

SIDC Space Weather Briefing

03 November 2025-09 November 2025

Vansintjan Robbe

& the SIDC forecaster team



Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be

Summary Report

Solar activity from 2025-11-03 00:00 to 2025-11-09 23:59

Active regions	10 Sunspot groups – SIDC SG 687 (NOAA AR 4274) SIDC SG 689 (NOAA AR 4276)
Flares	# C-class flare: 62 # M-class flare: 9 # X-class flare: 3
Coronal Holes	CH+ & 2 CH- on disk
CMEs	7 CMEs with a possible Earth directed component

Proton flux	Became elevated but stayed below the threshold
Electron flux	The electron flux reached moderate levels

Solar wind and geomagnetic conditions

ICMEs	2 ICME's this week
Solar wind conditions	B : 0.79 - 24.49 nT //Bz: -16.9 nT to 17.08 nT //Speed: 336.7 - 859.0km/s
Geomagnetic conditions	max K _{Be} : 5.0, max K _p (NOAA): 6.67, Major Storm conditions

All Quiet Alert: OFF

Solar Activity



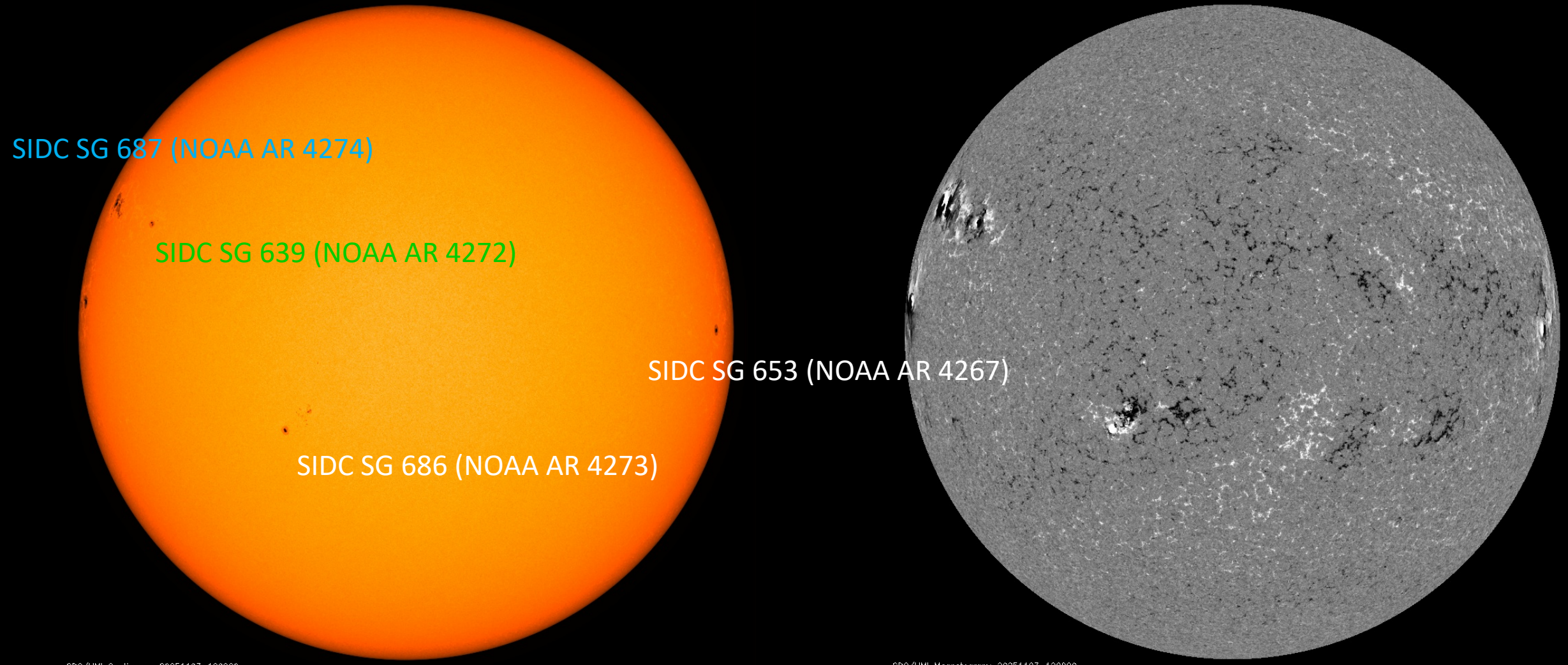
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Solar active regions

