

SIDC Space Weather Briefing

17 April 2022-24 April 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 2022-04-17 12:00 to 2022-04-24 23:59

Active regions	Headlines for #2992 while leaving in the SW, And for #2993 and #2994 transitioning from NE to NW
Flares	# C-class flare: 50 # M-class flare: 12 # X-class flare: 1
Coronal Holes	none
CMEs	A strong limb CME late in the previous period + some filament eruptions

Proton flux	background
Electron flux	Initially enhanced

Solar wind and geomagnetic conditions

ICMEs	None
SW Conditions	B : 1.8 - 11.14 nT //Bz: -8.91 nT to 10.33 nT //Speed: 337.2 - 599.9km/s
K-indices	max K-index (K_Bel): 3 max Kp-index (NOAA): 4

All Quiet Alert: off

Solar Activity

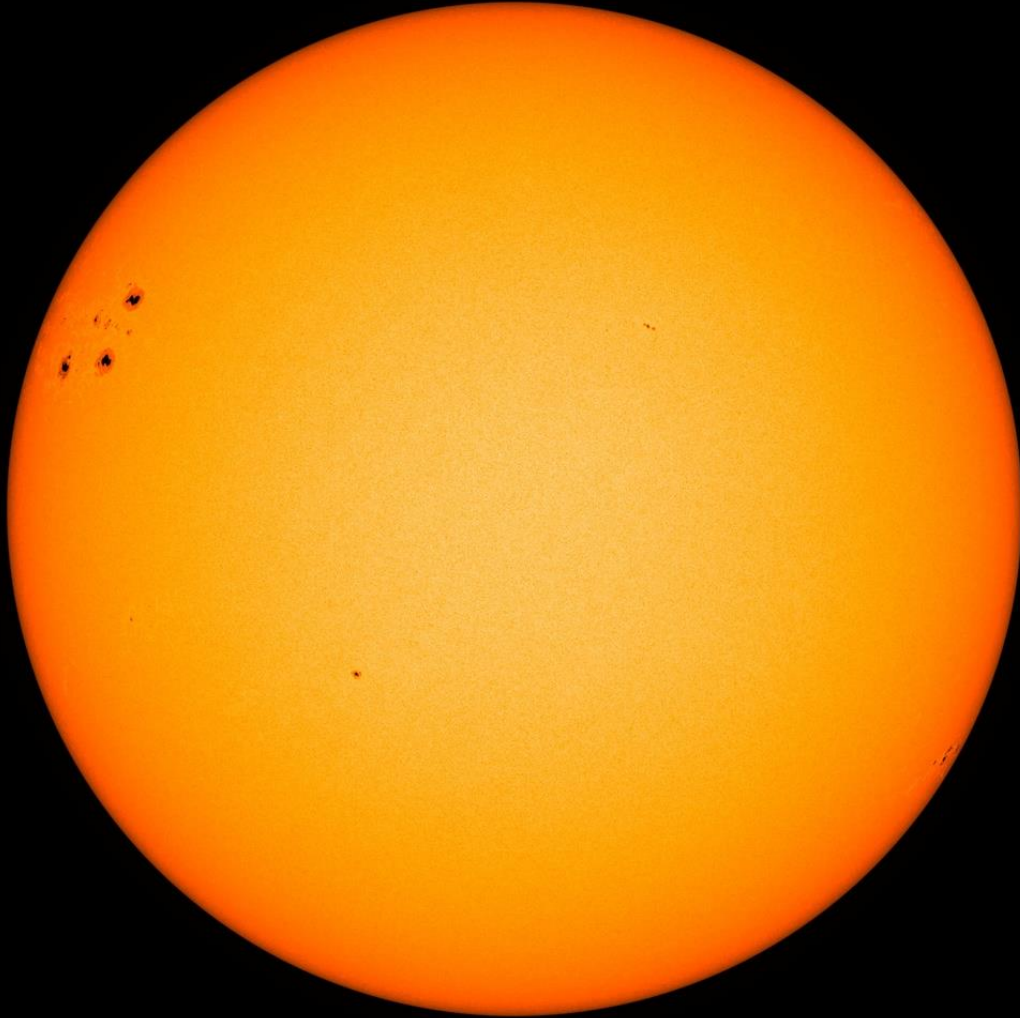


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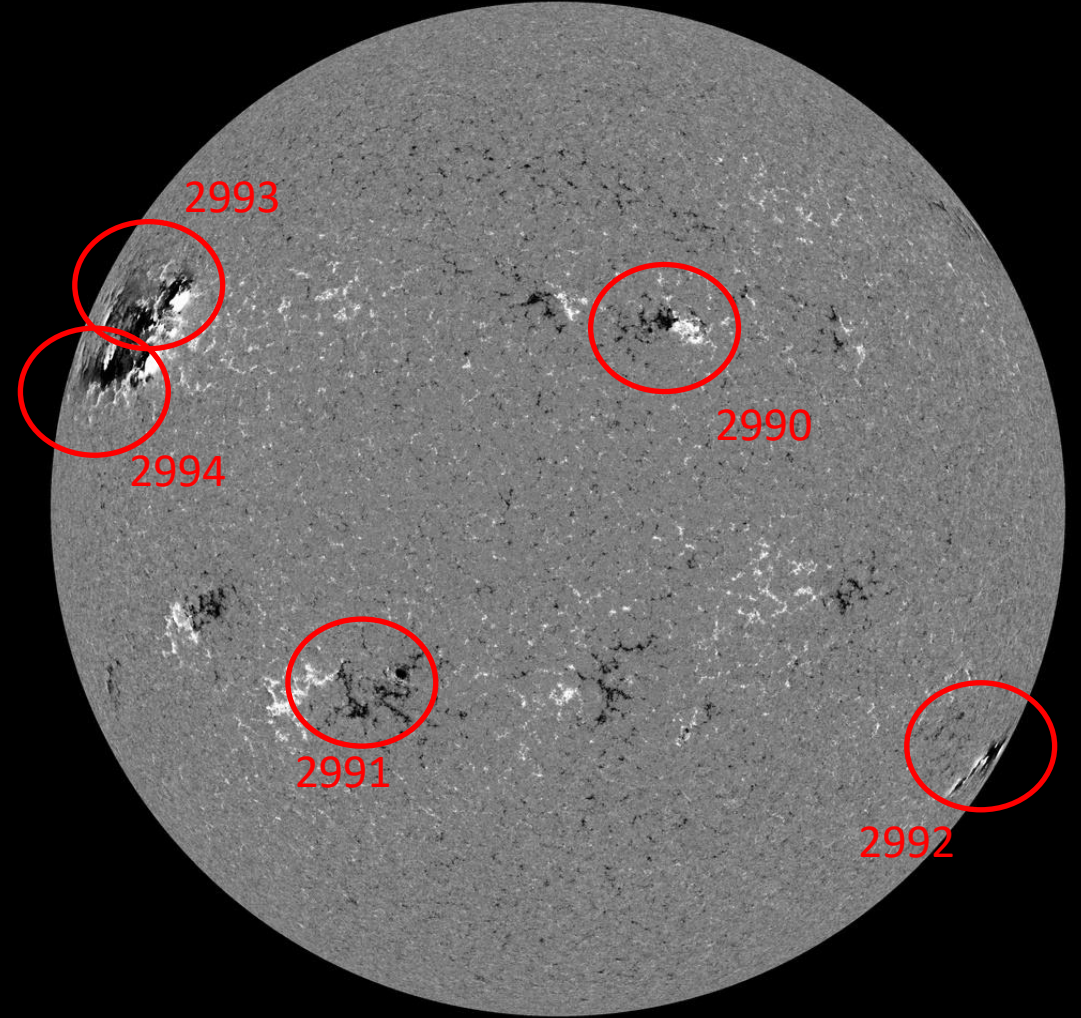
Solar active regions

