

SIDC Space Weather Briefing

30 May 2021 - 06 June 2021

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& the SIDC forecaster team



Royal Observatory
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Solar Influences
Data analysis Centre
www.sidc.be

Summary Report

Solar activity from 2021-05-30 12:00 to 2021-06-06 23:59

Active regions	Several bipolar regions: NOAA-AR 2827, 2828, 2829, and 2830
Flares	# C-class flare: 1 # M-class flare: 0 # X-class flare: 0
Filament eruptions	No filament eruption
Coronal Holes	Two large equatorial coronal holes

Proton flux	nominal levels
Electron flux	below the 1000 pfu

Solar wind and geomagnetic conditions

ICME	One solar wind shock
SW Conditions	B : 0.28 - 12.22 nT // Bz: -6.61 nT to 6.32 nT // Speed: 281.6 - 430.6 km/s
K-indices	max K-index (Dourbes): 4 max Kp-index (NOAA): 3

All Quiet Alert: Not quiet (too many beta regions)

Solar Activity

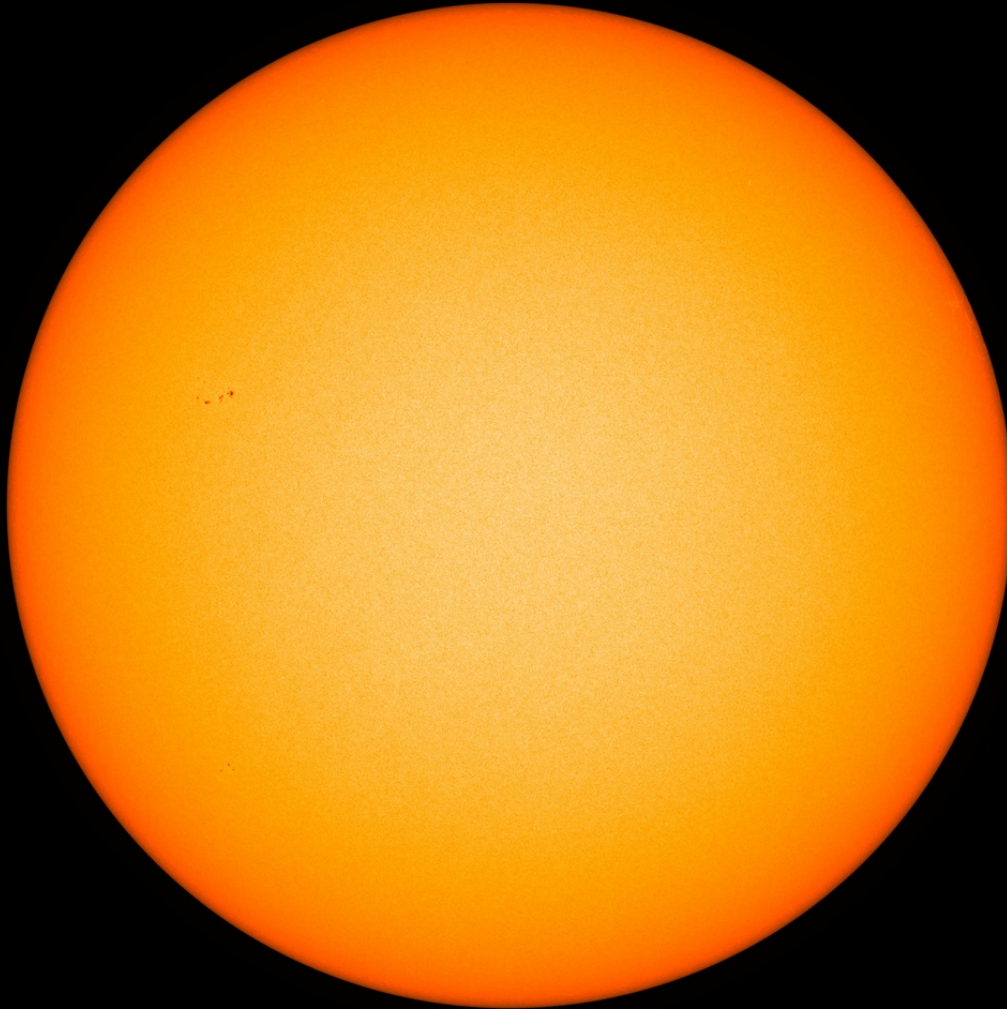


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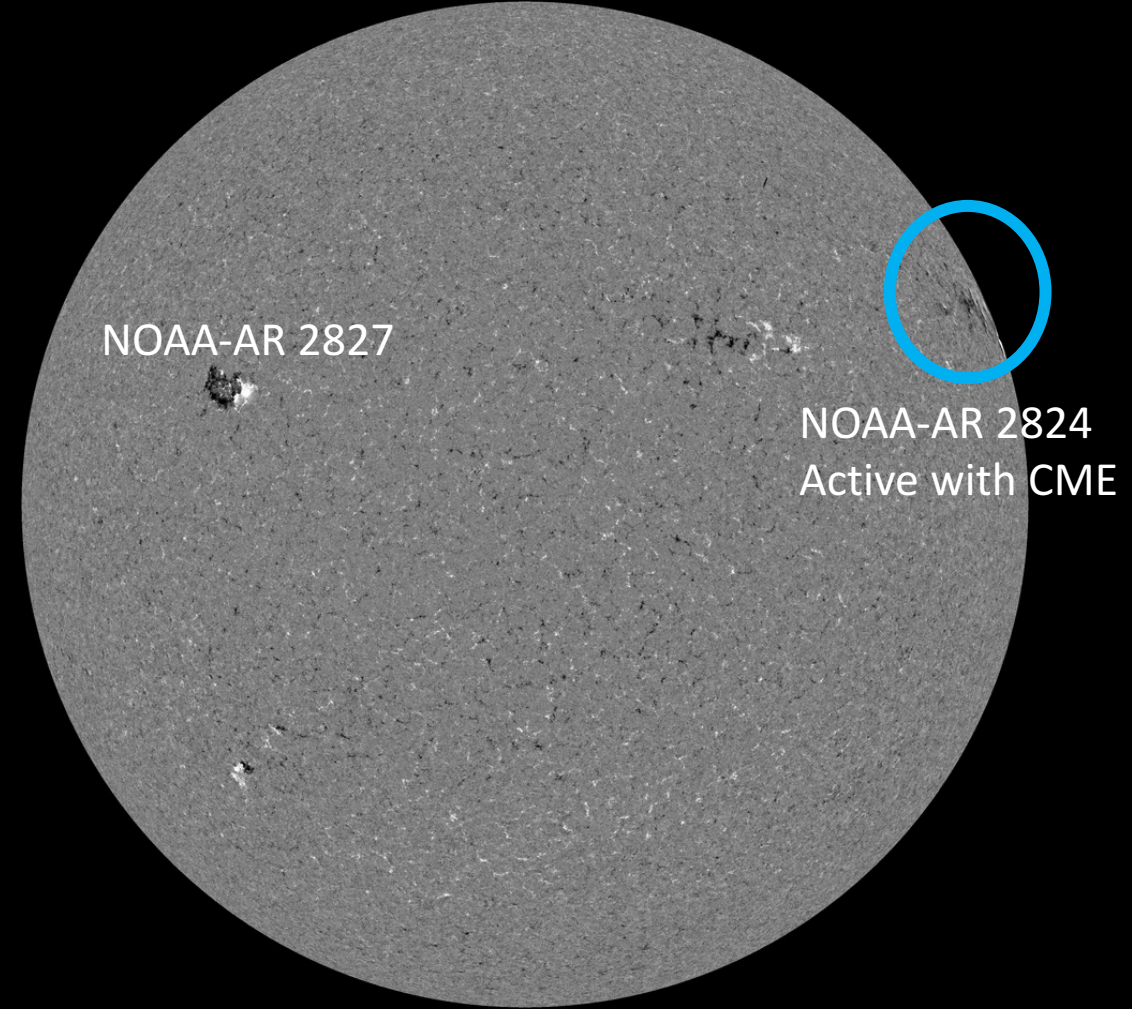
Solar active regions

