

# SIDC Space Weather Briefing

23 June 2024-30 June 2024

Daria Shukhobodskaia

& the SIDC forecaster team



Royal Observatory  
of Belgium

Solar Influences  
Data analysis Centre  
[www.sidc.be](http://www.sidc.be)

# Summary Report

Solar activity from 2024-06-23 12:00 to 2024-06-30 23:59

Active regions	20 Active Regions: NOAA AR 3712, 3713, 3716, 3719-3735
Flares	# C-class flare: 48 # M-class flare: 7 # X-class flare: 0
Coronal Holes	None
CMEs	CMEs from June 25, 27, 29

Proton flux	Nominal levels
Electron flux	Below event threshold

## Solar wind and geomagnetic conditions

ICMEs	09:12 on June 28
Solar wind conditions	B : 1.96 - 33.9 nT //Bz: -33.69 nT to 19.7 nT //Speed: 269.8 - 603.8km/s
Geomagnetic conditions	max K <sub>Bel</sub> : 6, max K <sub>p</sub> (NOAA): 8-, Severe Storm conditions globally

All Quiet Alert: Not all quiet

# Solar Activity

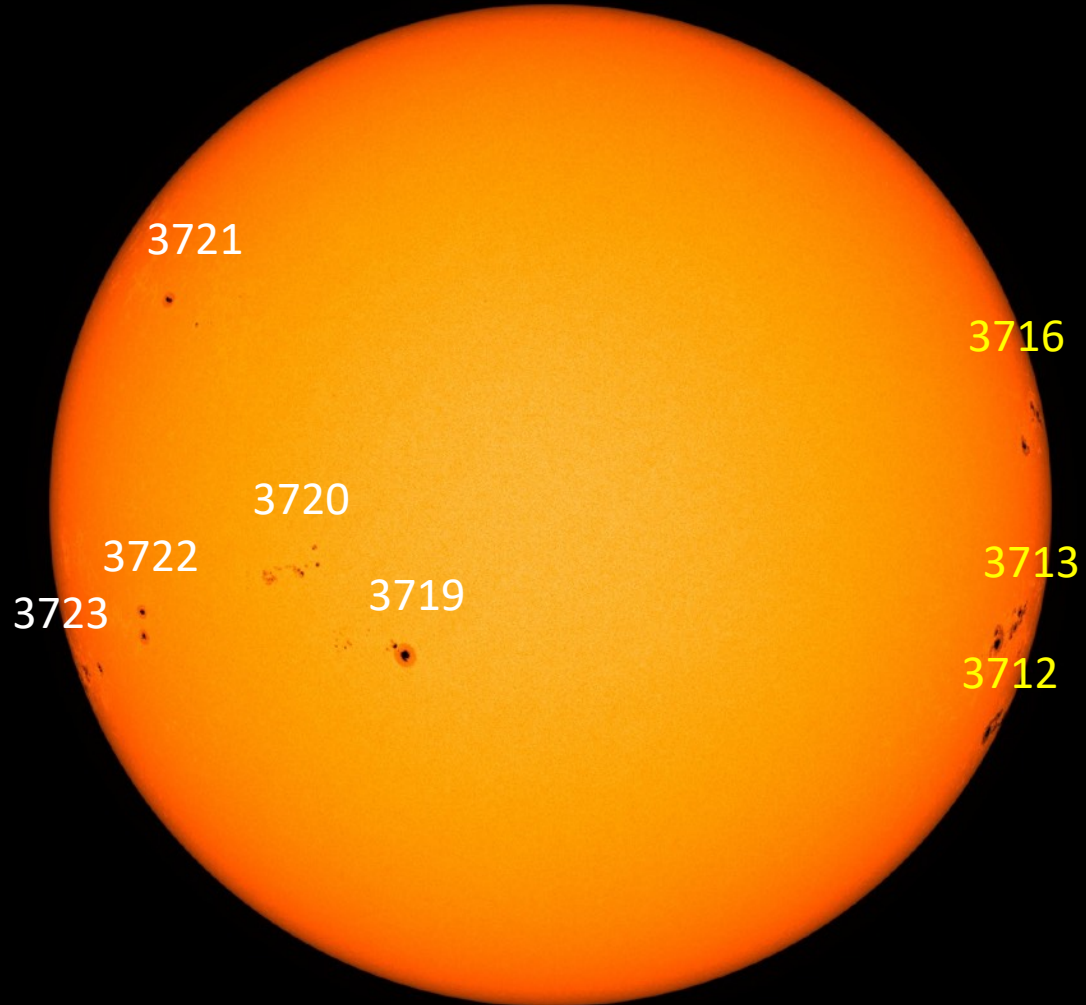


Royal Observatory  
of Belgium

Solar Influences  
Data analysis Centre  
[www.sidc.be](http://www.sidc.be)

