

SIDC Space Weather Briefing

06 June 2021 - 13 June 2021

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& the SIDC forecaster team



Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
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Summary Report

Solar activity from 2021-06-06 12:00 to 2021-06-13 23:59

Active regions	7 NOAA Ars: 2827, 2828, 2829, 2830, 2831, 2832, (2833)
Flares	# C-class flare: 6 # M-class flare: 0 # X-class flare: 0
Filament eruptions	None
Coronal Holes	Extension of southern polar coronal hole

Proton flux	nominal levels
Electron flux	below the 1000 pfu

Solar wind and geomagnetic conditions

ICME	Weak and slow ICME observed in the in situ observations at about 01:00 UT, June 11
SW Conditions	B : 0.58 - 12.47 nT // Bz: -11.98 nT to 10.65 nT // Speed: 304.5 - 556.2km/s
K-indices	max K-index (Dourbes): 4 max Kp-index (NOAA): 4

Solar Activity

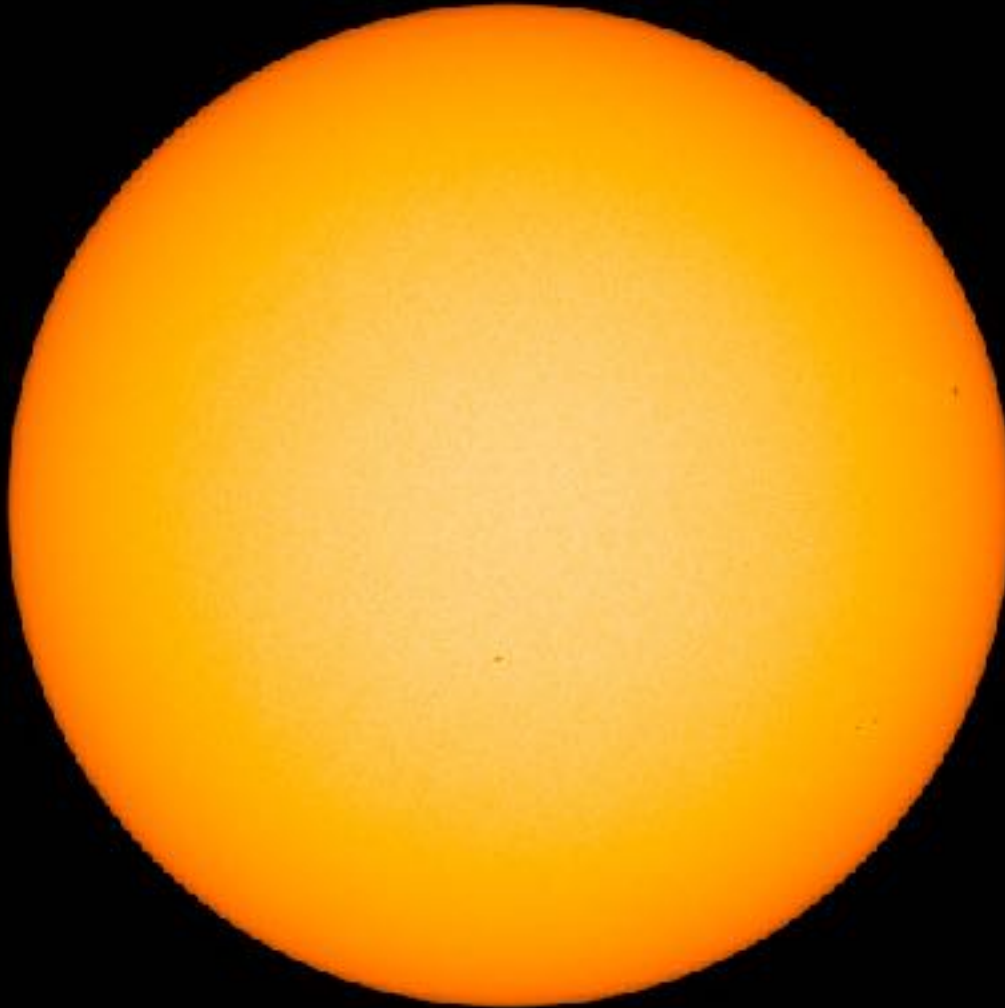


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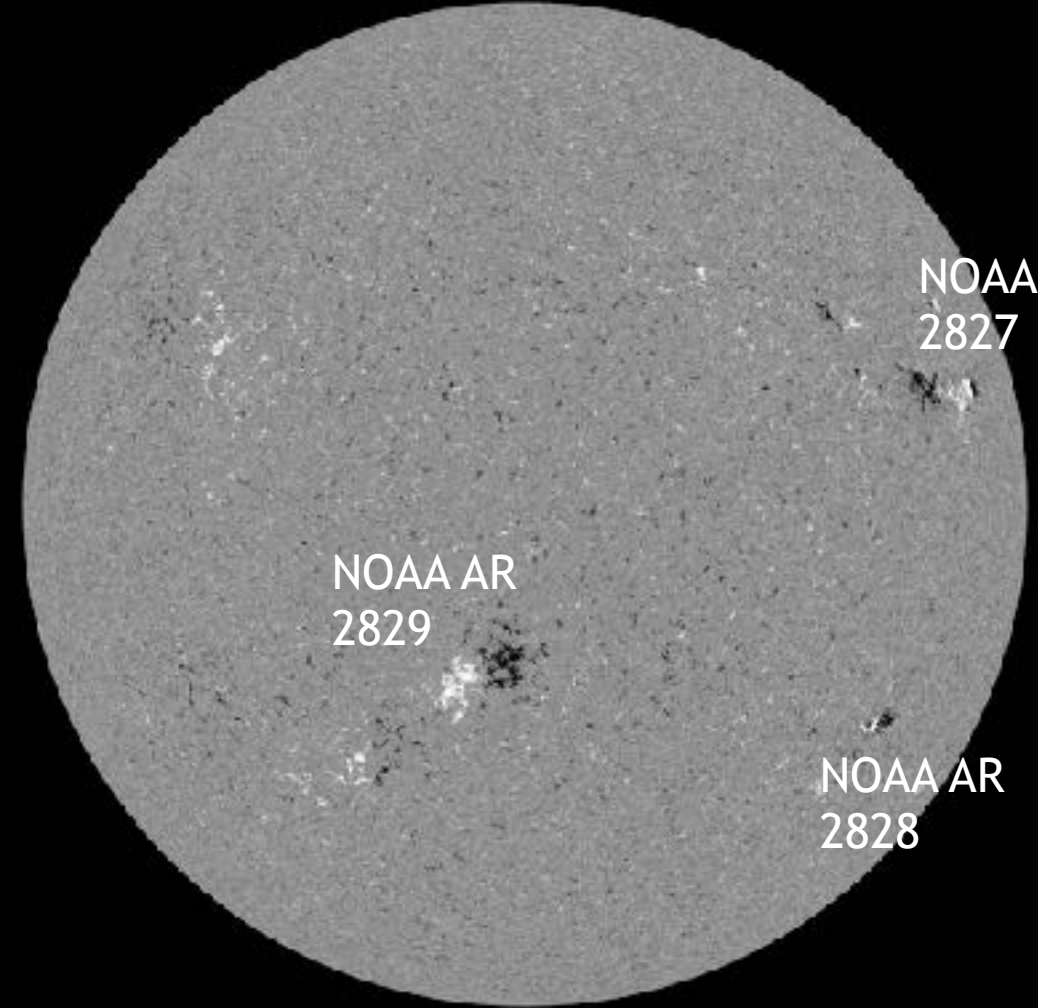
Solar active regions