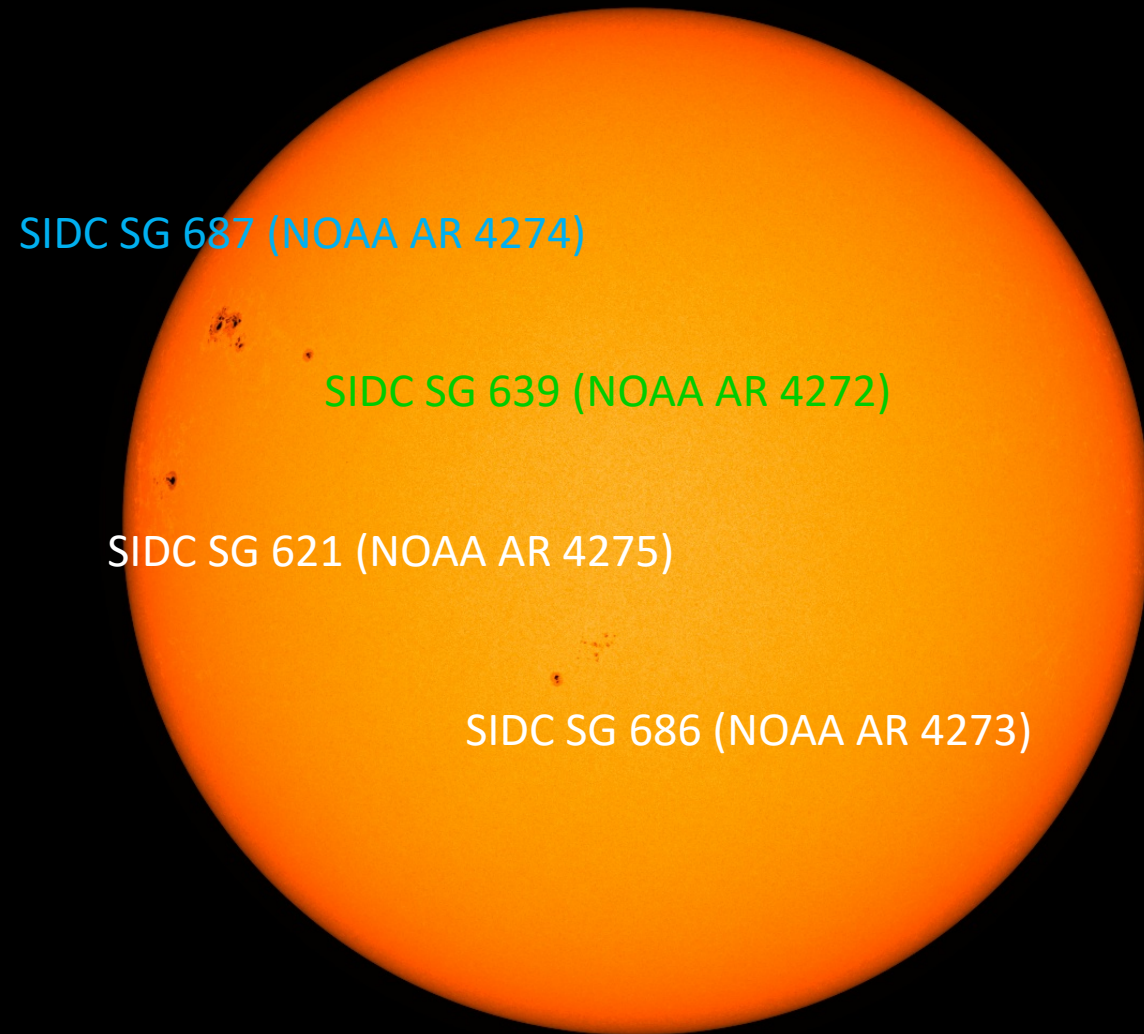
SDO/HMI White Light 2025-11-03

SDO/HMI Magnetogram 2025-11-03

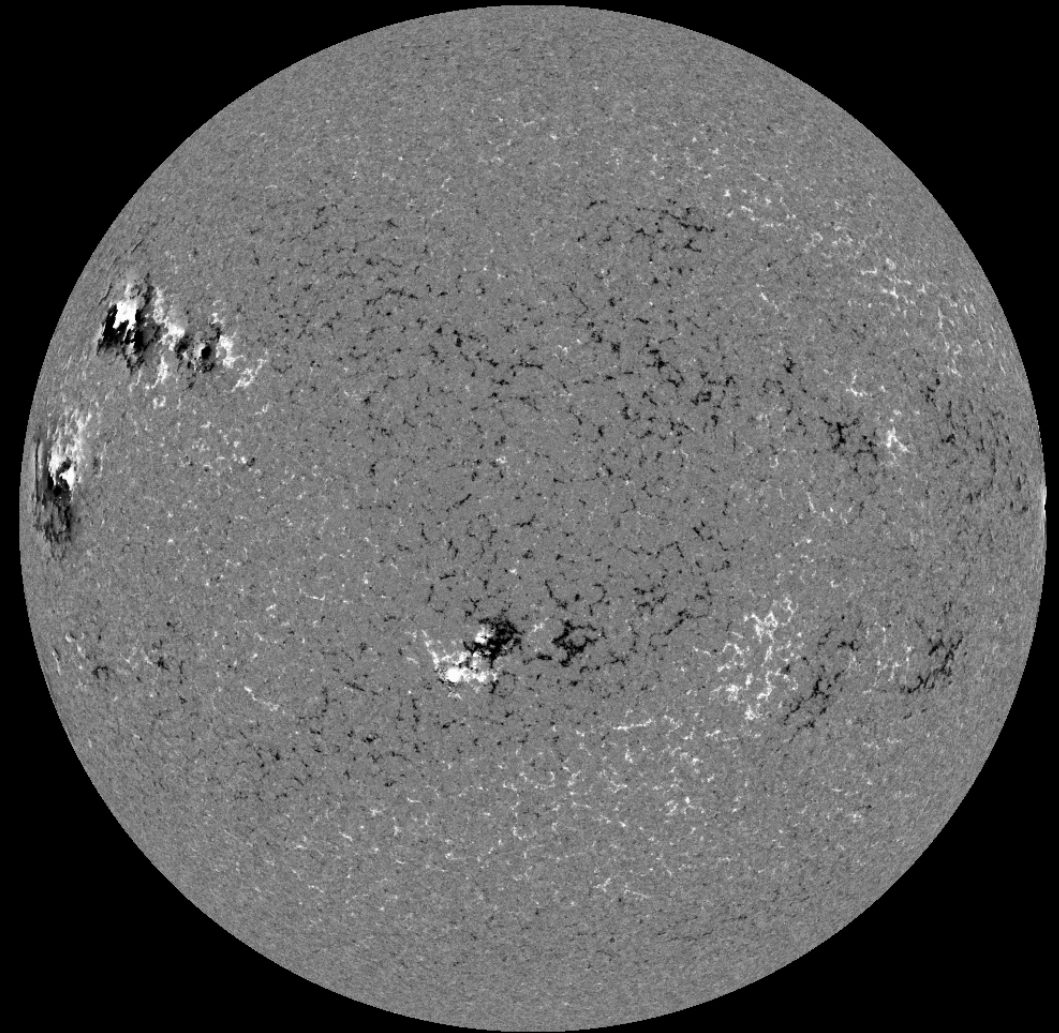


Solar active regions

SDO/HMI White Light 2025-11-04

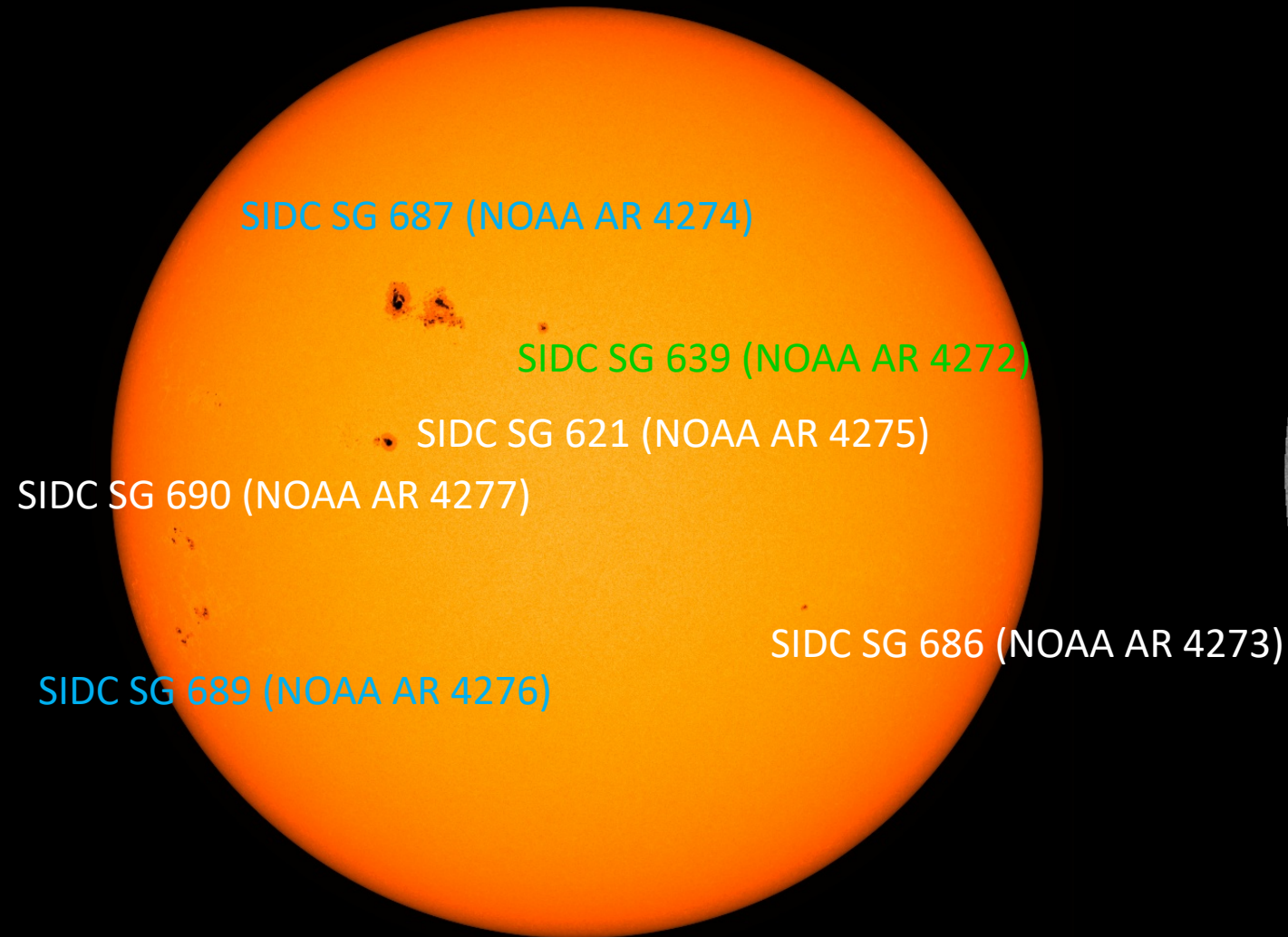


SDO/HMI Magnetogram 2025-11-04