SDO/HMI White Light 2021-05-30



SDO/HMI Quick-Look Continuum: 20210530_114500

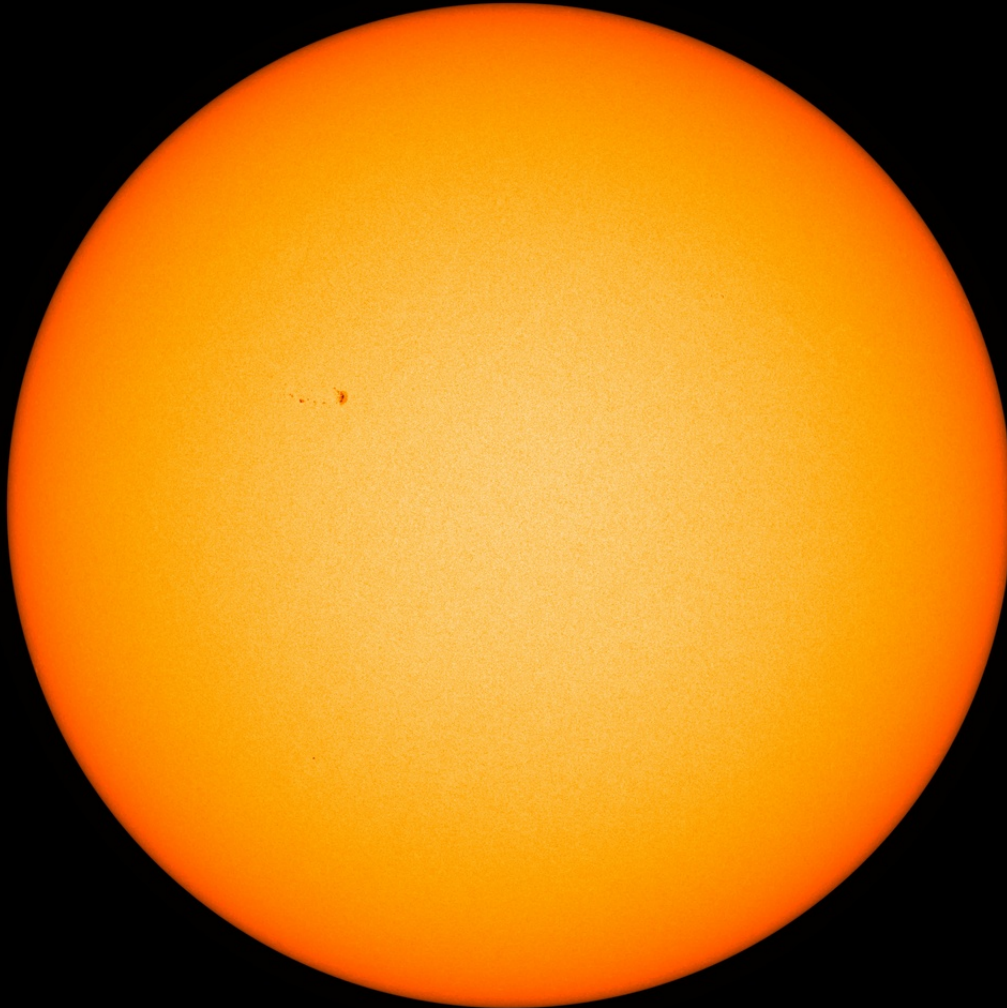
SDO/HMI Magnetogram 2021-05-30



SDO/HMI Quick-Look Magnetogram: 20210530_114500

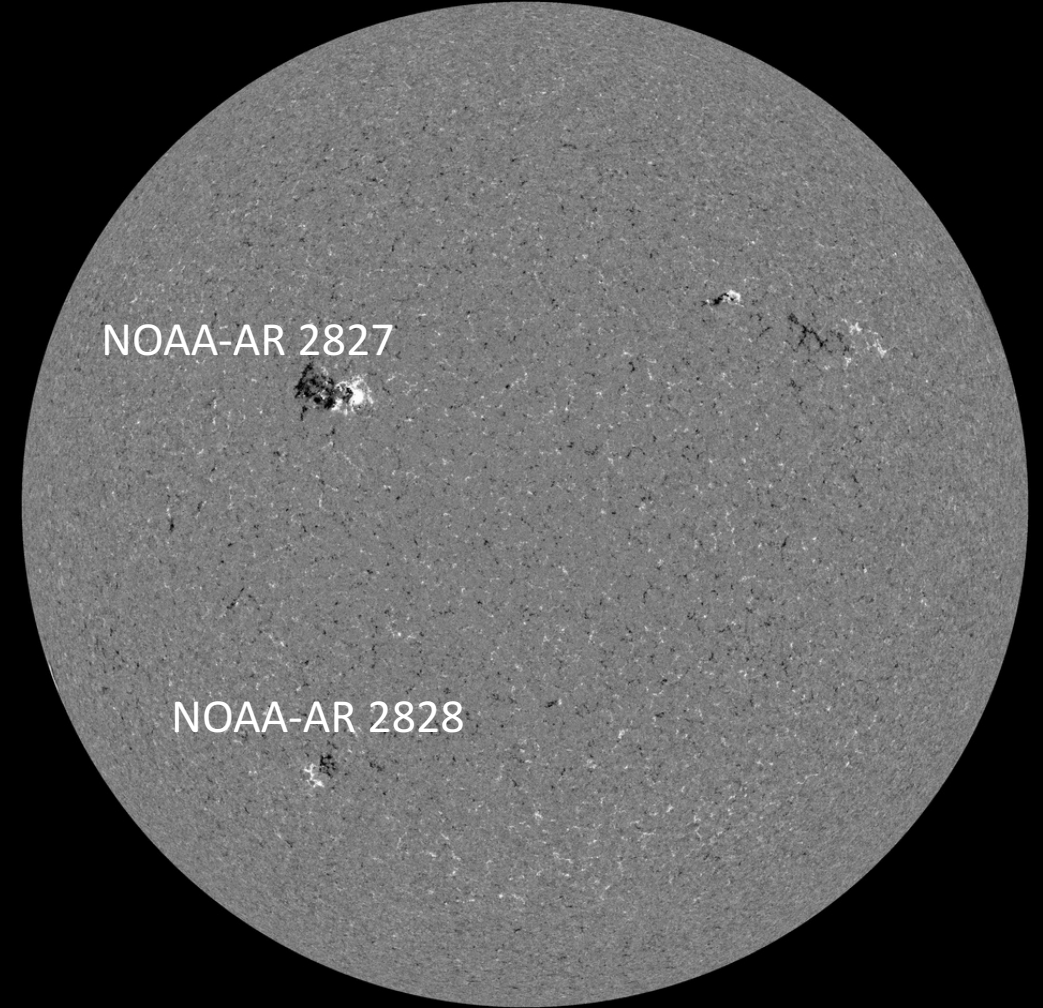
Solar active regions

SDO/HMI White Light 2021-05-31



SDO/HMI Quick-Look Continuum: 20210531_114500

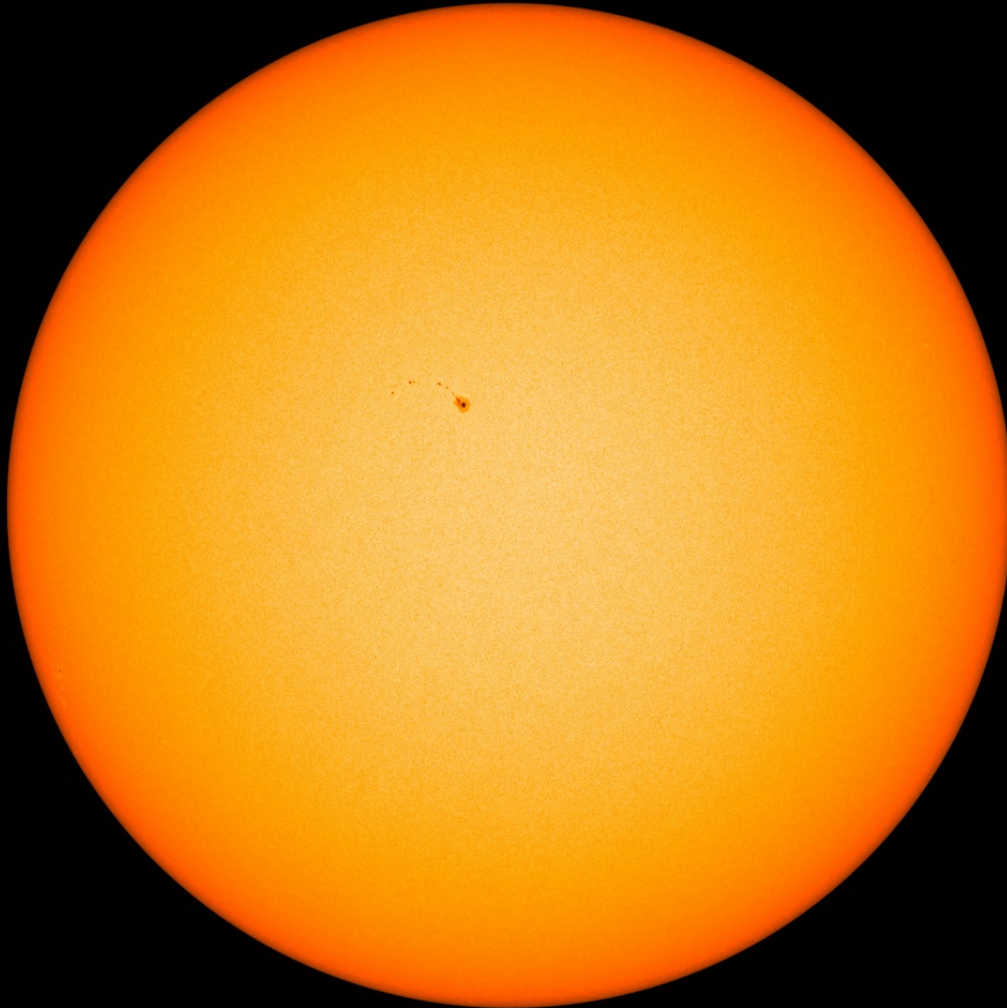
SDO/HMI Magnetogram 2021-05-31



SDO/HMI Quick-Look Magnetogram: 20210531_114500

Solar active regions

SDO/HMI White Light 2021-06-01



SDO/HMI Quick-Look Continuum: 20210601_114500

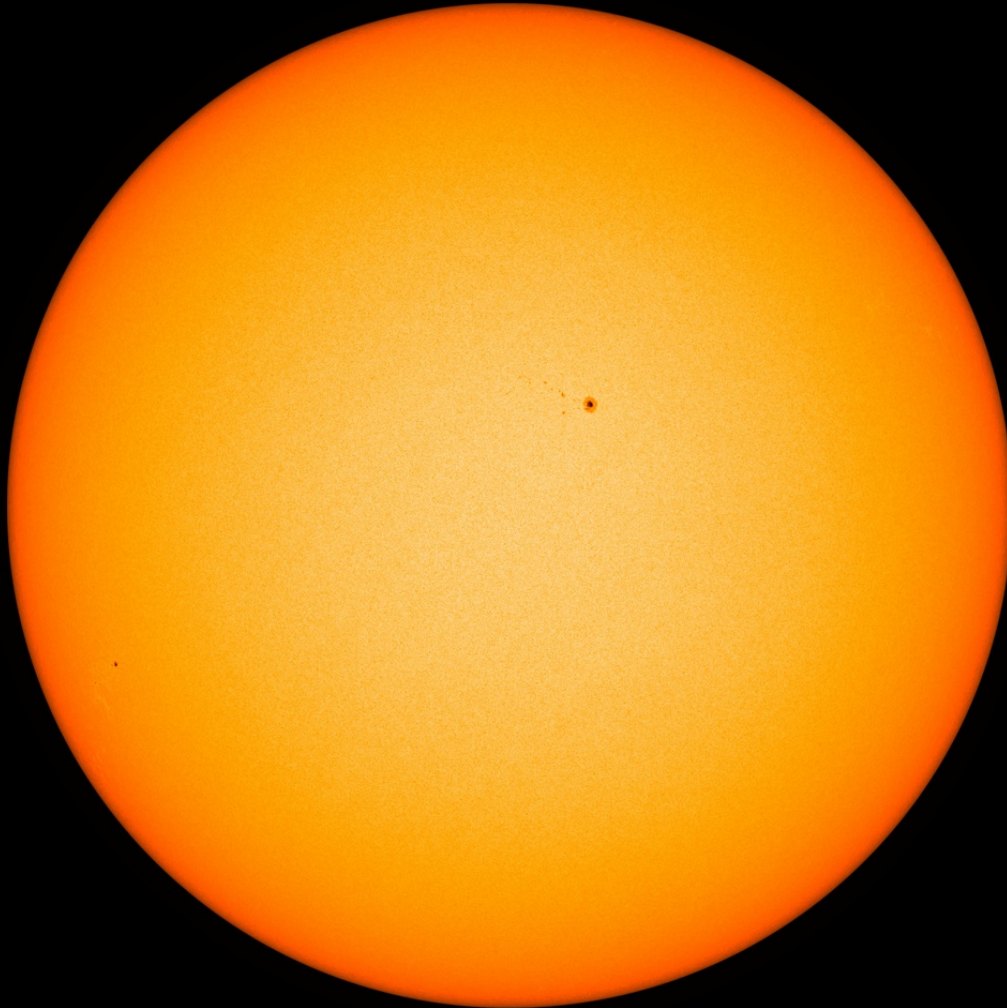
SDO/HMI Magnetogram 2021-06-01