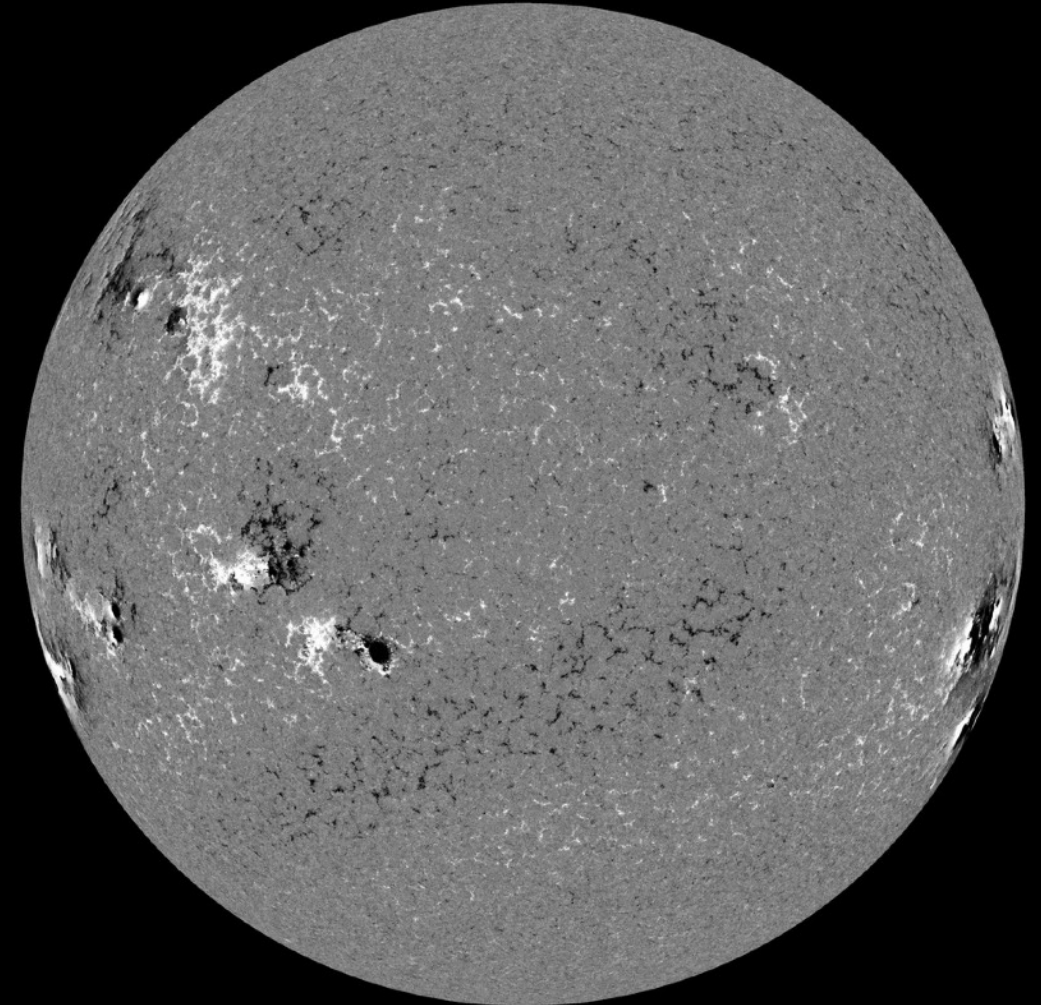
# Solar active regions

SDO/HMI White Light 2024-06-23



SDO/HMI Quick-Look Continuum: 20240623\_114500

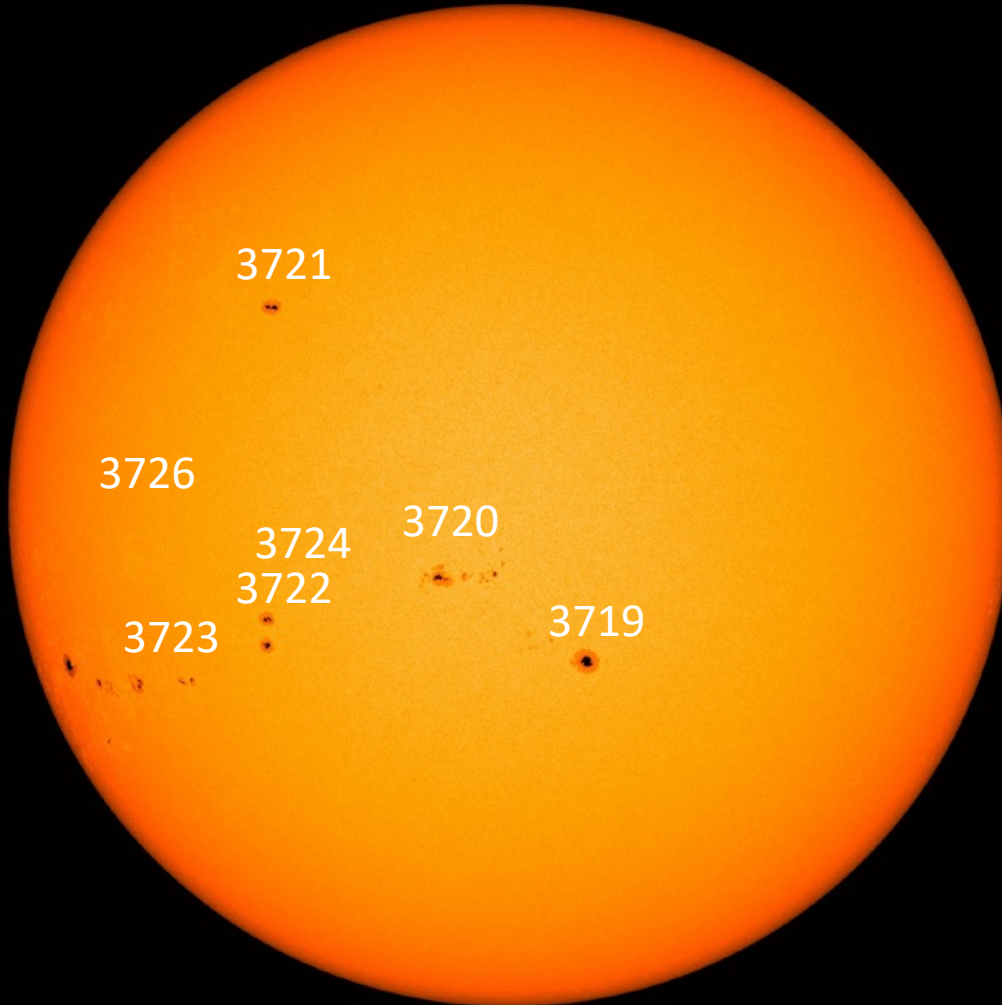
SDO/HMI Magnetogram 2024-06-23



SDO/HMI Quick-Look Magnetogram: 20240623\_114500

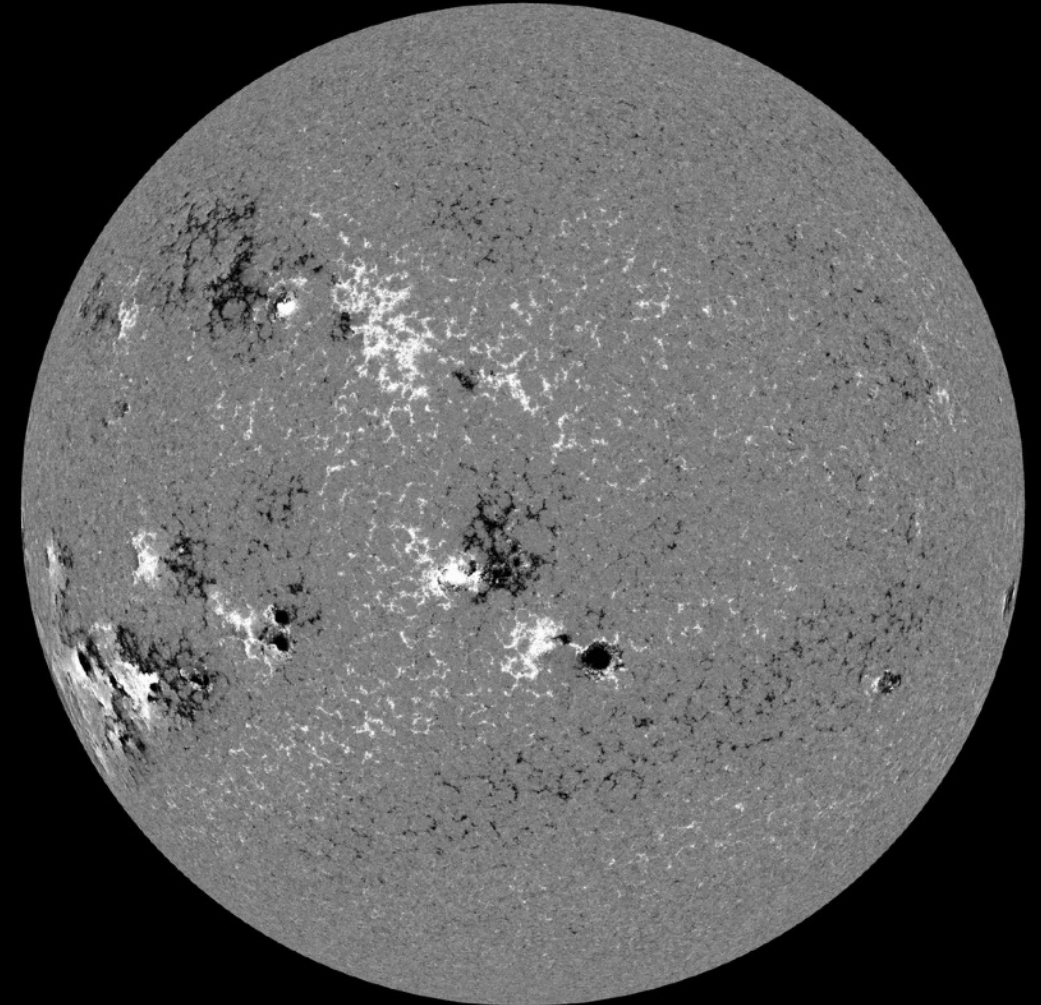
# Solar active regions

SDO/HMI White Light 2024-06-25



SDO/HMI Quick-Look Continuum: 20240625\_114500

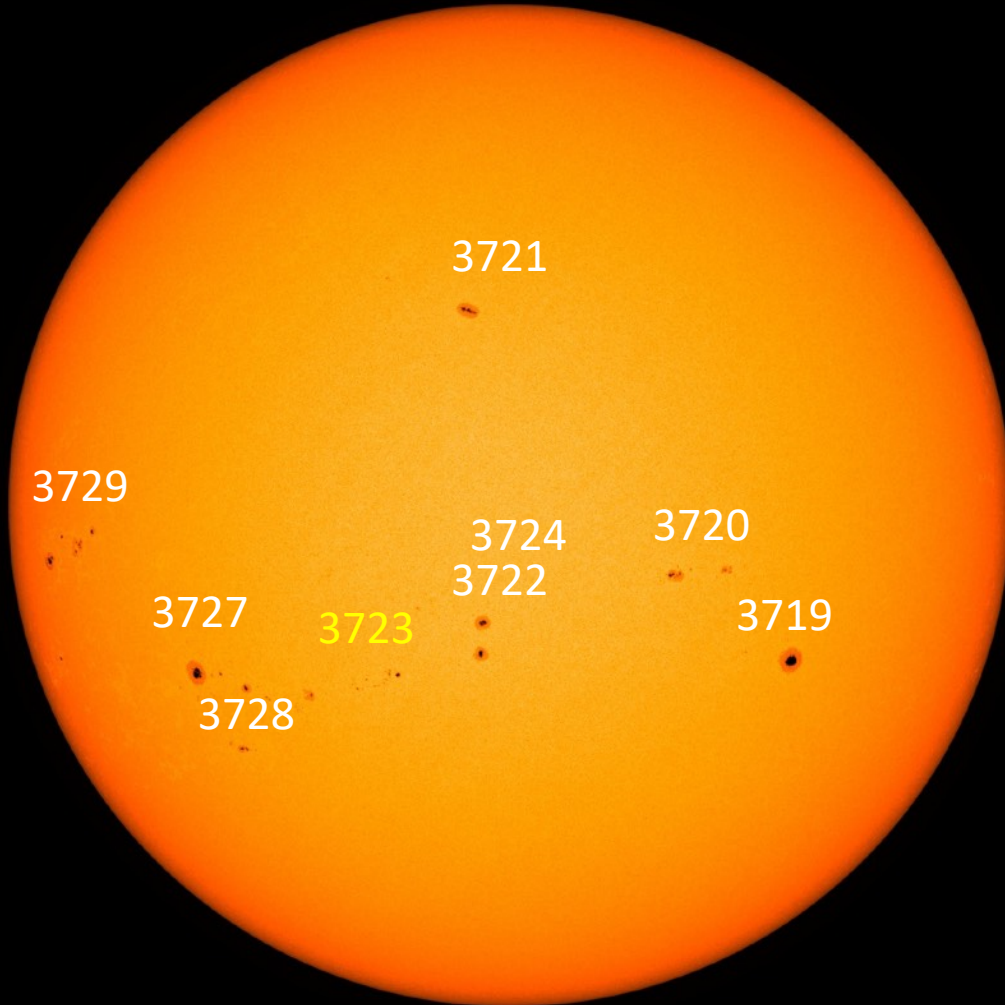
SDO/HMI Magnetogram 2024-06-25



SDO/HMI Quick-Look Magnetogram: 20240625\_114500

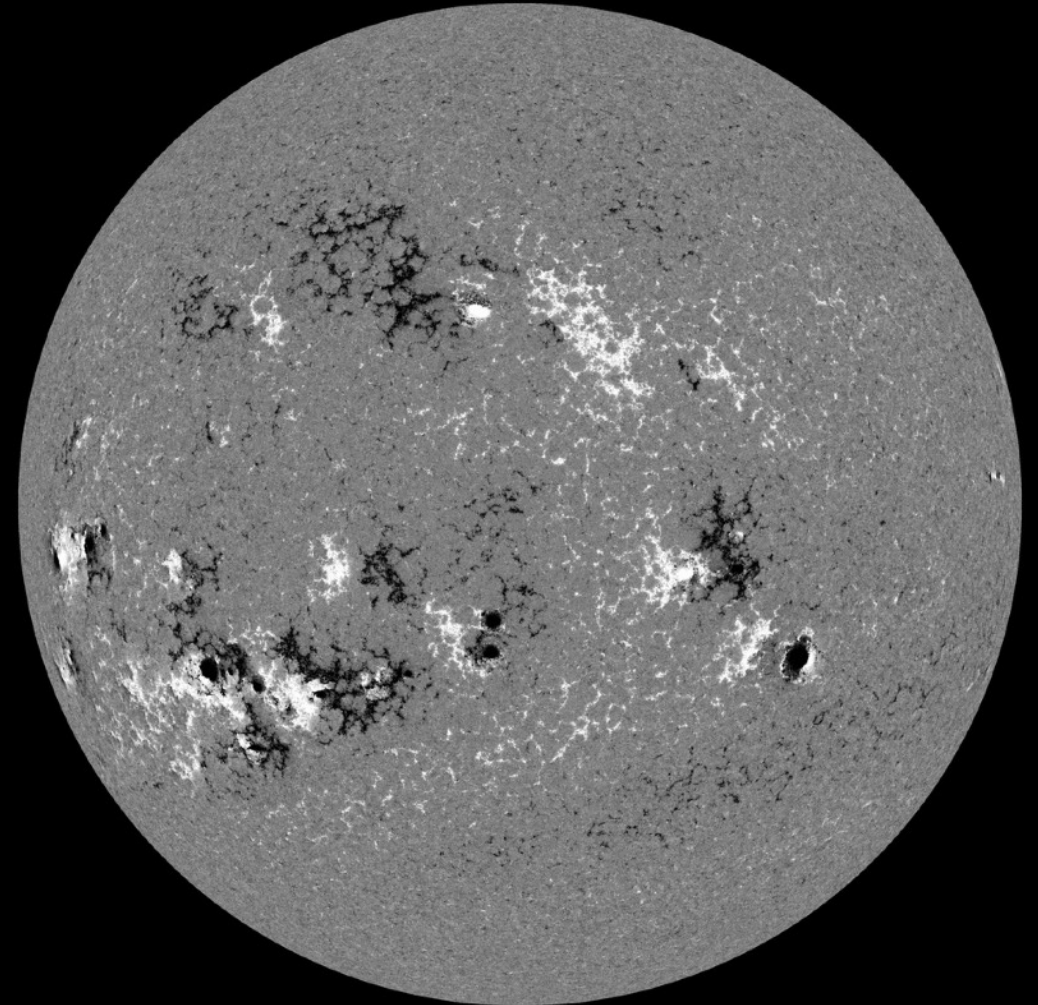
# Solar active regions

SDO/HMI White Light 2024-06-27