SDO/HMI White Light 2021-06-06



SDO/HMI White Light 2021-06-06_114500

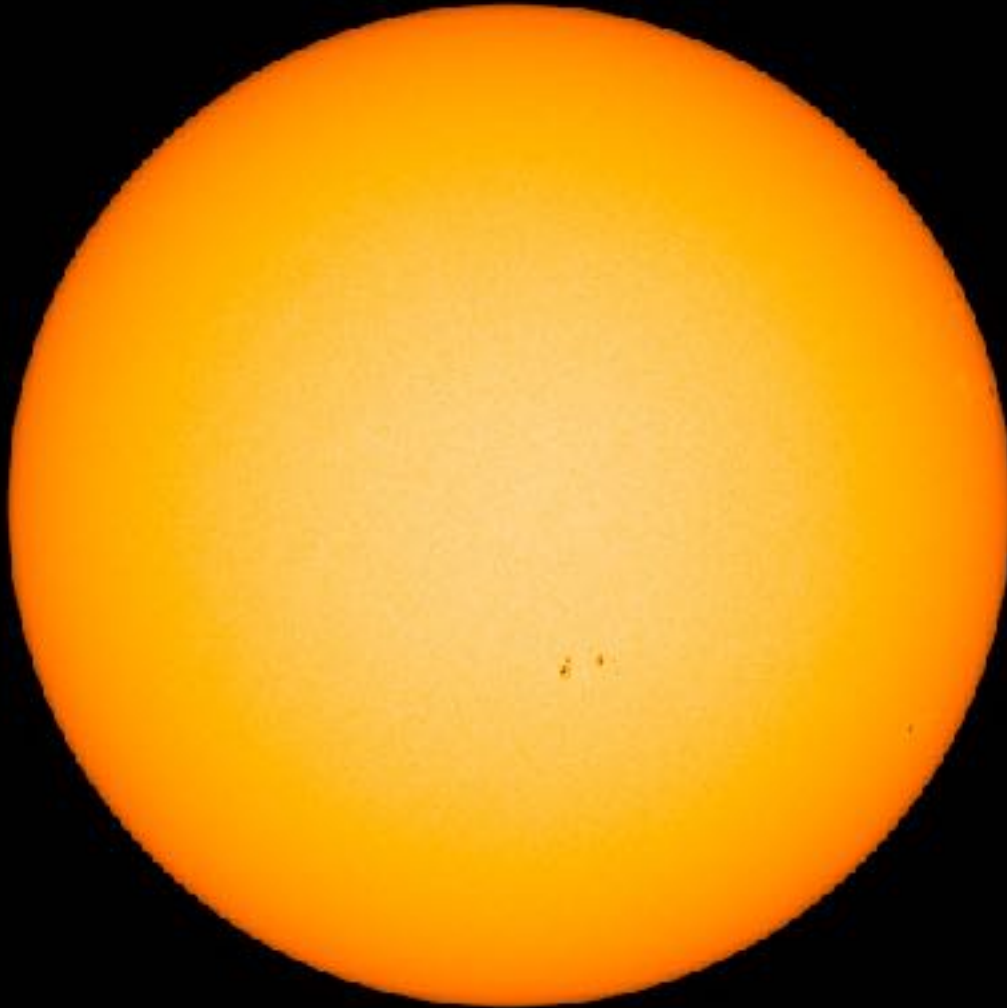
SDO/HMI Magnetogram 2021-06-06



SDO/HMI Magnetogram 2021-06-06_114500

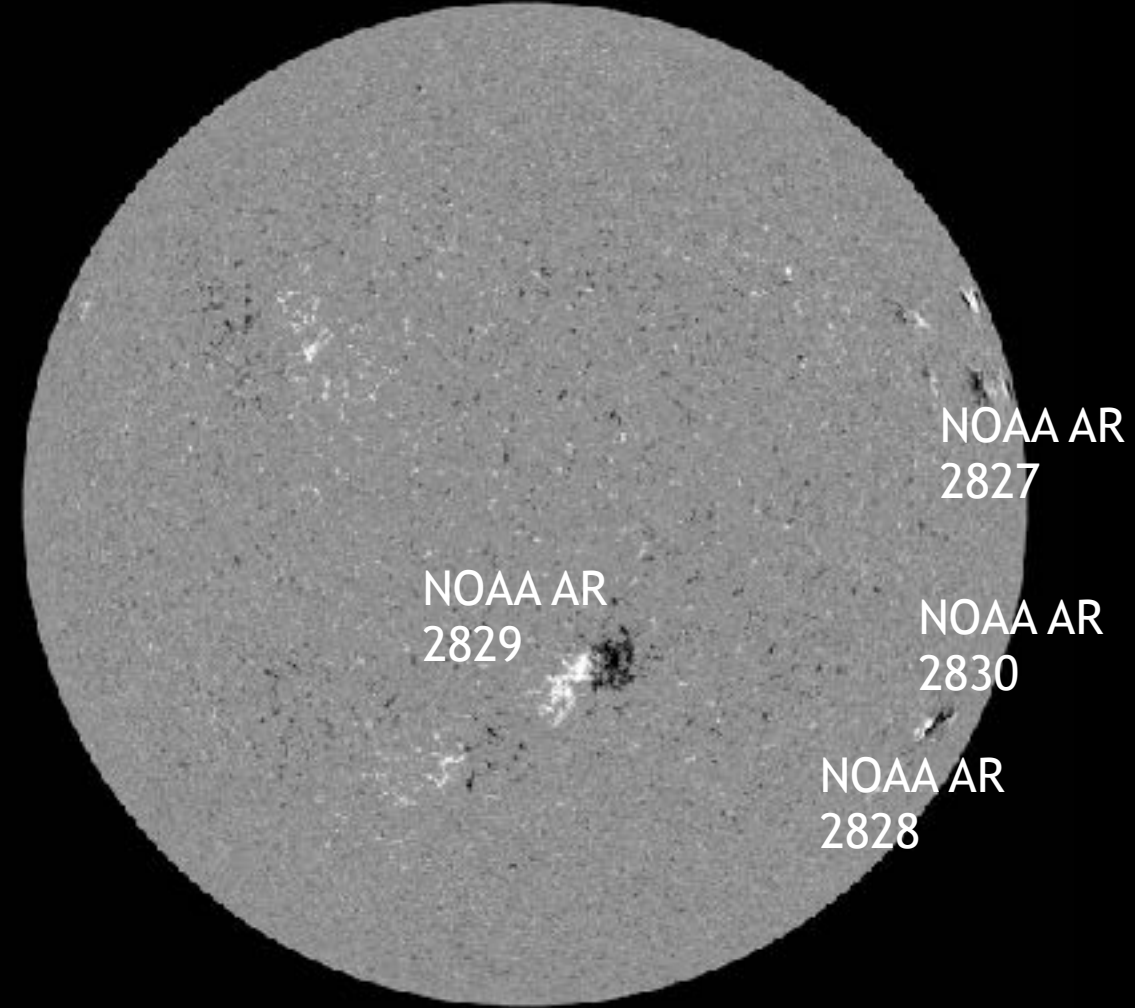
Solar active regions

SDO/HMI White Light 2021-06-07



SDO/HMI White Light 2021-06-07_114500

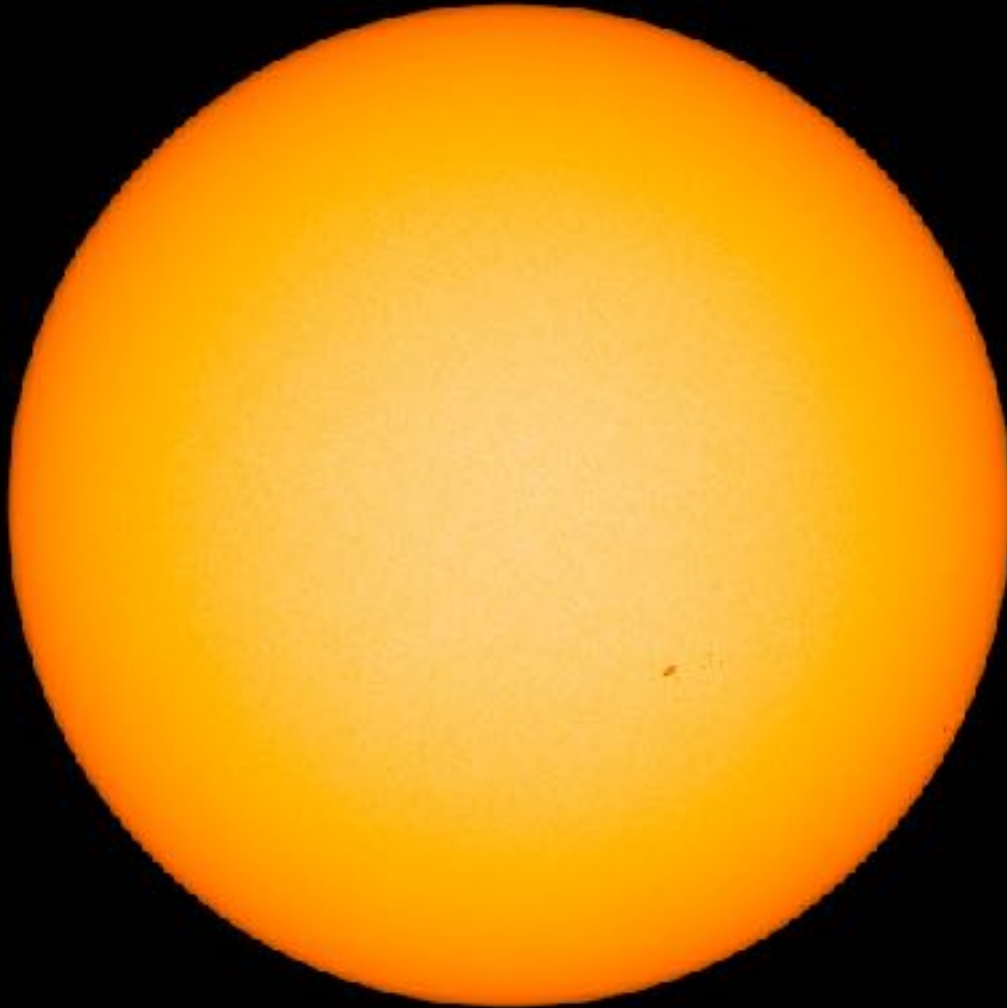
SDO/HMI Magnetogram 2021-06-07



SDO/HMI Magnetogram 2021-06-07_114500

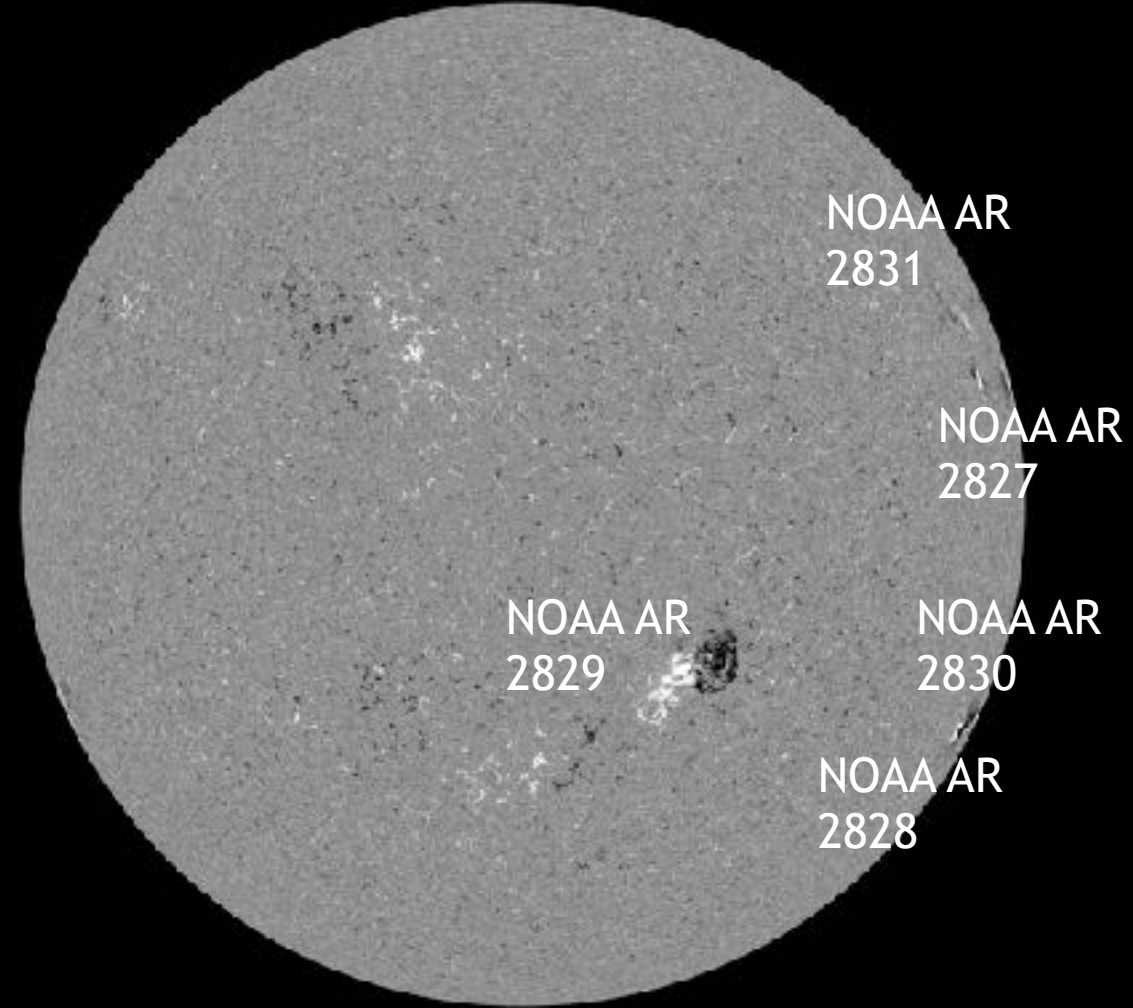
Solar active regions

SDO/HMI White Light 2021-06-08



SDO/HMI White Light 2021-06-08_114500