SDO/HMI Quick-Look Magnetogram: 20210601_114500

Solar active regions

SDO/HMI White Light 2021-06-02



SDO/HMI Quick-Look Continuum: 20210602_120000

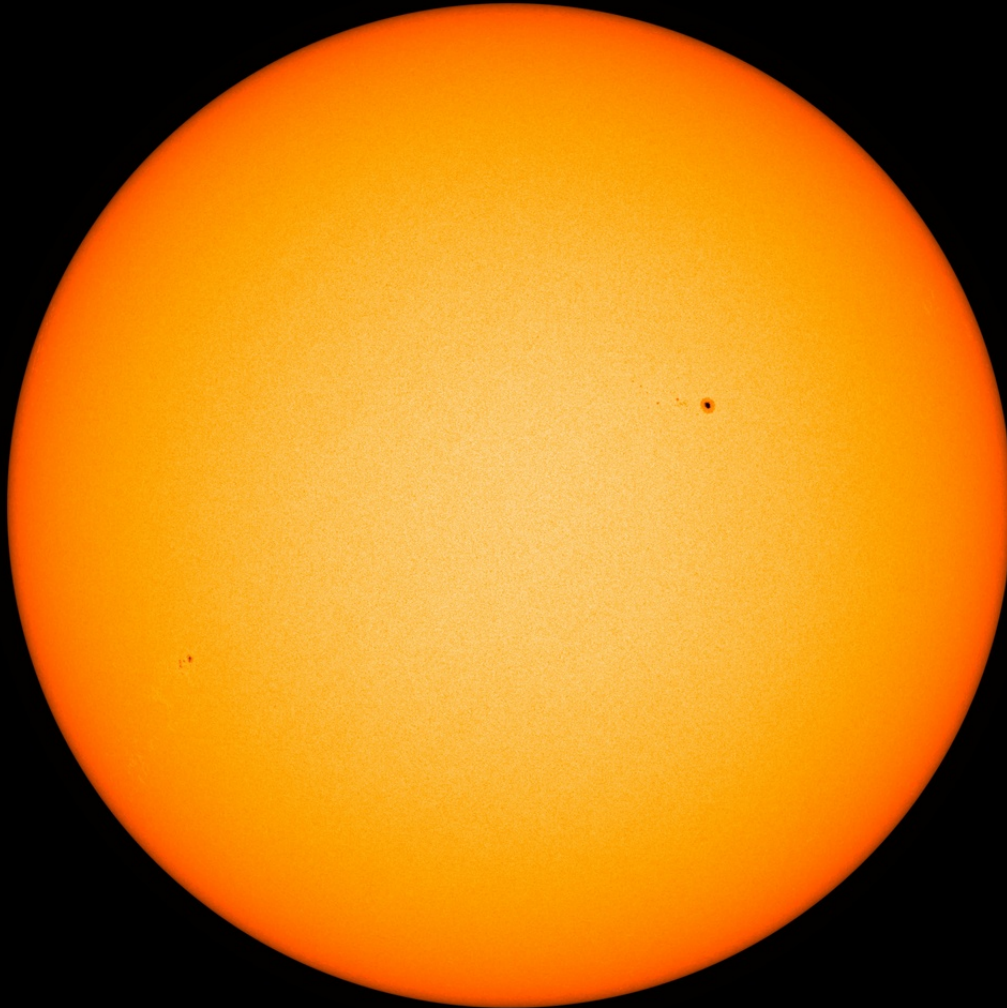
SDO/HMI Magnetogram 2021-06-02



SDO/HMI Quick-Look Magnetogram: 20210602_120000

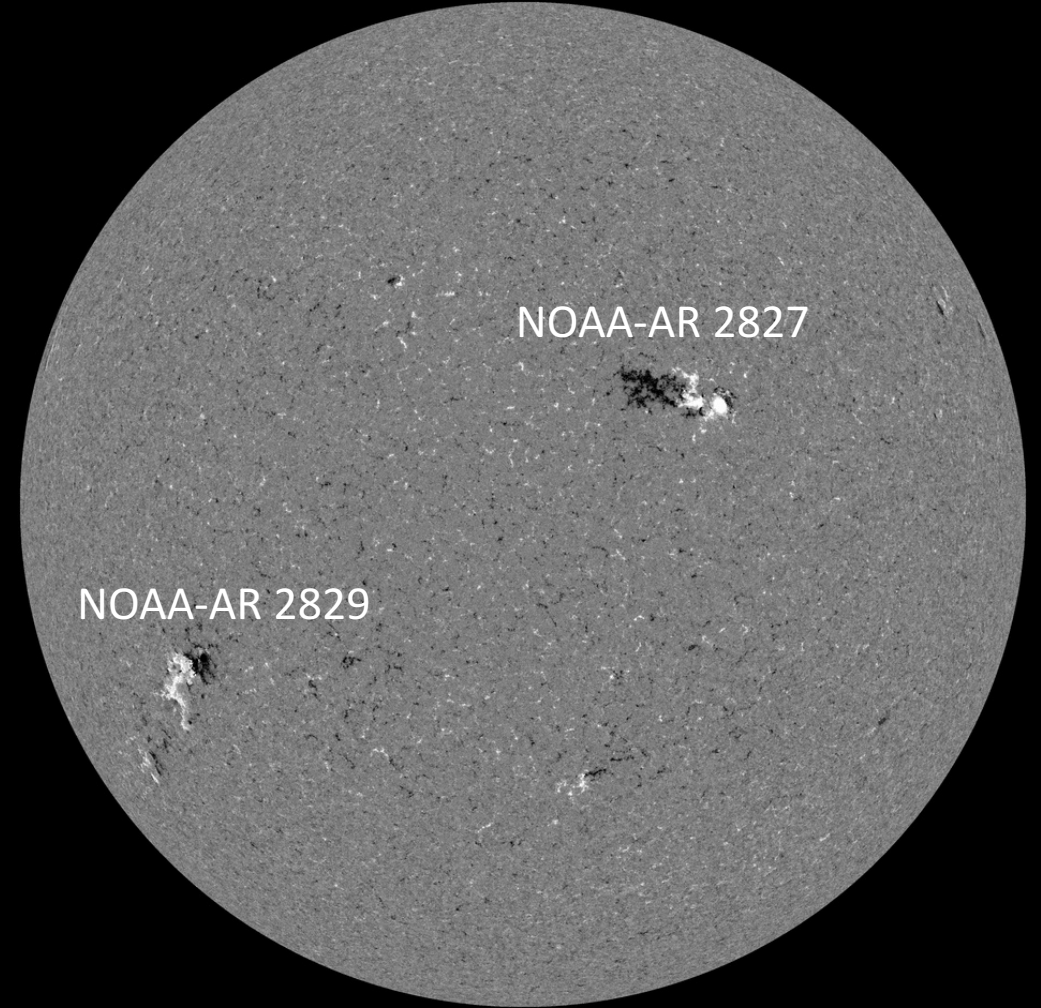
Solar active regions

SDO/HMI White Light 2021-06-03



SDO/HMI Quick-Look Continuum: 20210603_114500

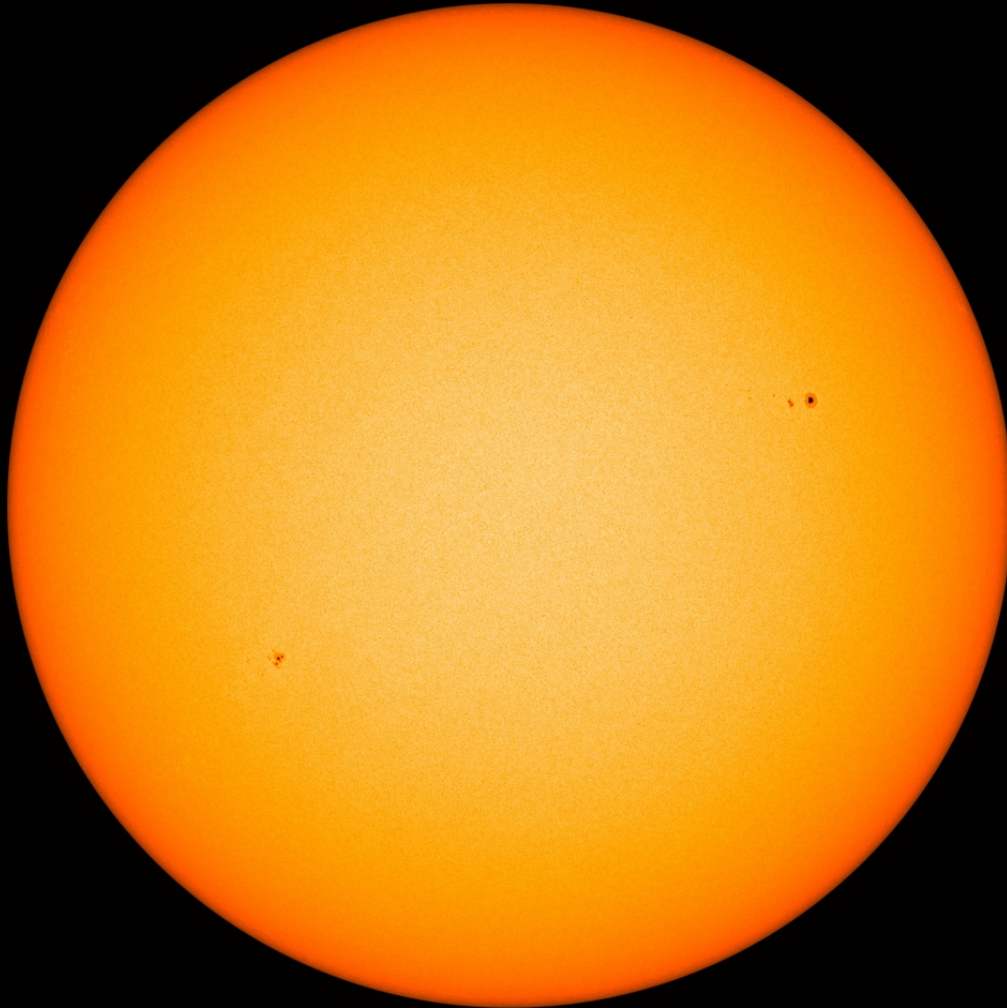
SDO/HMI Magnetogram 2021-06-03



SDO/HMI Quick-Look Magnetogram: 20210603_114500

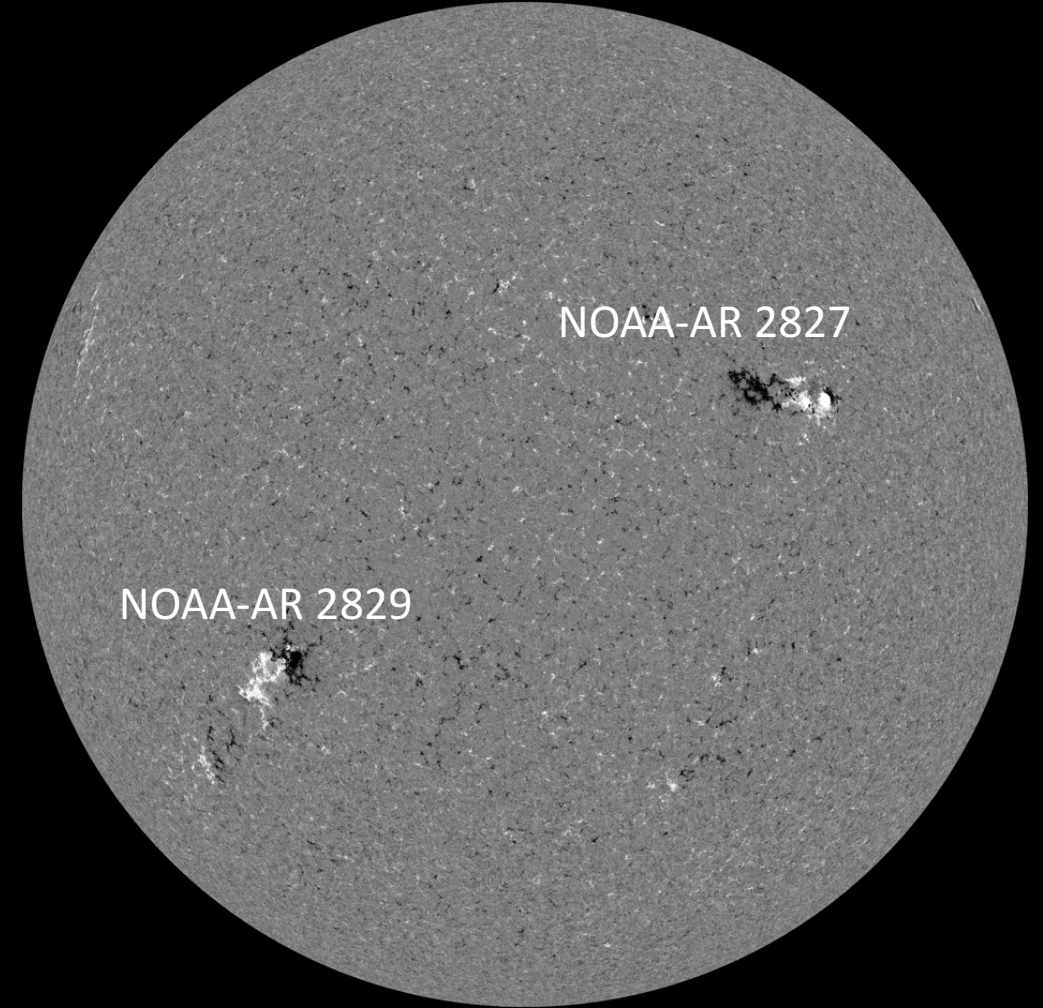
Solar active regions

SDO/HMI White Light 2021-06-04



SDO/HMI Quick-Look Continuum: 20210604_114500

