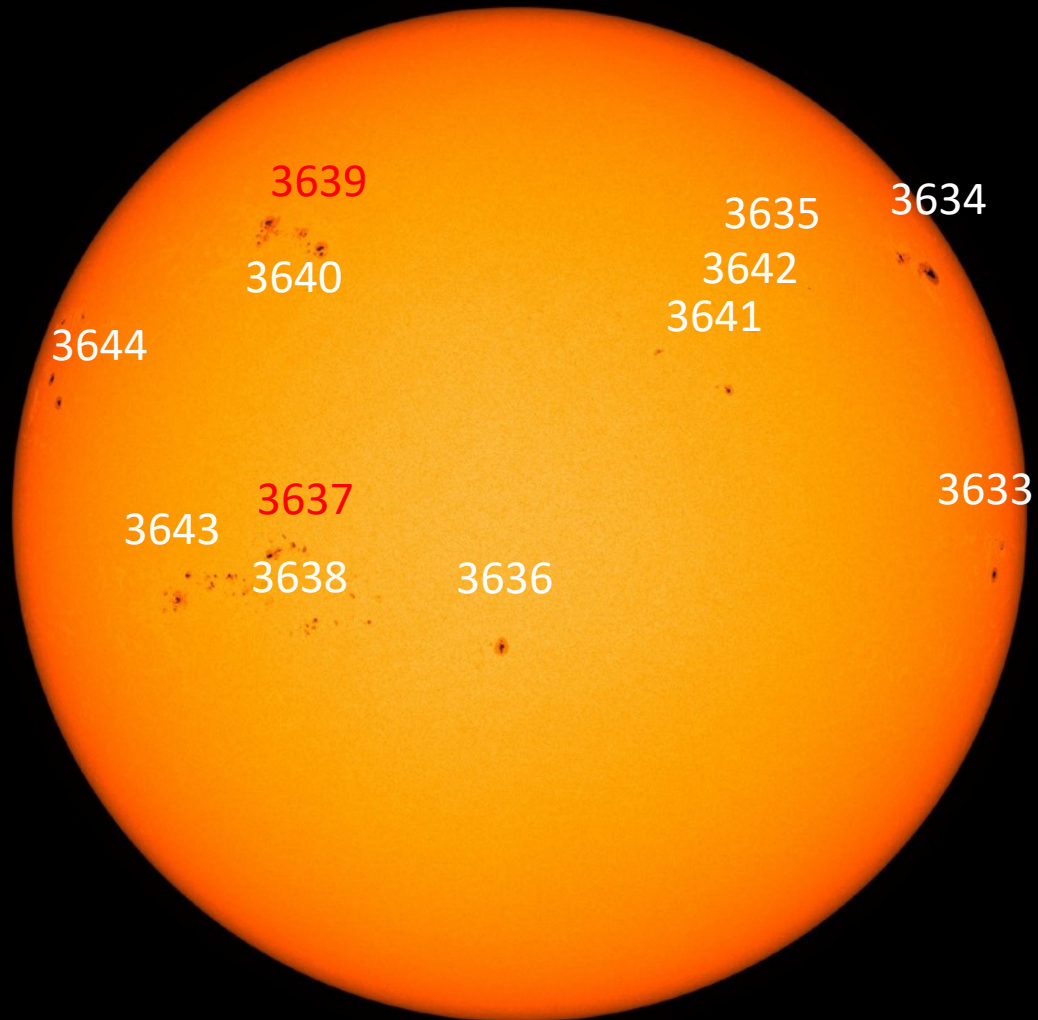
SDO/HMI Magnetogram 2024-04-14



SDO/HMI Quick-Look Magnetogram: 20240414_114500

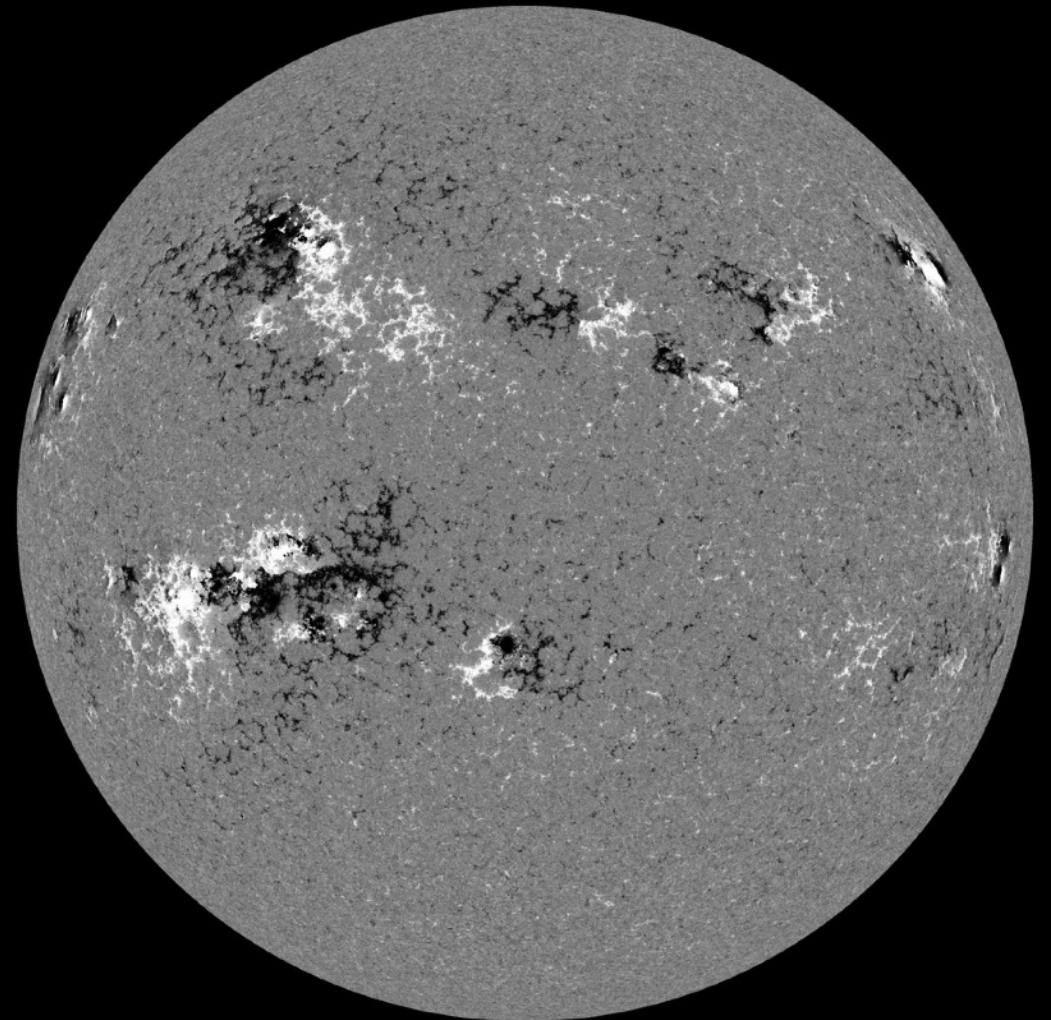
Solar active regions

SDO/HMI White Light 2024-04-17



SDO/HMI Quick-Look Continuum: 20240417_114500

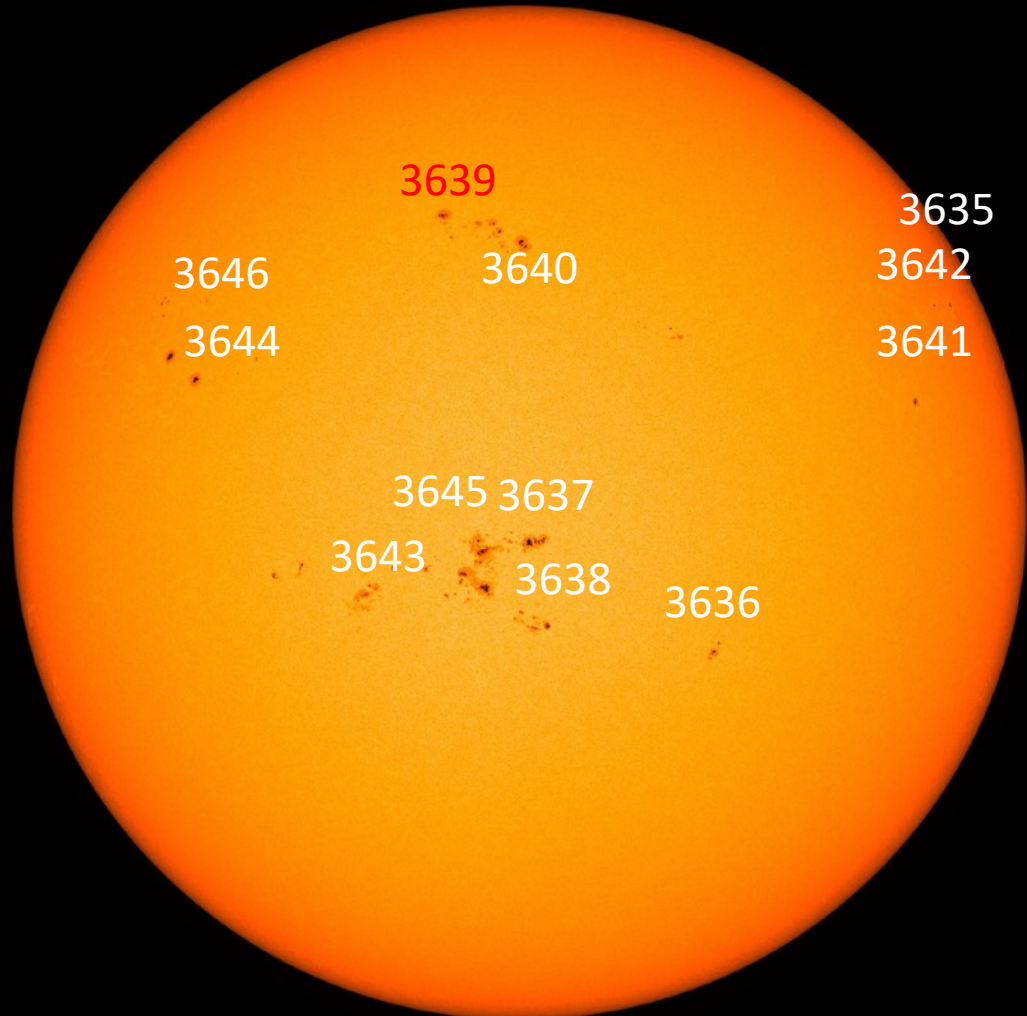
SDO/HMI Magnetogram 2024-04-17



SDO/HMI Quick-Look Magnetogram: 20240417_114500

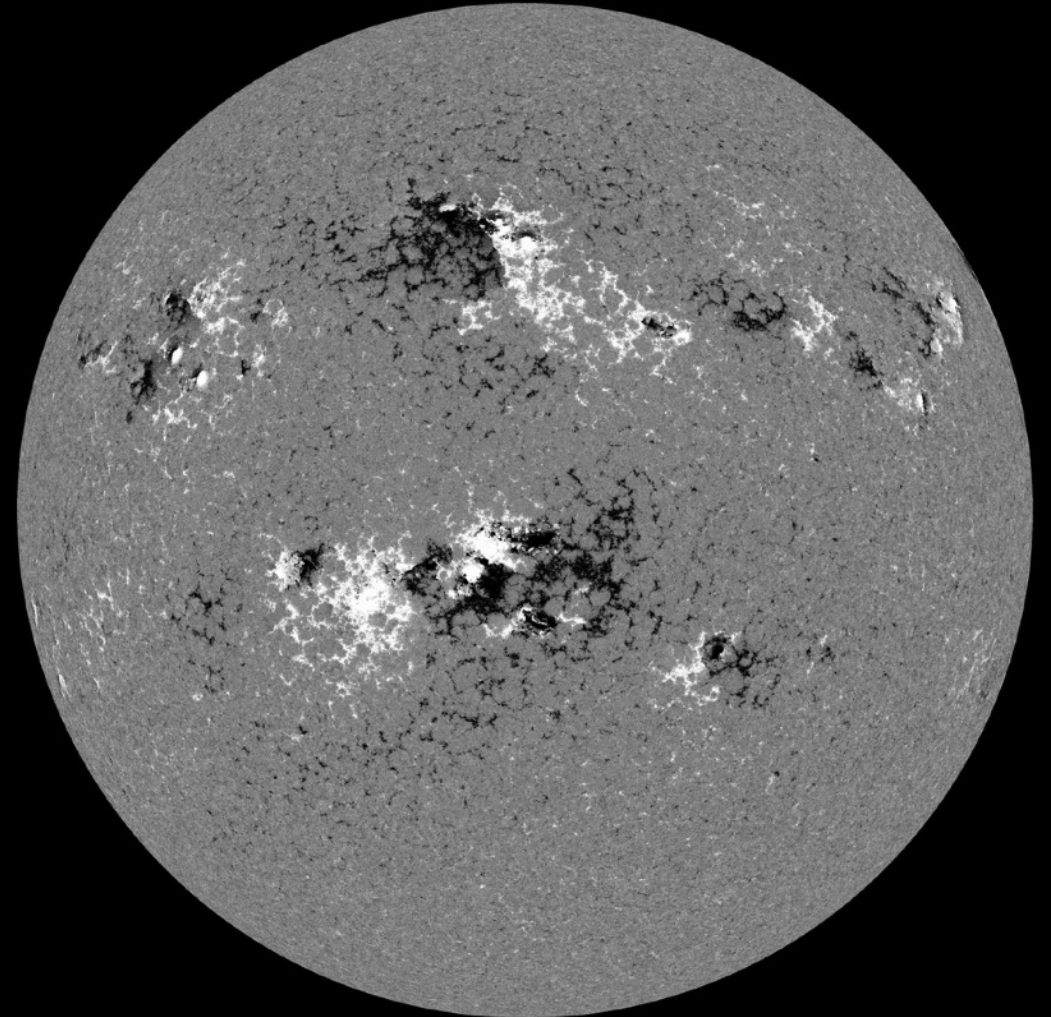
Solar active regions