SDO/HMI Quick-Look Continuum: 20240627\_114500

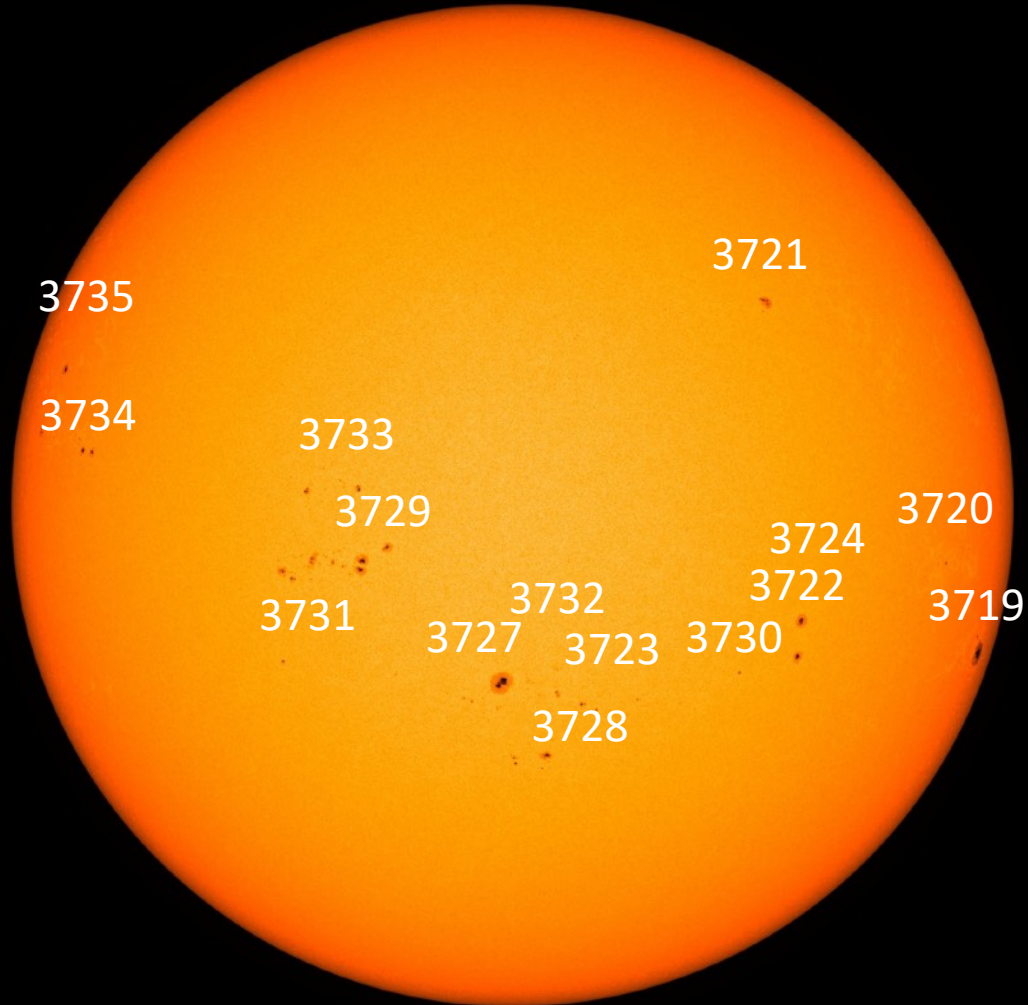
SDO/HMI Magnetogram 2024-06-27



SDO/HMI Quick-Look Magnetogram: 20240627\_114500

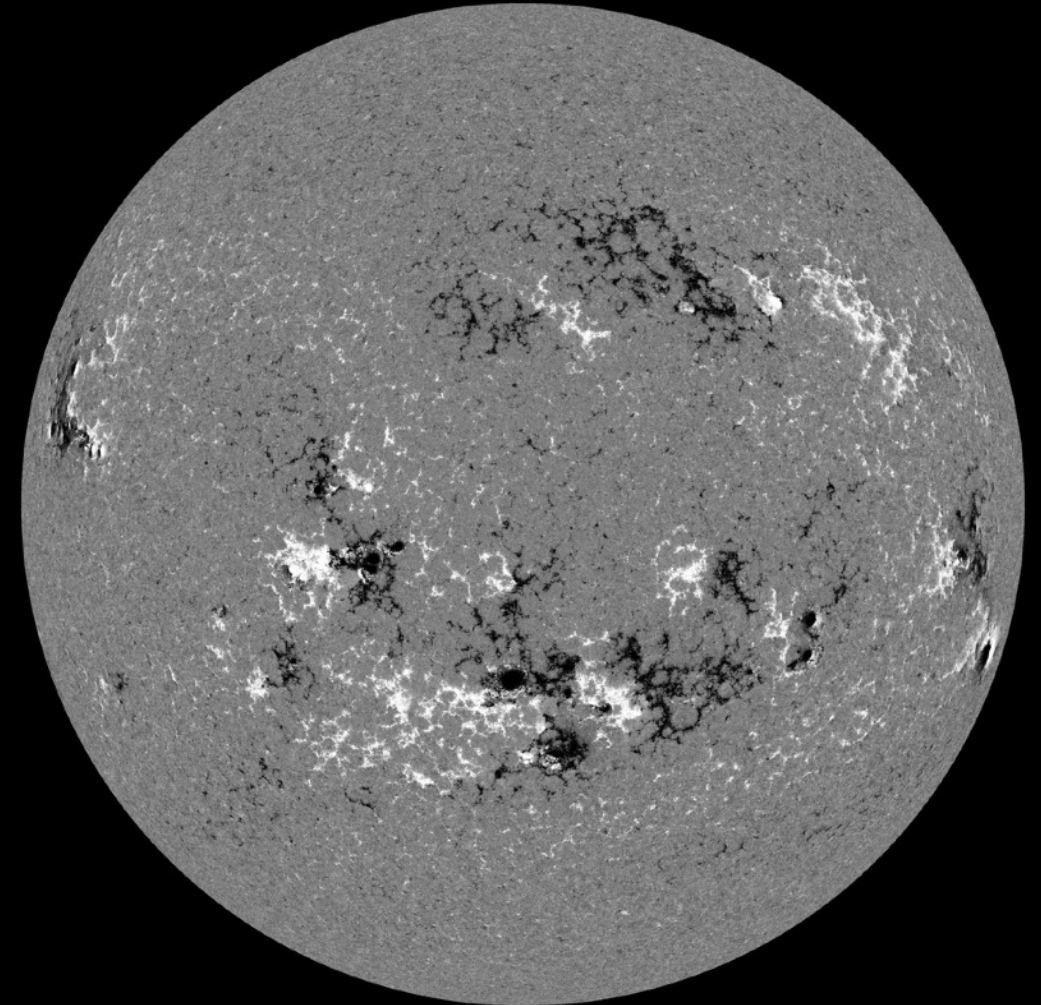
# Solar active regions

SDO/HMI White Light 2024-06-30



SDO/HMI Quick-Look Continuum: 20240630\_114500

SDO/HMI Magnetogram 2024-06-30

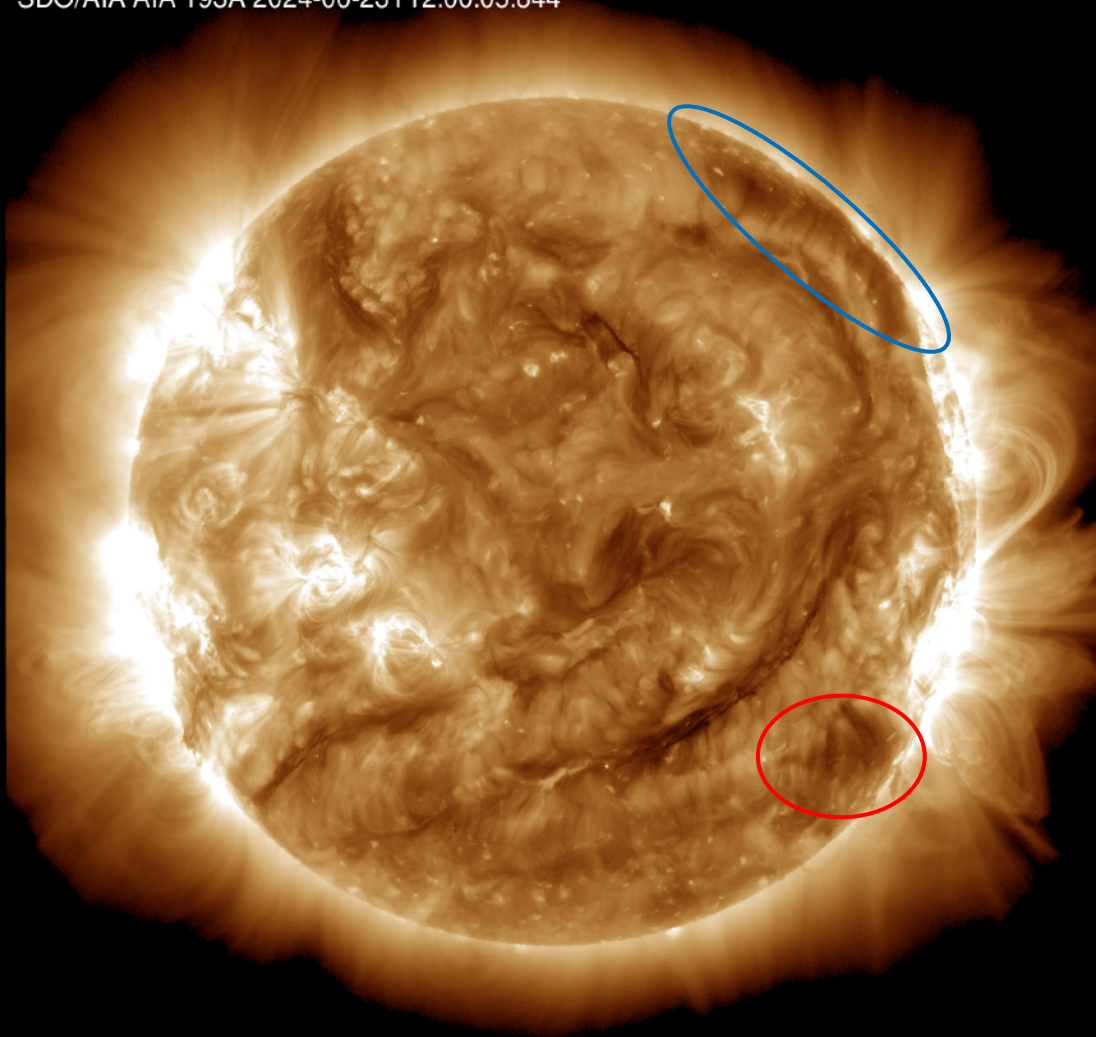


SDO/HMI Quick-Look Magnetogram: 20240630\_114500

# Coronal holes

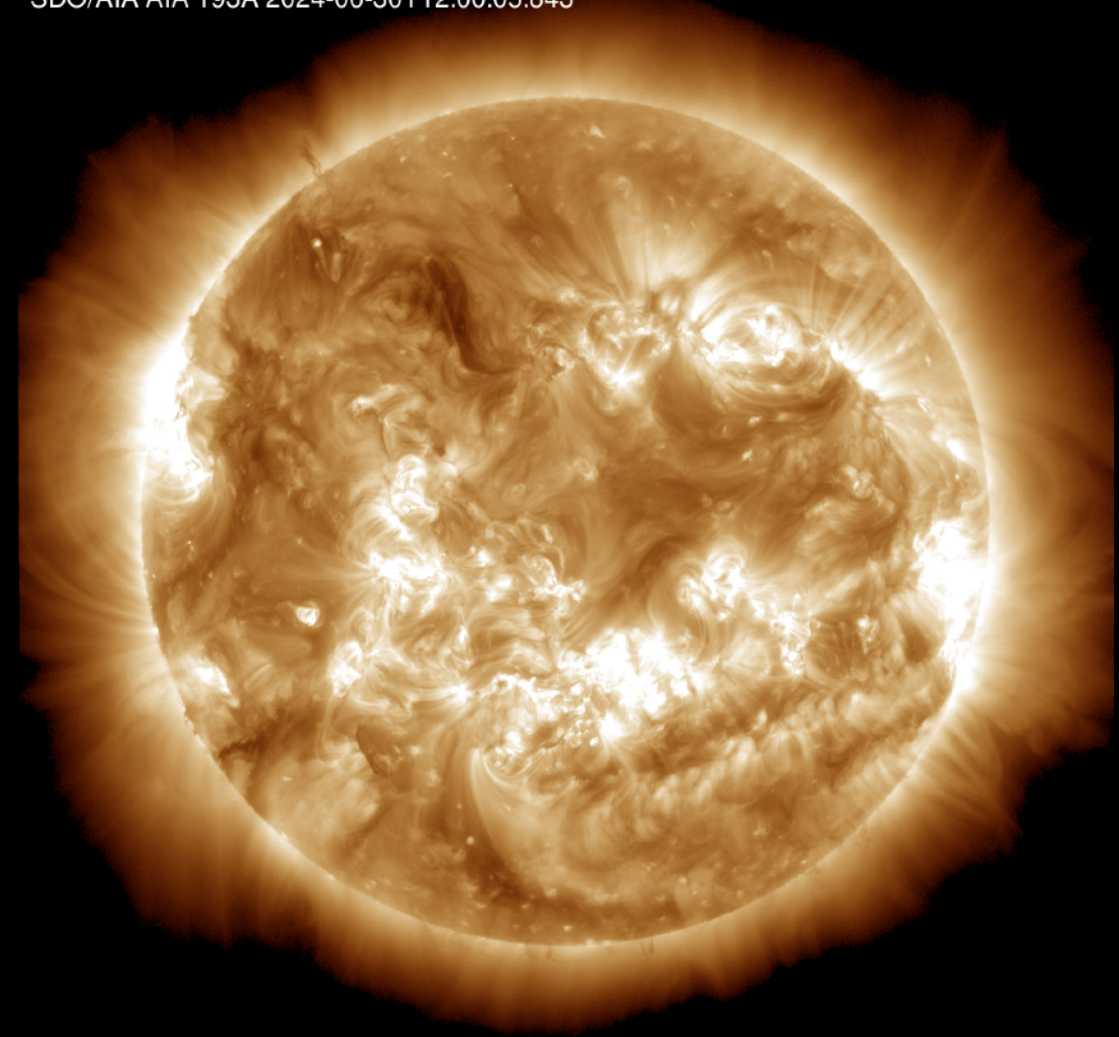
SDO/AIA 19.3 nm 2024-06-23

SDO/AIA AIA 193Å 2024-06-23T12:00:05.844



SDO/AIA 19.3 nm 2024-06-30

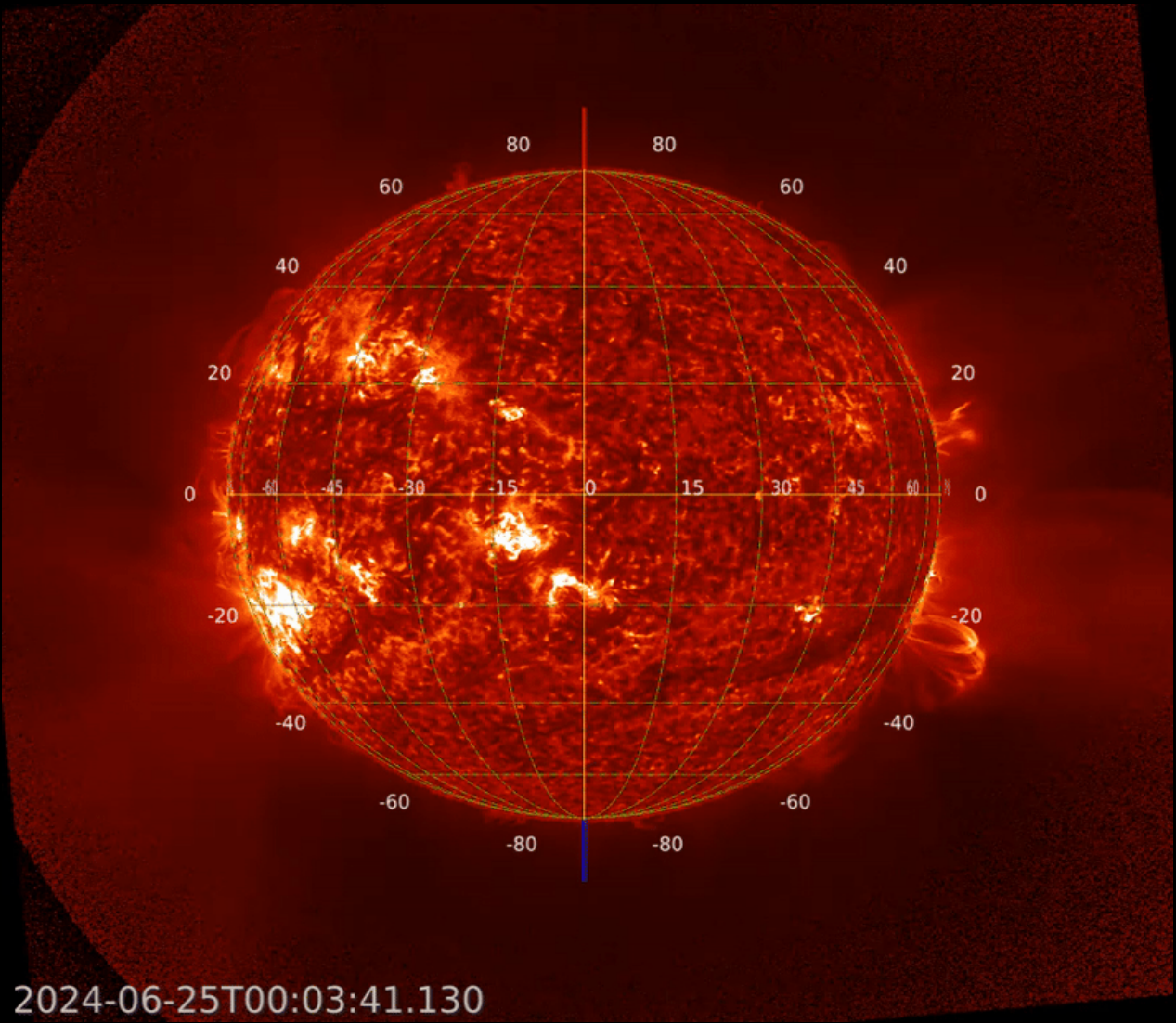
SDO/AIA AIA 193Å 2024-06-30T12:00:05.843