SDO/HMI White Light 2022-04-18



SDO/HMI Quick-Look Continuum: 20220418_114500

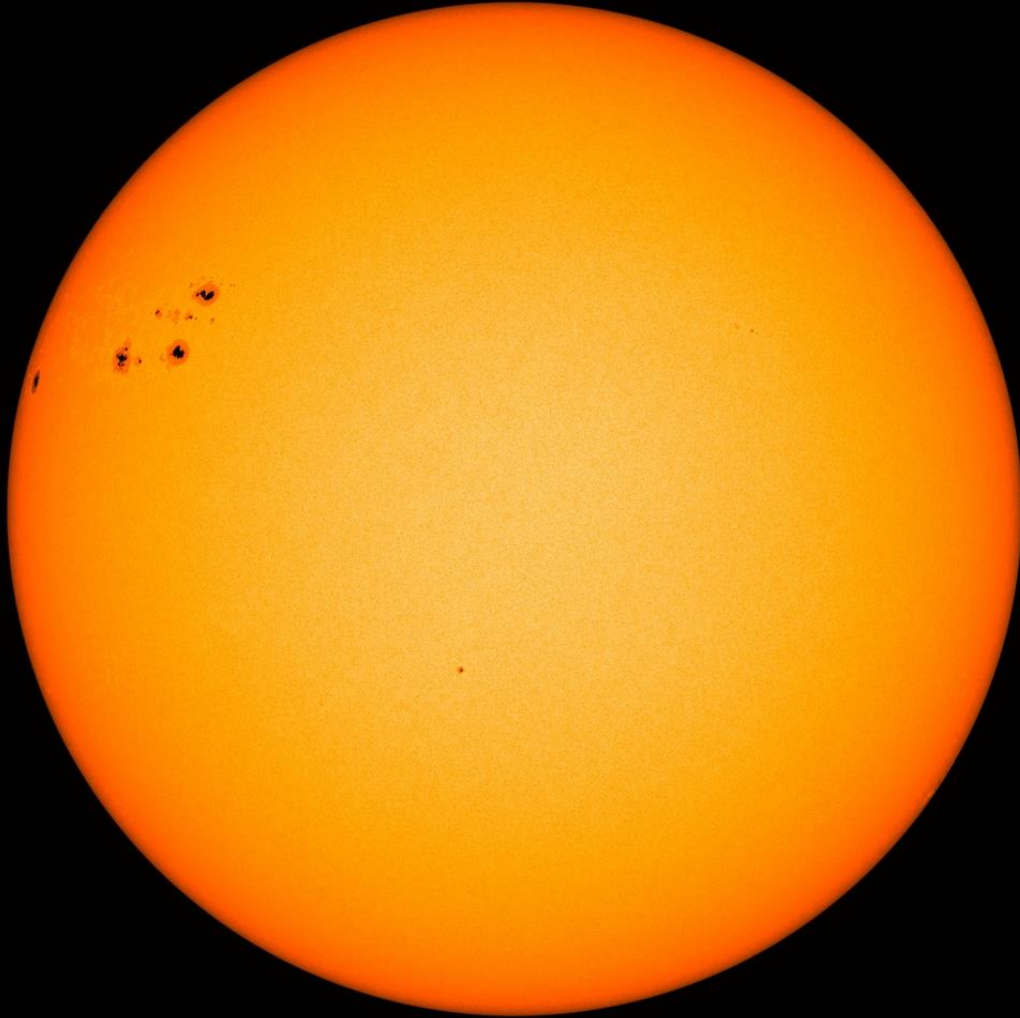
SDO/HMI Magnetogram 2022-04-18



SDO/HMI Quick-Look Magnetogram: 20220418_114500

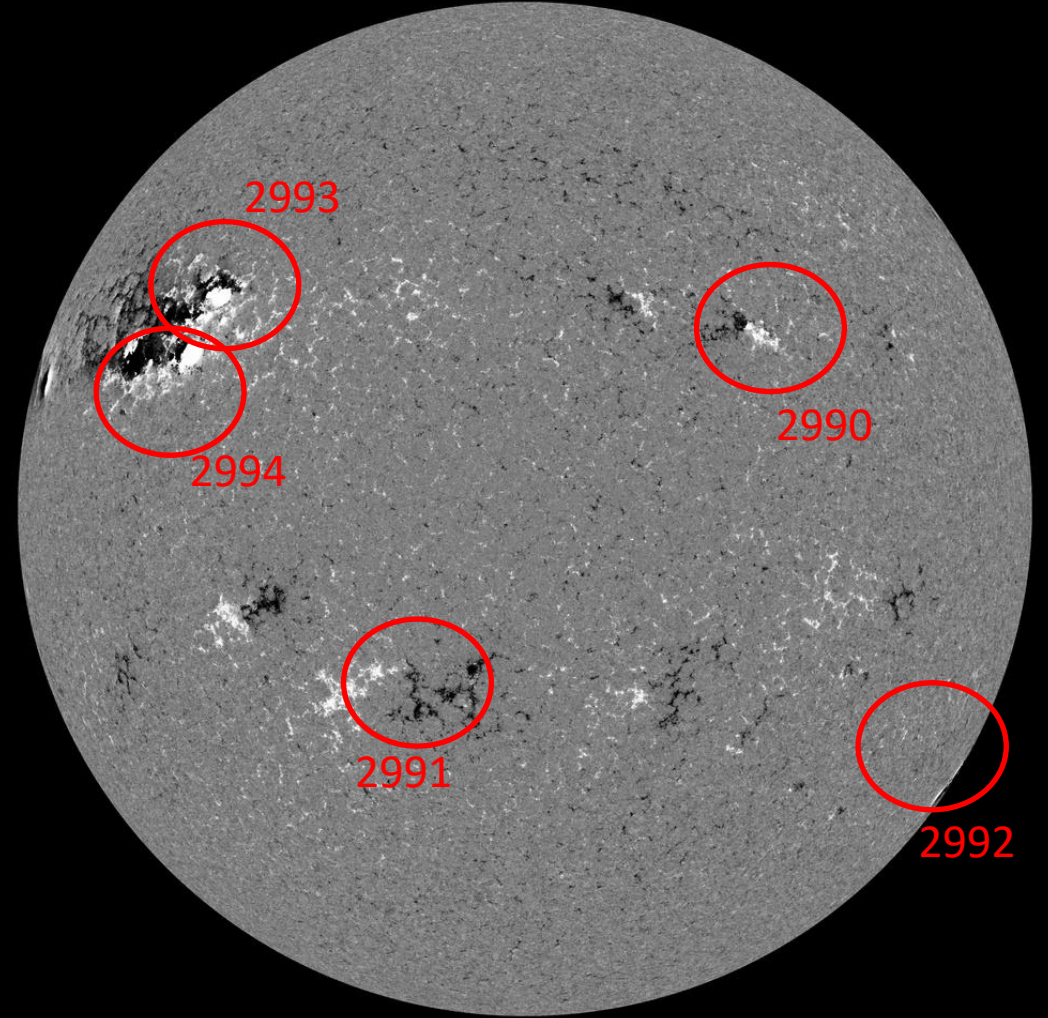
Solar active regions

SDO/HMI White Light 2022-04-19



SDO/HMI Quick-Look Continuum: 20220419_114500

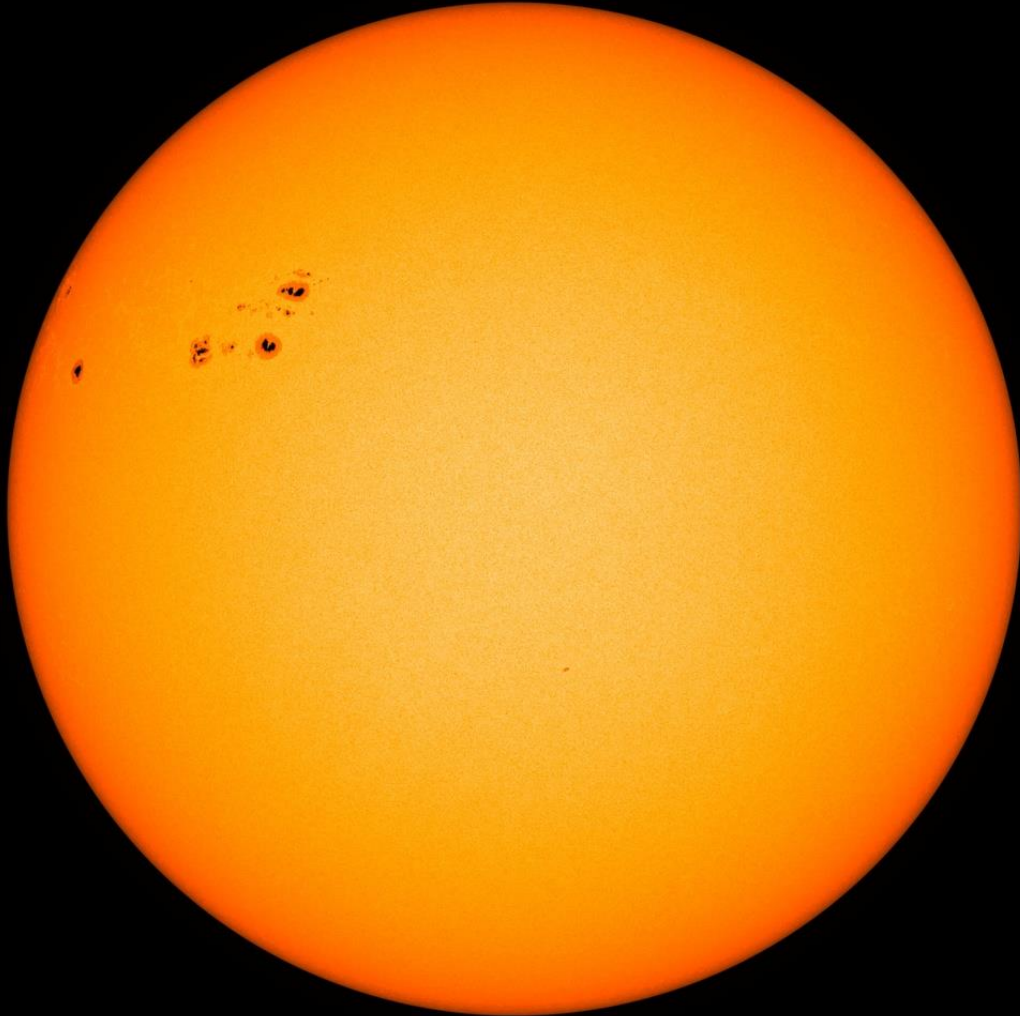
SDO/HMI Magnetogram 2022-04-19



SDO/HMI Quick-Look Magnetogram: 20220419_114500

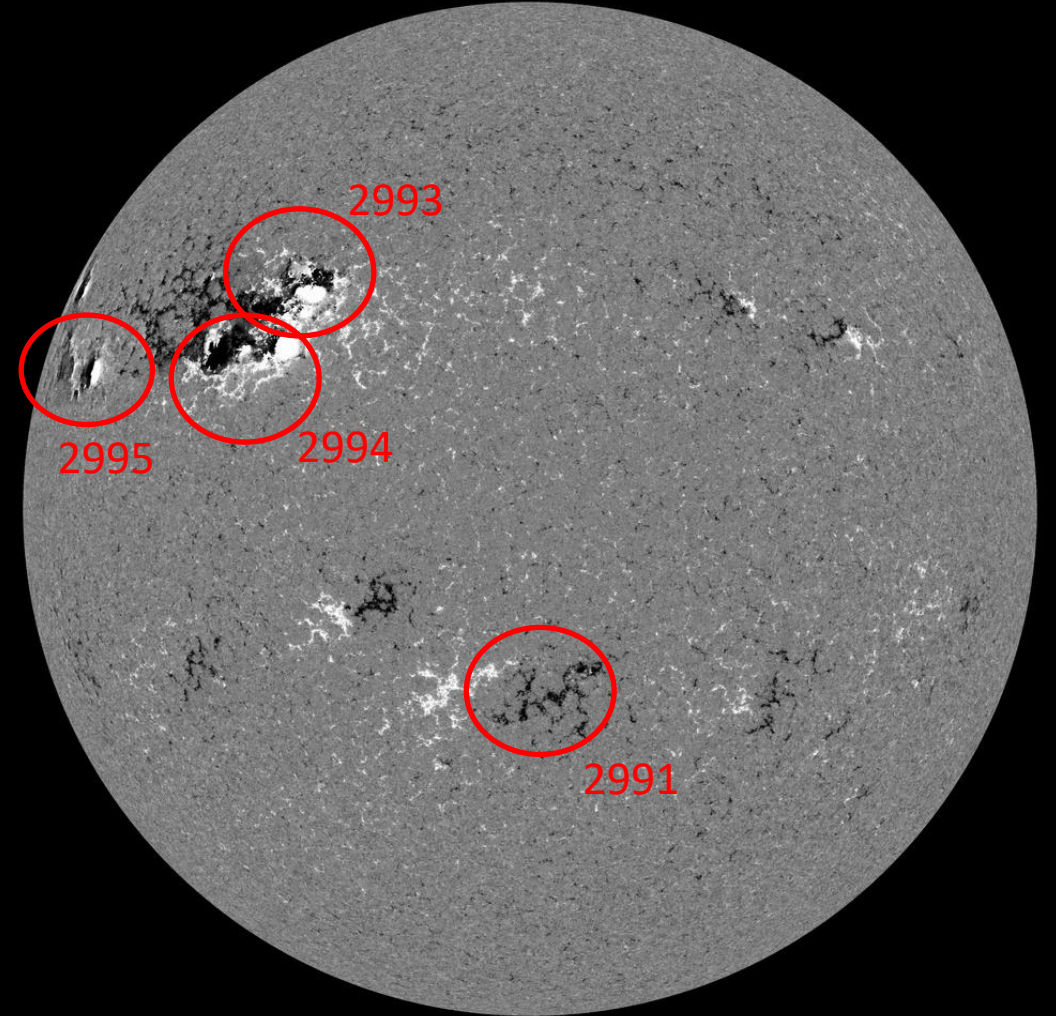
Solar active regions

SDO/HMI White Light 2022-04-20



SDO/HMI Quick-Look Continuum: 20220420_114500

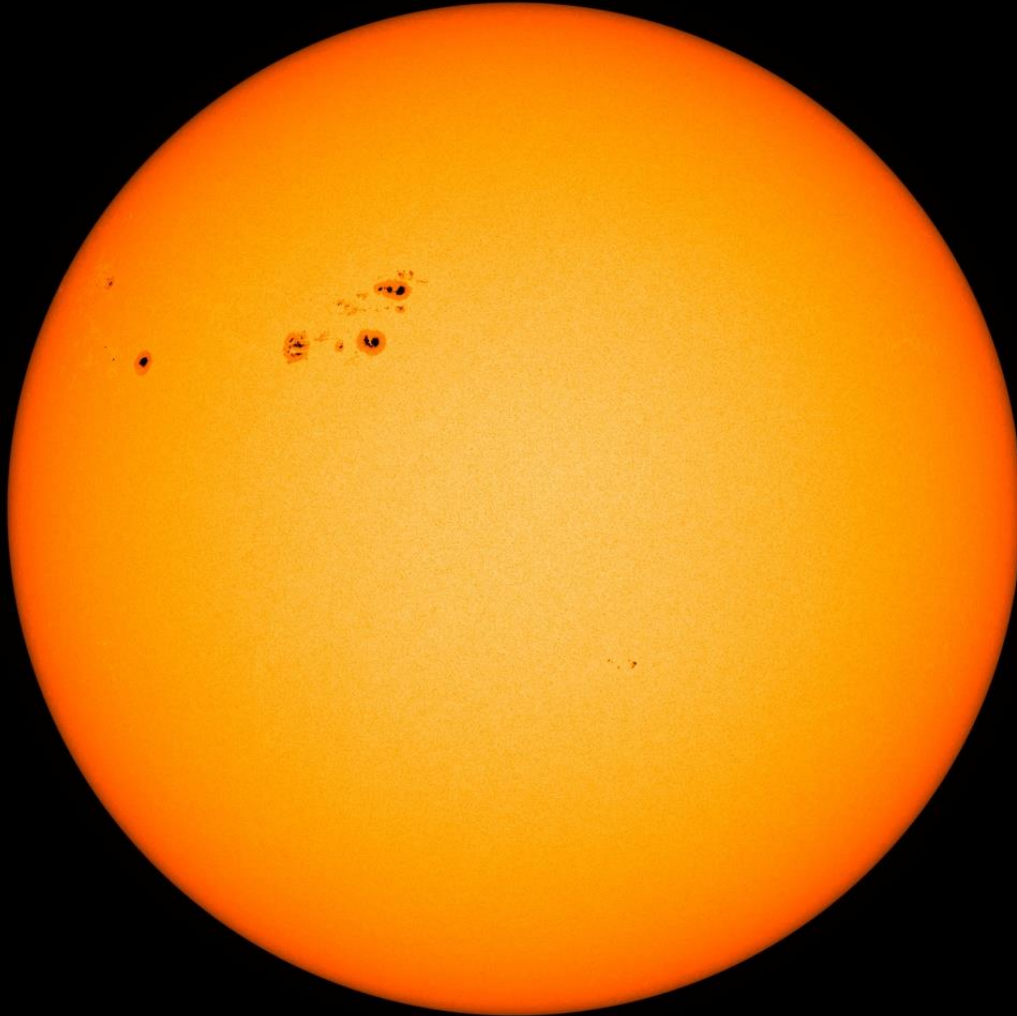
SDO/HMI Magnetogram 2022-04-20



SDO/HMI Quick-Look Magnetogram: 20220420_114500

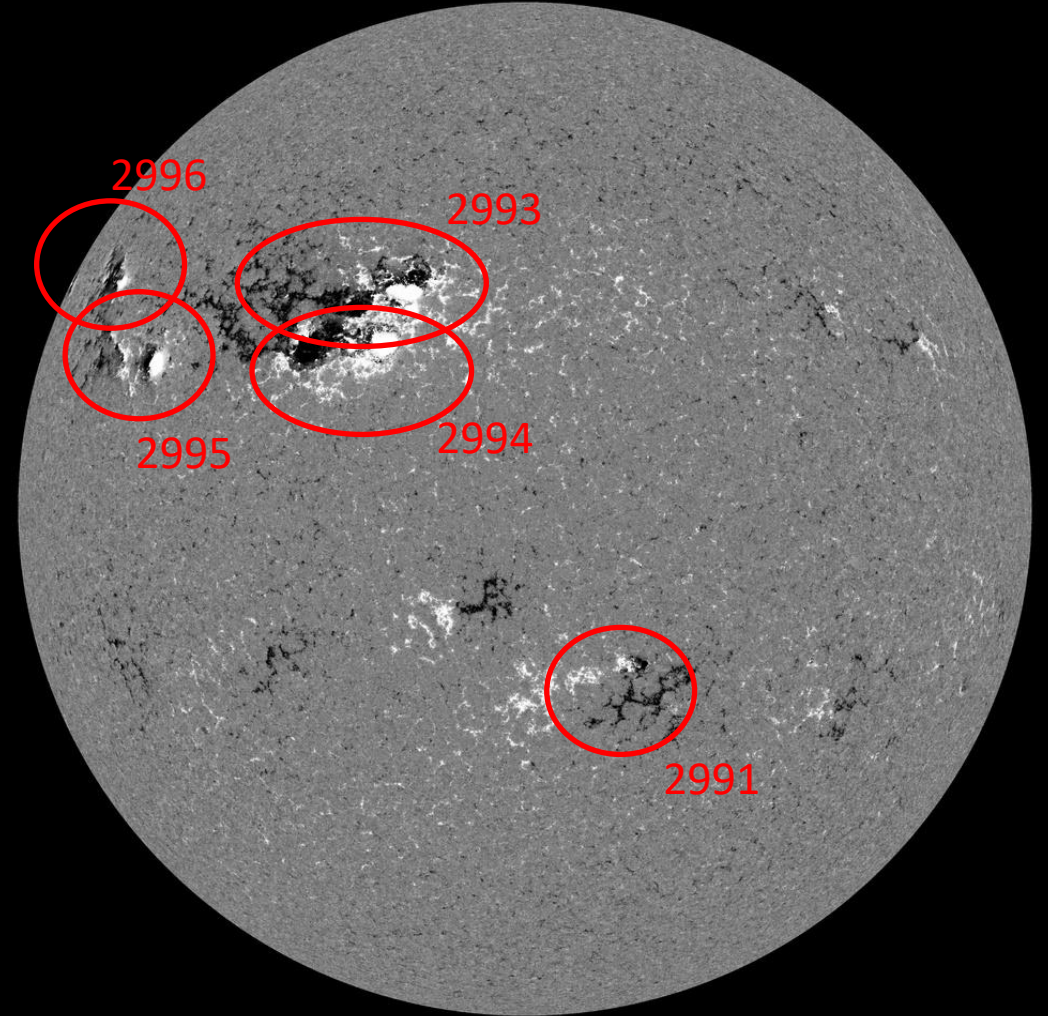
Solar active regions

SDO/HMI White Light 2022-04-21



SDO/HMI Quick-Look Continuum: 20220421_114500