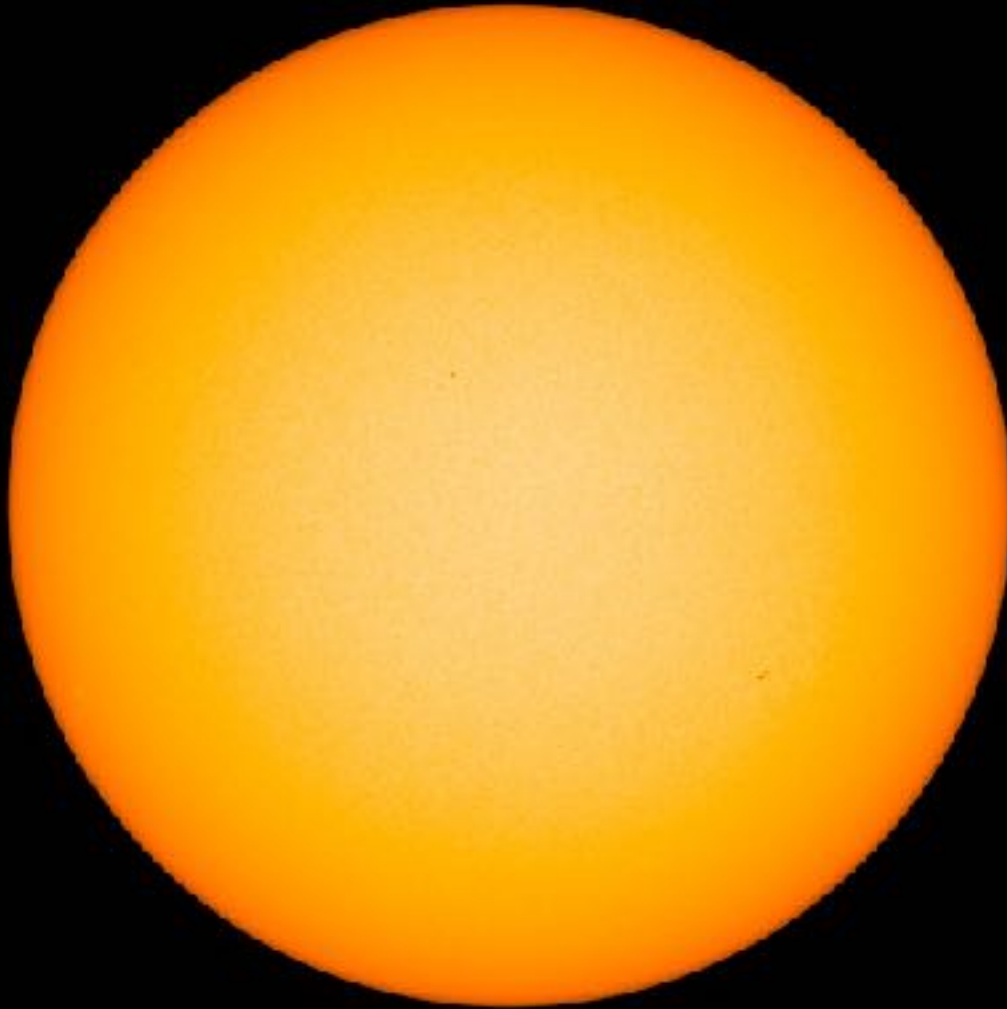
SDO/HMI Magnetogram 2021-06-08



SDO/HMI Magnetogram 2021-06-08_114500

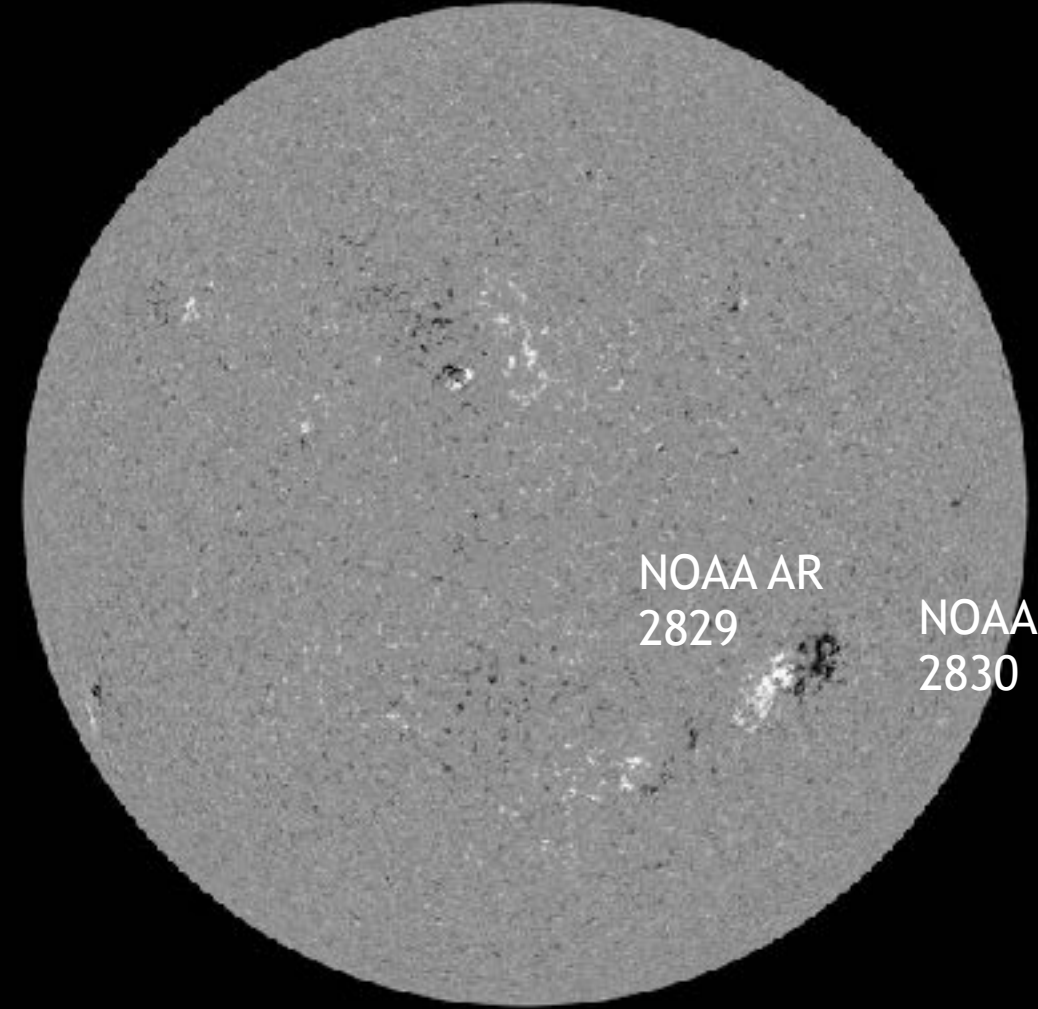
Solar active regions

SDO/HMI White Light 2021-06-09



SDO/HMI White Light 2021-06-09 11:45:00

SDO/HMI Magnetogram 2021-06-09



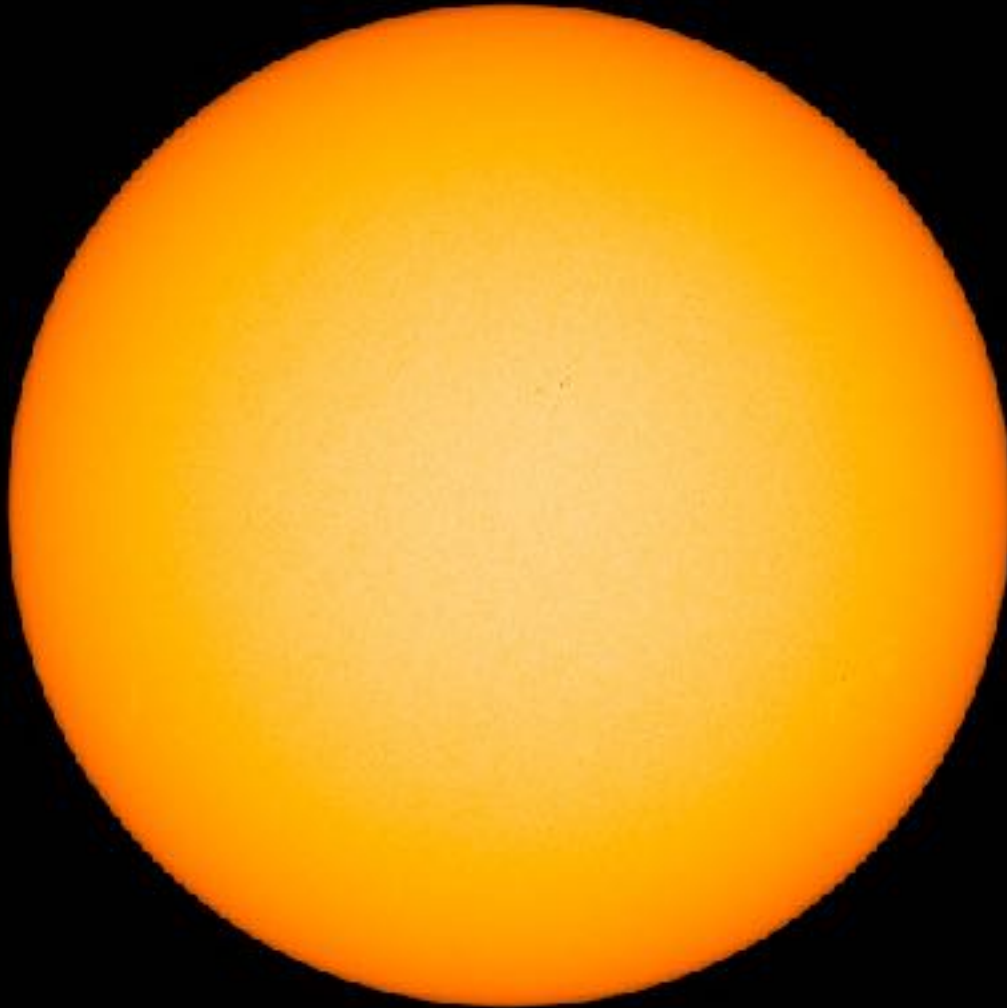
NOAA AR
2829

NOAA AR
2830

SDO/HMI Magnetogram 2021-06-09 11:45:00

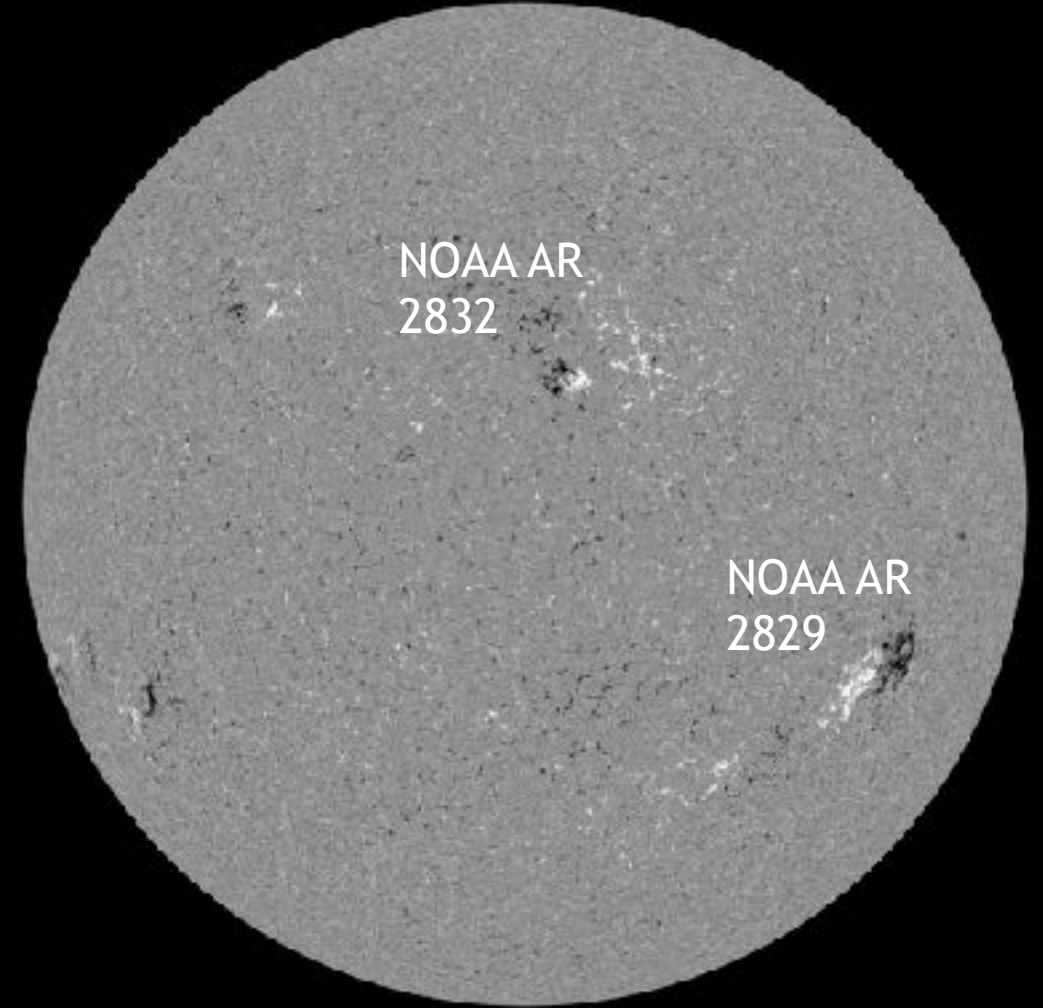
Solar active regions

SDO/HMI White Light 2021-06-10



SDO/HMI White Light 2021-06-10_114500

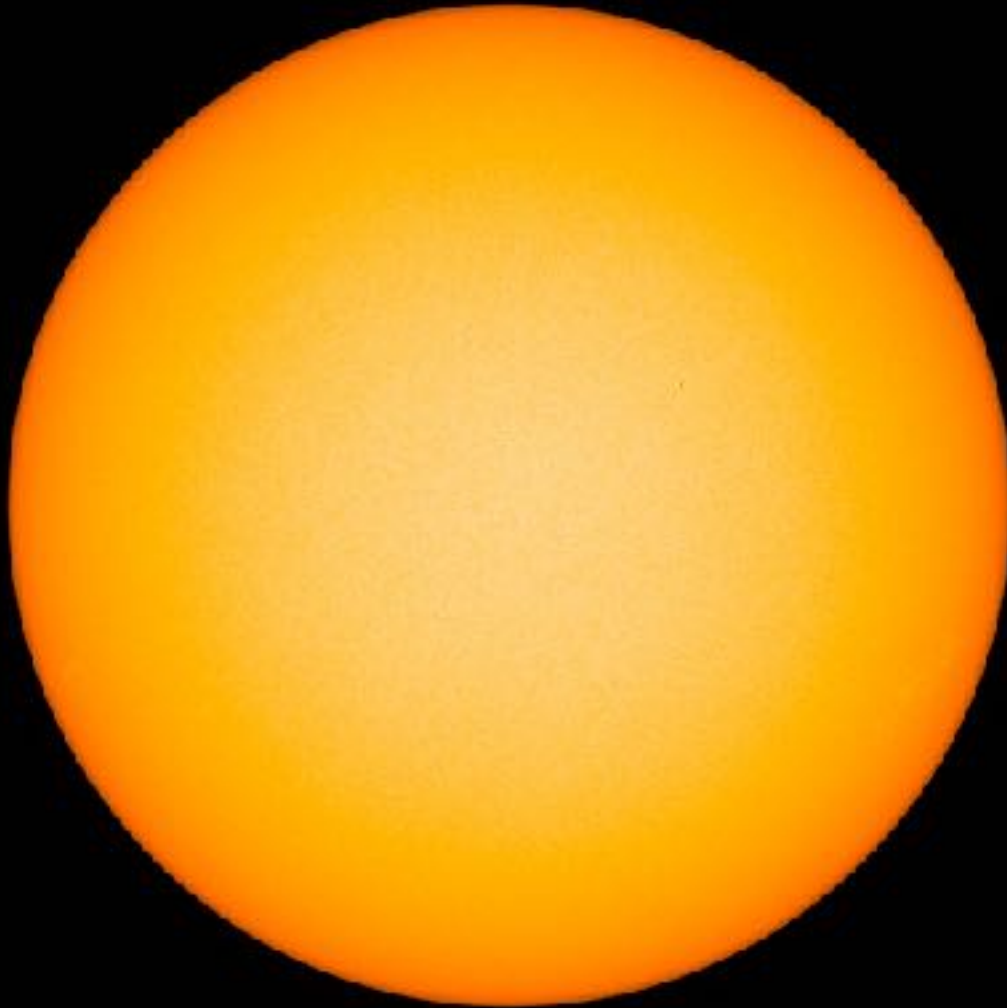
SDO/HMI Magnetogram 2021-06-10



