SIDC Space Weather Briefing

10 October 2022-16 October 2022

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& the SIDC forecaster team

Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be

Summary Report

Active regions	3111, **3112**, 3115, 3116, 3118, 3119, 3120, 3121, 3122, 3123
Flares	# C-class flare: 31 # M-class flare: 5 # X-class flare: 0
Coronal Holes	Two (one from previous week)
CMEs	Three with posible Earth directed components

Proton flux	Below threshold
Electron flux	Above threshold until Friday 14/10

Solar wind and geomagnetic conditions

ICMEs	One
Solar wind conditions	|B|: 0.9 - 18.11 nT //Bz: -14.56 nT to 14.65 nT //Speed: 283.6 - 648.7km/s
K-indices	max K-index (KDou): 4 max Kp-index (NOAA): 5

All Quiet Alert: OFF

Solar Activity

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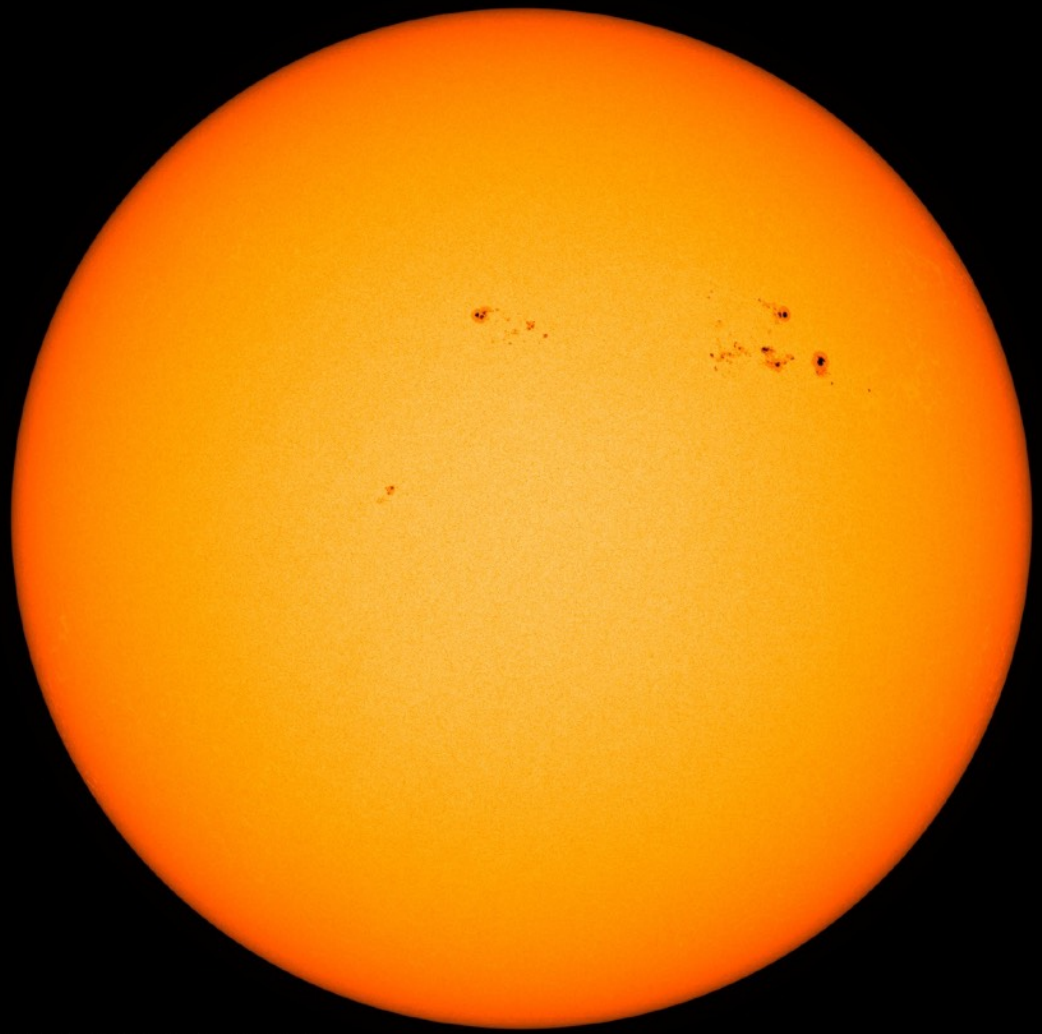
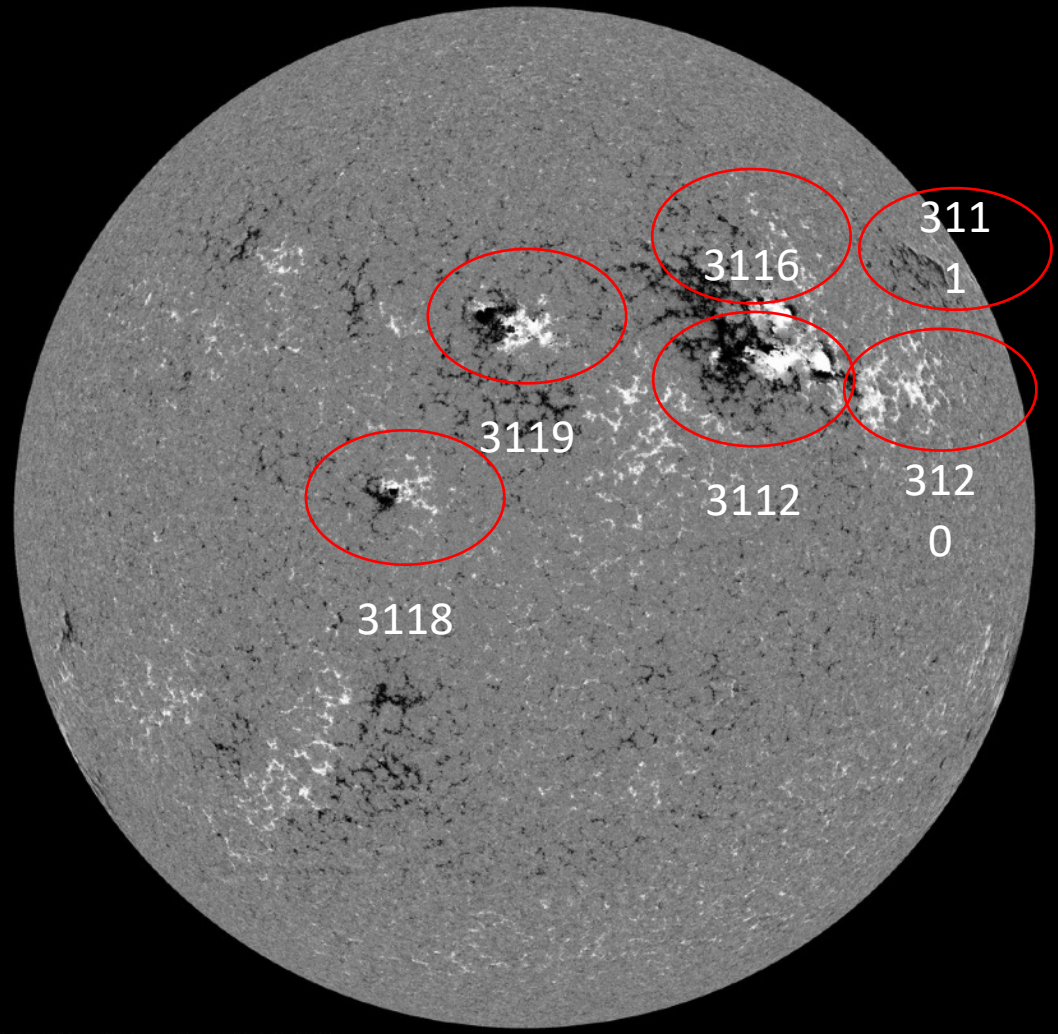
Solar active regions