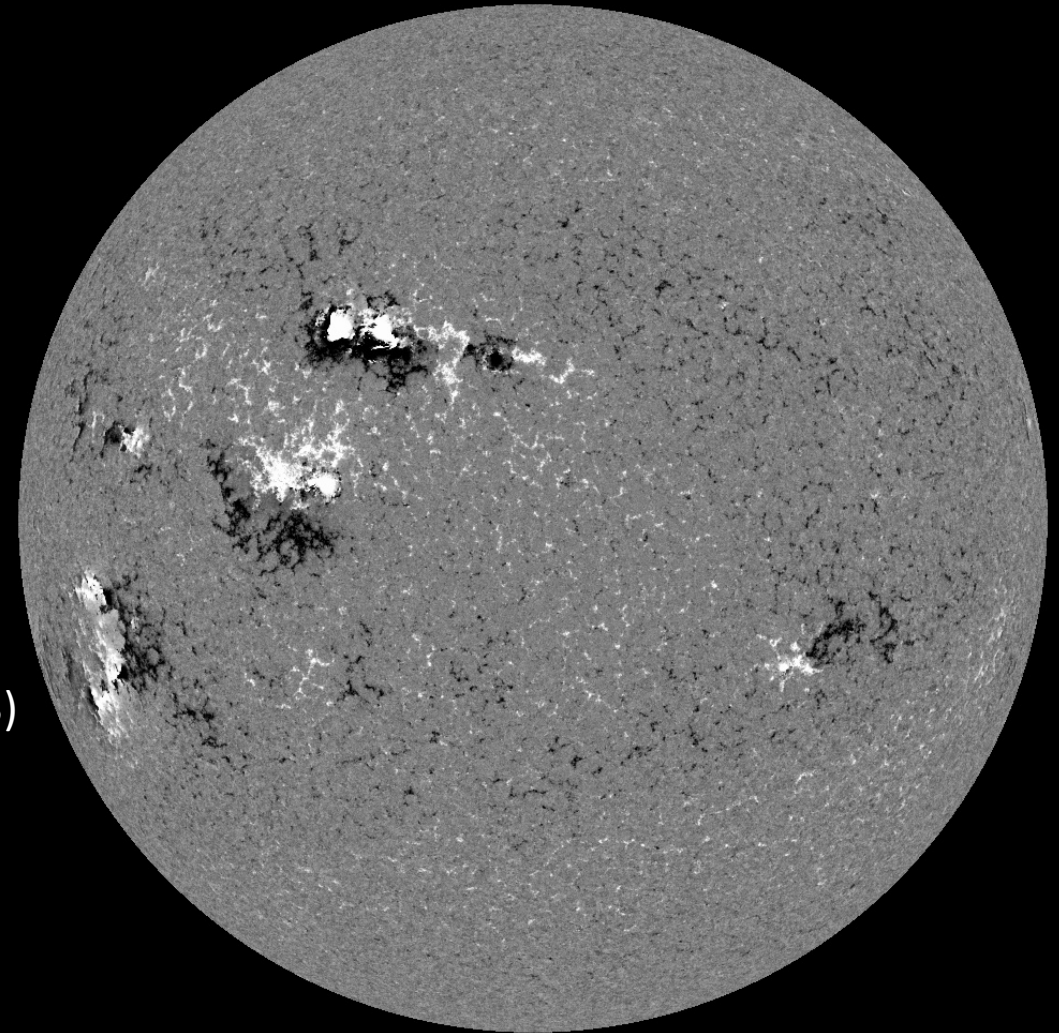
Solar active regions

SDO/HMI White Light 2025-11-07



SDO/HMI Quick-Look Continuum: 20251107_120000

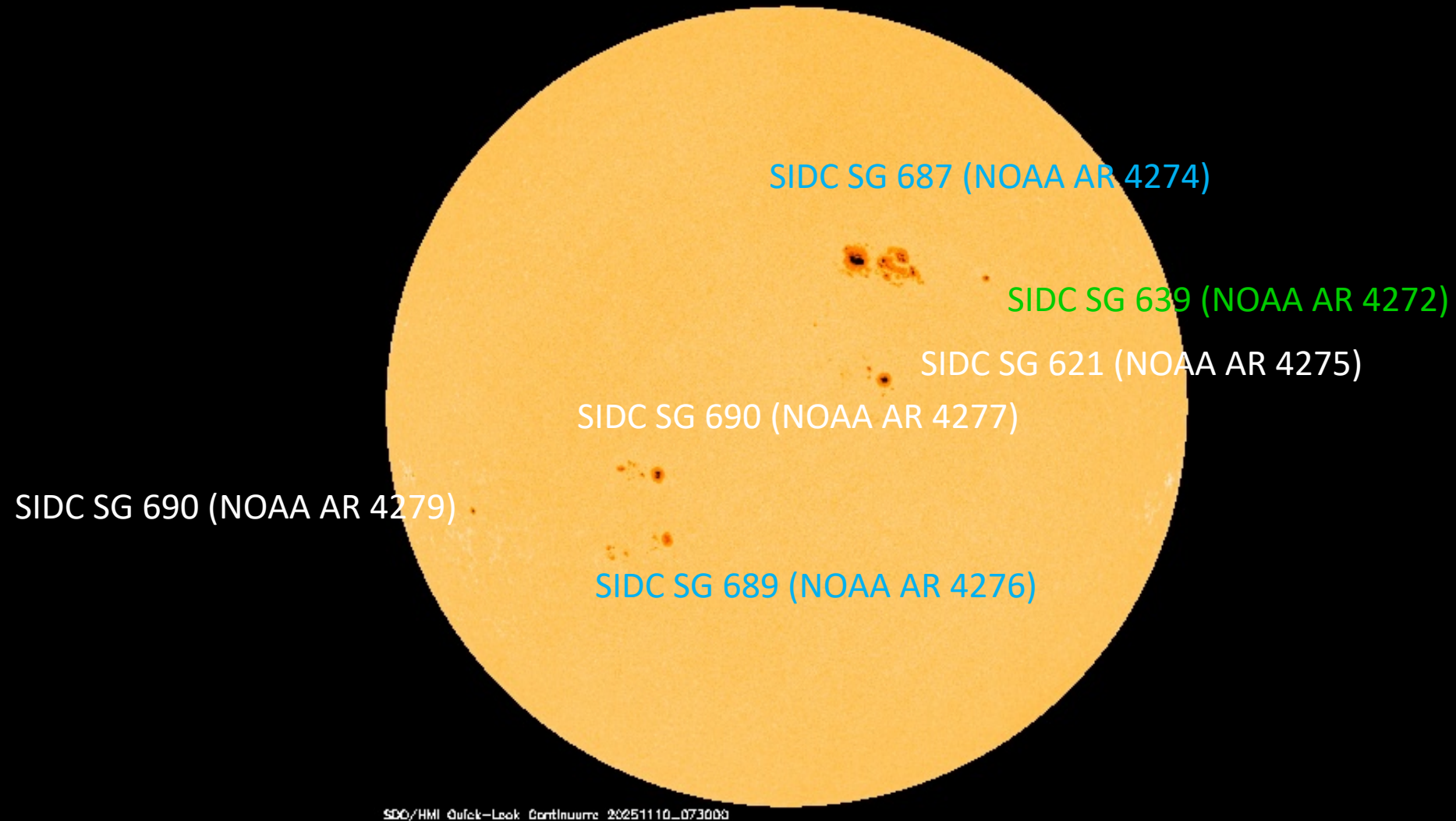
SDO/HMI Magnetogram 2025-11-07



SDO/HMI Quick-Look Magnetogram: 20251107_120000

Solar active regions

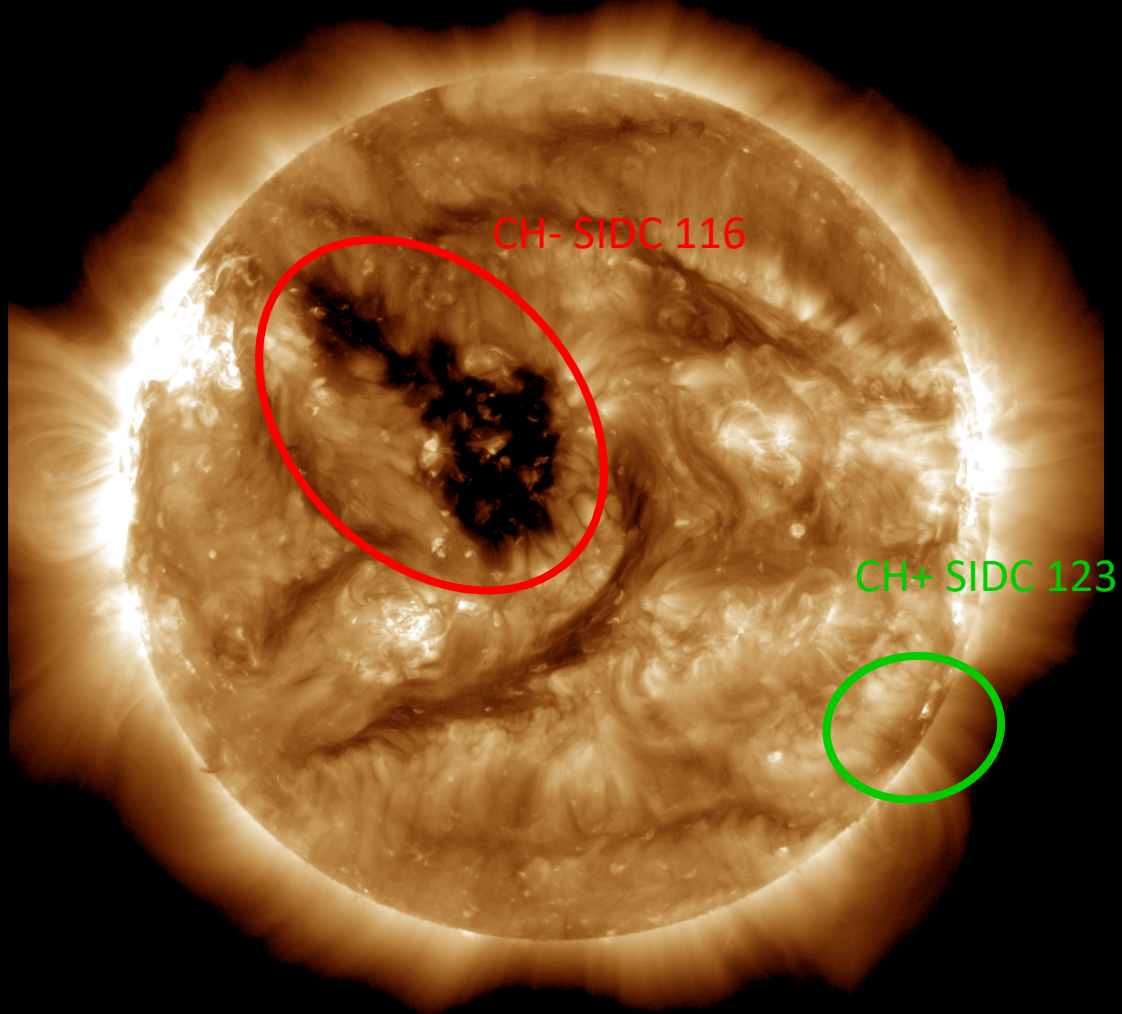