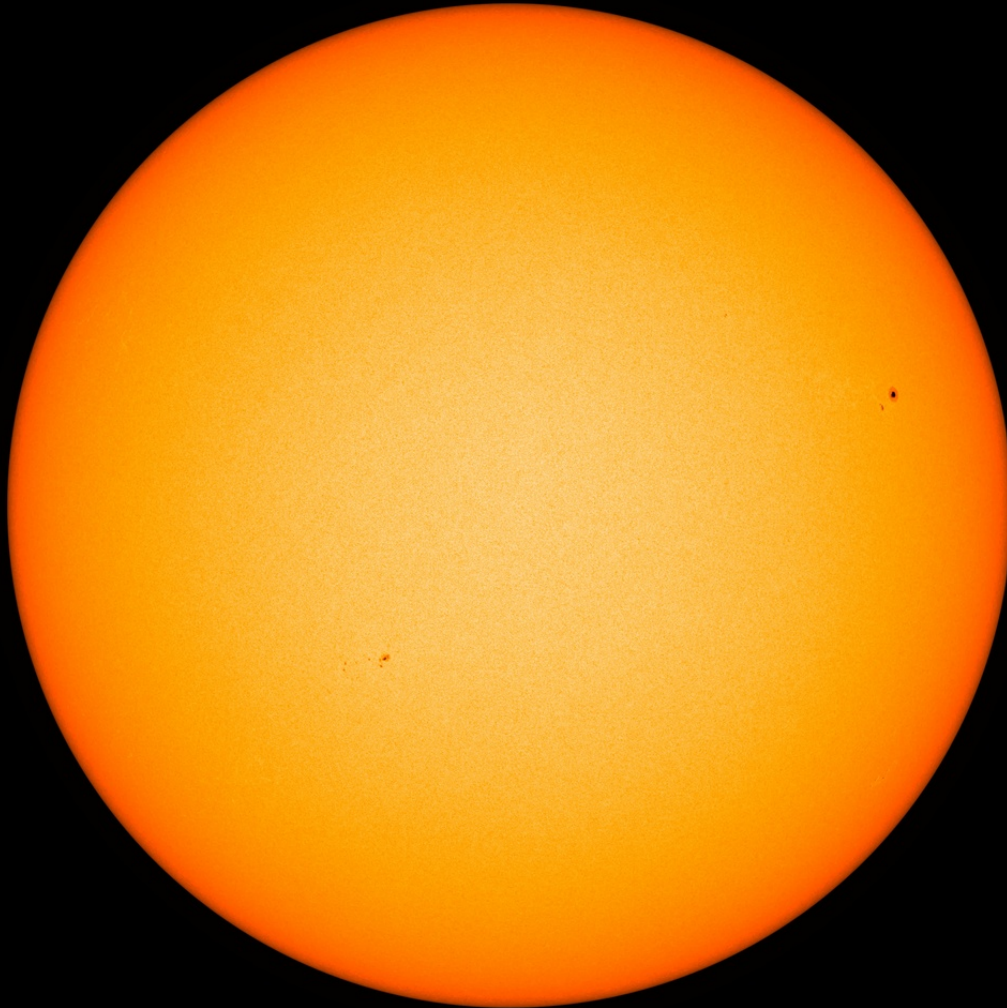
SDO/HMI Magnetogram 2021-06-04



SDO/HMI Quick-Look Magnetogram: 20210604_114500

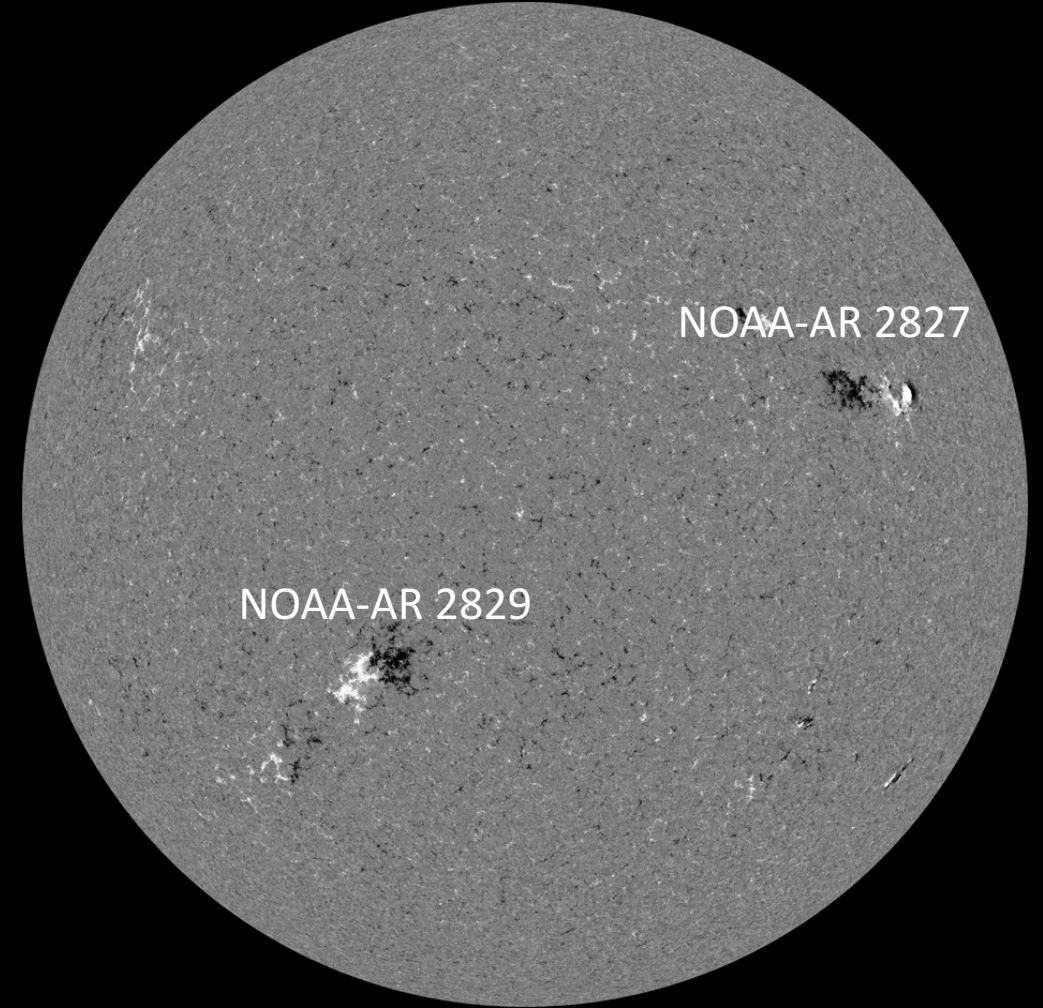
Solar active regions

SDO/HMI White Light 2021-06-05



SDO/HMI Quick-Look Continuum: 20210605_114500

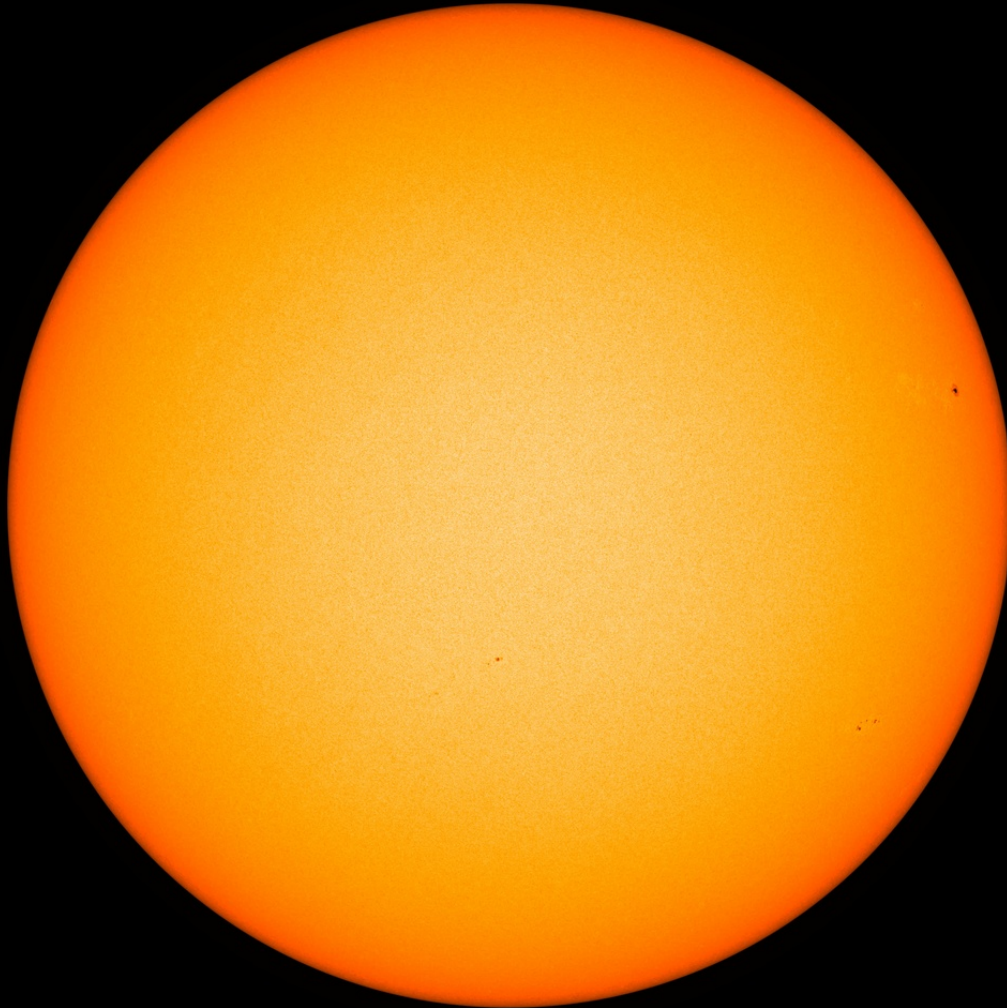
SDO/HMI Magnetogram 2021-06-05



SDO/HMI Quick-Look Magnetogram: 20210605_114500

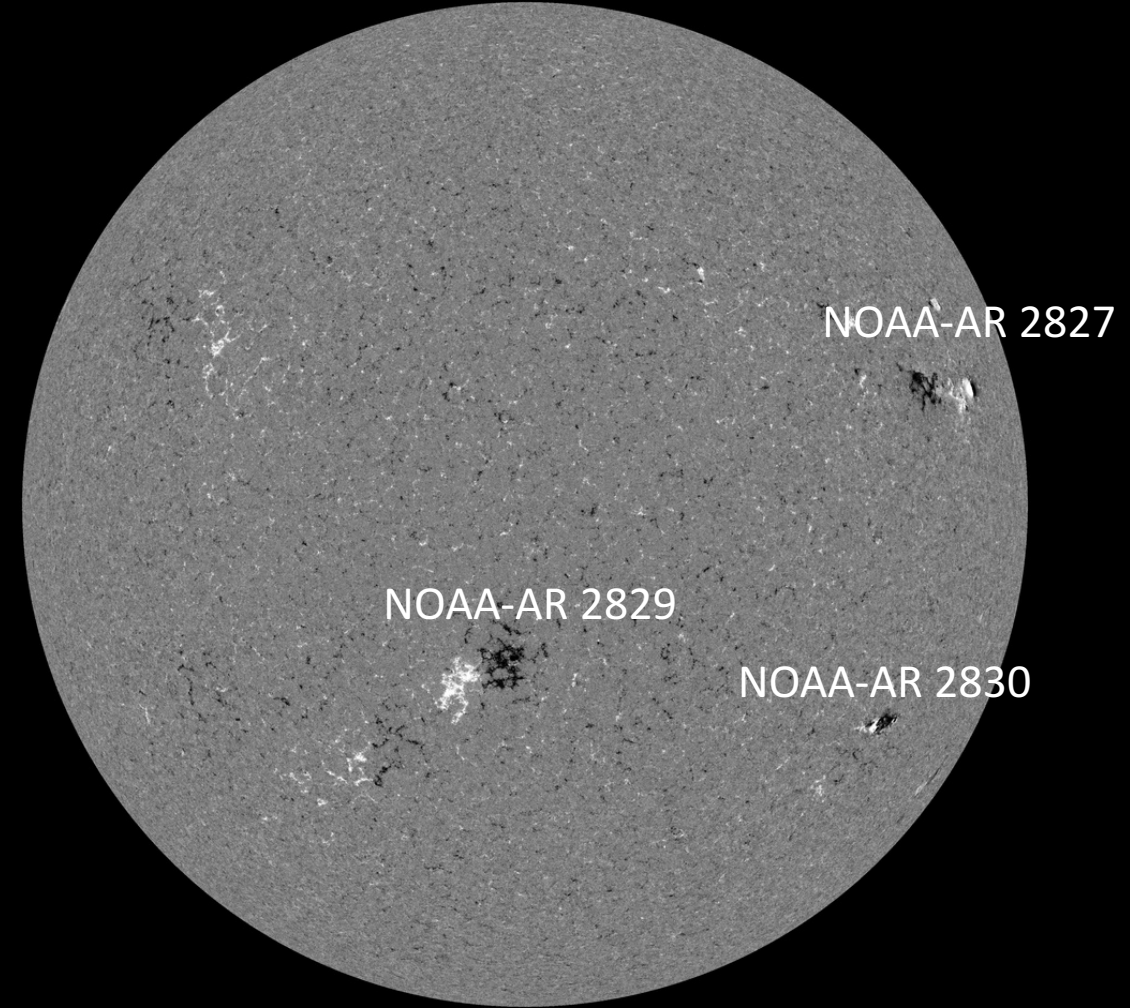
Solar active regions

SDO/HMI White Light 2021-06-06



SDO/HMI Quick-Look Continuum: 20210606_114500

SDO/HMI Magnetogram 2021-06-06

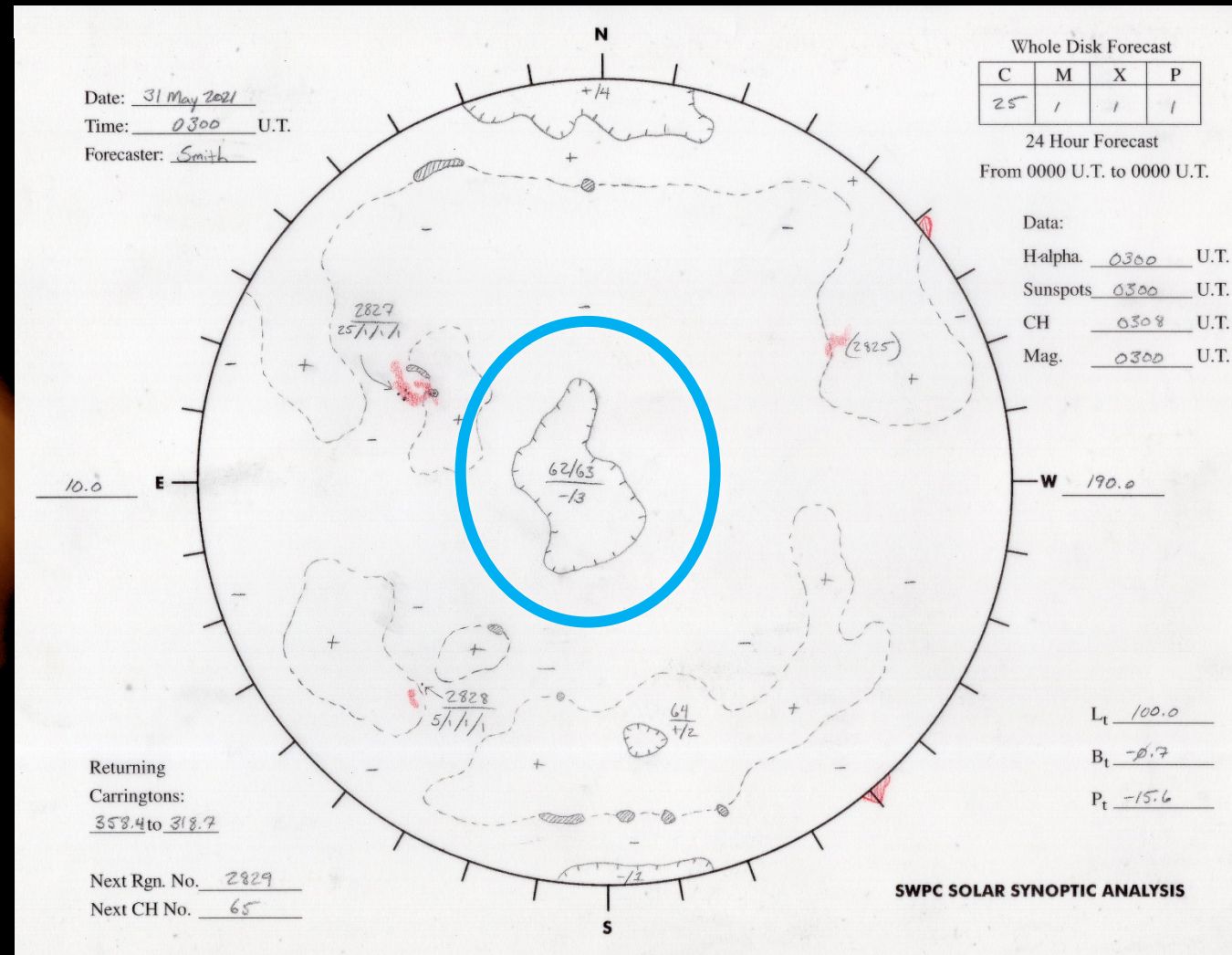
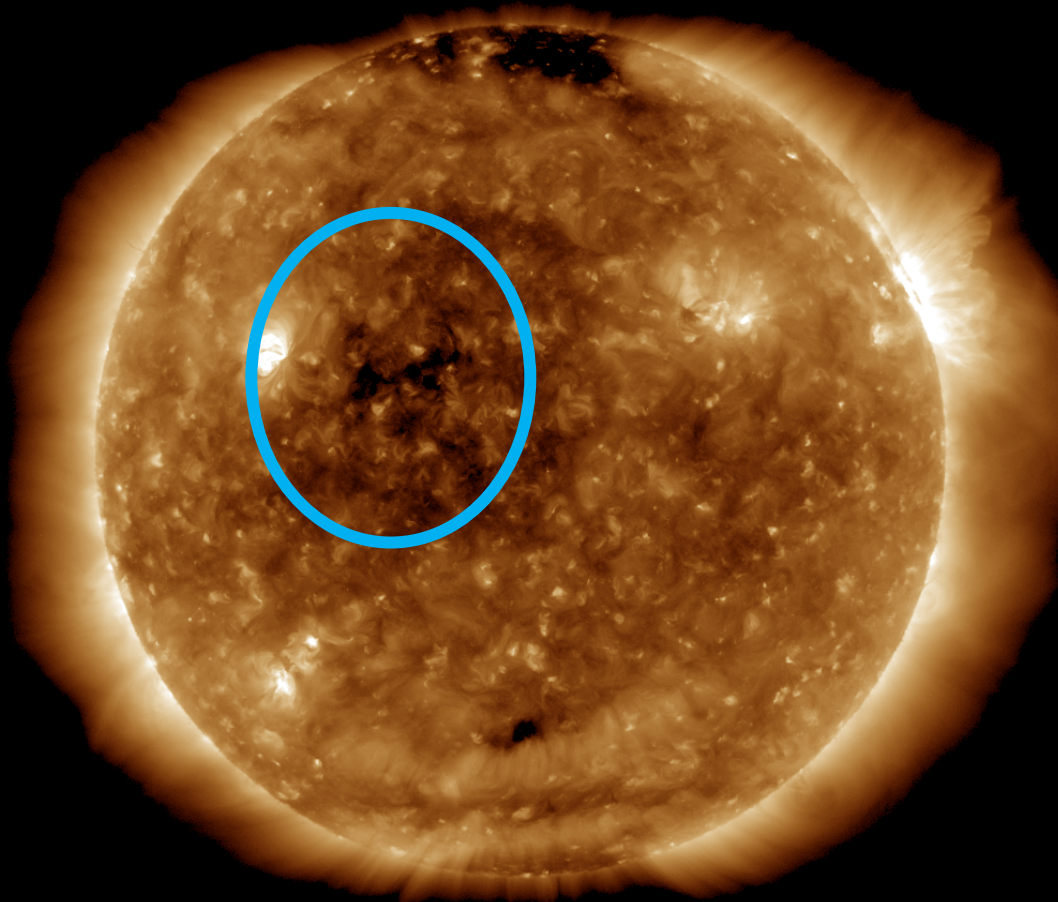