SDO/HMI White Light 2022-10-10

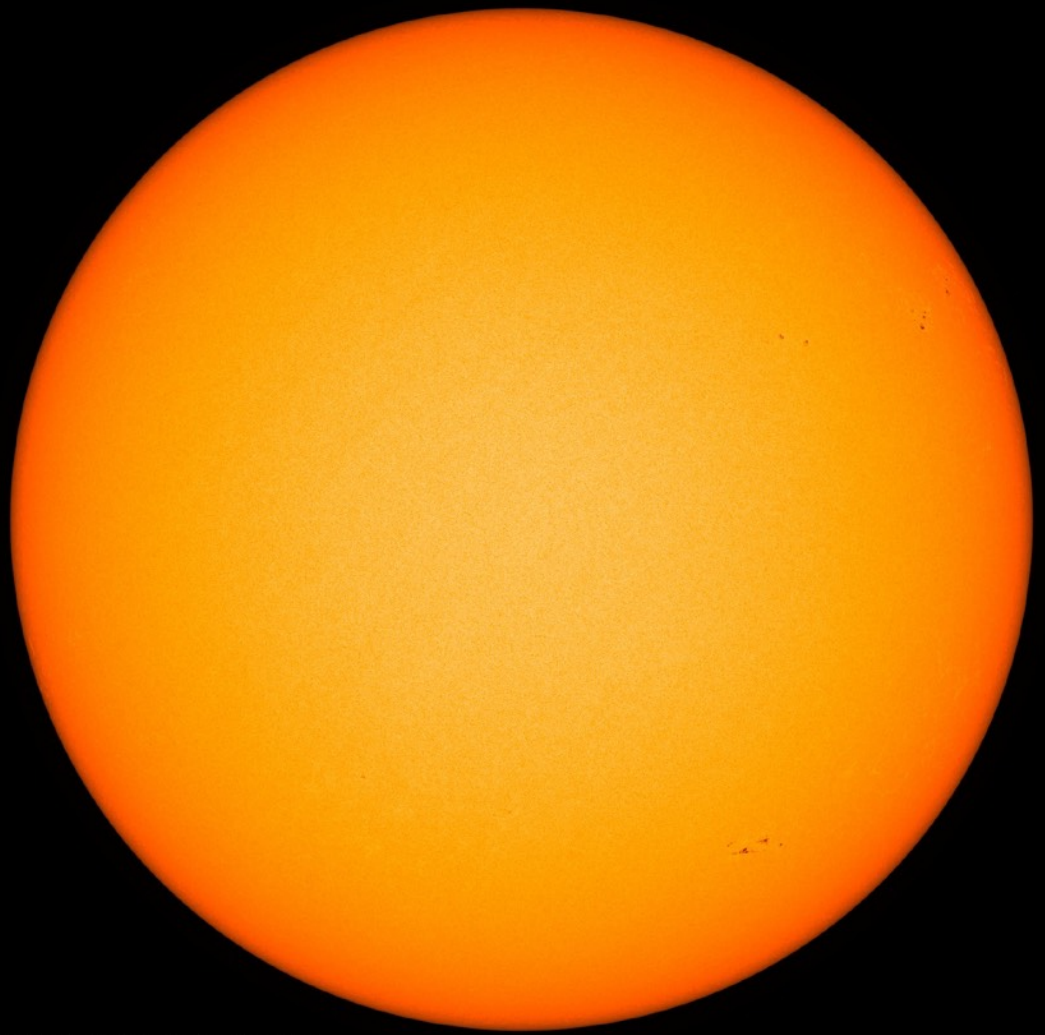


SDO/HMI Magnetogram 2022-10-10

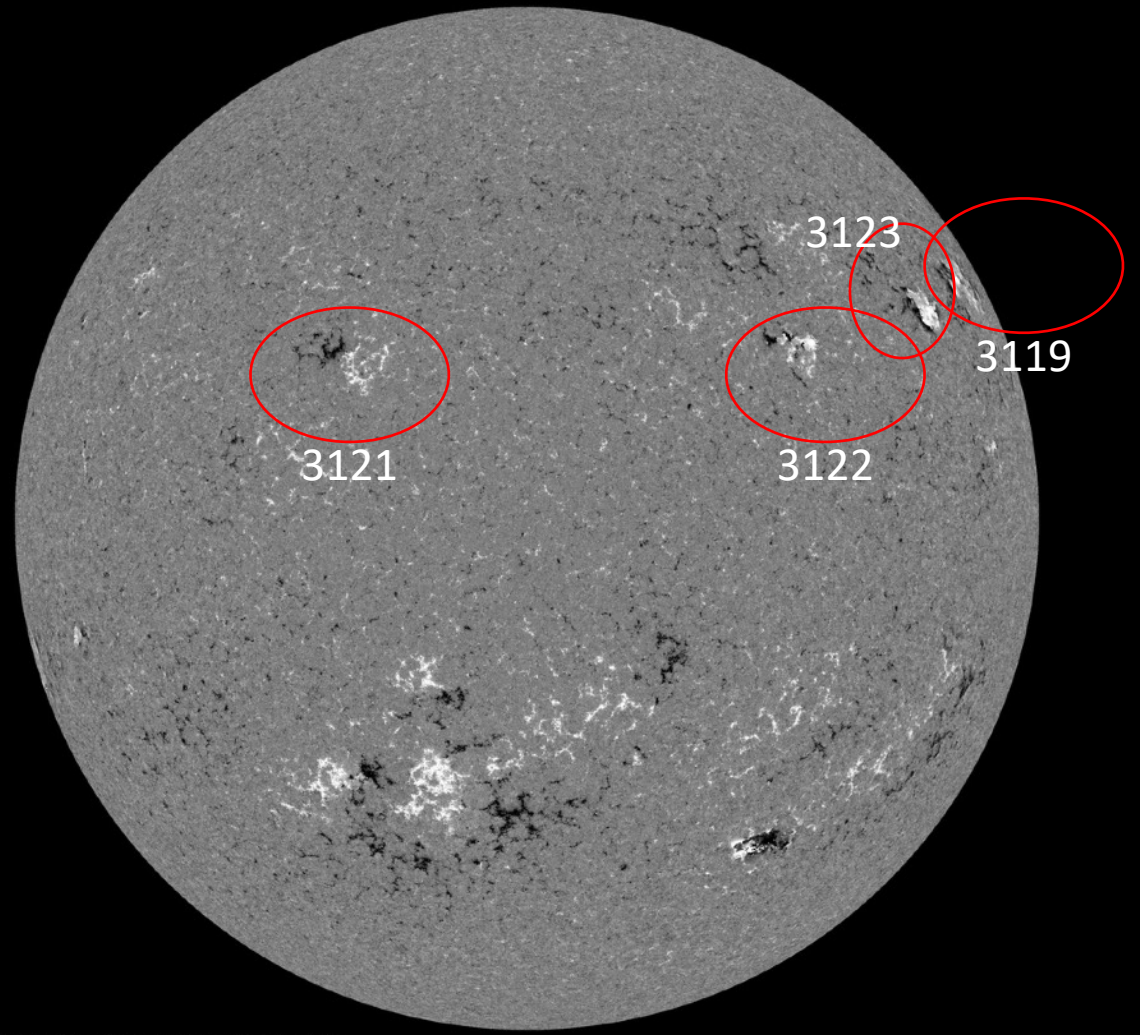


Solar active regions

SDO/HMI White Light 2022-10-16

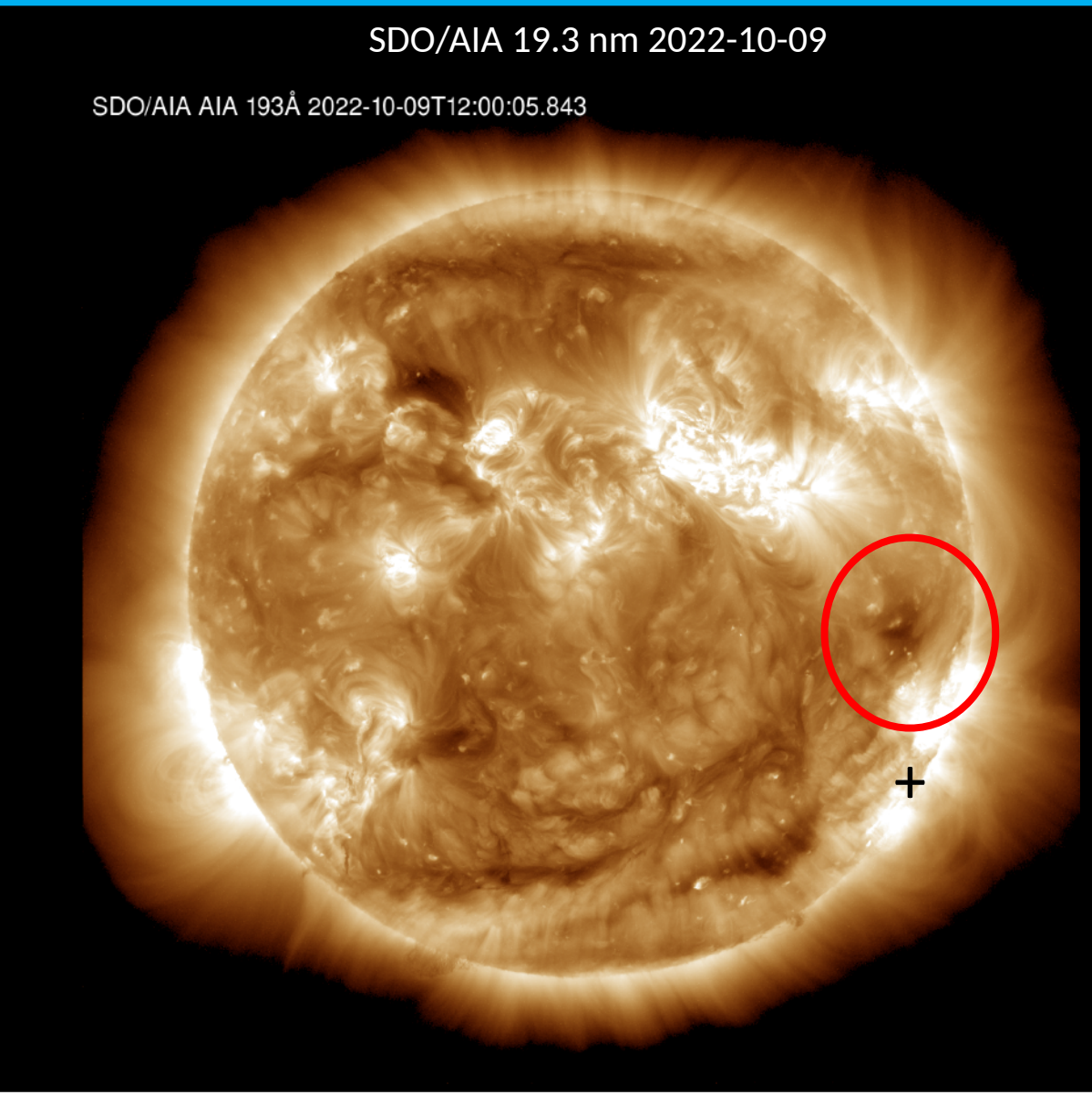


SDO/HMI Magnetogram 2022-10-16

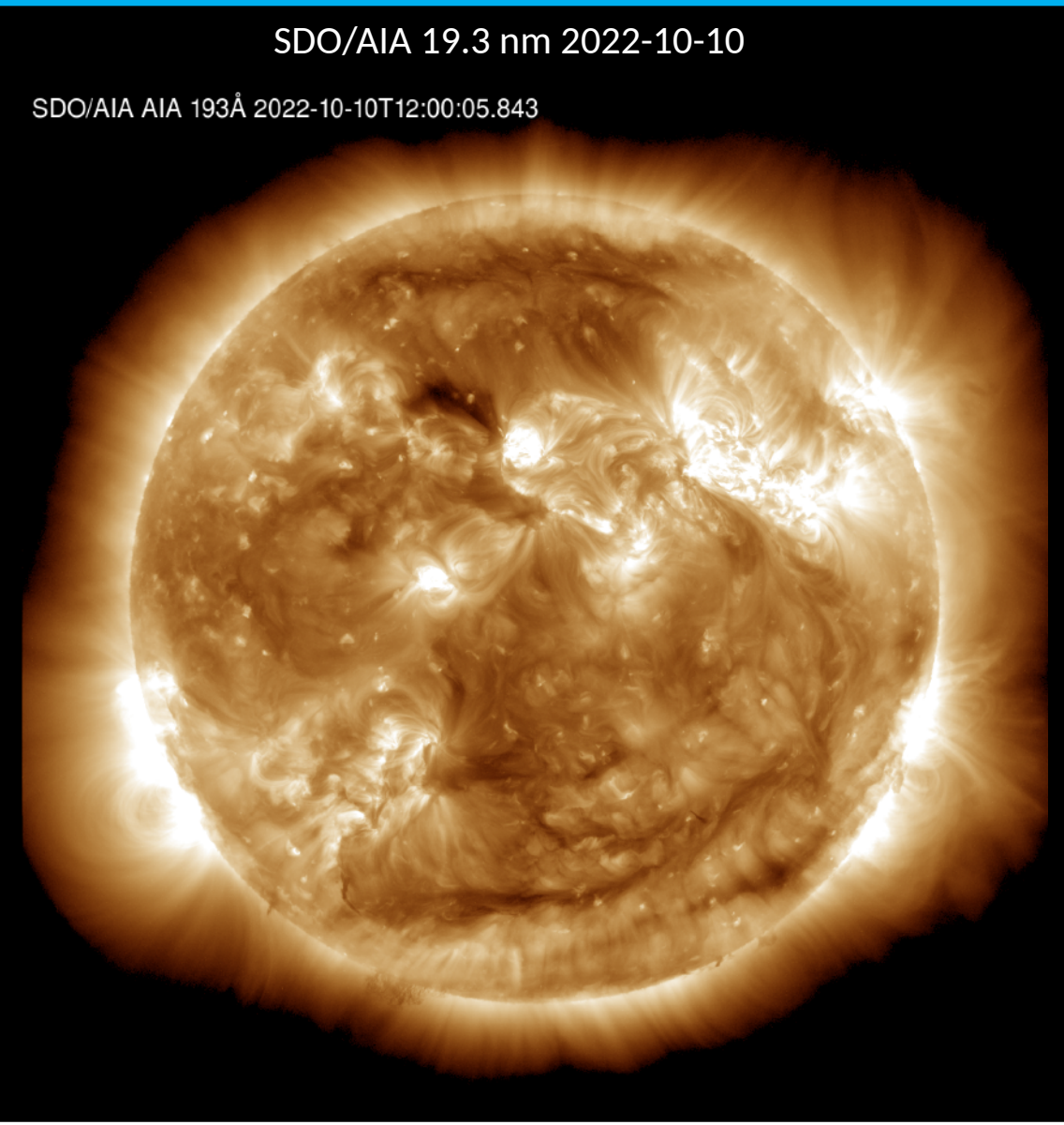


Coronal holes