SDO/HMI White Light 2024-04-19



SDO/HMI Quick-Look Continuum: 20240419_114500

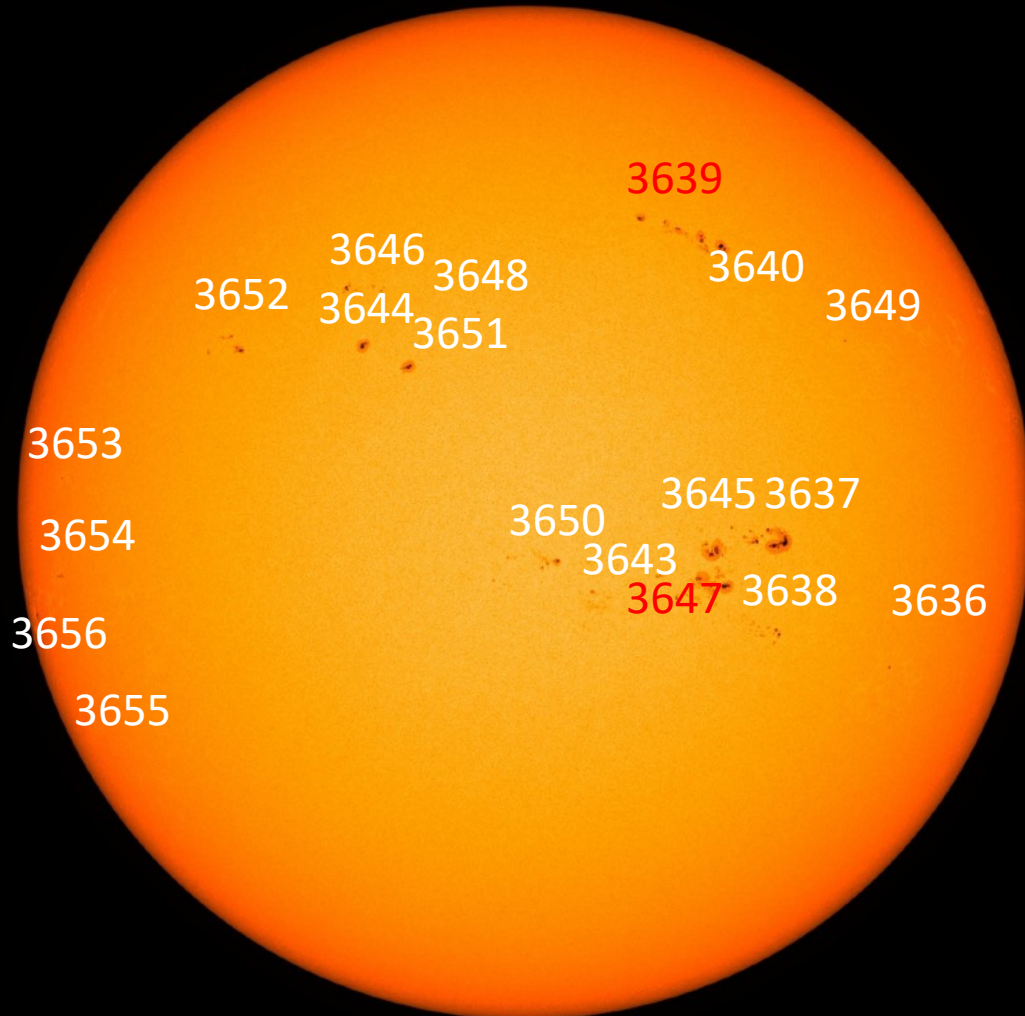
SDO/HMI Magnetogram 2024-04-19



SDO/HMI Quick-Look Magnetogram: 20240419_114500

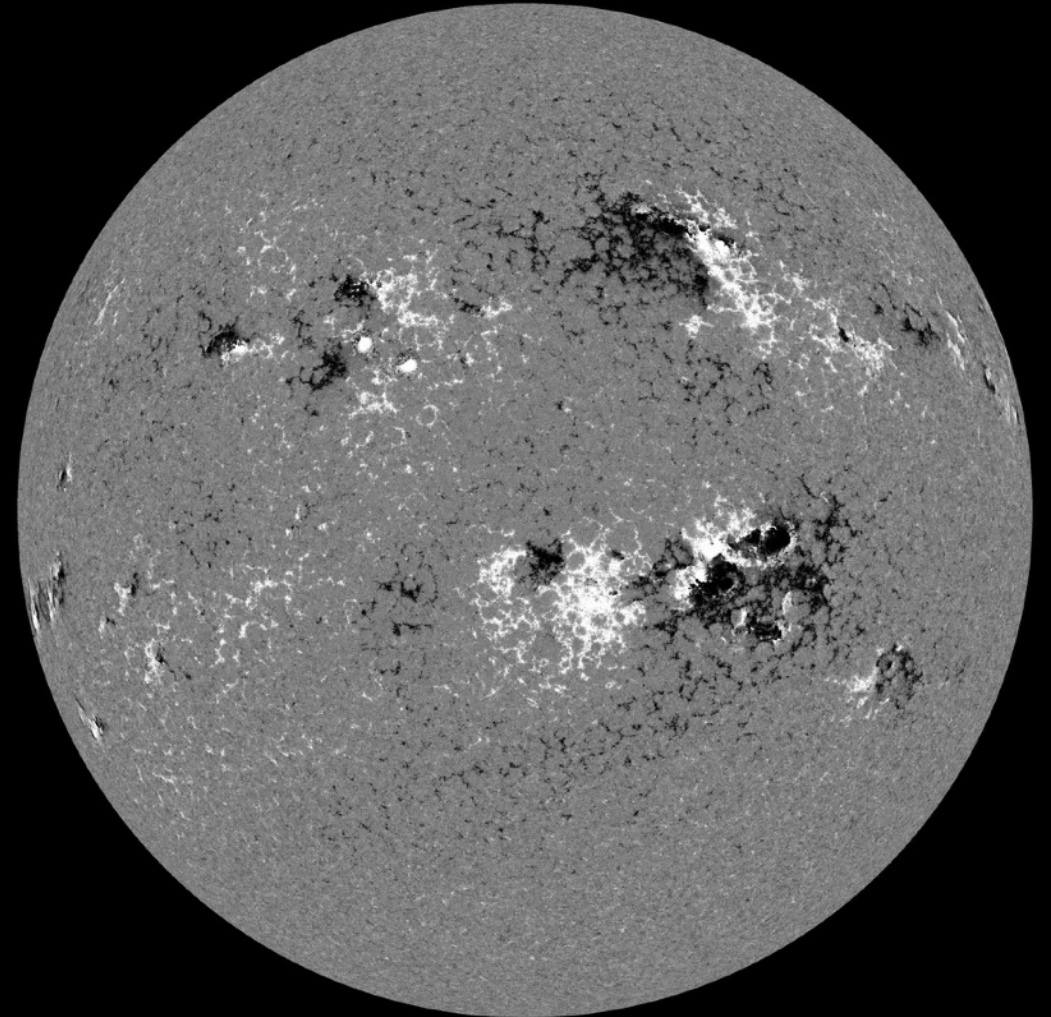
Solar active regions

SDO/HMI White Light 2024-04-21



SDO/HMI Quick-Look Continuum: 20240421_114500

SDO/HMI Magnetogram 2024-04-21

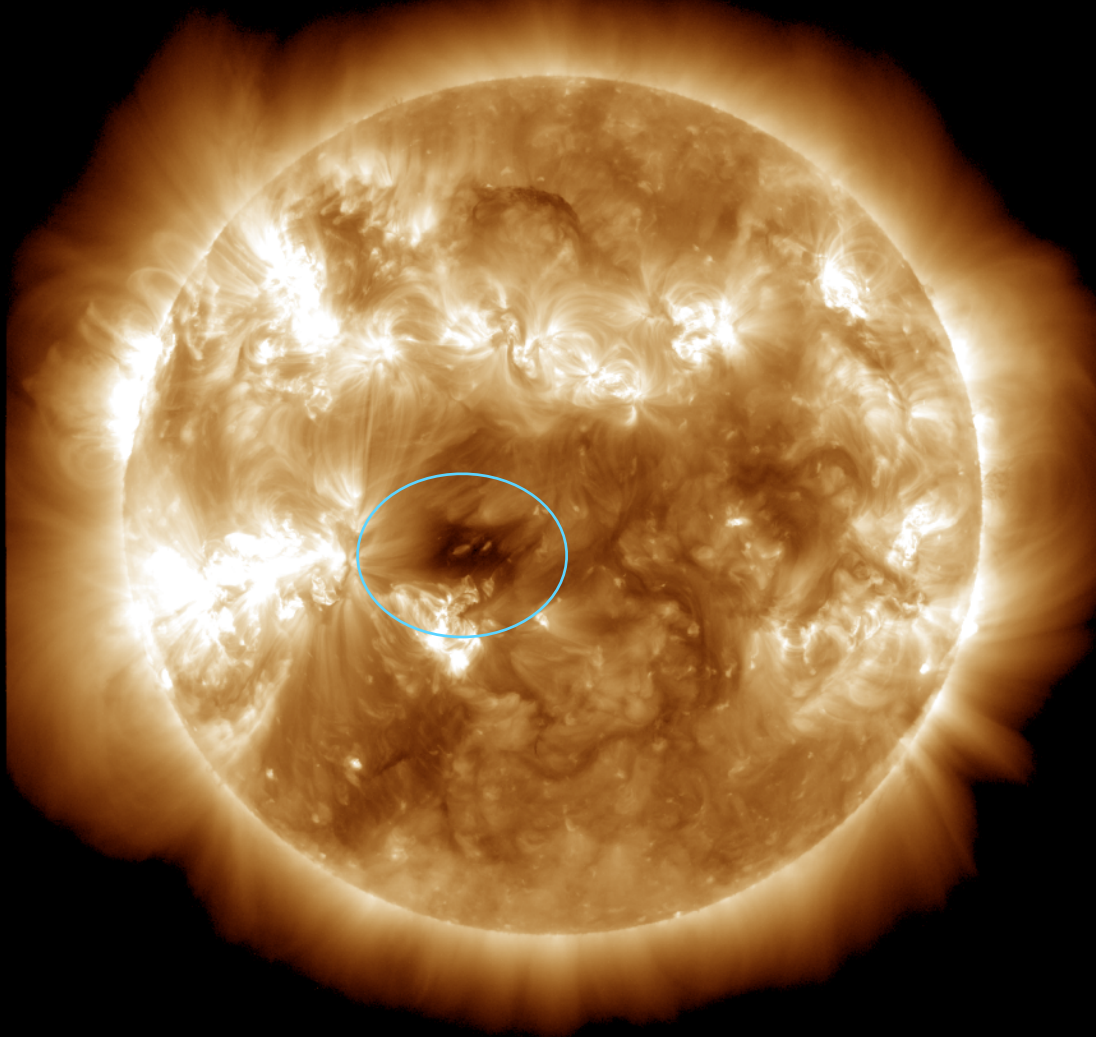