SDO/HMI Quick-Look Magnetogram: 20210606_114500

Coronal holes

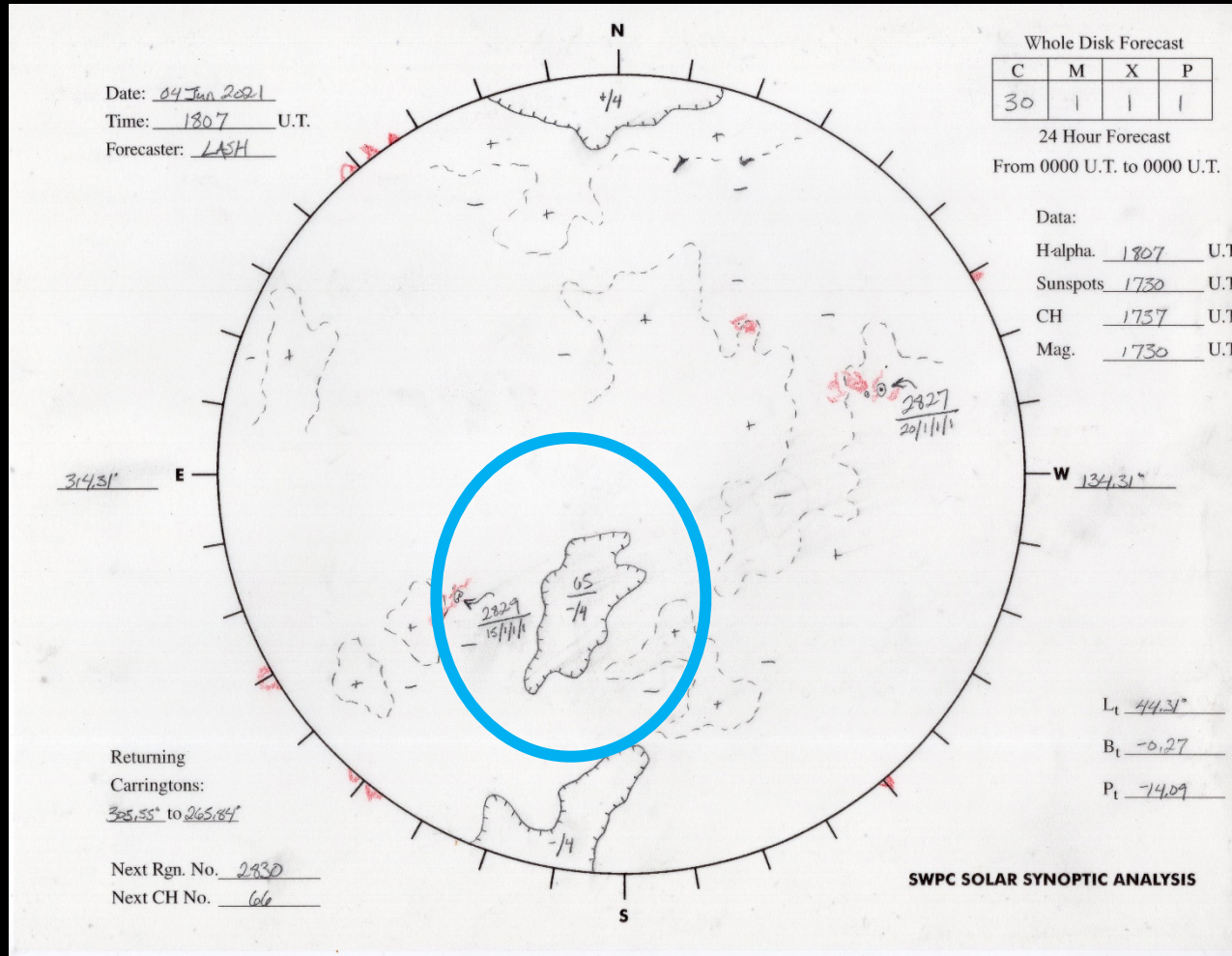
SDO/AIA 19.3 nm 2021-05-30

SDO/AIA AIA 193Å 2021-05-30T12:00:05.843



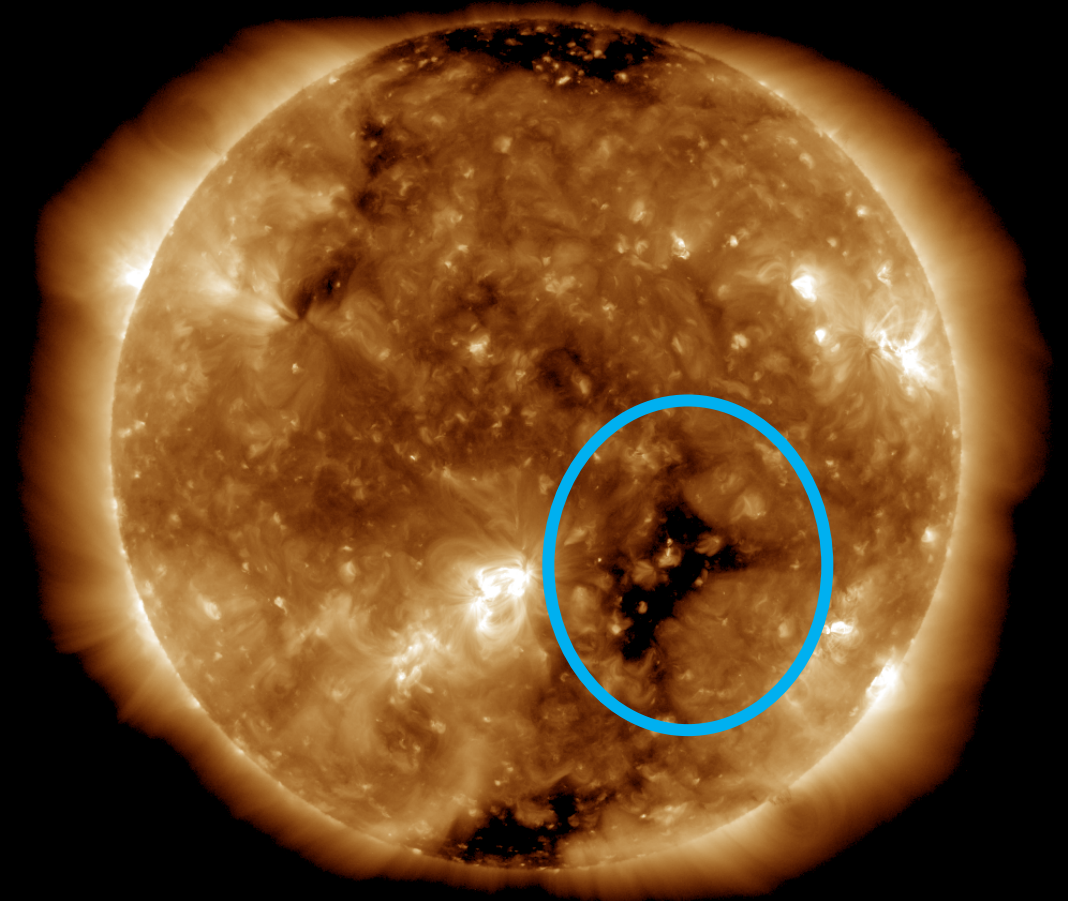
The HSS from this CH never impact the solar wind condition near Earth

Coronal holes



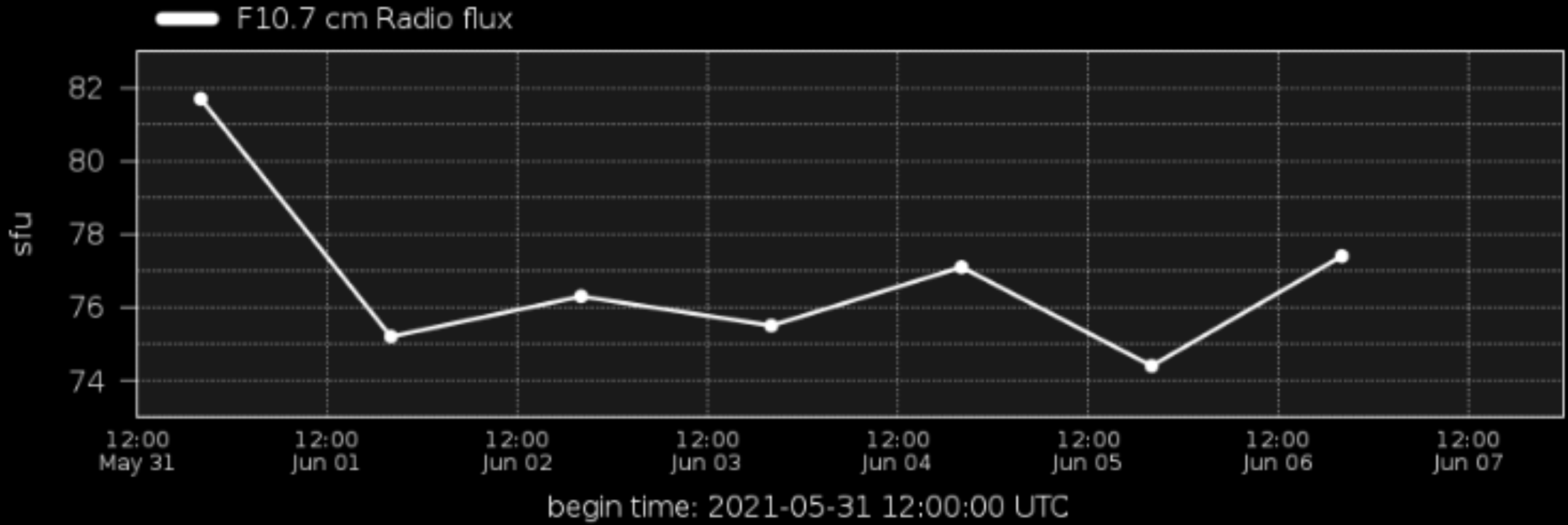
SDO/AIA 19.3 nm 2021-06-06

SDO/AIA AIA 193Å 2021-06-06T12:00:05.843

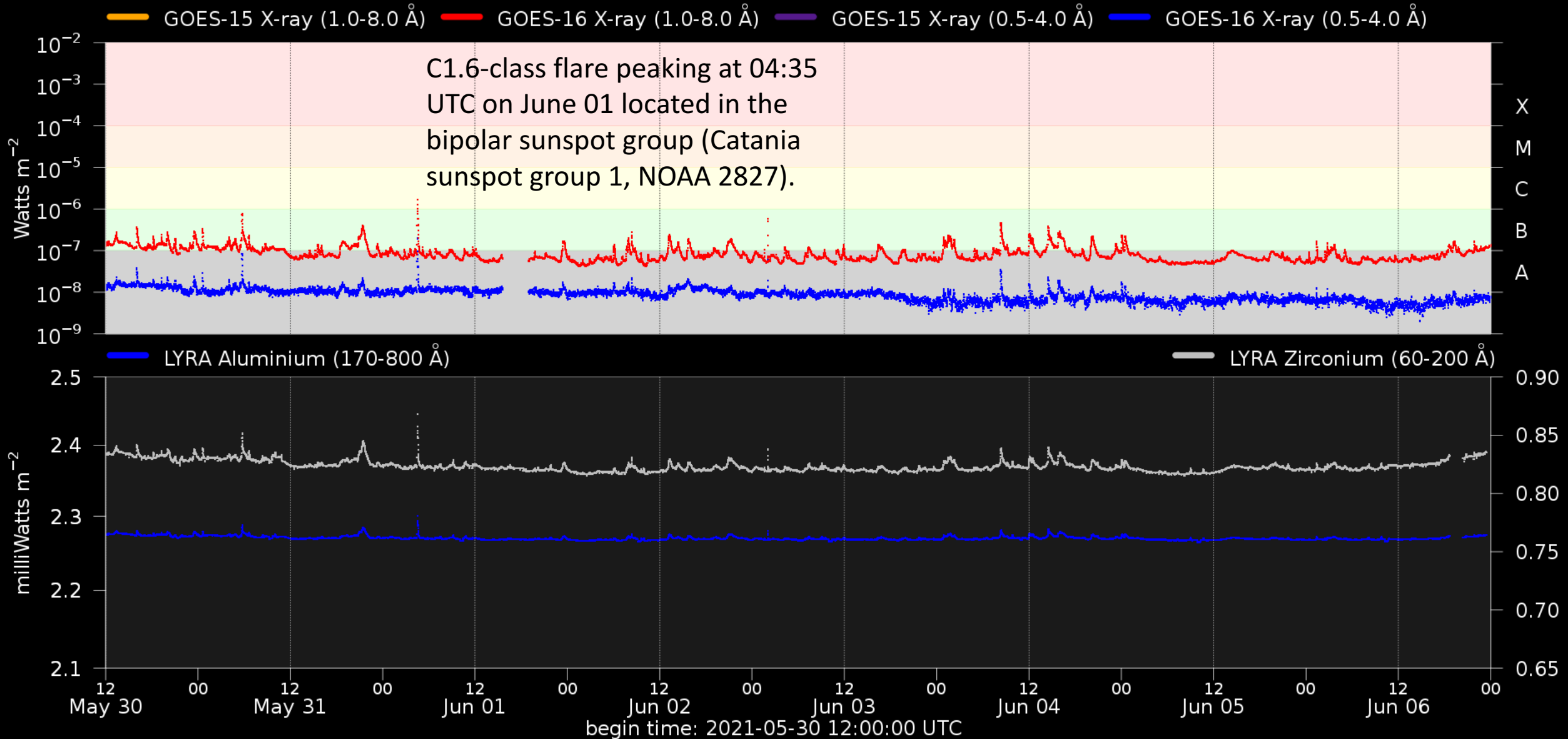


Will the HSS coming from this CH impact the Solar wind condition near Earth?

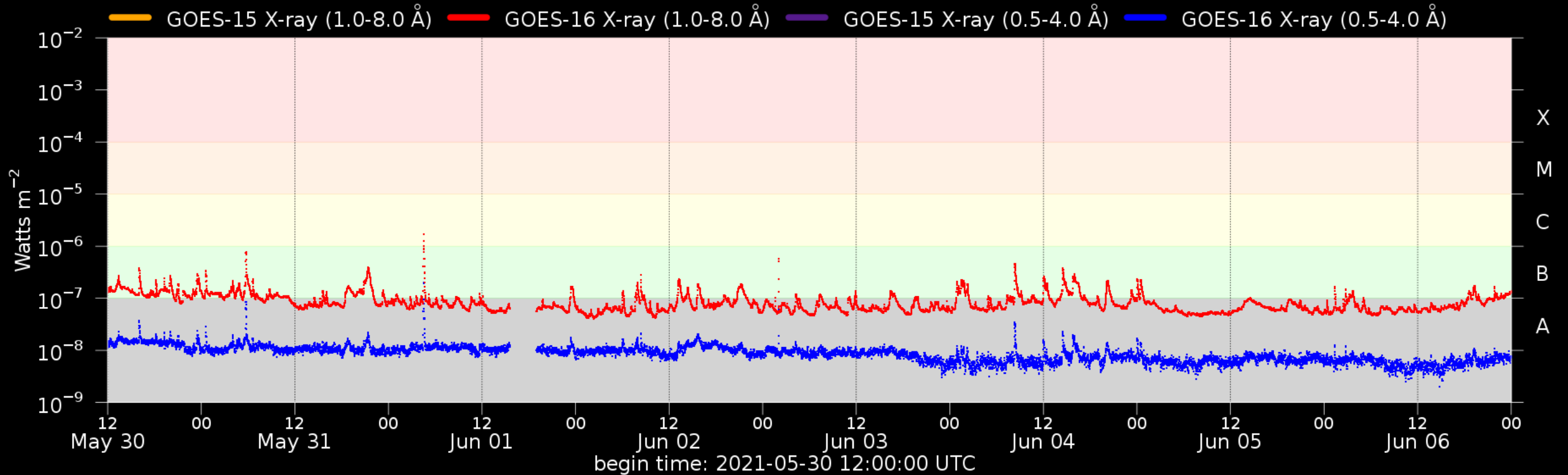
Solar F10.7cm radio flux



Solar X-Ray and UV flux



Flaring activity



Probabilities (%) and occurrences (#) of C/M/X-flares issued at 12:30 and over the next 24h:

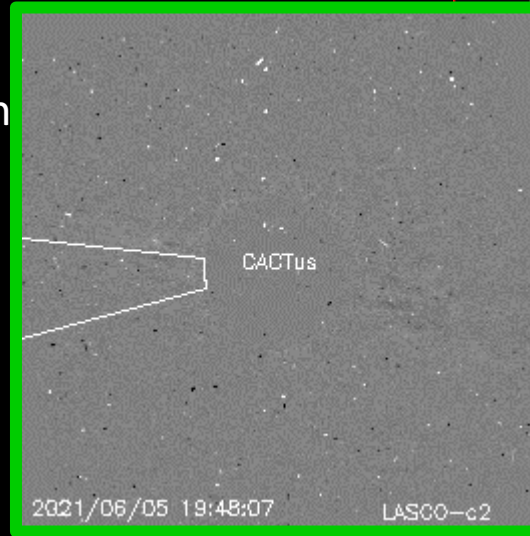
Issue date	2021-05-30	2021-05-31	2021-06-01	2021-06-02	2021-06-03	2021-06-04	2021-06-05	2021-06-06
Probability (%)	50 15 01	25 05 01	50 10 01	20 01 01	14 01 01	50 05 01	30 05 01	35 05 01
Observed (#)	00 00 00	01 00 00	00 00 00	00 00 00	00 00 00	00 00 00	00 00 00	00 00 00

Coronal Mass Ejections

A nice solar dimming was observed on June 05, between 18:57 UTC and 20:15 UTC, near the bipolar sunspot region (Catania sunspot group 2, NOAA-AR 2829) located near longitude -32 degrees and latitude -32 degrees. The associated coronal mass ejection was observed by SOHO/LASCO at 20:40 UTC. No Earth-directed component was identified.