SDO/AIA 19.3 nm 2022-10-09

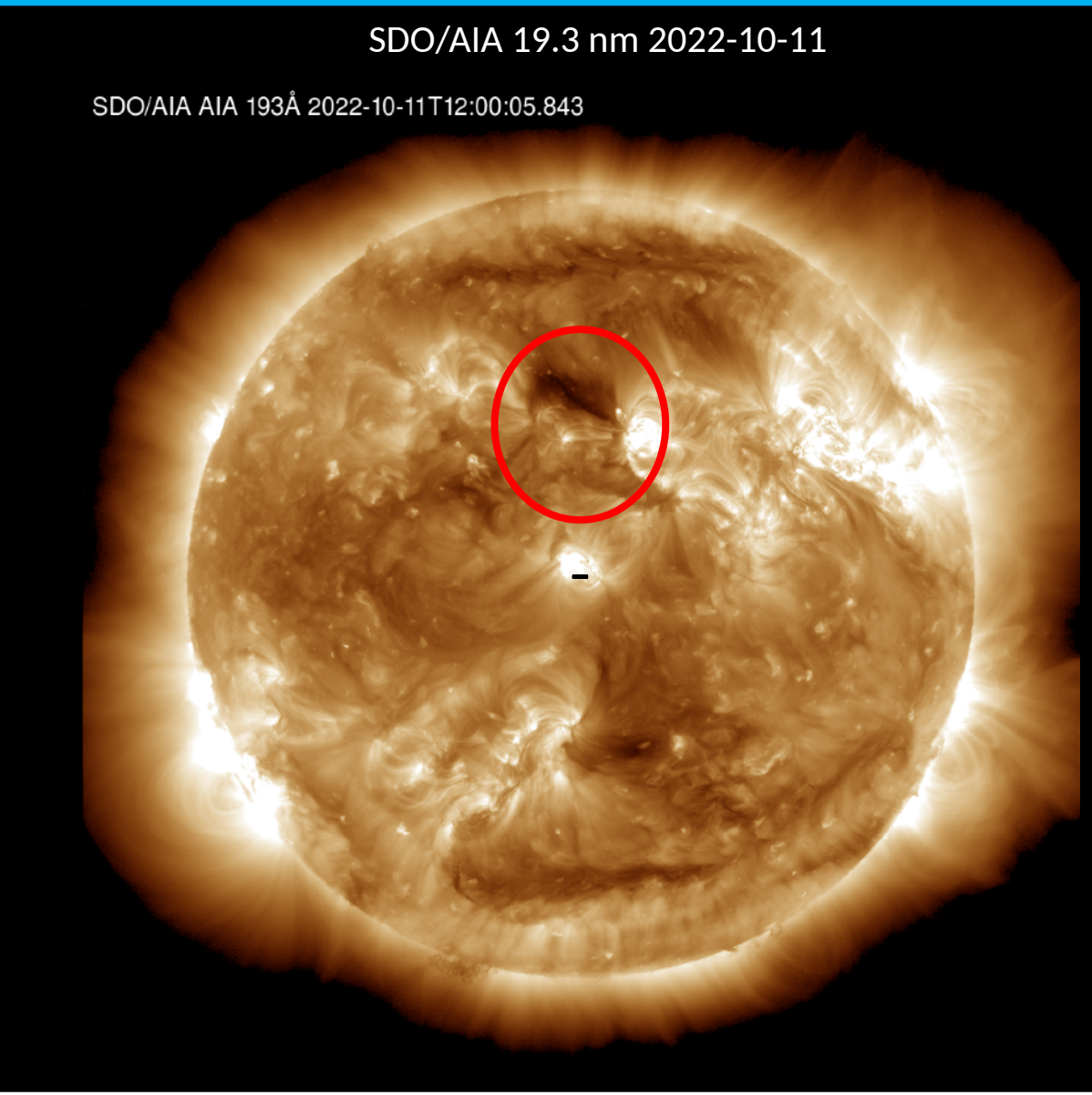


SDO/AIA 19.3 nm 2022-10-10

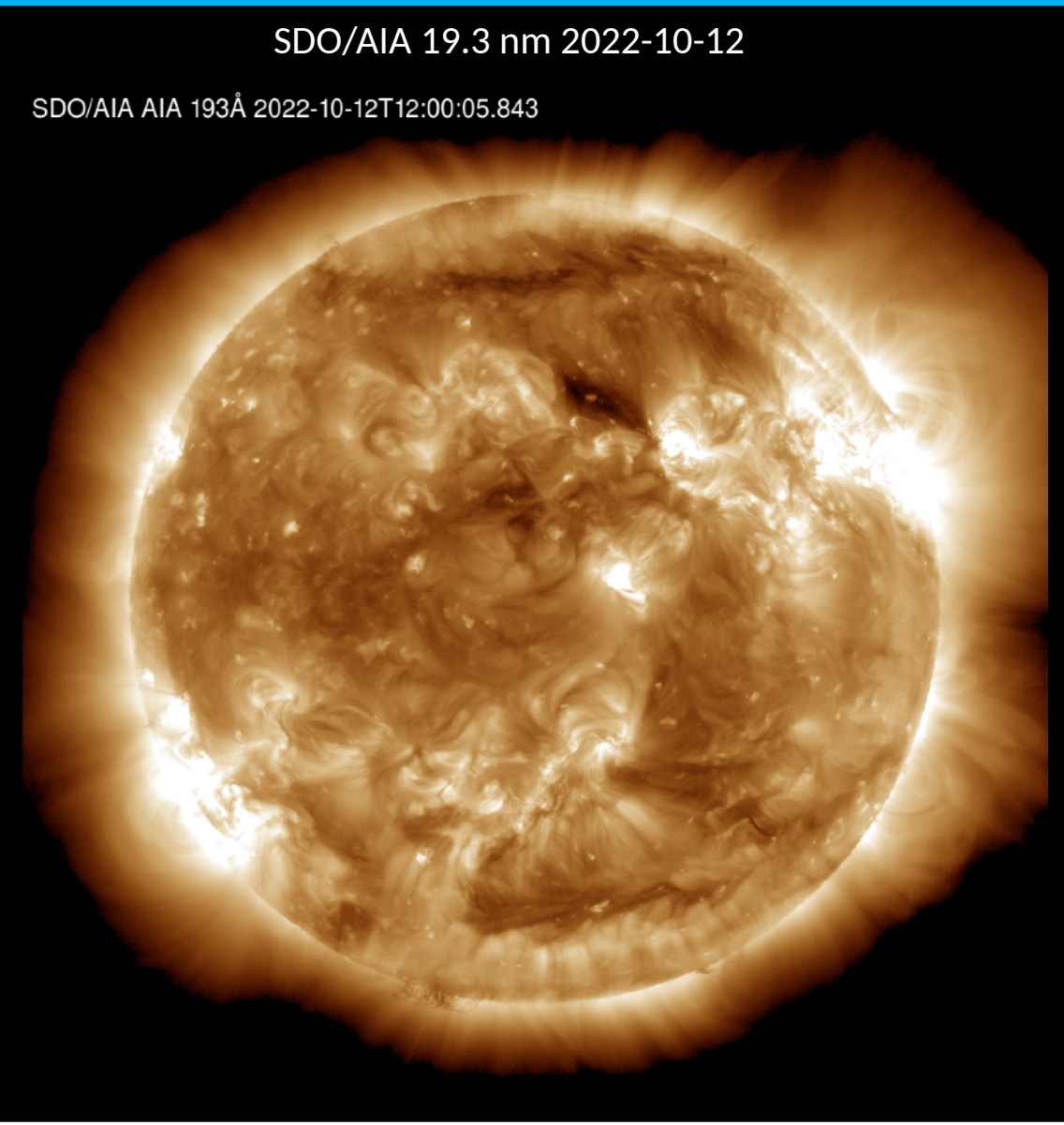


Coronal holes

SDO/AIA 19.3 nm 2022-10-11

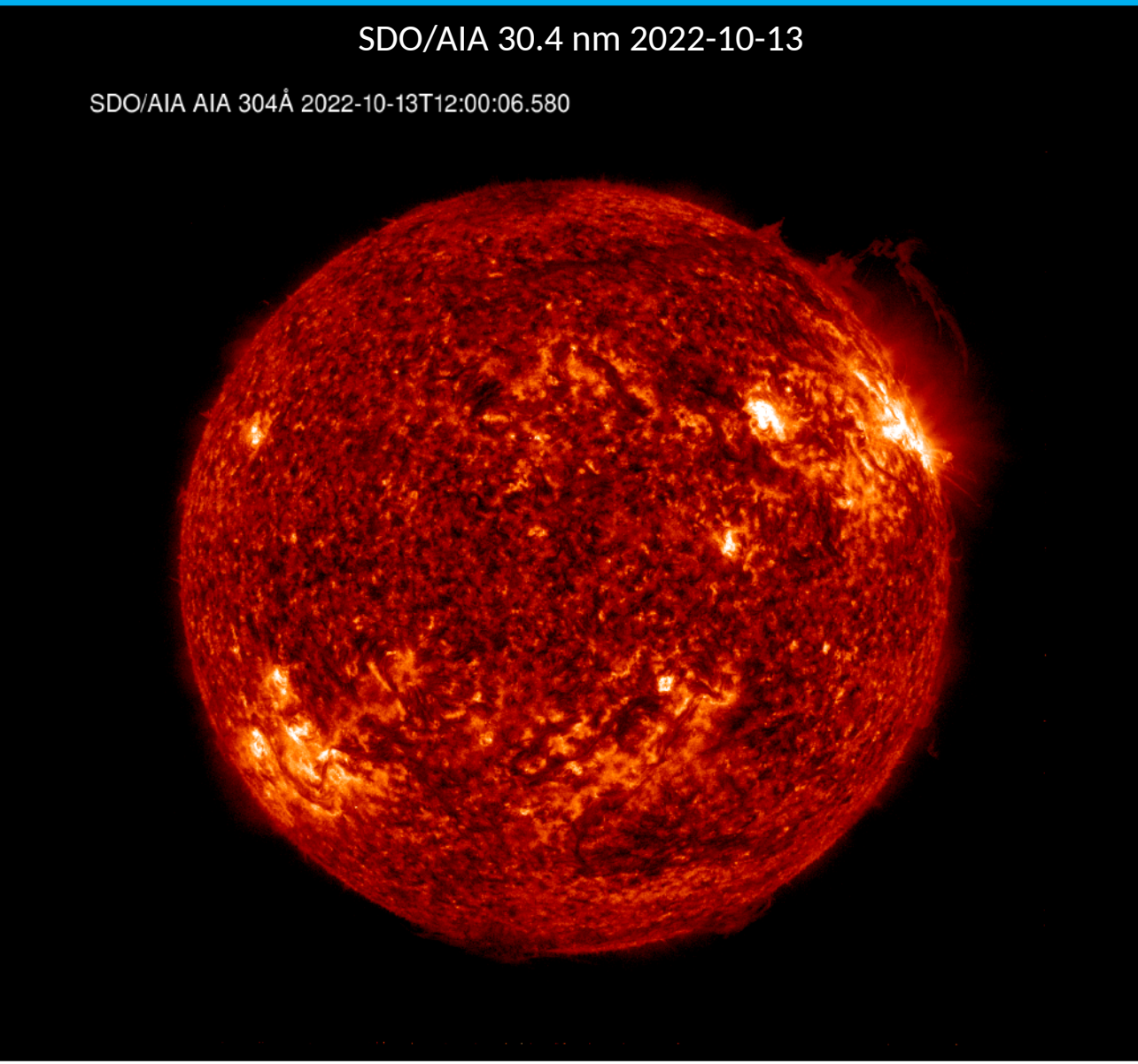


SDO/AIA 19.3 nm 2022-10-12

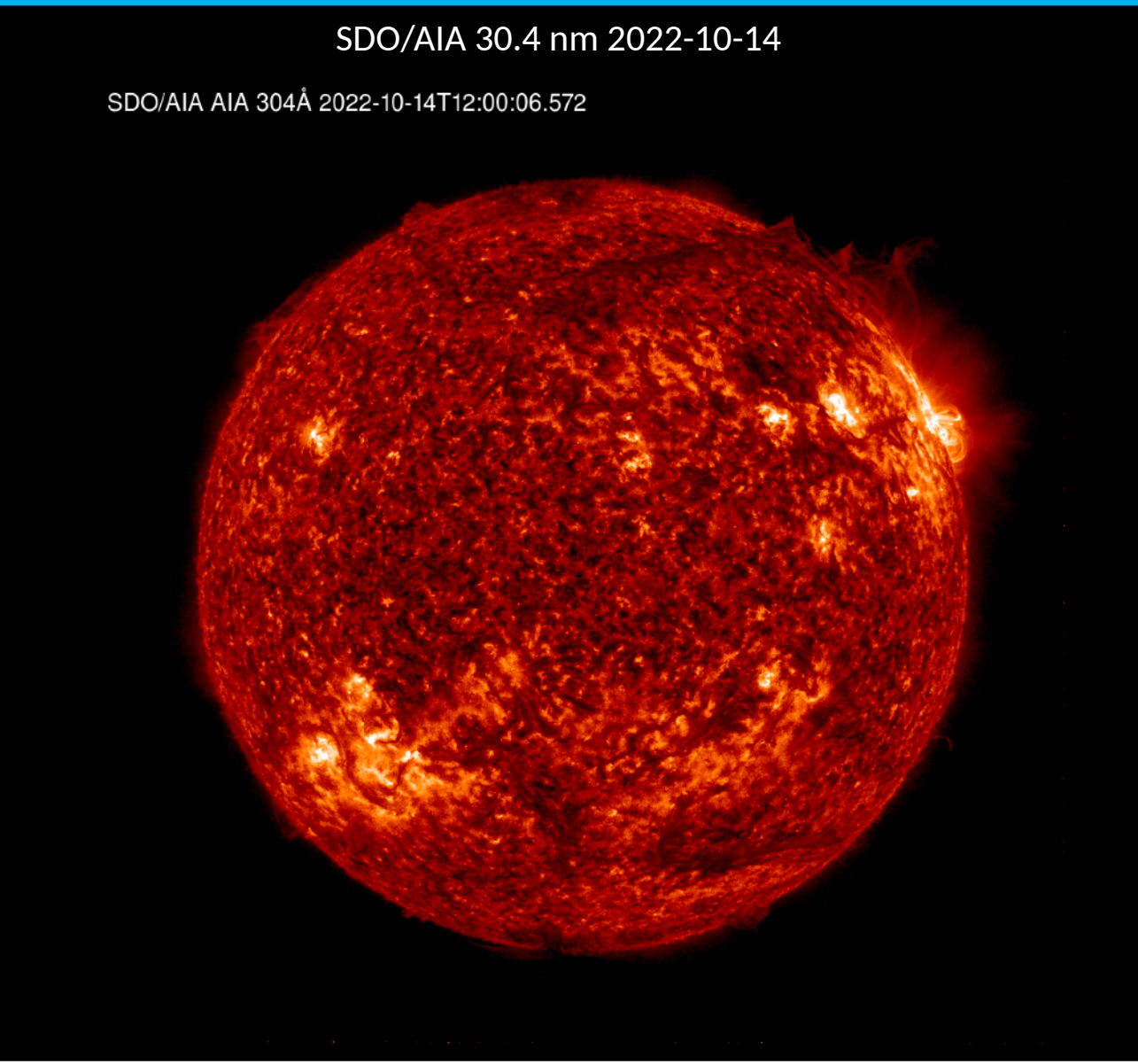


Filaments