SDO/HMI Quick-Look Magnetogram: 20240421_114500

Coronal holes

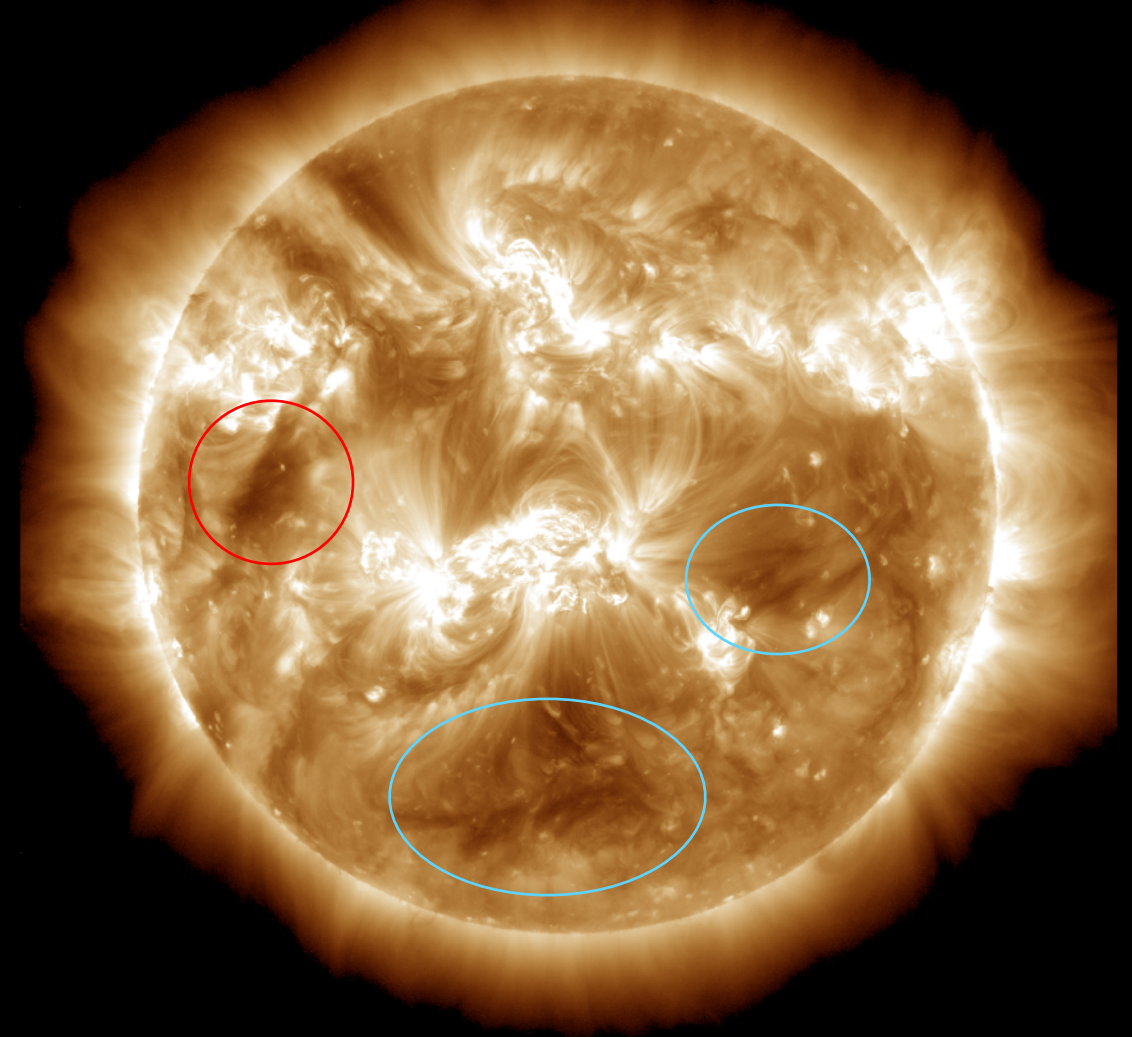
SDO/AIA 19.3 nm 2024-04-16

SDO/AIA AIA 193Å 2024-04-16T15:00:05.846



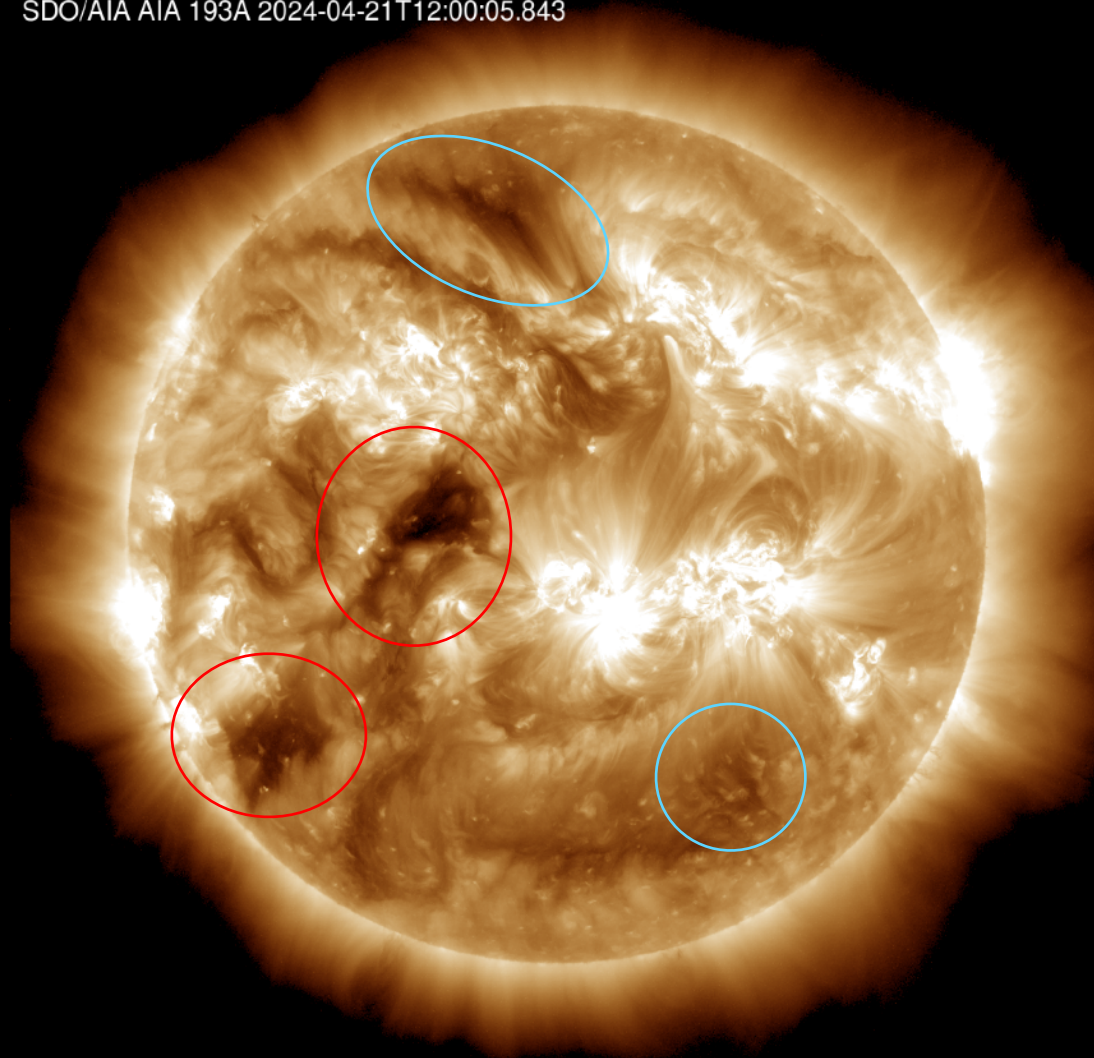
SDO/AIA 19.3 nm 2024-04-19

SDO/AIA AIA 193Å 2024-04-19T12:00:05.843



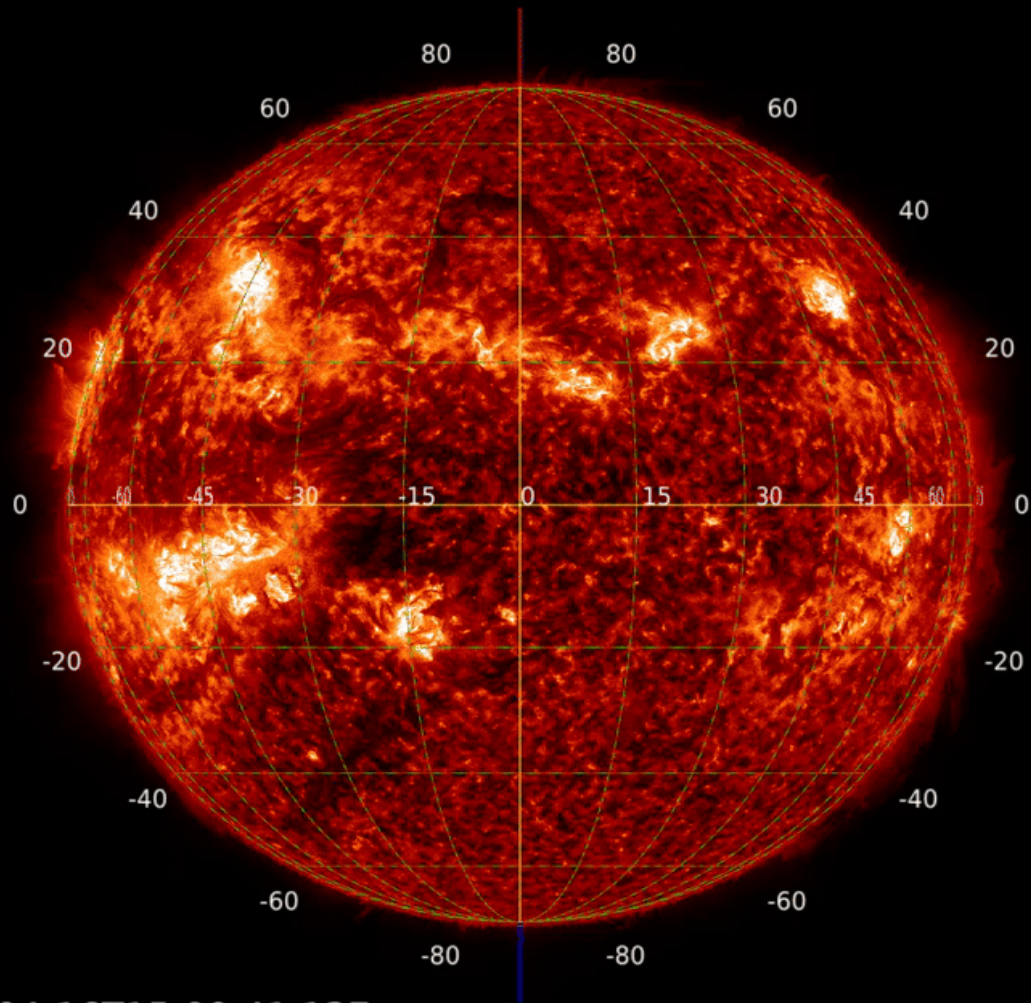
SDO/AIA 19.3 nm 2024-04-21

SDO/AIA AIA 193Å 2024-04-21T12:00:05.843



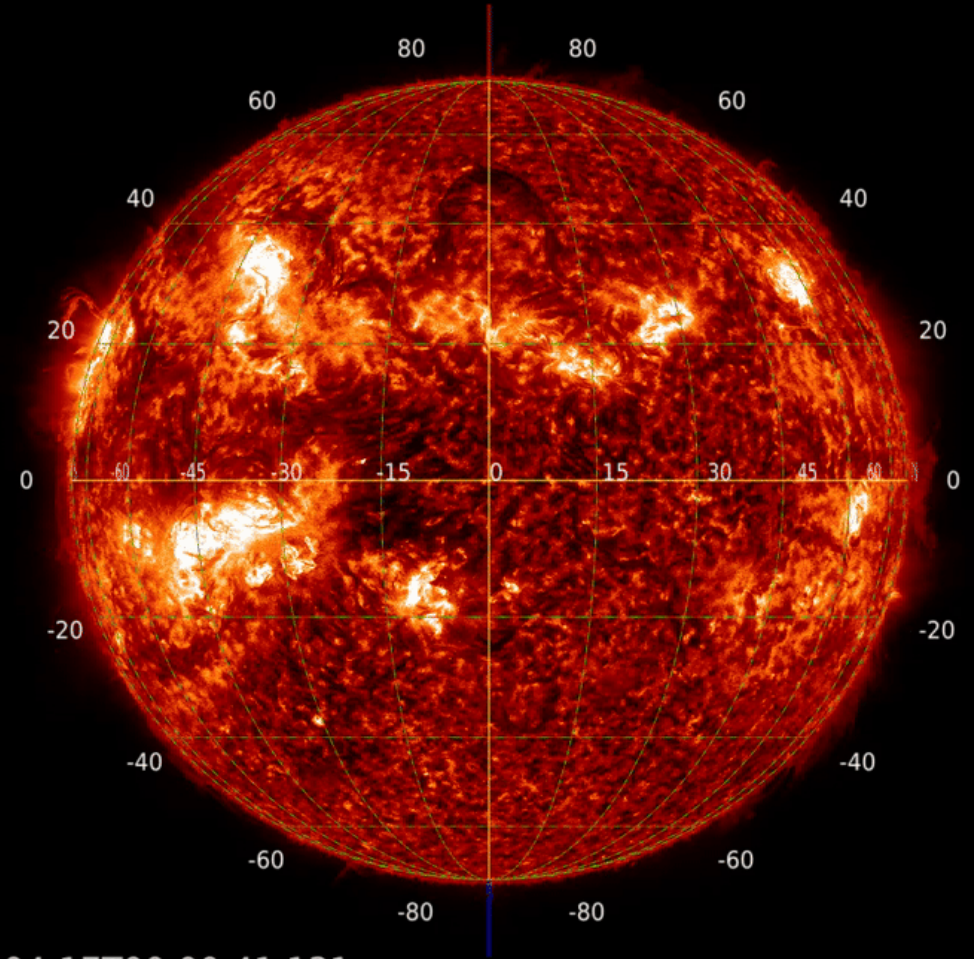
Filaments