SDO/HMI Magnetogram 2021-06-10_114500

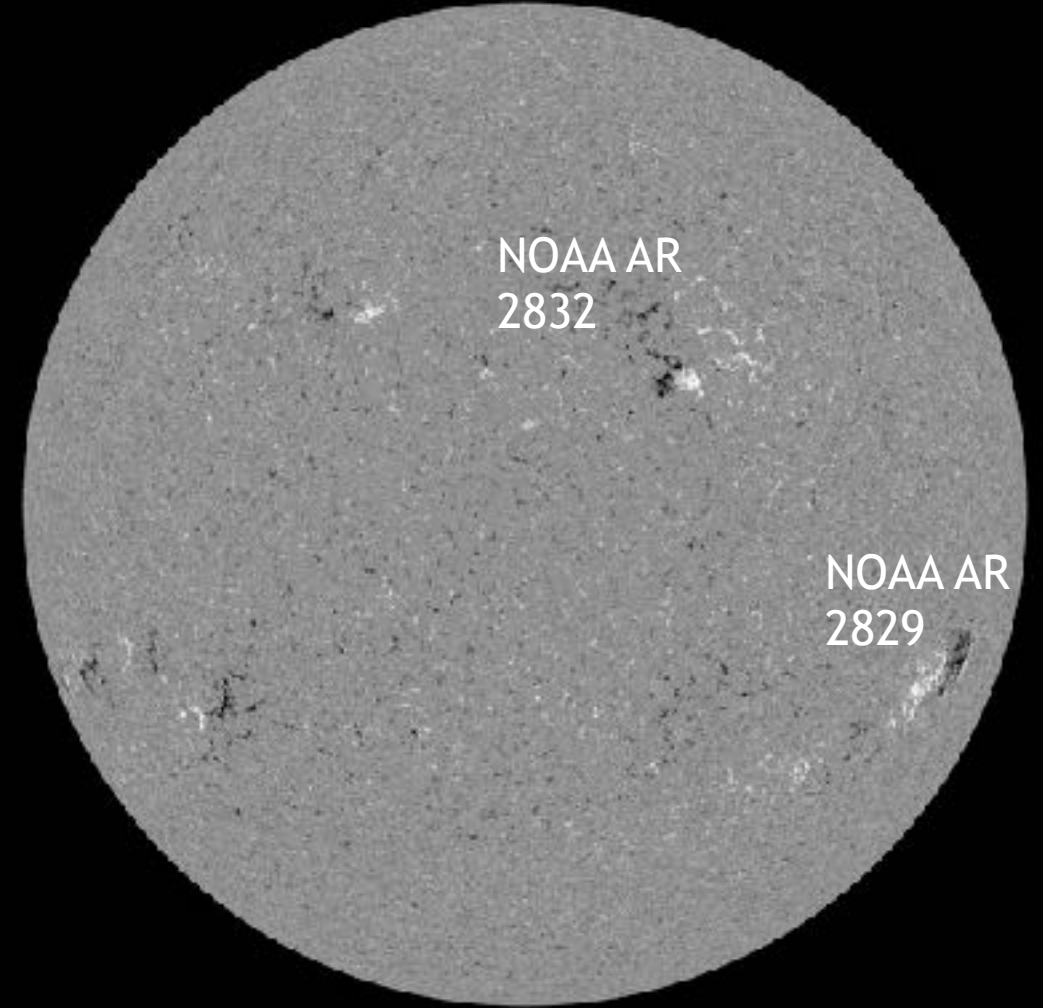
Solar active regions

SDO/HMI White Light 2021-06-11



SDO/HMI White Light 2021-06-11_114500

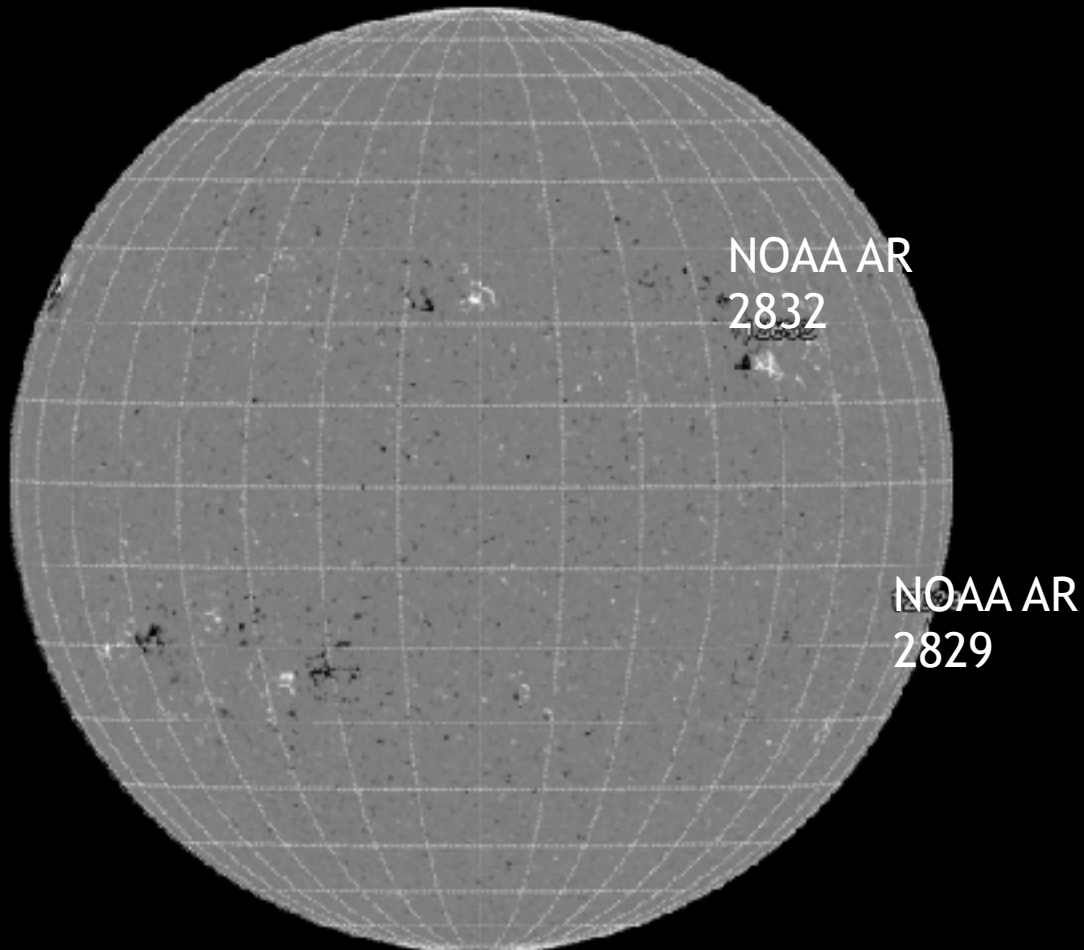
SDO/HMI Magnetogram 2021-06-11



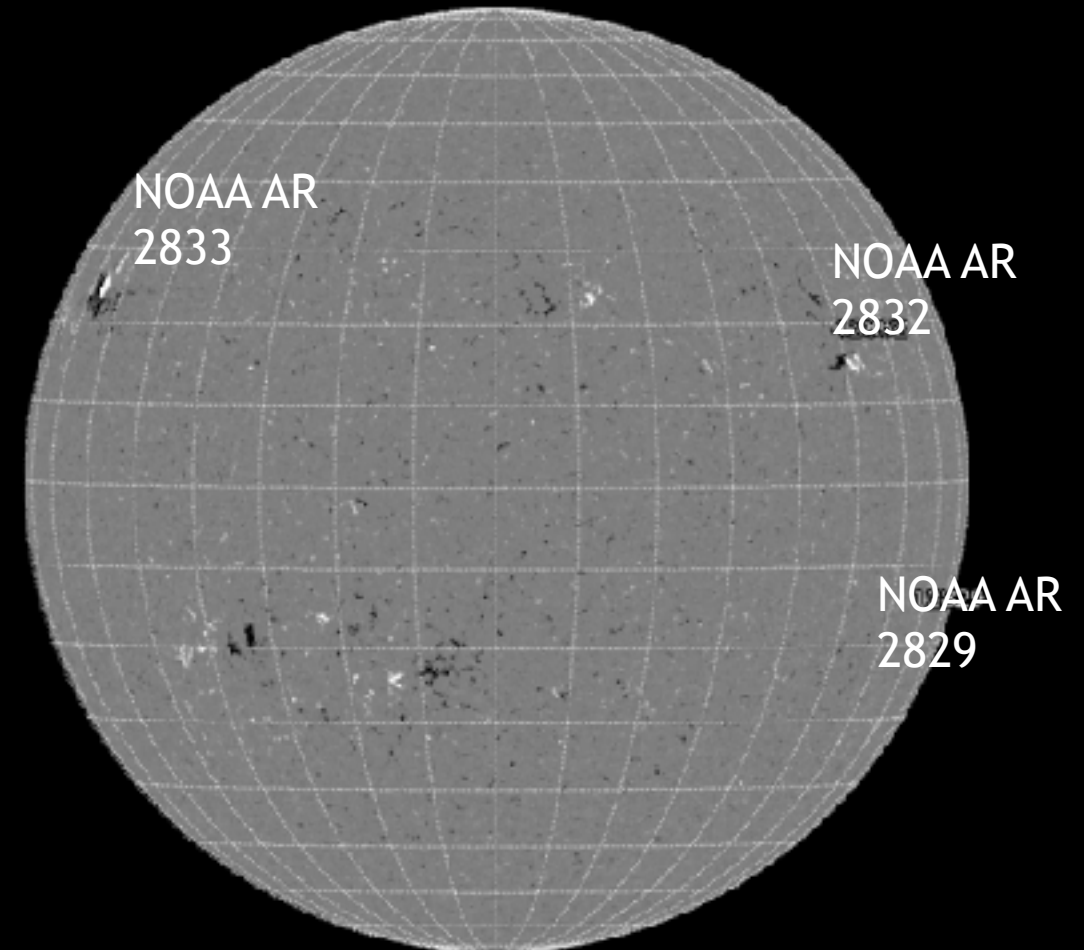
SDO/HMI Magnetogram 2021-06-11_114500

Solar active regions

SDO/HMI White Light 2021-06-12



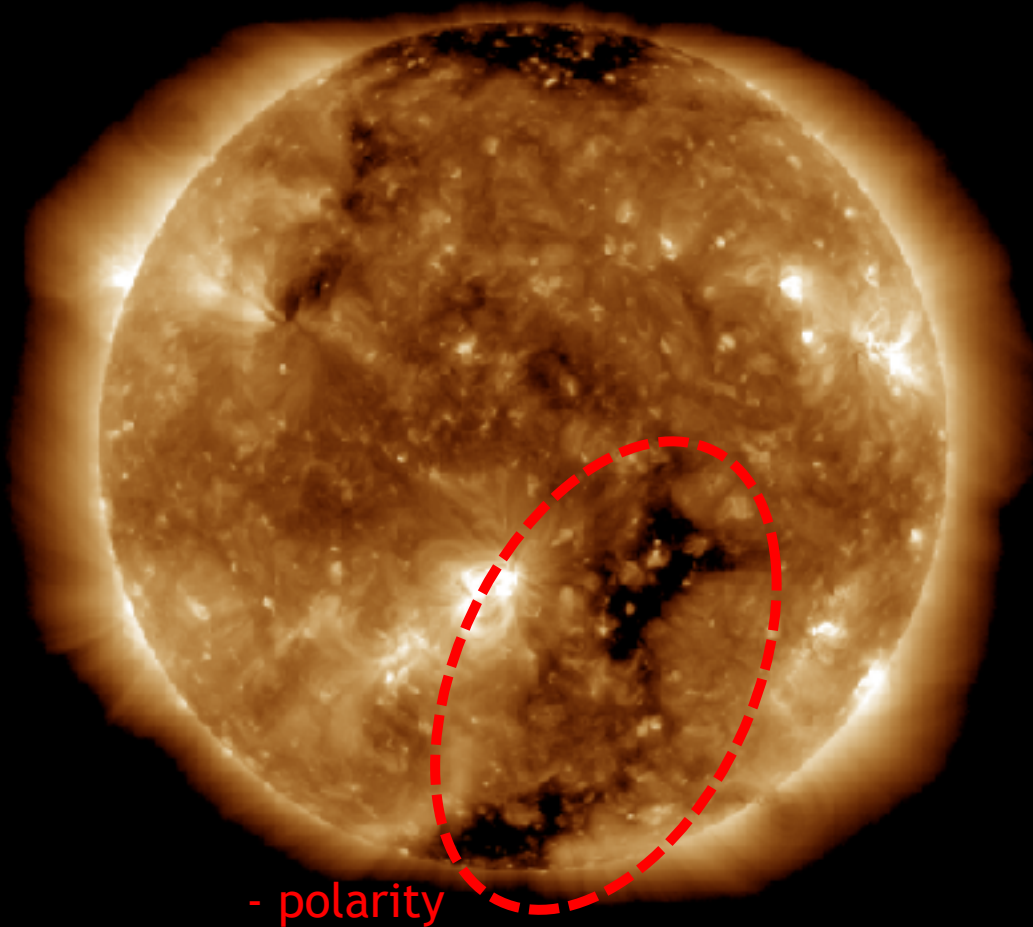
SDO/HMI Magnetogram 2021-06-13



Coronal holes

SDO/AIA 19.3 nm 2021-06-06

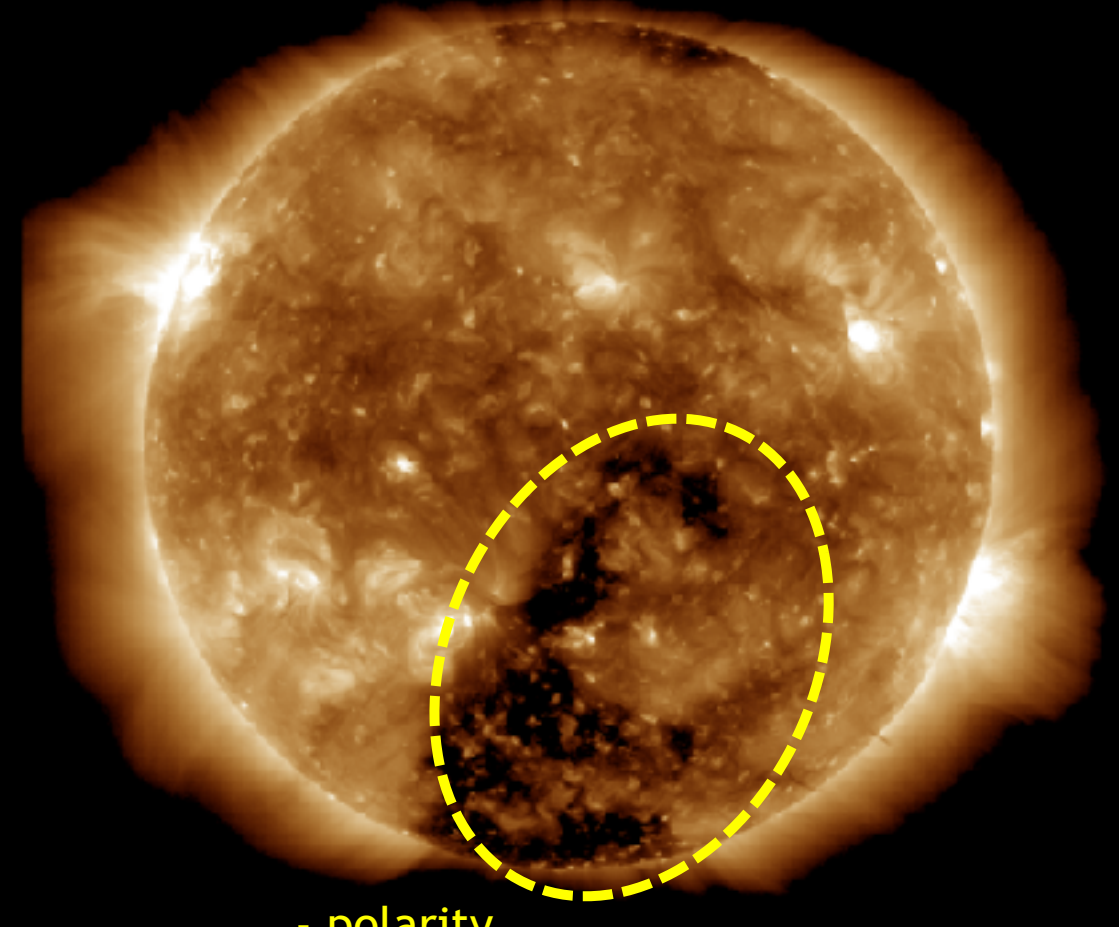
SDO/AIA AIA 193Å 2021-06-06T12:00:05.843