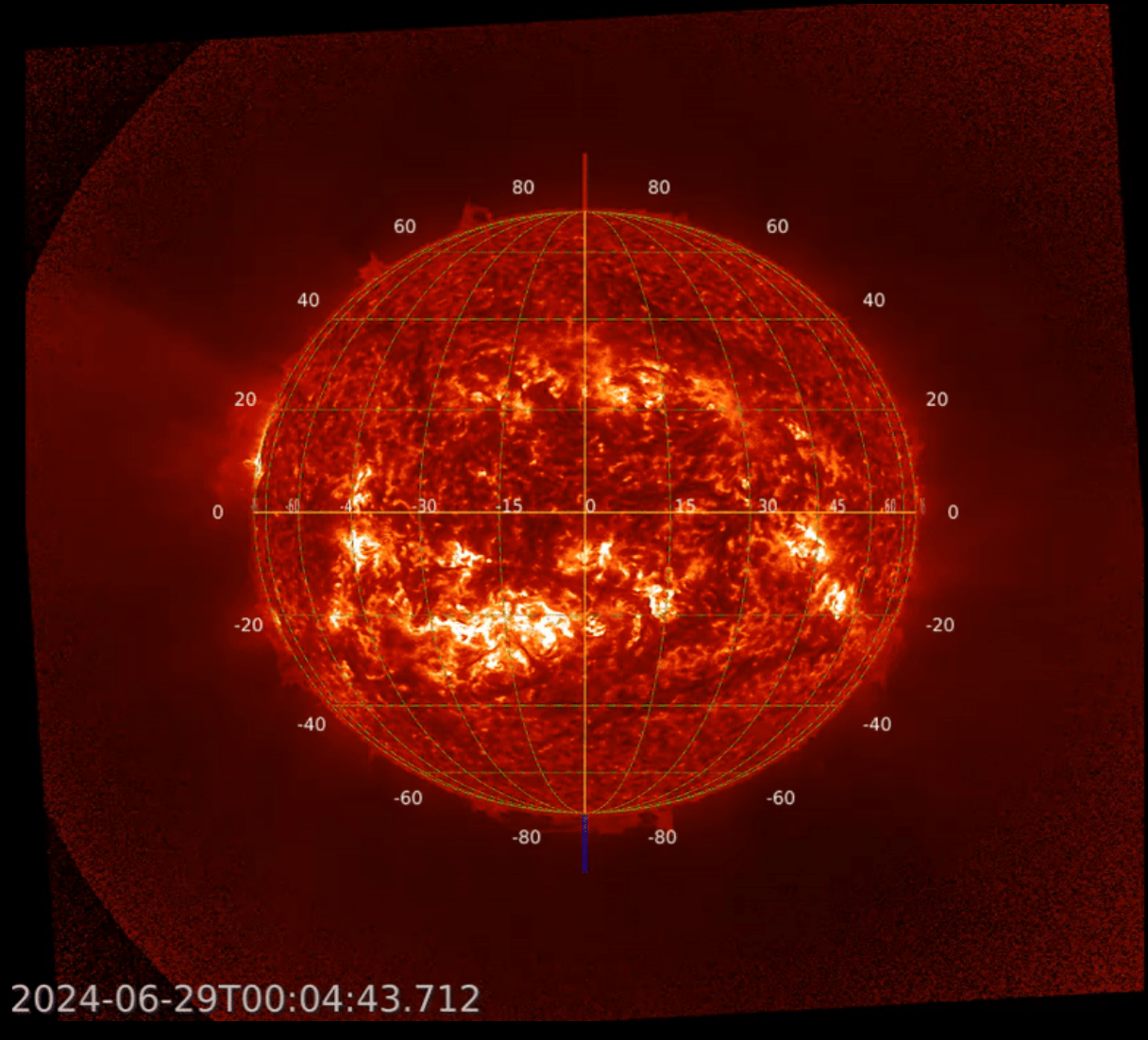


# Filaments

GOES/SUVI 30.4 nm 2024-06-25

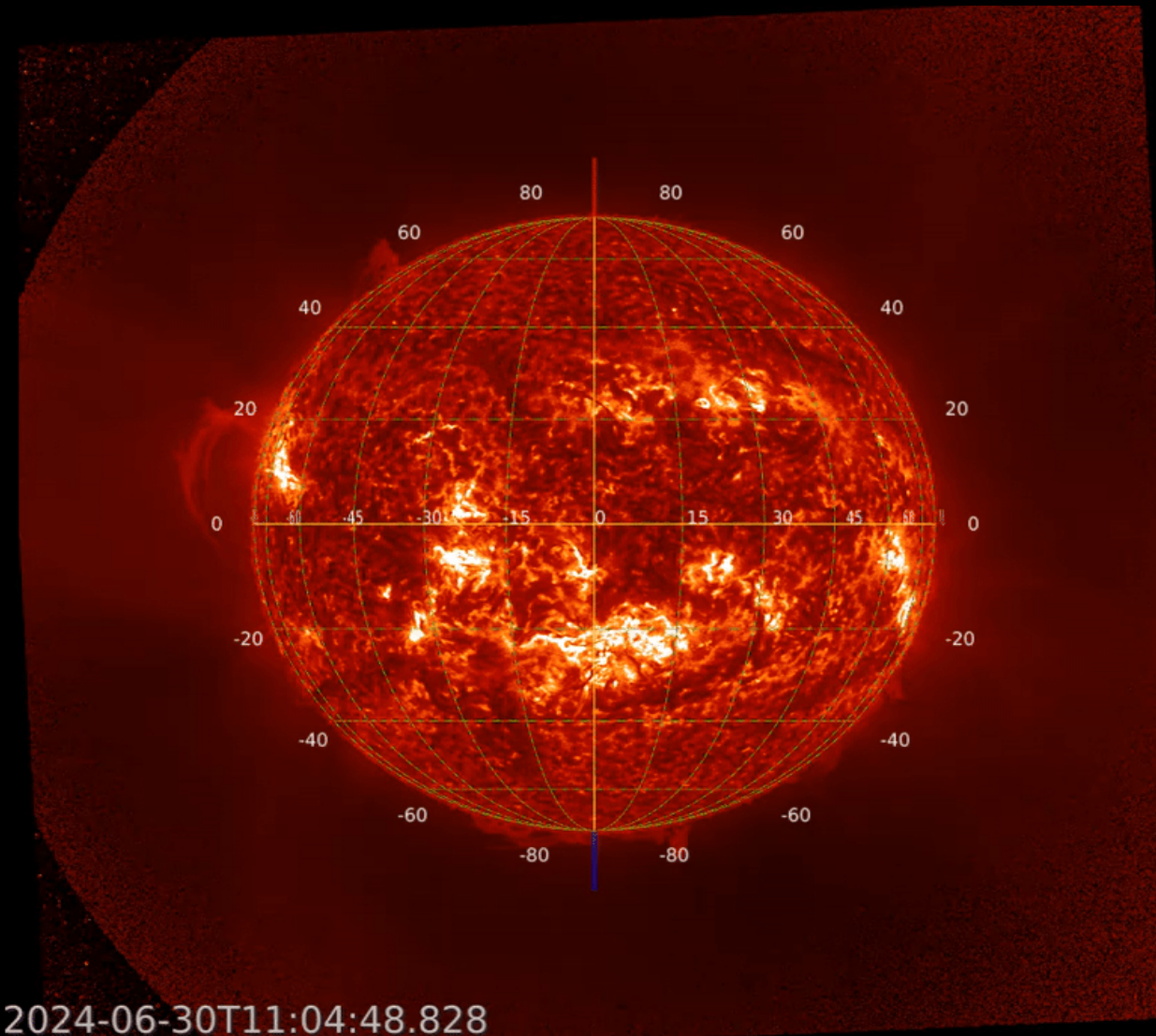


GOES/SUVI 30.4 nm 2024-06-29



# Filaments

GOES/SUVI 30.4 nm 2024-06-30



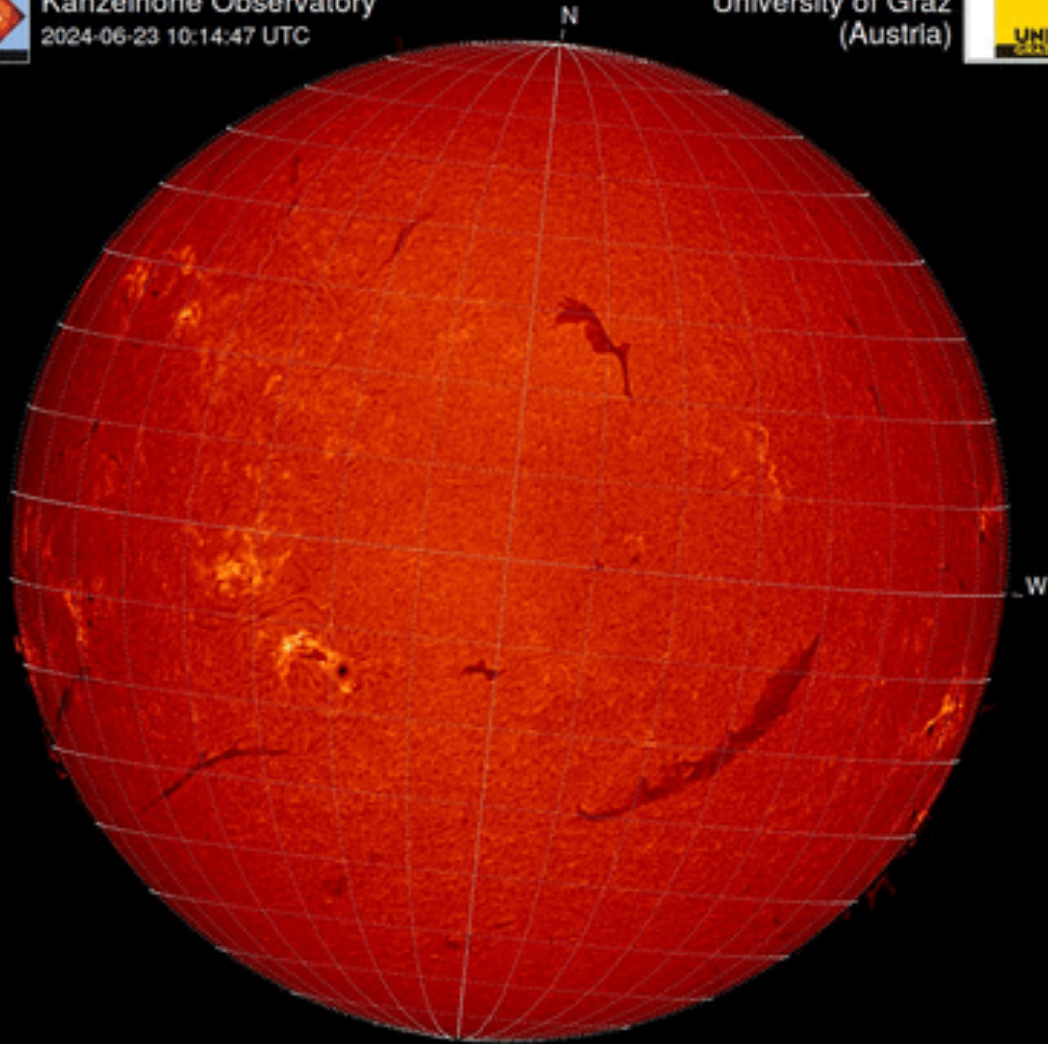
# Filaments & Filament eruptions

H-alpha 2024-06-23



Kanzelhöhe Observatory  
2024-06-23 10:14:47 UTC

University of Graz  
(Austria)