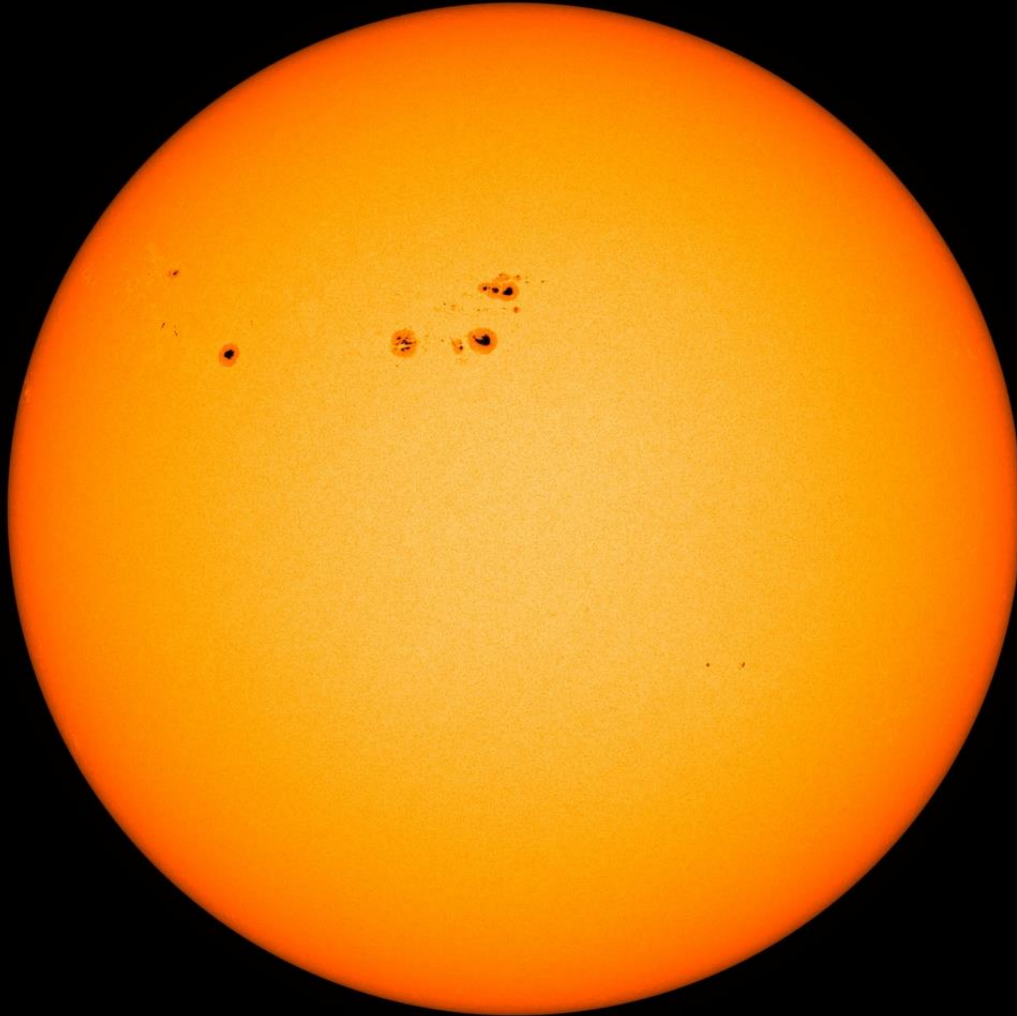
SDO/HMI Magnetogram 2022-04-21



SDO/HMI Quick-Look Magnetogram: 20220421_114500

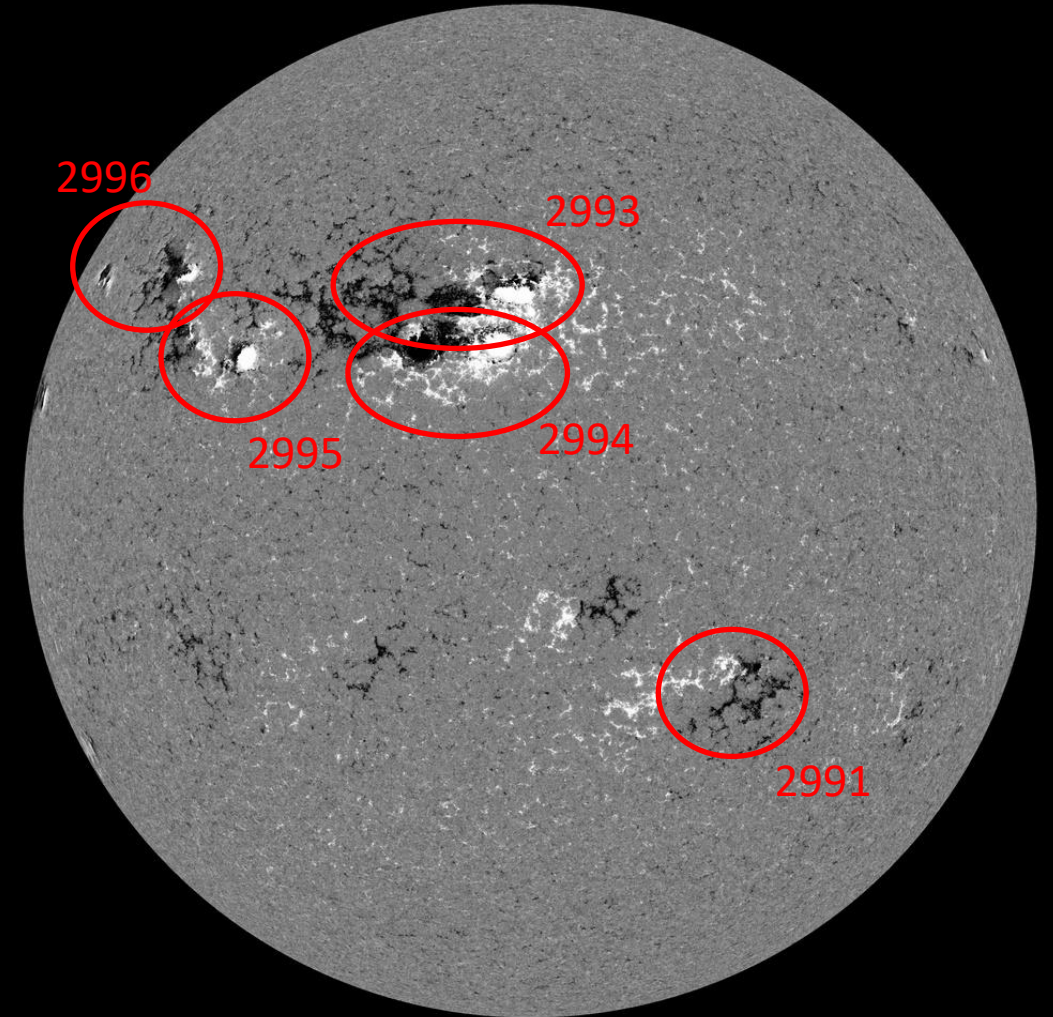
Solar active regions

SDO/HMI White Light 2022-04-22



SDO/HMI Quick-Look Continuum: 20220422_114500

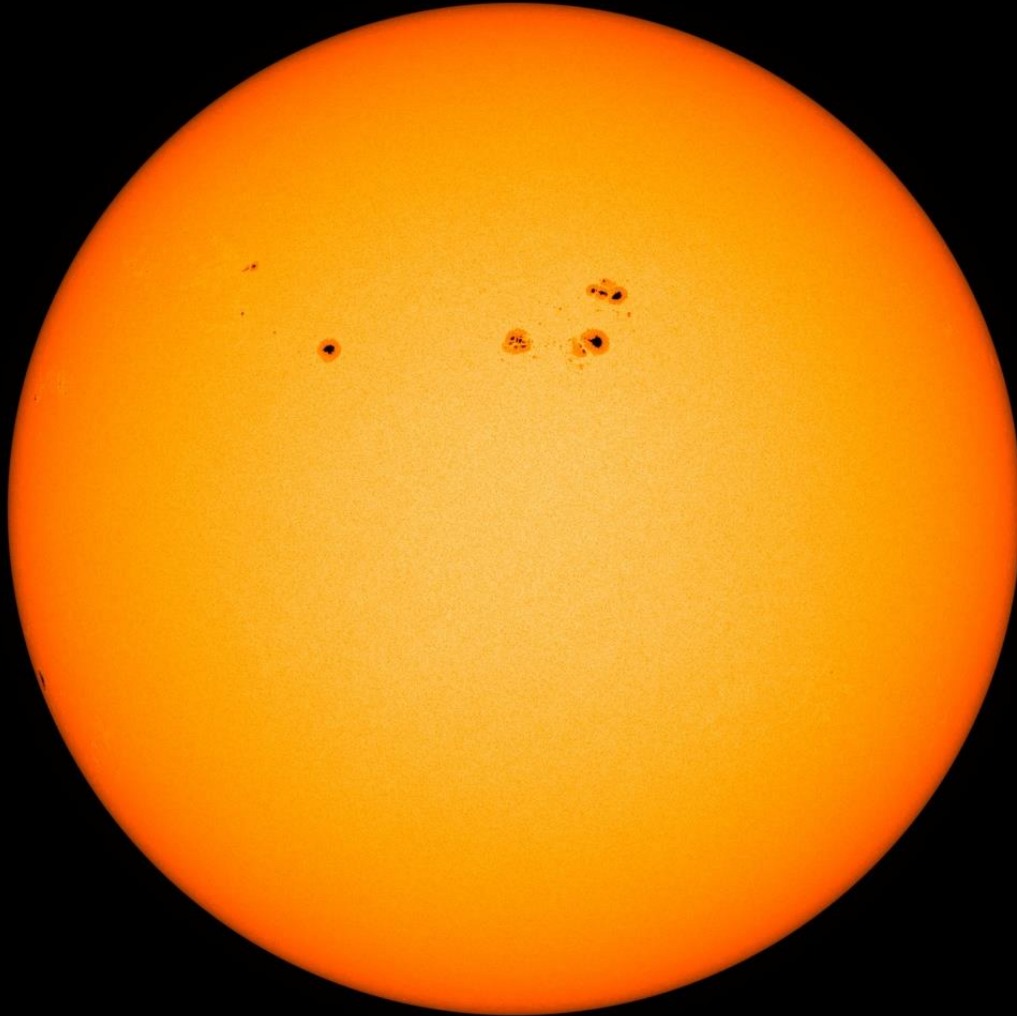
SDO/HMI Magnetogram 2022-04-22



SDO/HMI Quick-Look Magnetogram: 20220422_114500

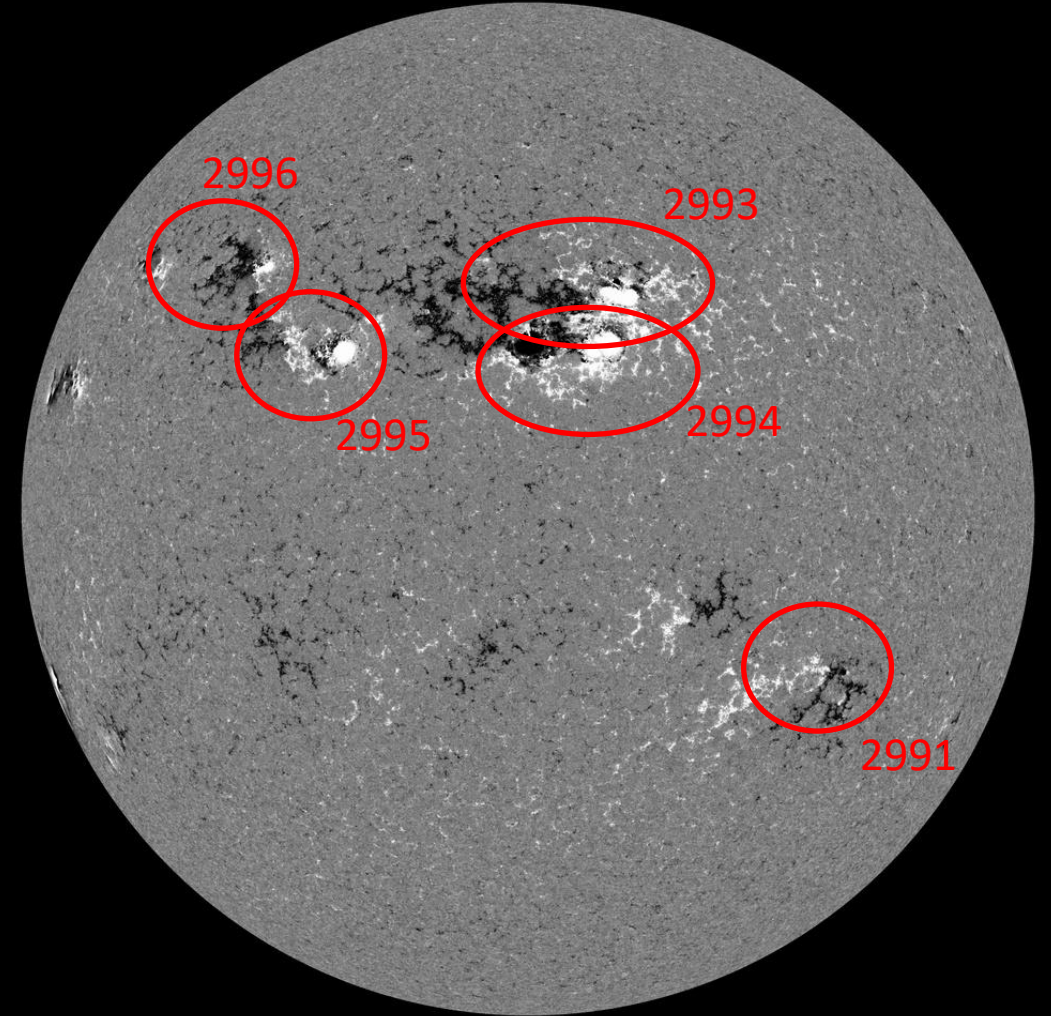
Solar active regions

SDO/HMI White Light 2022-04-23



SDO/HMI Quick-Look Continuum: 20220423_114500

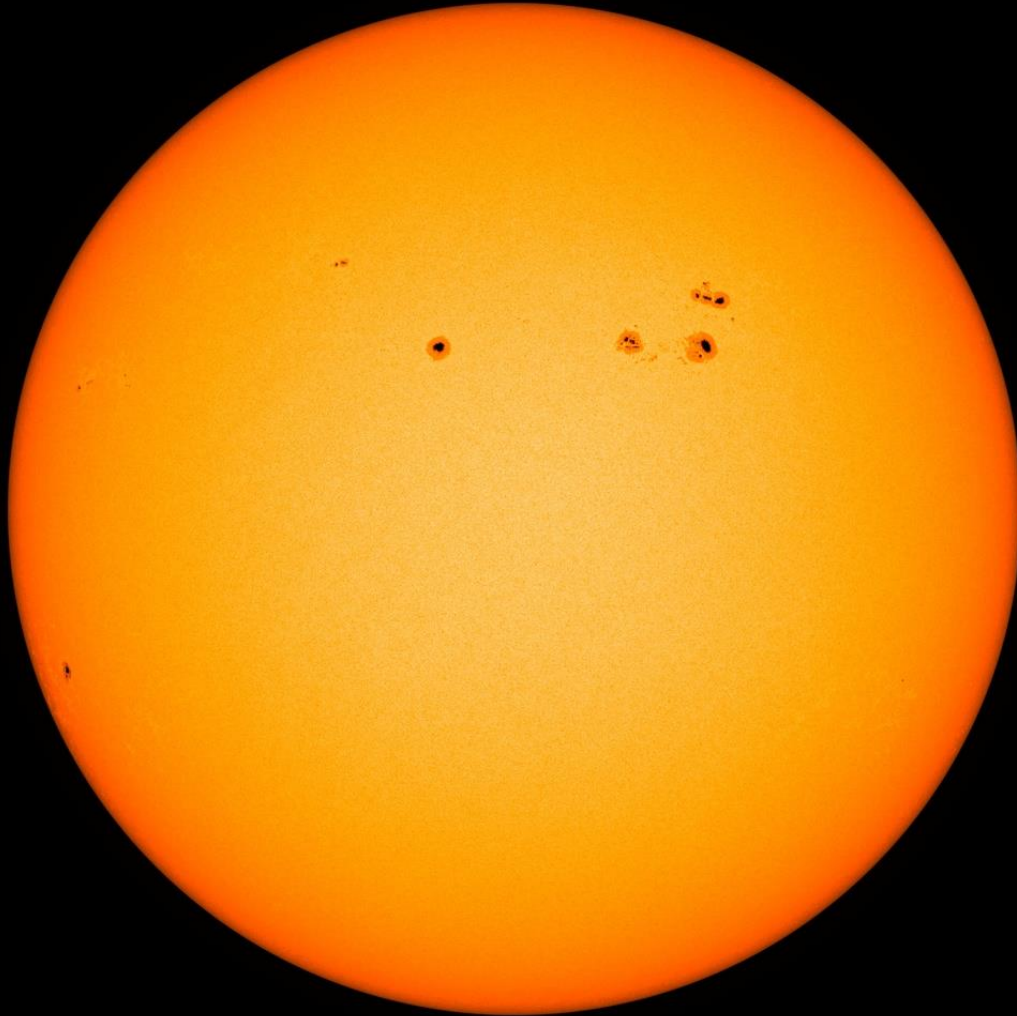
SDO/HMI Magnetogram 2022-04-23



SDO/HMI Quick-Look Magnetogram: 20220423_114500

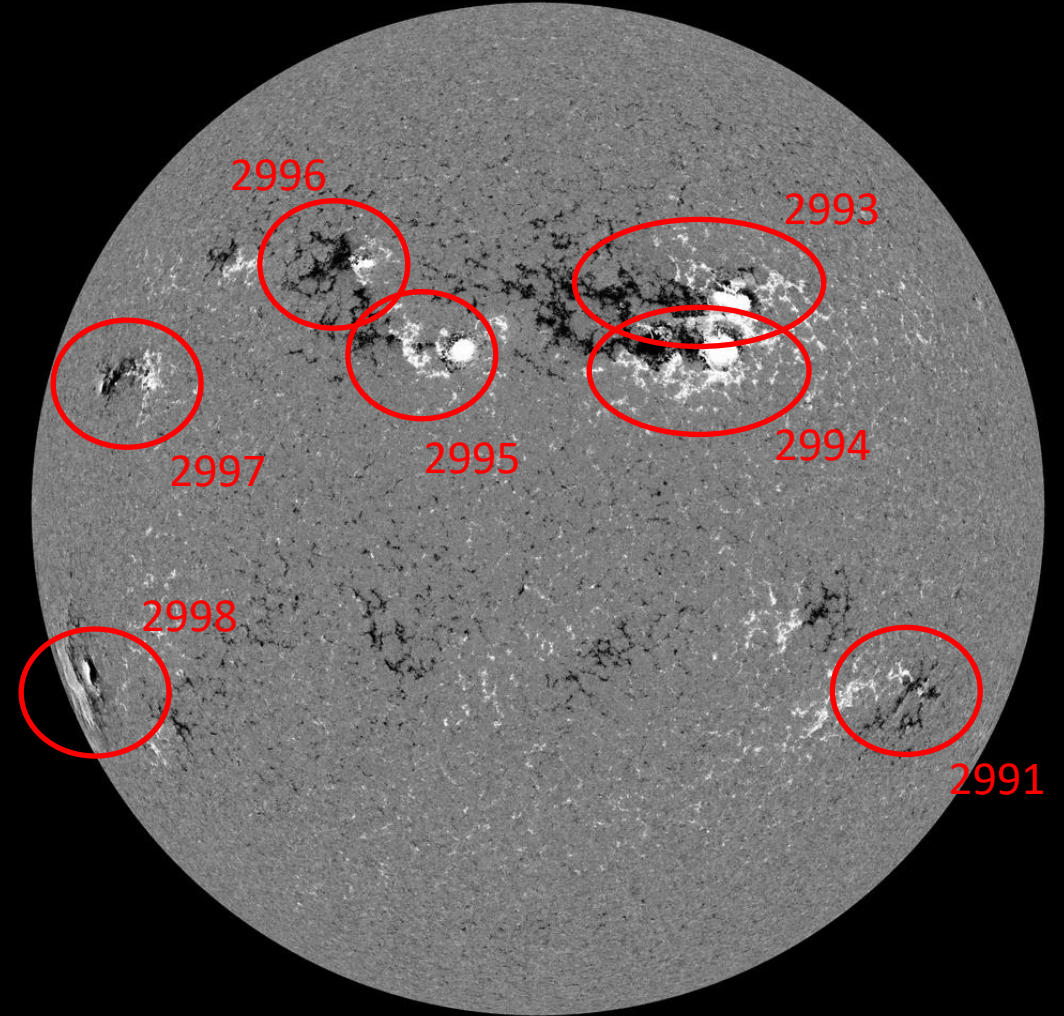
Solar active regions

SDO/HMI White Light 2022-04-24



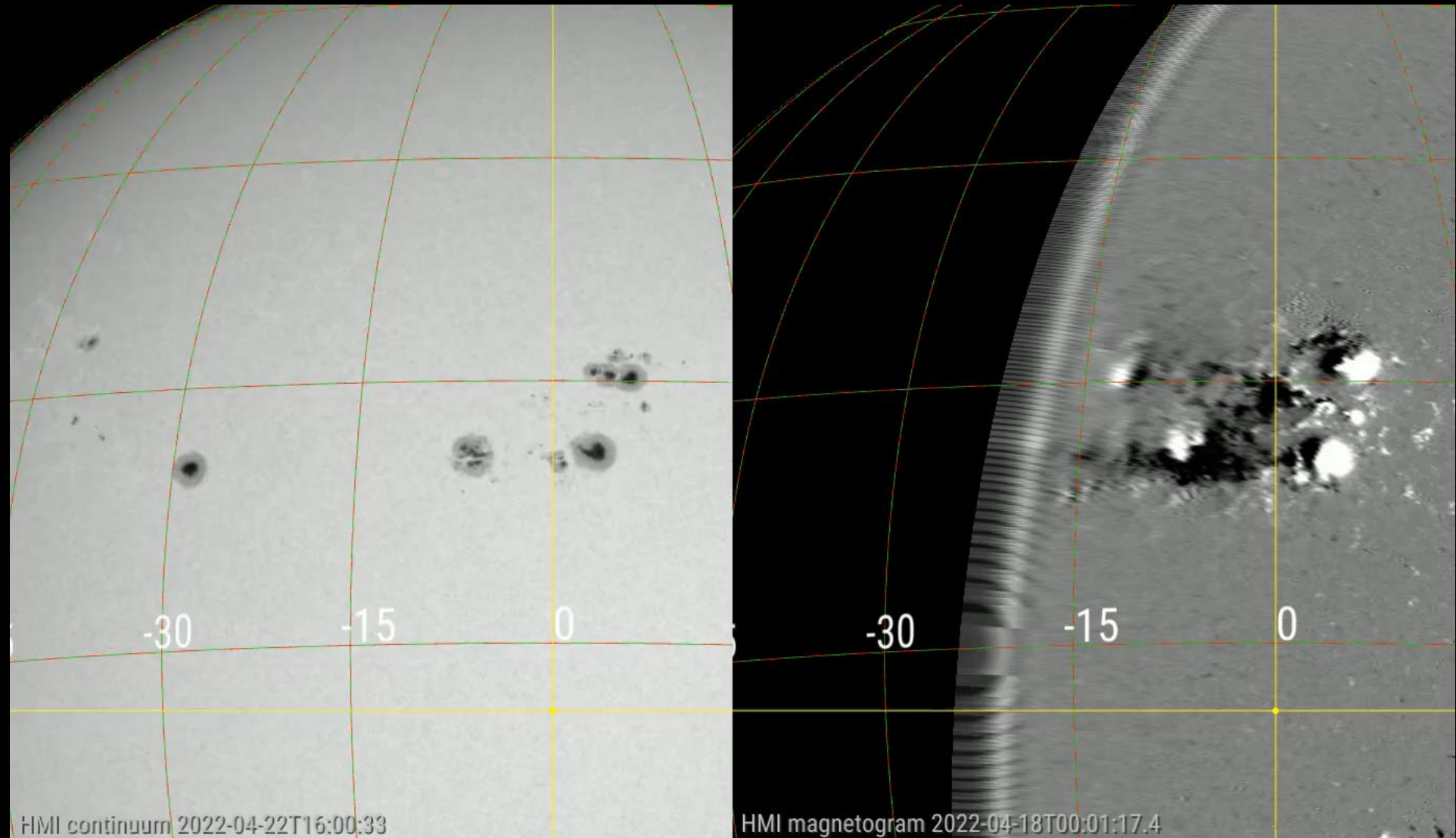
SDO/HMI Quick-Look Continuum: 20220424_114500

