

SIDC Space Weather Briefing

24 July 2022-31 July 2022 Jesse ANDRIES

& the SIDC forecaster team



Solar Influences
Data analysis Centre
www.sidc.be

Summary Report

Solar activity from 2022-07-24 12:00 to 2022-07-31 23:59

Active regions	Many decaying in the west. 3062 stable throughout the week. 3067 and 3068 rotating onto and emerging in the East.
Flares	# C-class flare: 5 # M-class flare: 0 # X-class flare: 0
Coronal Holes	Isolated equatorial CH+ and extension of south polar coronal hole (negative polarity)
CMEs	Some filament eruptions, but too narrow and off the Sun-Earth line.

Proton flux	Background levels
Electron flux	Occasionally passing the event threshold but generally declining trend

Solar wind and geomagnetic conditions

ICMEs	None
Solar wind conditions	B : 1.62 - 15.01 nT //Bz: -9.21 nT to 10.19 nT //Speed: 279.7 - 547.6km/s
K-indices	max K-index (K_Bel): N/A max Kp-index (NOAA): 4

All Quiet Alert: Not quiet

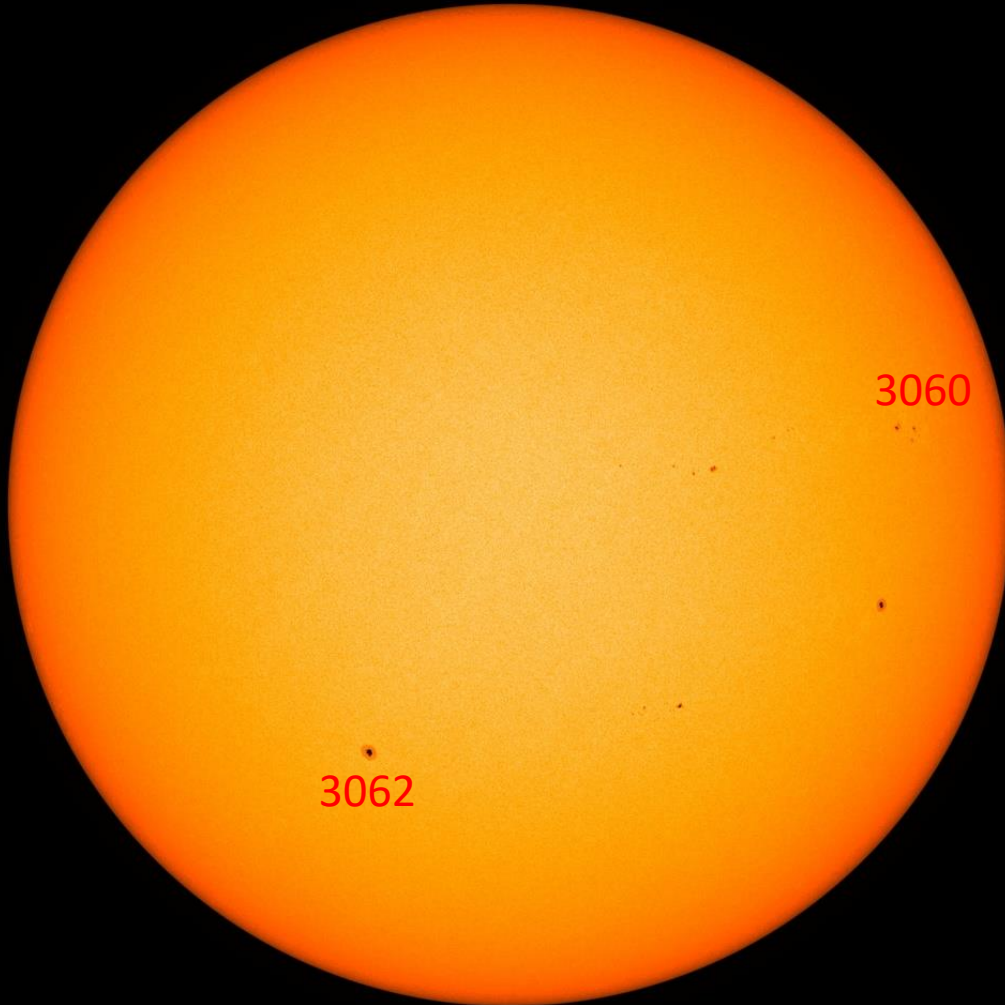
Solar Activity



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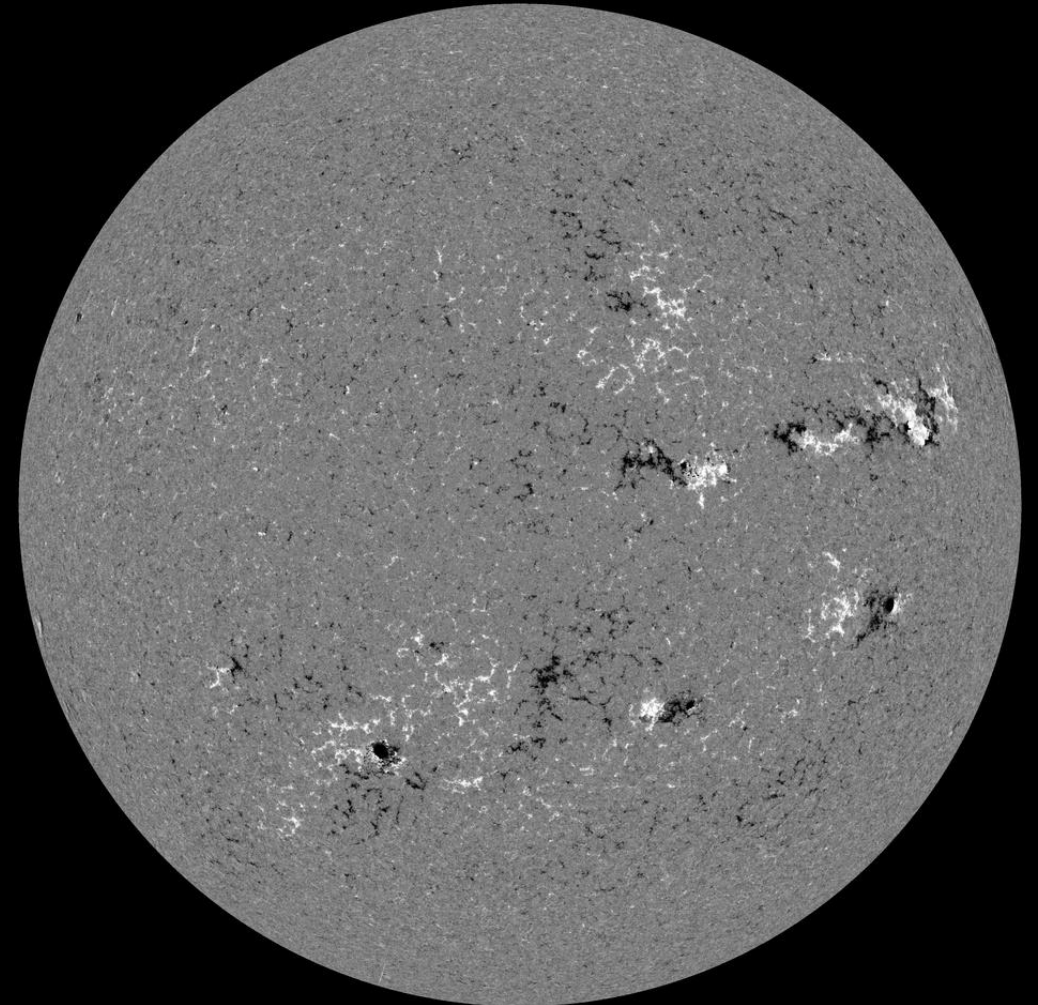
Solar active regions