See movie:

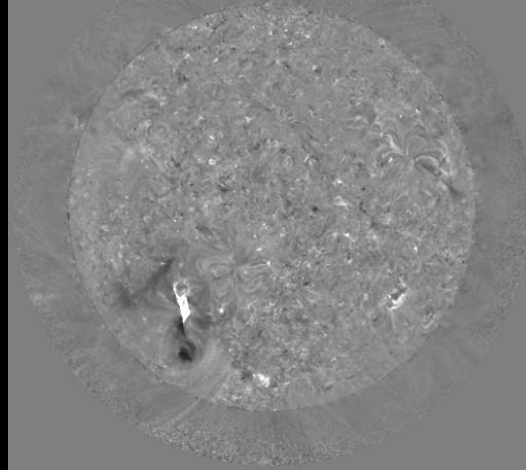
<https://wwwbis.sidc.be/solardemon/dimmings.php?did=2428&science=0>



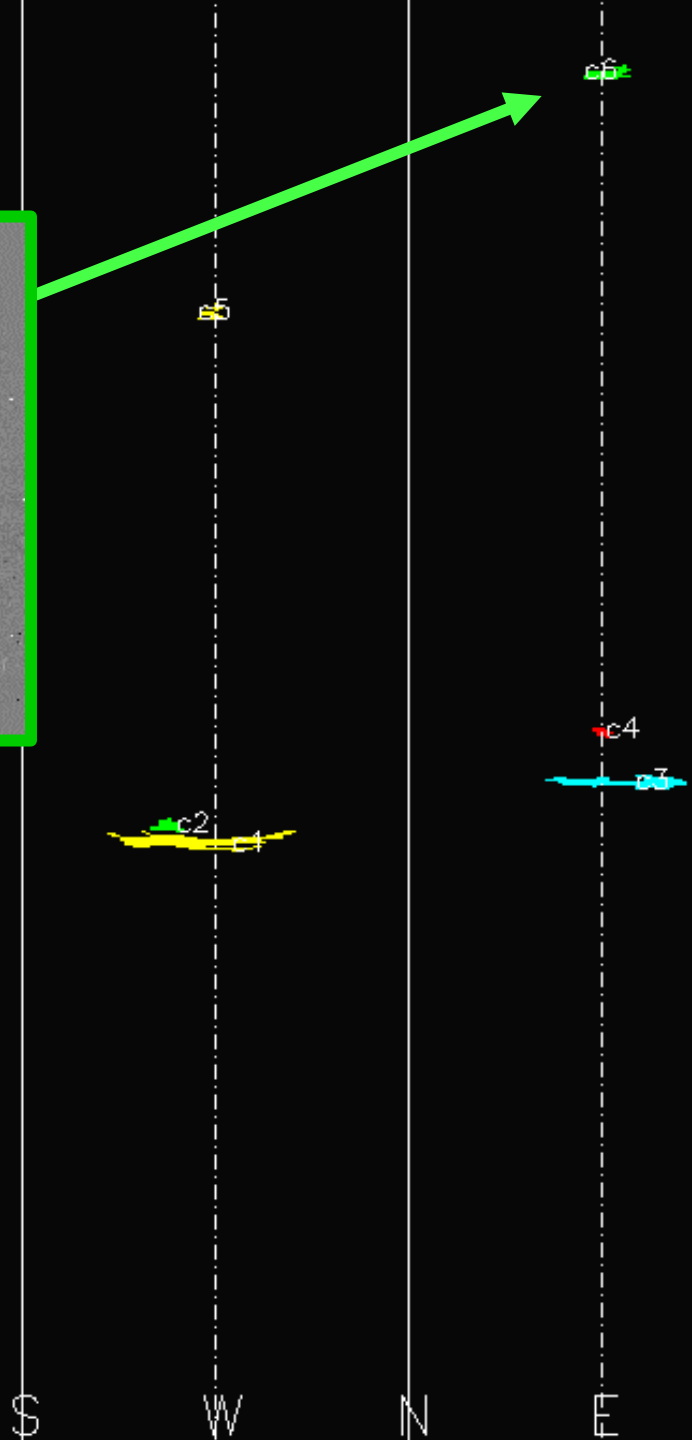
2021-06-05 19:48:11 (21.1 nm, dimming 2428, seq 18)
intensity -0.3 * 10^-6



2021-06-05 20:15:11 (21.1 nm, dimming 2428, seq 27)
intensity -0.3 * 10^-6



2021-06-05 19:27:11 (21.1 nm, dimming 2428, seq 11)
totl -0.1 * 10^-6



01:25	06/06
21:48	06/05
18:48	06/05
16:00	06/05
12:24	06/05
09:36	06/05
06:48	06/05
03:24	06/05
00:06	06/05
21:12	06/04
18:18	06/04
14:48	06/04
11:54	06/04
09:12	06/04
05:12	06/04
00:36	06/04
21:24	06/03
18:24	06/03
15:48	06/03
12:24	06/03
09:24	06/03
06:24	06/03
03:36	06/03
00:00	06/03
20:12	06/02
17:36	06/02
13:48	06/02
10:18	06/02
07:12	06/02
04:36	06/02
01:48	06/02
22:12	06/01
19:12	06/01
16:54	06/01
14:15	06/01
10:24	06/01
07:24	06/01
04:36	06/01
01:25	06/01
21:24	05/31
18:12	05/31
15:24	05/31
11:48	05/31
09:12	05/31
06:00	05/31

Solar Wind and

Geomagnetic Activity



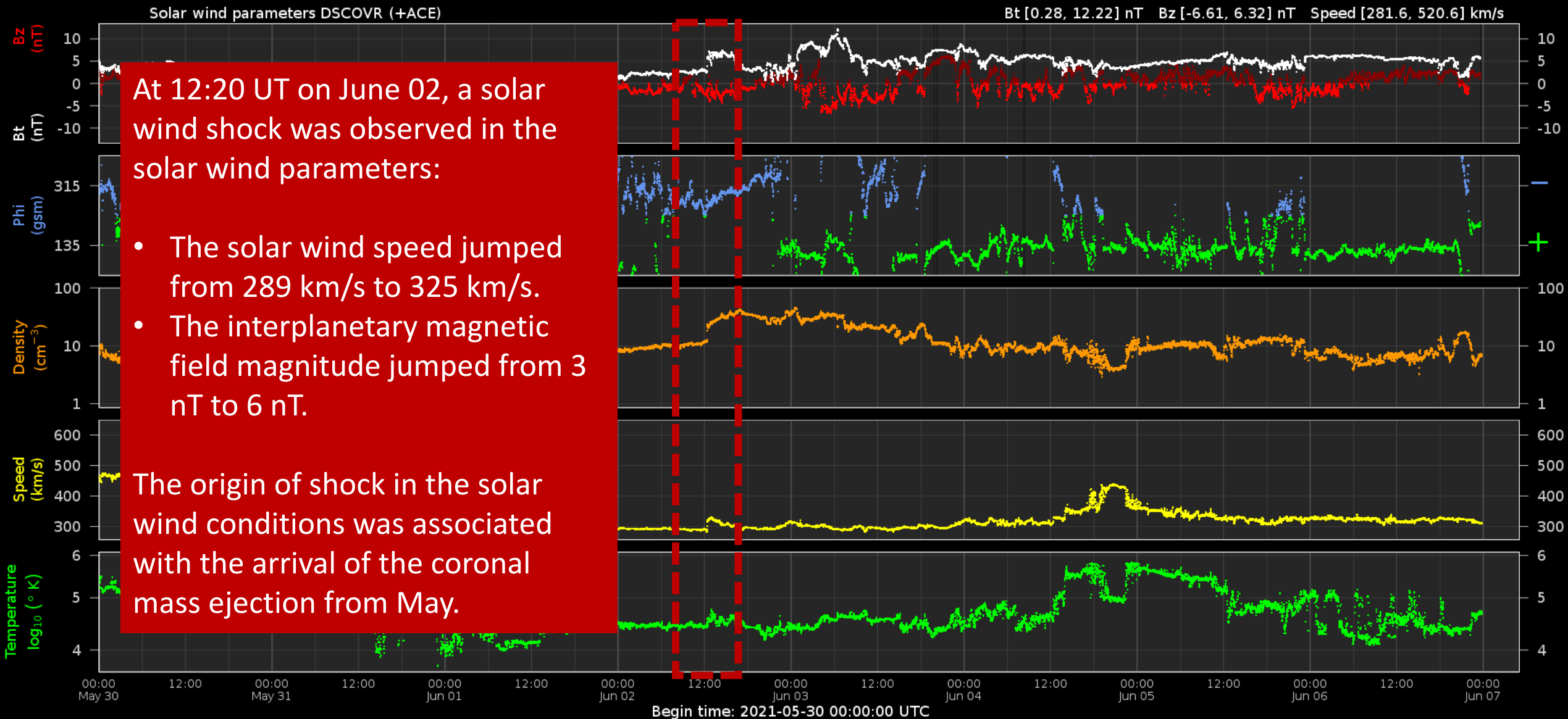
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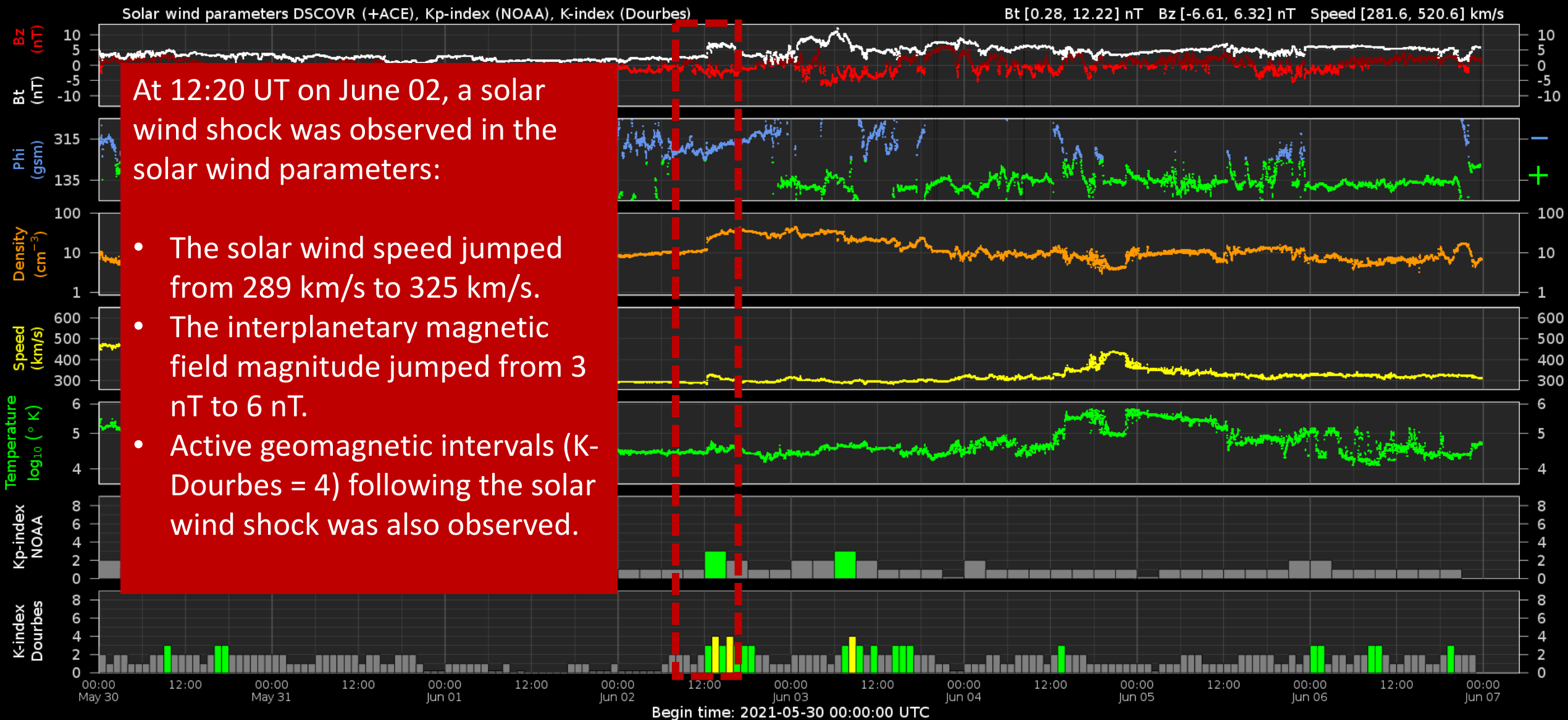
Solar wind parameters