SDO/HMI Magnetogram 2022-04-24



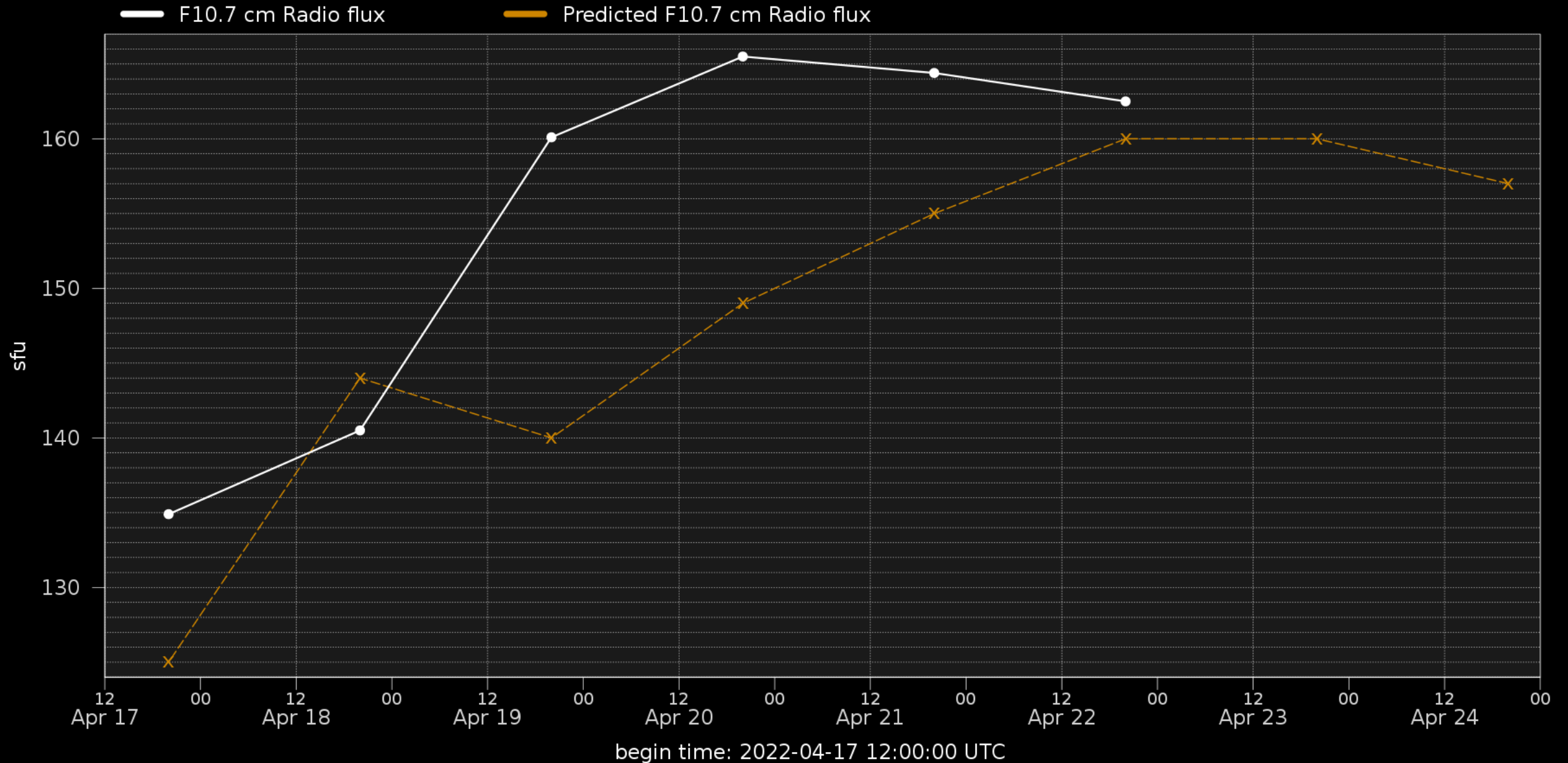
SDO/HMI Quick-Look Magnetogram: 20220424_114500

Region evolution (NOAA AR 2993 and 2994)

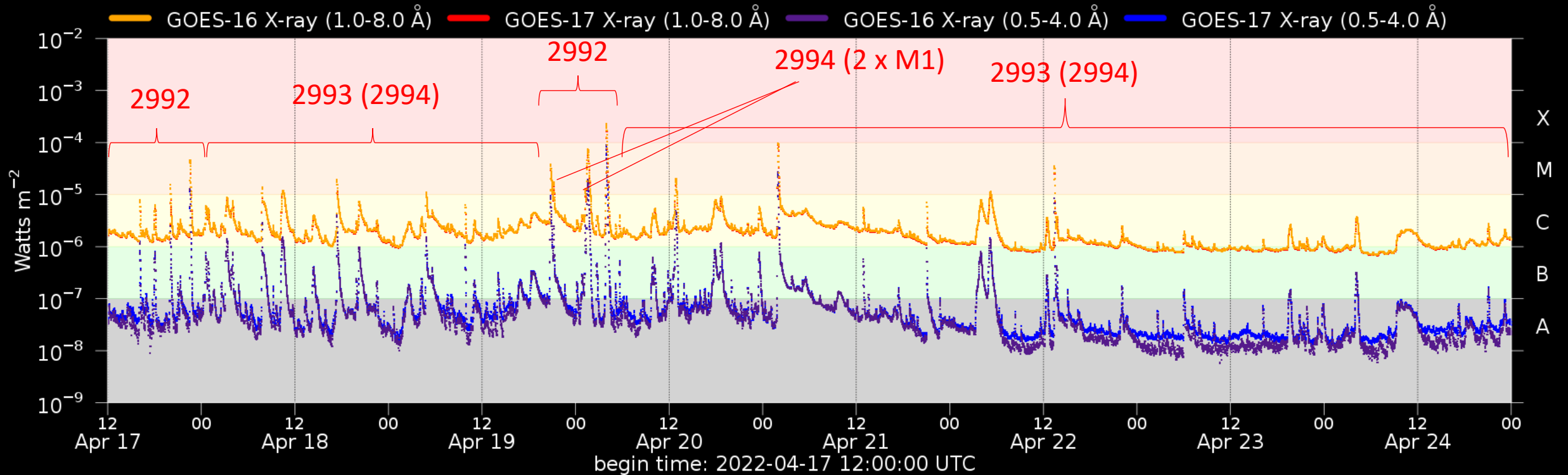


Tracked
position@2022-04-23T00:00

Solar F10.7cm radio flux



Flaring activity



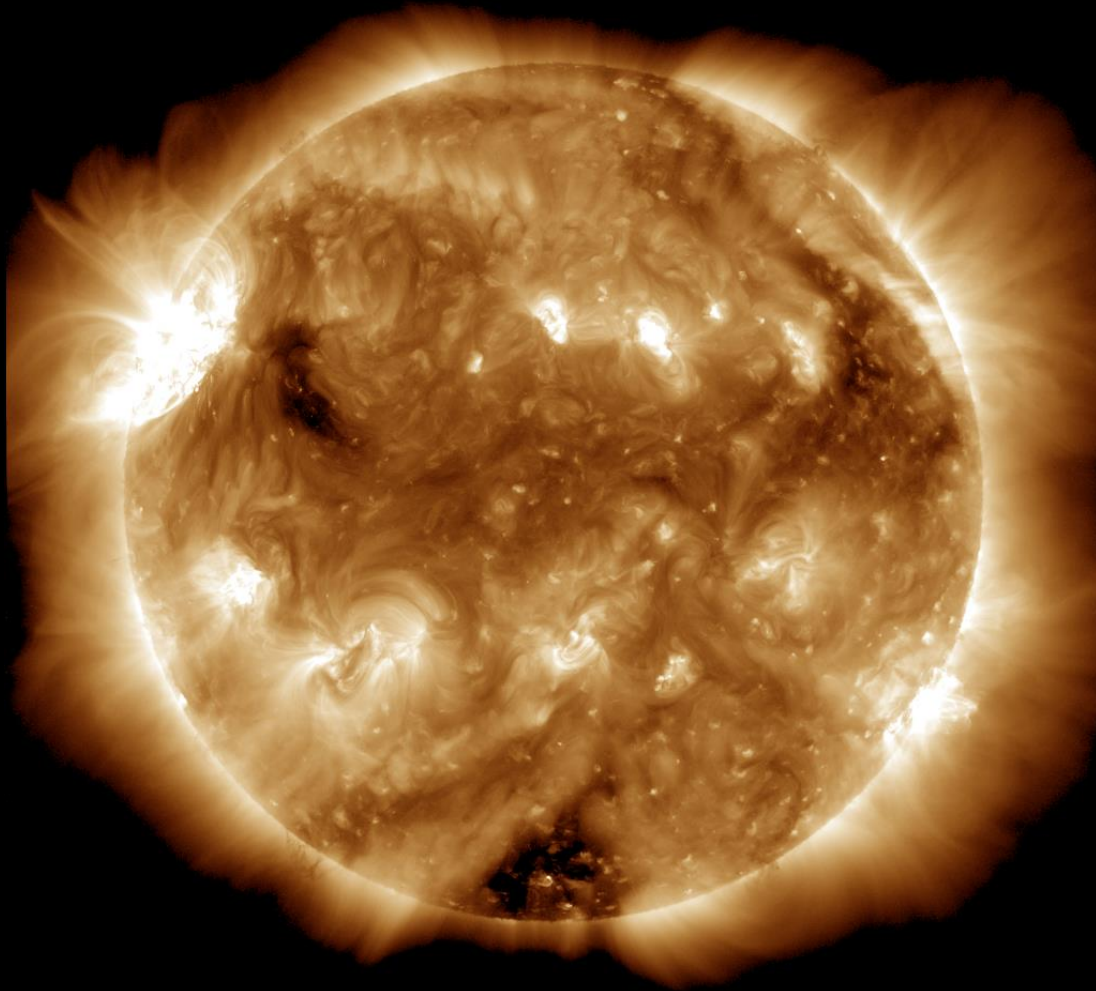
Probabilities (%) and occurrences (#) of C/M/X-flares daily, from noon to noon:

Issue date	2022-04-17	2022-04-18	2022-04-19	2022-04-20	2022-04-21	2022-04-22	2022-04-23	2022-04-24
Probability (%)	98 75 23	98 70 45	98 70 40	98 80 40	98 75 45	98 75 40	98 65 30	98 55 35
Observed (#)	10 04 00	10 02 00	11 02 01	05 02 00	04 01 00	05 01 00	04 00 00	01 00 00

Coronal holes

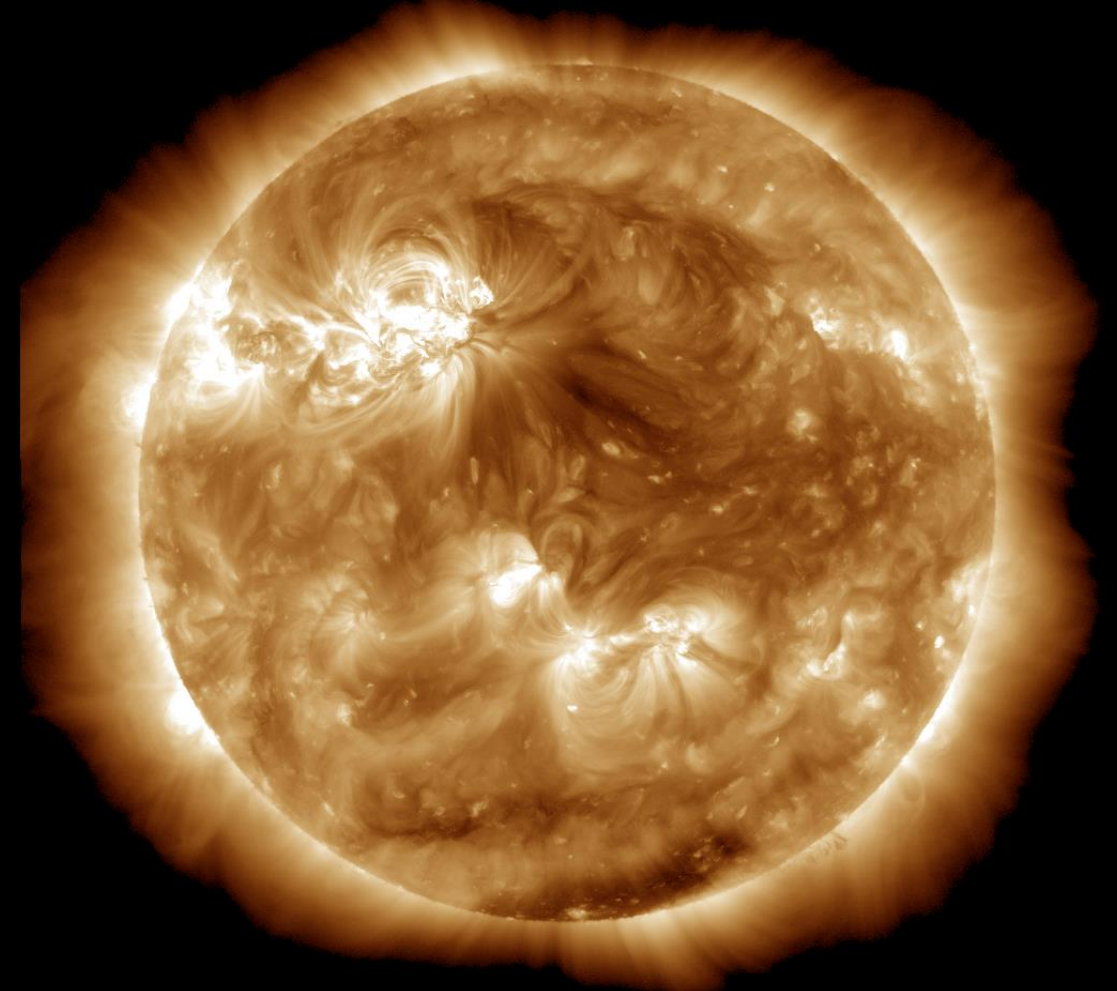
SDO/AIA 19.3 nm 2022-04-18

SDO/AIA AIA 193Å 2022-04-18T12:00:05.835



SDO/AIA 19.3 nm 2022-04-21

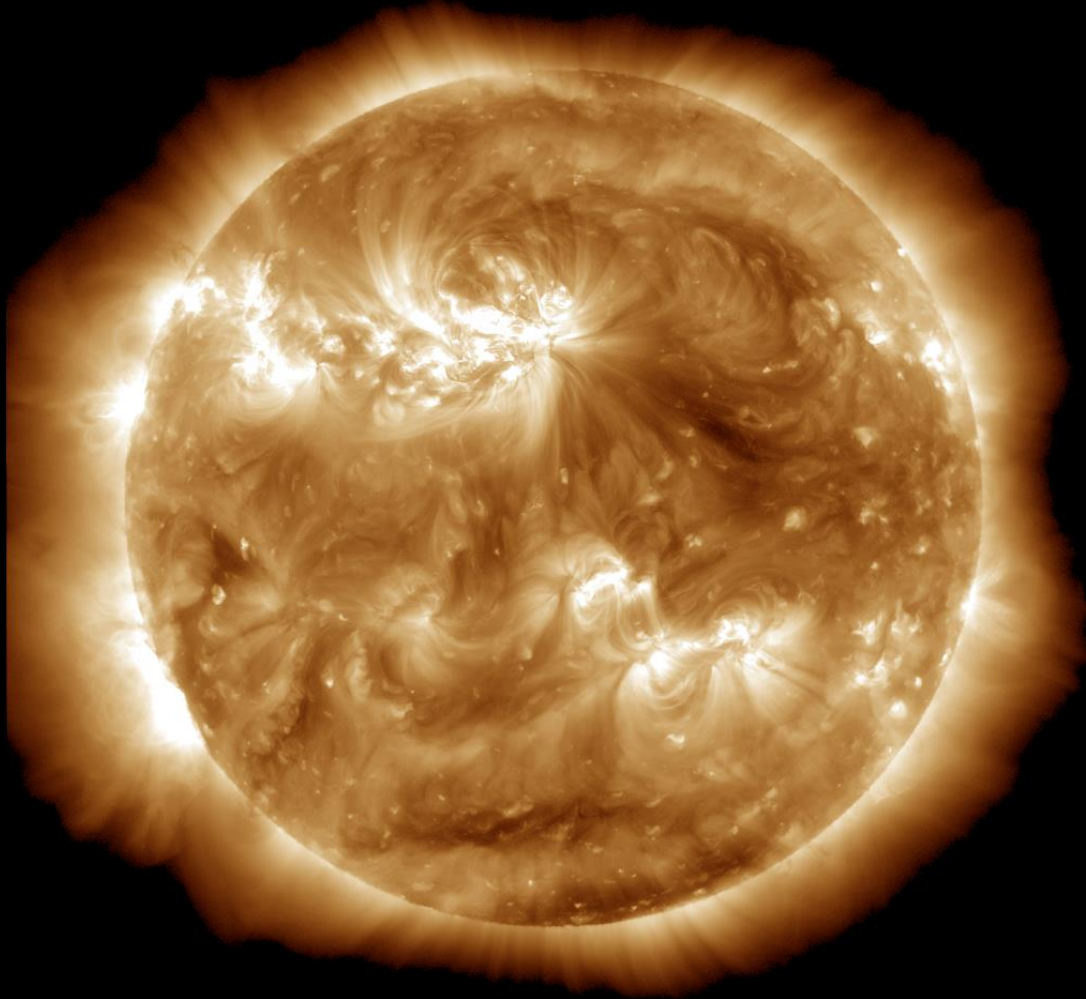
SDO/AIA AIA 193Å 2022-04-21T12:00:05.843