- polarity

SDO/AIA 19.3 nm 2021-06-13

SDO/AIA AIA 193Å 2021-06-13T12:00:05.843

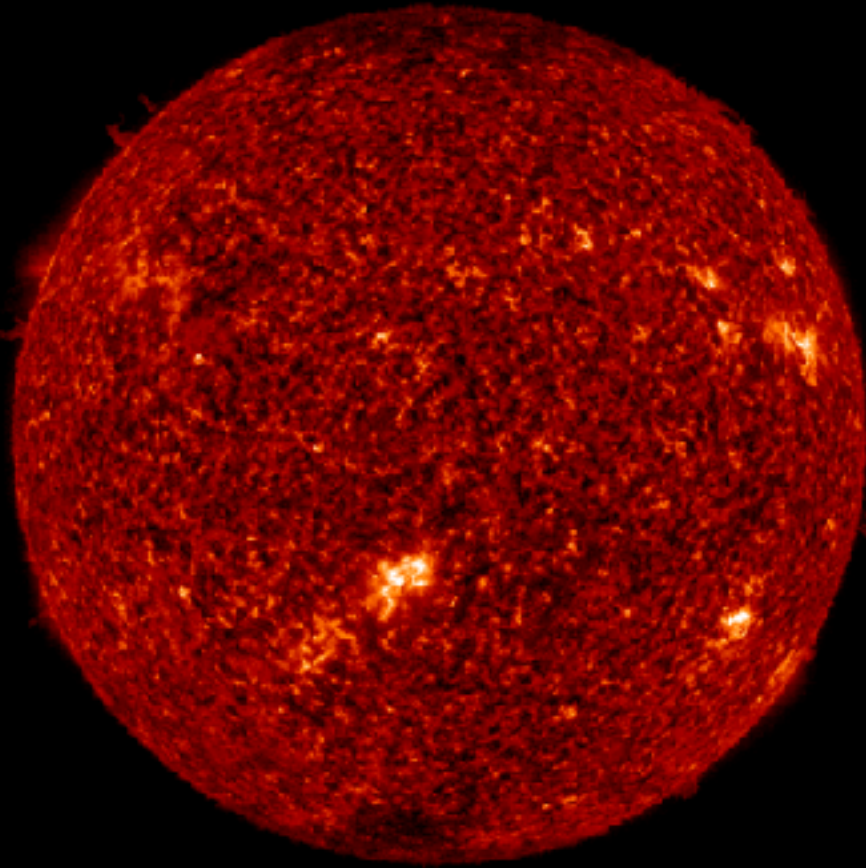


- polarity

Filaments

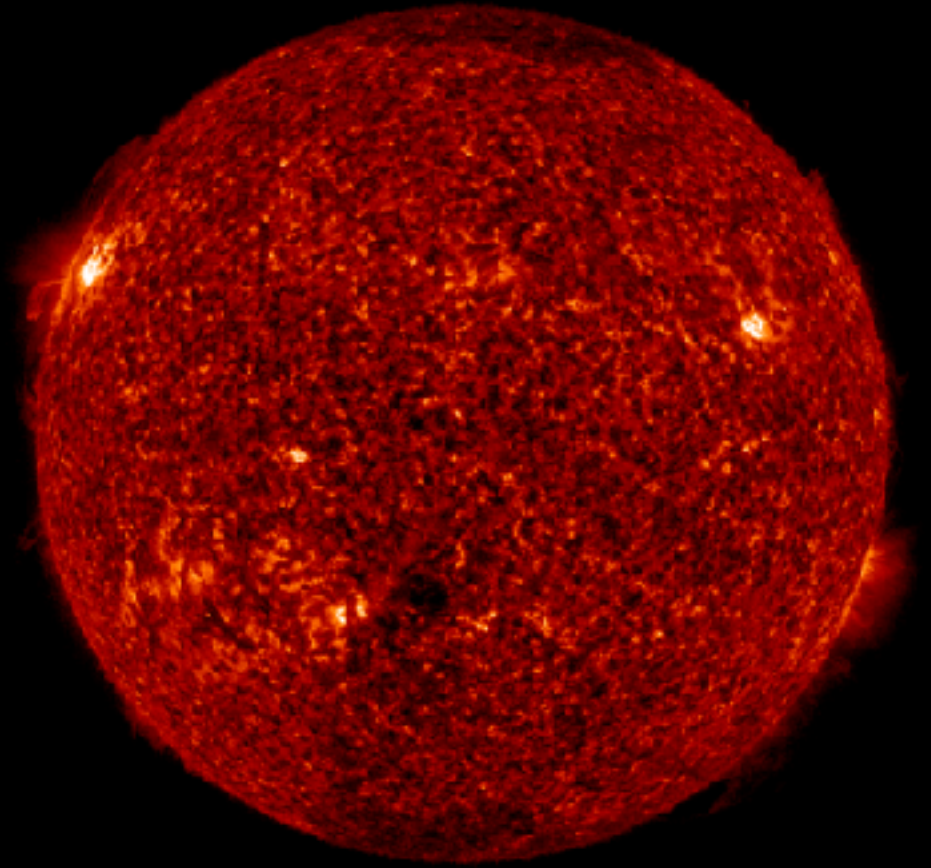
SDO/AIA 30.4 nm 2021-06-06

SDO/AIA AIA 304Å 2021-06-06T12:00:06.530

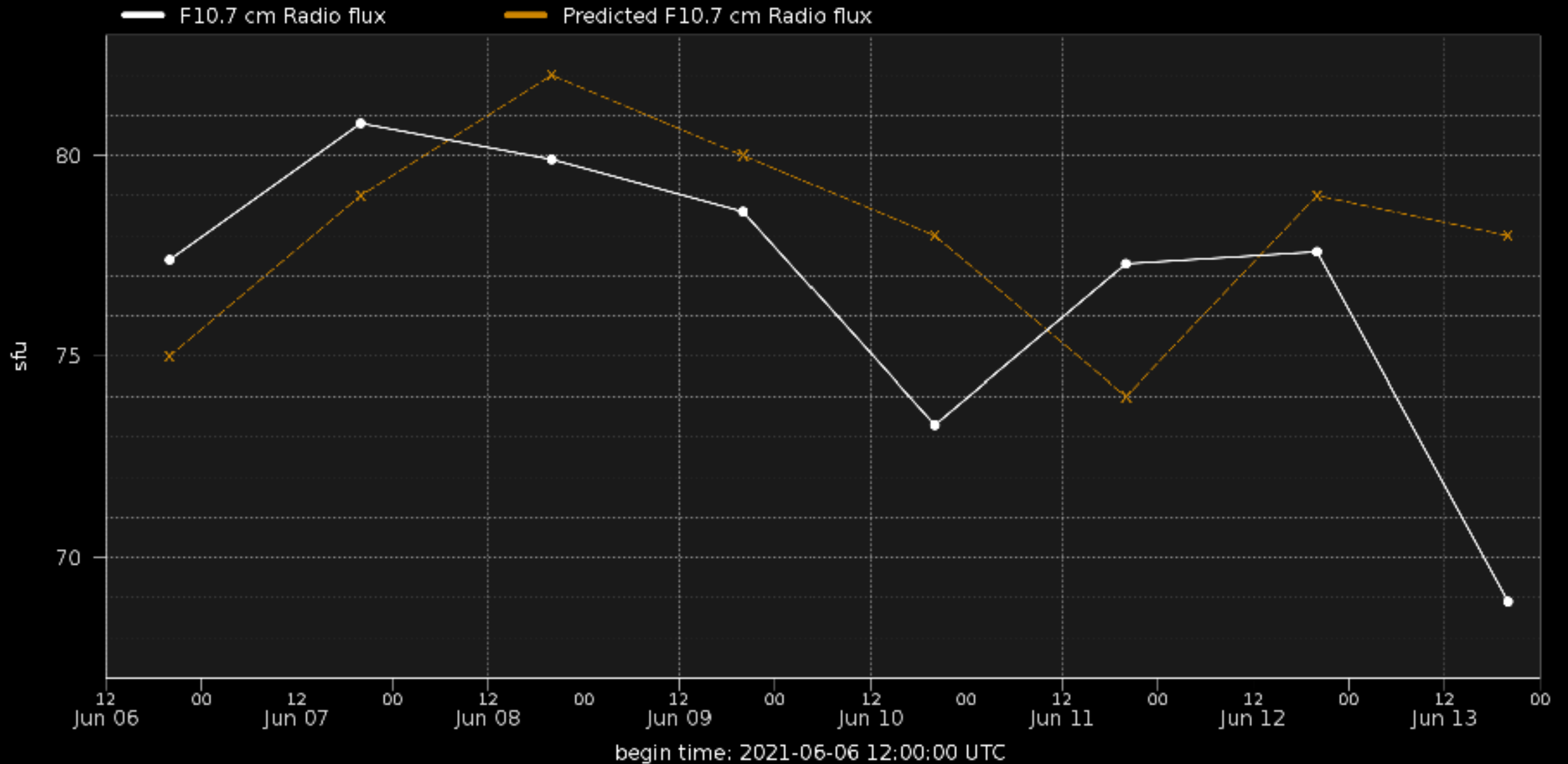


SDO/AIA 30.4 nm 2021-06-13

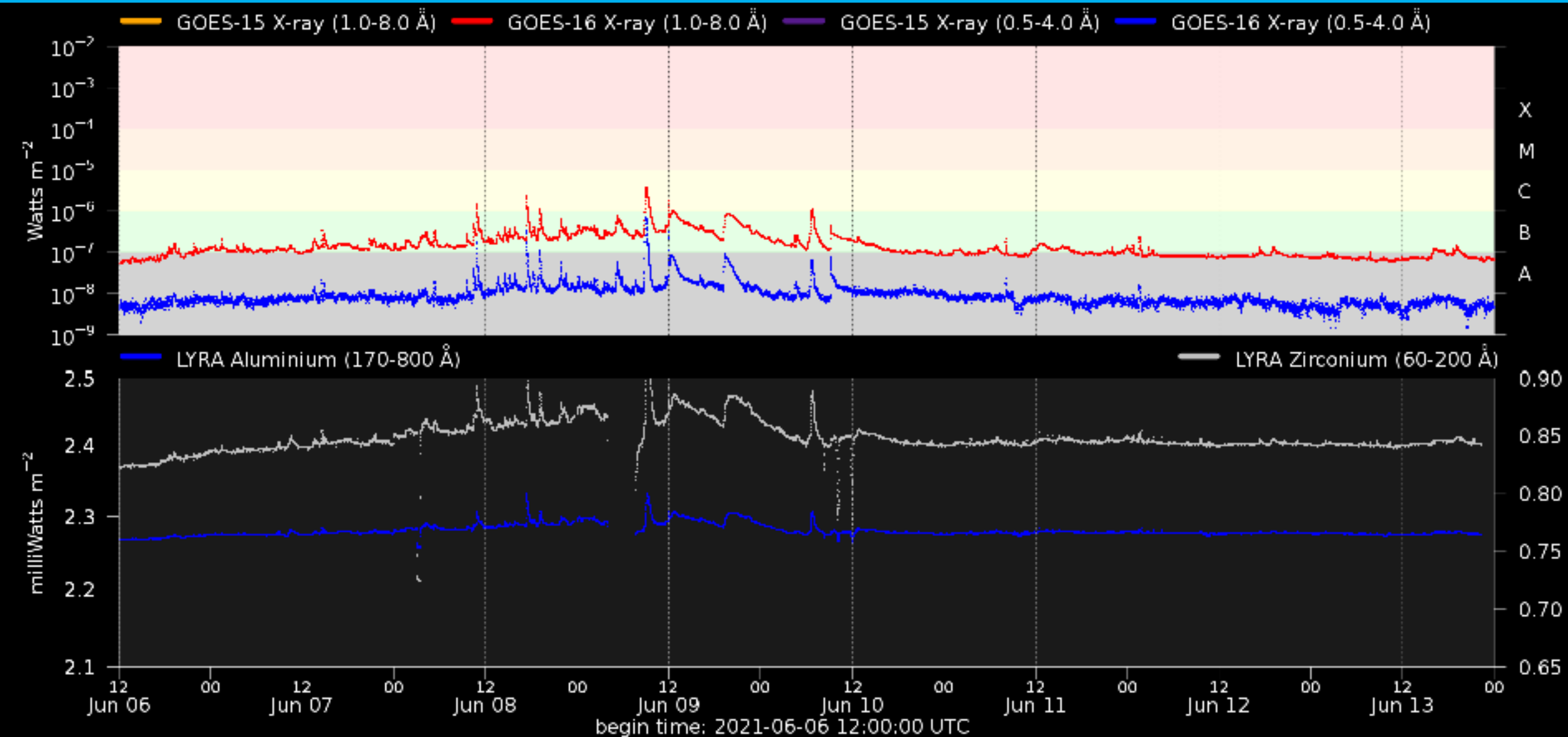
SDO/AIA AIA 304Å 2021-06-13T12:00:06.580