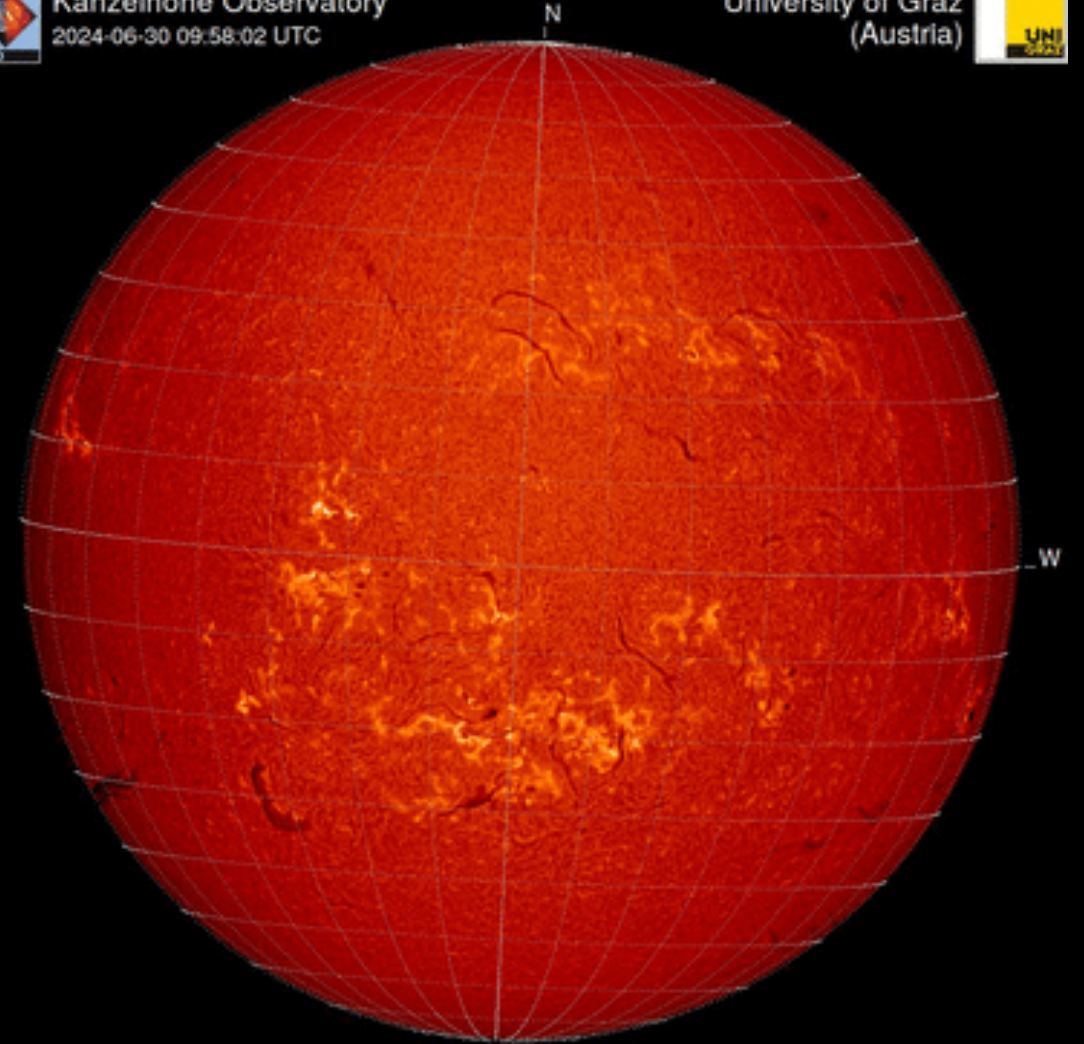


H-alpha 2024-06-30

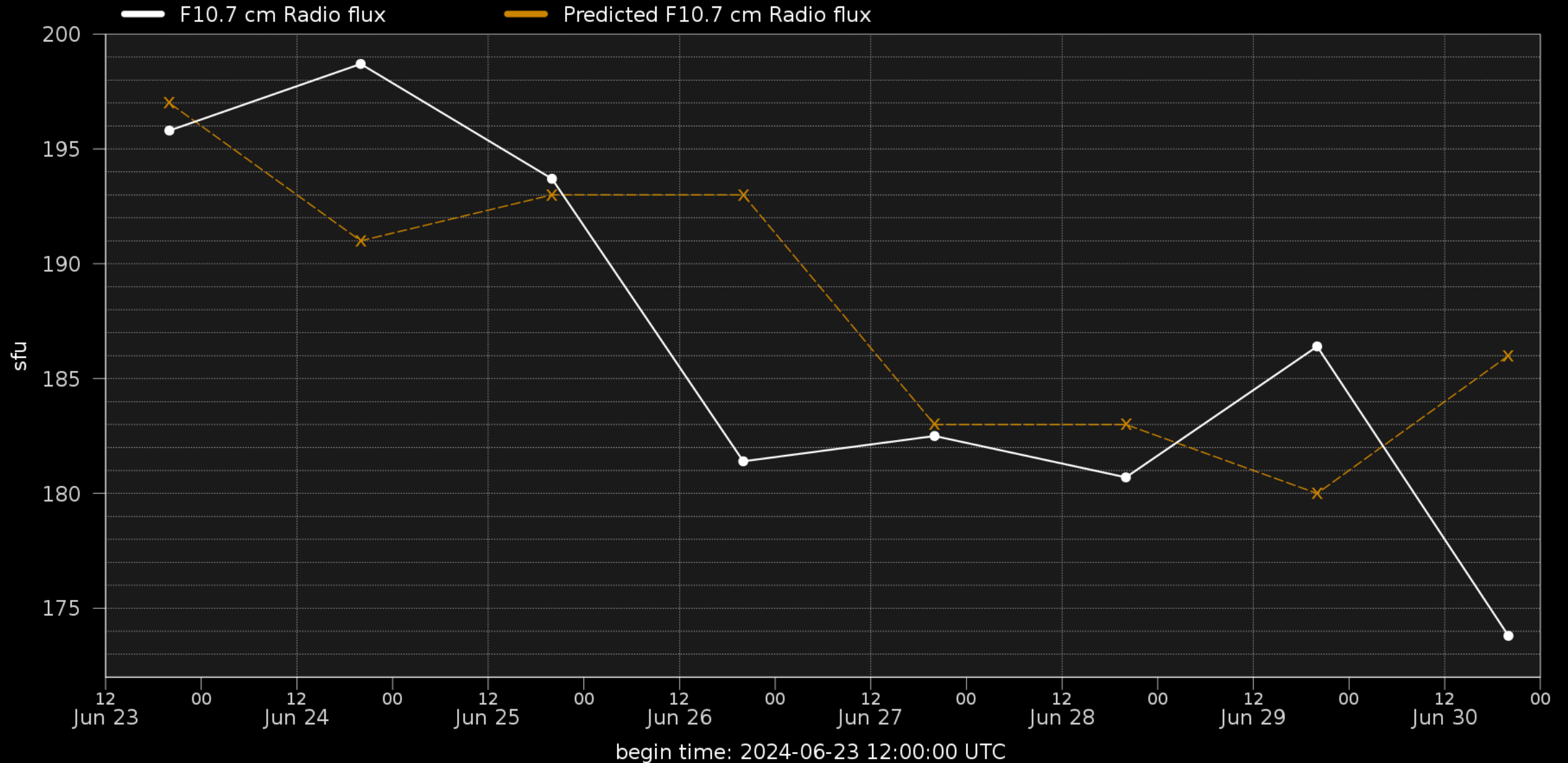


Kanzelhöhe Observatory  
2024-06-30 09:58:02 UTC

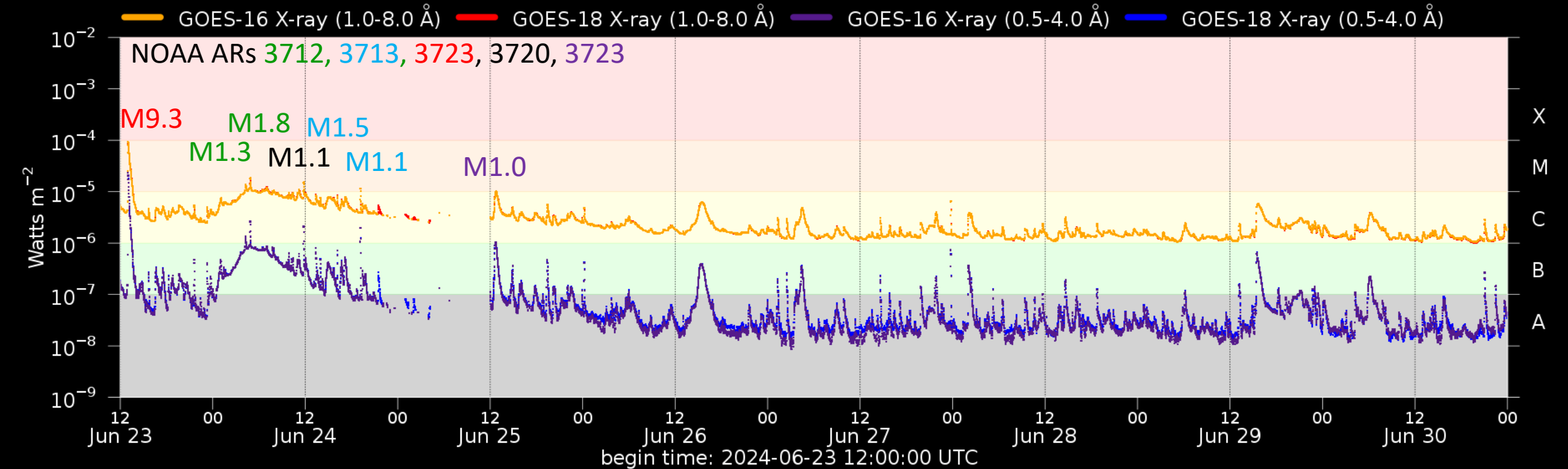
University of Graz  
(Austria)