Coronal holes

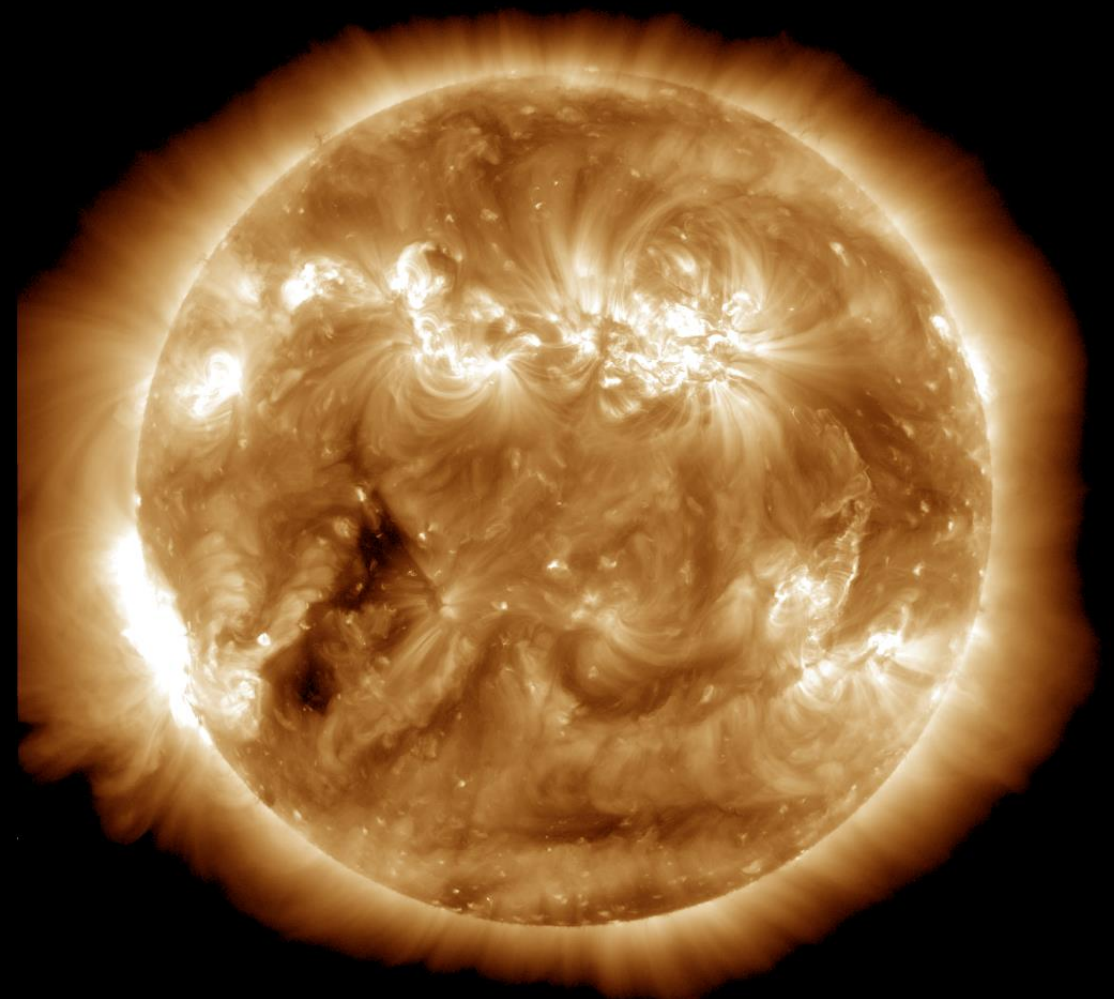
SDO/AIA 19.3 nm 2022-04-22

SDO/AIA AIA 193Å 2022-04-22T12:00:05.843



SDO/AIA 19.3 nm 2022-04-24

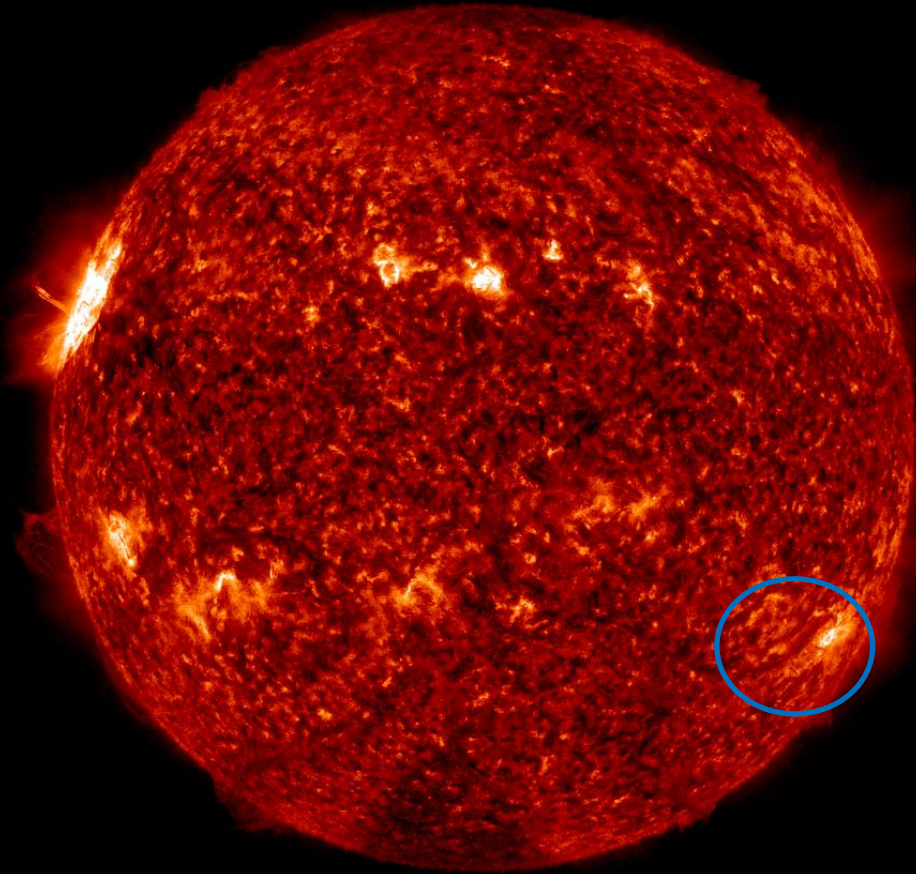
SDO/AIA AIA 193Å 2022-04-24T12:00:05.844



Filaments

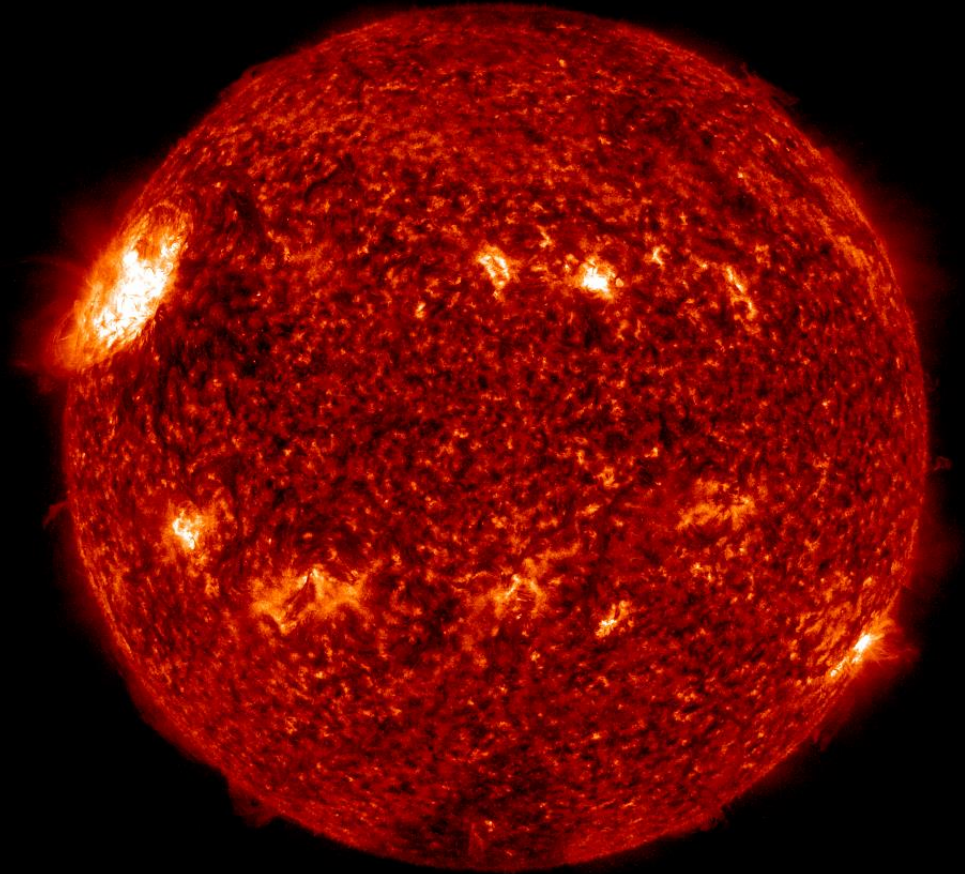
SDO/AIA 30.4 nm 2022-04-17

SDO/AIA AIA 304Å 2022-04-17T12:00:06.580



SDO/AIA 30.4 nm 2022-04-18

SDO/AIA AIA 304Å 2022-04-18T12:00:06.580



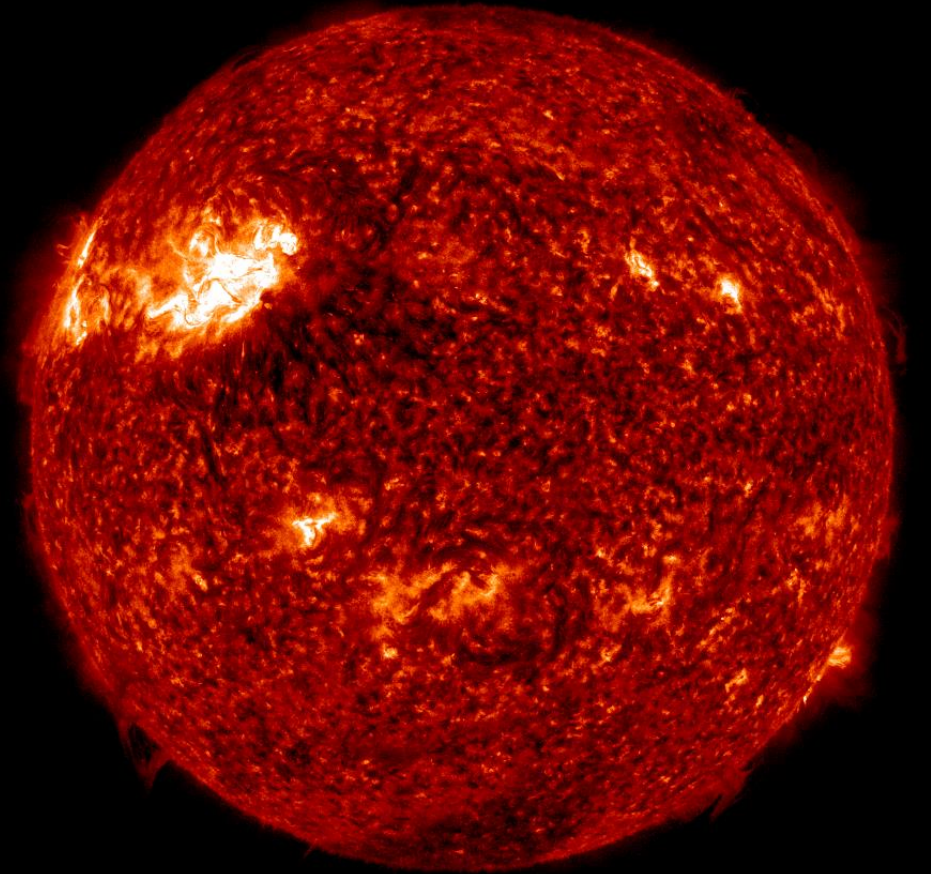
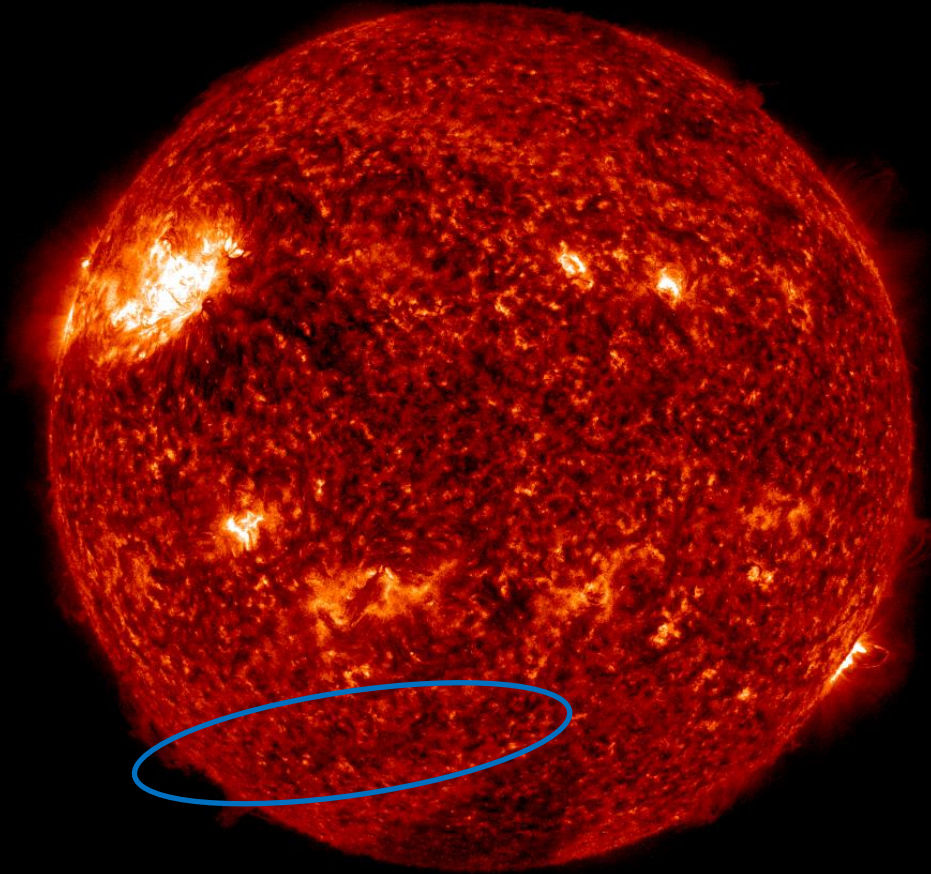
Filaments

SDO/AIA 30.4 nm 2022-04-19

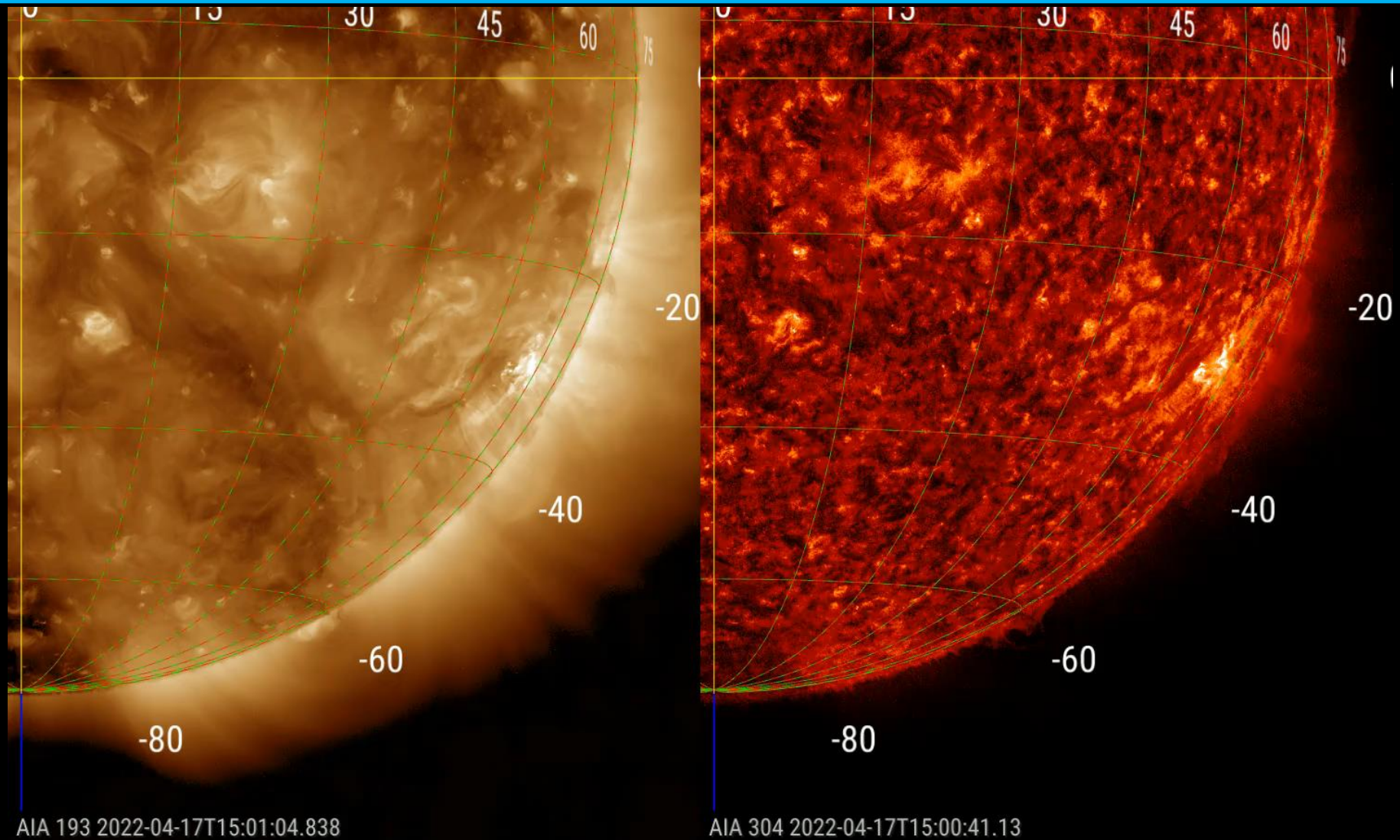
SDO/AIA AIA 304Å 2022-04-19T12:00:06.580