SDO/HMI White Light 2022-07-24



SDO/HMI Quick-Look Continuum: 20220724_114500

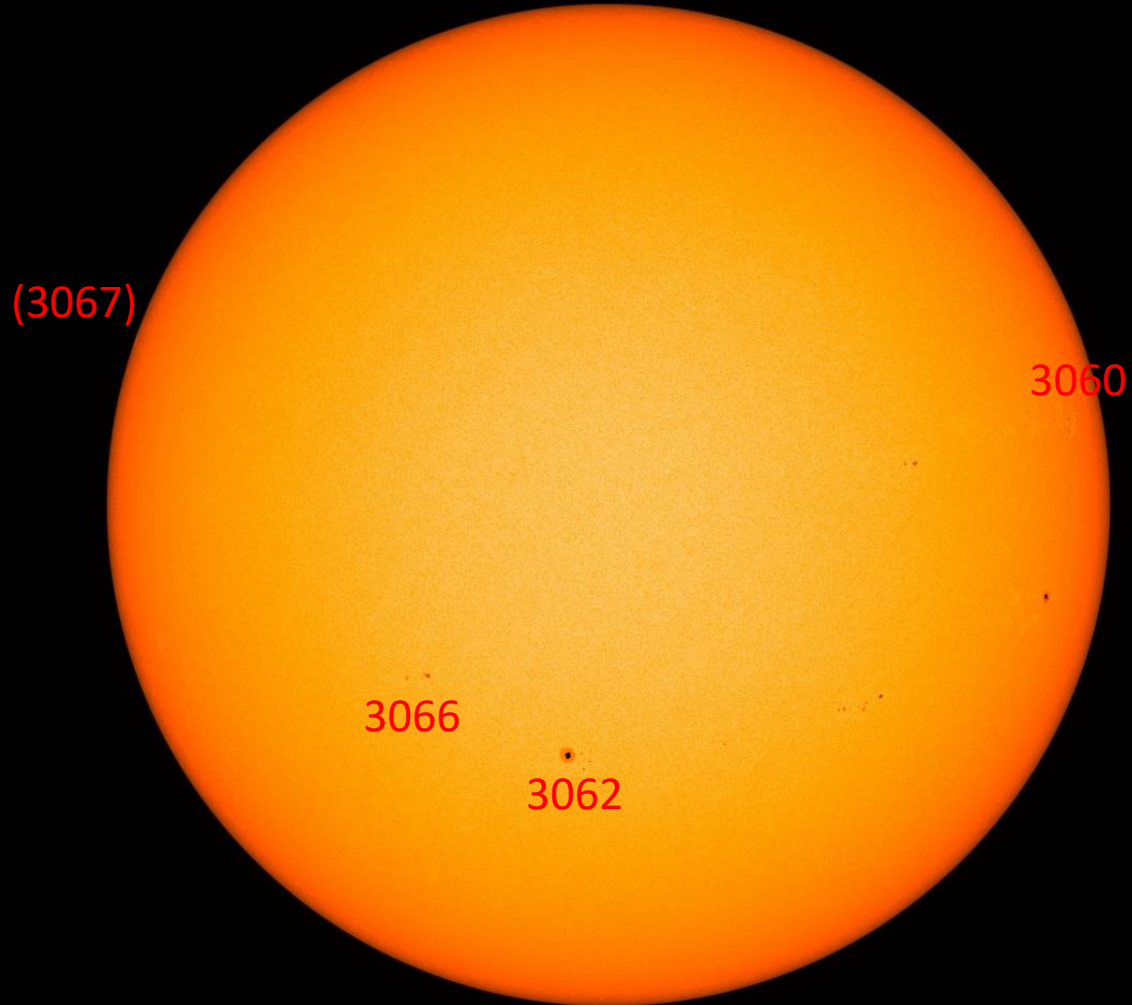
SDO/HMI Magnetogram 2022-07-24



SDO/HMI Quick-Look Magnetogram: 20220724_114500

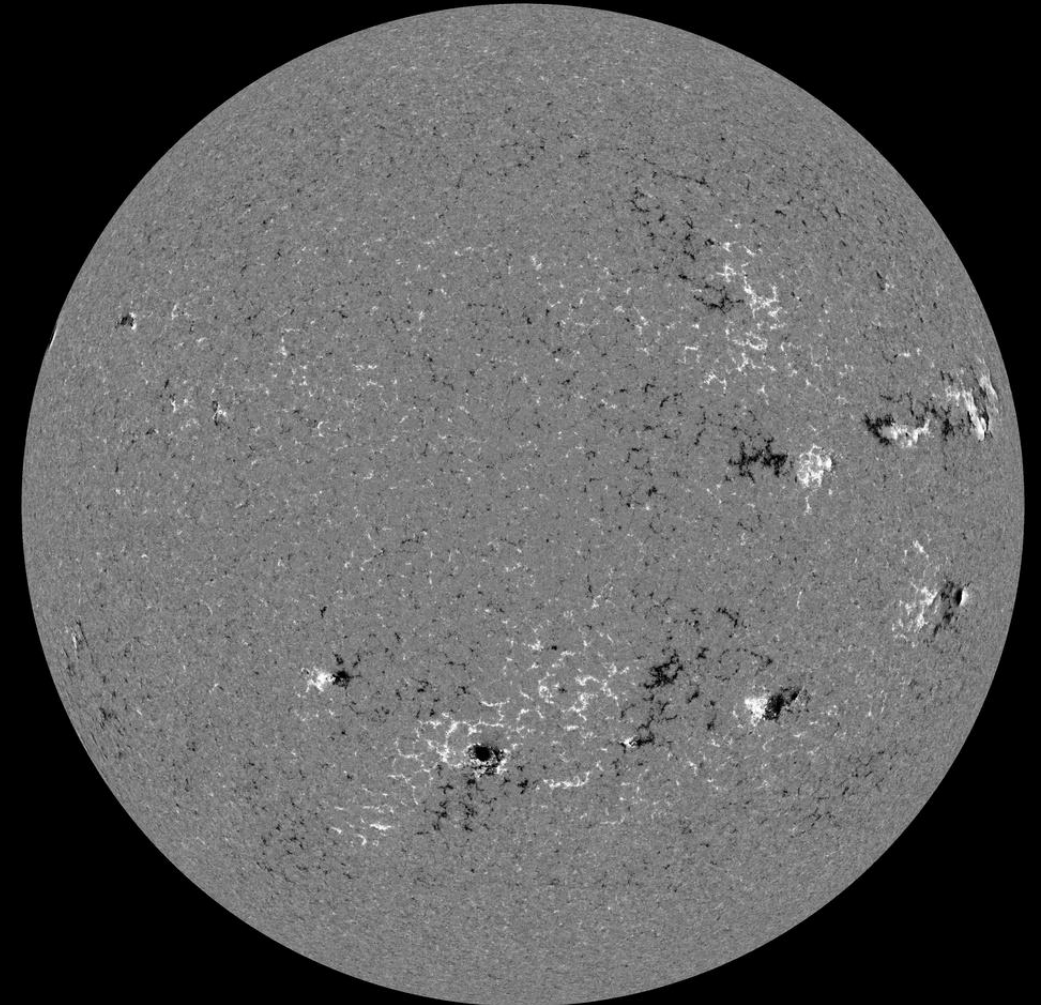
Solar active regions

SDO/HMI White Light 2022-07-25



SDO/HMI Quick-Look Continuum: 20220725_114500

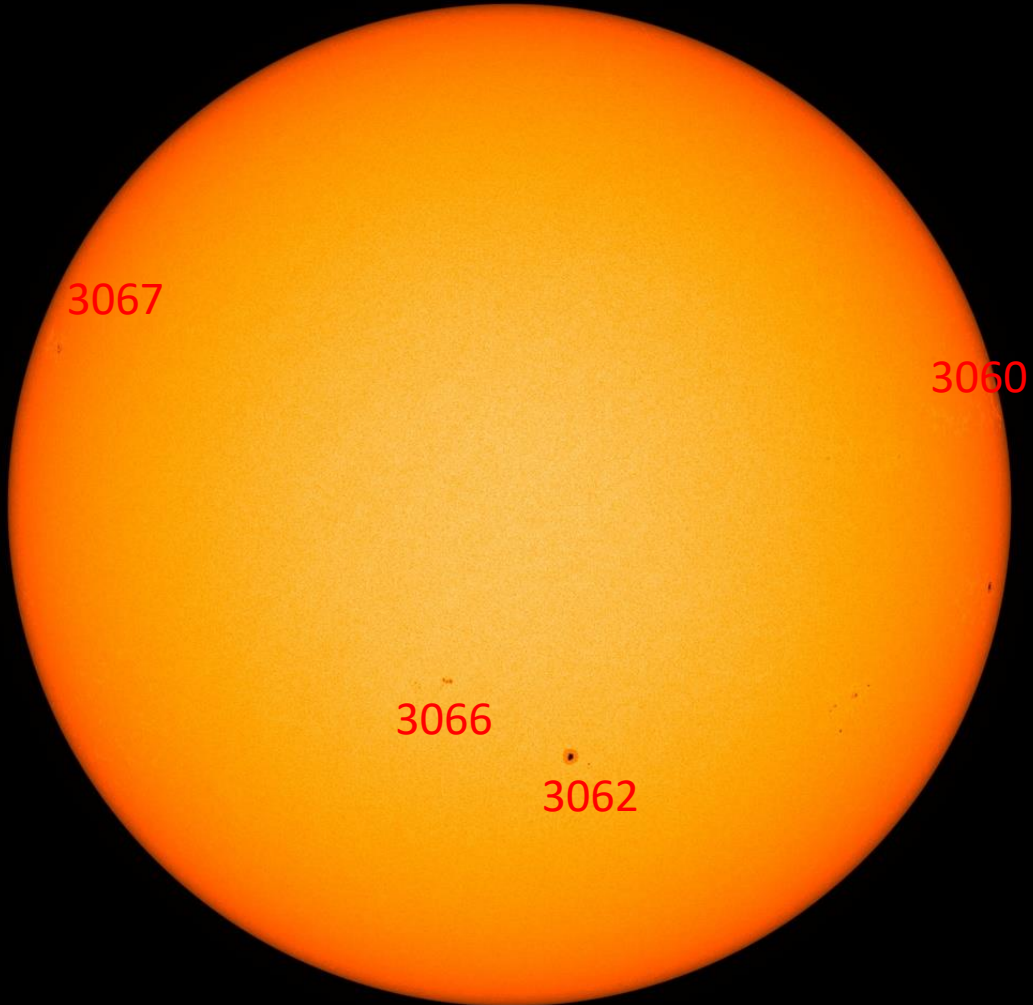
SDO/HMI Magnetogram 2022-07-25



SDO/HMI Quick-Look Magnetogram: 20220725_114500

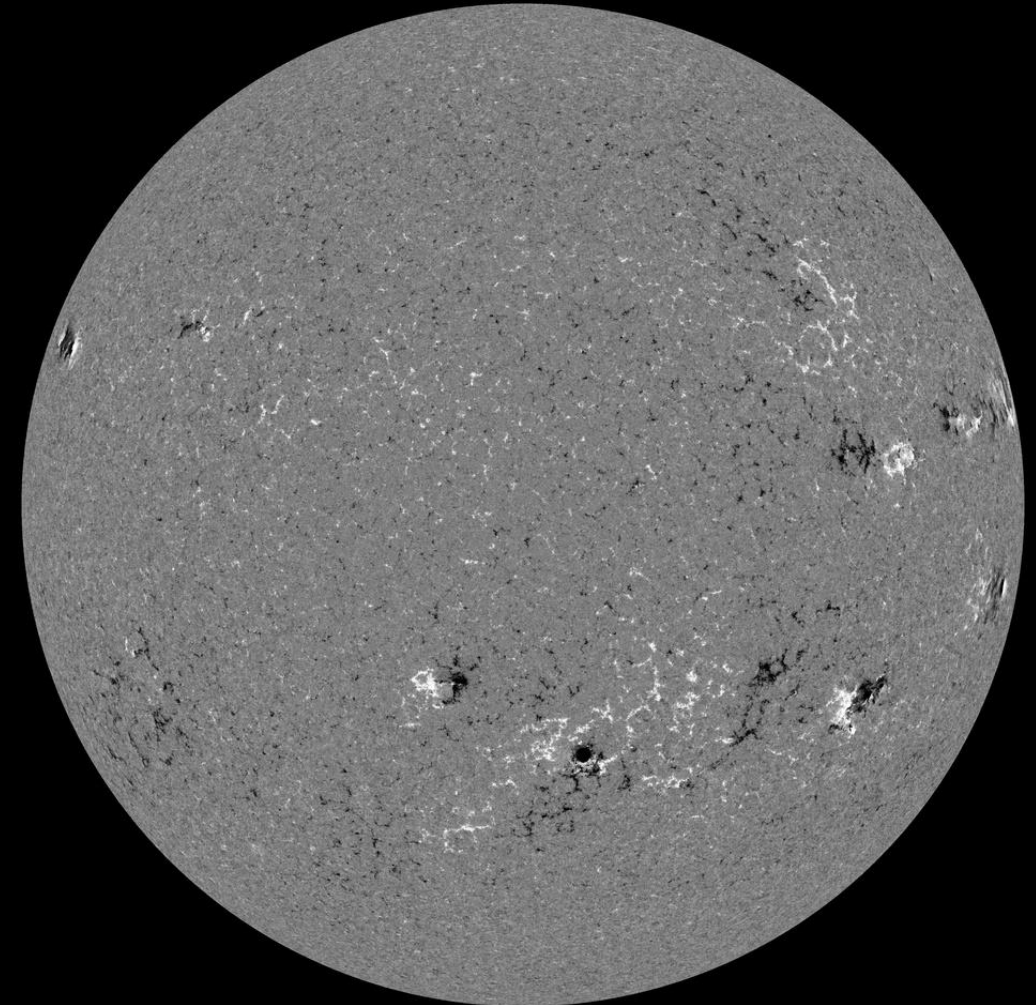
Solar active regions

SDO/HMI White Light 2022-07-26



SDO/HMI Quick-Look Continuum: 20220726_114500

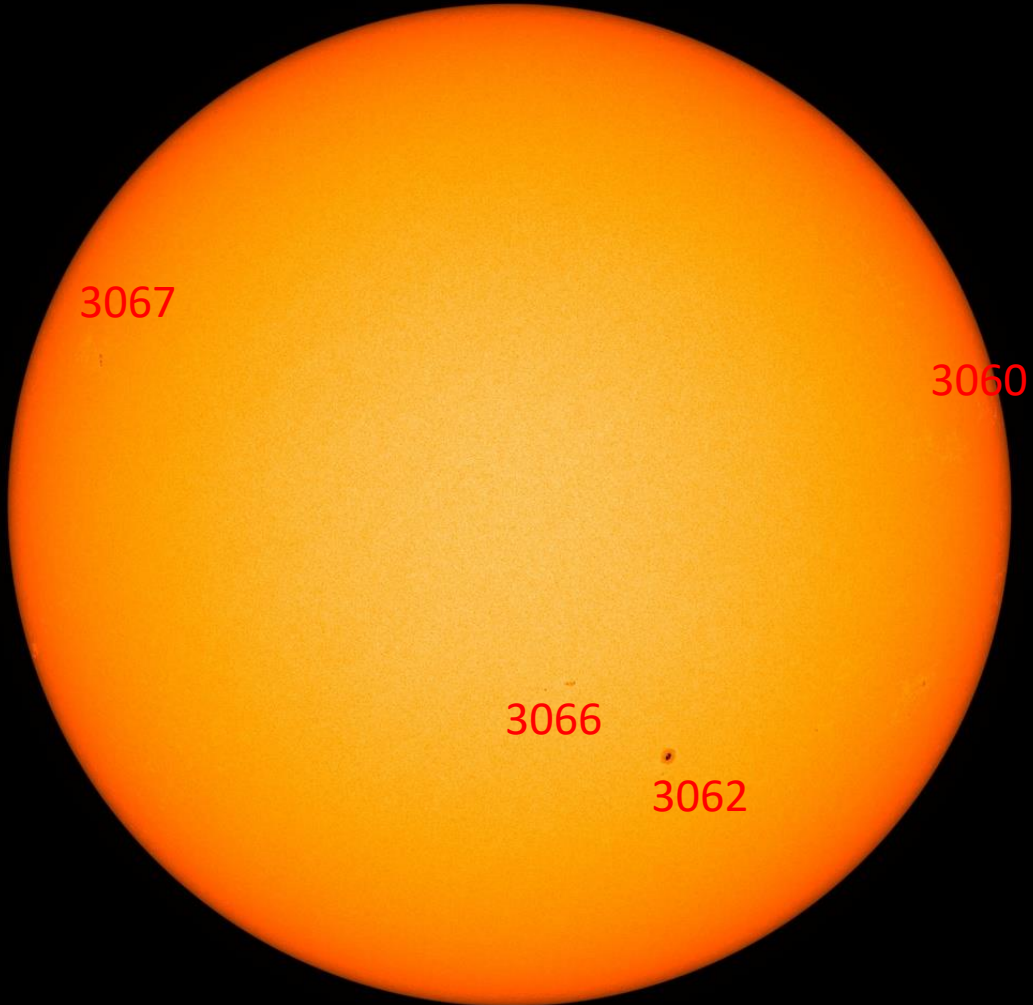
SDO/HMI Magnetogram 2022-07-26



SDO/HMI Quick-Look Magnetogram: 20220726_114500

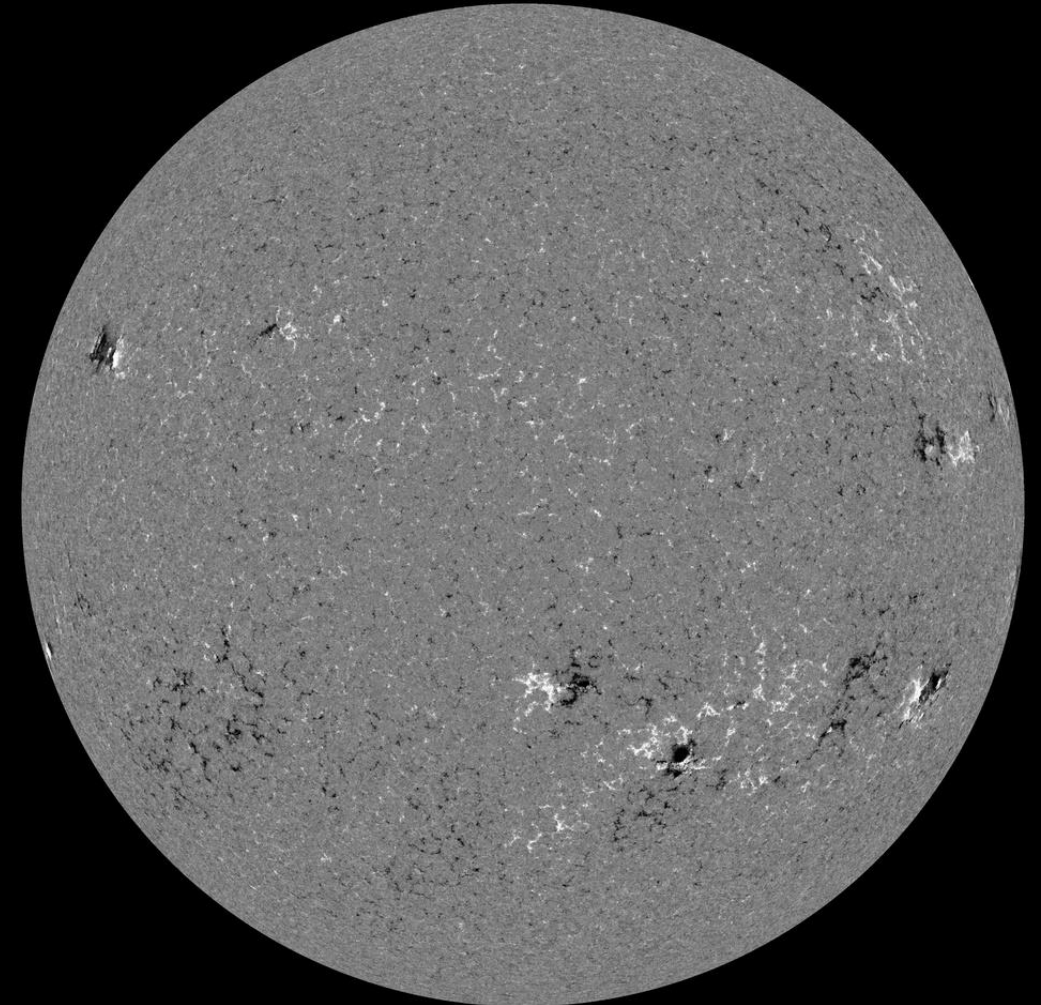