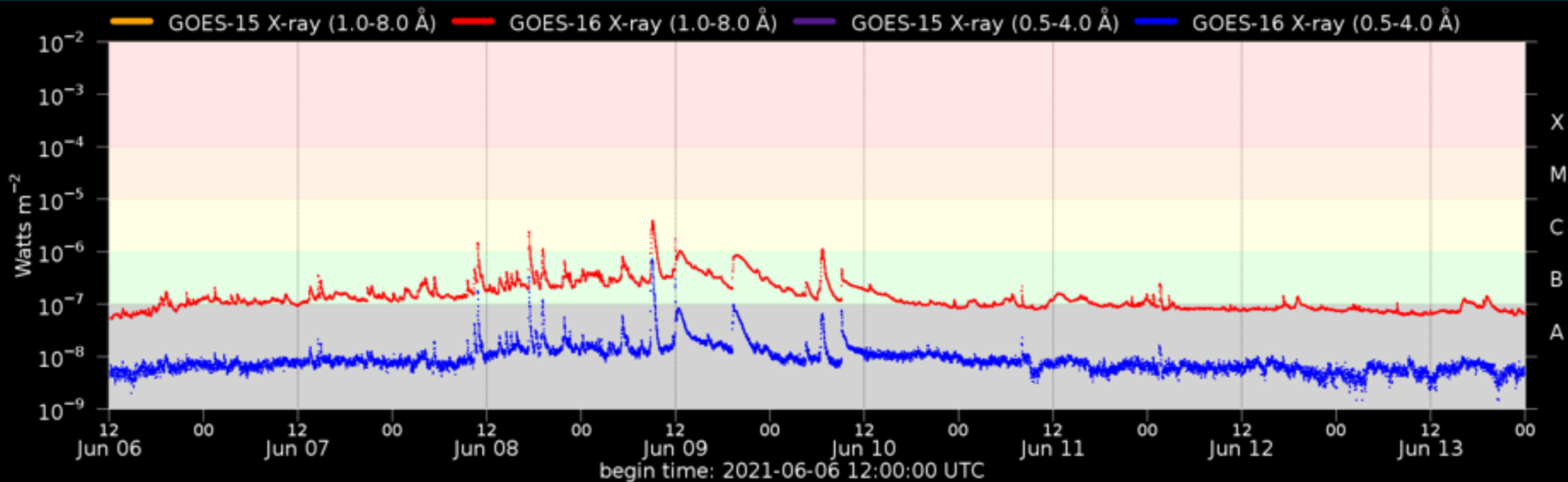
Solar F10.7cm radio flux



Solar X-Ray and UV flux



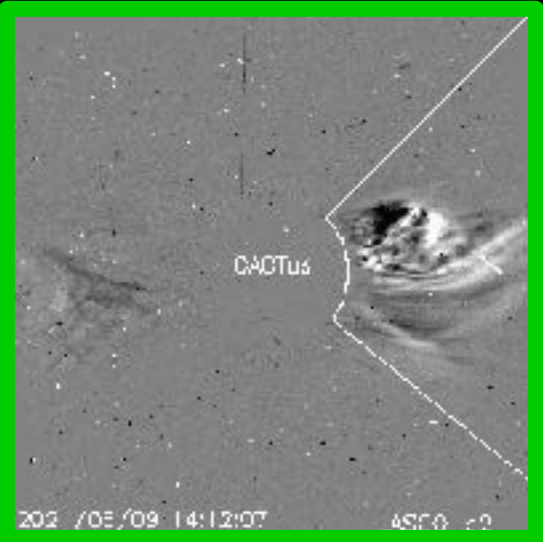
Flaring activity



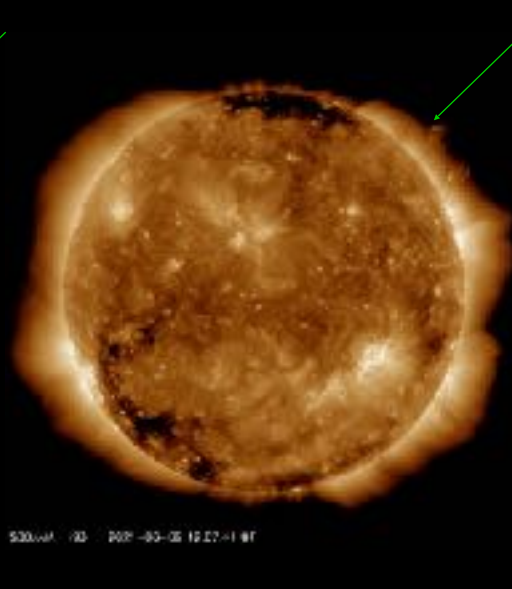
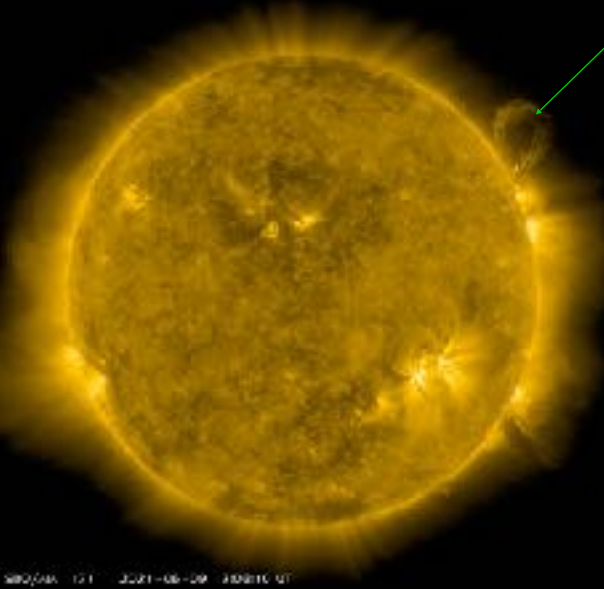
Probabilities (%) and occurrences (#) of C/M/X-flares issued at 12:30 and over the next 24h:

Issue date	2021-06-06	2021-06-07	2021-06-08	2021-06-09	2021-06-10	2021-06-11	2021-06-12	2021-06-13
Probability (%)	35 05 01	15 01 01	20 01 01	15 01 01	10 01 01	10 01 01	05 01 01	05 01 01
Observed (#)	00 00 00	00 00 00	04 00 00	02 00 00	00 00 00	00 00 00	00 00 00	00 00 00

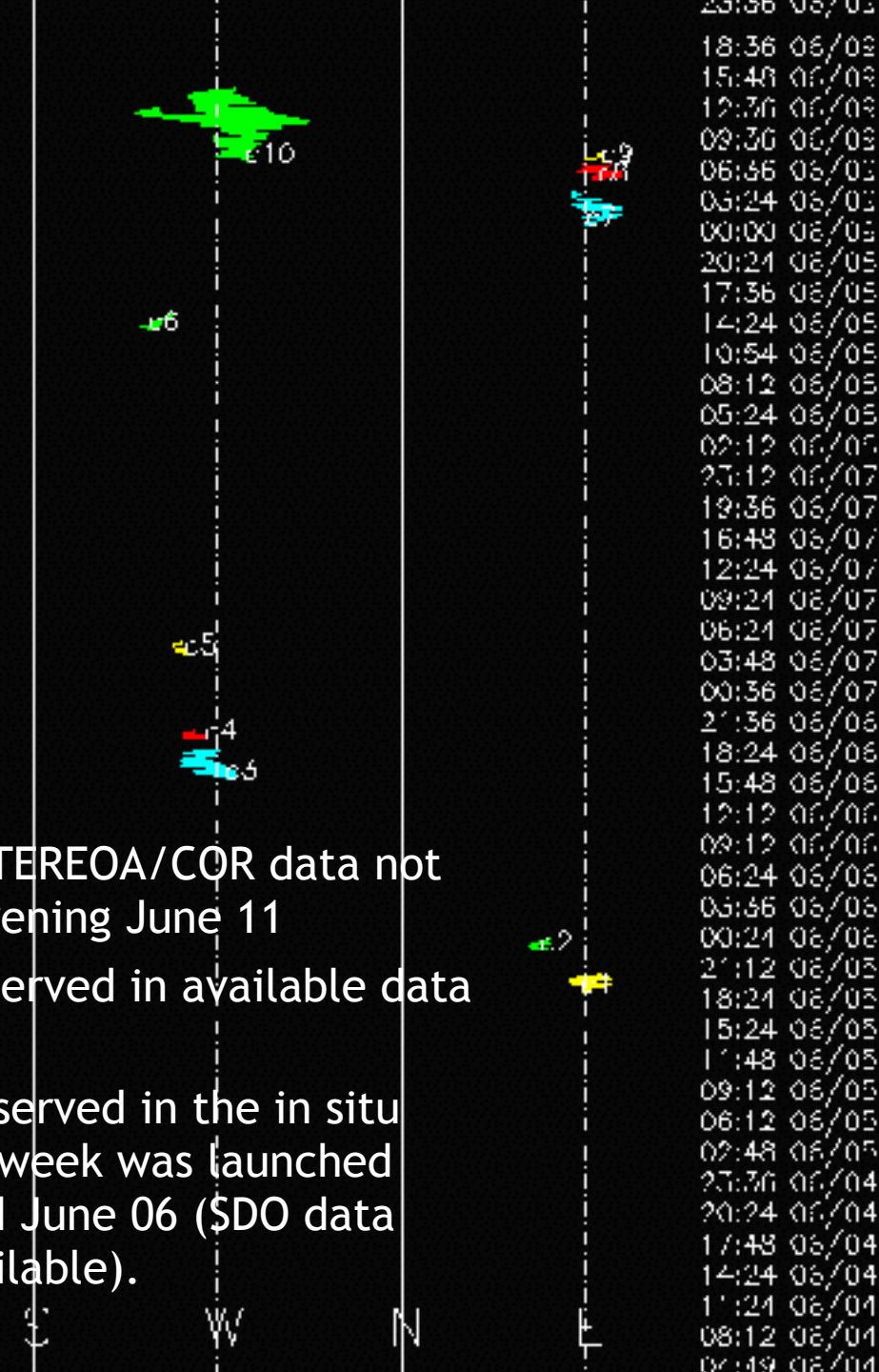
Coronal Mass Ejections



- Source region at the west solar limb
- About 600 km/s
- Associated with small particle event?



- SOHO/LASCO & STEREOA/COR data not available since evening June 11
- No wide CMEs observed in available data during this week
- The slow ICME observed in the in situ observations this week was launched some time around June 06 (SDO data presently not available).