SDO/AIA 30.4 nm 2022-04-20

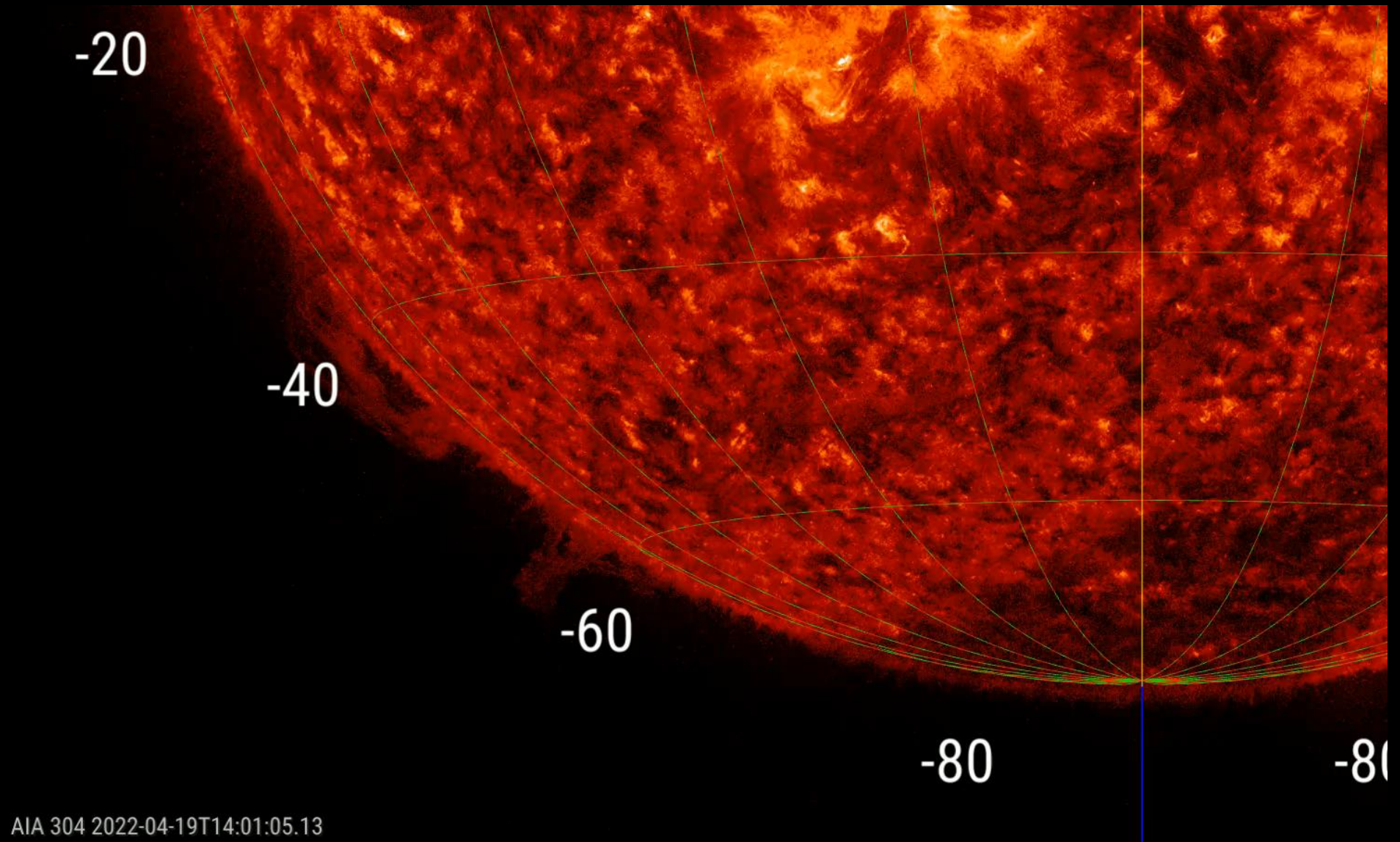
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Filaments



Filaments

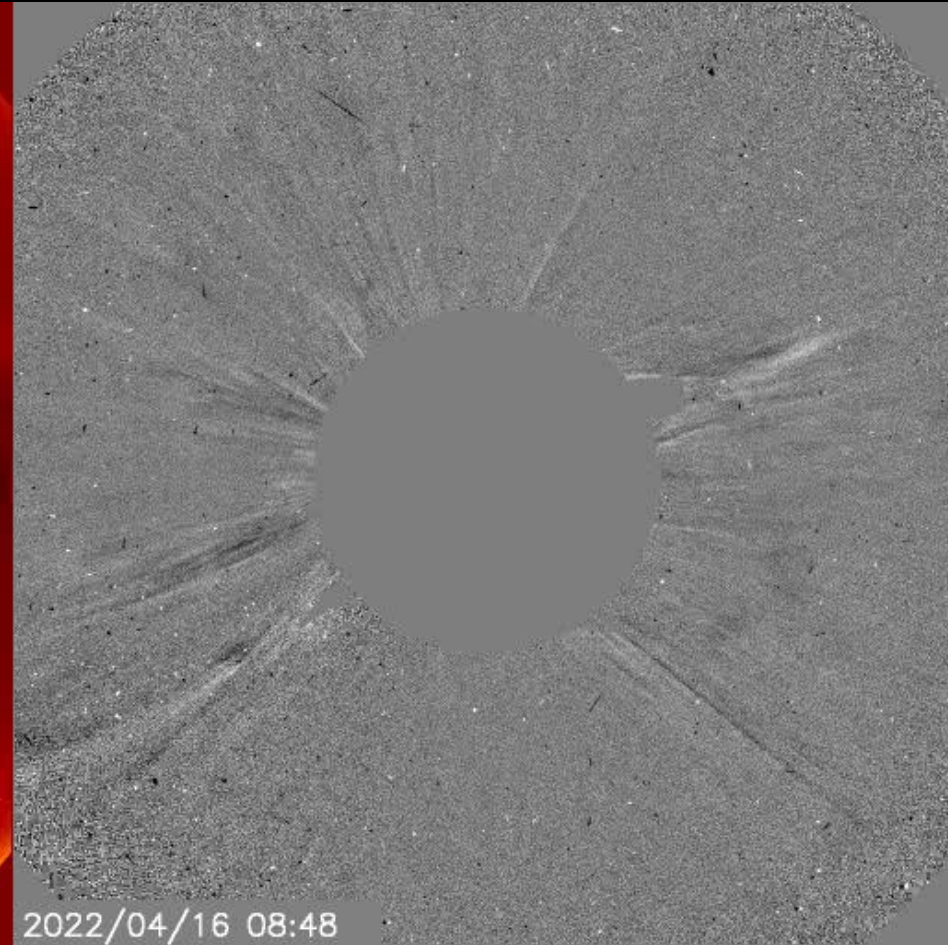
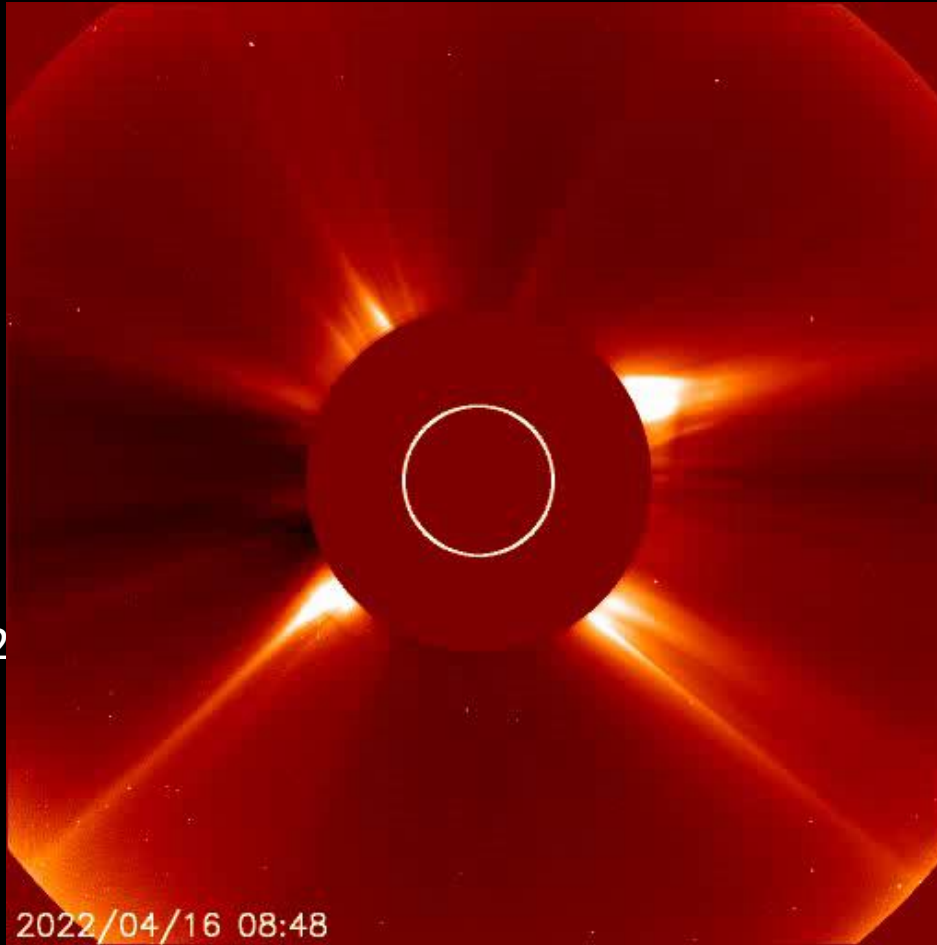


Coronal Mass Ejections

Late last week

April 17 X flare from east limb
East ward partial Halo
(width 170 degrees)
Velocity 1000 km/s
Possibility for a glancing blow
On April 19

Filament eruption related to
M4.4 flare from NOAA AR 2992
South and southwest.
Not expected to reach Earth

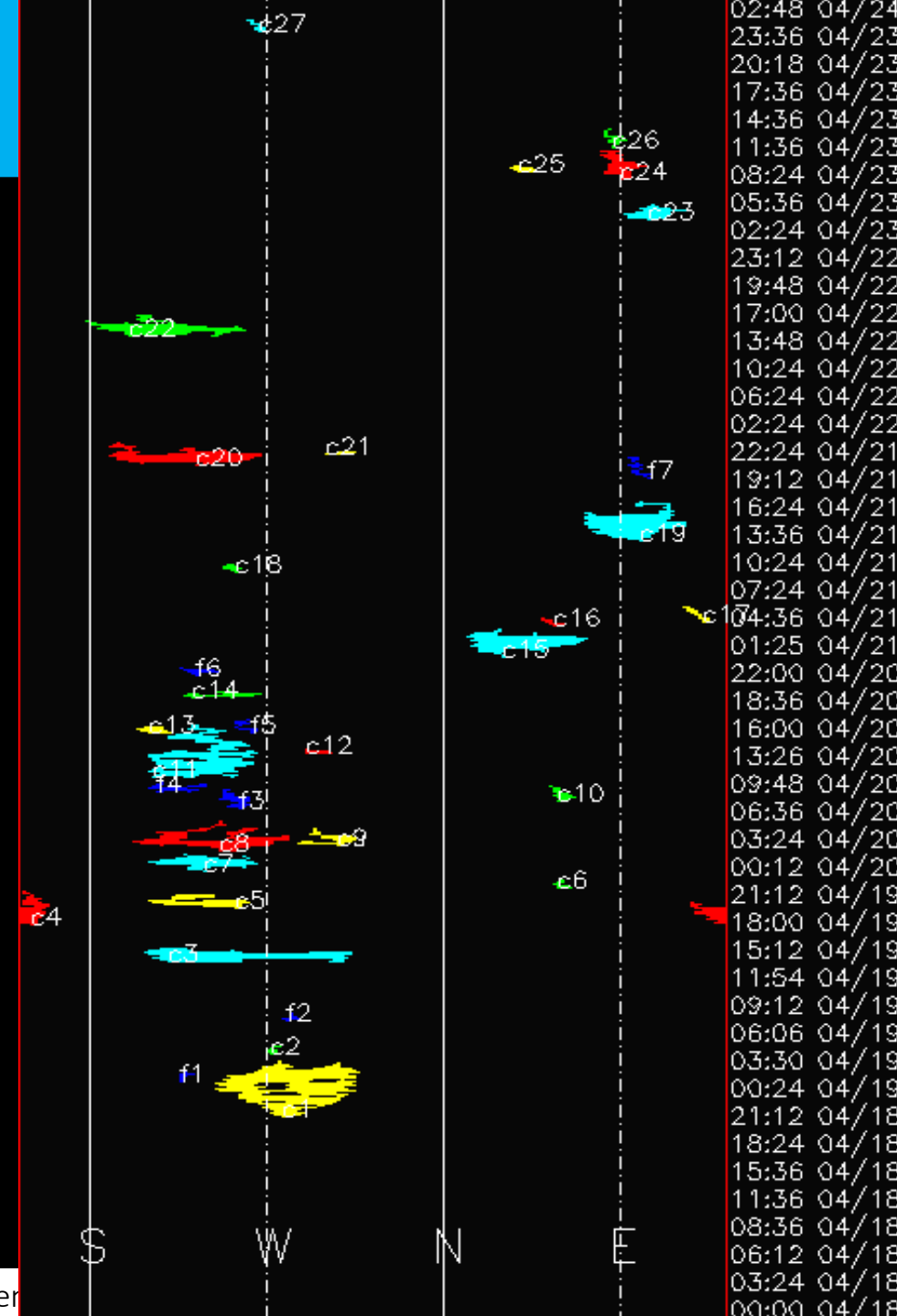
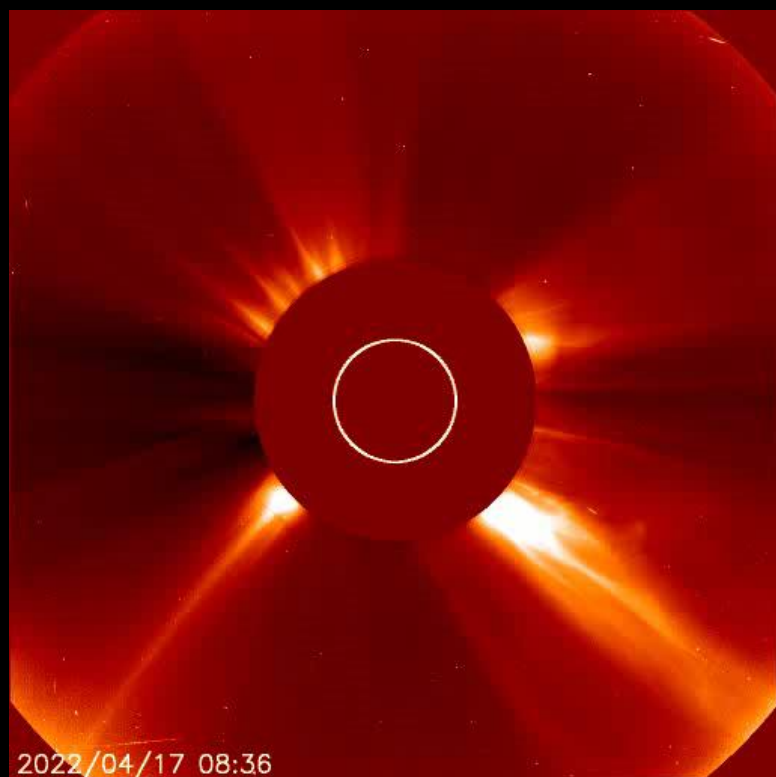