# Solar F10.7cm radio flux



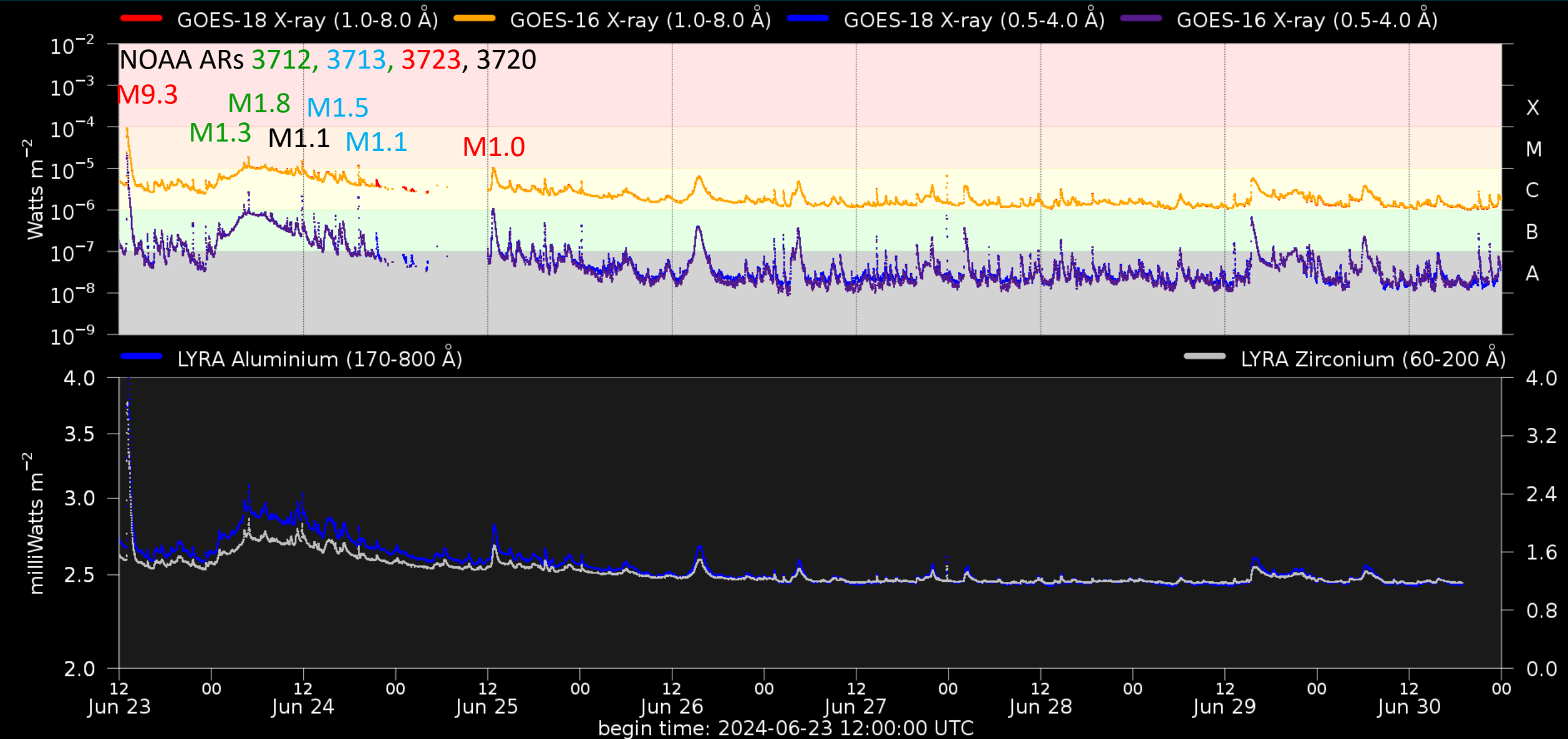
# Flaring activity



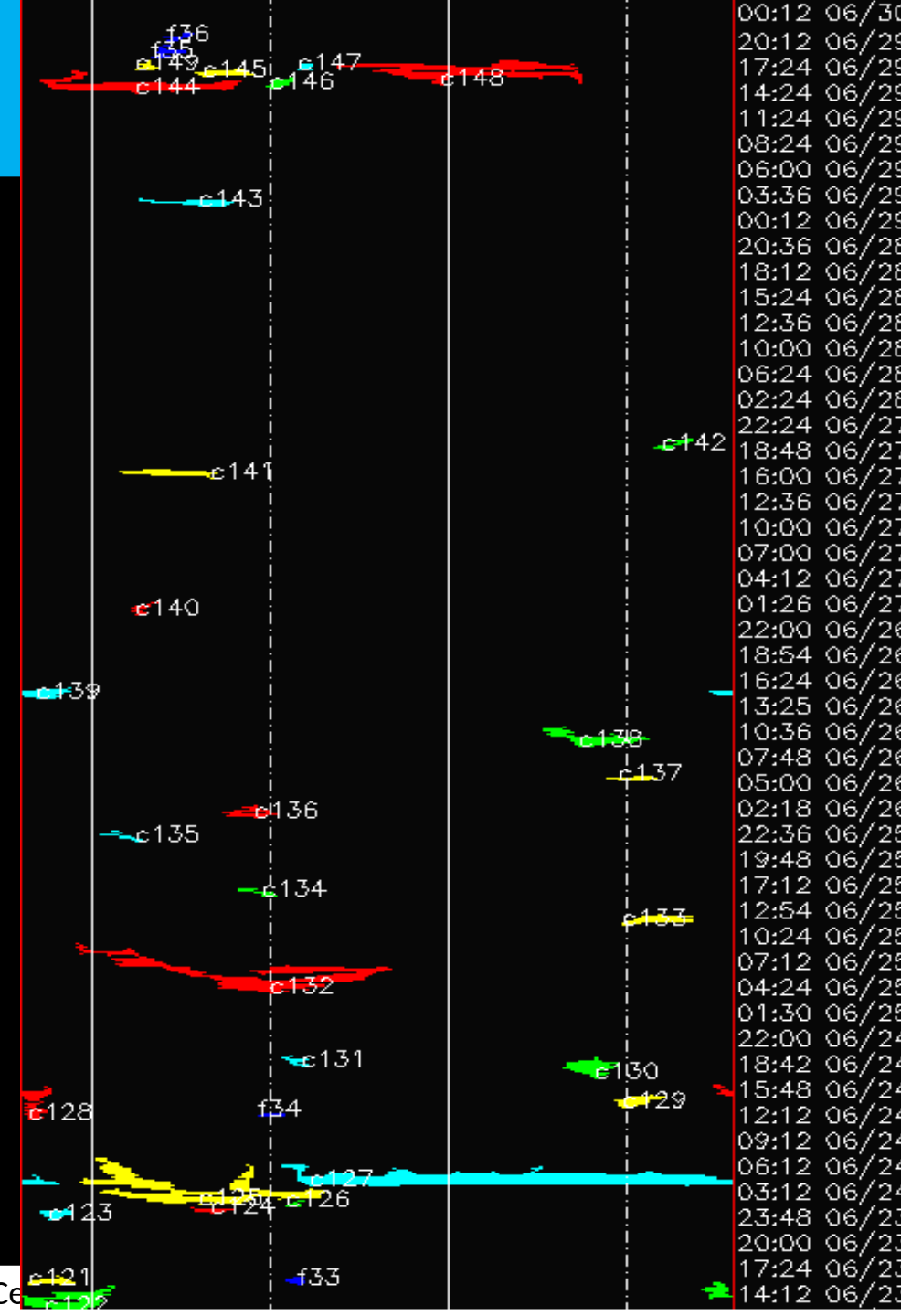
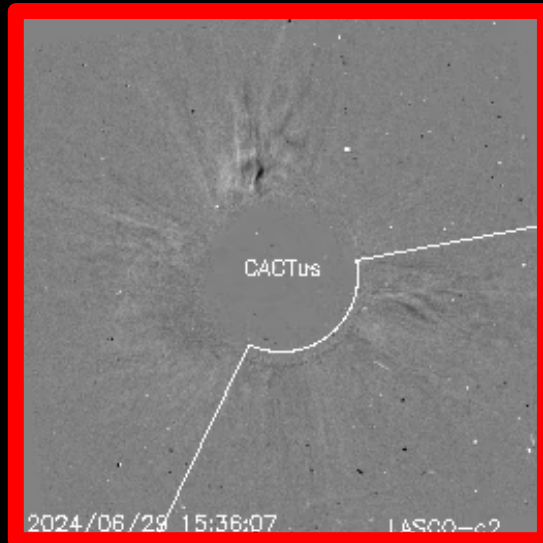
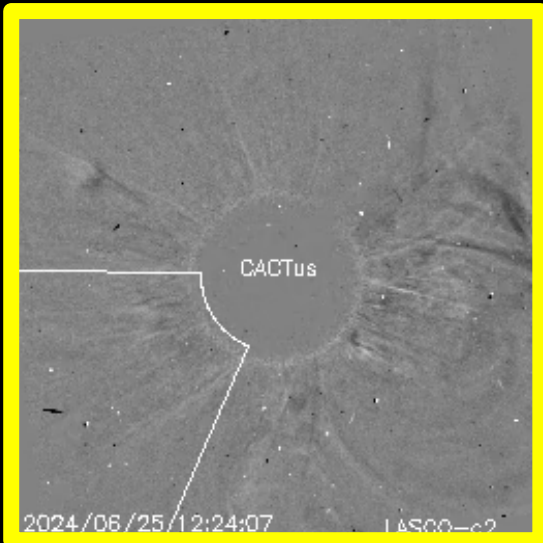
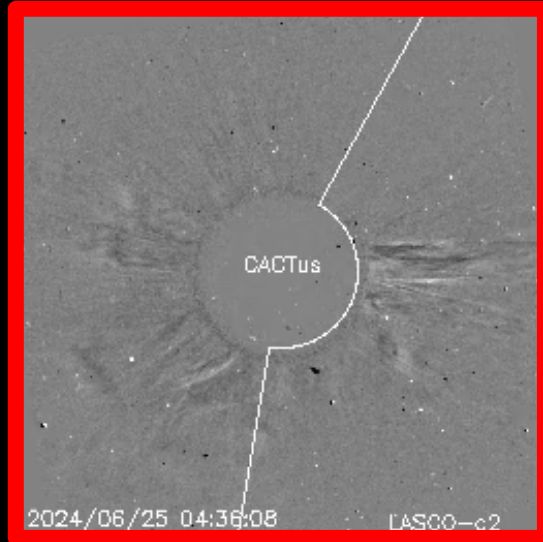
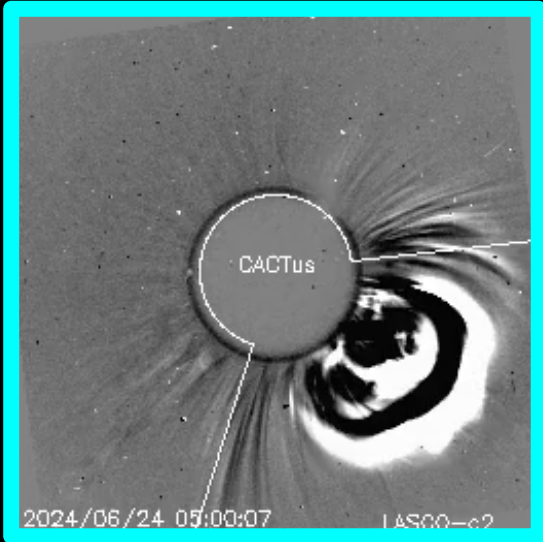
Probabilities (%) and occurrences (#) of C/M/X-flares daily, from noon to noon:

Issue date	2024-06-23	2024-06-24	2024-06-25	2024-06-26	2024-06-27	2024-06-28	2024-06-29	2024-06-30
Probability (%)	99 75 15	99 75 20	99 60 10	99 55 05	99 50 10	99 50 10	99 35 10	99 35 10
Observed (#)	05 05 00	05 01 00	04 01 00	06 00 00	13 00 00	03 00 00	09 00 00	03 00 00

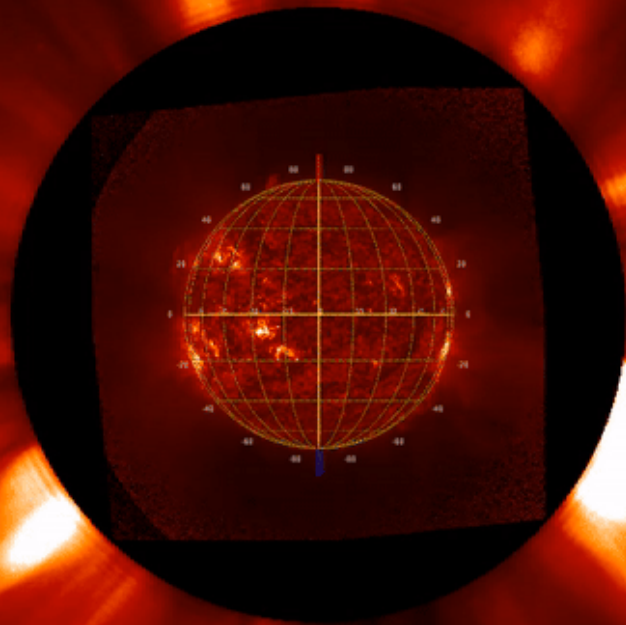
# Solar X-Ray and UV flux



# Coronal Mass Ejections



# Coronal Mass Ejections



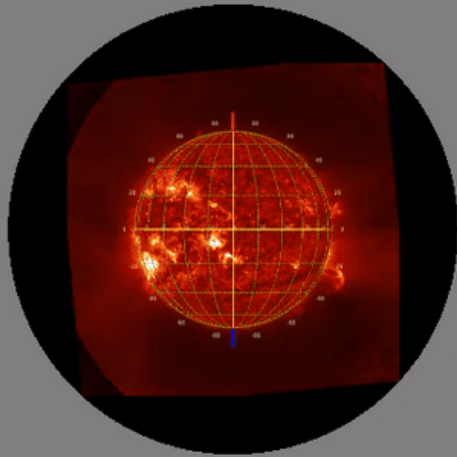
When: 03:48 UTC on June 24<sup>th</sup>

No Earth-directed component is expected.

2024-06-24T00:03:29.137



# Coronal Mass Ejections



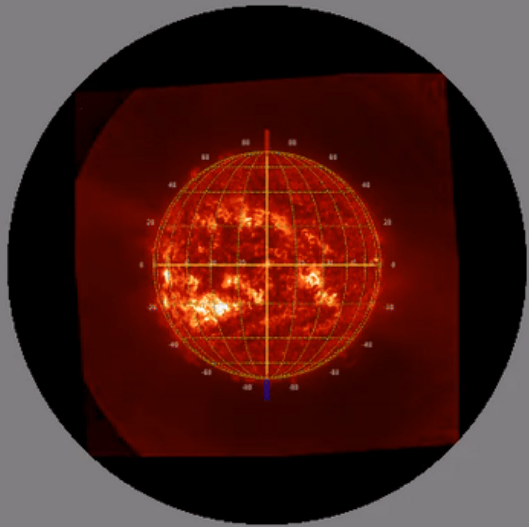
**When:** 05:24 UTC on June 25th, associated with large filament eruption in SW quadrant

**When:** 23:52 UTC on June 25<sup>th</sup>, associated with small filament eruption near the disk center

**Shock Arrival Time:** 2024-06-28T09:10

2024-06-25T00:03:41.130

# Coronal Mass Ejections



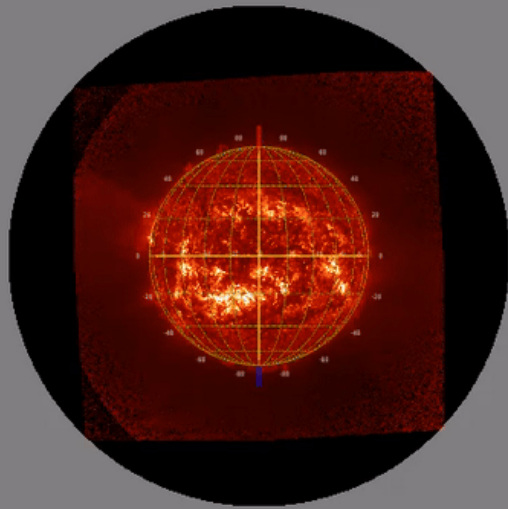
**When:** 17:36 UTC on June 27, associated with the C2.0 flare from NOAA AR 3719

**When:** 00:48 UTC on June 28, associated with the flaring near NOAA AR 3730

**Possible impact at Earth from late on July 1st**

2024-06-27T14:12:07.422

# Coronal Mass Ejections



**When:** 16:00 UTC on June 29, associated with large filament eruption in SW quadrant

**Expected:** late on July 2nd

2024-06-29T00:04:43.712

Solar Wind and

# Geomagnetic Activity



Royal Observatory  
of Belgium

Solar Influences  
Data analysis Centre  
[www.sidc.be](http://www.sidc.be)