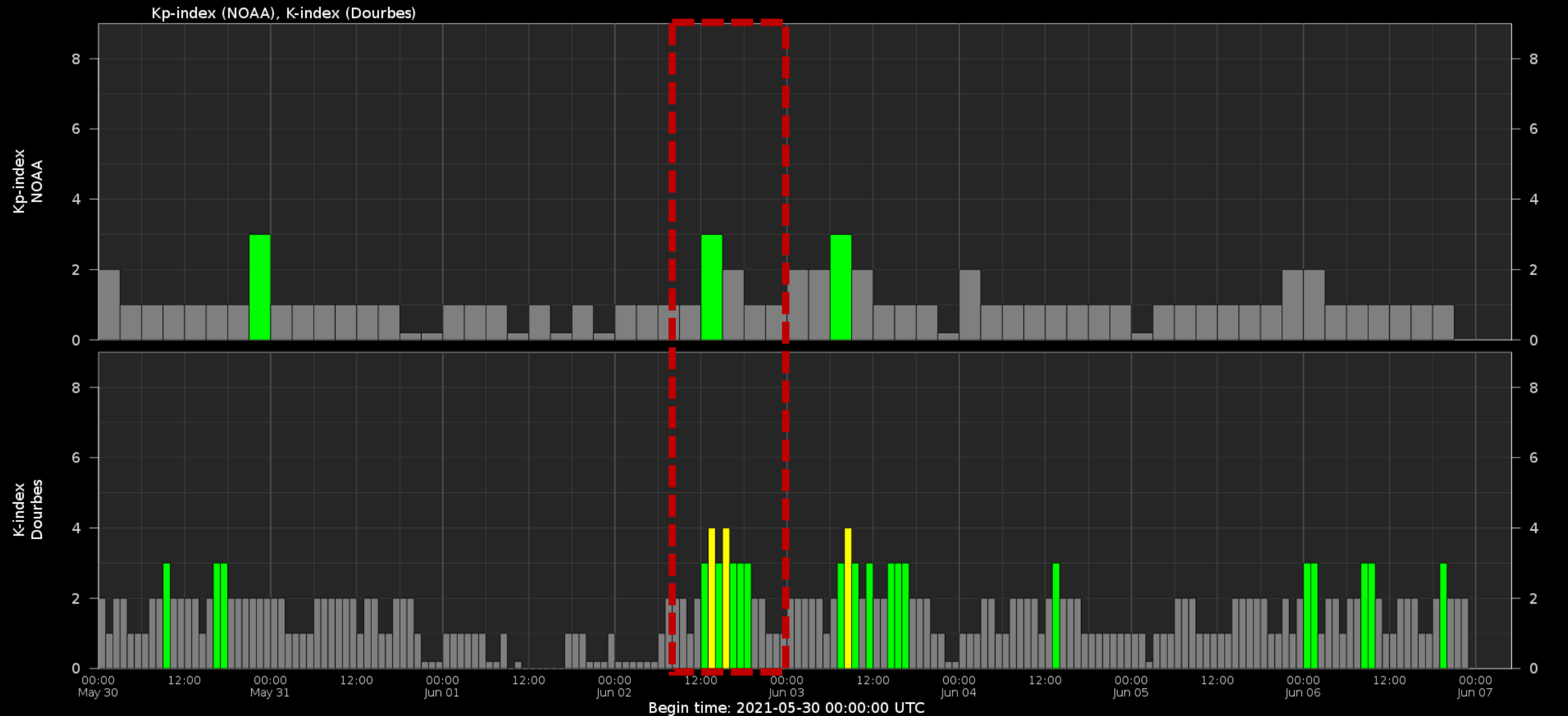
Solar wind parameters



Solar wind parameters & K-indices



Geomagnetic activity (K-indexes)



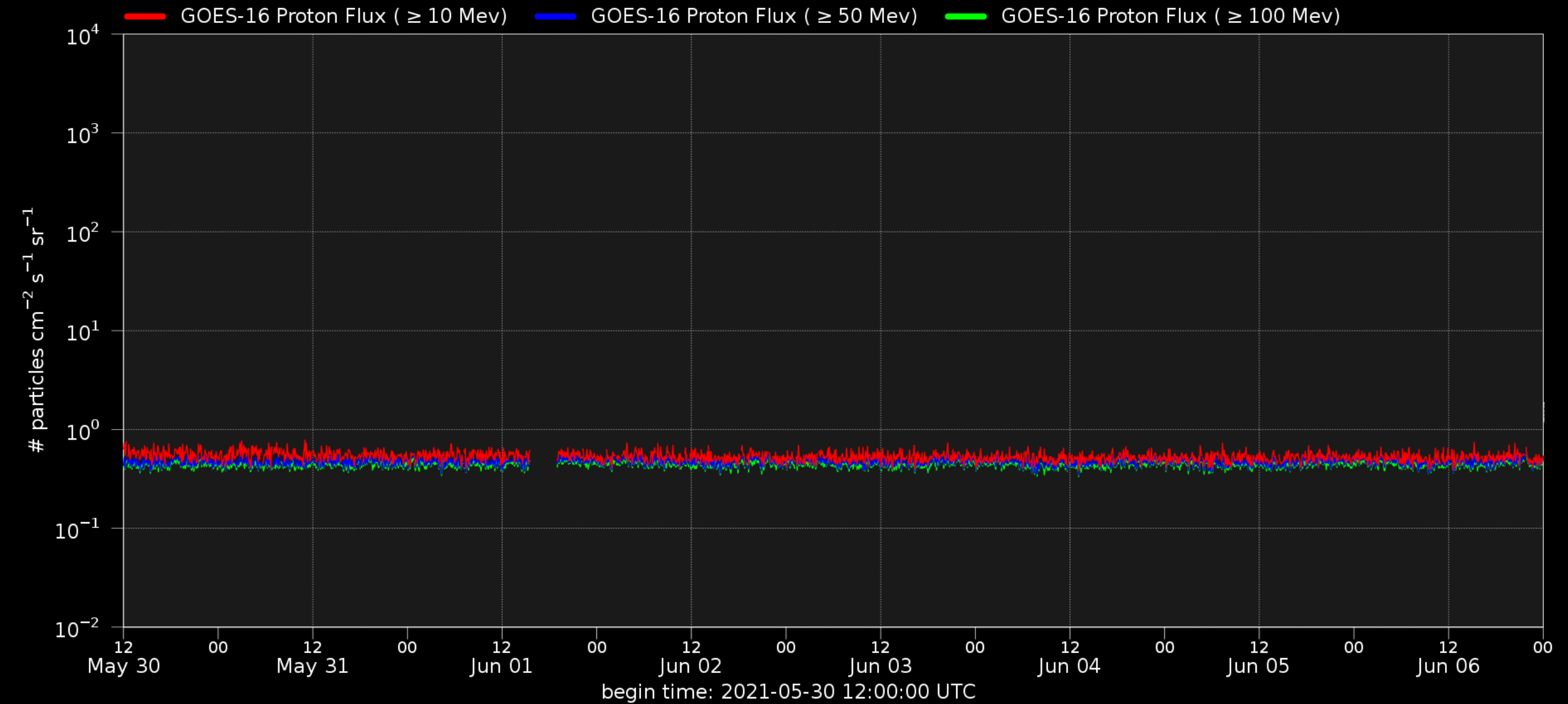
Energetic Particles



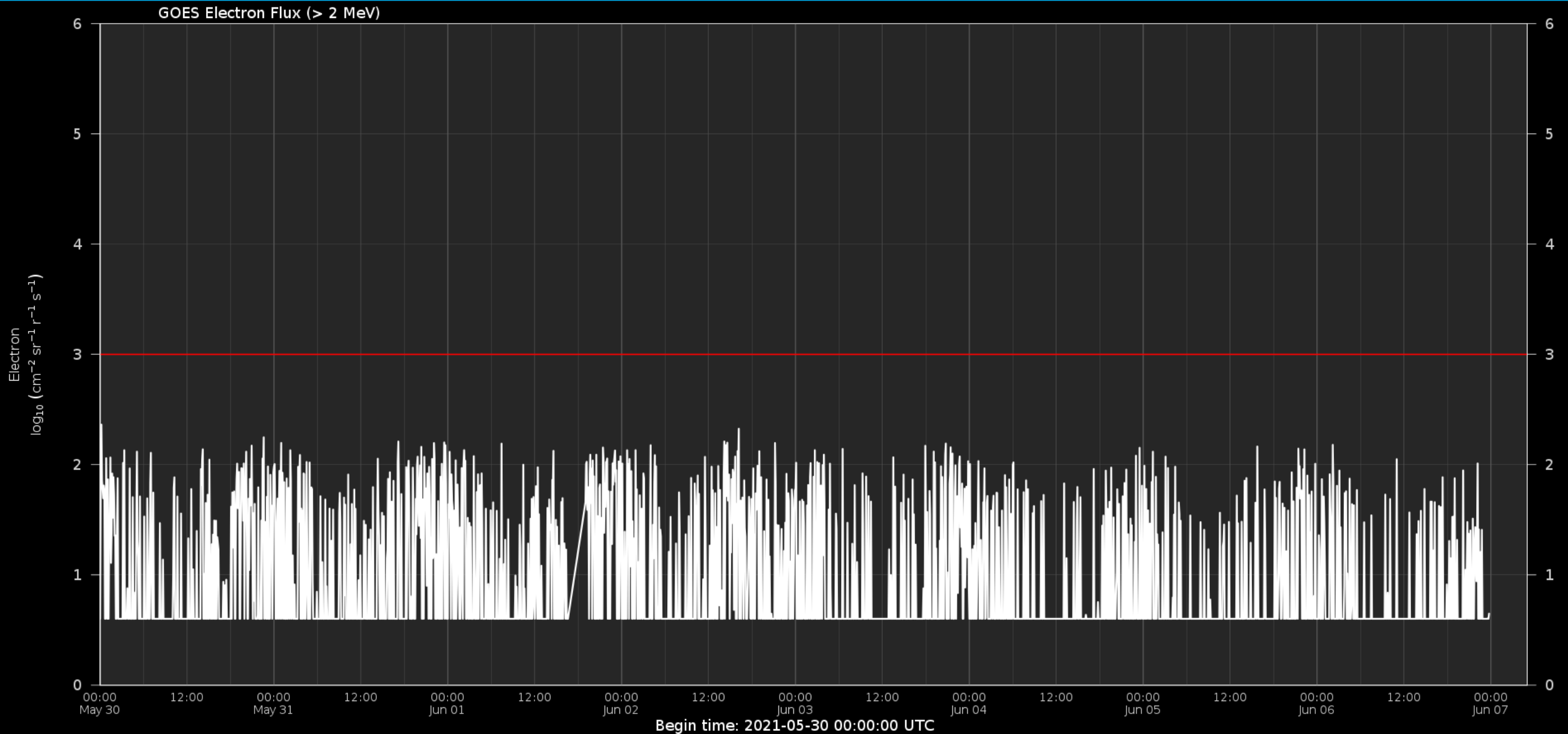
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Solar proton flux