Solar active regions

SDO/HMI White Light 2022-07-27



SDO/HMI Quick-Look Continuum: 20220727_114500

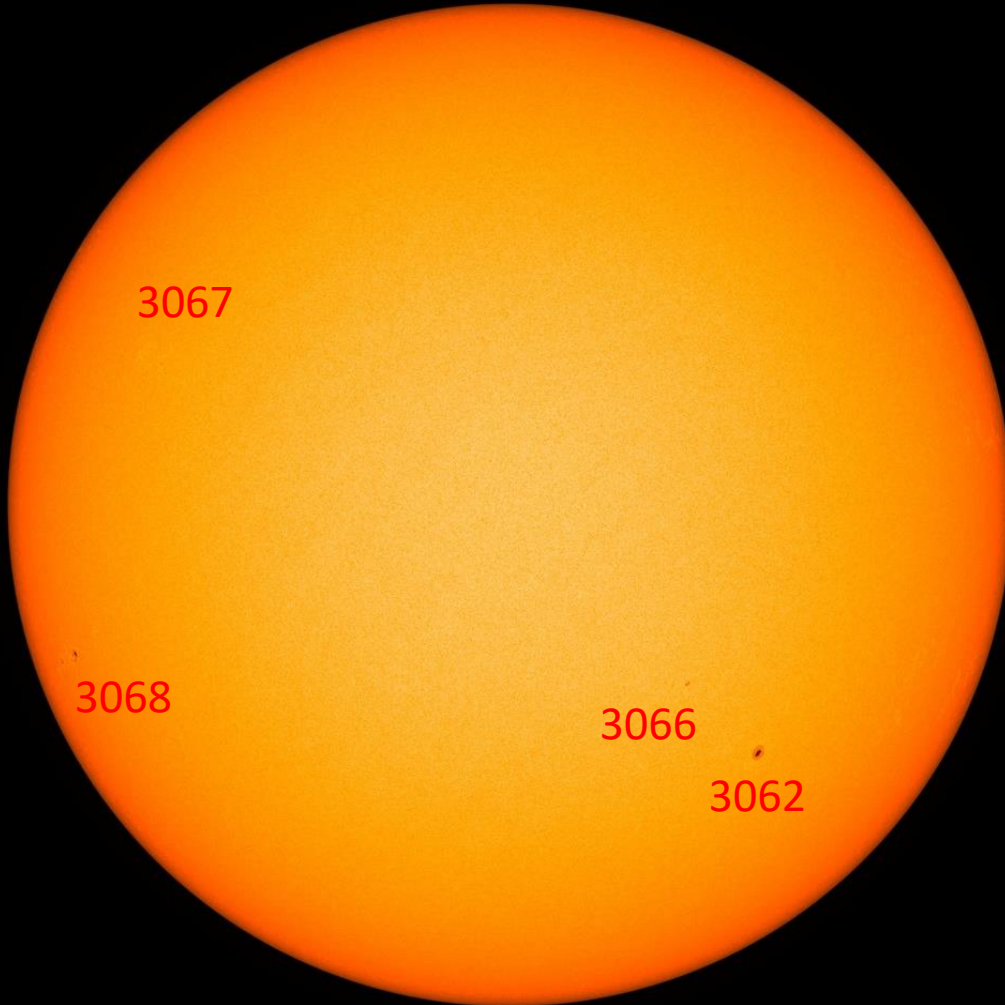
SDO/HMI Magnetogram 2022-07-27



SDO/HMI Quick-Look Magnetogram: 20220727_114500

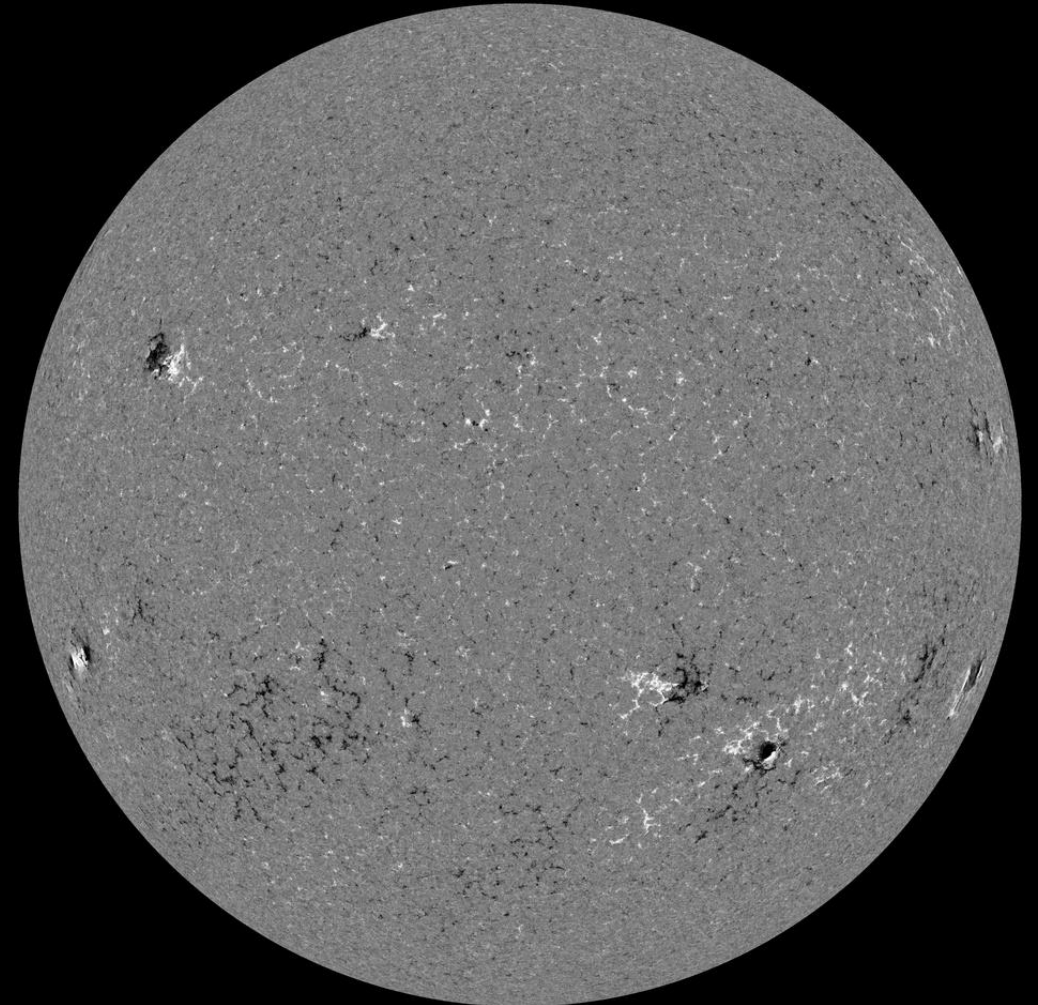
Solar active regions

SDO/HMI White Light 2022-07-28



SDO/HMI Quick-Look Continuum: 20220728_114500

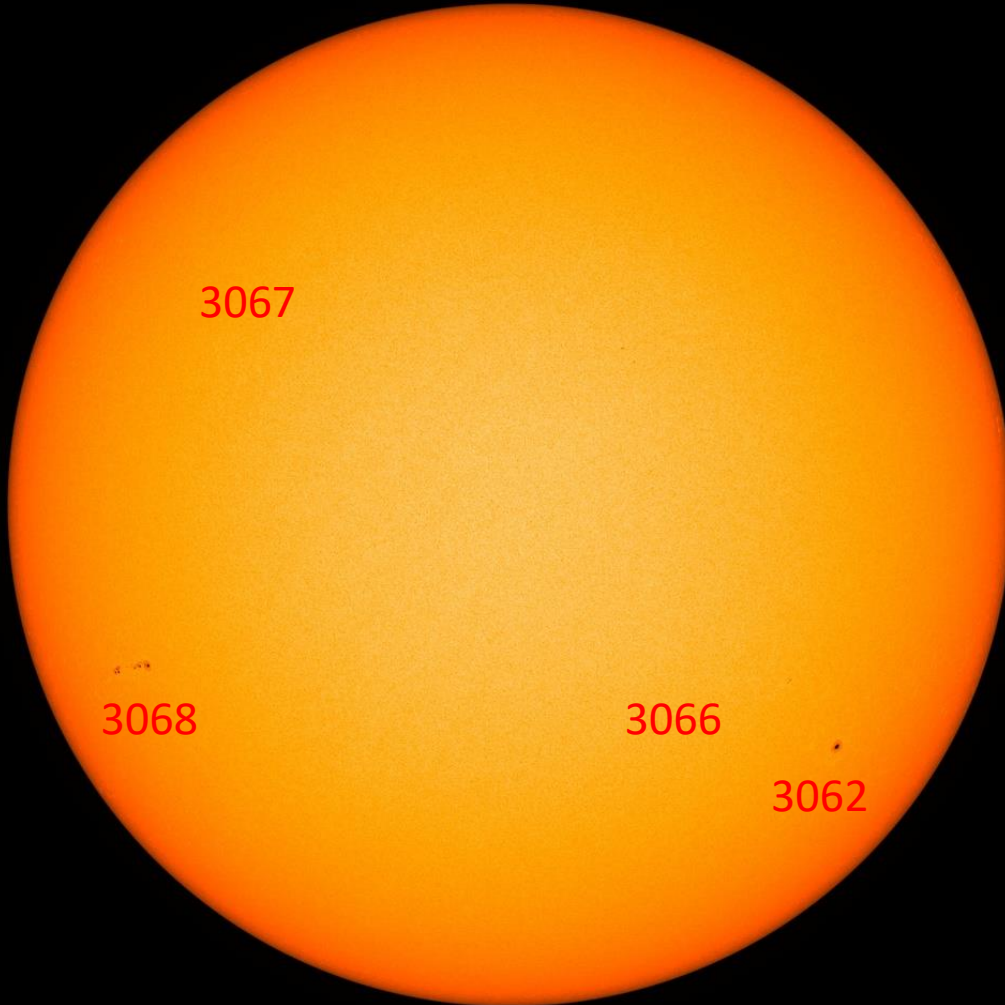
SDO/HMI Magnetogram 2022-07-28



SDO/HMI Quick-Look Magnetogram: 20220728_114500

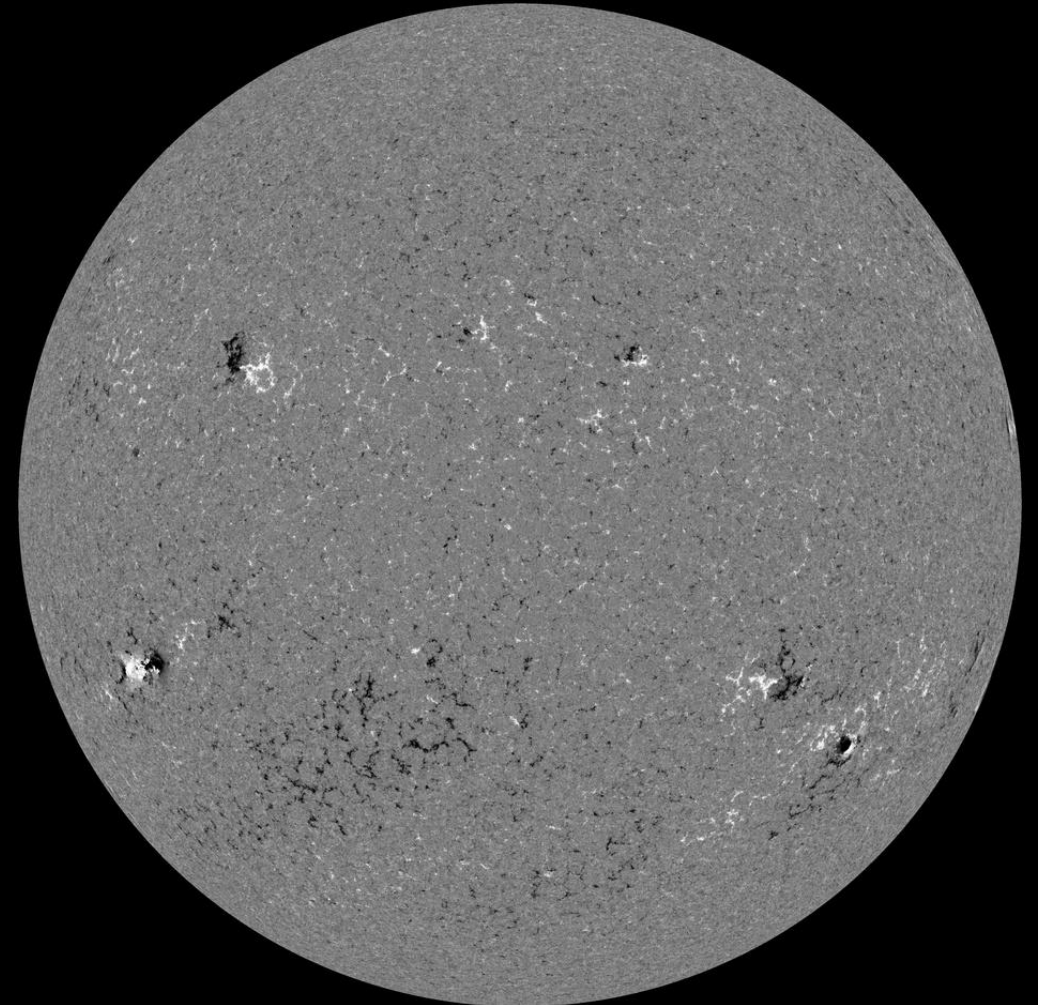
Solar active regions

SDO/HMI White Light 2022-07-29



SDO/HMI Quick-Look Continuum: 20220729_114500

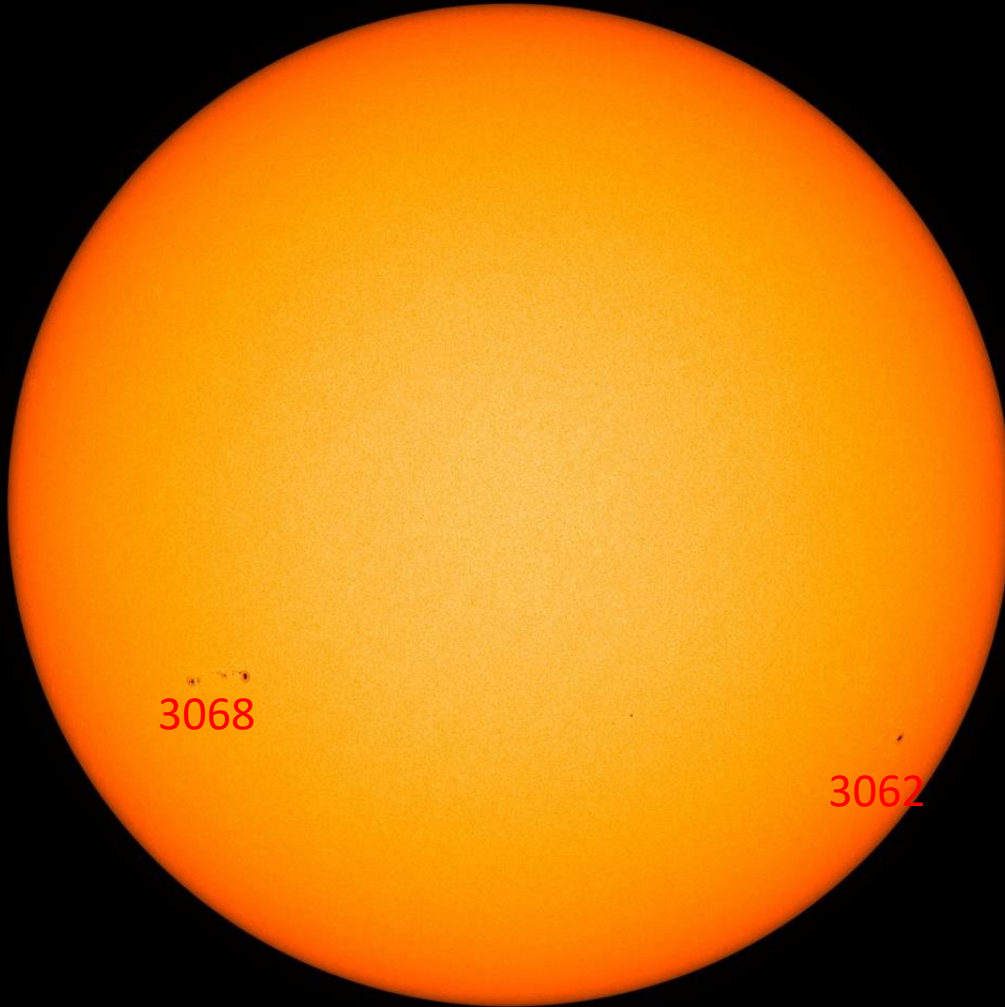
SDO/HMI Magnetogram 2022-07-29



SDO/HMI Quick-Look Magnetogram: 20220729_114500