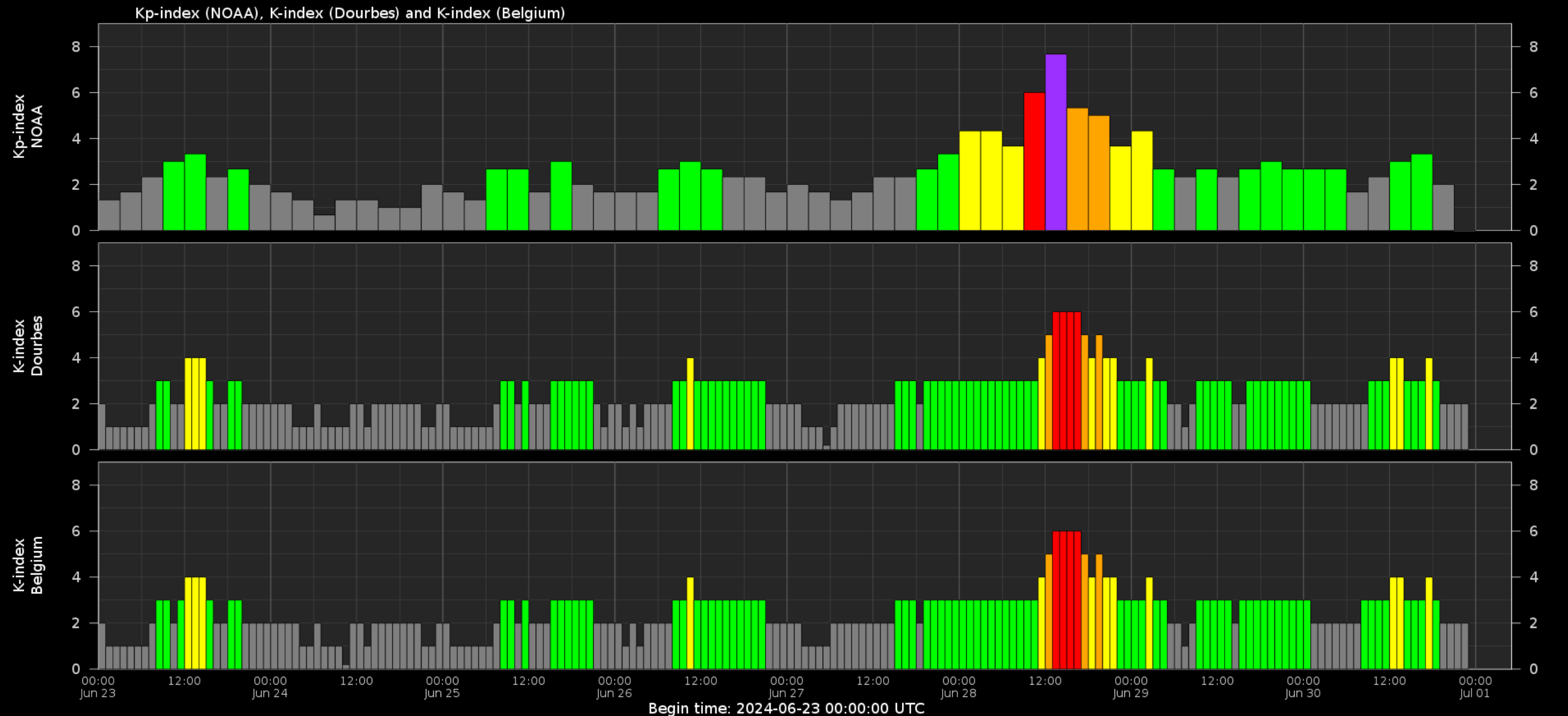
# Solar wind parameters



# Solar wind parameters & K-indices



# Geomagnetic activity (K-indexes)



# Energetic Particles

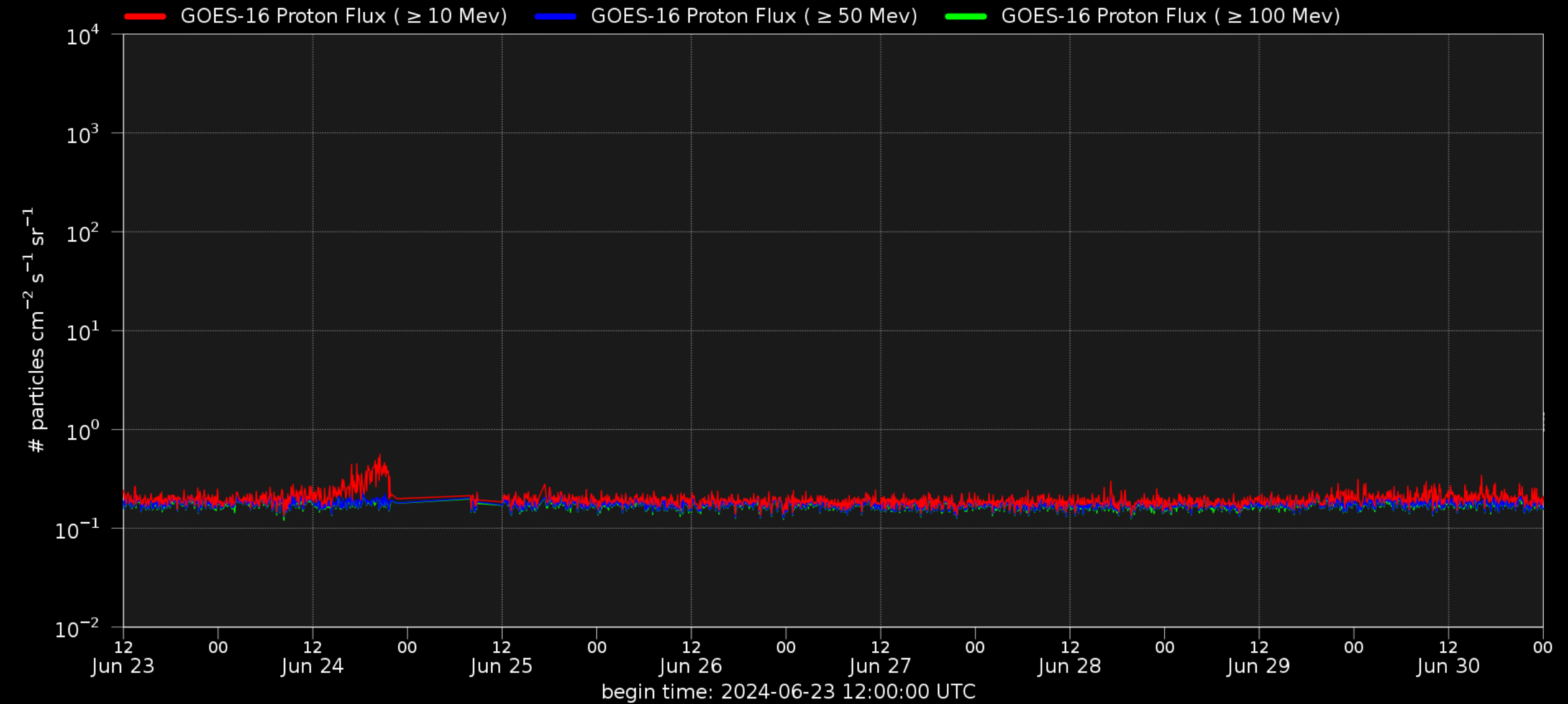


Royal Observatory  
of Belgium

Solar Influences  
Data analysis Centre  
[www.sidc.be](http://www.sidc.be)



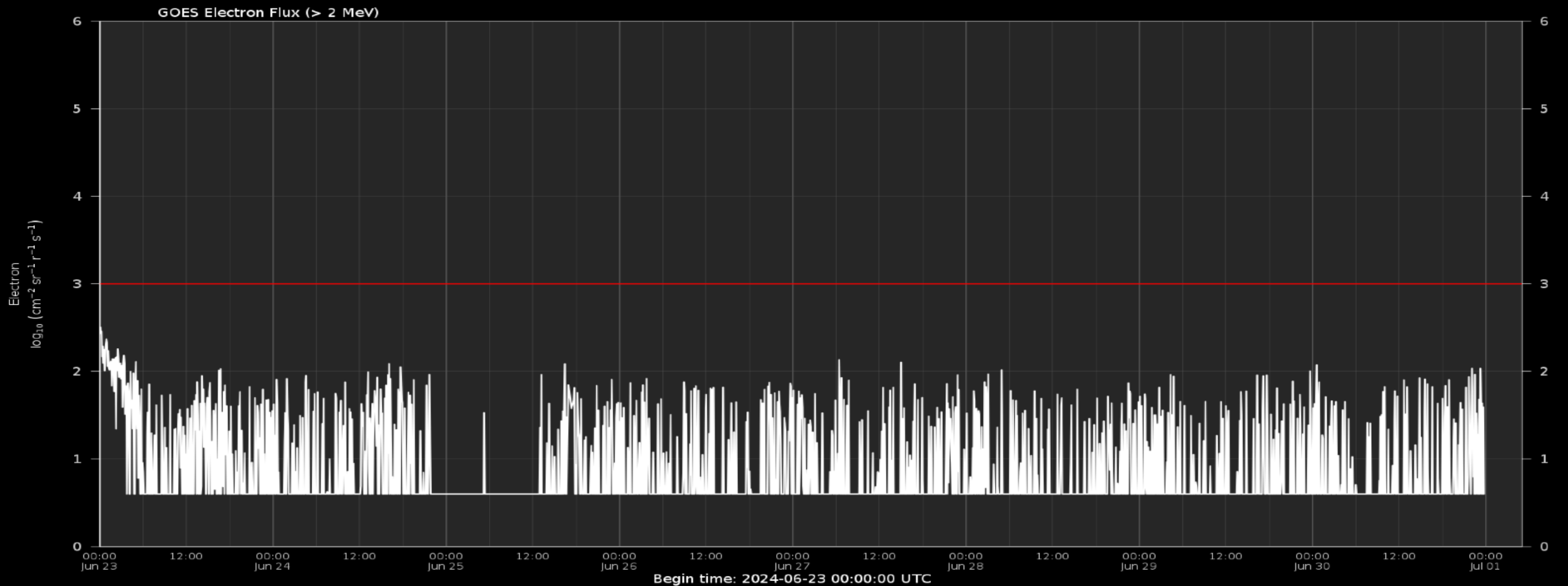
# Solar proton flux



# Electron flux at GEO

[www.stce.be/educational/classification#electrons](http://www.stce.be/educational/classification#electrons)

[www.spaceweather.gc.ca/forecast-prevision/space-spatiale/sffl-en.php](http://www.spaceweather.gc.ca/forecast-prevision/space-spatiale/sffl-en.php)