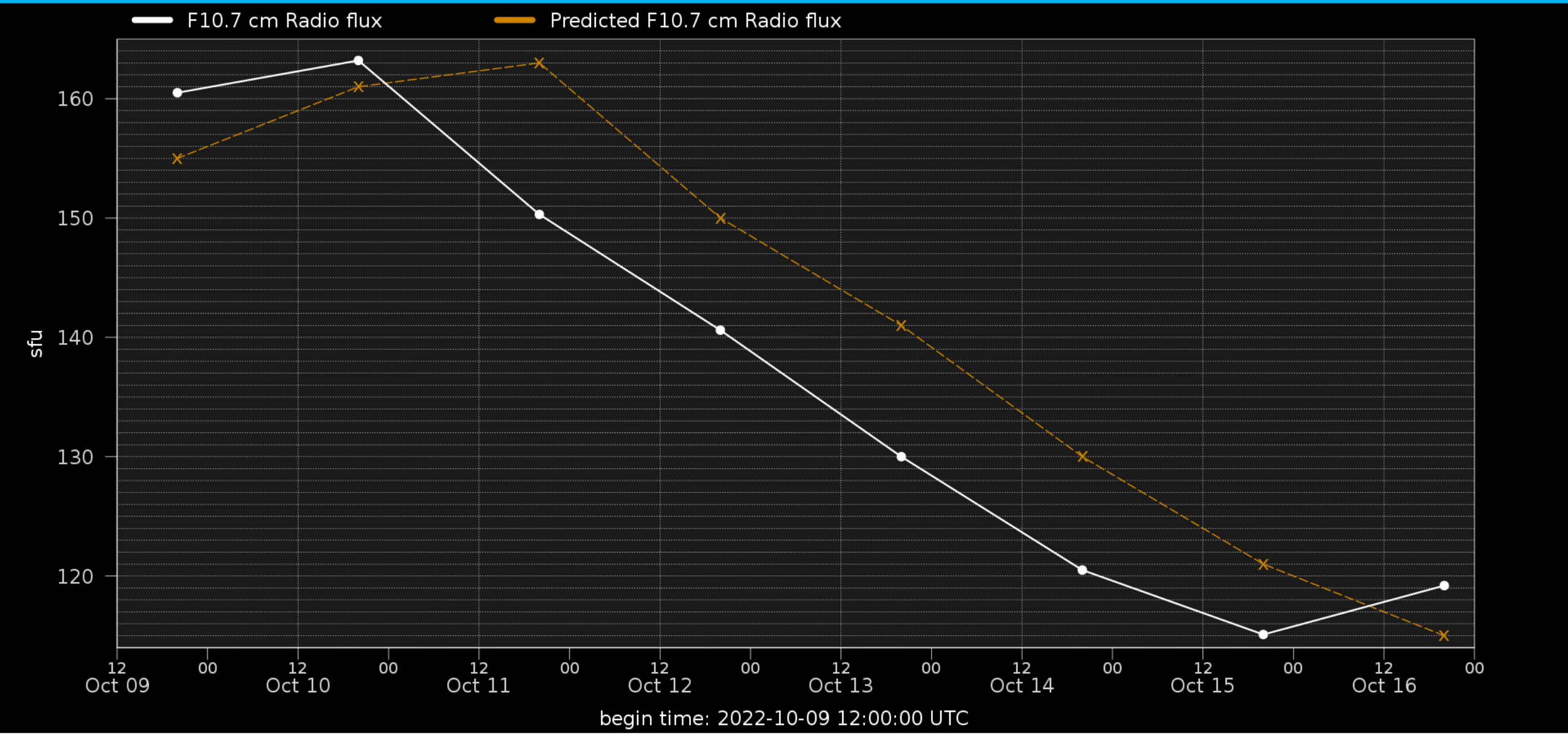
SDO/AIA 30.4 nm 2022-10-13



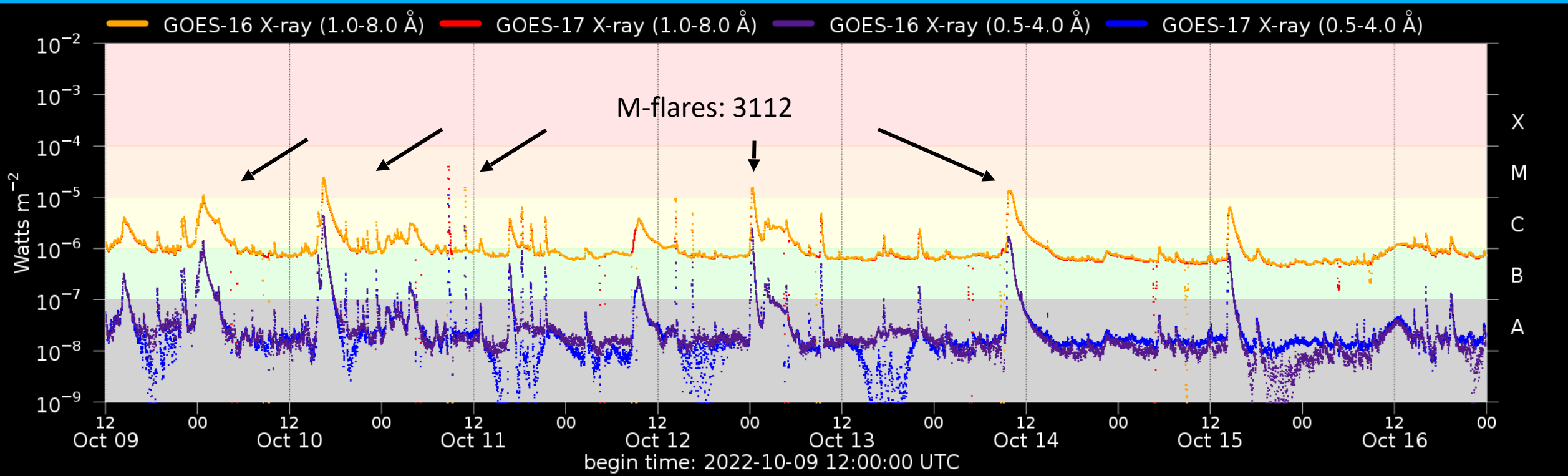
SDO/AIA 30.4 nm 2022-10-14



Solar F10.7cm radio flux



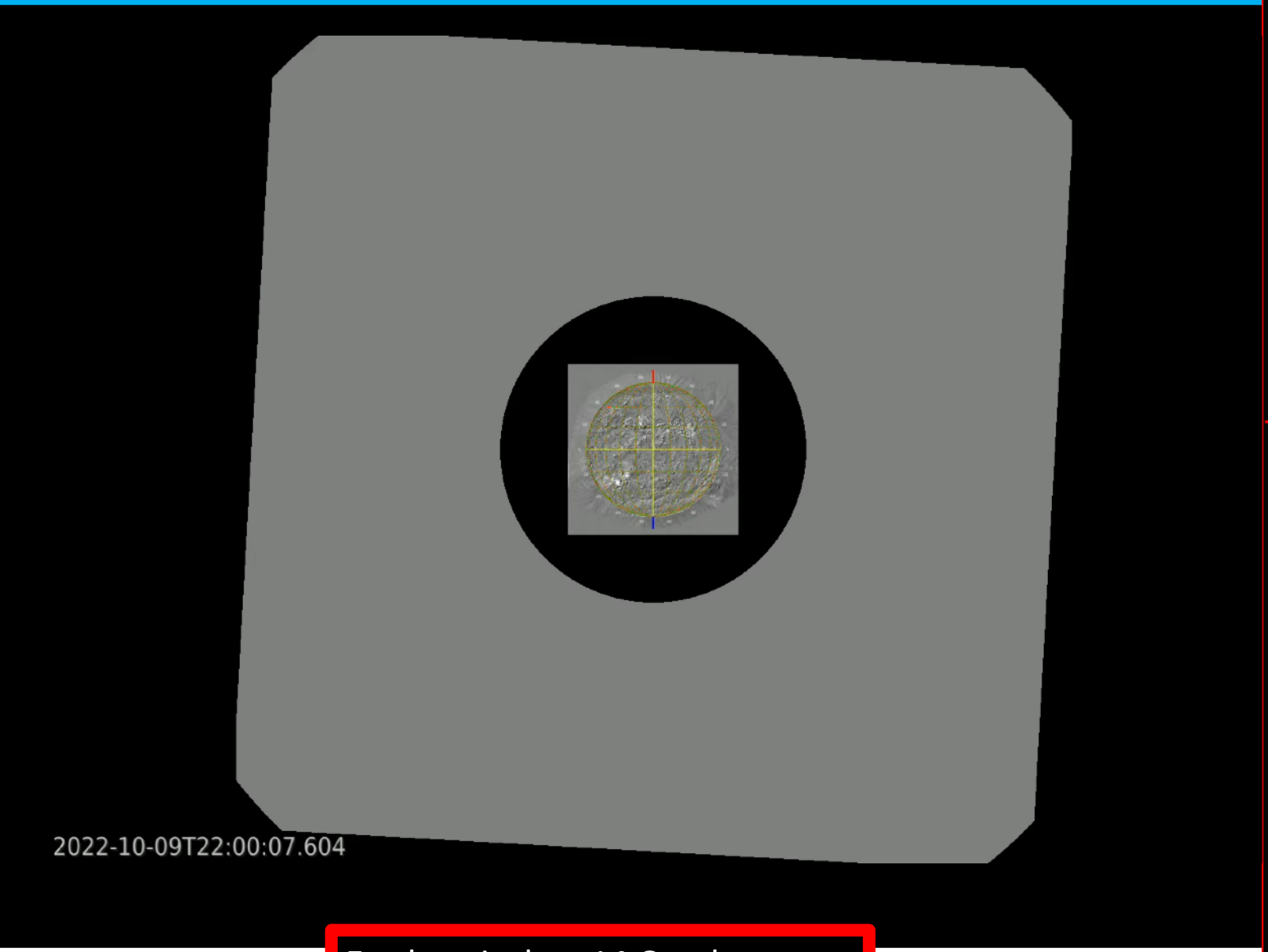
Flaring activity

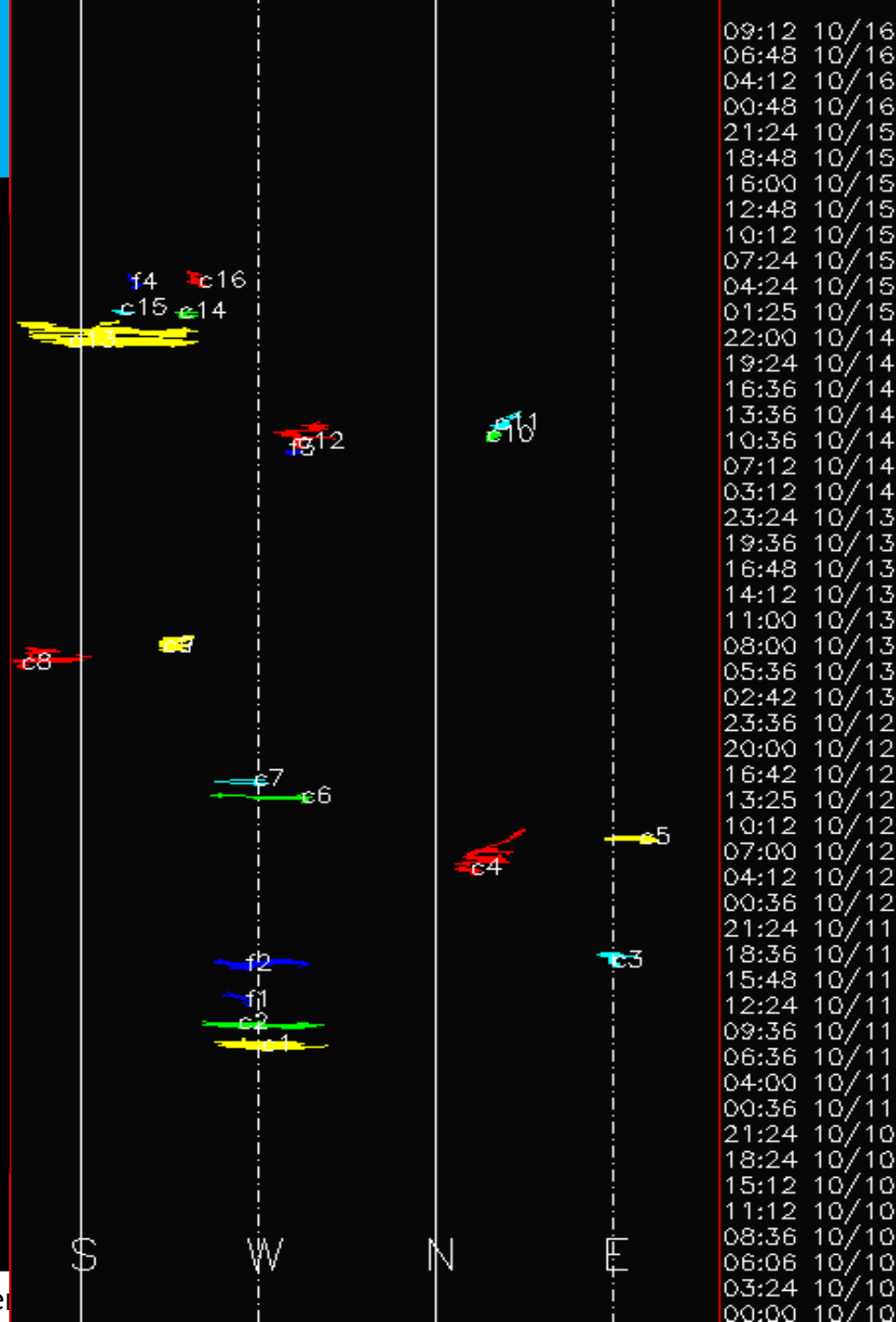


Probabilities (%) and occurrences (#) of C/M/X-flares daily, from noon to noon:

Issue date	2022-10-09	2022-10-10	2022-10-11	2022-10-12	2022-10-13	2022-10-14	2022-10-15	2022-10-16
Probability (%)	95|15|01	90|49|05	90|50|10	85|50|10	90|50|10	80|50|03	55|05|01	55|01|01
Observed (#)	05|01|00	08|03|00	07|00|00	06|01|00	02|00|00	01|00|00	01|00|00	01|00|00

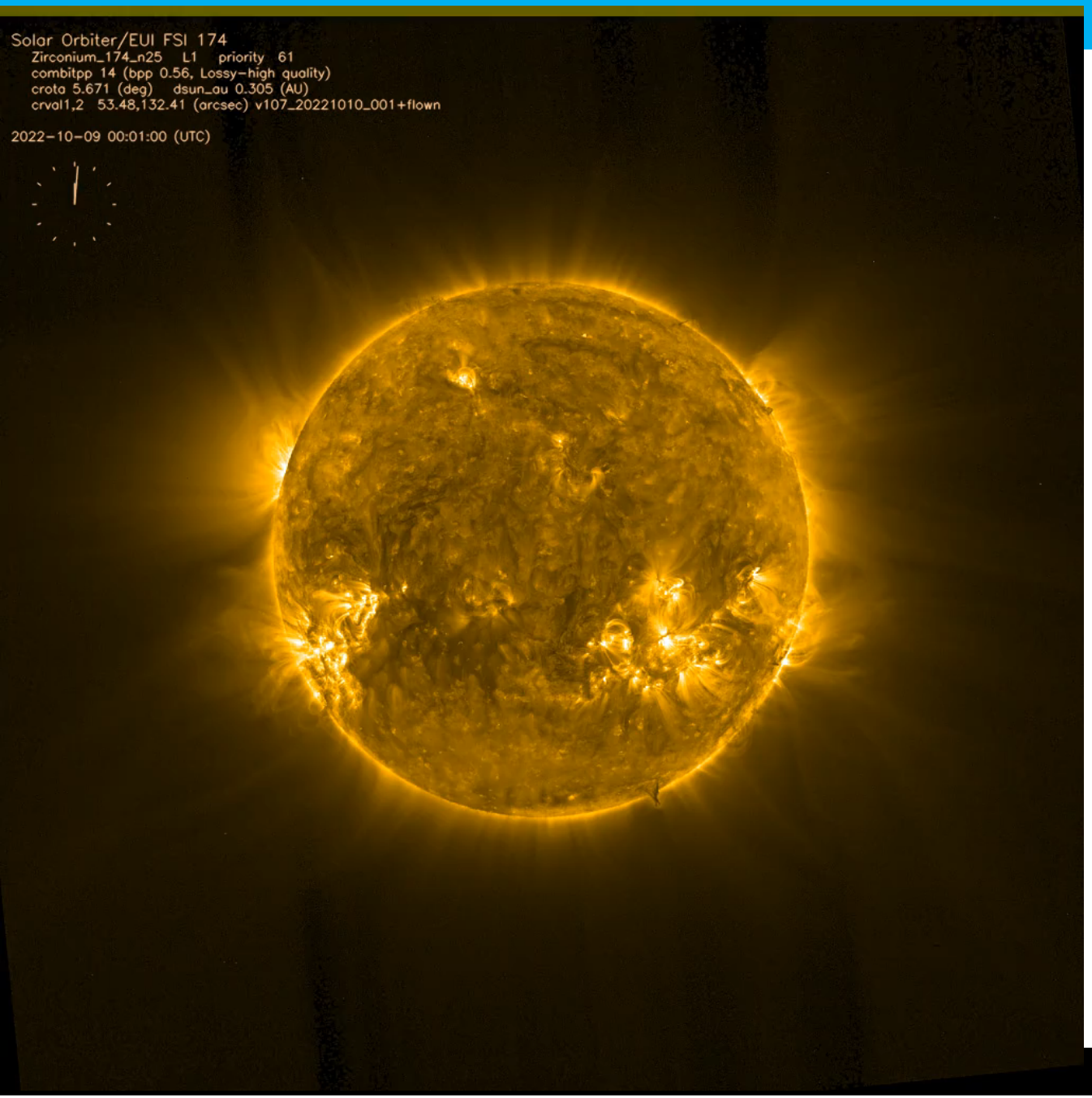
Coronal Mass Ejection 10/10

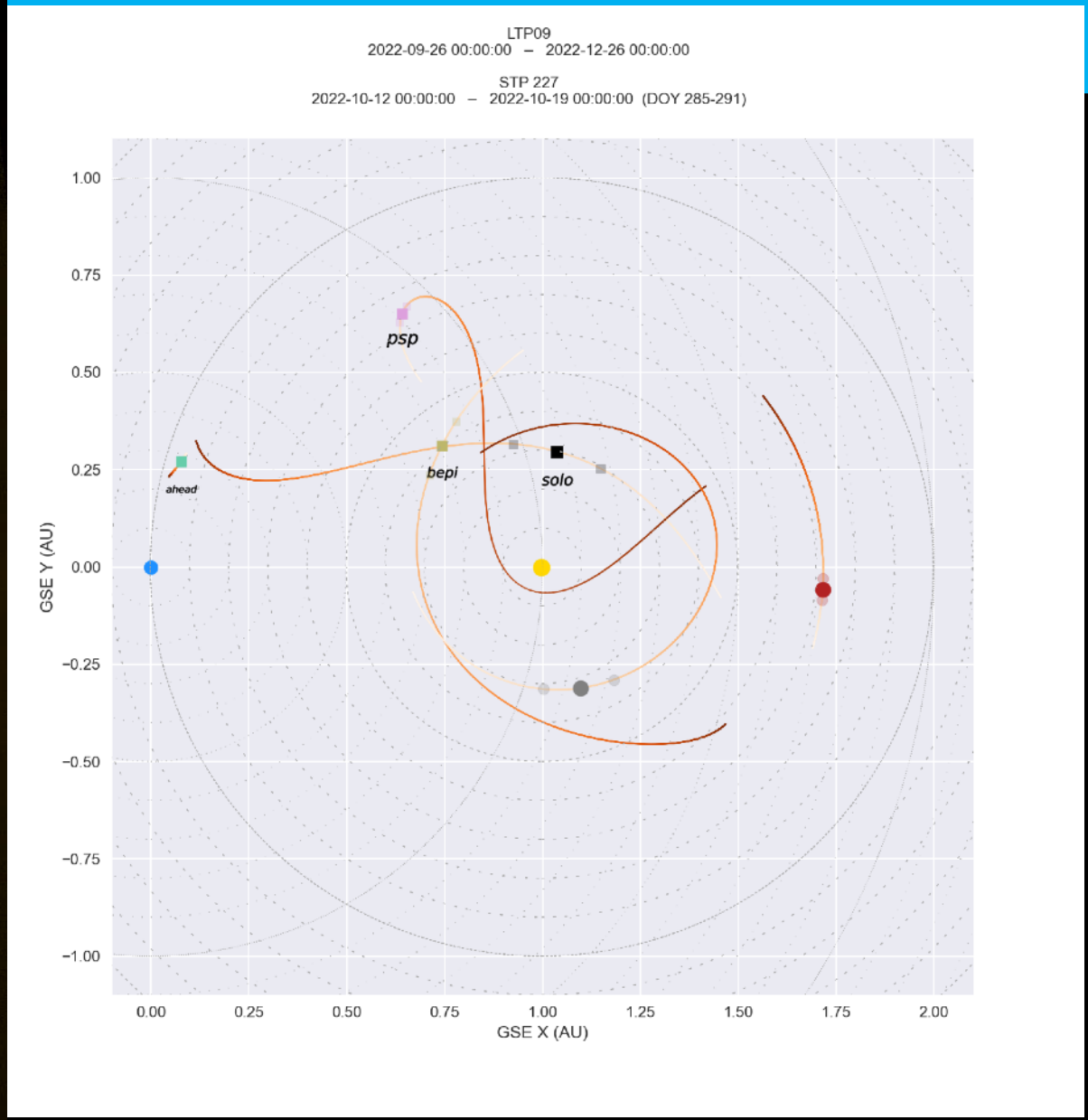




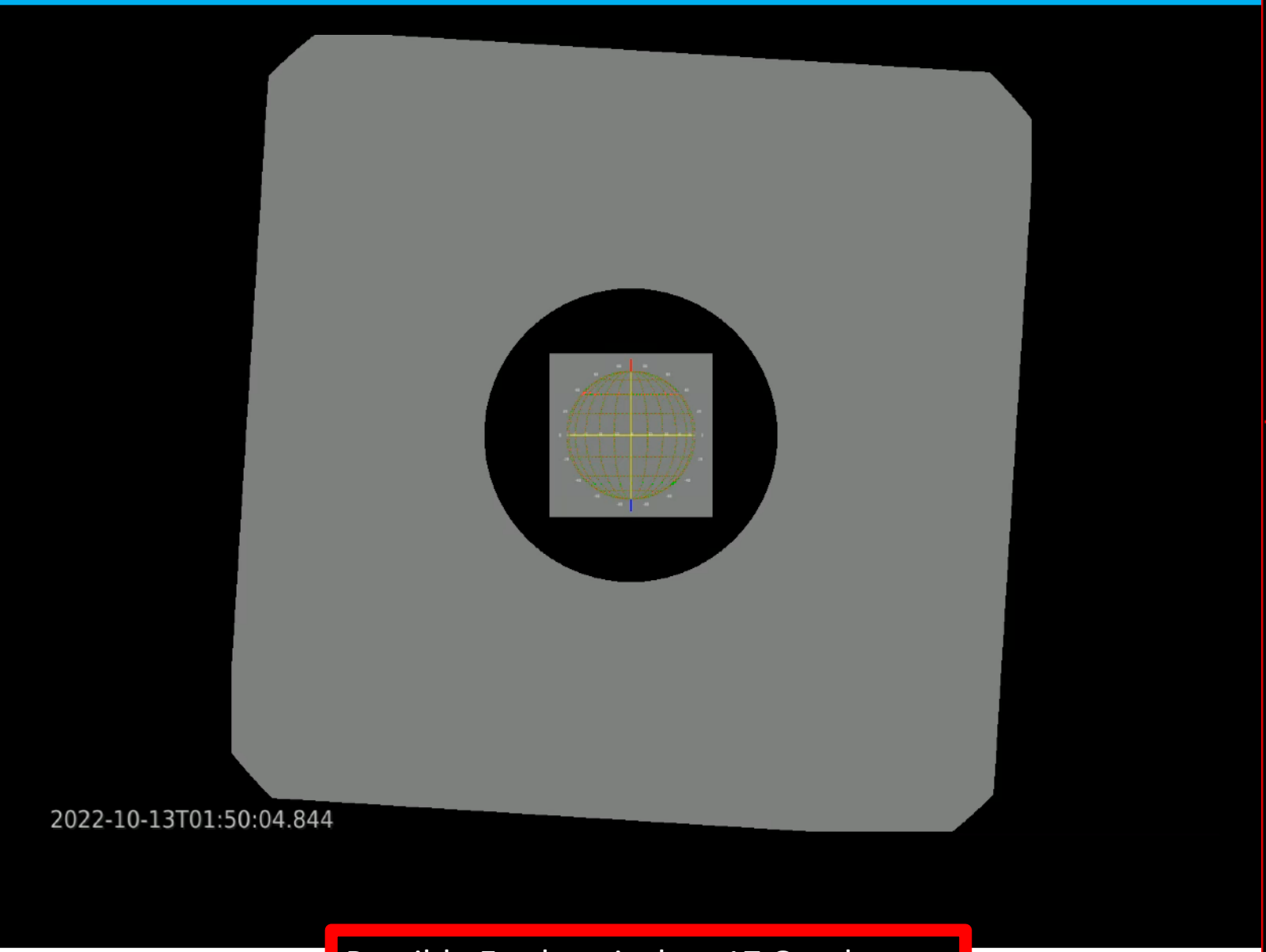
Earth arrival on 14 October

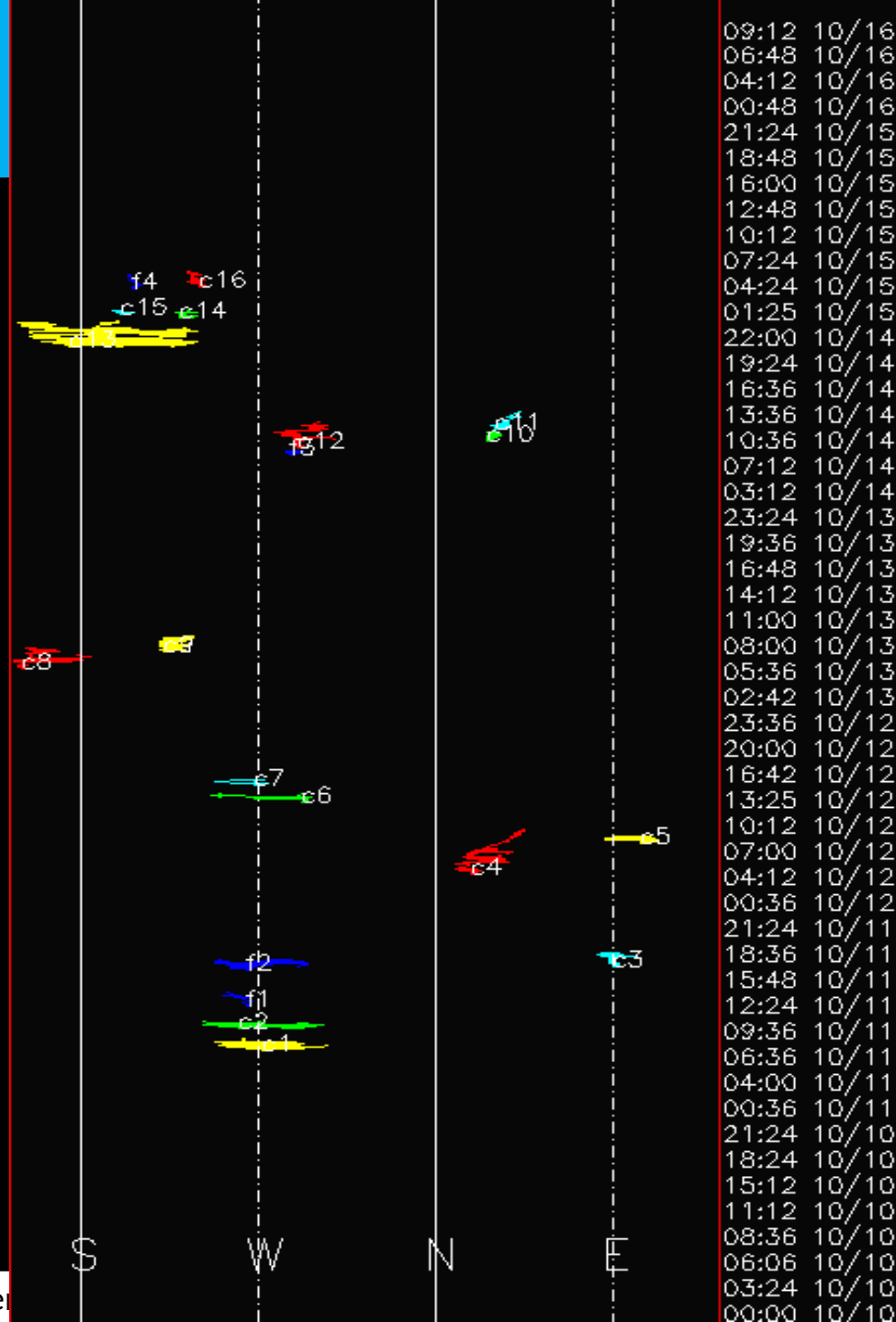
Solar Influences Data analysis Cen


Solar Orbiter/EUI FSI 174
Zirconium_174_n25 L1 priority 61
combitpp 14 (bpp 0.56, Lossy-high quality)
crota 5.671 (deg) dsun_au 0.305 (AU)
crval1,2 53.48,132.41 (arcsec) v107_20221010_001+flown
2022-10-09 00:01:00 (UTC)


LTP09
2022-09-26 00:00:00 – 2022-12-26 00:00:00
STP 227
2022-10-12 00:00:00 – 2022-10-19 00:00:00 (DOY 285-291)
psp
bepi
solo
ahead
GSE Y (AU)
GSE X (AU)
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00
0.00
0.25
0.50
0.75
1.00
1.25
1.50
1.75
2.00