SDO/AIA 30.4 nm 2024-04-16



2024-04-16T15:00:41.137

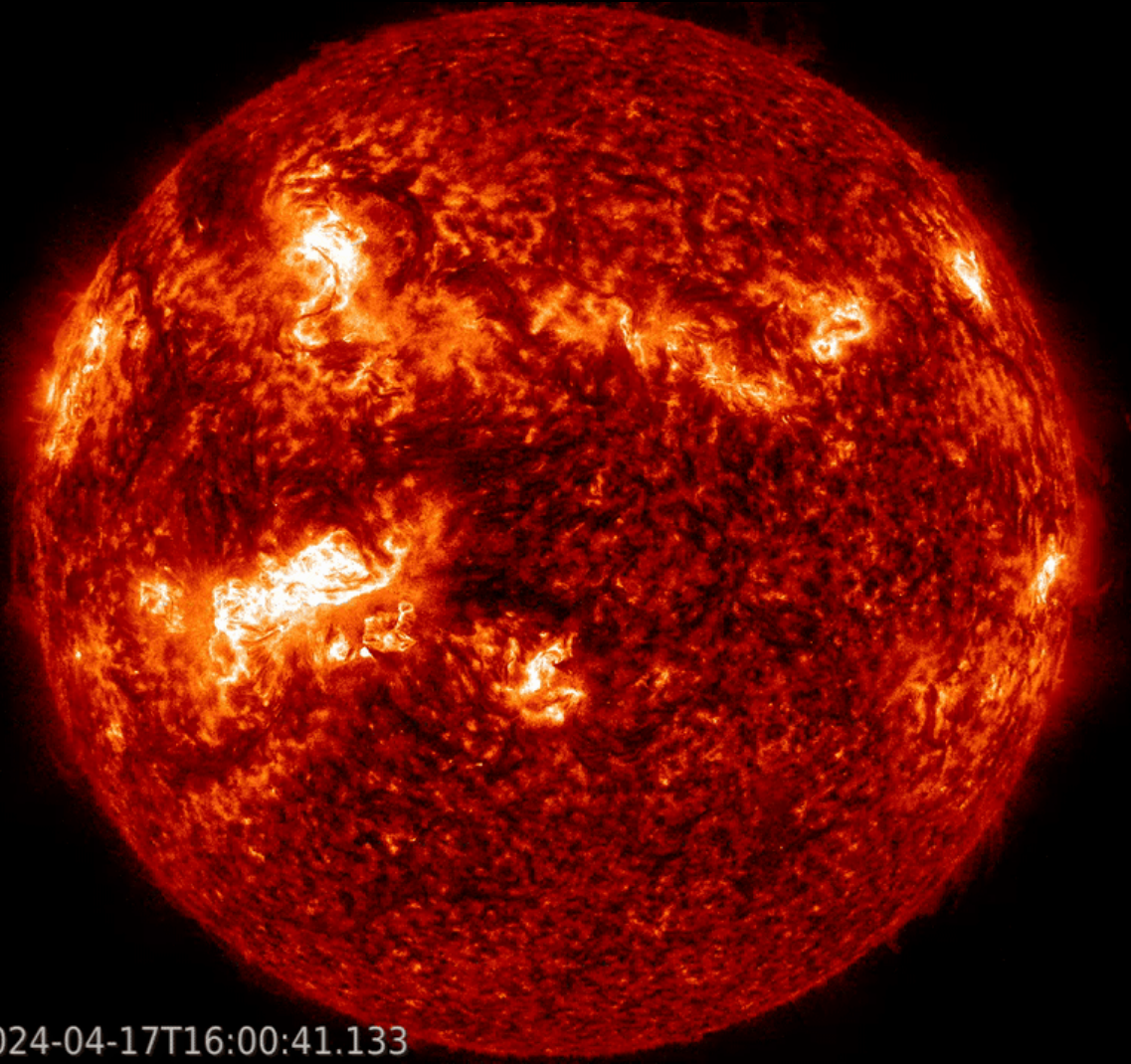
SDO/AIA 30.4 nm 2023-04-17



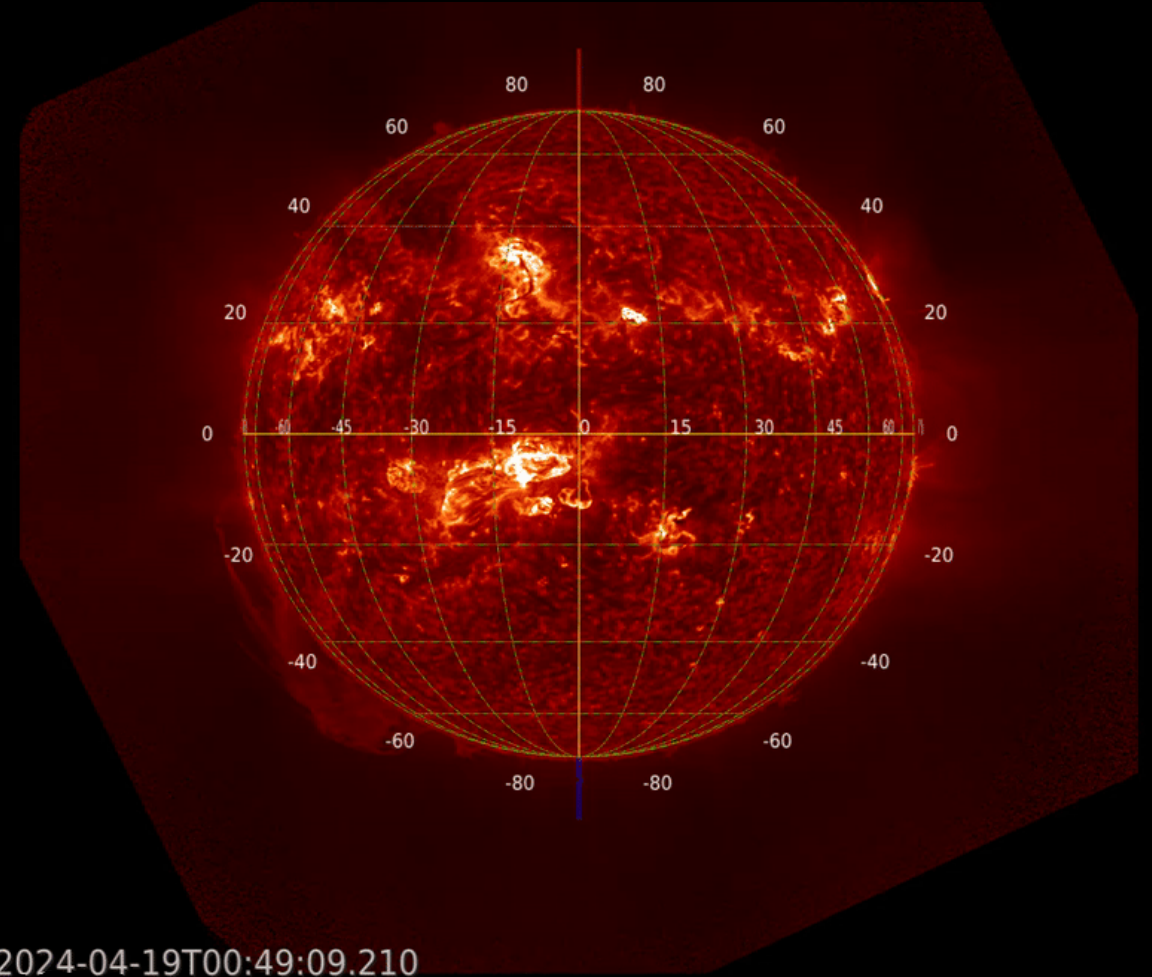
2024-04-17T00:00:41.131

Eruptions

SDO/AIA 30.4 nm 2024-04-17 – 2024-04-21

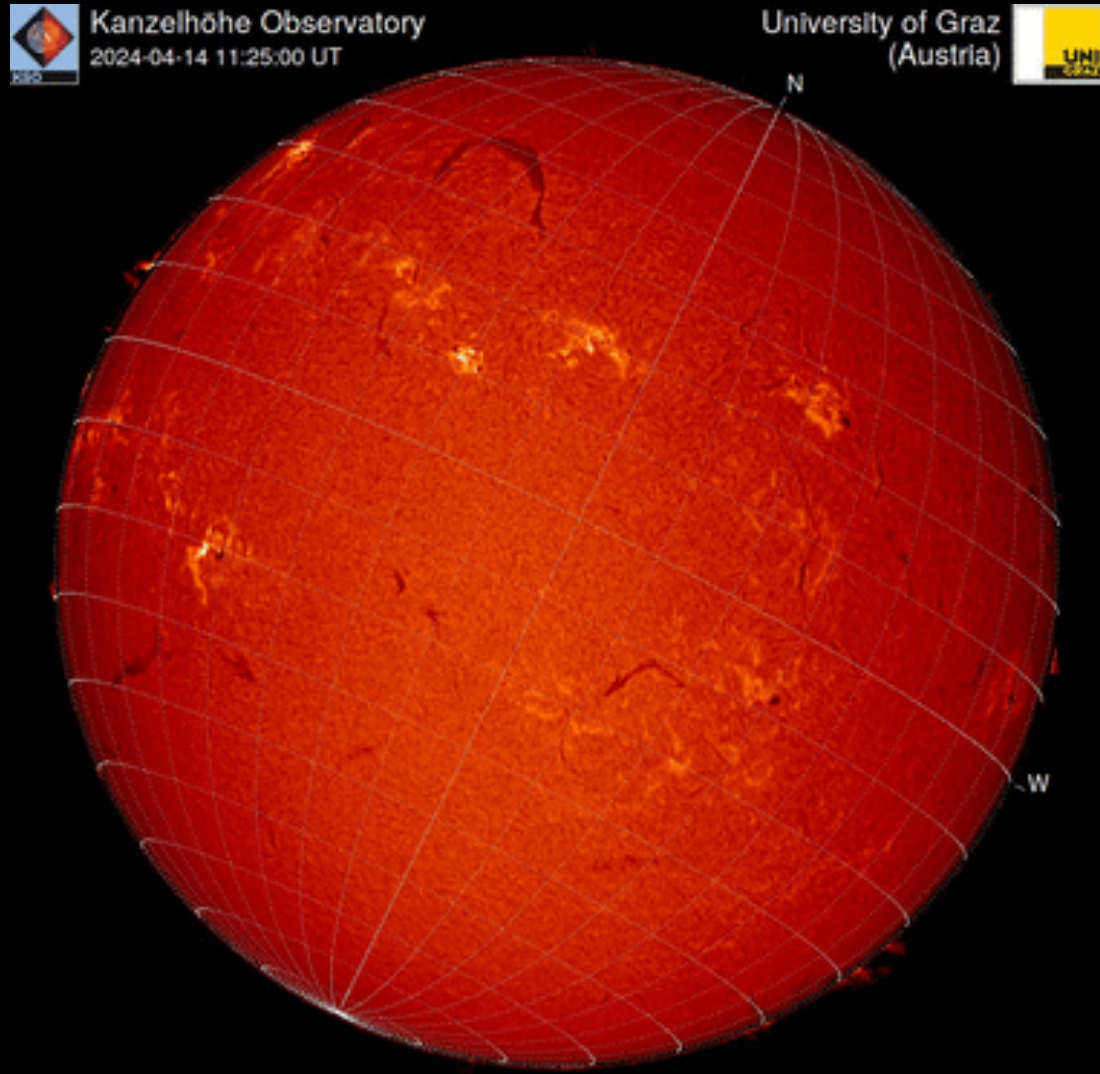


GOES/SUVI 30.4 nm 2023-04-19

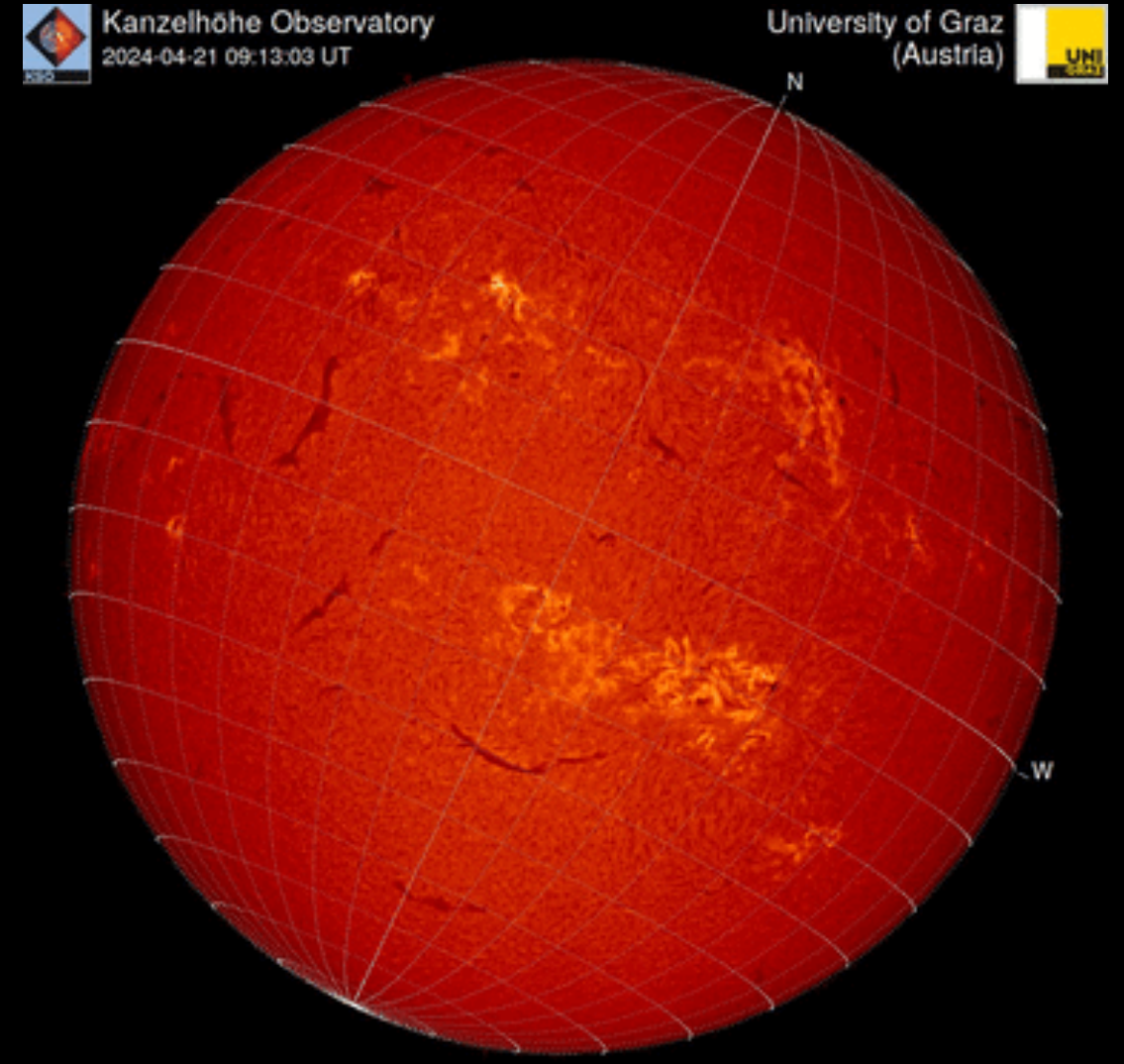


Filaments & Filament eruptions

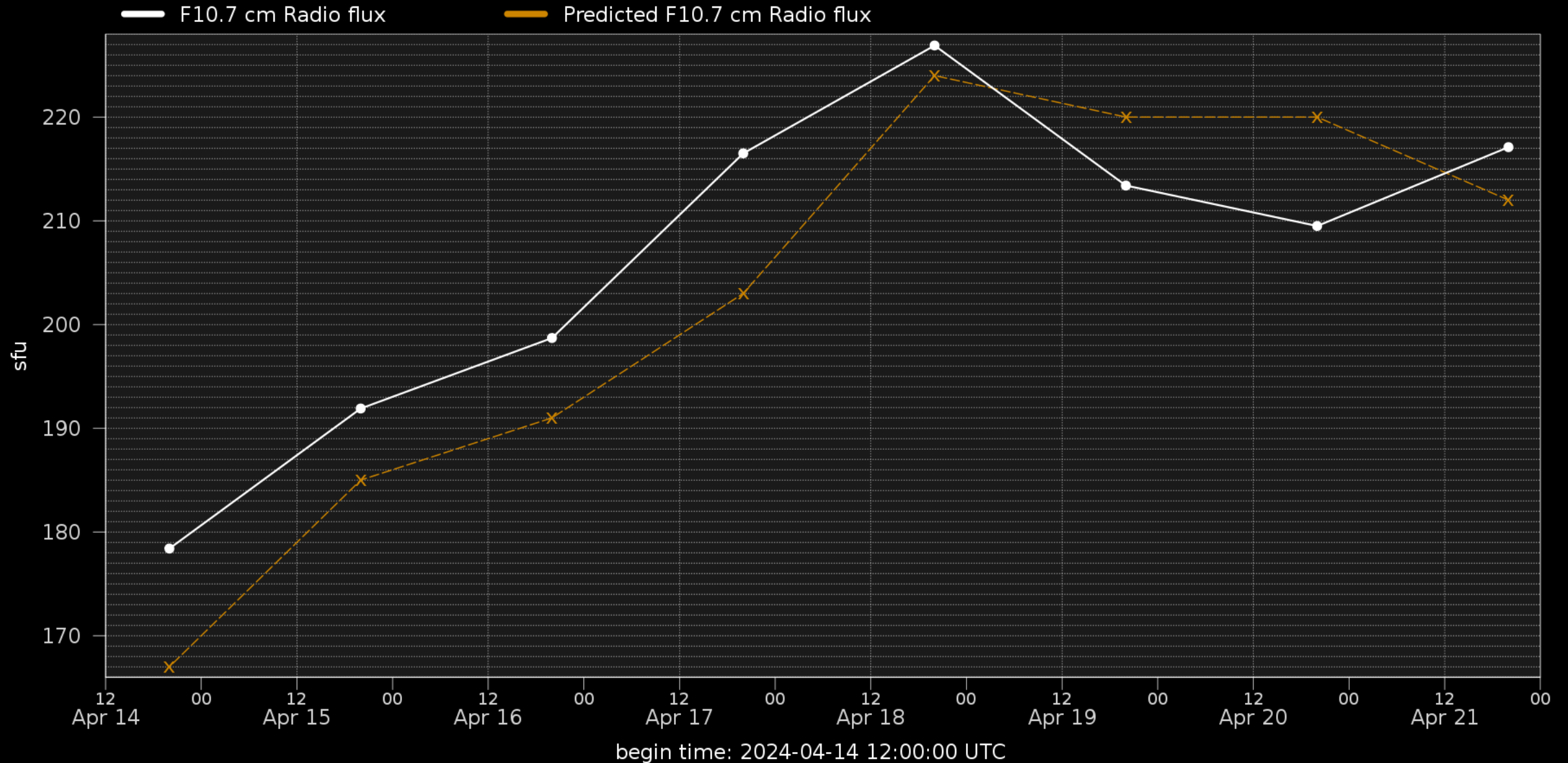
H-alpha 2024-04-14