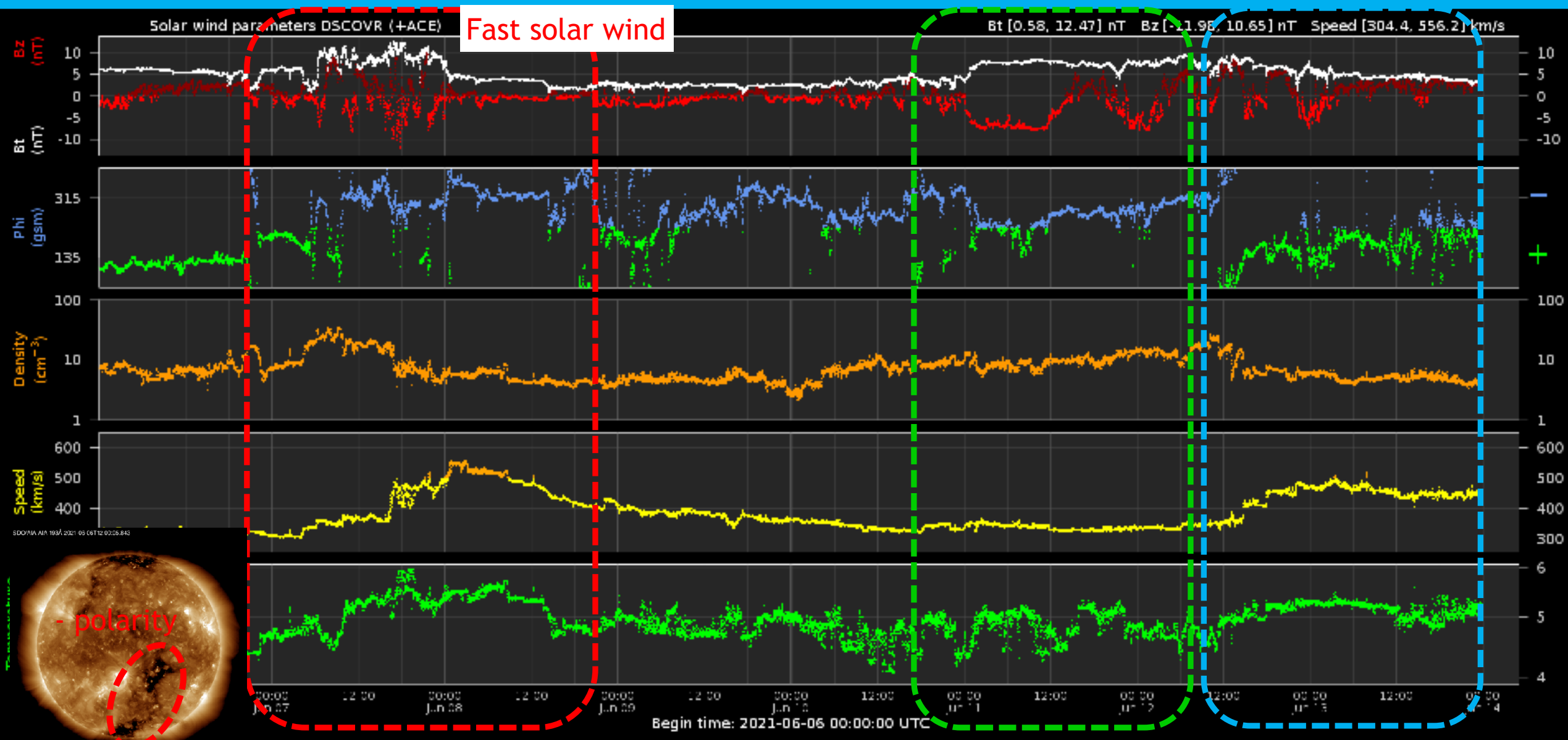
Solar Wind and Geomagnetic Activity



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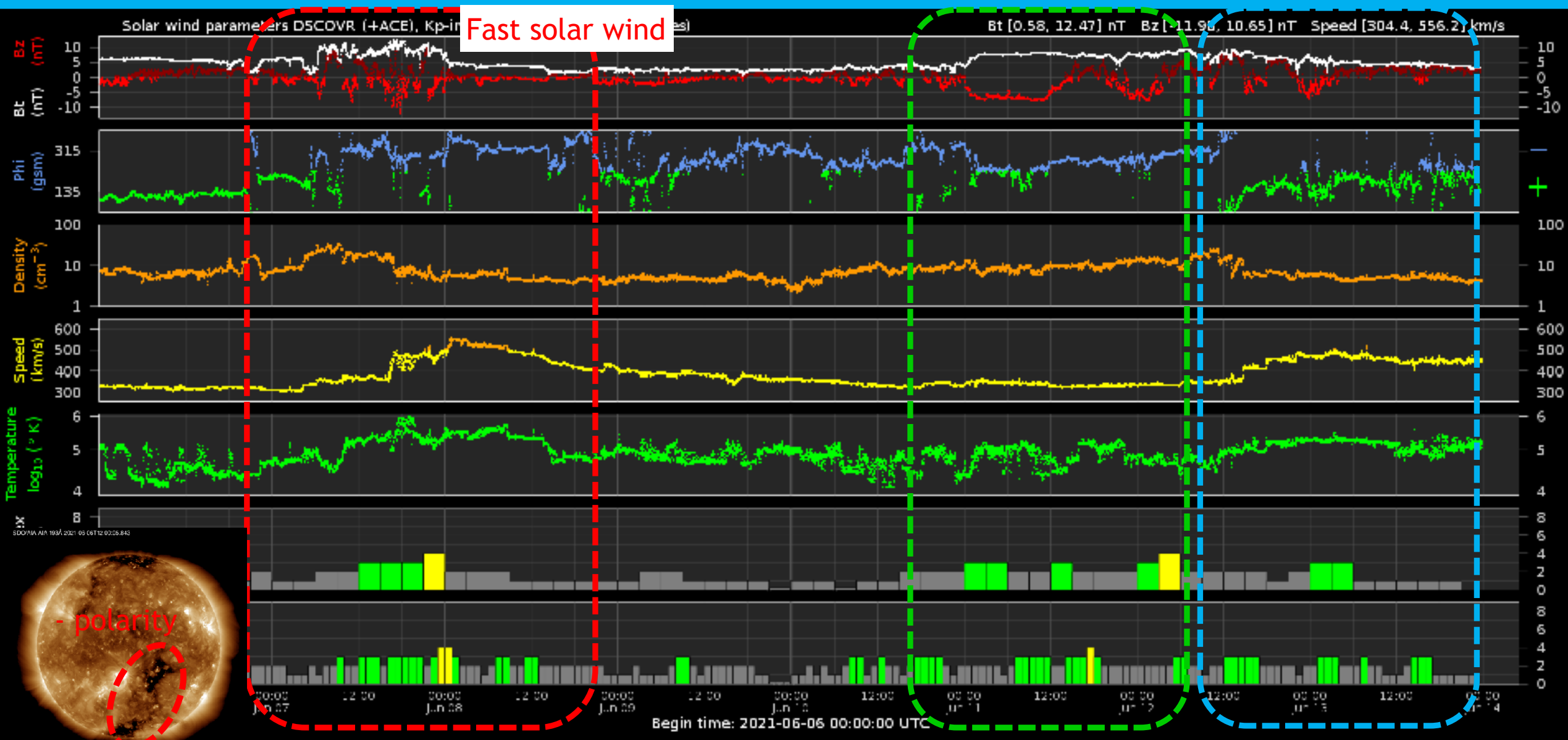
Solar wind parameters



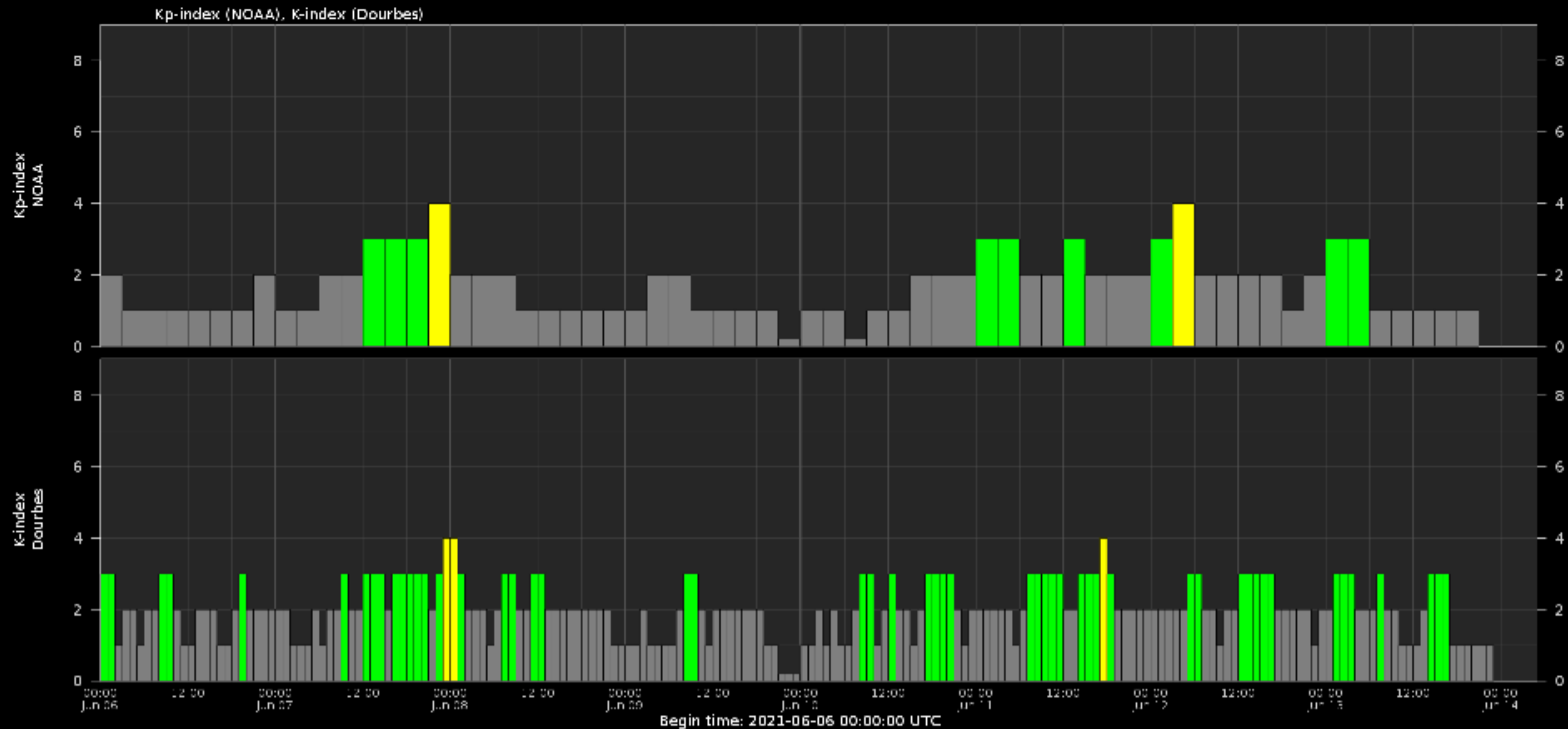
Solar wind parameters & K-indices

ICME ?

solar wind from CH ??



Geomagnetic activity (K-indexes)