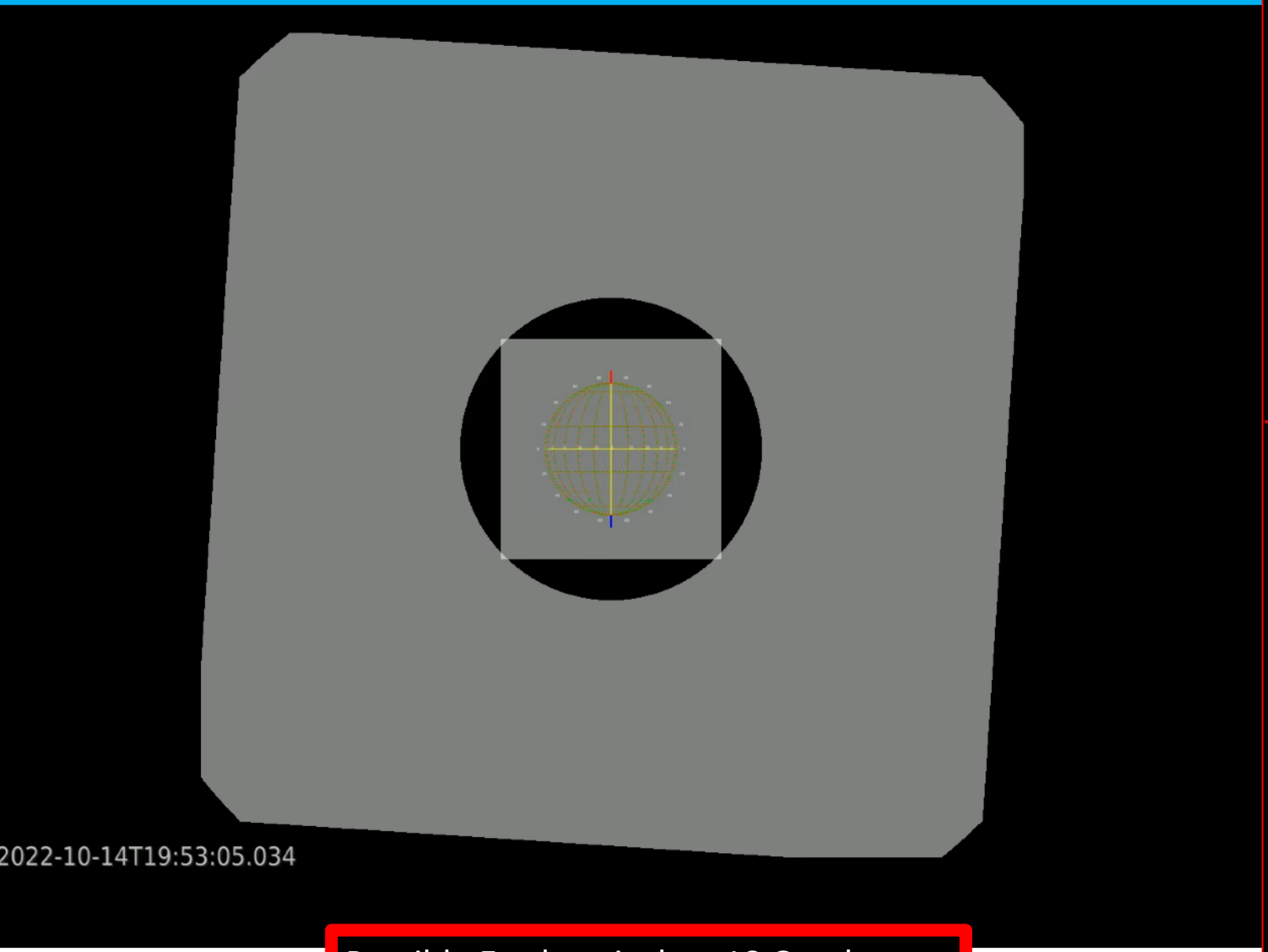
Coronal Mass Ejection 13/10

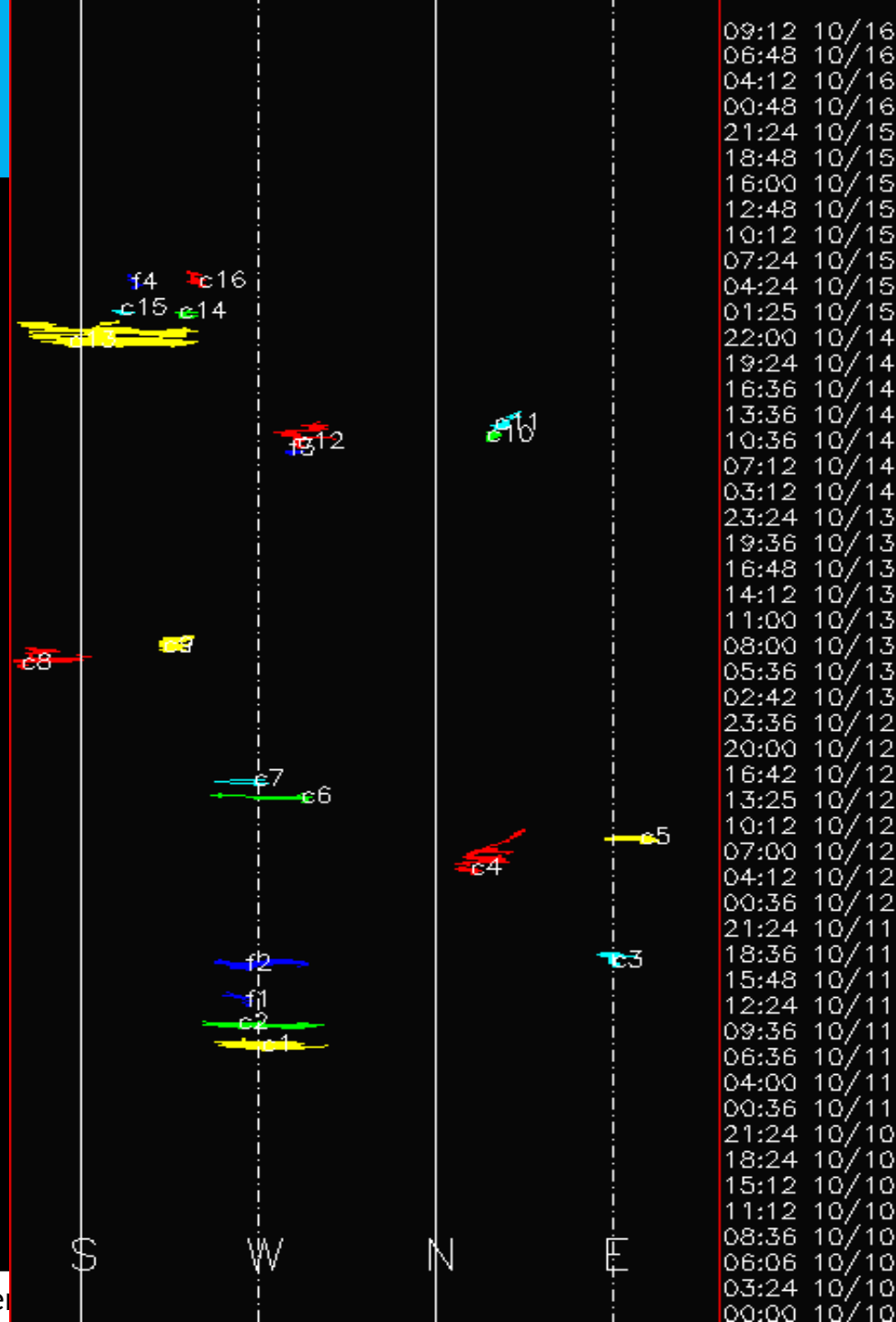




Possible Earth arrival on 17 October

Coronal Mass Ejection 14/10





Possible Earth arrival on 18 October

Solar Wind and Geomagnetic Activity

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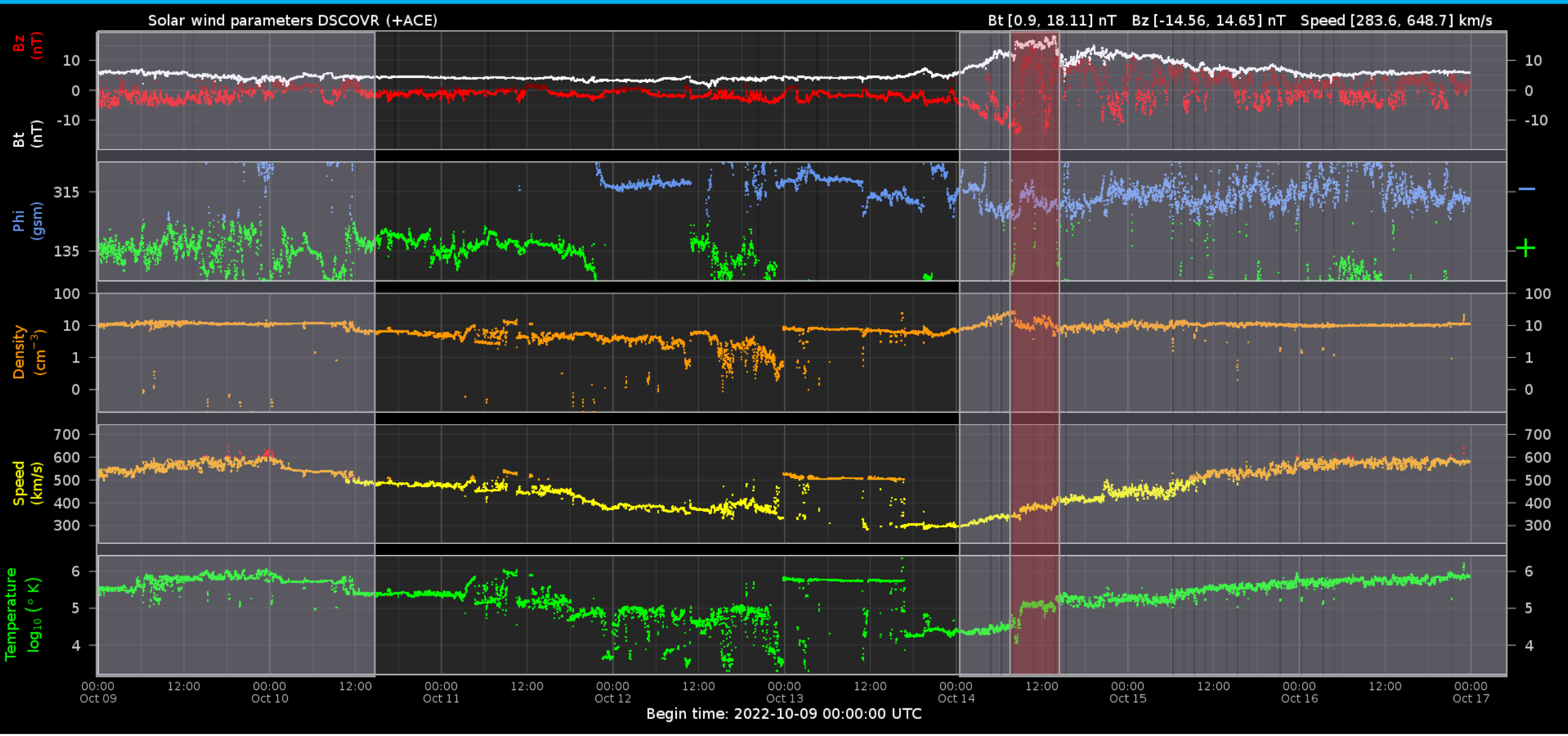