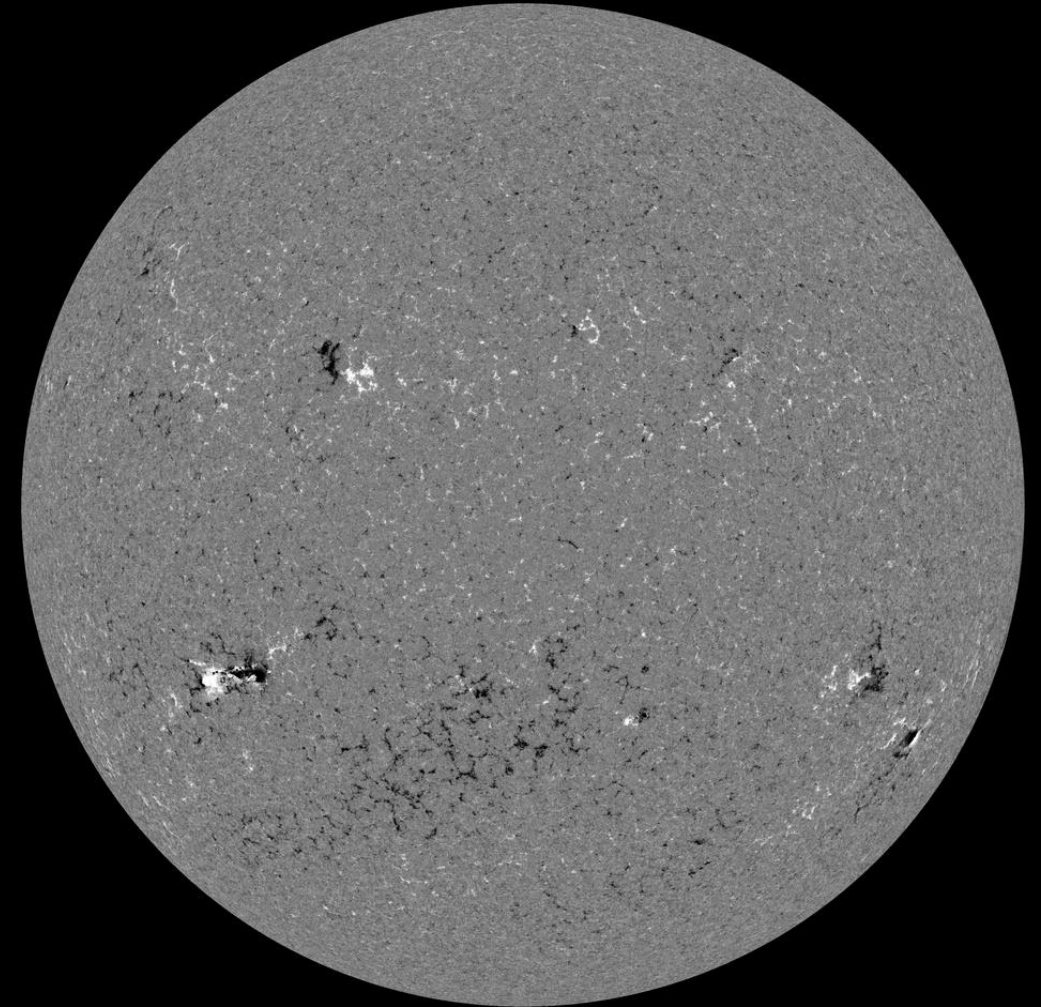
Solar active regions

SDO/HMI White Light 2022-07-30



SDO/HMI Quick-Look Continuum: 20220730_114500

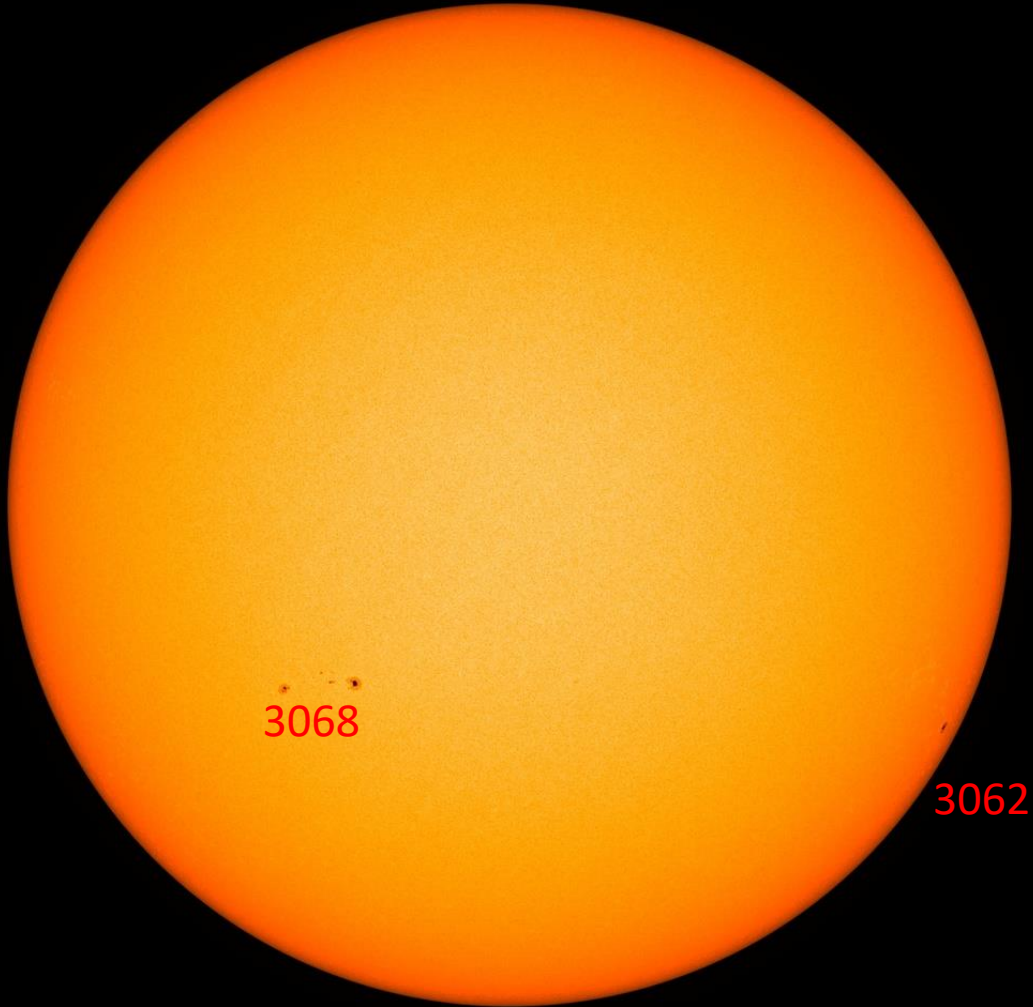
SDO/HMI Magnetogram 2022-07-30



SDO/HMI Quick-Look Magnetogram: 20220730_114500

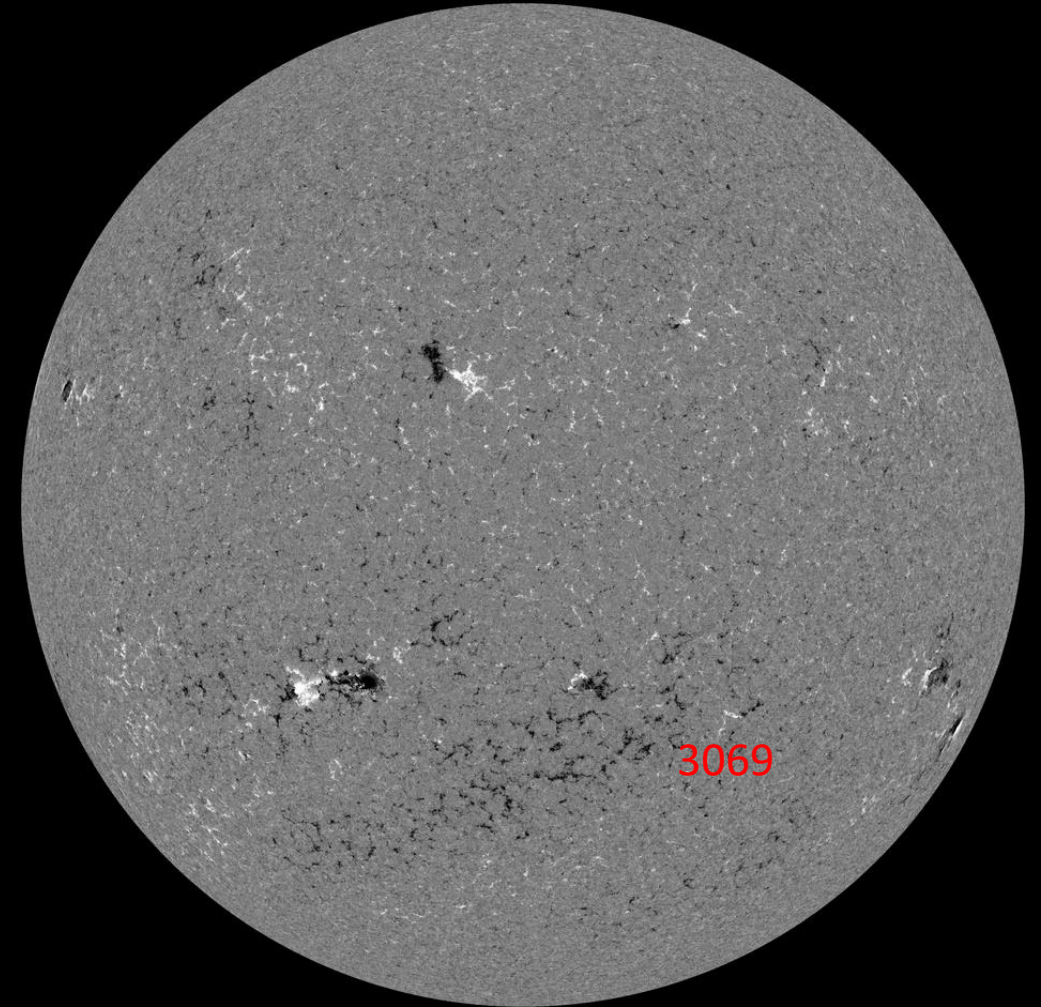
Solar active regions

SDO/HMI White Light 2022-07-31



SDO/HMI Quick-Look Continuum: 20220731_120000

SDO/HMI Magnetogram 2022-07-31

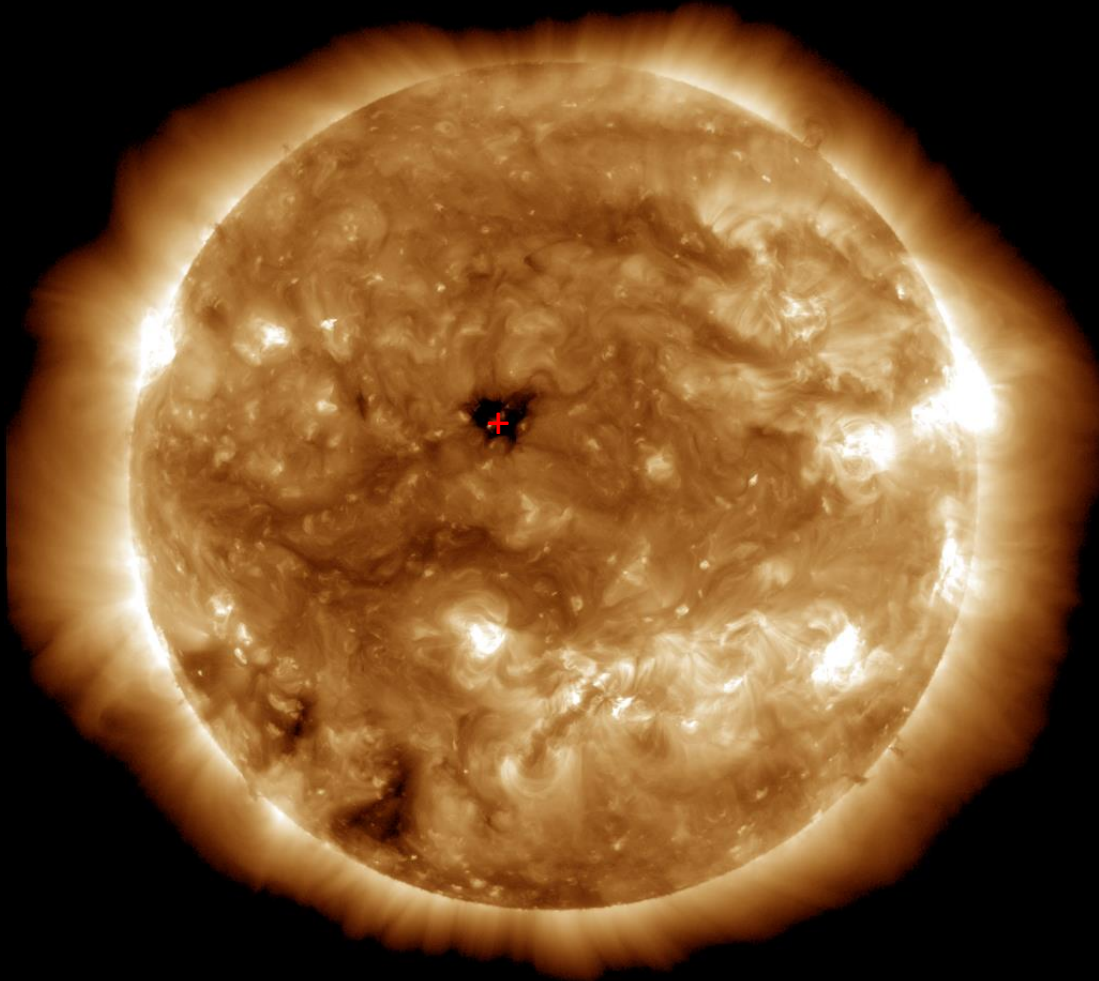


SDO/HMI Quick-Look Magnetogram: 20220731_120000

Coronal holes

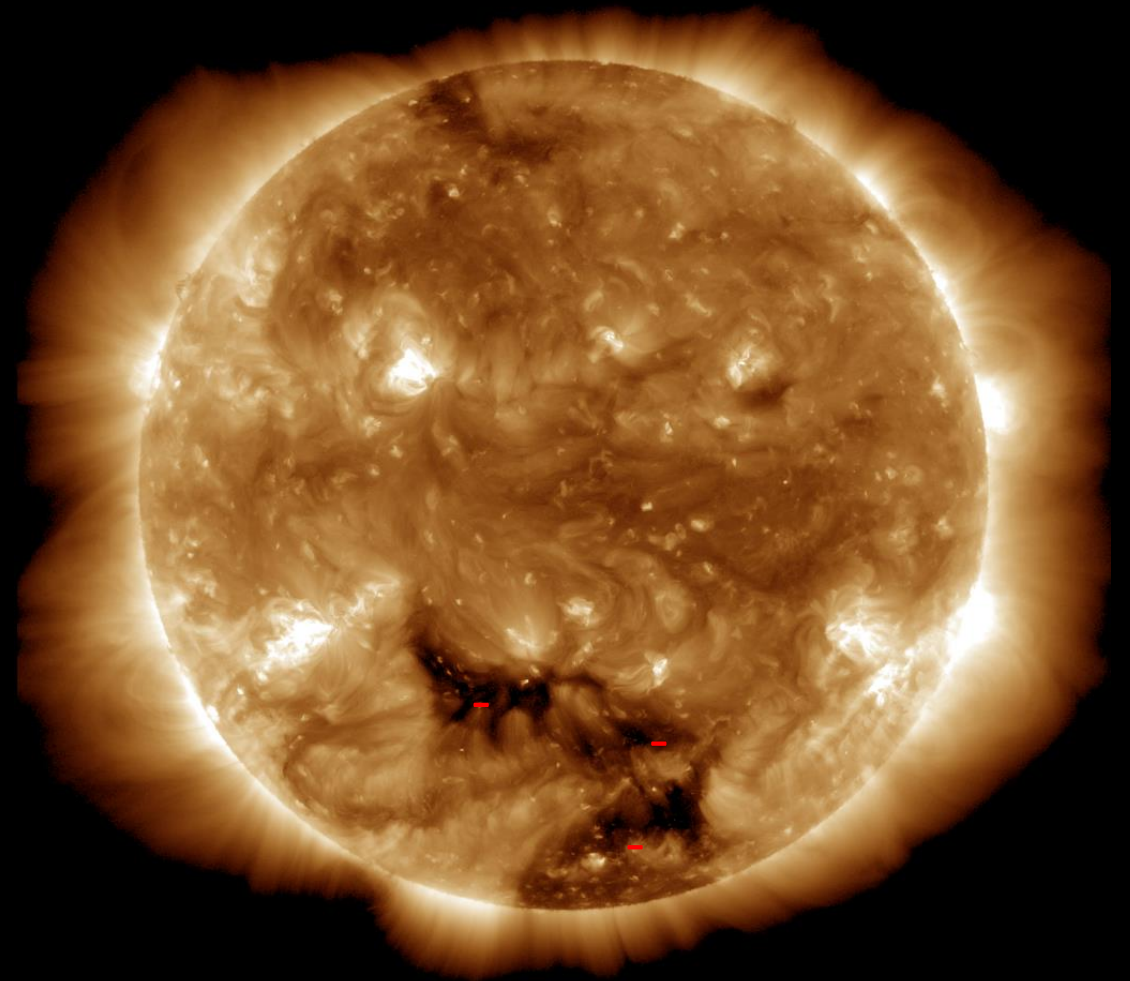
SDO/AIA 19.3 nm 2022-07-26

SDO/AIA AIA 193Å 2022-07-26T12:00:05.843



SDO/AIA 19.3 nm 2022-07-30

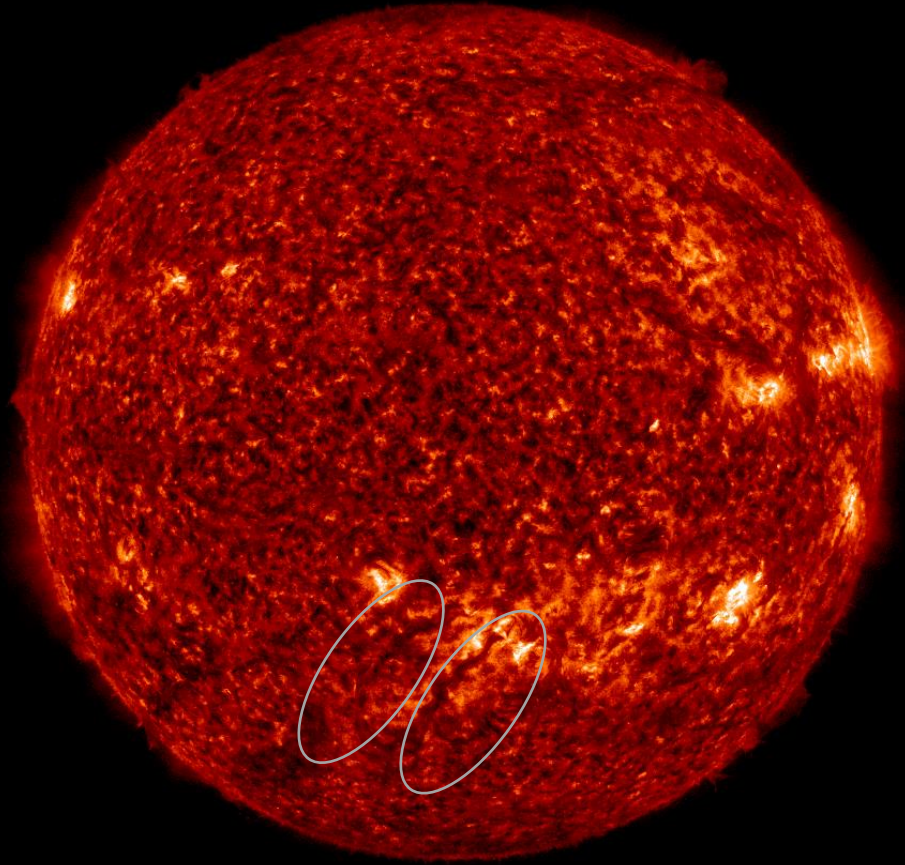
SDO/AIA AIA 193Å 2022-07-30T12:00:05.843