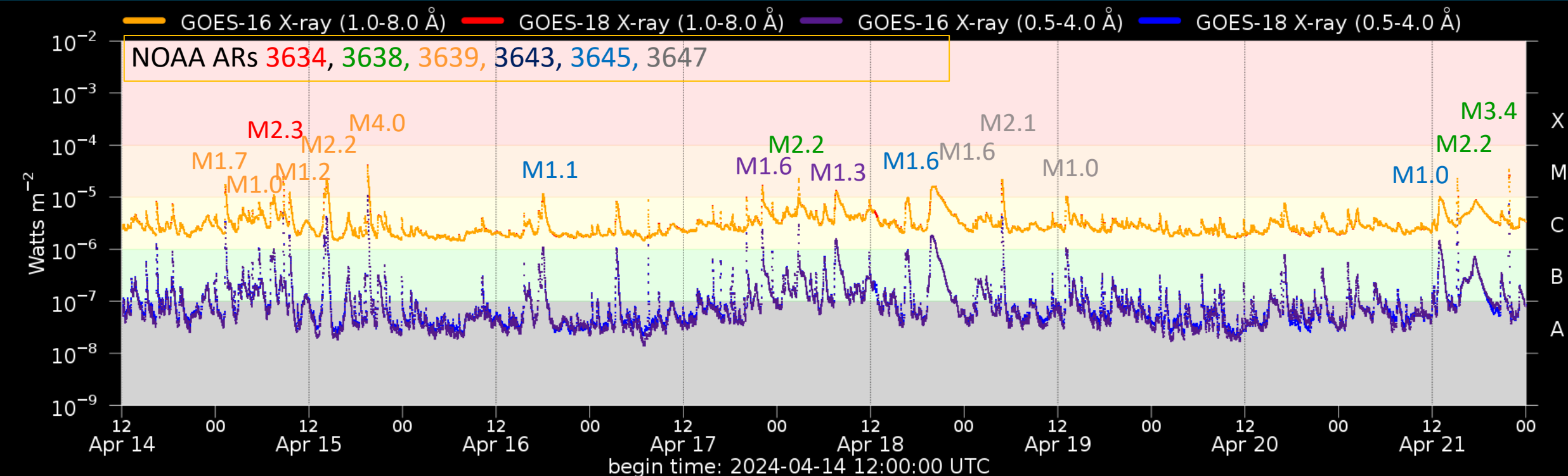
H-alpha 2024-04-21



Solar F10.7cm radio flux



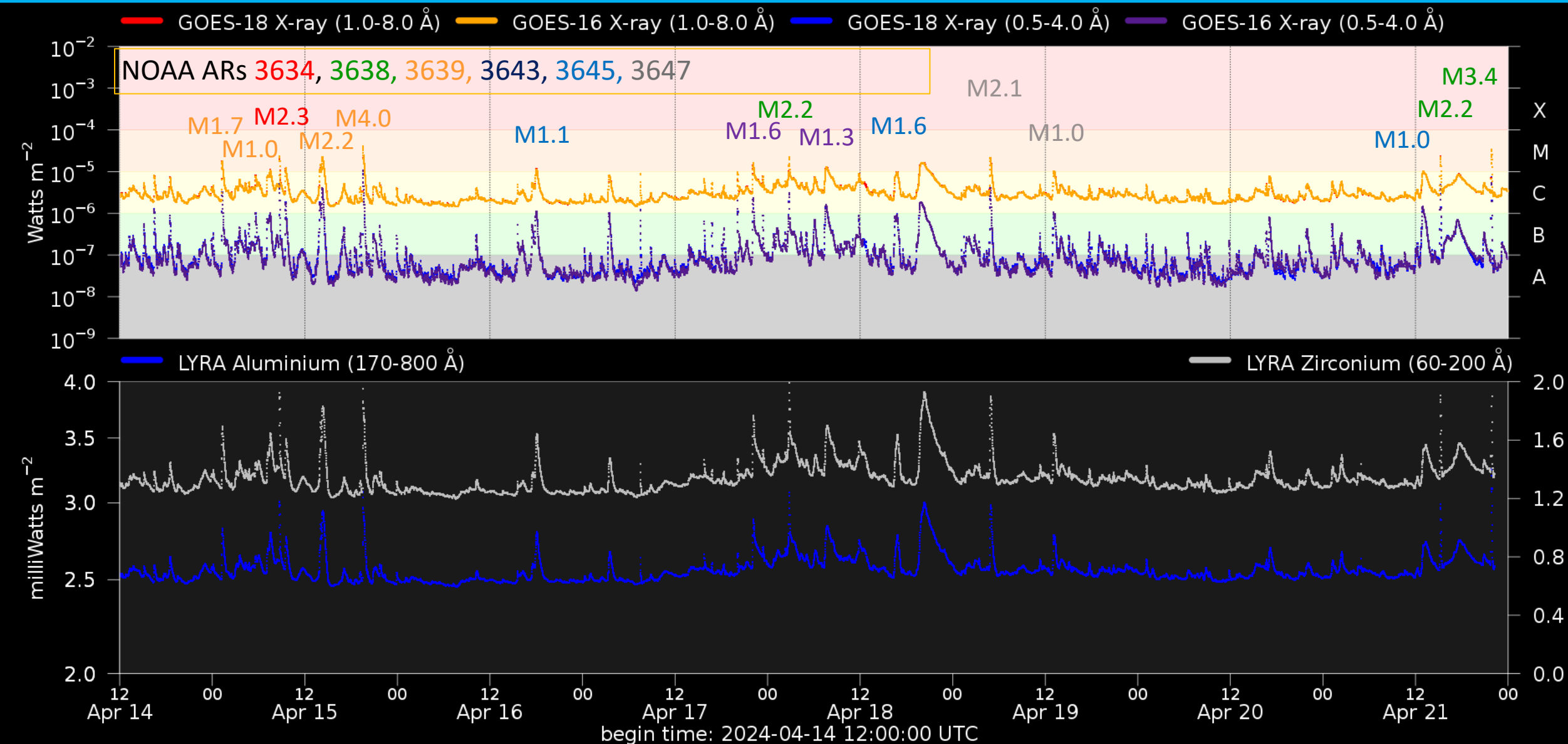
Flaring activity



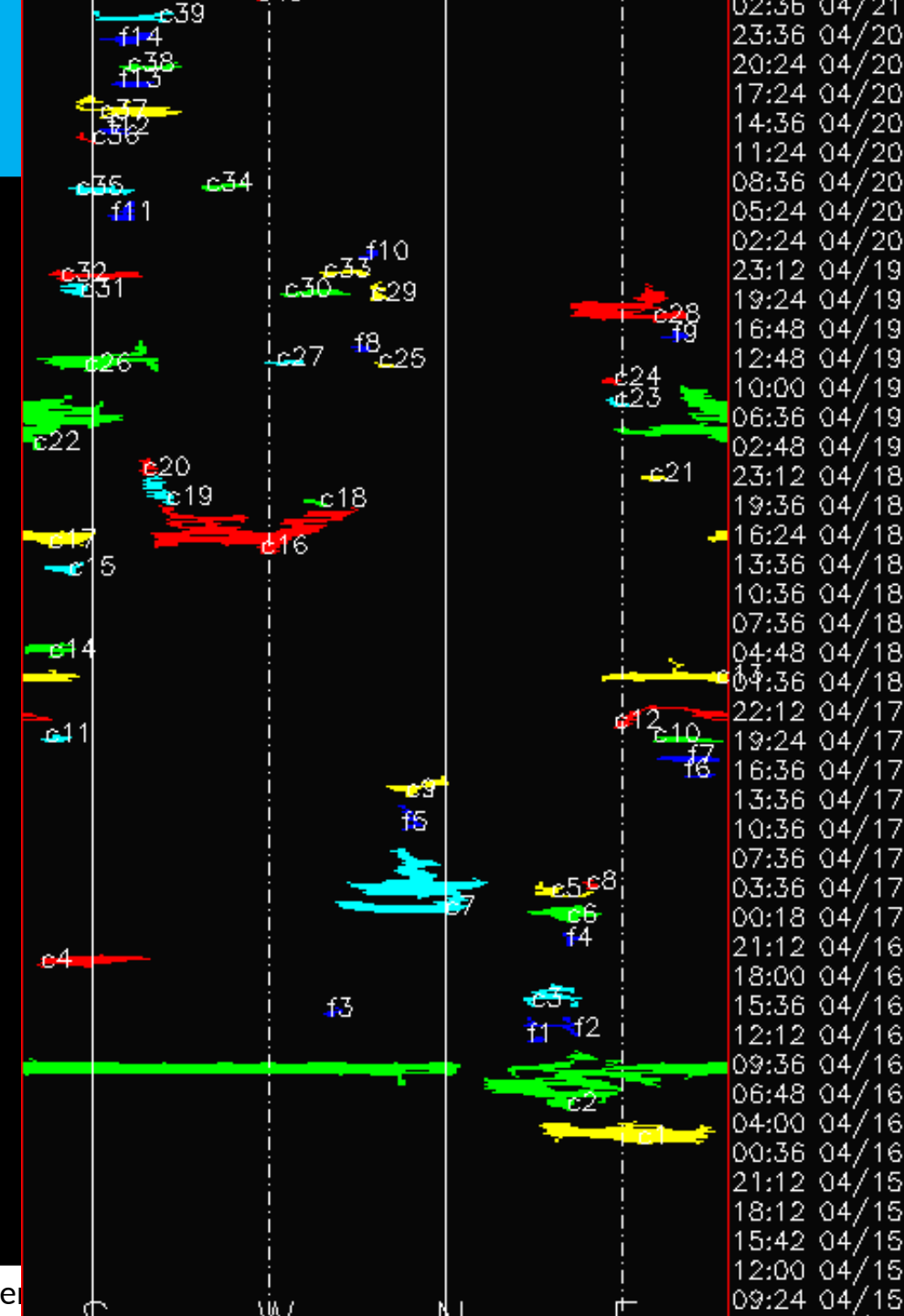
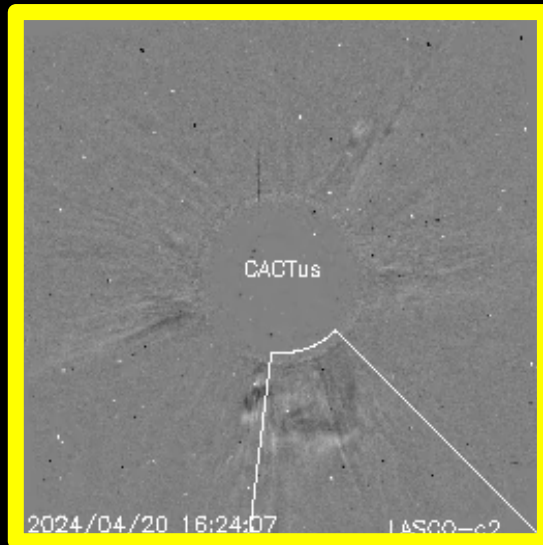
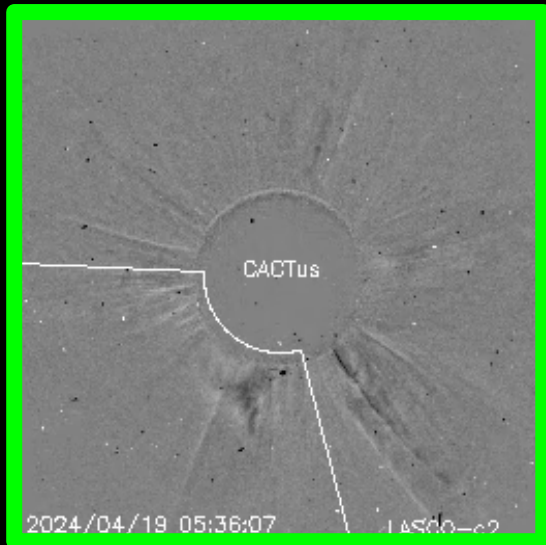
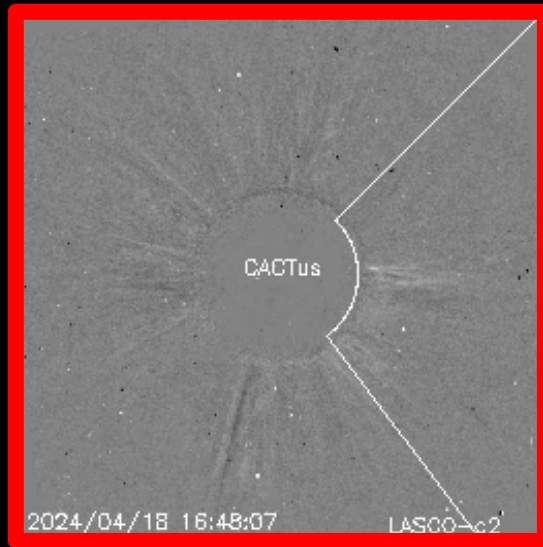
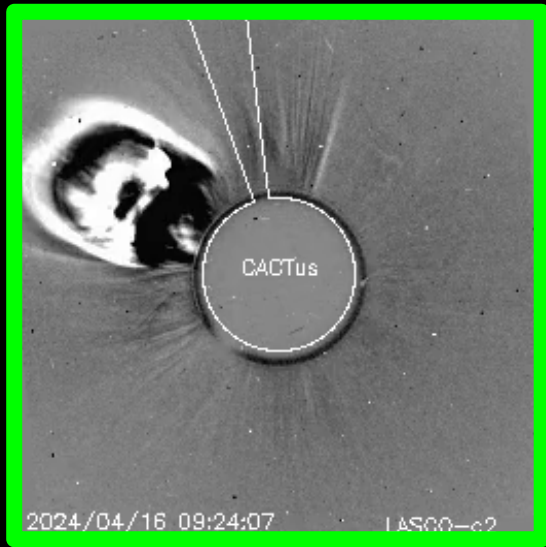
Probabilities (%) and occurrences (#) of C/M/X-flares daily, from noon to noon:

Issue date	2024-04-14	2024-04-15	2024-04-16	2024-04-17	2024-04-18	2024-04-19	2024-04-20	2024-04-21
Probability (%)	75 25 05	99 45 10	99 60 10	99 60 15	99 70 20	99 65 20	99 55 15	99 50 10
Observed (#)	14 04 00	10 04 00	05 01 00	11 03 00	08 03 00	11 01 00	09 00 00	03 03 00

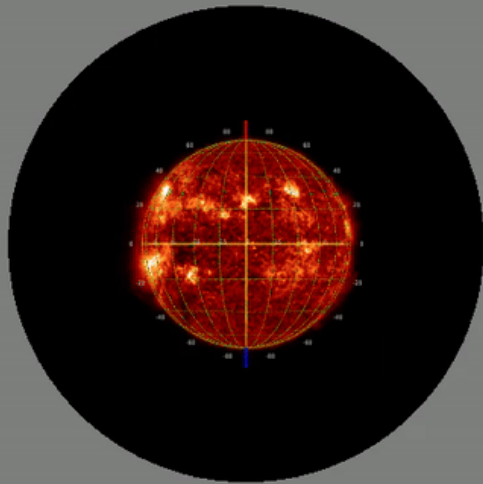
Solar X-Ray and UV flux



Coronal Mass Ejections



Coronal Mass Ejections

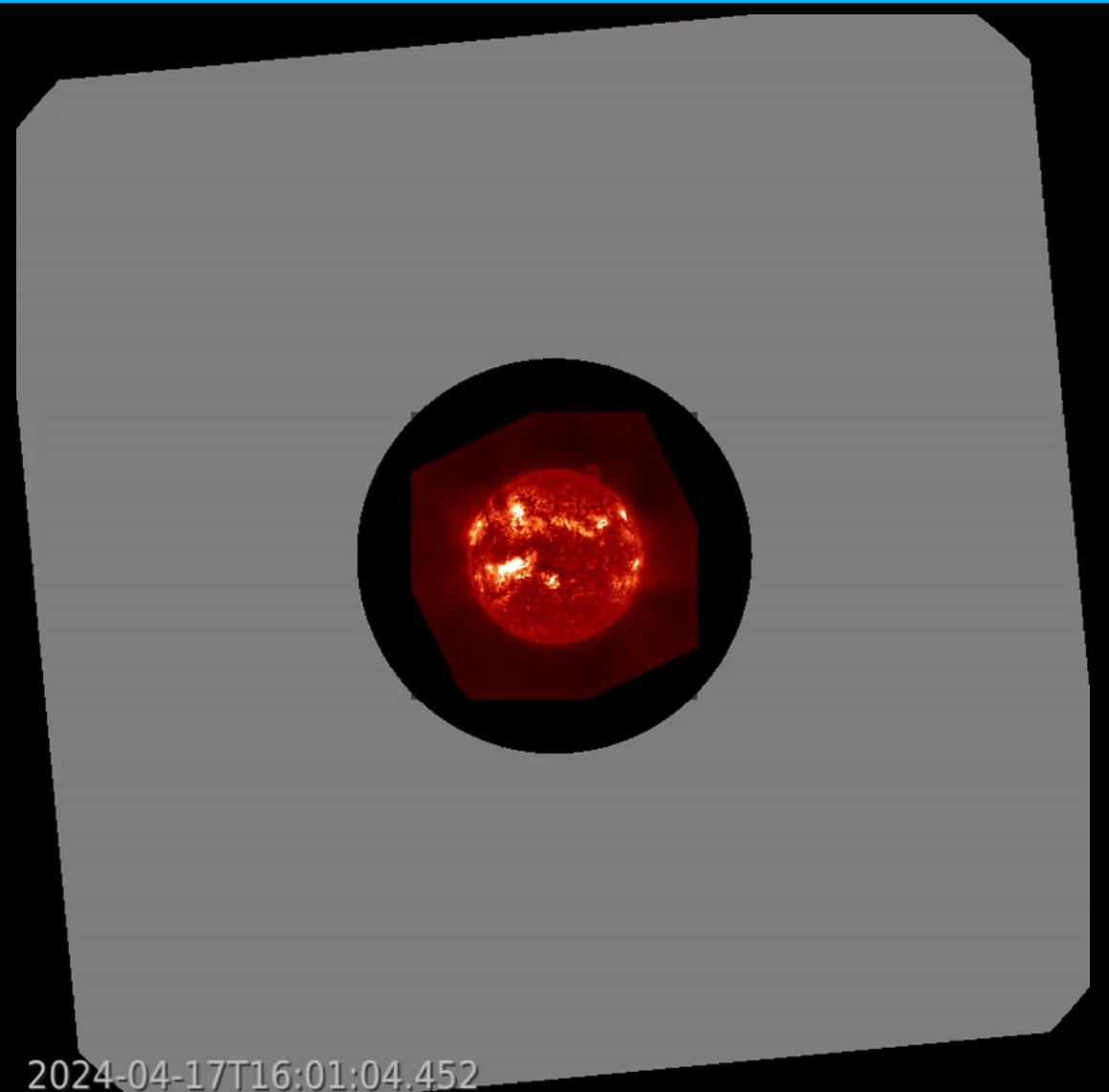
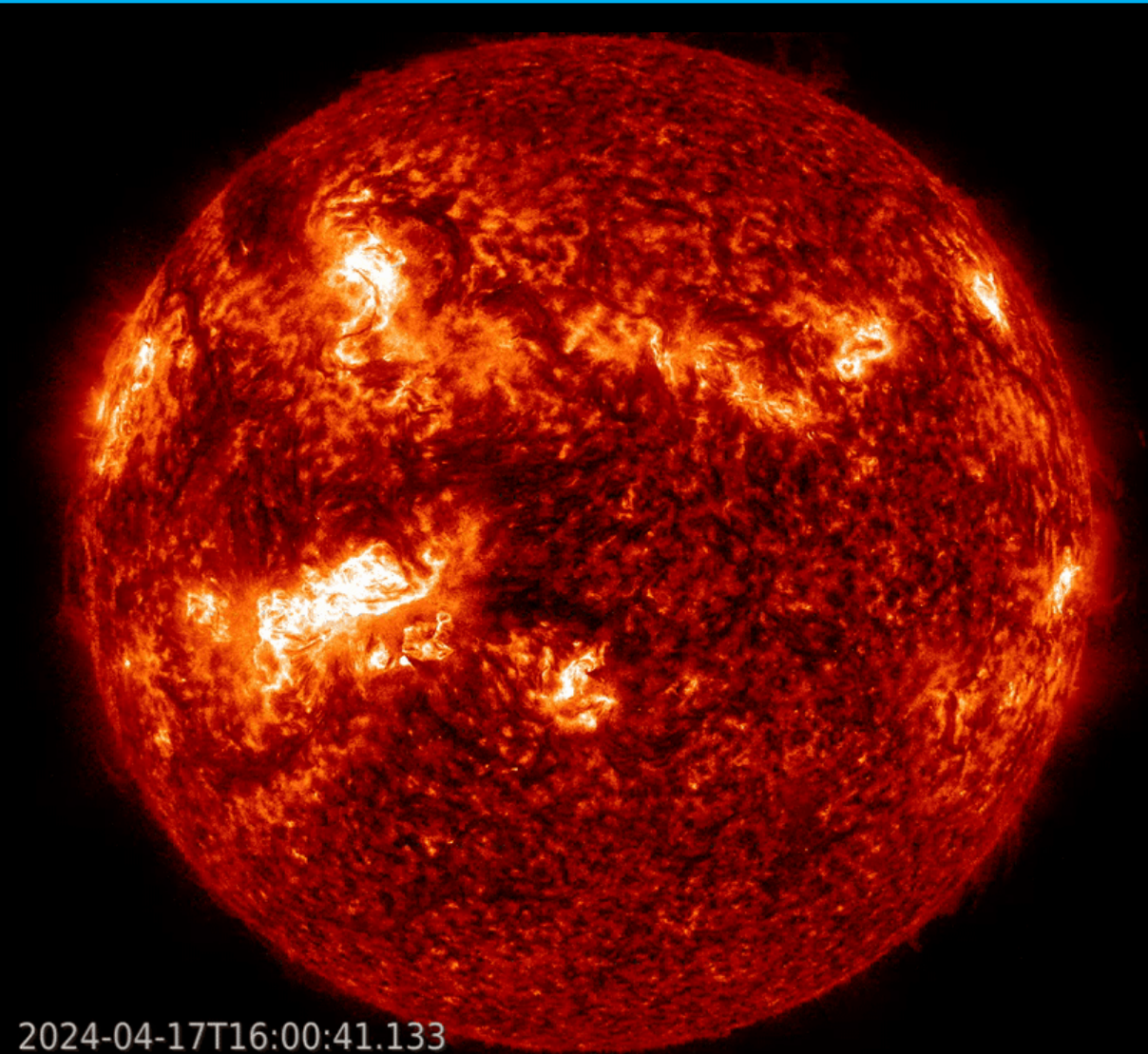


2024-04-15T02:00:41.129

When: 06:48 UTC on Apr 15, likely related to an eruption from AR 3636 (located at S21E30 at this time)