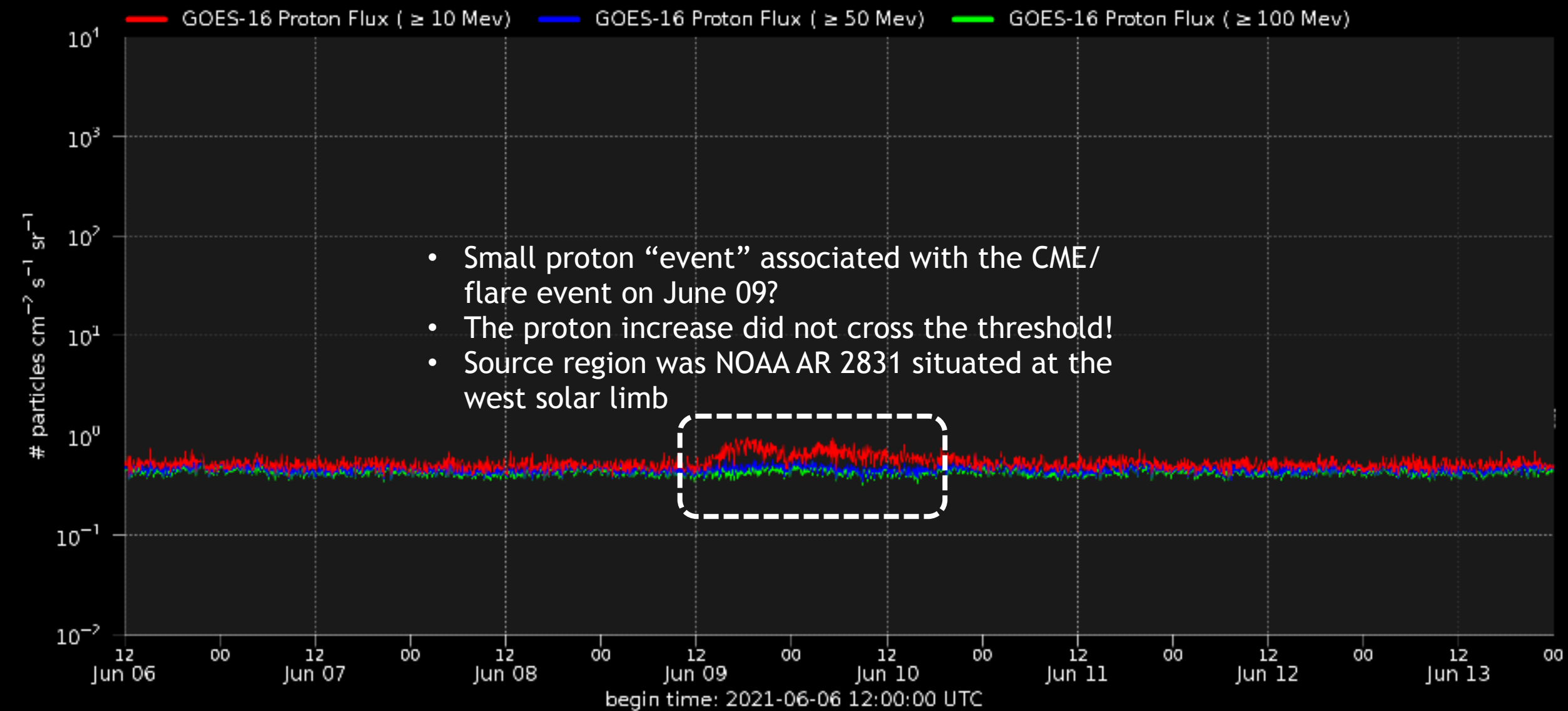
Energetic Particles



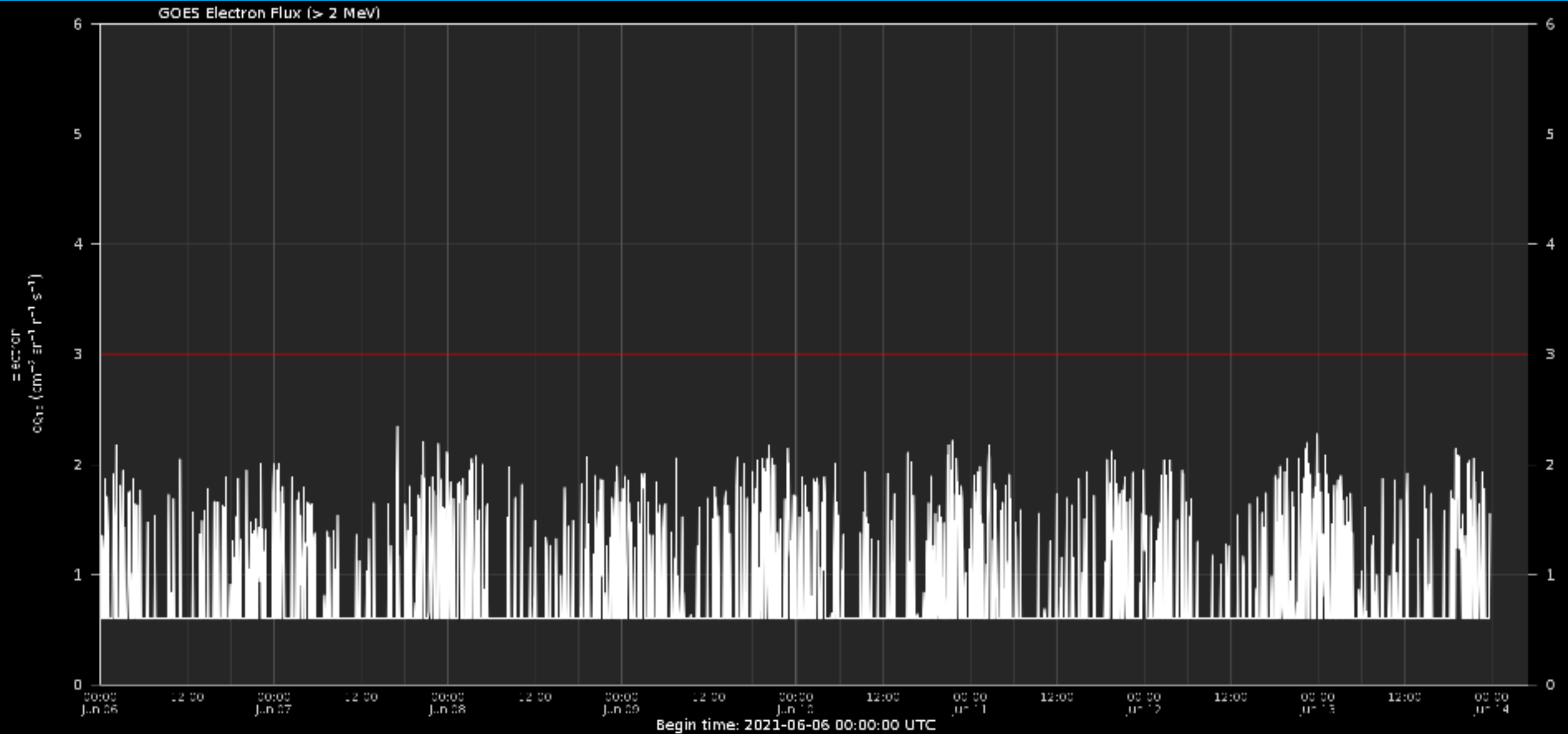
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Solar proton flux



Electron flux at GEO



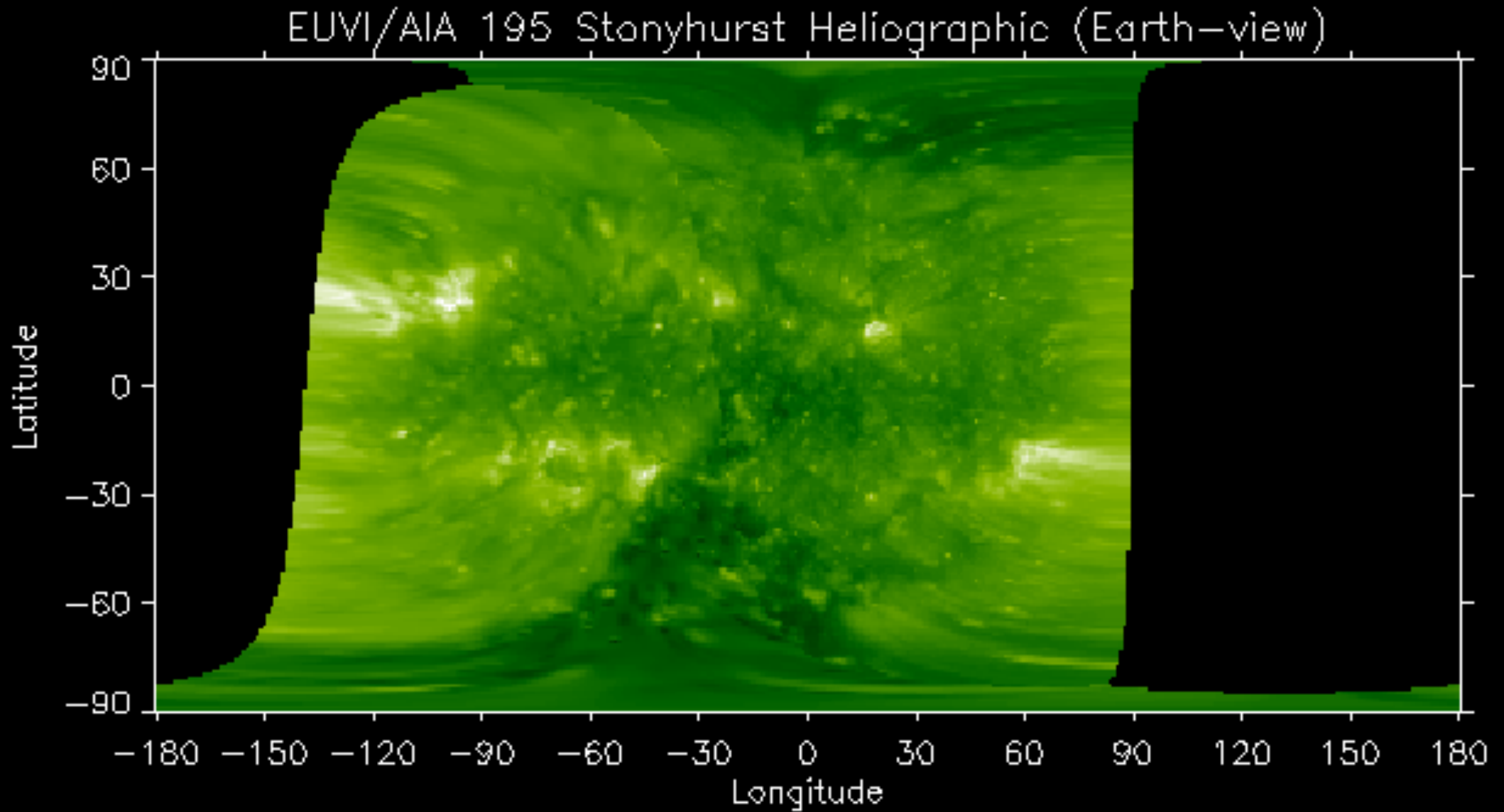
Outlook



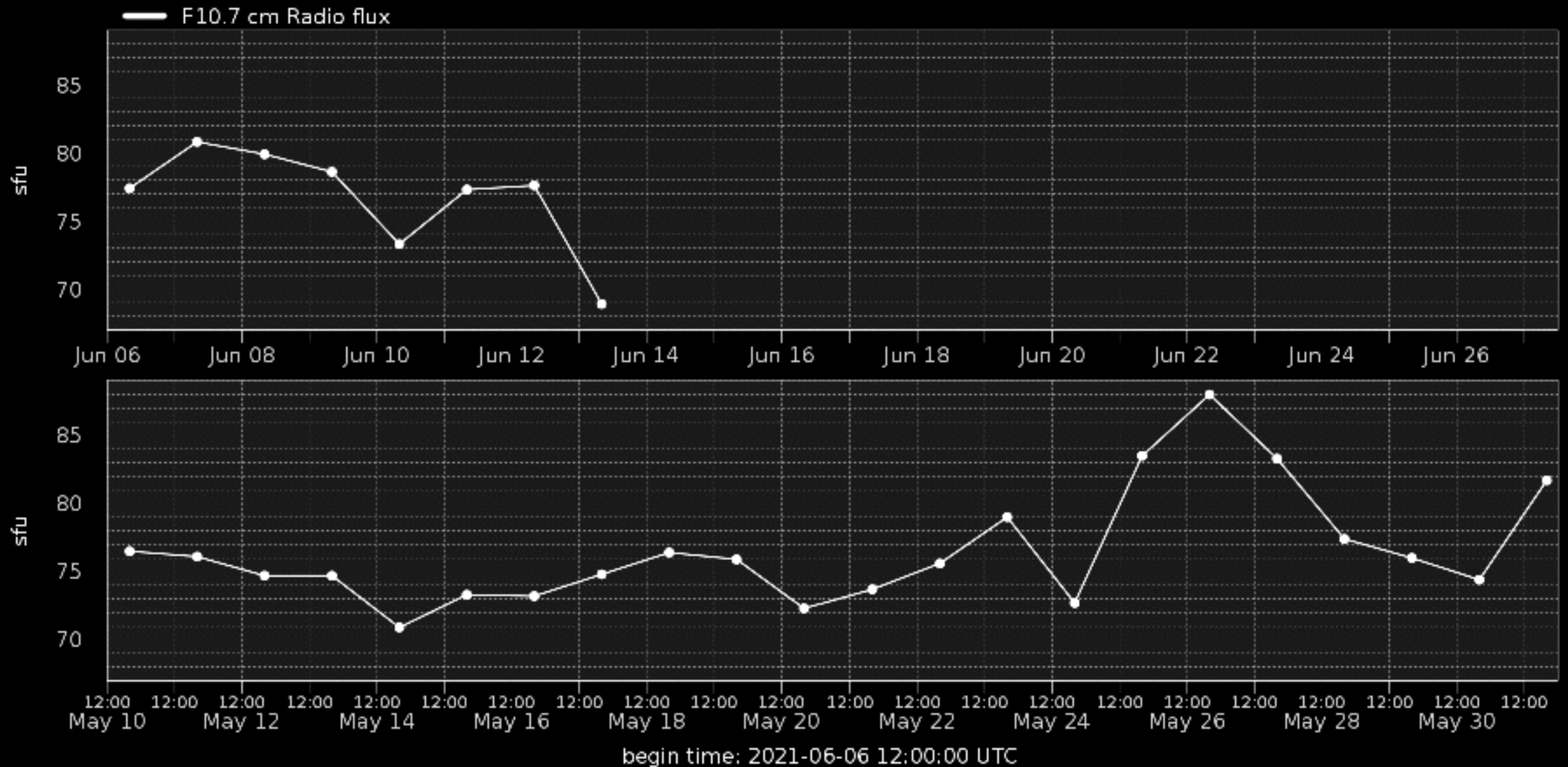
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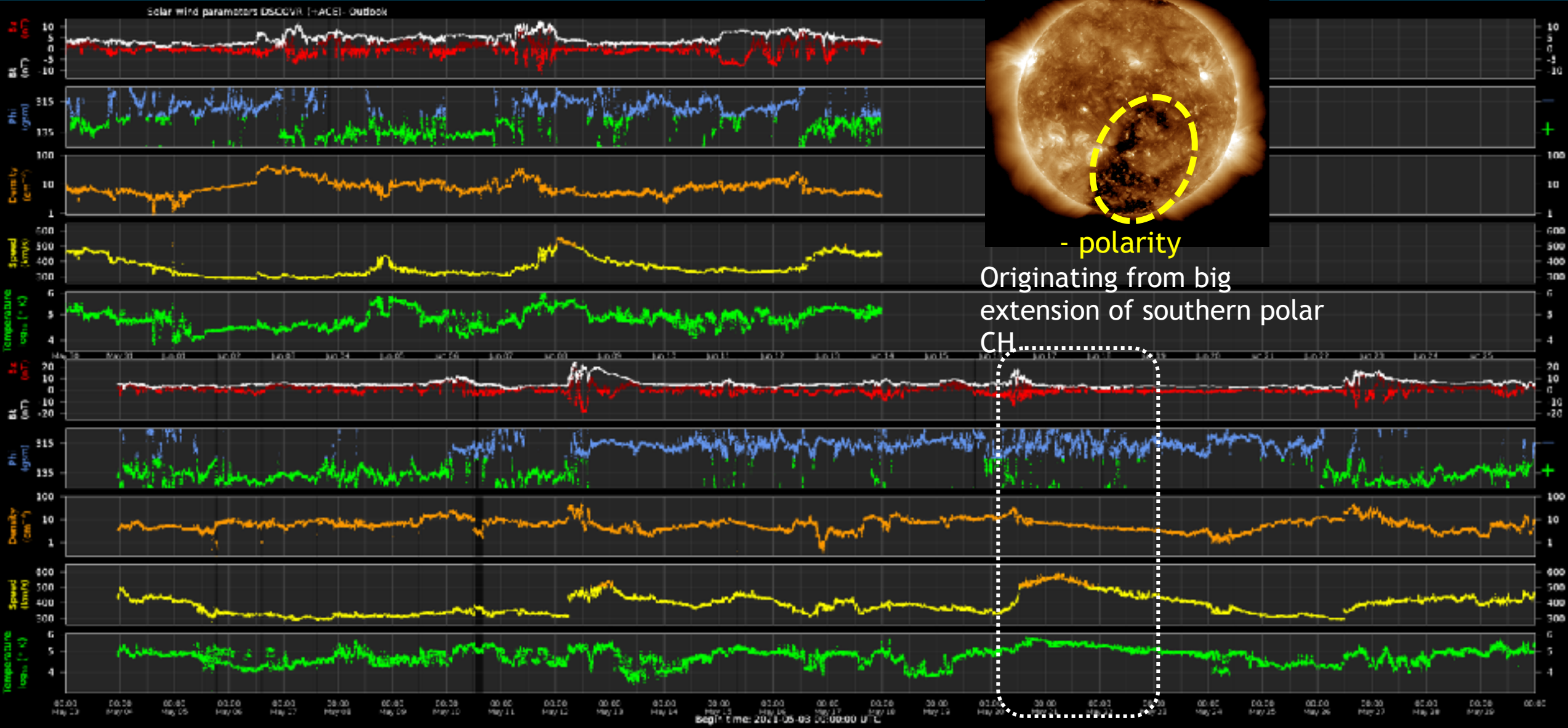
Outlook: Solar activity



Outlook: Solar F10.7cm radio flux



Outlook: Solar wind parameters



Outlook: Geomagnetic activity



Outlook: Electron Flux at GEO Outlook



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