Filaments

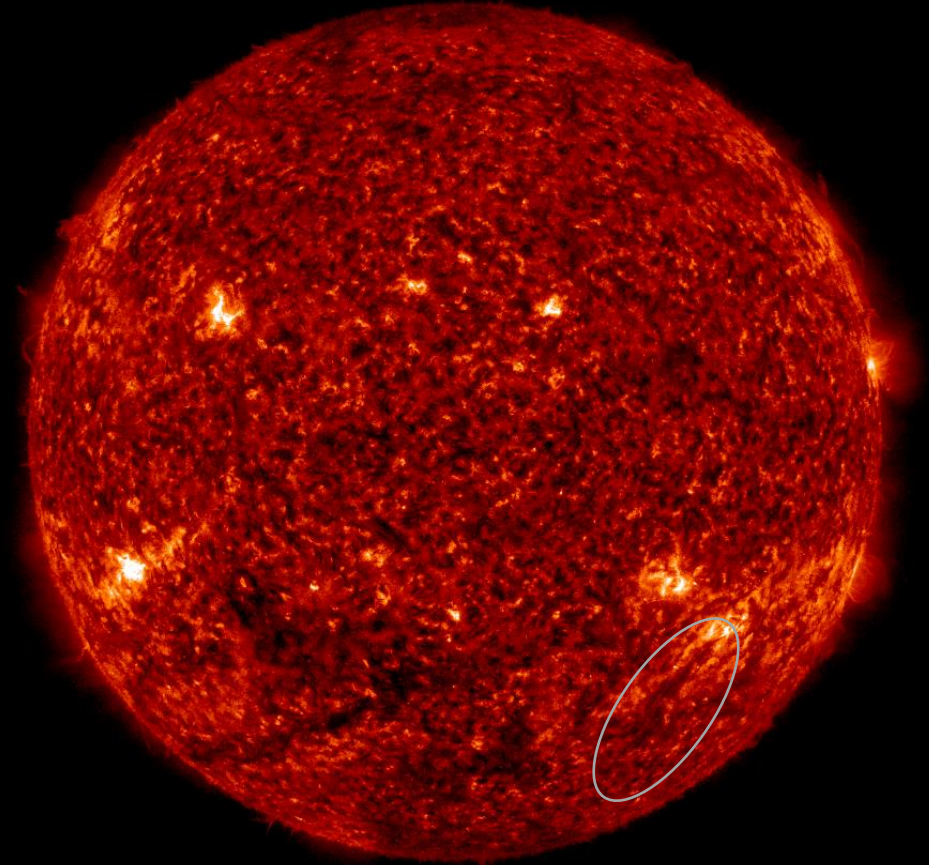
SDO/AIA 30.4 nm 2022-07-26

SDO/AIA AIA 304Å 2022-07-26T12:00:06.581



SDO/AIA 30.4 nm 2022-07-29

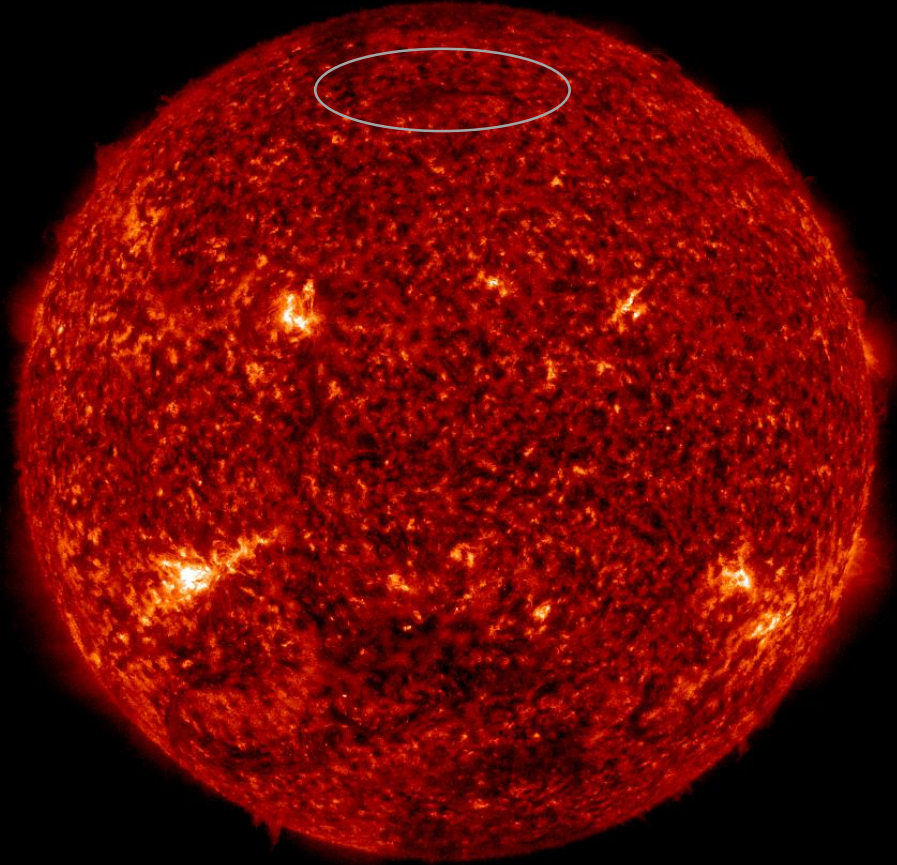
SDO/AIA AIA 304Å 2022-07-29T12:00:06.580