SDO/HMI White Light 2025-11-10



Coronal holes

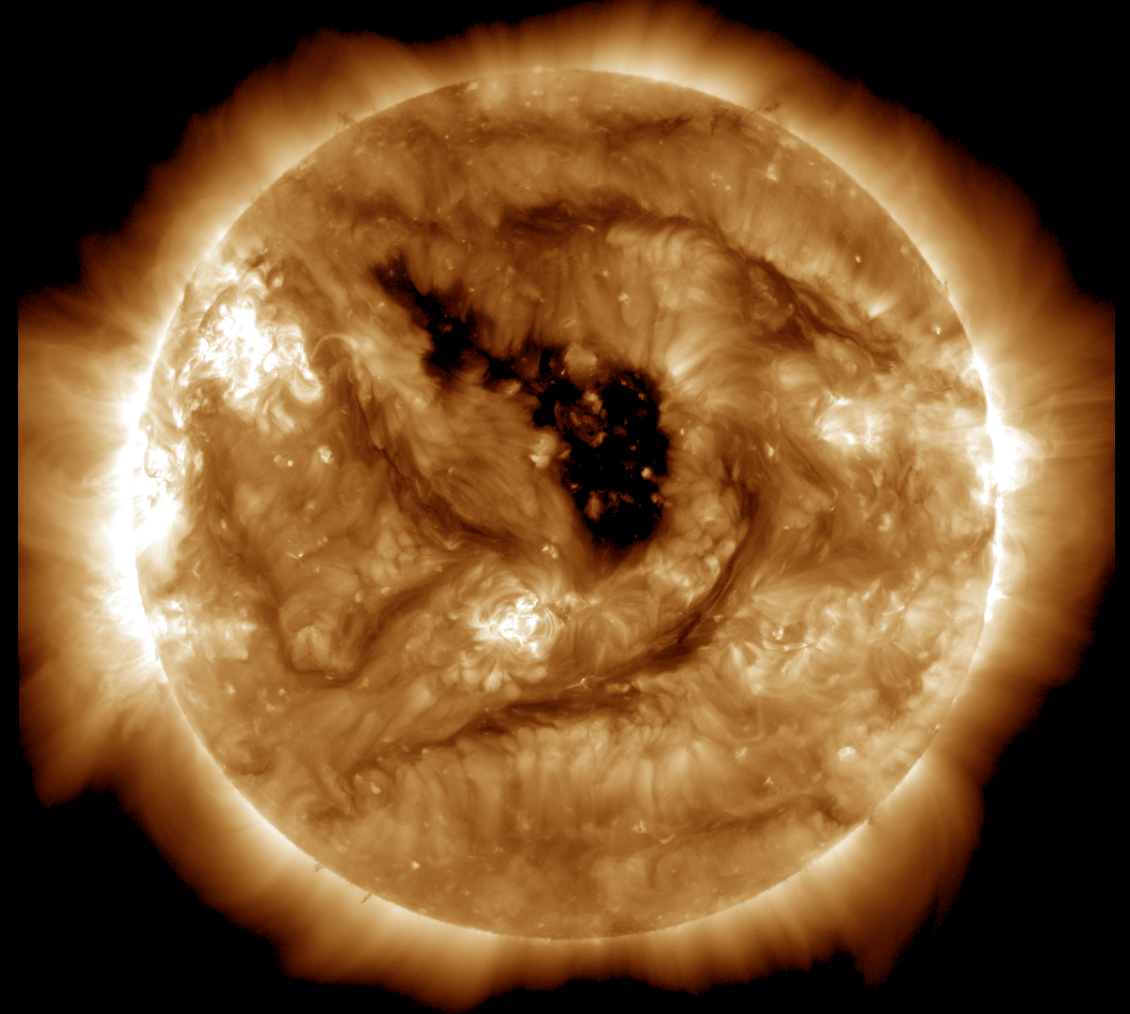
SDO/AIA 19.3 nm 2025-11-03

SDO/AIA AIA 193Å 2025-11-03T12:00:05.835



SDO/AIA 19.3 nm 2025-11-04

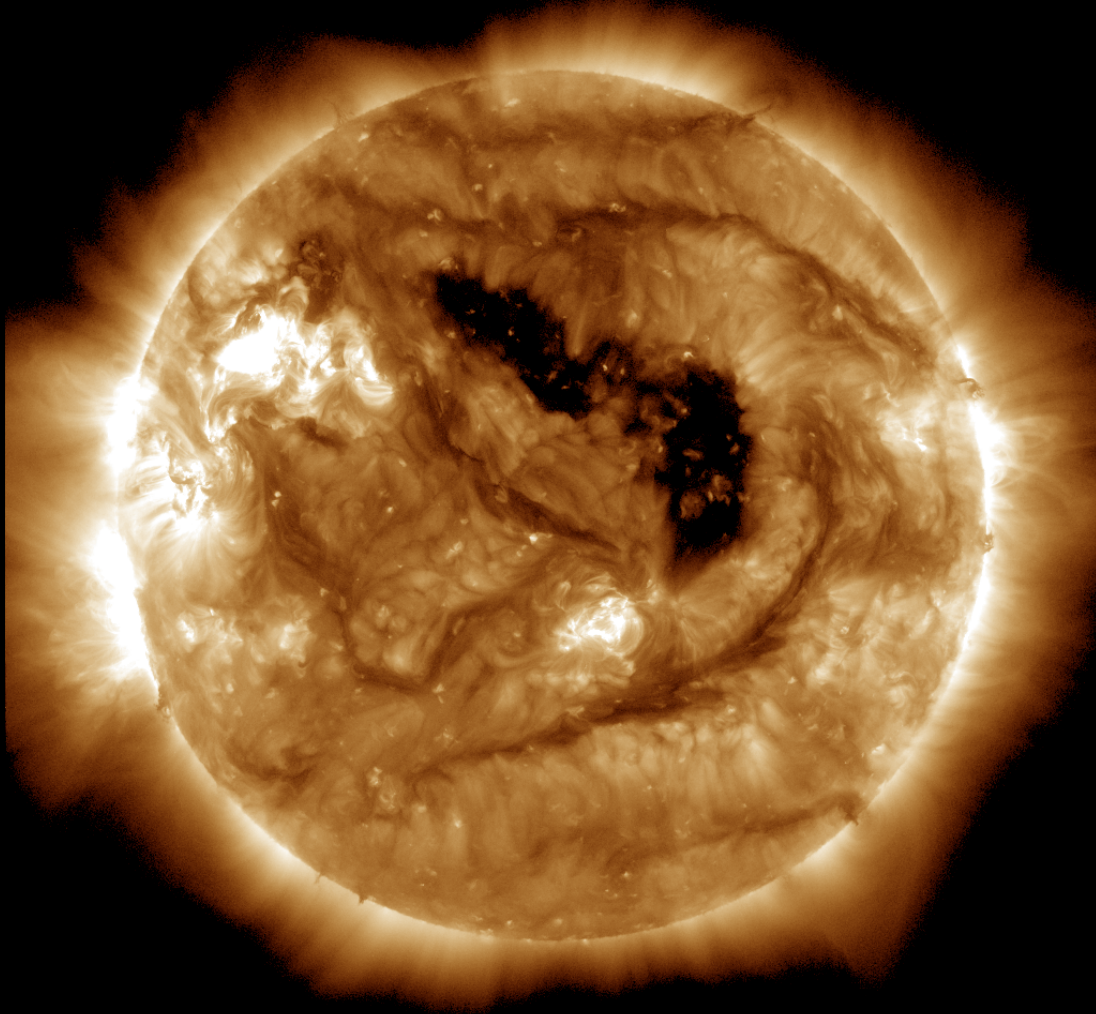
SDO/AIA AIA 193Å 2025-11-04T12:00:05.843