Electron flux at GEO



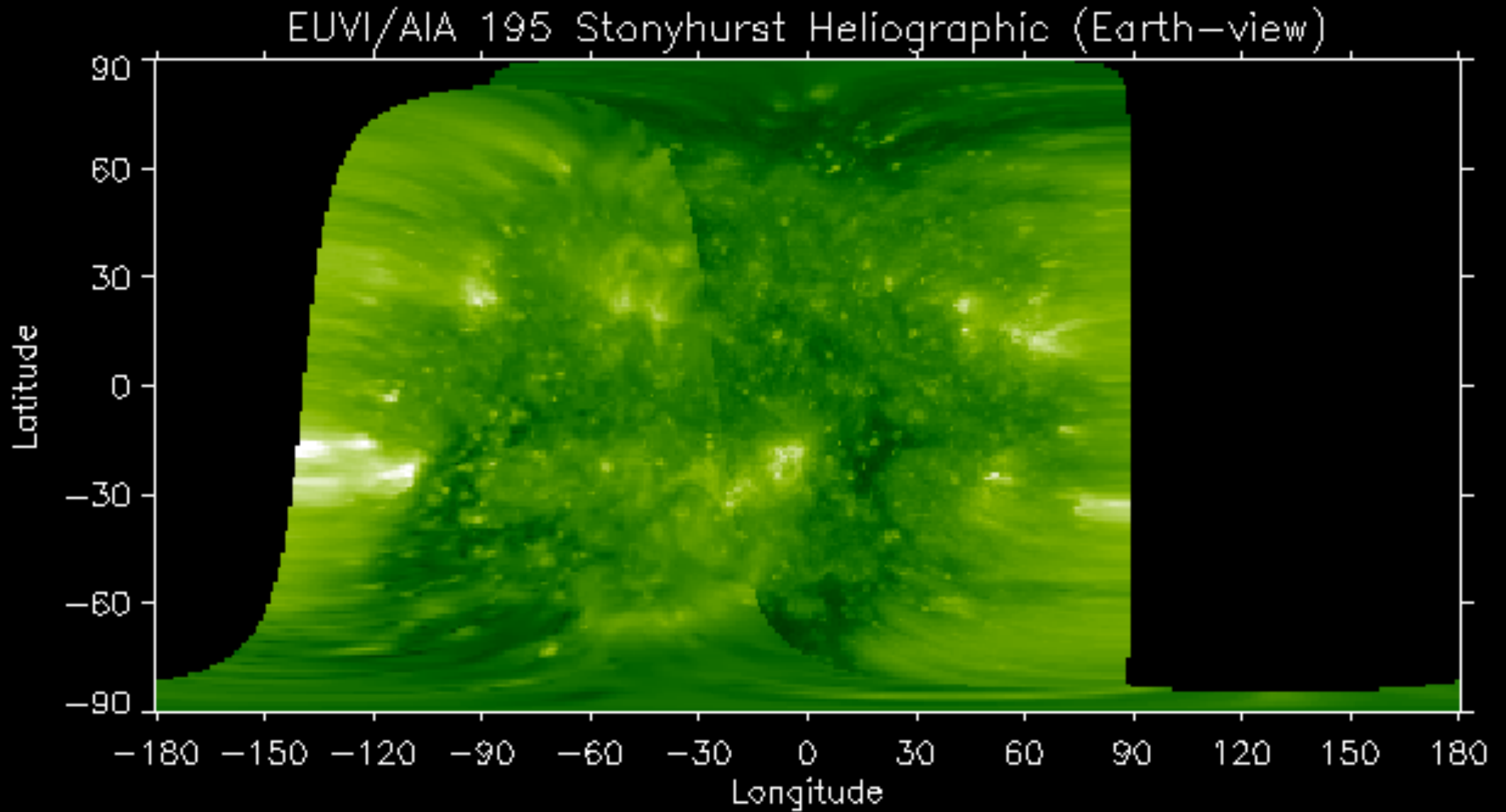
Outlook



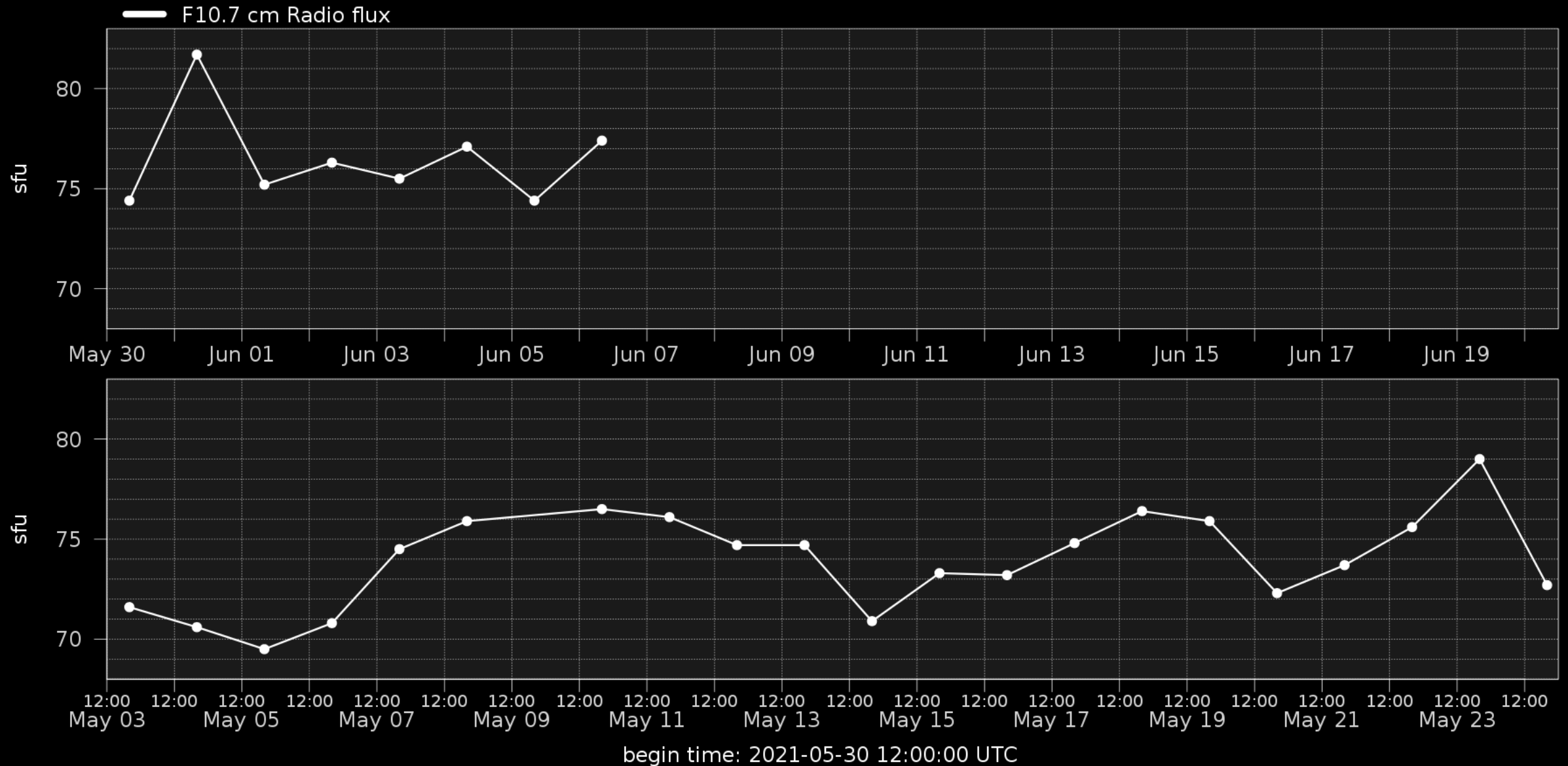
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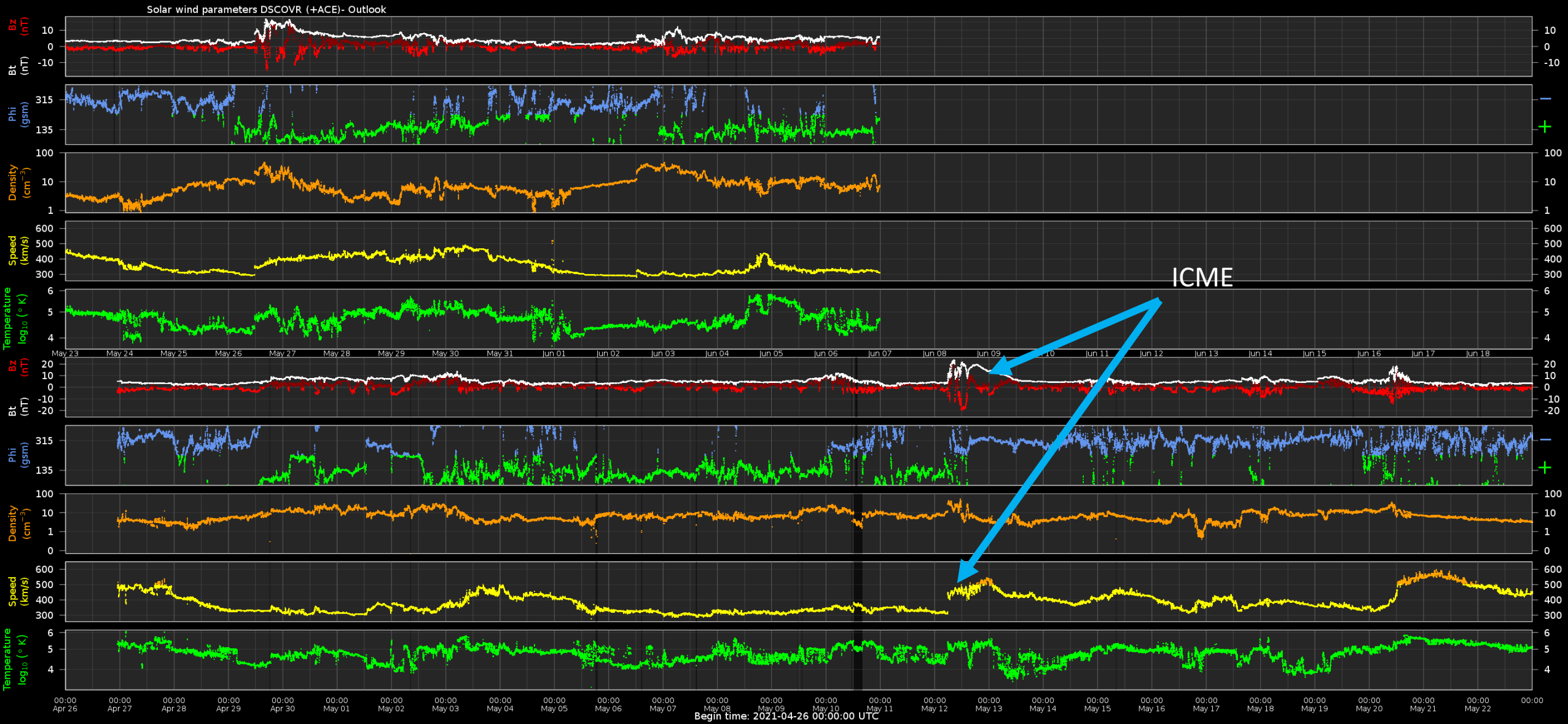
Outlook: Solar activity



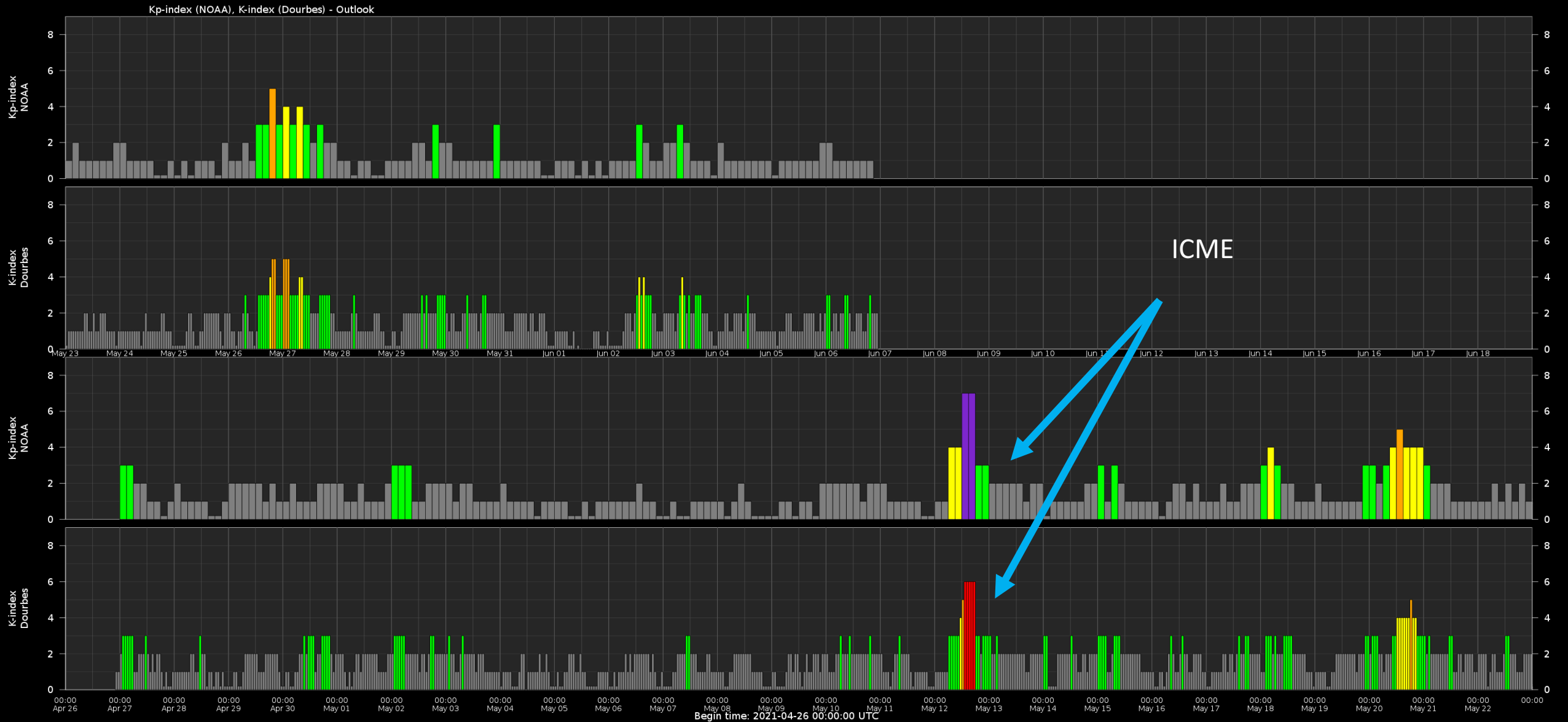
Outlook: Solar F10.7cm radio flux



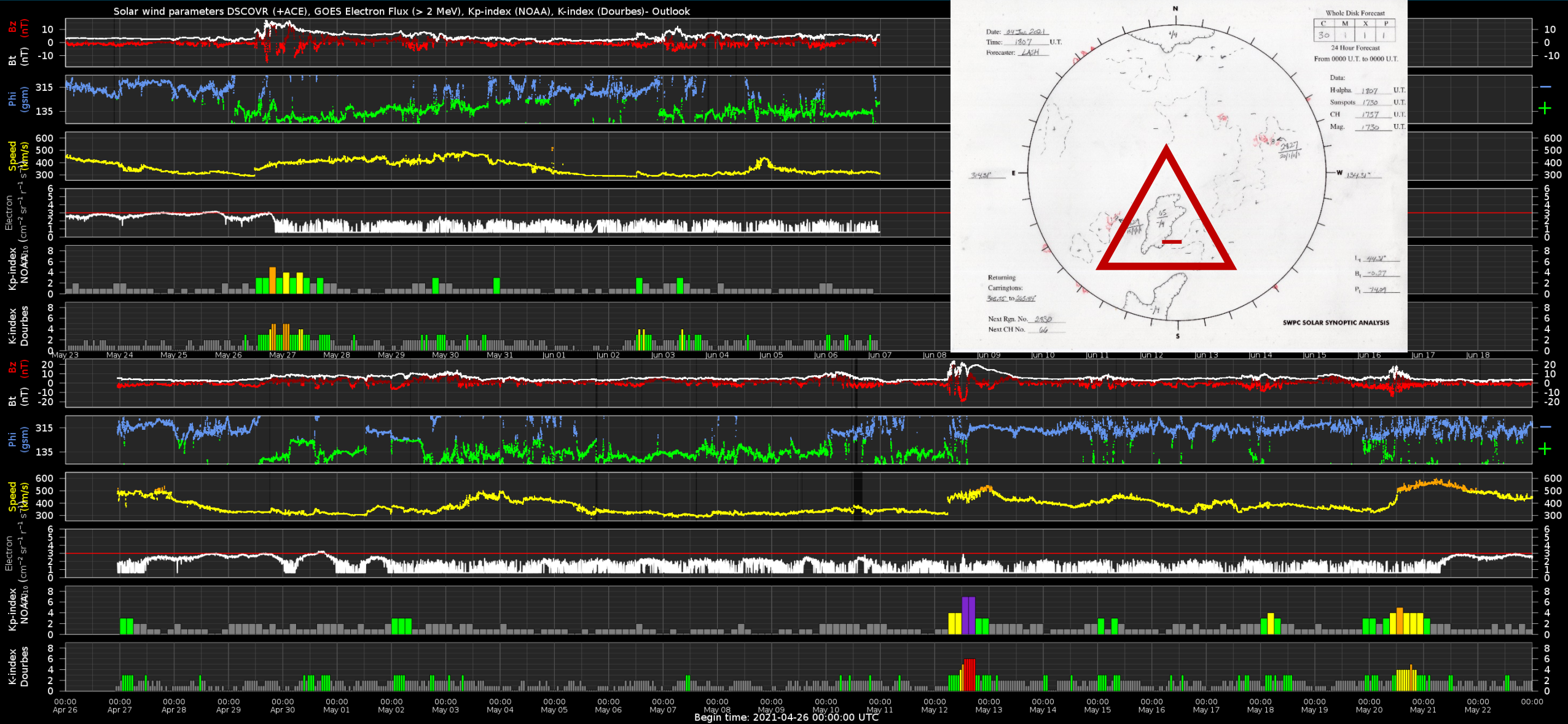
Outlook: Solar wind parameters



Outlook: Geomagnetic activity



Outlook: Electron Flux at GEO Outlook



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See you at our next briefing!

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