Filaments

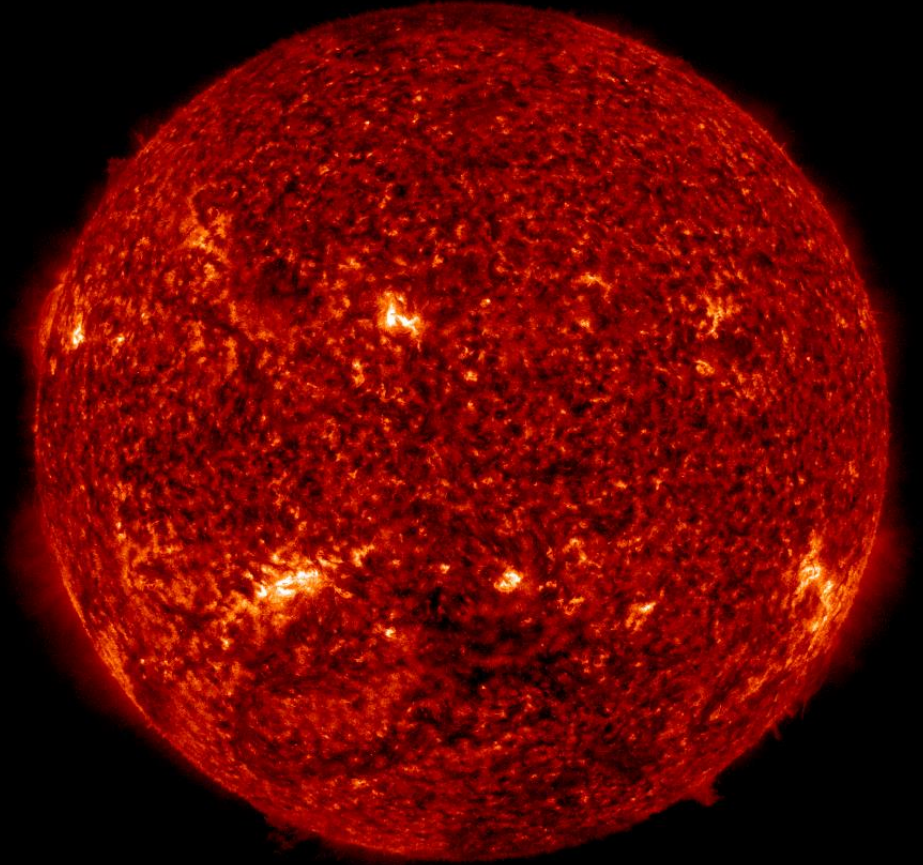
SDO/AIA 30.4 nm 2022-07-30

SDO/AIA AIA 304Å 2022-07-30T12:00:06.580



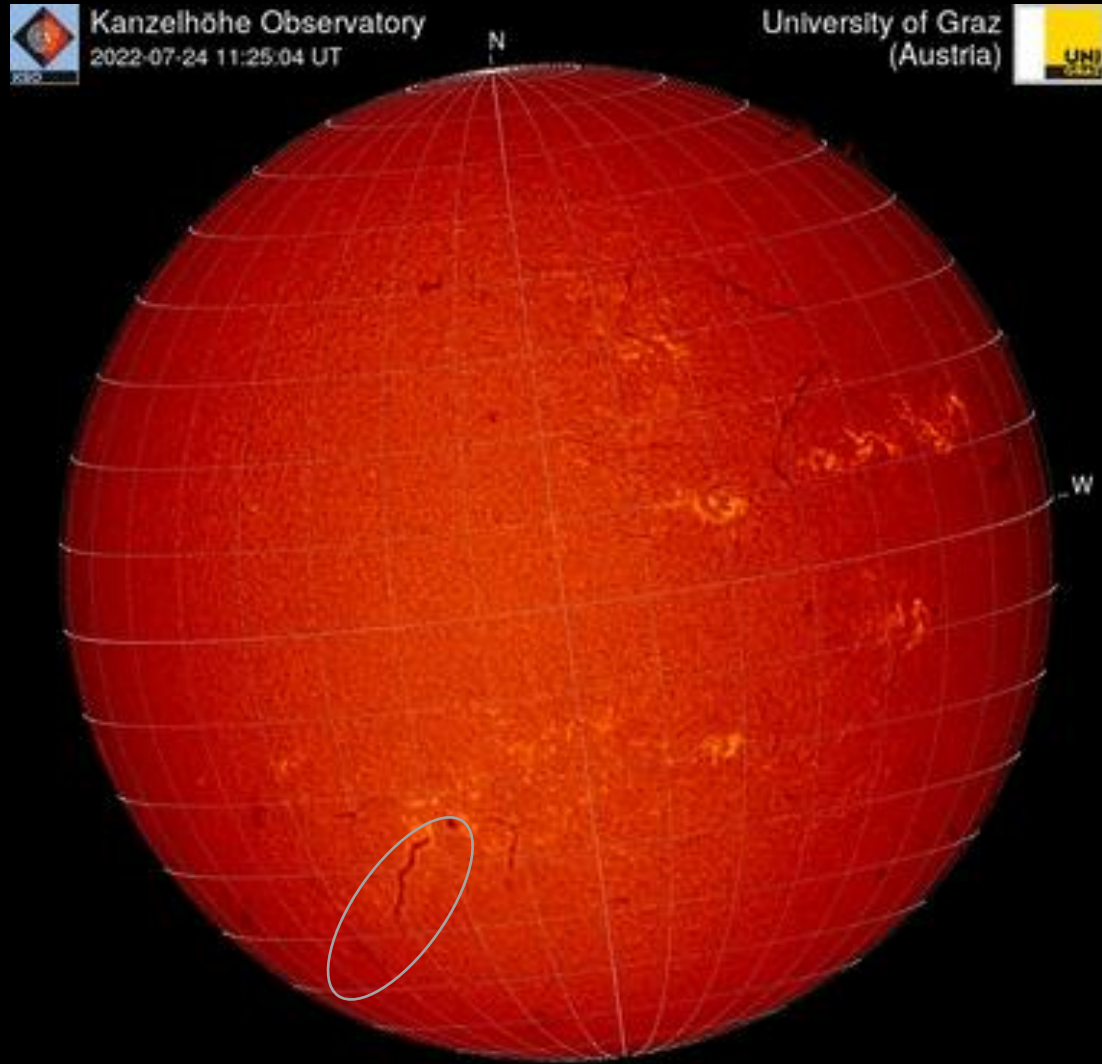
SDO/AIA 30.4 nm 2022-07-31

SDO/AIA AIA 304Å 2022-07-31T12:00:06.580

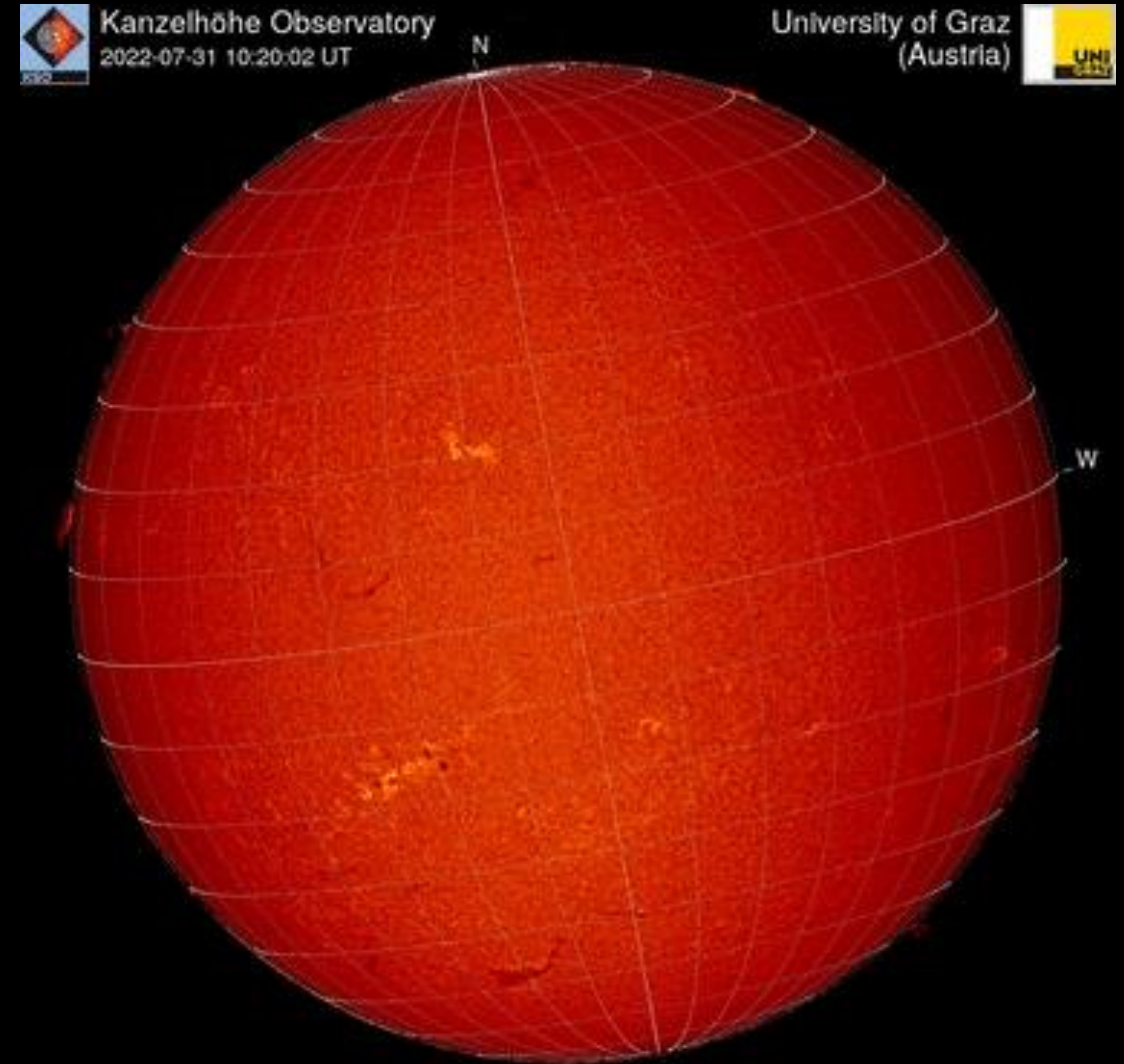


Filaments & Filament eruptions

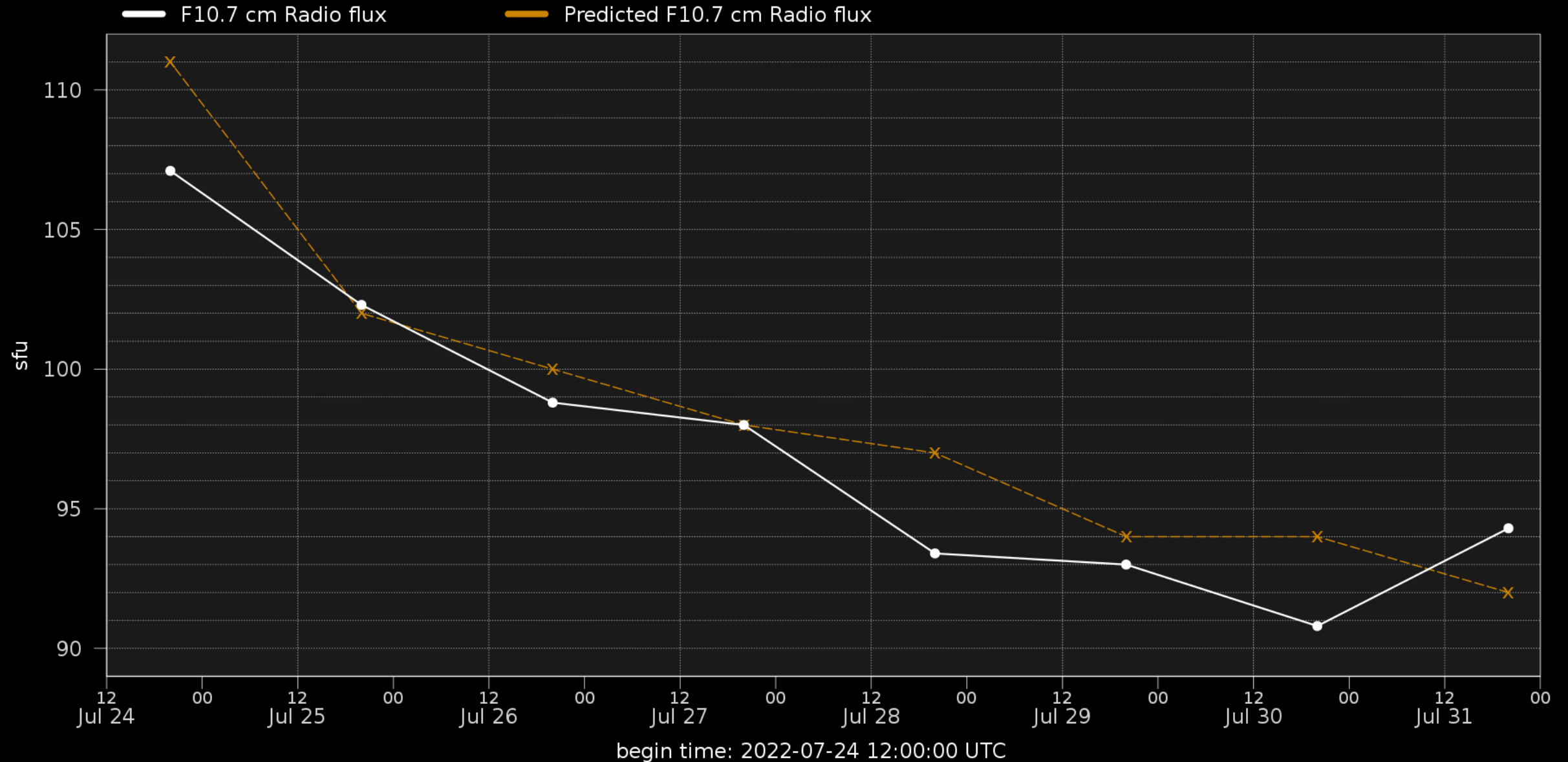
H-alpha 2022-07-24



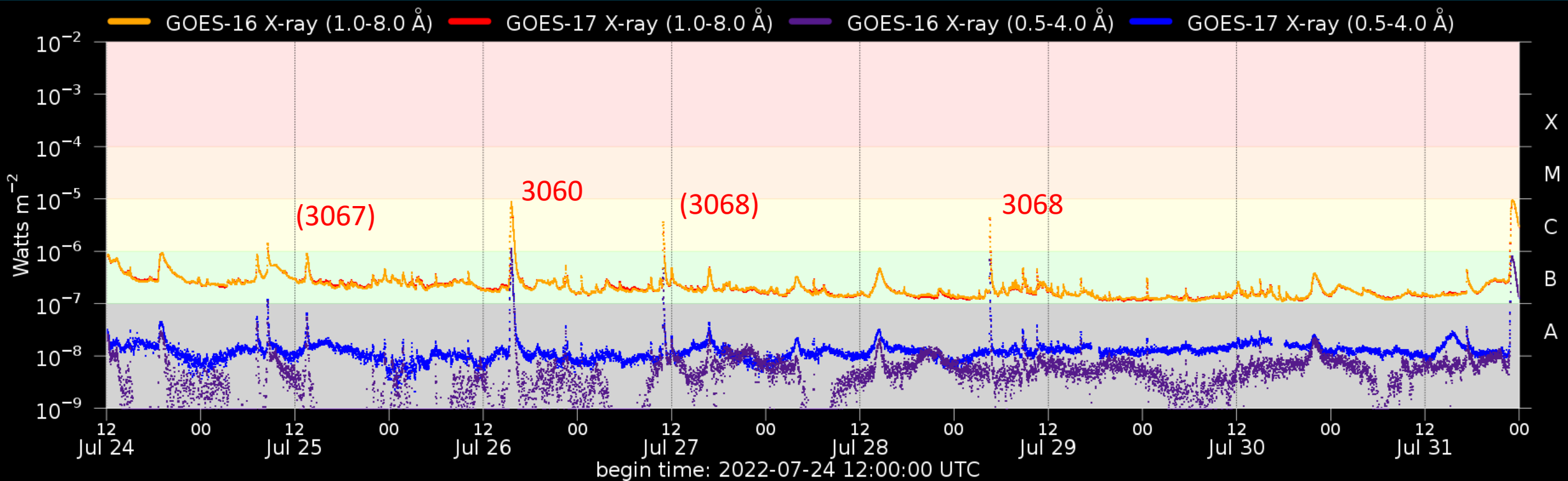
H-alpha 2022-07-31



Solar F10.7cm radio flux



Flaring activity



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

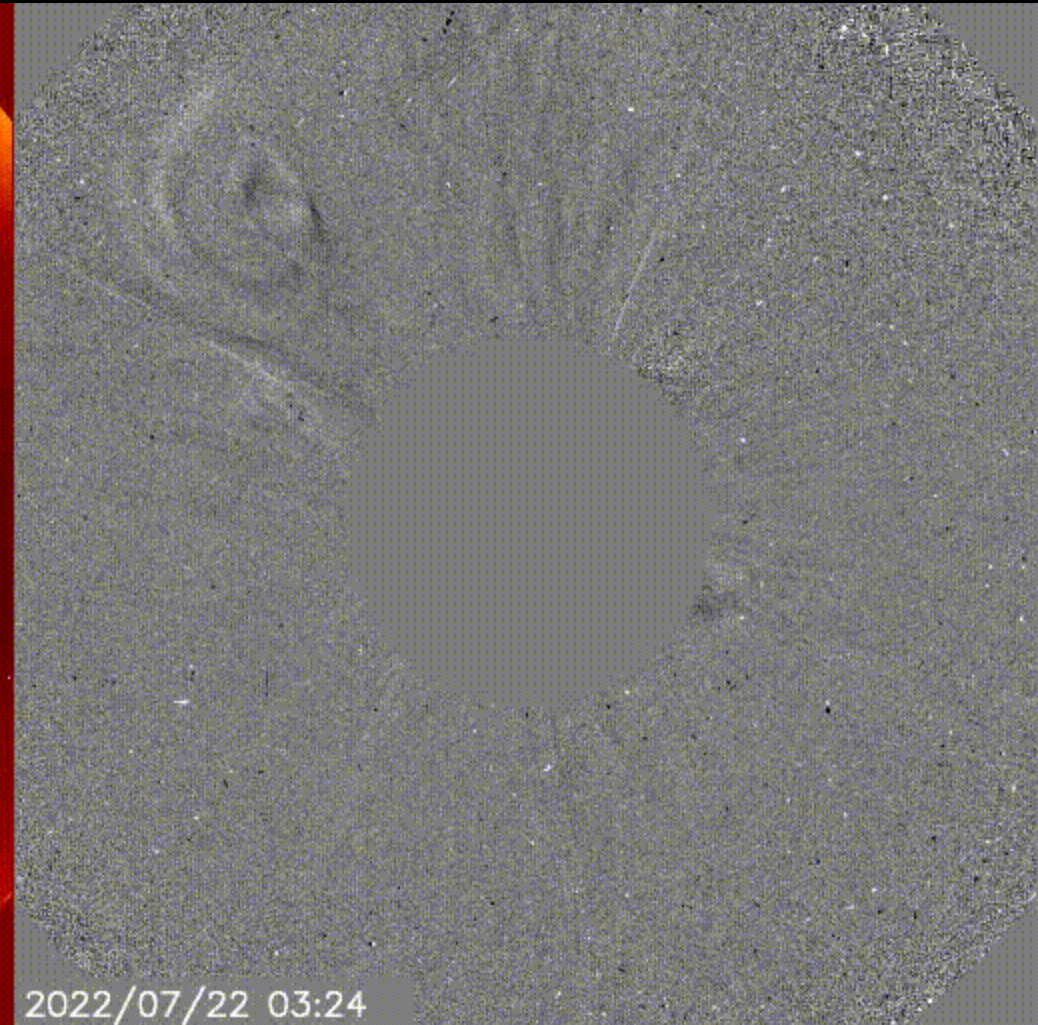
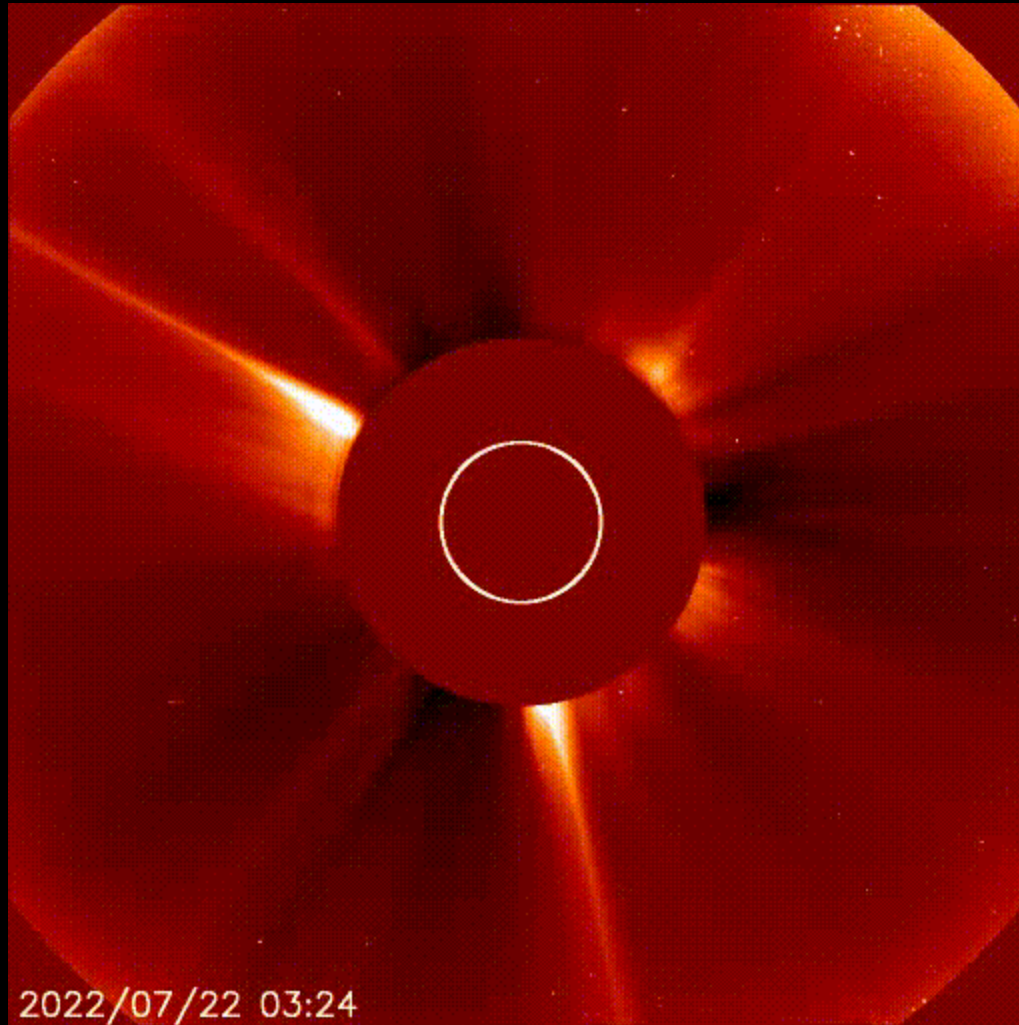
Issue date	2022-07-24	2022-07-25	2022-07-26	2022-07-27	2022-07-28	2022-07-29	2022-07-30	2022-07-31
Probability (%)	60 02 01	55 04 01	55 04 01	45 02 01	33 01 01	30 01 01	25 01 01	25 01 03
Observed (#)	01 00 00	00 00 00	02 00 00	00 00 00	01 00 00	00 00 00	00 00 00	01 00 00

Coronal Mass Ejections

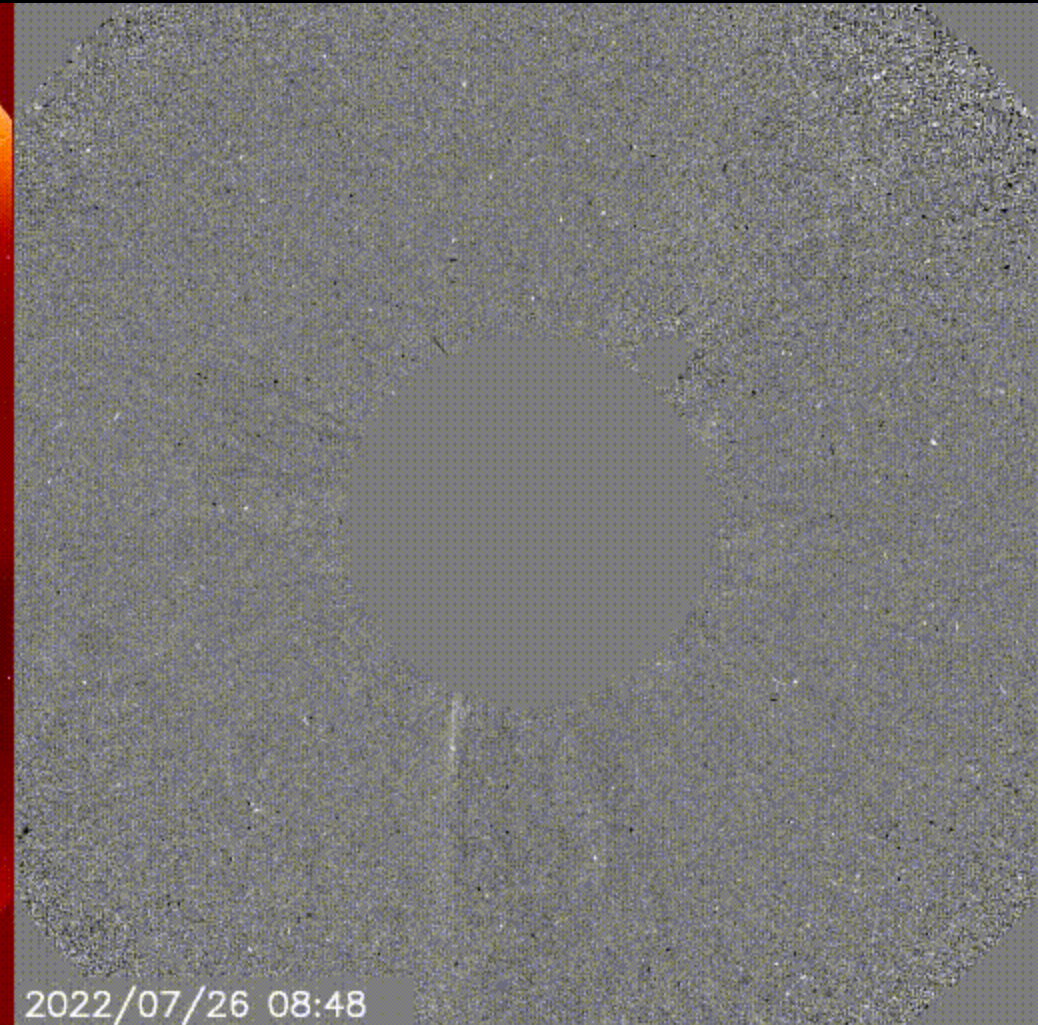
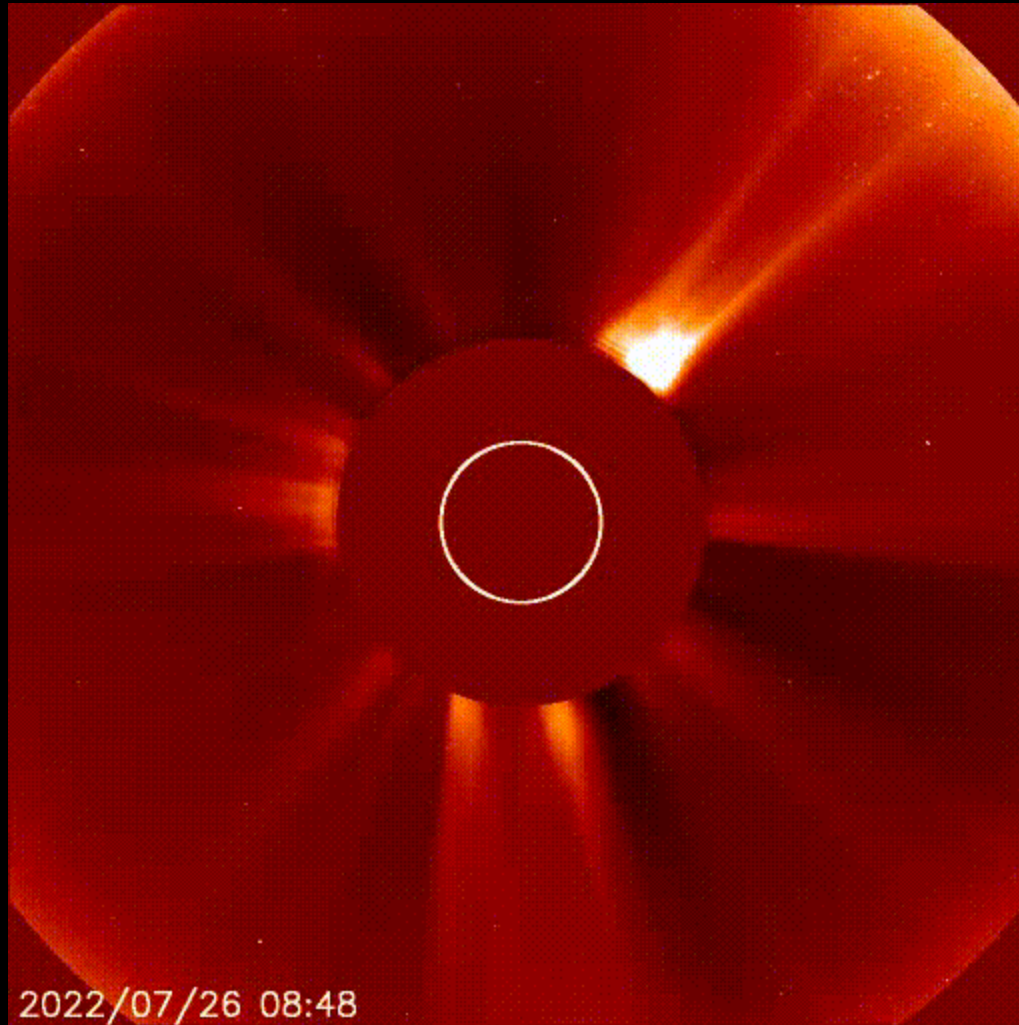
A number of filament eruptions occurred but all resulting in CMEs too narrow and too far off the Sun-Earth line to affect Earth.