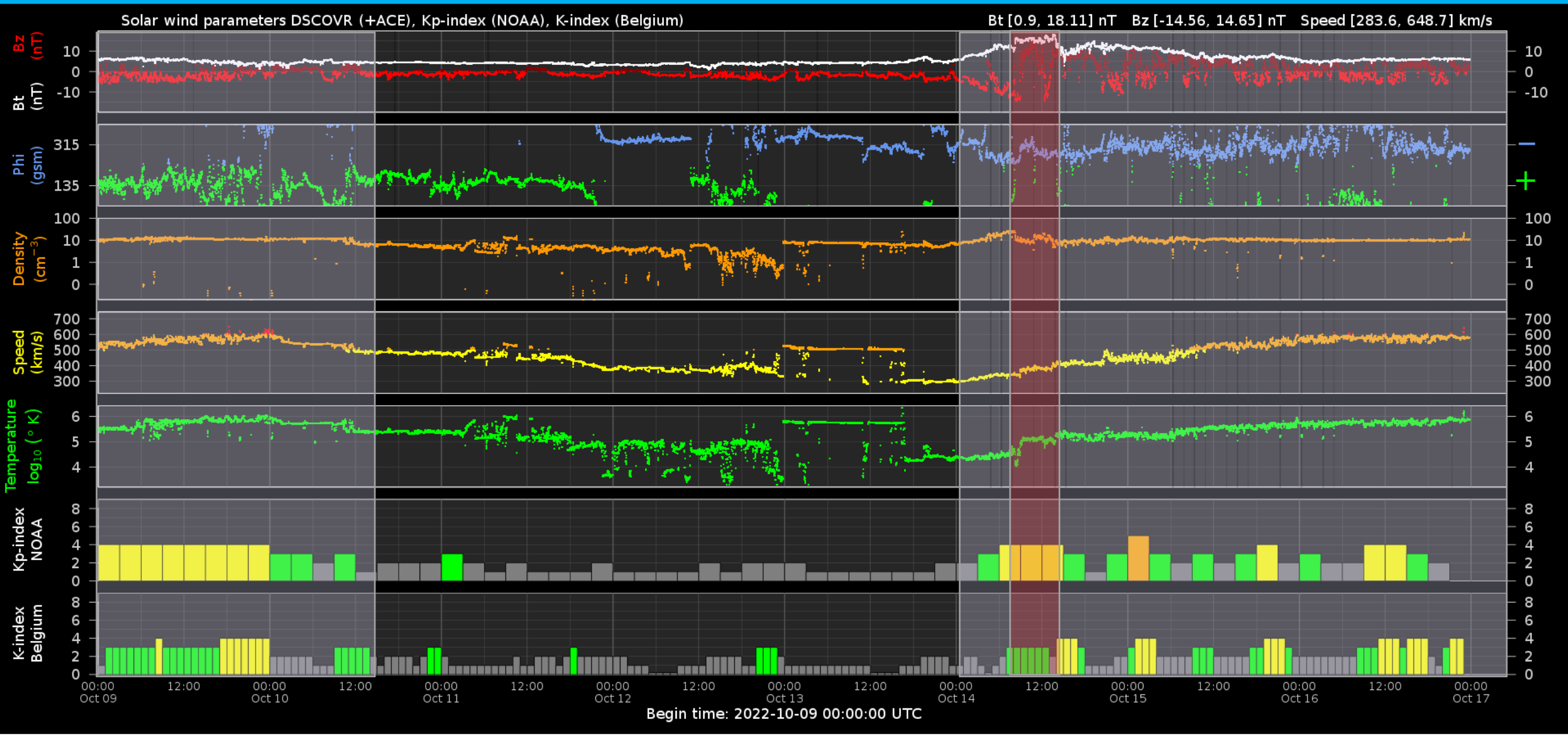
Solar wind parameters



Solar wind parameters & K-indices



Energetic Particles

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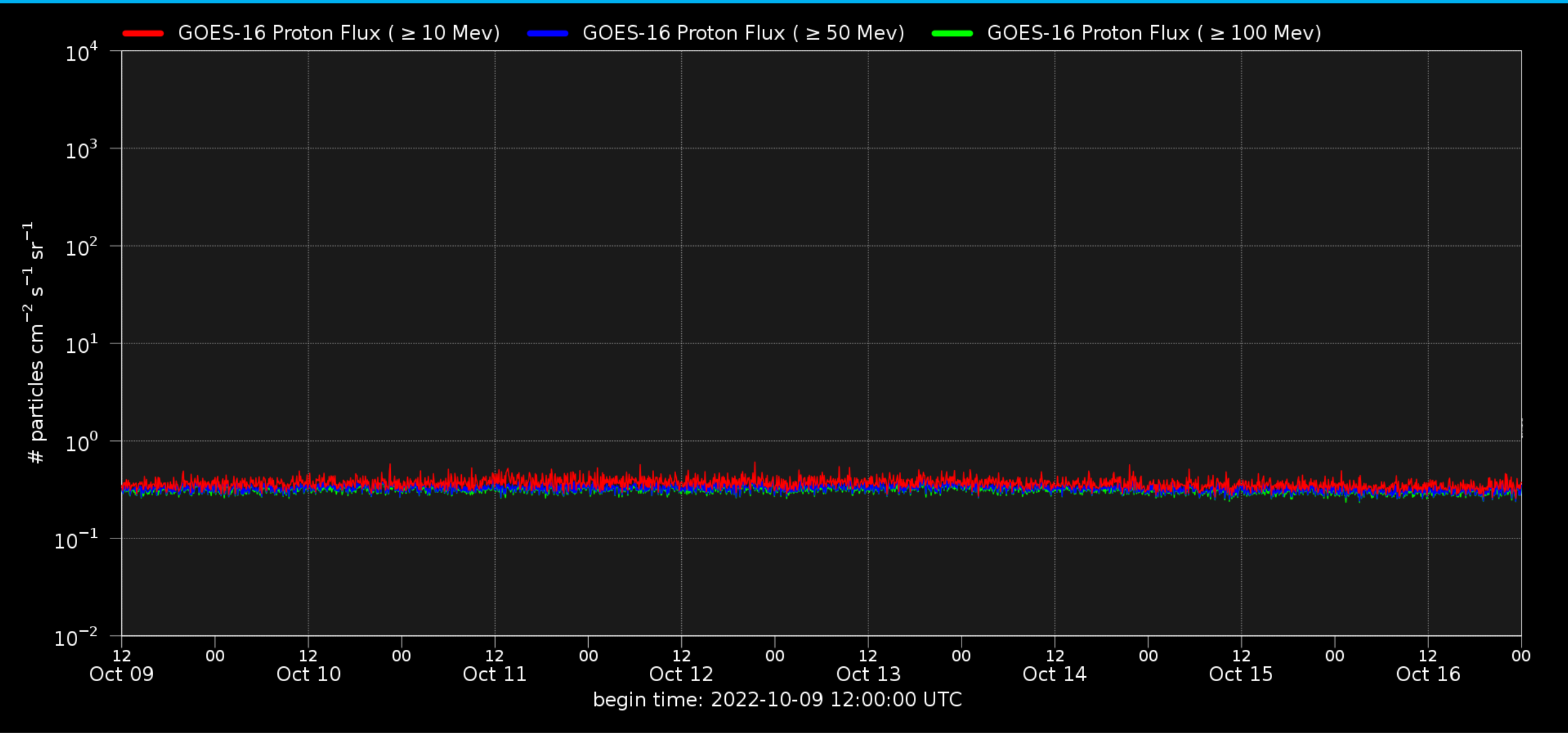
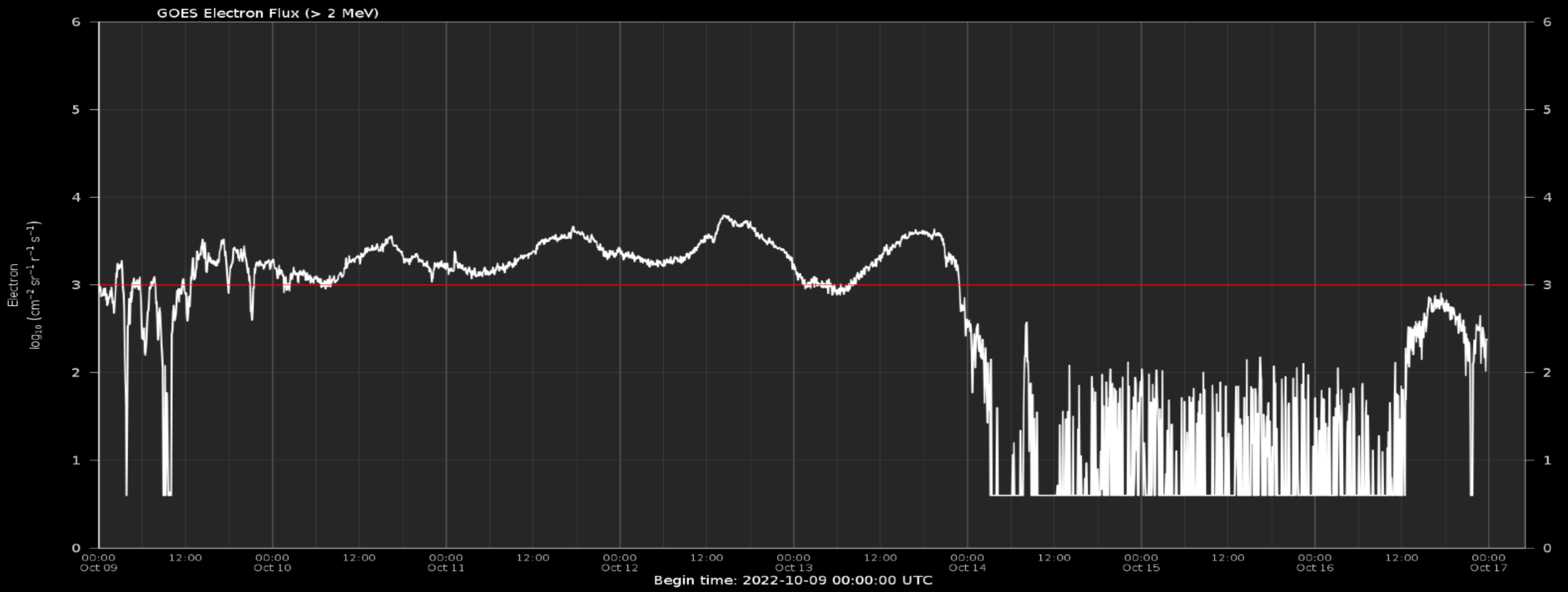
Solar proton flux