Coronal holes

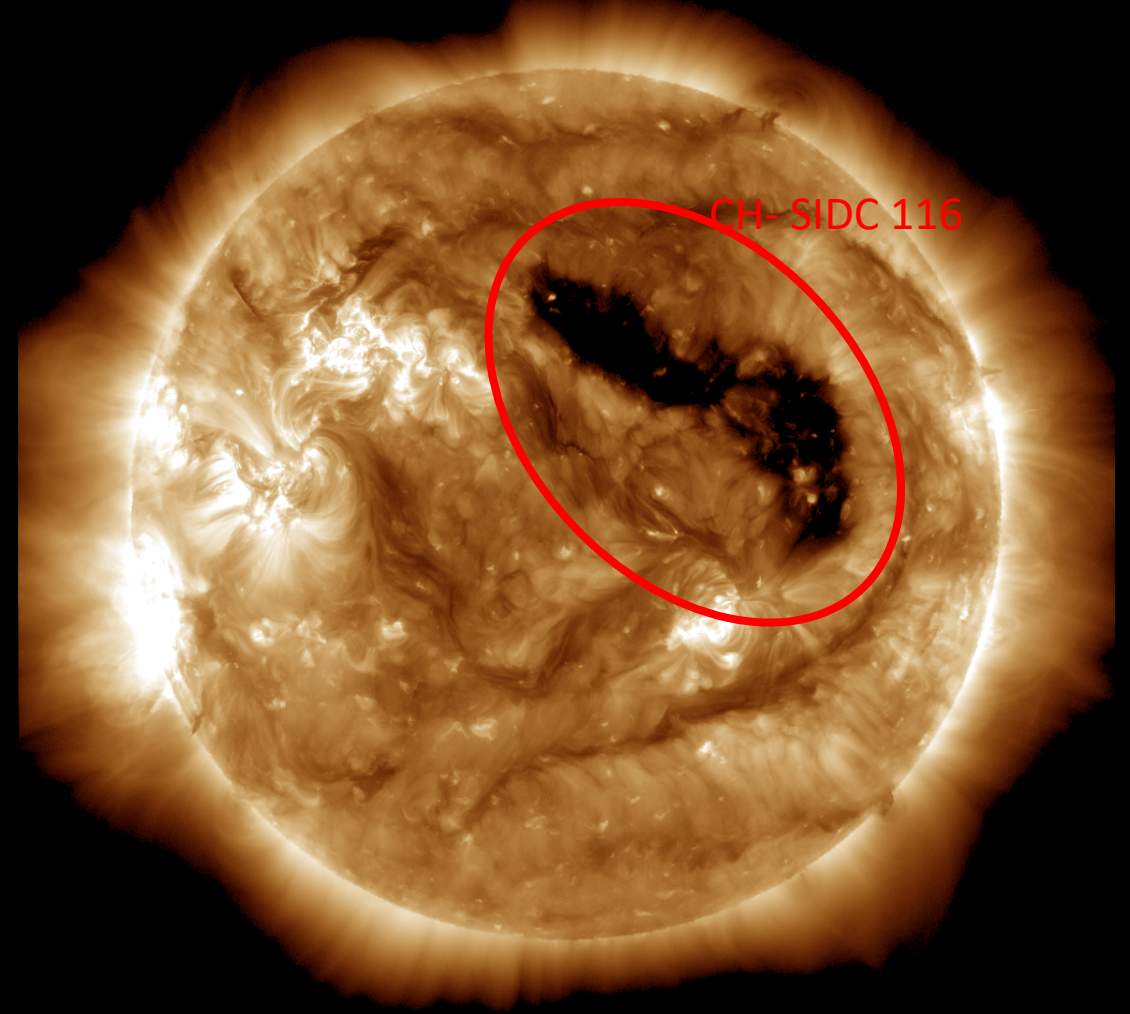
SDO/AIA 19.3 nm 2025-11-05

SDO/AIA AIA 193Å 2025-11-05T12:00:07.301



SDO/AIA 19.3 nm 2025-11-06

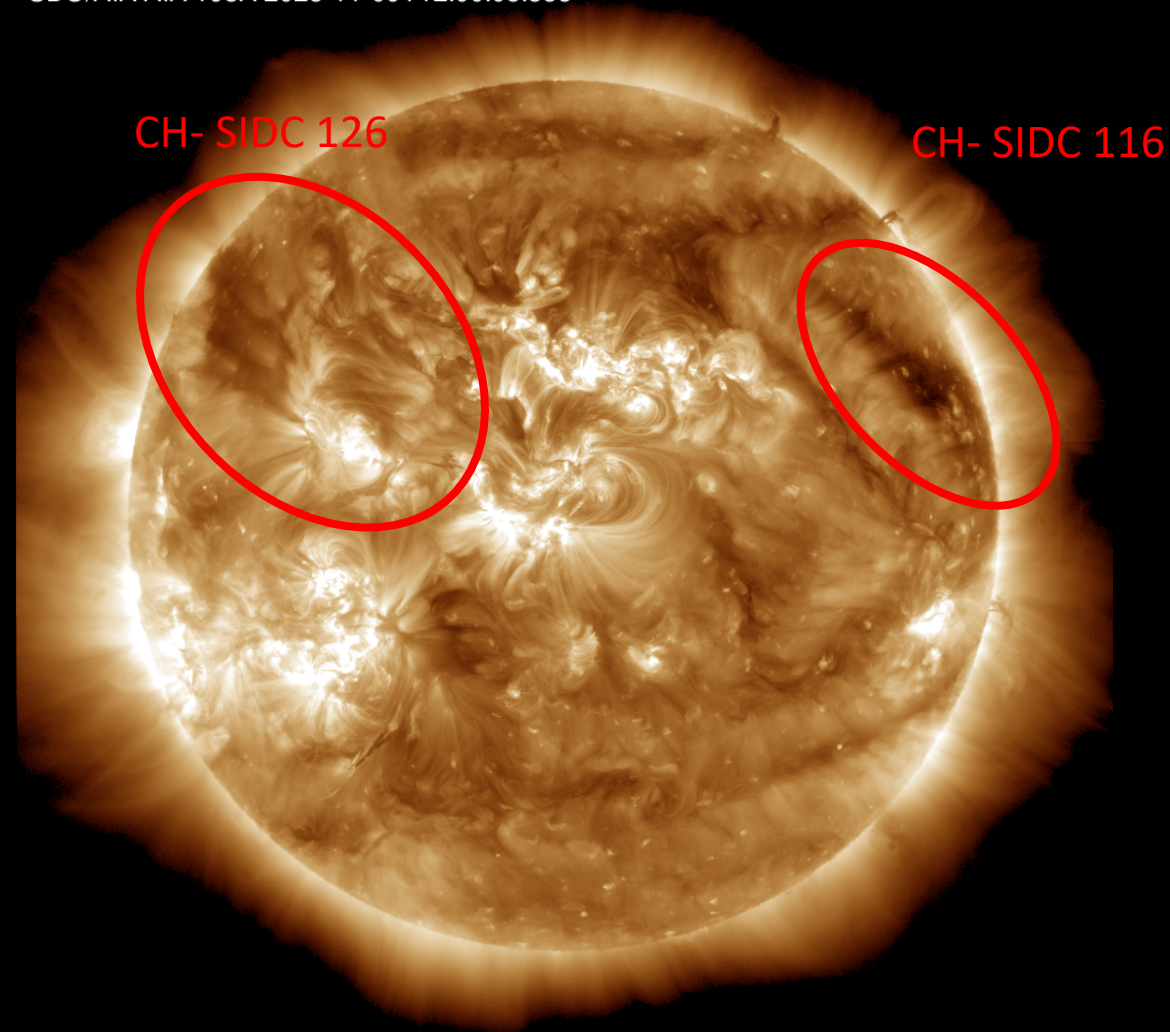
SDO/AIA AIA 193Å 2025-11-06T12:00:05.843



Coronal holes

SDO/AIA 19.3 nm 2025-11-09

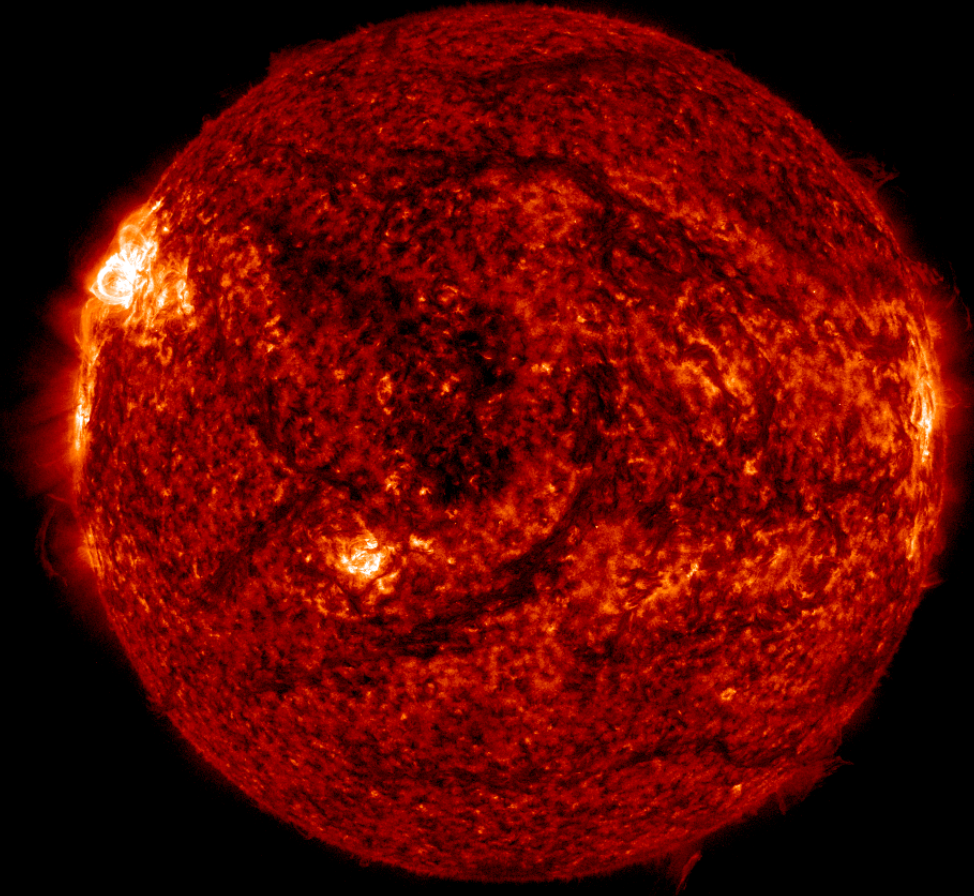
SDO/AIA AIA 193Å 2025-11-09T12:00:05.835