A partial halo CME detected July 30 was backsided.

Coronal Mass Ejections (start of the week)



Coronal Mass Ejections (end of the week)

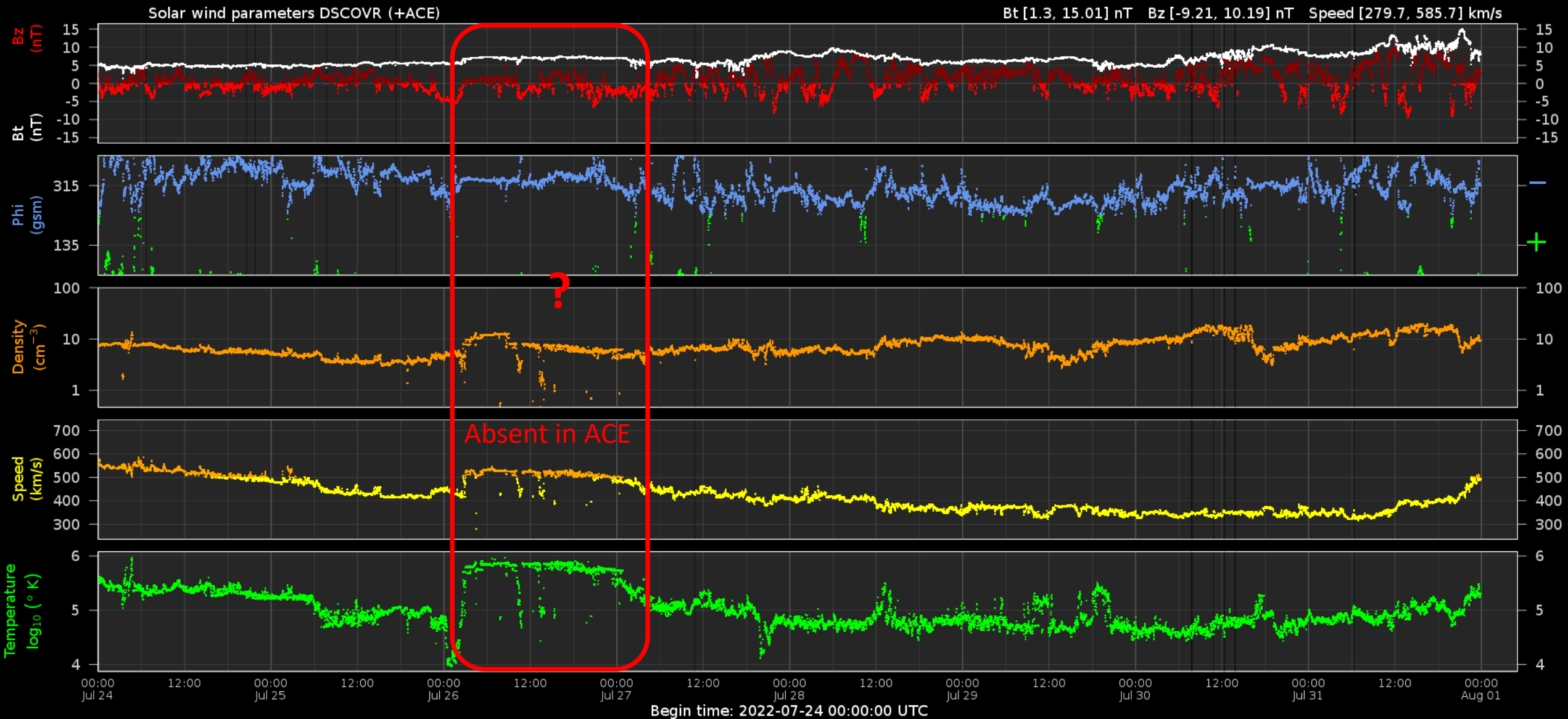


Solar Wind and Geomagnetic Activity

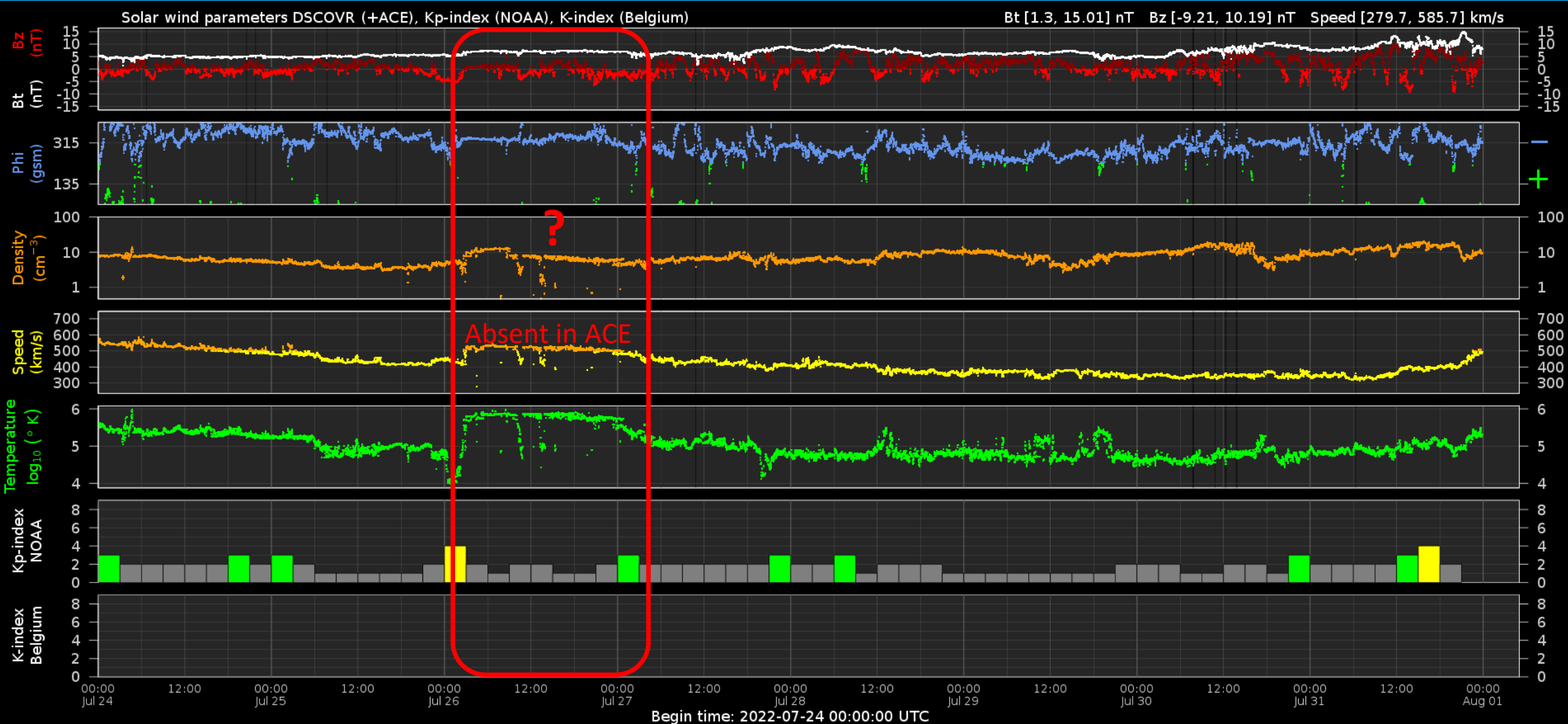


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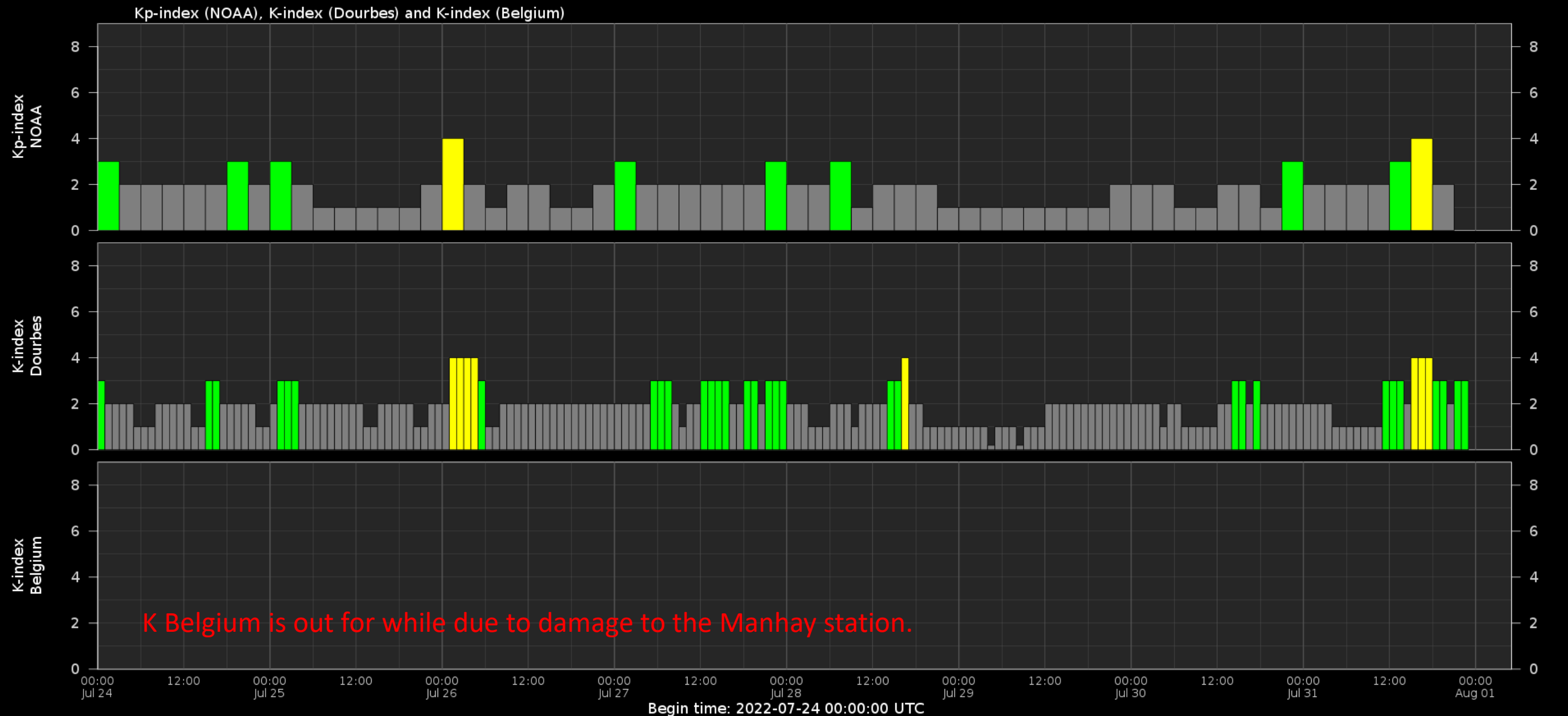
Solar wind parameters



Solar wind parameters & K-indices

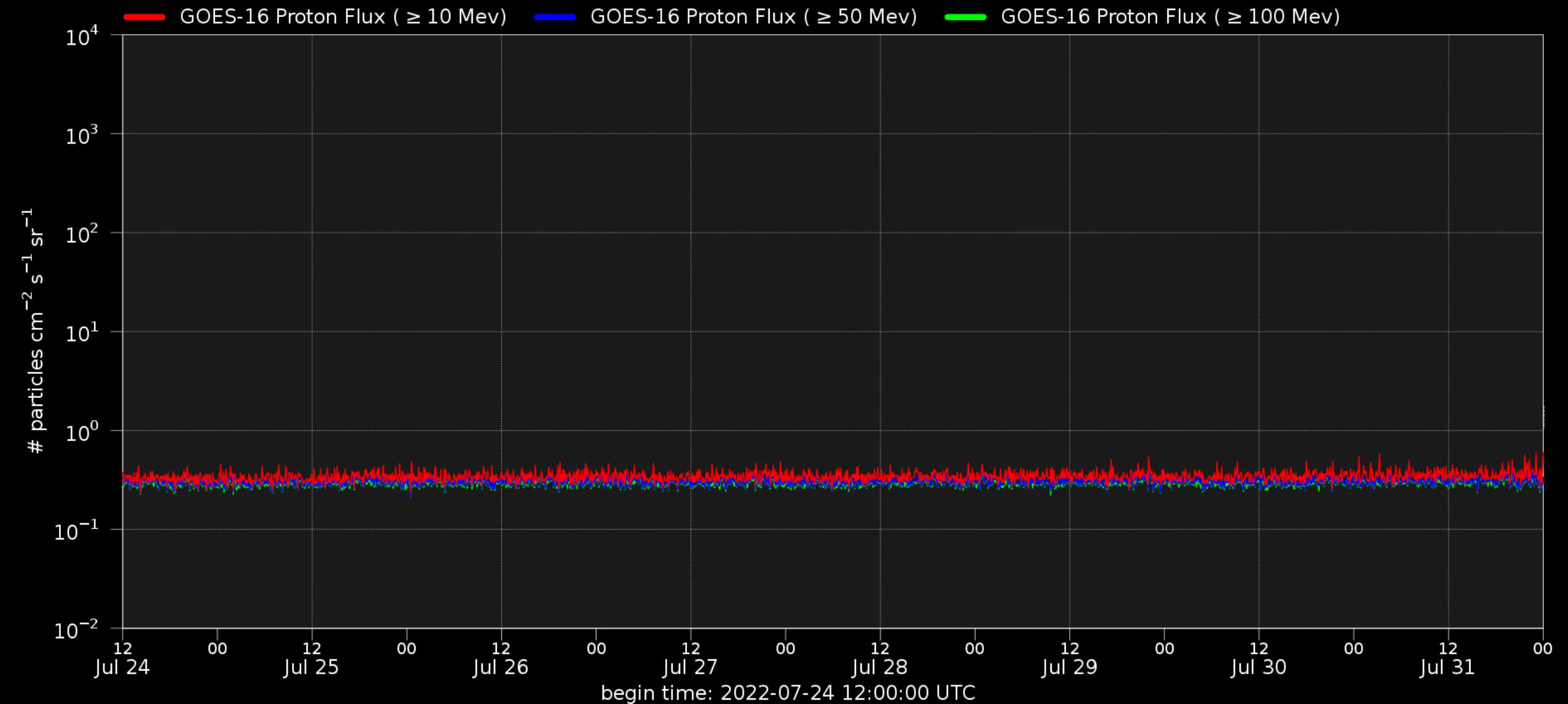


Geomagnetic activity (K-indexes)