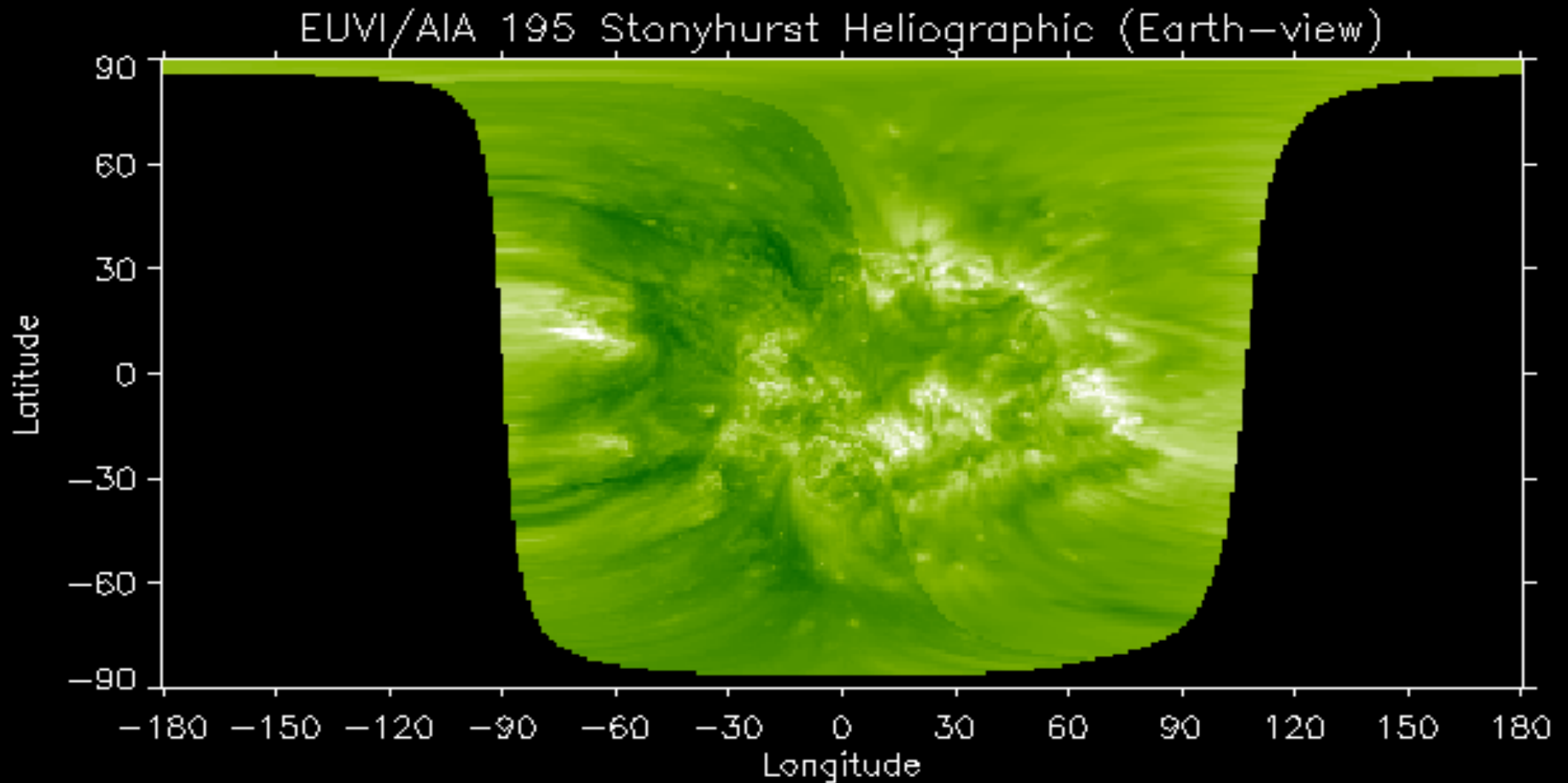
# Outlook



Royal Observatory  
of Belgium

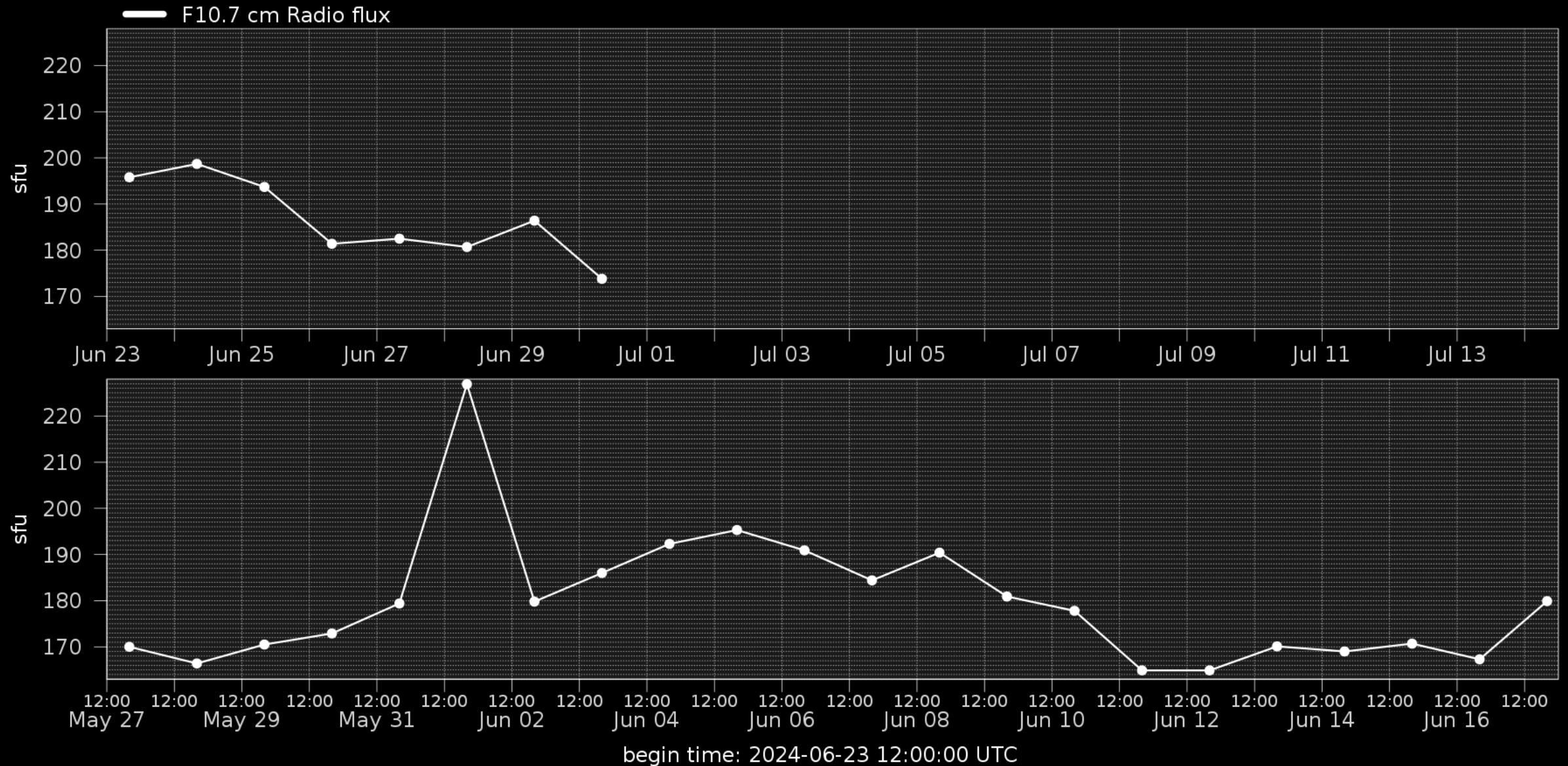
Solar Influences  
Data analysis Centre  
[www.sidc.be](http://www.sidc.be)

# Outlook: Solar activity

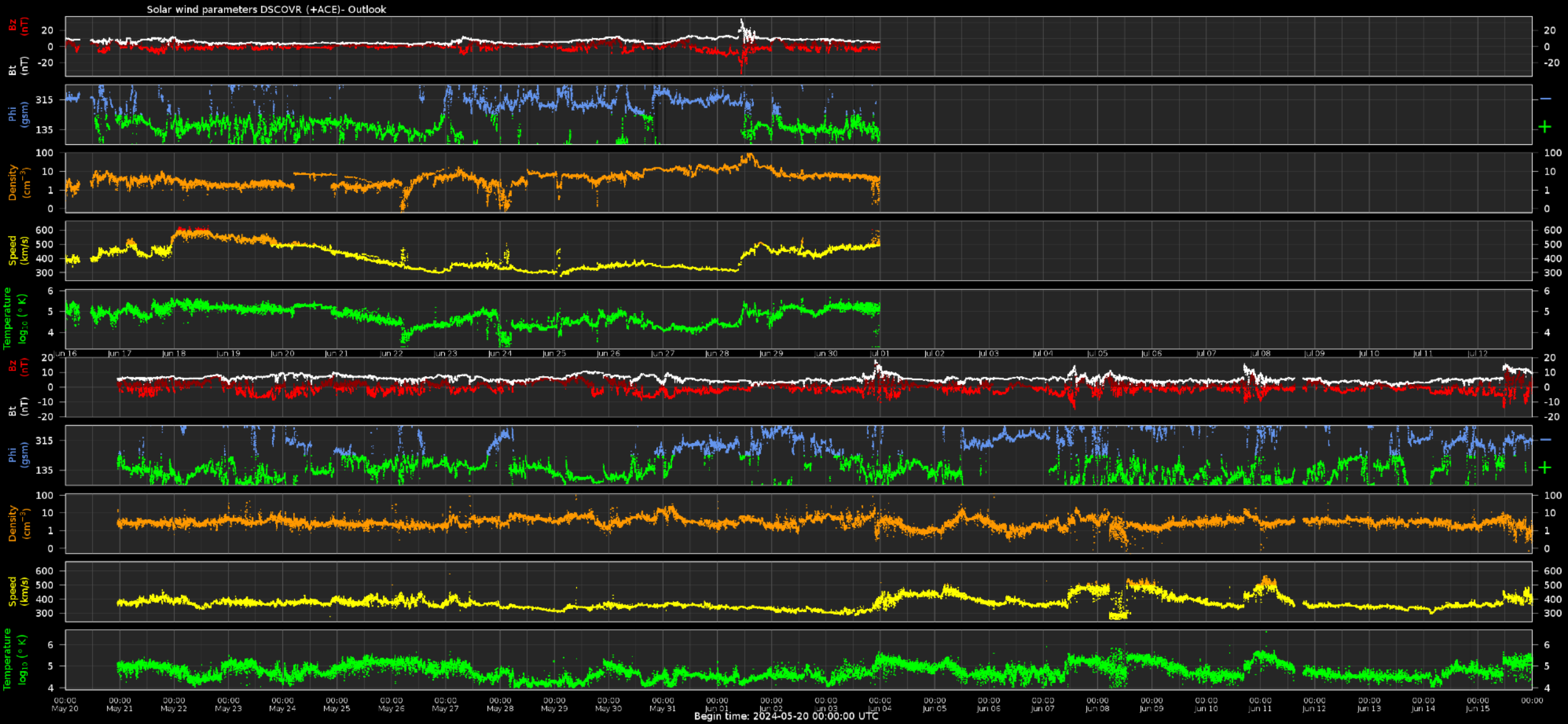


Observation date: 2024/06/30 17:25:00

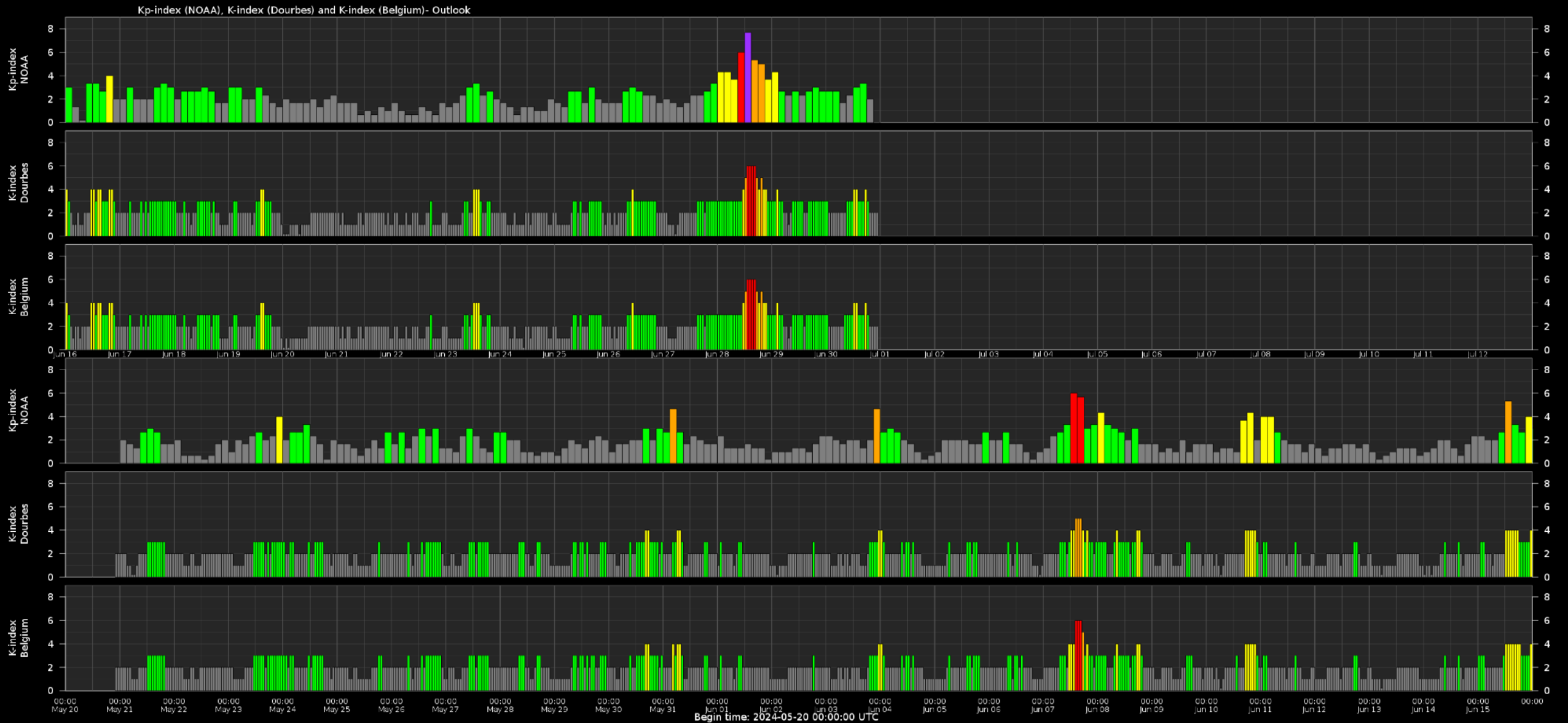
# Outlook: Solar F10.7cm radio flux



# Outlook: Solar wind parameters



# Outlook: Geomagnetic activity



# Outlook: Electron Flux at GEO Outlook





PECASUS



Royal Observatory  
of Belgium

Solar Influences  
Data analysis Centre  
[www.sidc.be](http://www.sidc.be)

SIDC Space Weather Briefing

See you at our next briefing!

Or visit us at [www.sidc.be](http://www.sidc.be)



Royal Observatory  
of Belgium

Solar Influences  
Data analysis Centre  
[www.sidc.be](http://www.sidc.be)