Shock Arrival Time: 2024-04-19T04:53

Coronal Mass Ejections



Solar Wind and

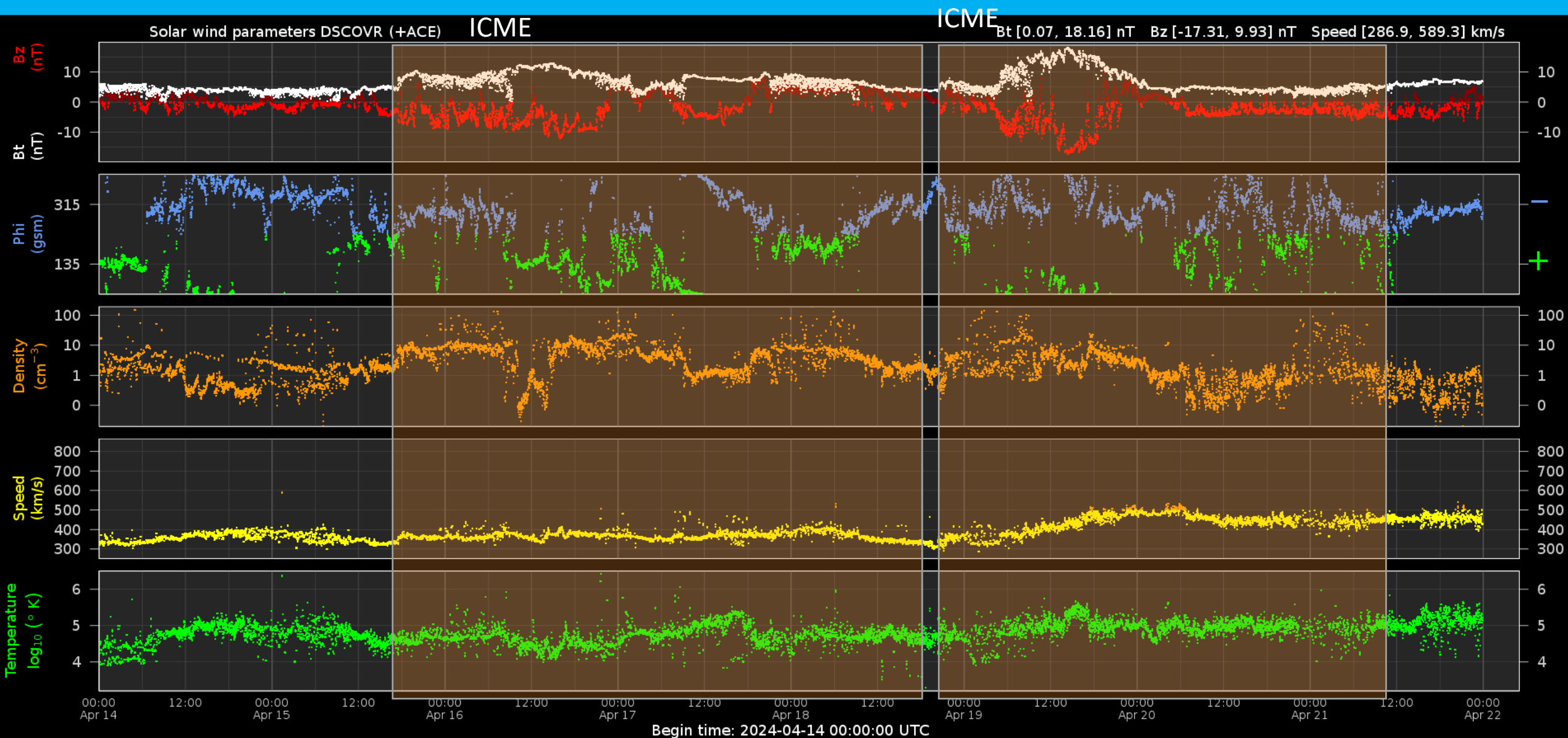
Geomagnetic Activity



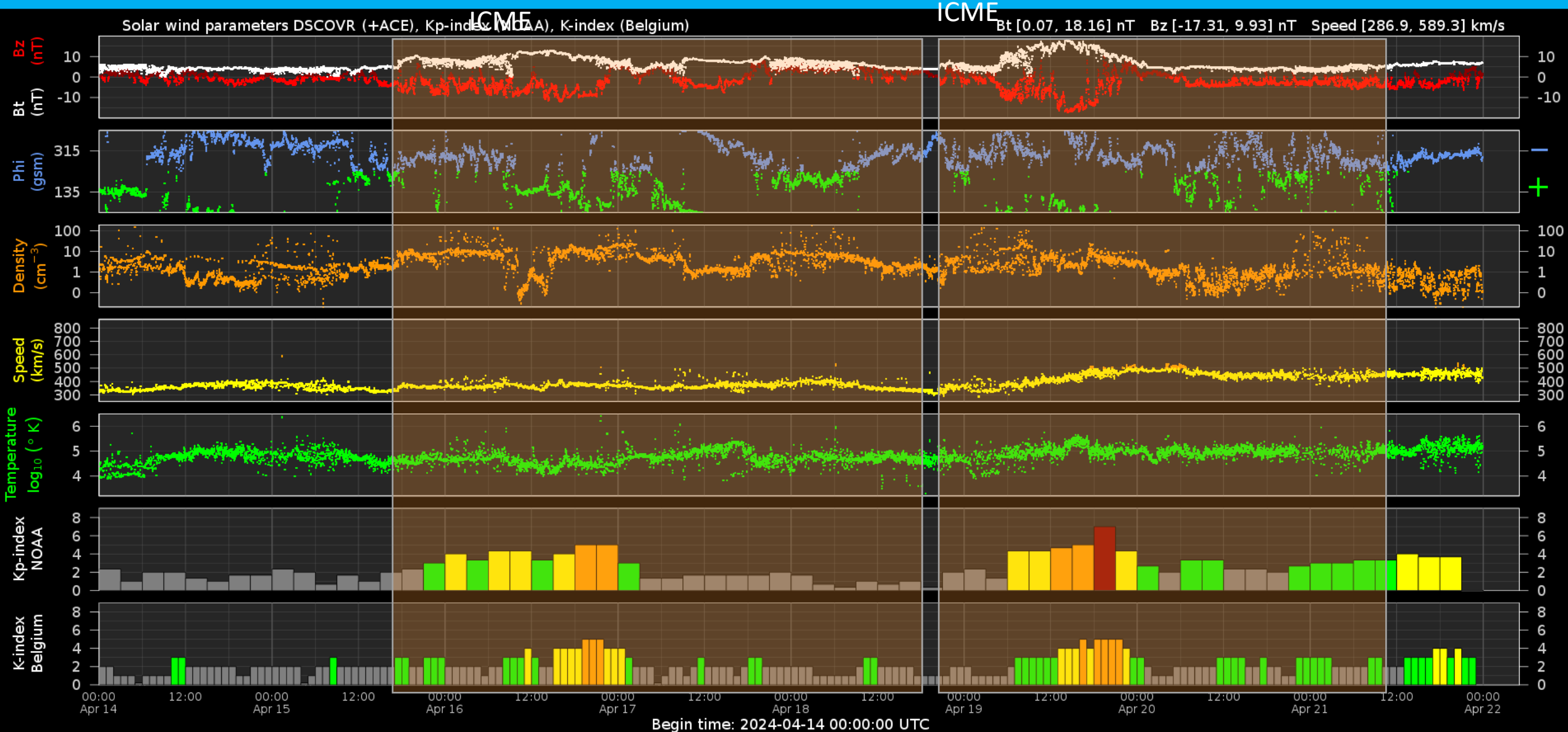
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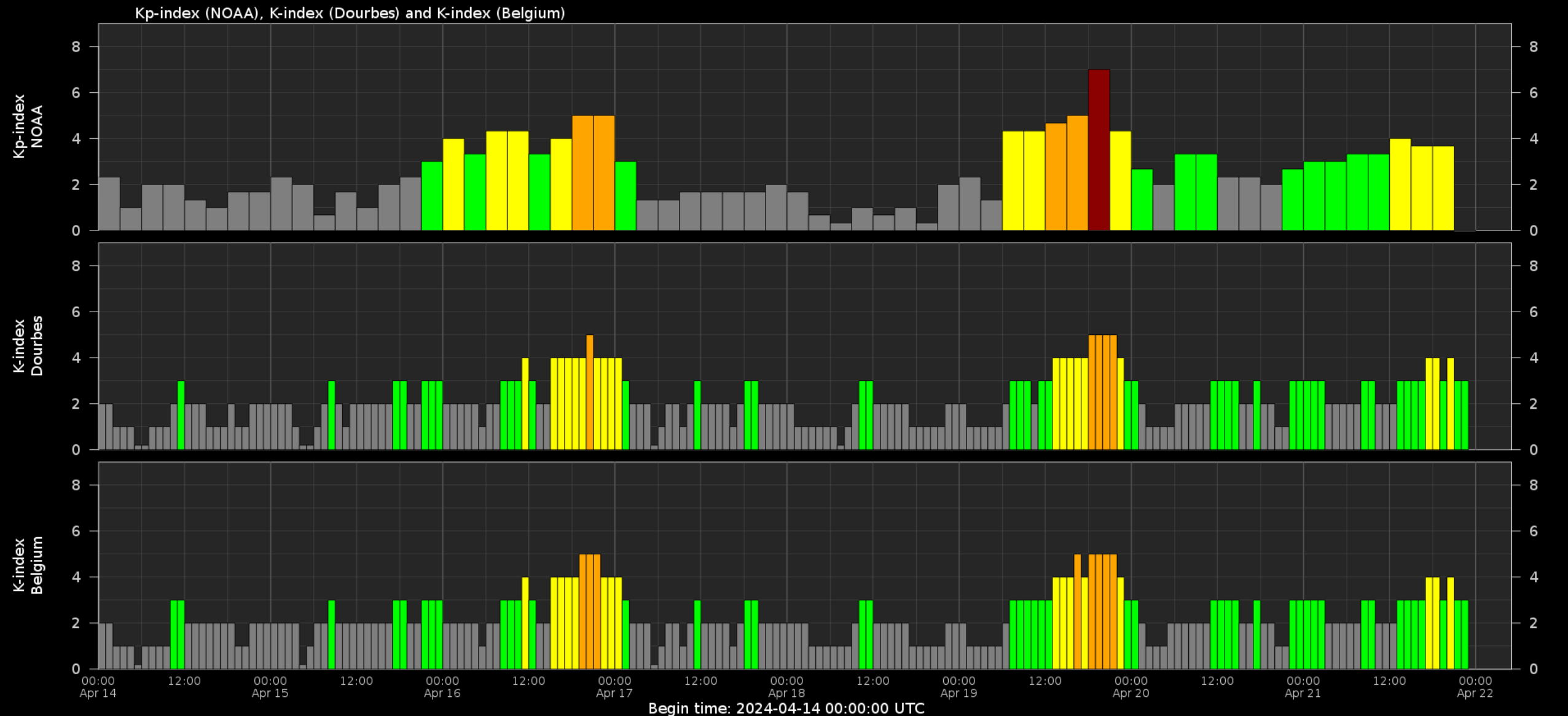
Solar wind parameters



Solar wind parameters & K-indices



Geomagnetic activity (K-indexes)