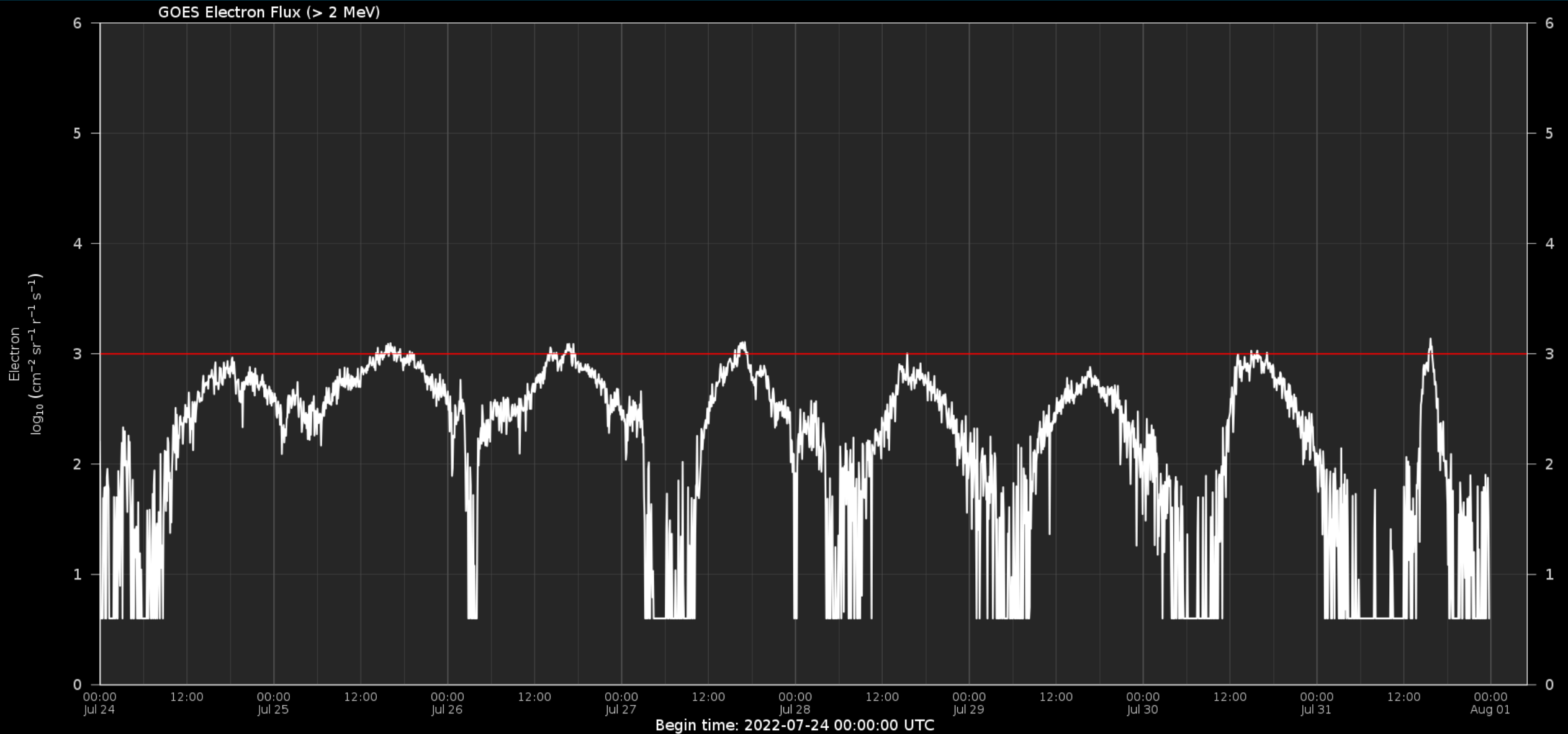


Energetic Particles

Solar proton flux



Electron flux at GEO



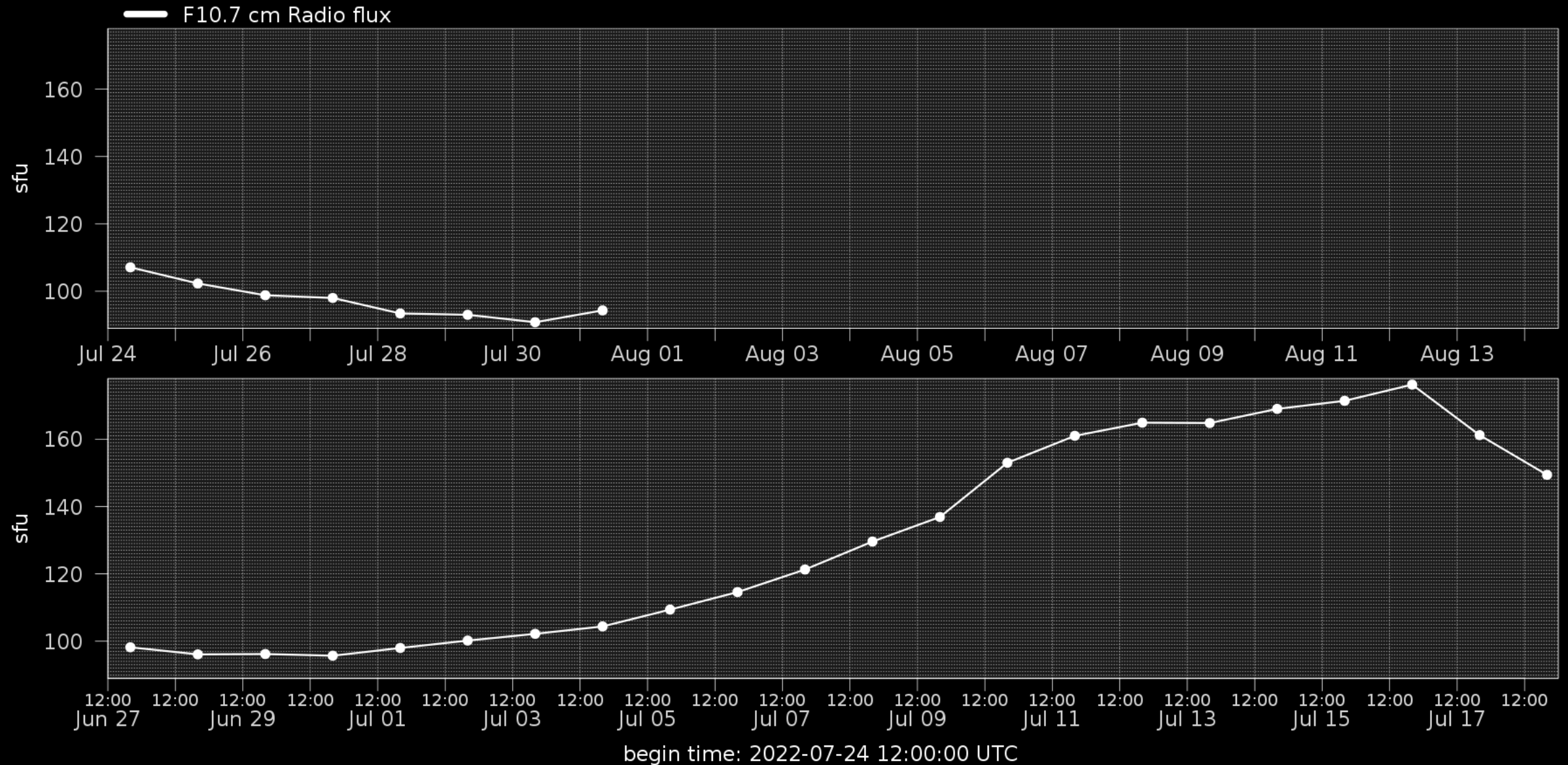
Outlook



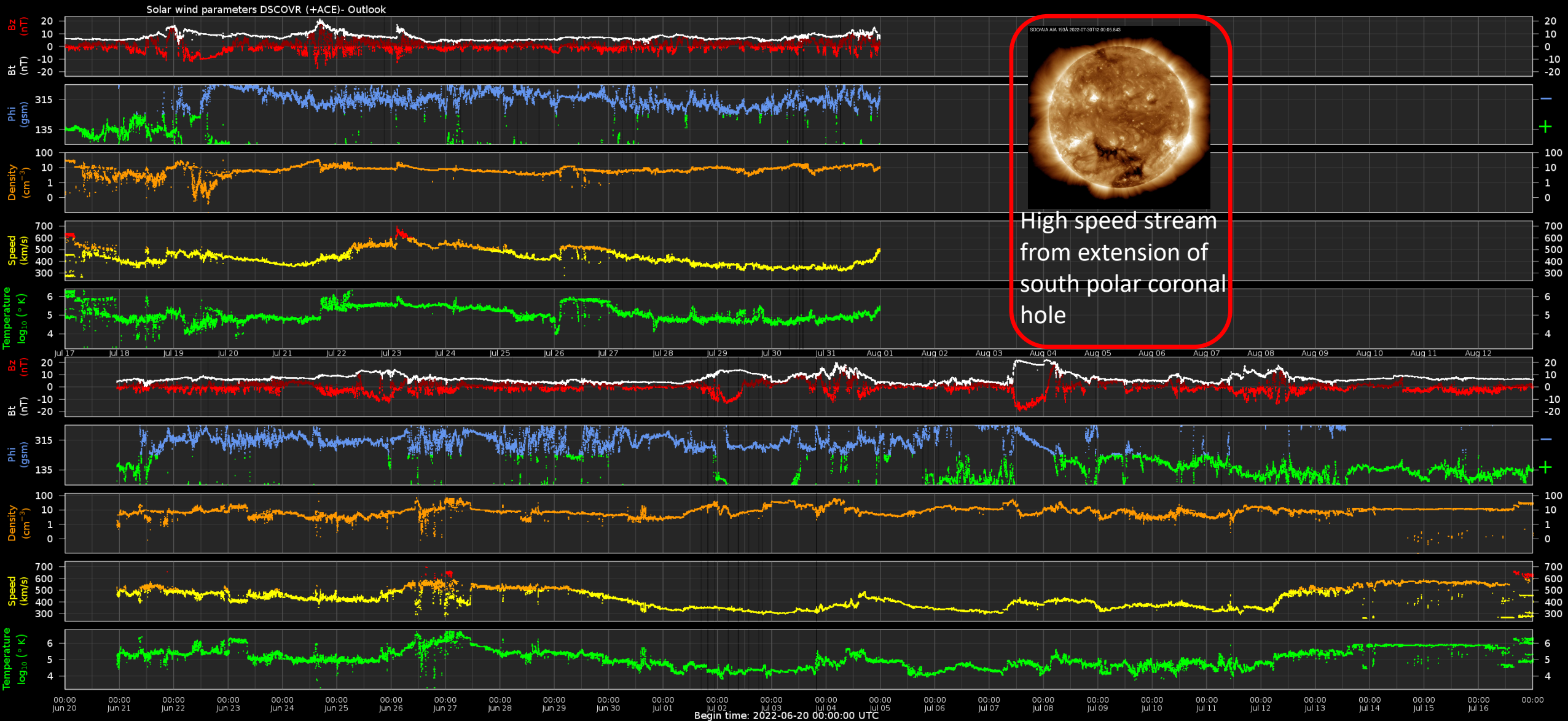
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of Belgium

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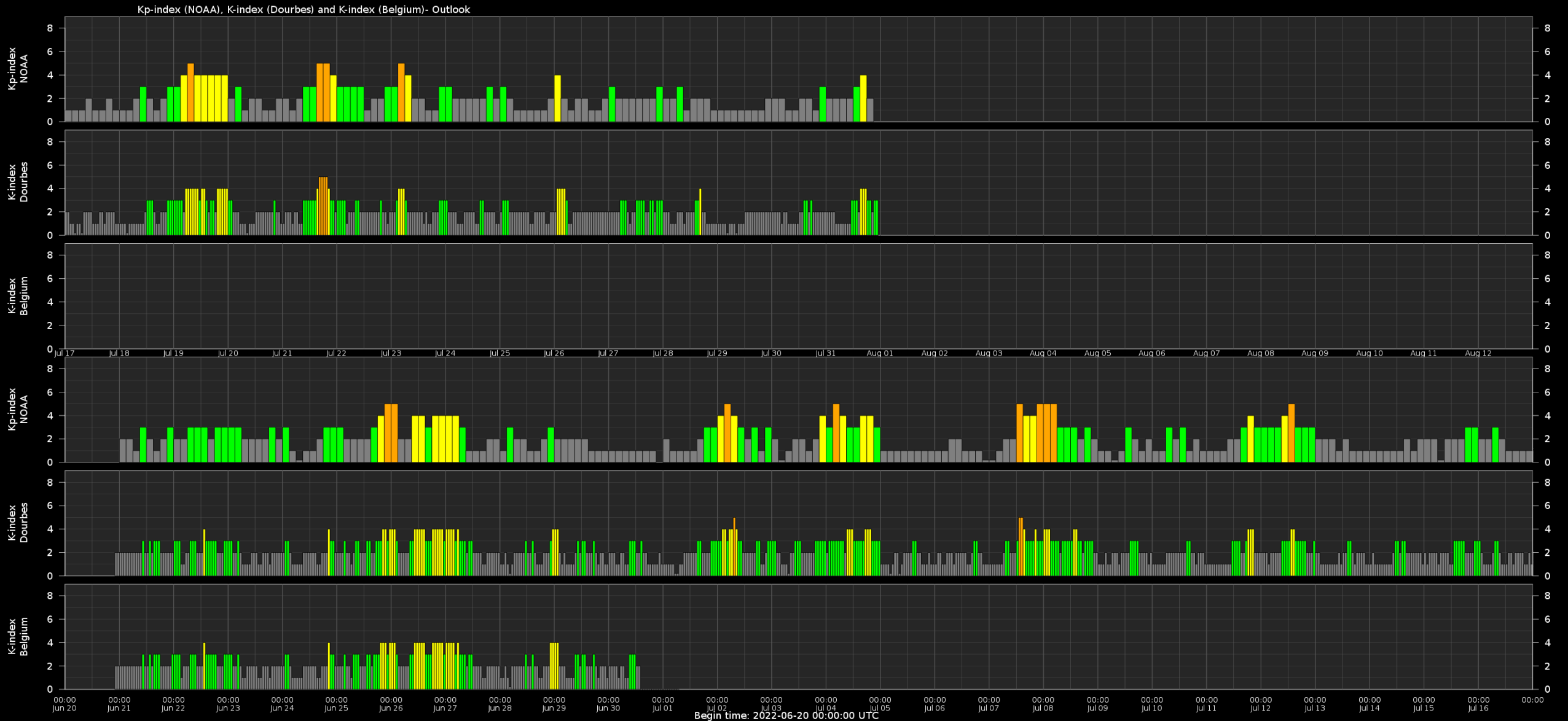
Outlook: Solar F10.7cm radio flux



Outlook: Solar wind parameters



Outlook: Geomagnetic activity



Outlook: Electron Flux at GEO Outlook



SIDC Space Weather Briefing

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