Coronal Mass Ejections

mid week

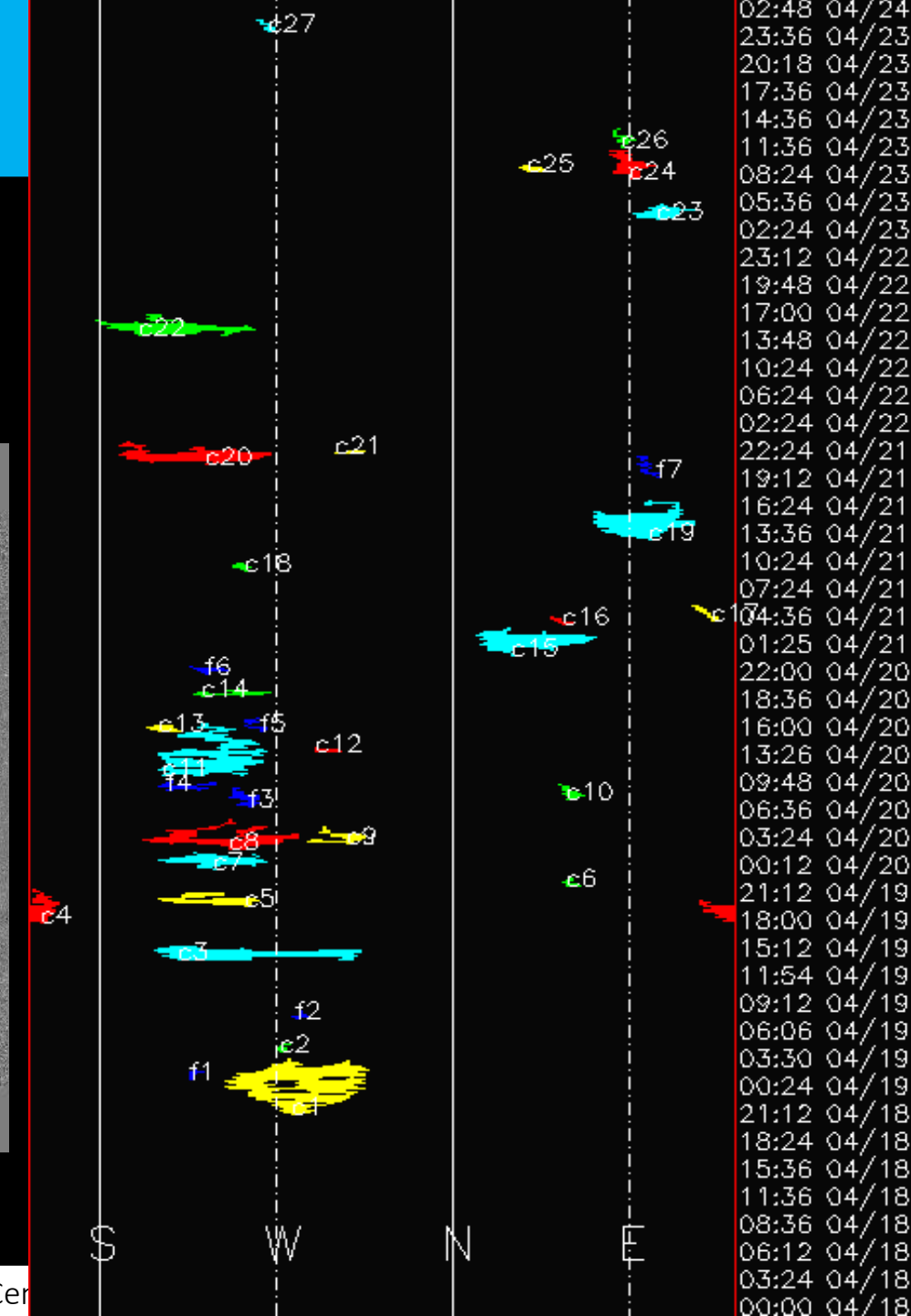
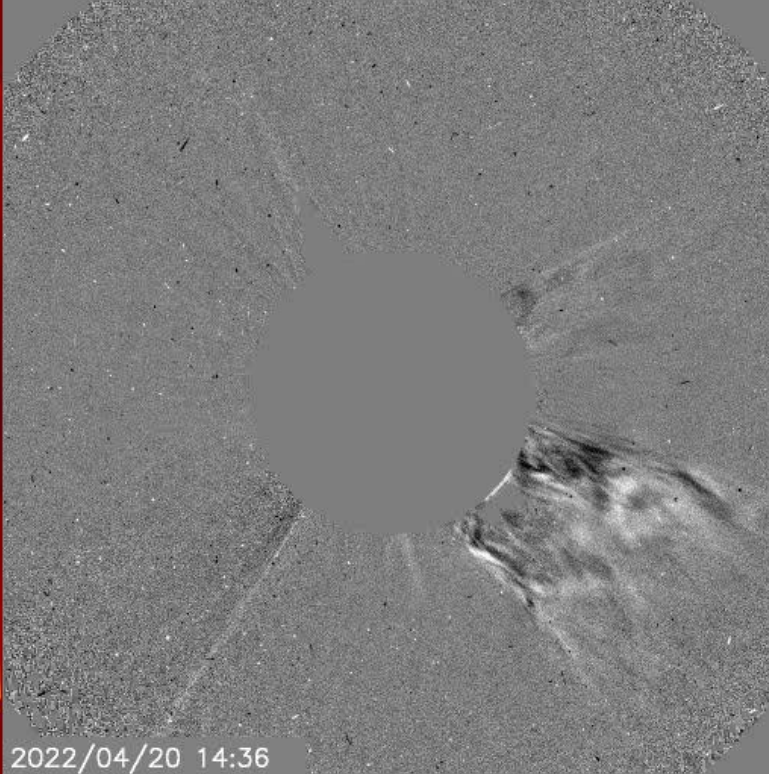
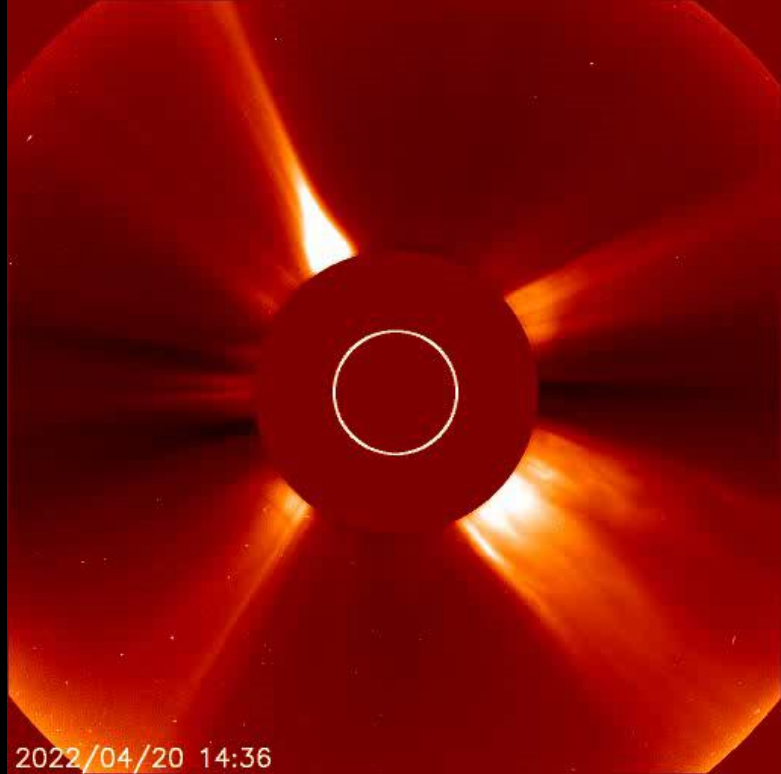
filament eruption to the southeast

small CME to the northeast associated with M9 flare from NOAA AR 2993



Coronal Mass Ejections

Late in the week



Solar Wind and

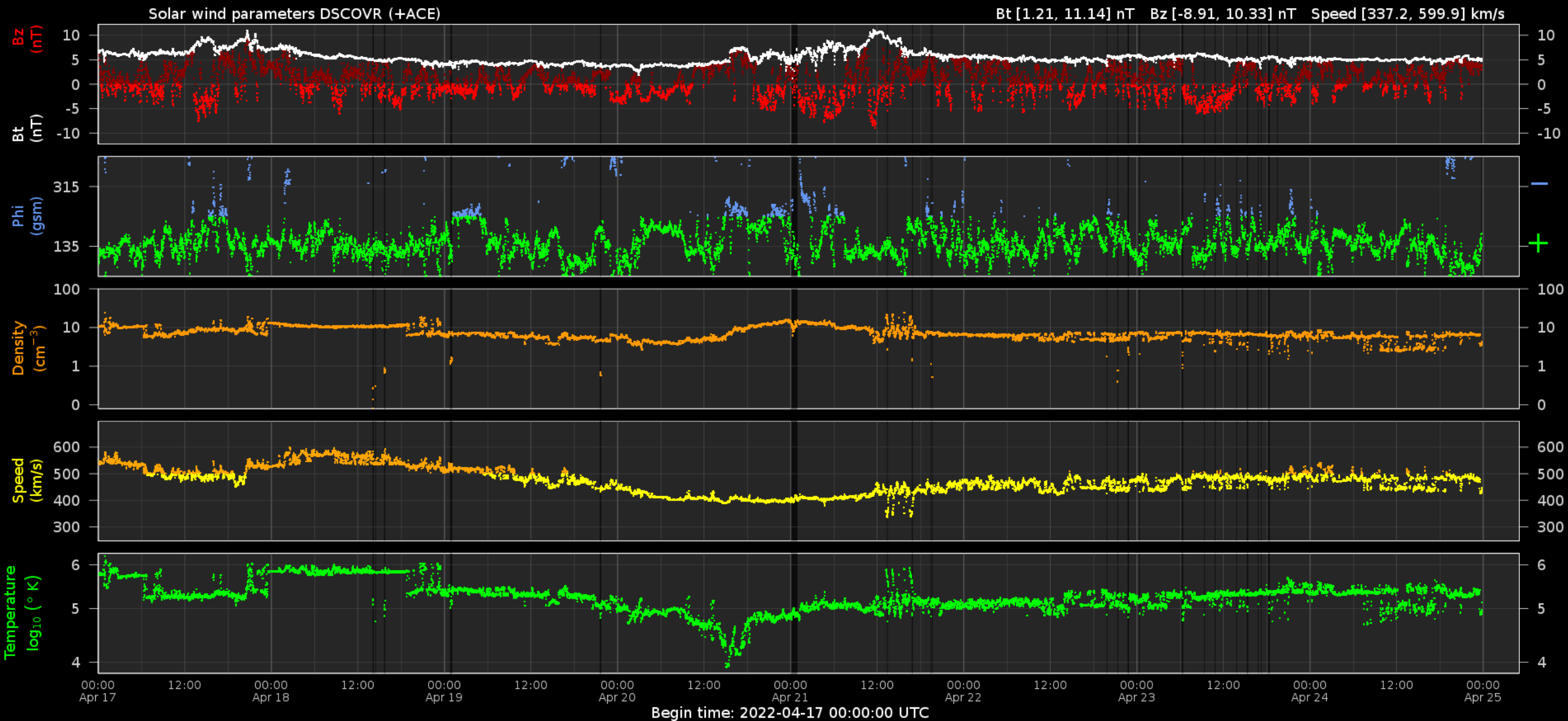
Geomagnetic Activity



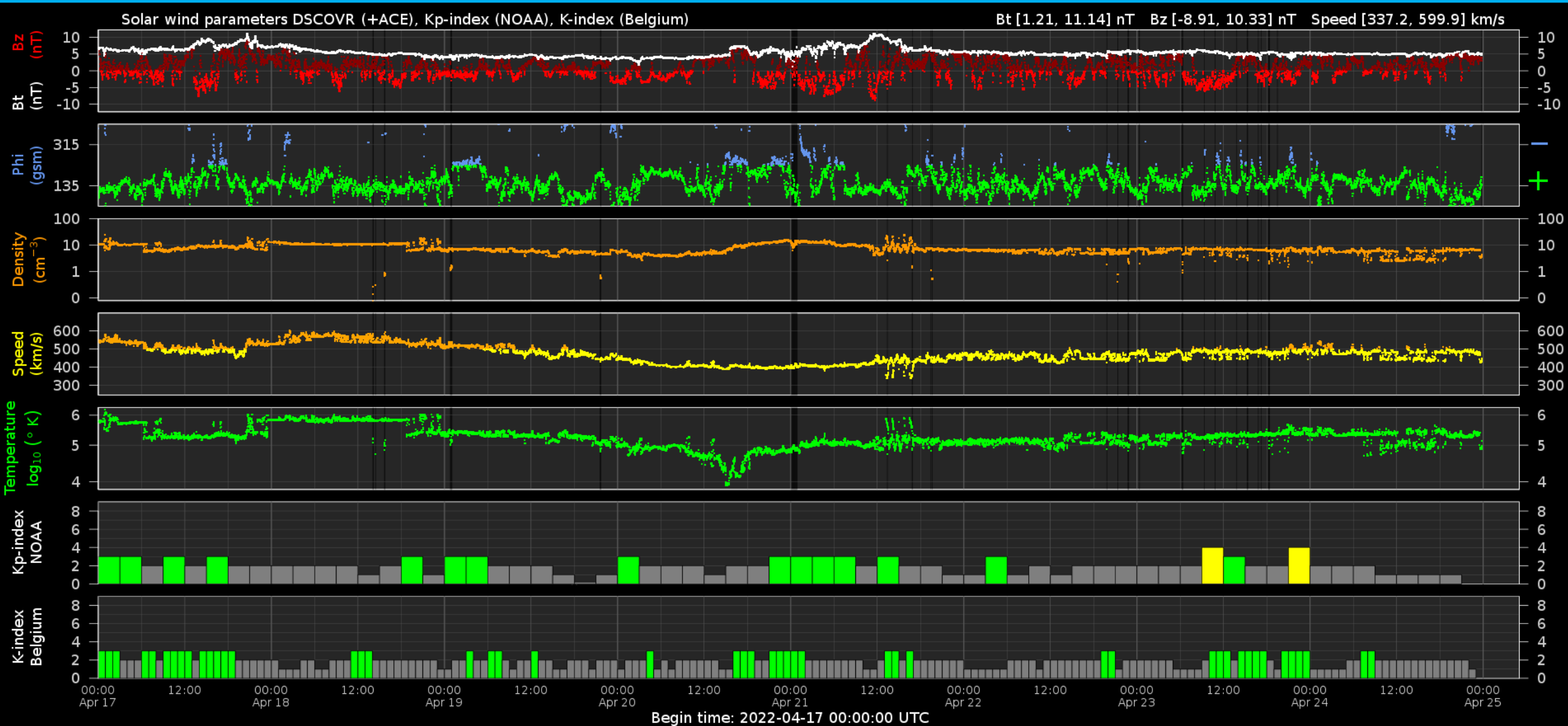
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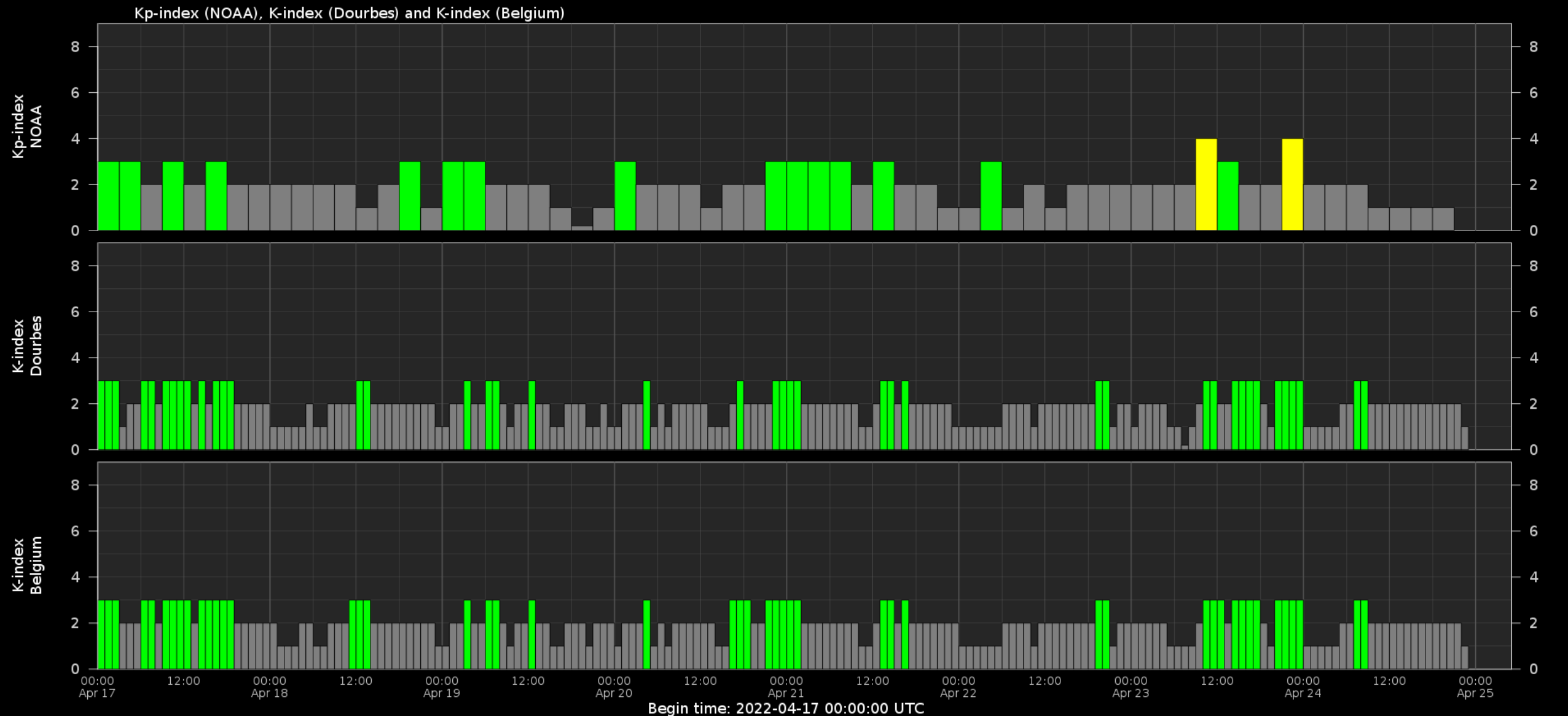
Solar wind parameters



Solar wind parameters & K-indices



Geomagnetic activity (K-indexes)