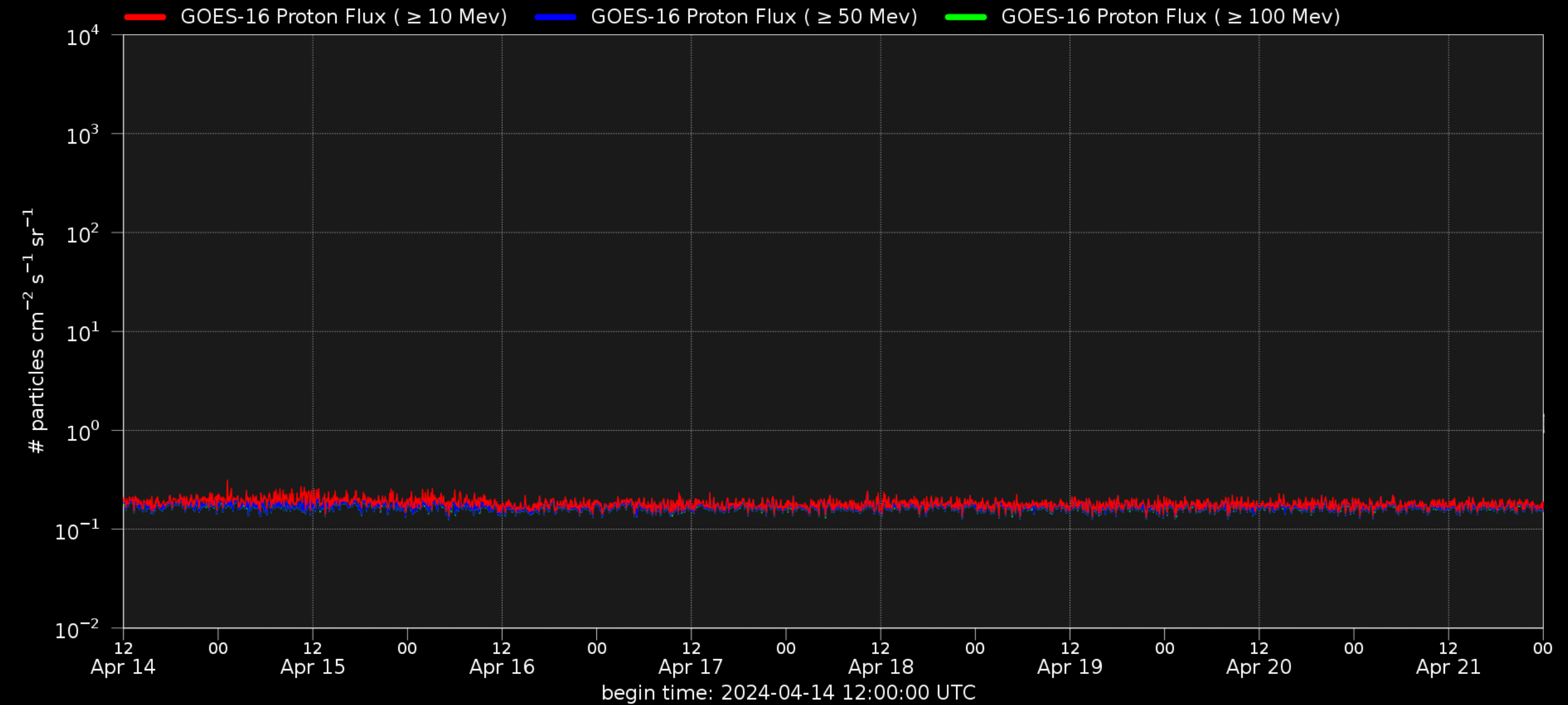
Energetic Particles



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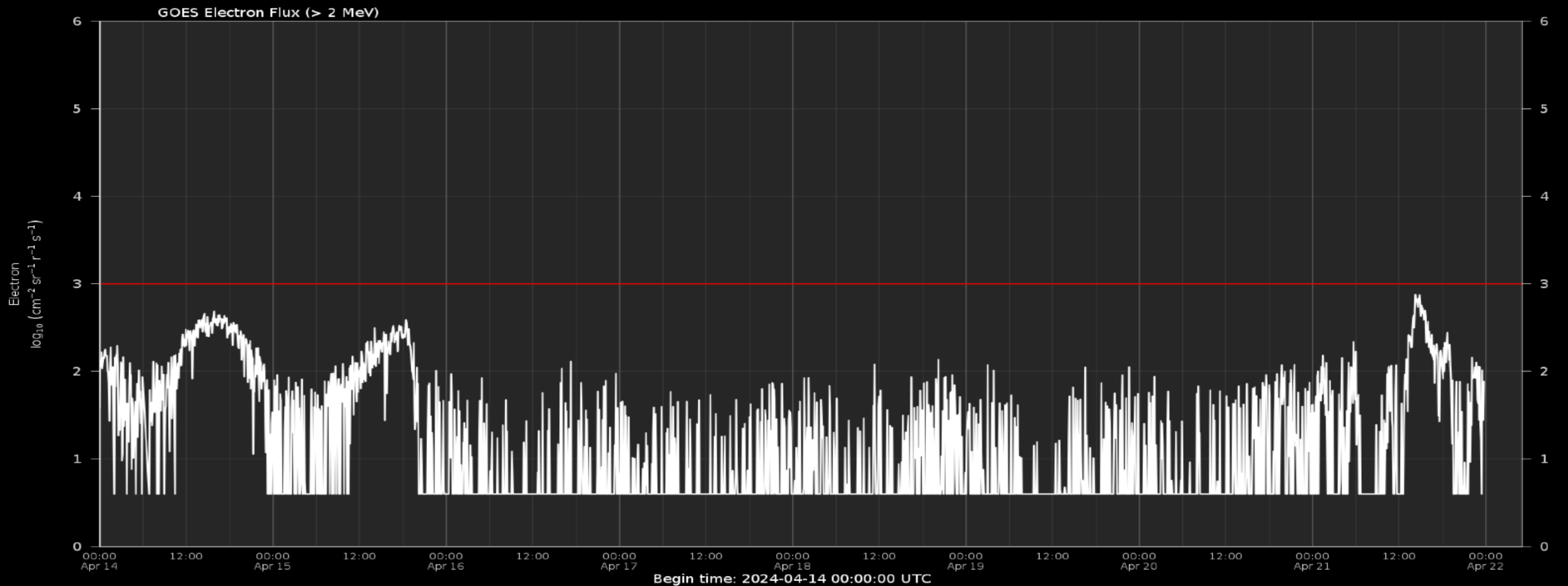
Solar proton flux



Electron flux at GEO

www.stce.be/educational/classification#electrons

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



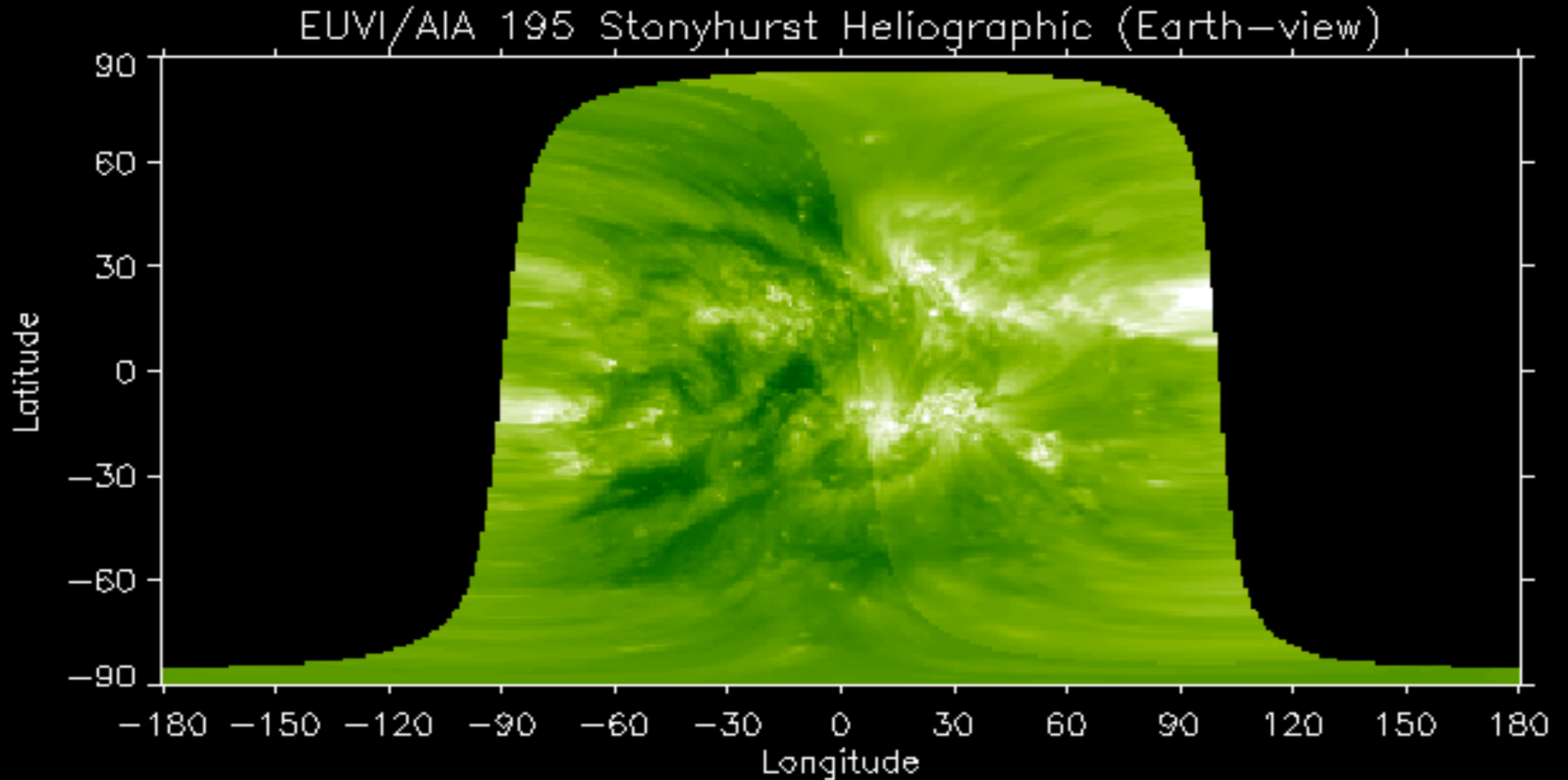
Outlook



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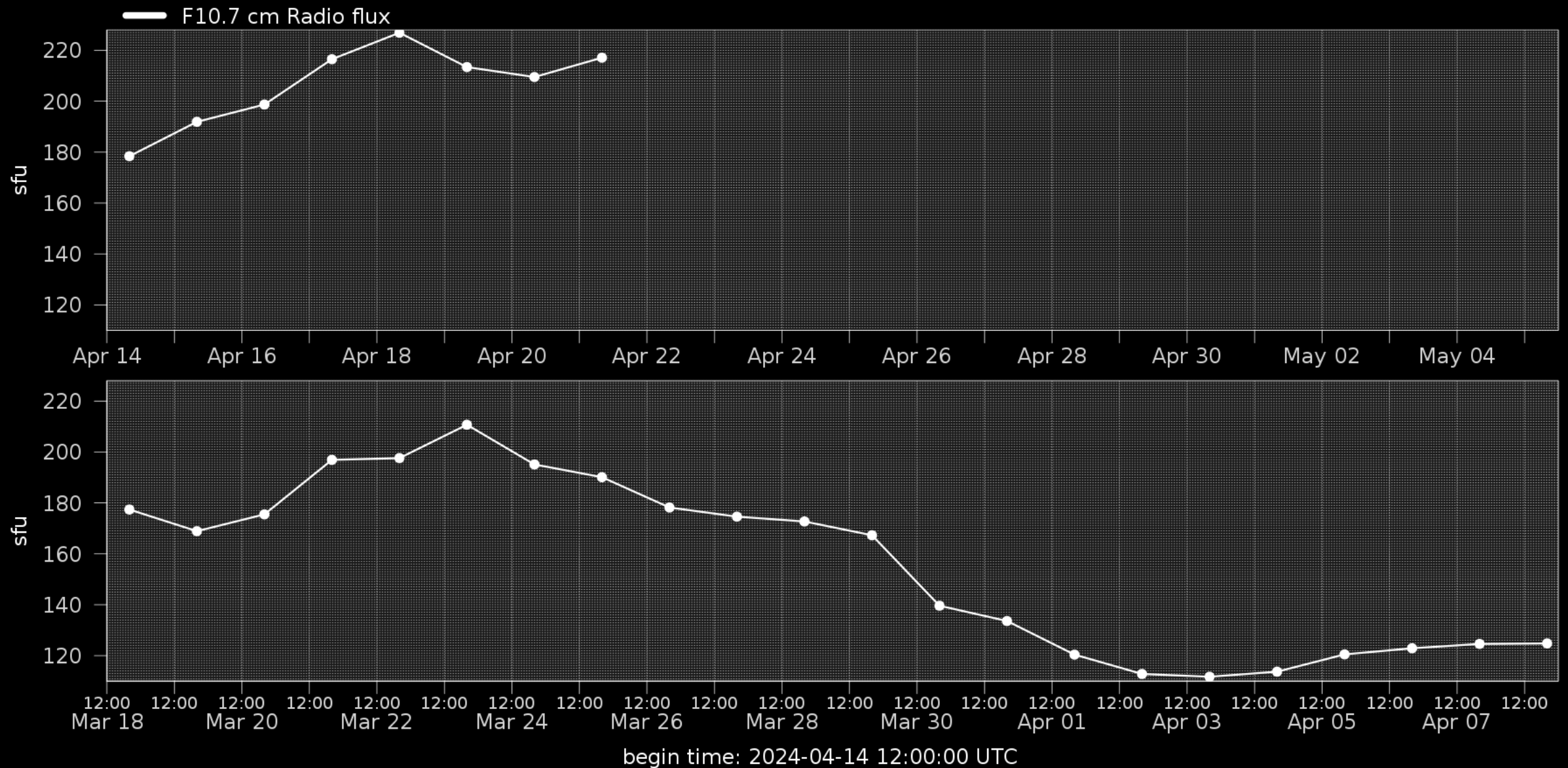
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Outlook: Solar activity



Observation date: 2024/04/21 19:35:00

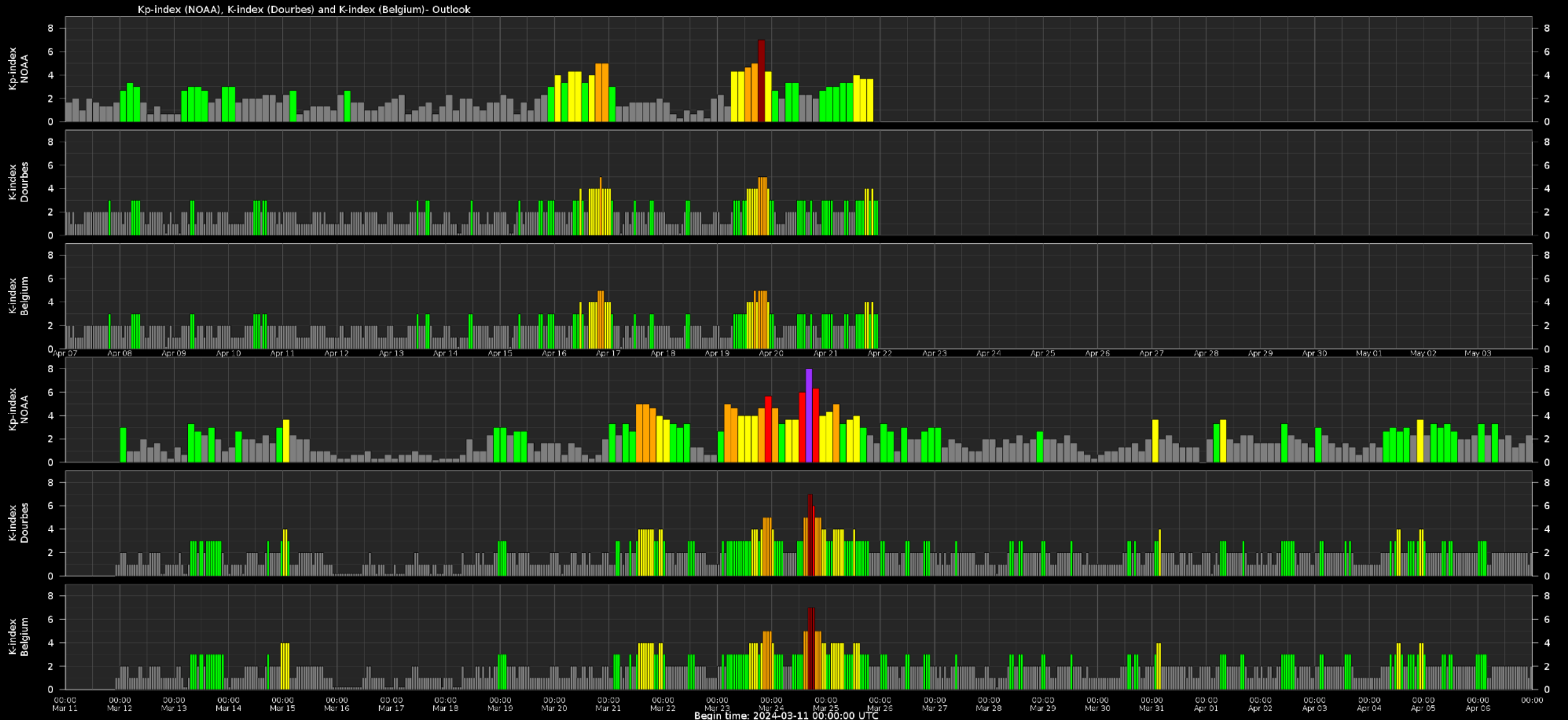
Outlook: Solar F10.7cm radio flux



Outlook: Solar wind parameters



Outlook: Geomagnetic activity



Outlook: Electron Flux at GEO Outlook



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