Filaments

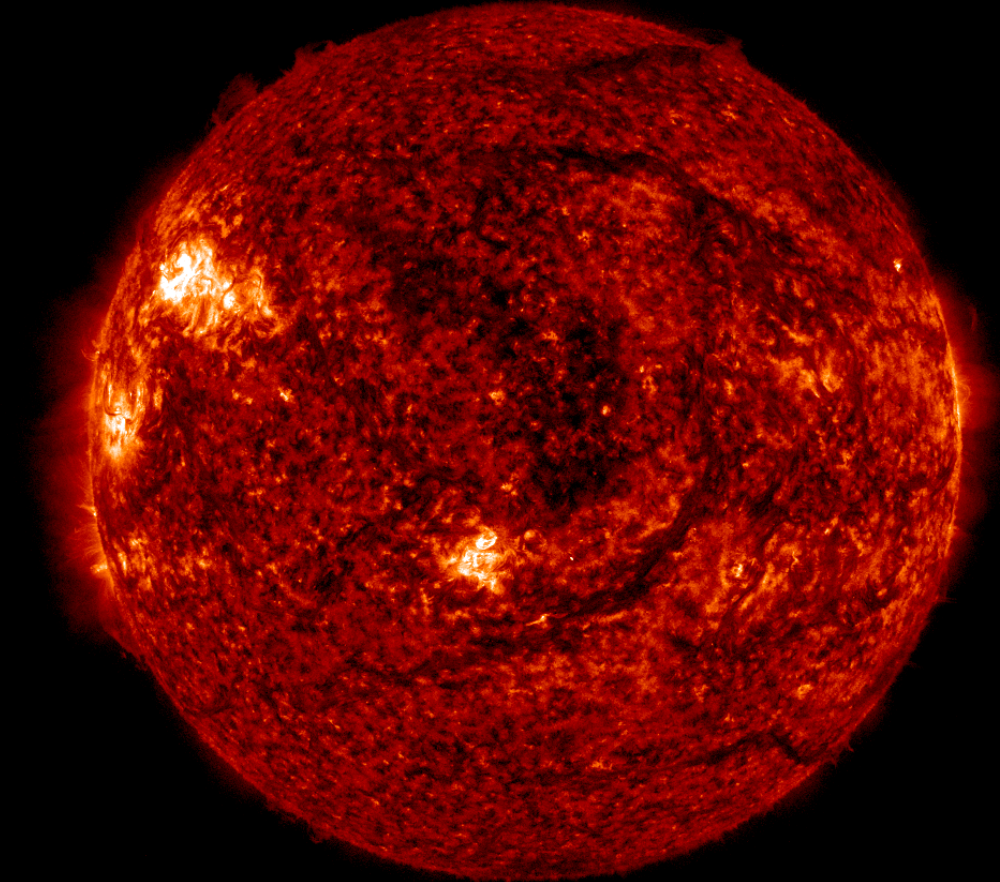
SDO/AIA 30.4 nm 2025-11-03

SDO/AIA AIA 304Å 2025-11-03T12:00:06.584



SDO/AIA 30.4 nm 2025-11-04

SDO/AIA AIA 304Å 2025-11-04T12:00:06.588

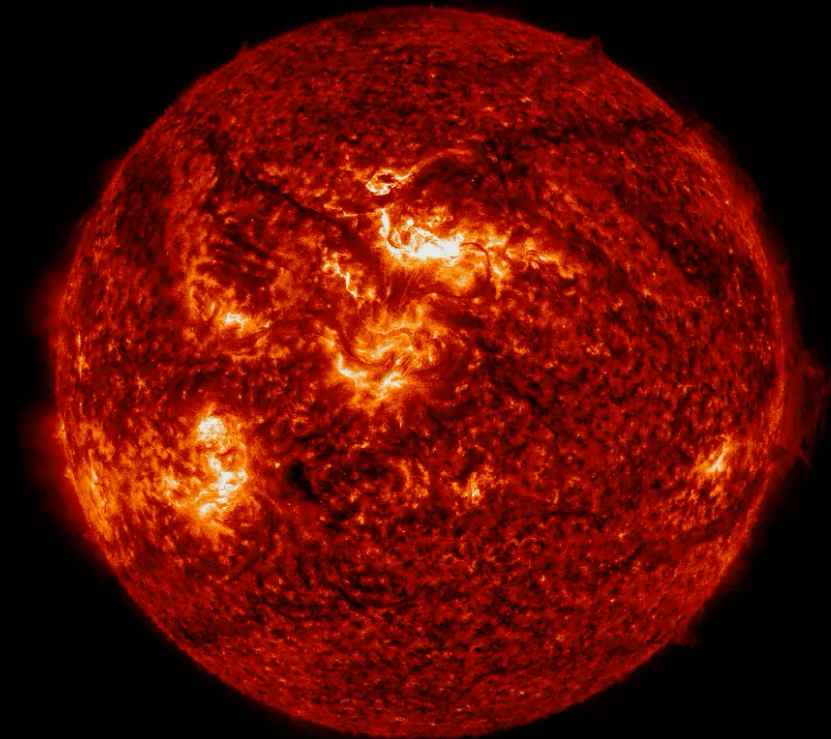
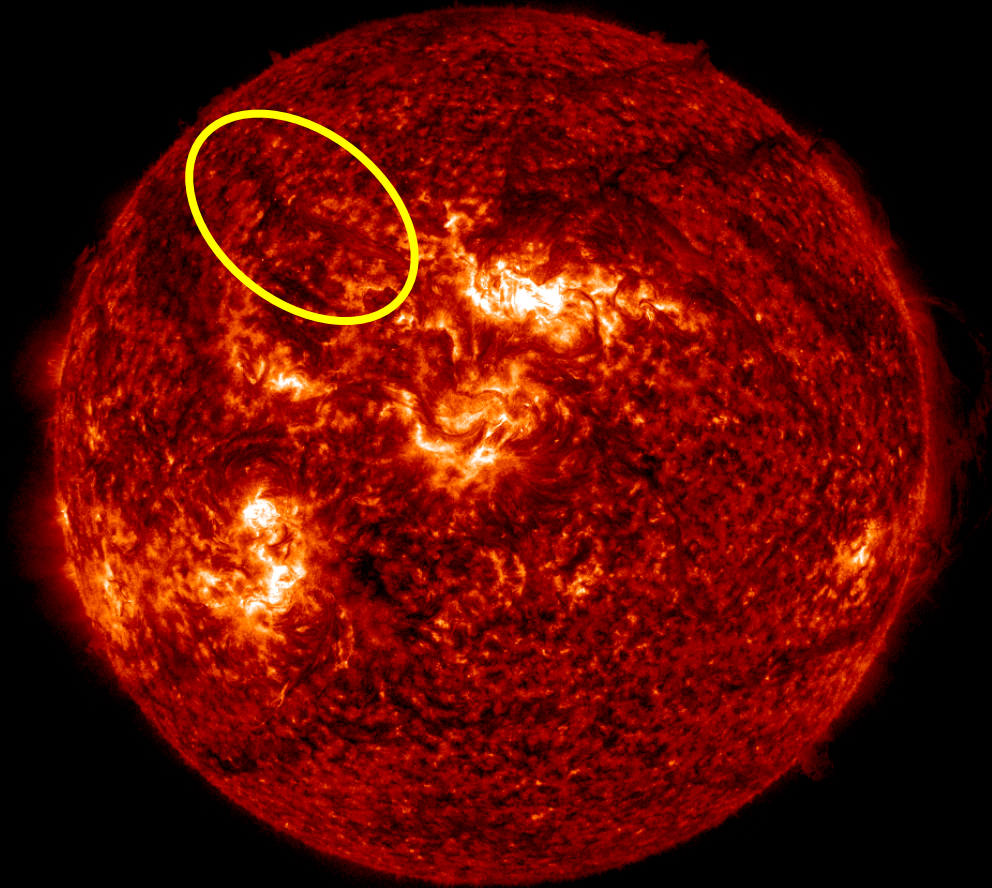


Filaments

SDO/AIA 30.4 nm 2025-11-09

SDO/AIA AIA 304Å 2025-11-09T12:00:06.580

SDO/AIA 30.4 nm 2025-11-09



2025-11-09T06:09:53.133

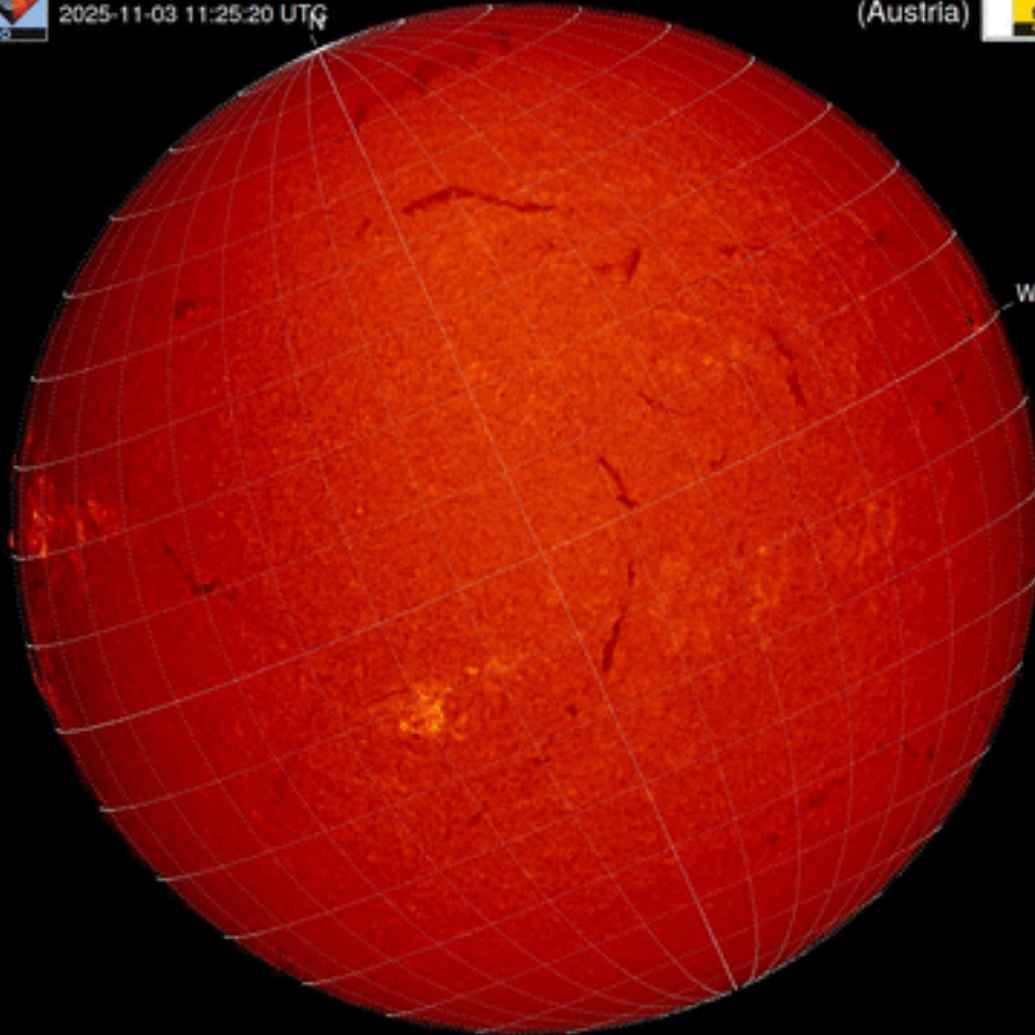
Filaments & Filament eruptions

H-alpha 2025-11-03



Kanzelhöhe Observatory
2025-11-03 11:25:20 UTG

University of Graz
(Austria)