Electron flux at GEO

www.stce.be/educational/classification#electrons

www.spaceweather.gc.ca/forecast-prevision/space-spatiale/sffl-en.php



Outlook

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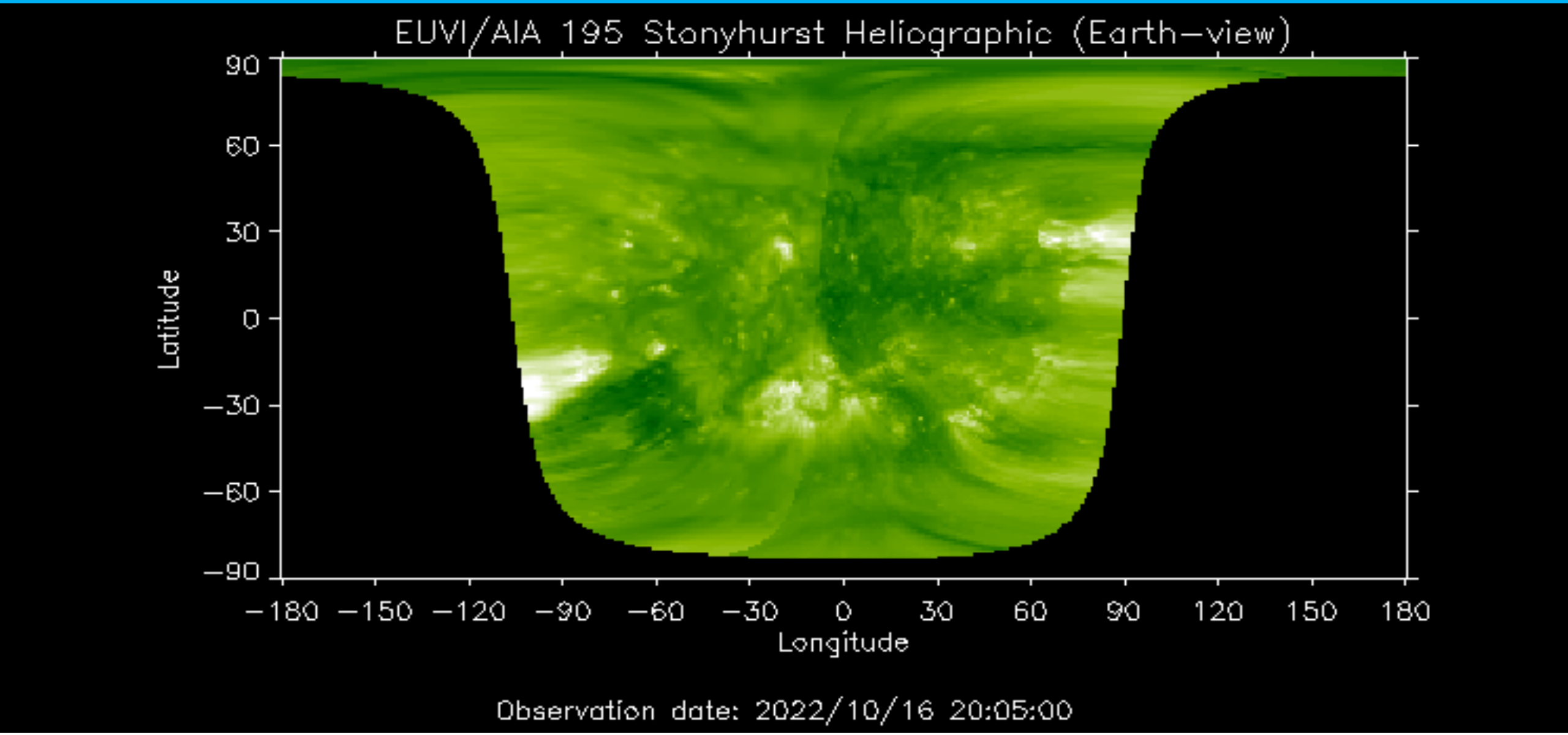
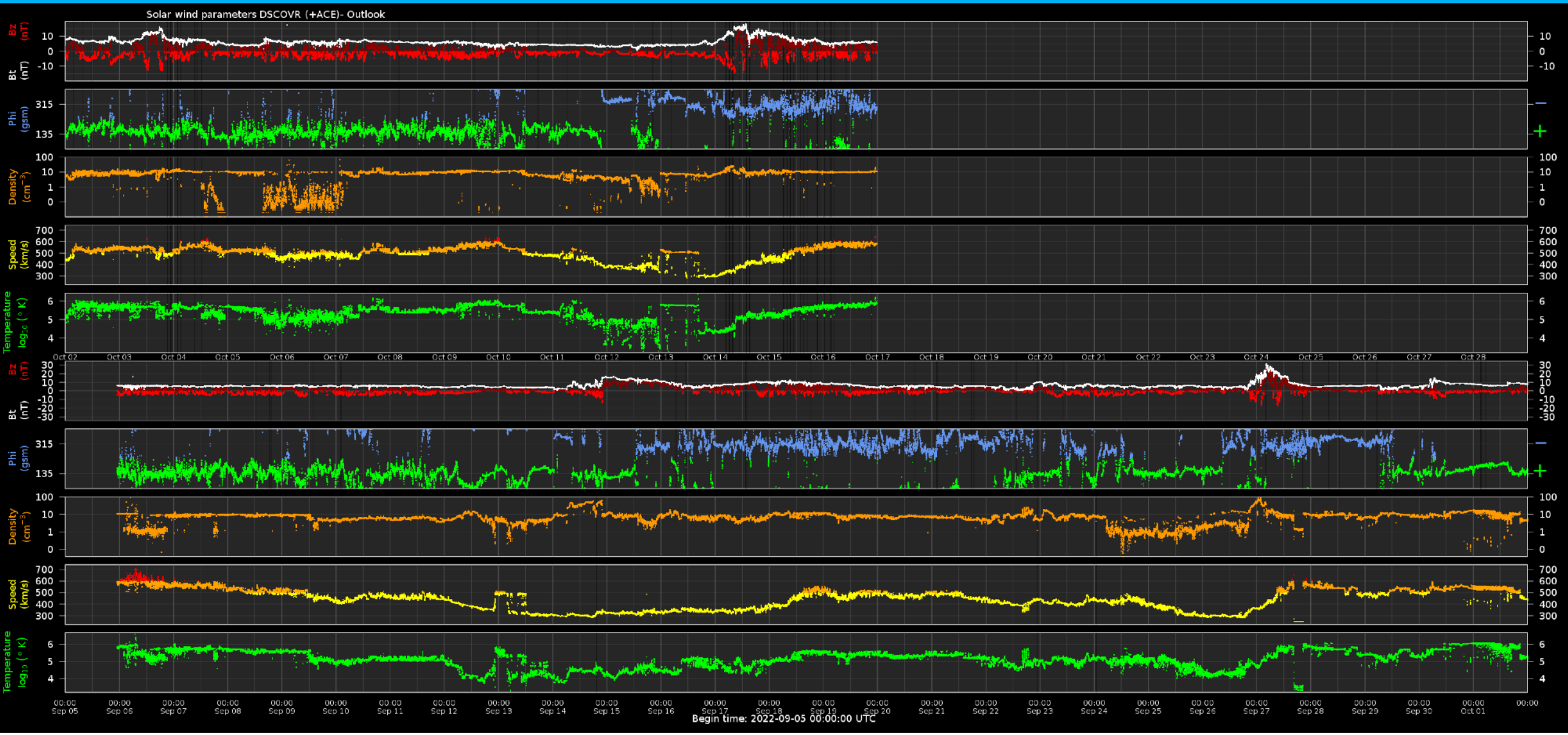
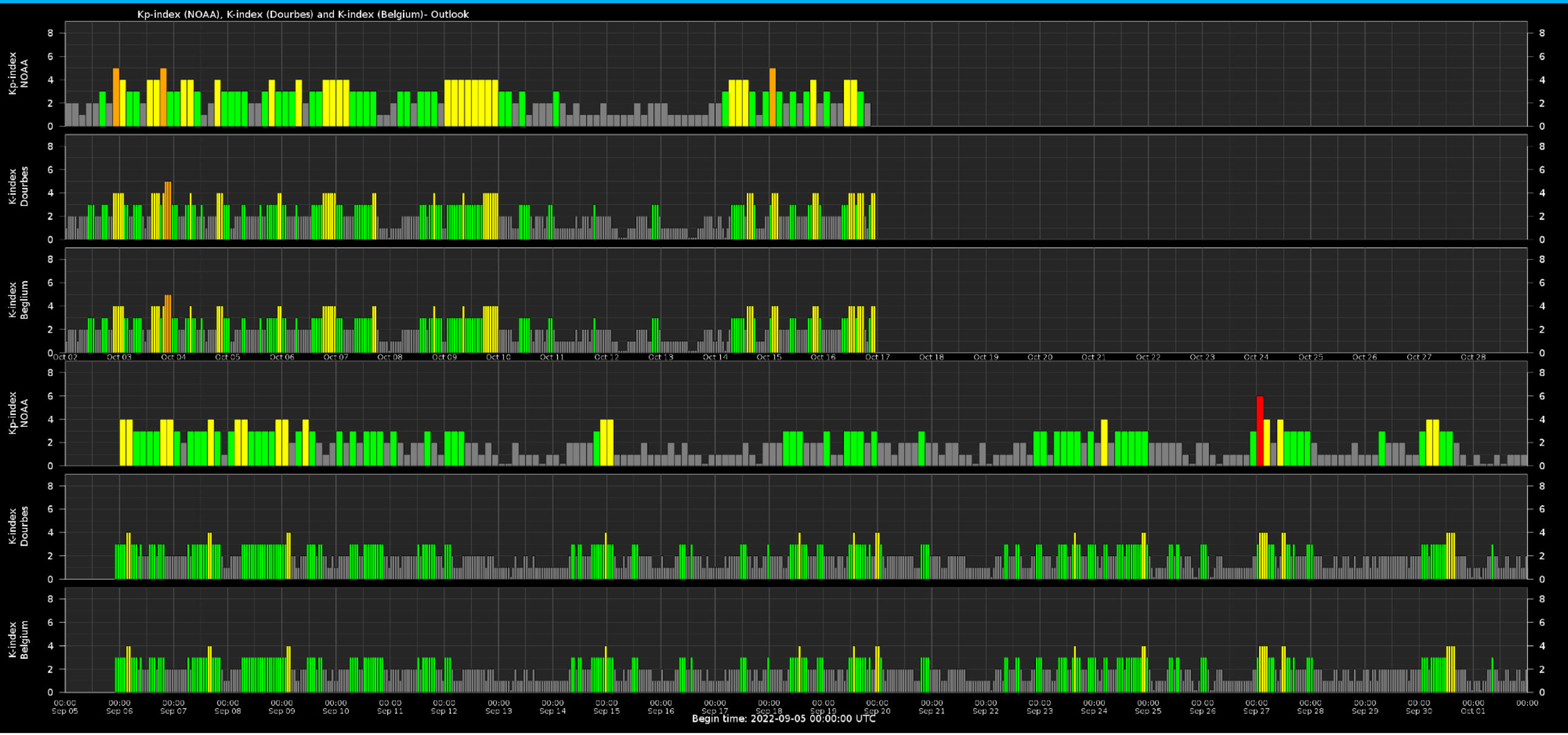
Outlook: Solar activity



Outlook: Solar wind parameters



Outlook: Geomagnetic activity



Pecasus

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Pecasus related events

GNSS scintillation advisories sent on 10, 11, 12 and 16 October

DTG: 20221011/1357Z

SWXC: PECASUS

ADVISORY NR: 2022/62

SWX EFFECT: GNSS SEV

OBS SWX: 11/1355Z EQN EQS E090 - E120

RMK: SPACE WEATHER EVENT (IONOSPHERIC

DISTURBANCE) IN PROGRESS. IMPACT ON GNSS

PERFORMANCE POSSIBLY LEADING TO LOSS OF

GNSS SIGNALS AND/OR DEGRADATION OF

TIMING AND POSITIONING PERFORMANCE.

NXT ADVISORY: WILL BE ISSUED BY 20221011/1955Z

SIDC Space Weather Briefing

See you at our next briefing!

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