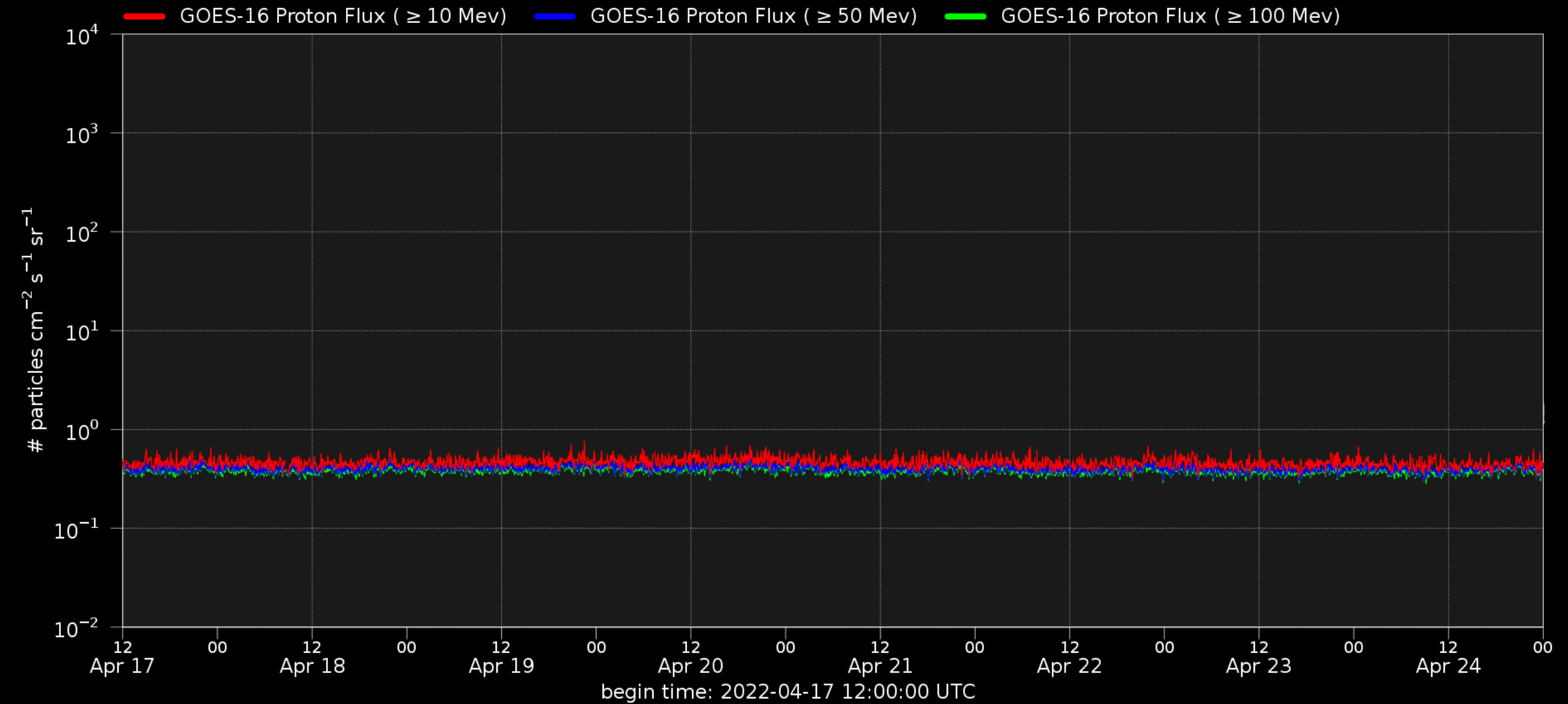
Energetic Particles



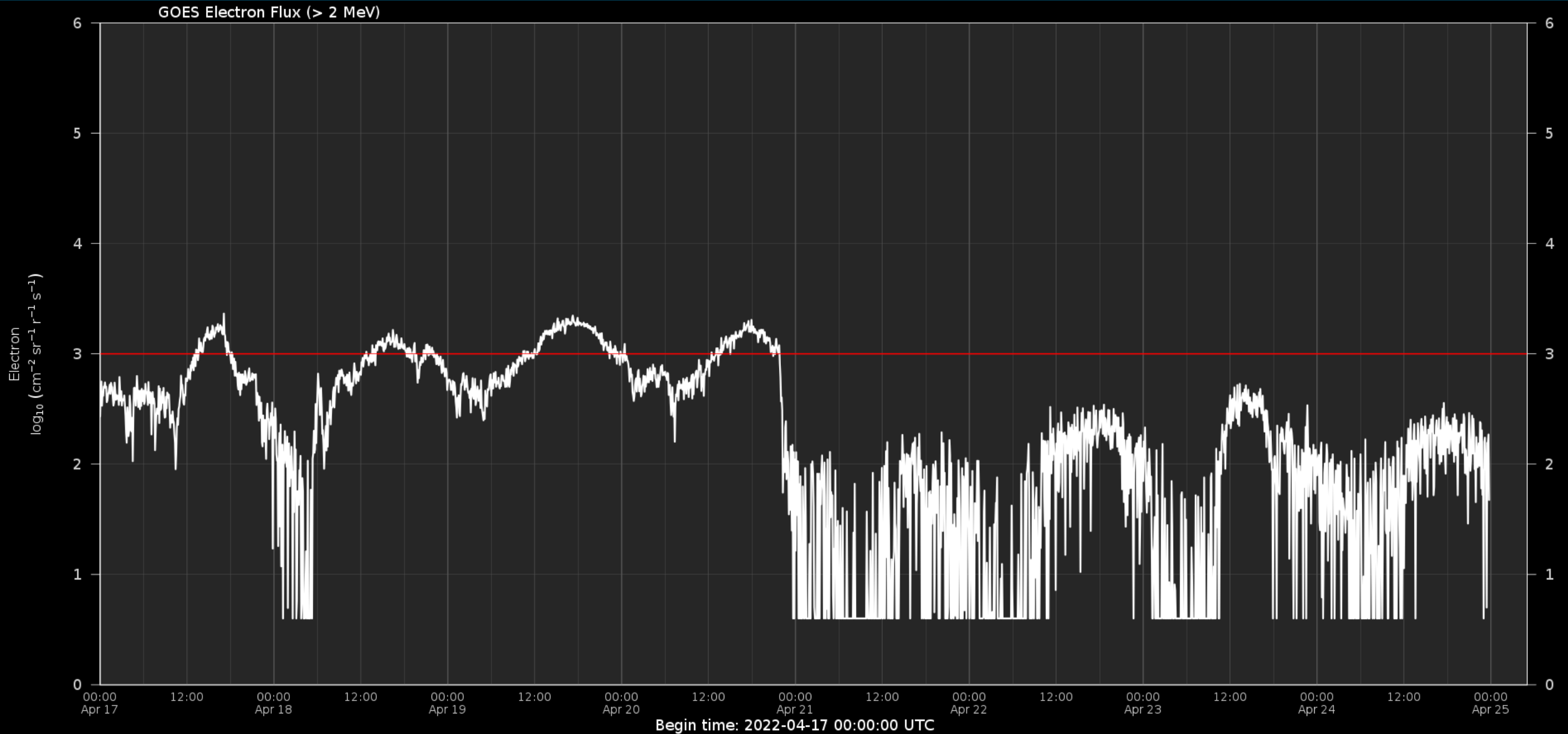
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Solar proton flux



Electron flux at GEO



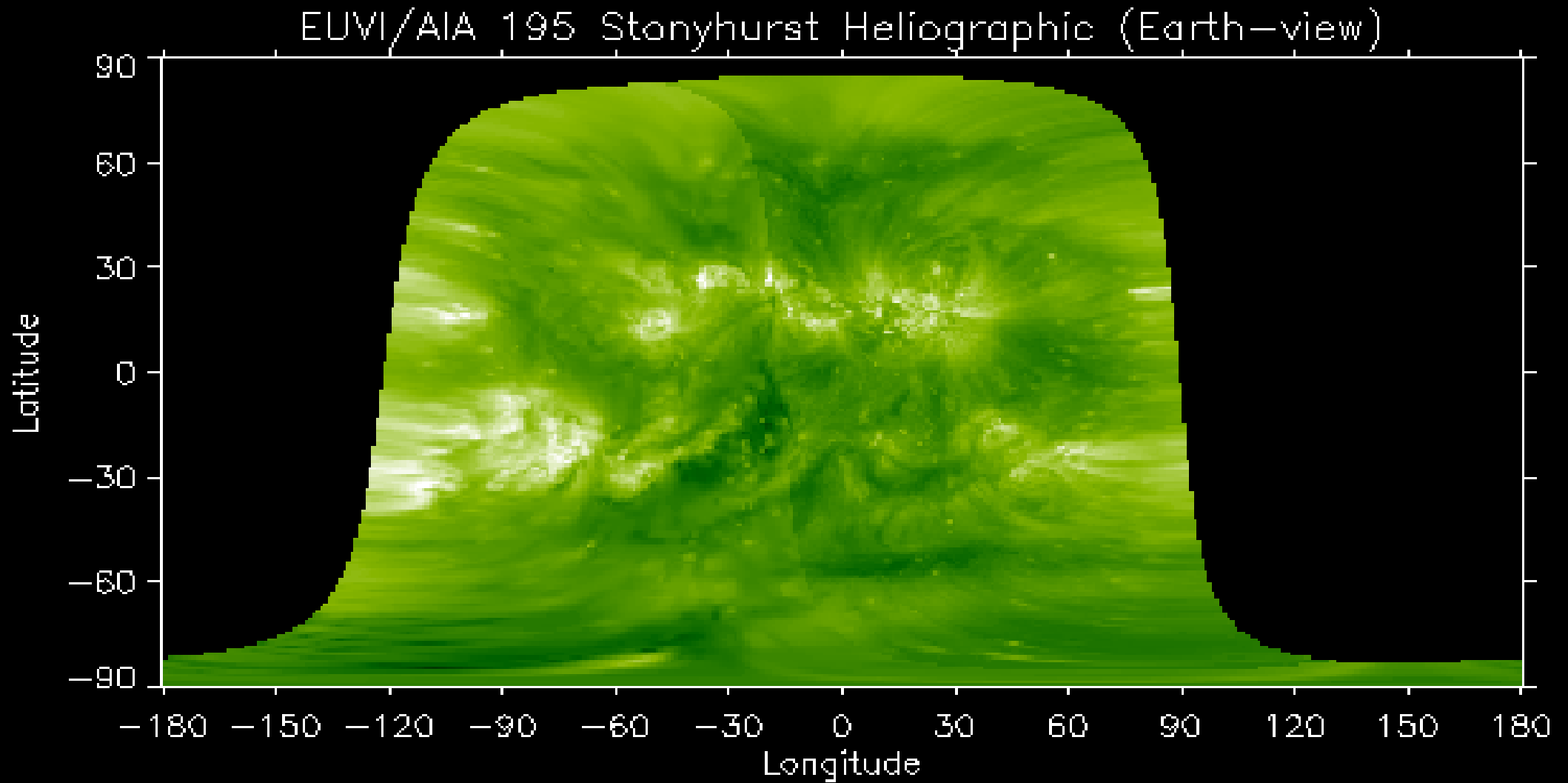
Outlook



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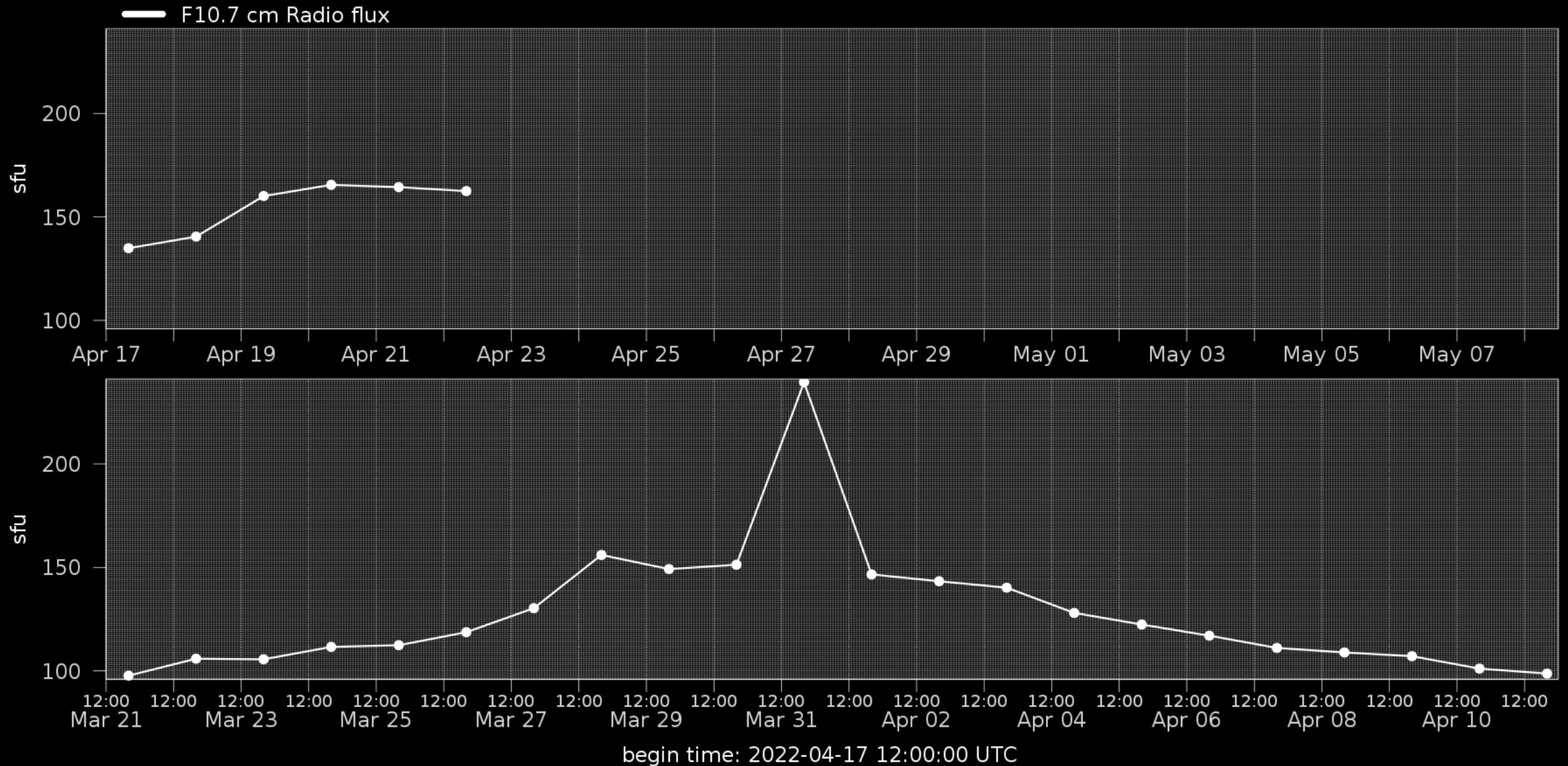
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Outlook: Solar activity



Observation date: 2022/04/24 23:15:00

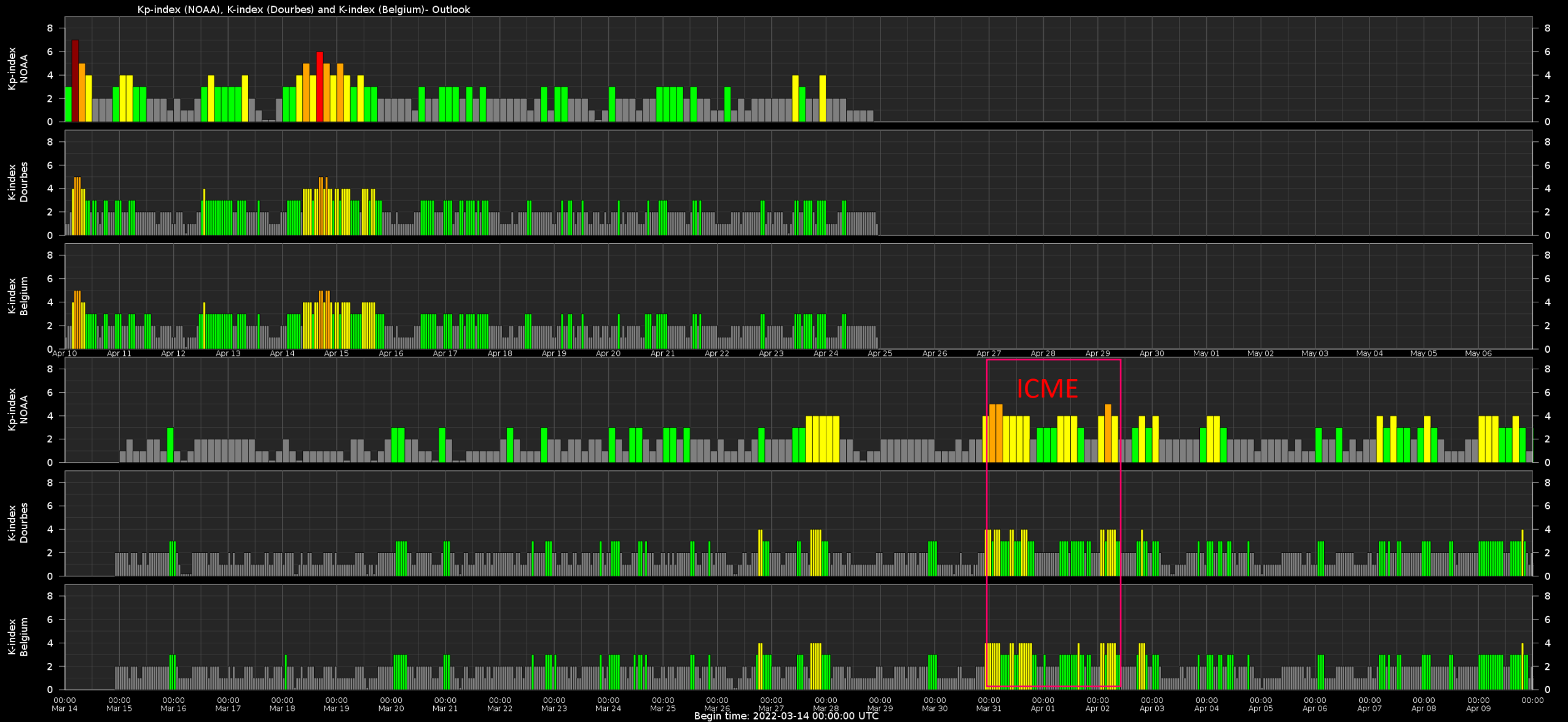
Outlook: Solar F10.7cm radio flux



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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