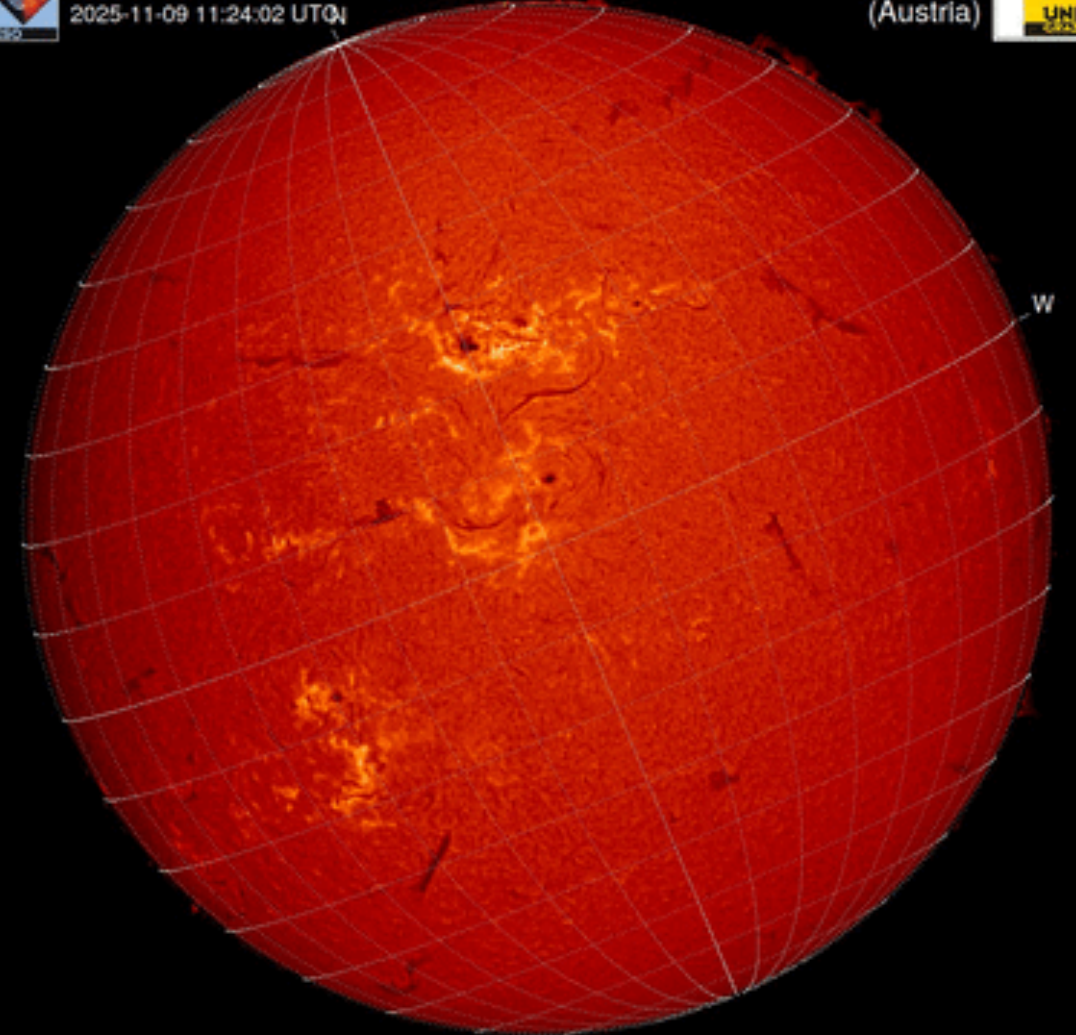


H-alpha 2025-11-09

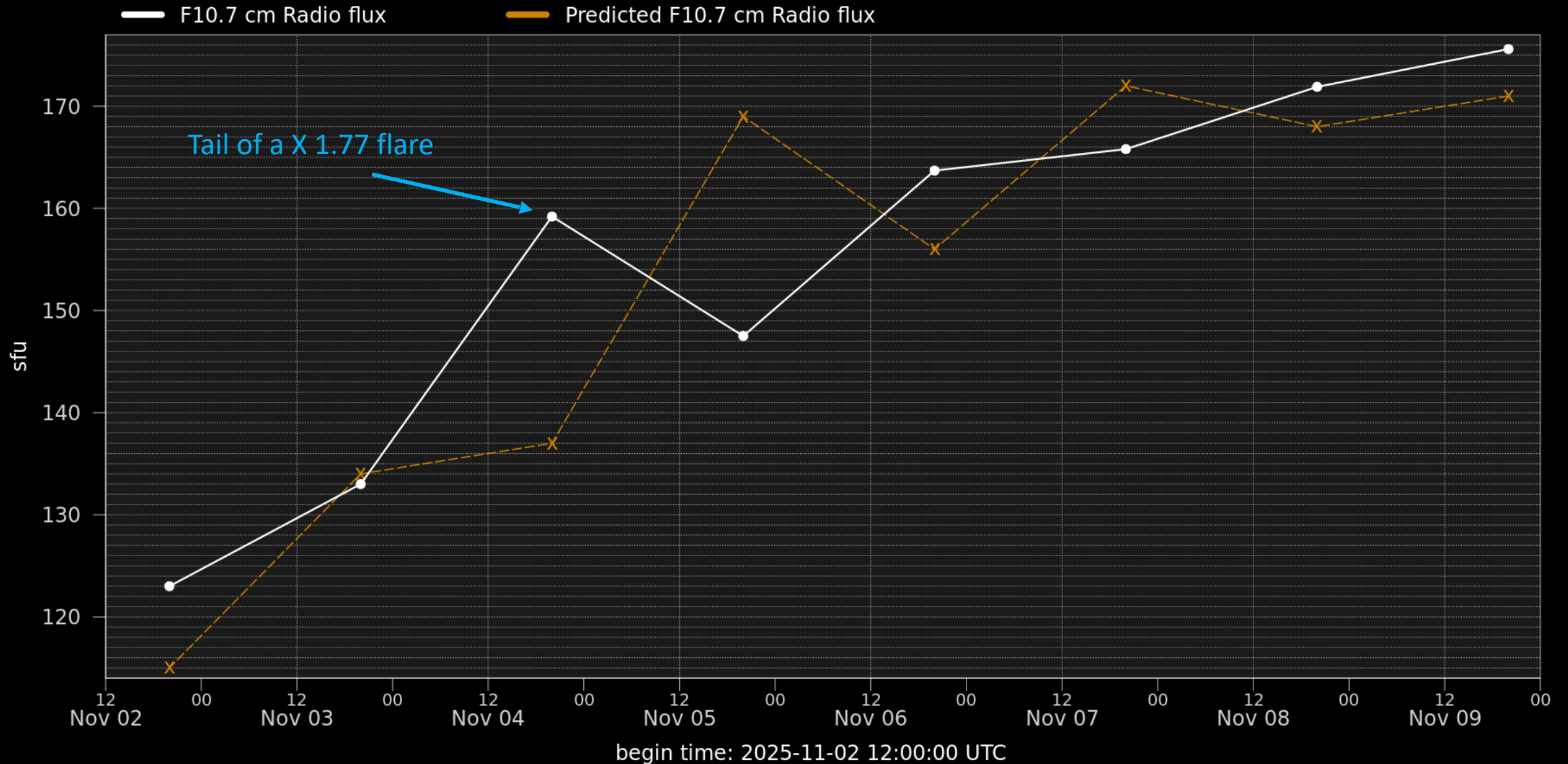


Kanzelhöhe Observatory
2025-11-09 11:24:02 UTG

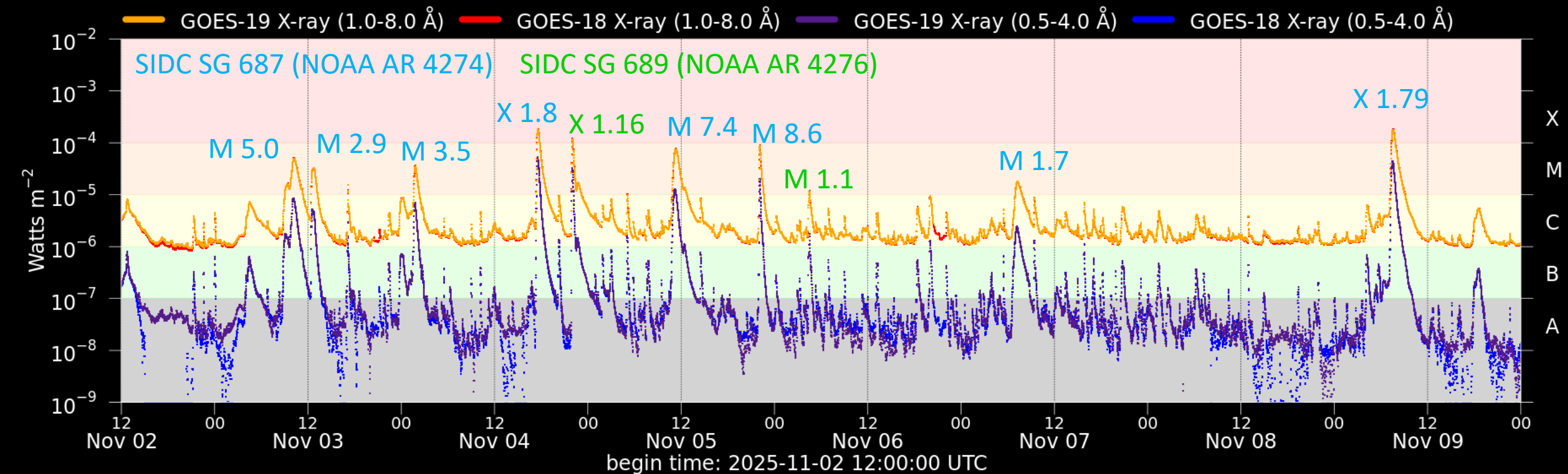
University of Graz
(Austria)



Solar F10.7cm radio flux



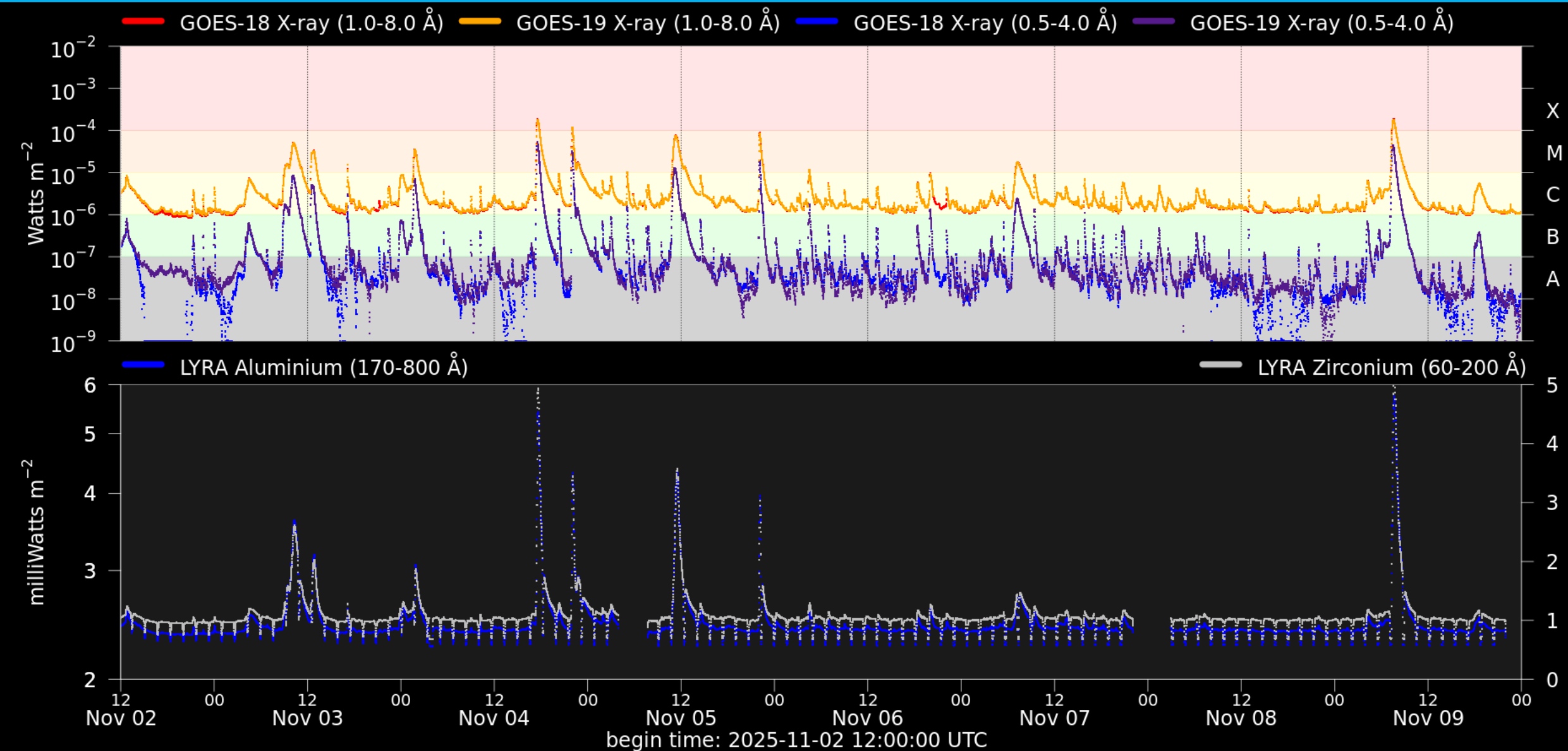
Flaring activity



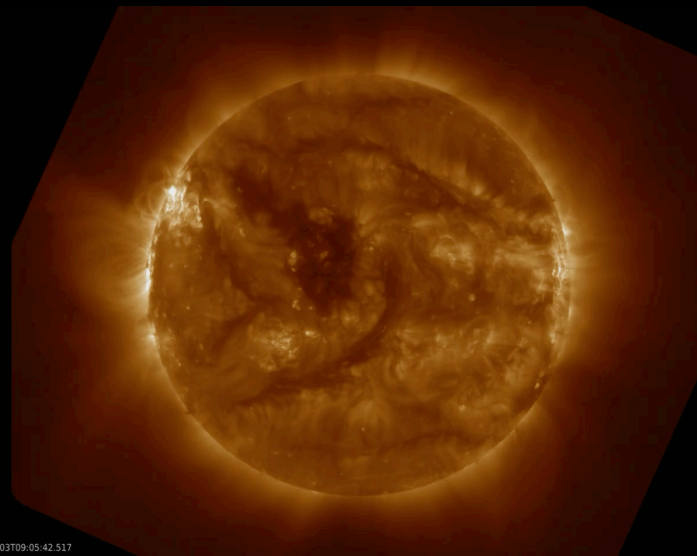
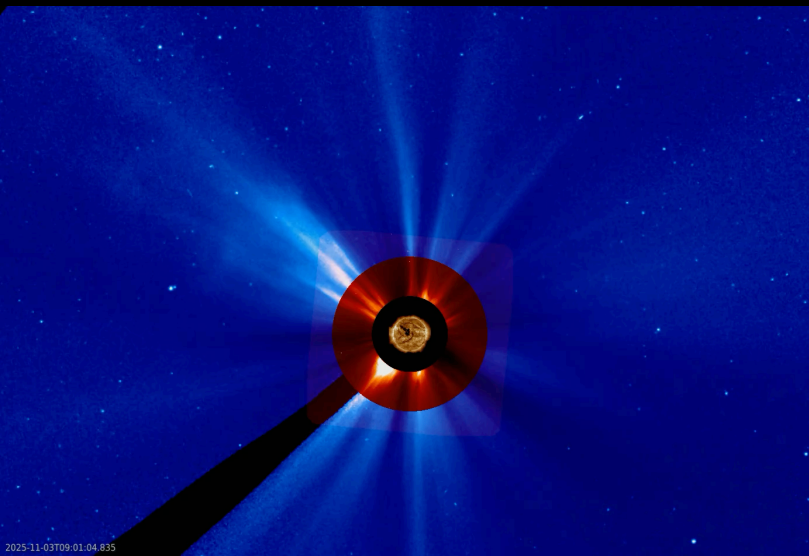
Probabilities (%) and occurrences (#) of C/M/X-flares daily, from noon to noon:

Issue date	2025-11-02	2025-11-03	2025-11-04	2025-11-05	2025-11-06	2025-11-07	2025-11-08	2025-11-09
Probability (%)	98 70 15	99 86 22	99 85 18	99 84 18	99 89 21	99 83 10	99 83 14	99 89 20
Observed (#)	05 02 00	05 03 00	09 01 02	07 02 00	12 01 00	15 00 00	07 00 01	02 00 00

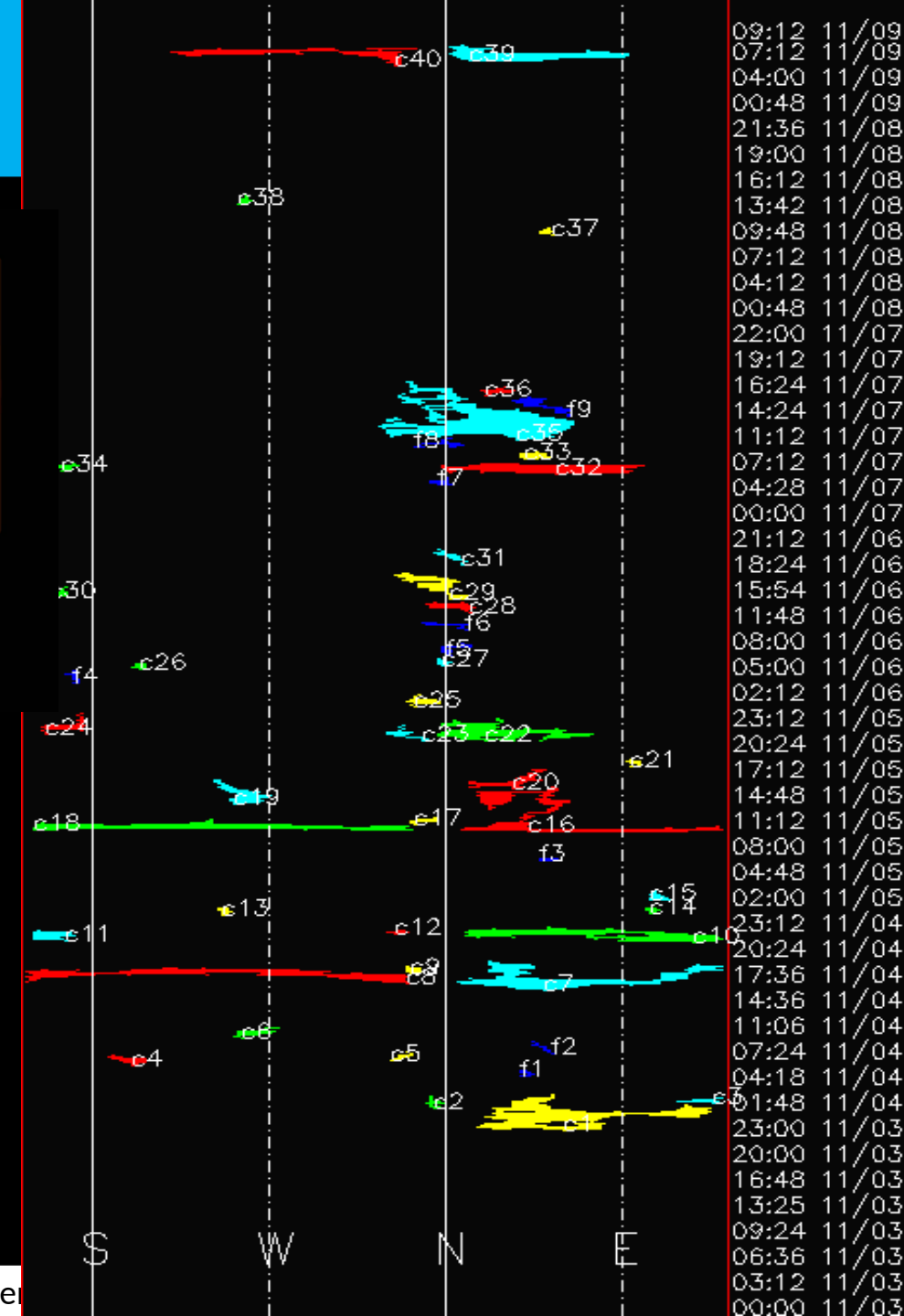
Solar X-Ray and UV flux



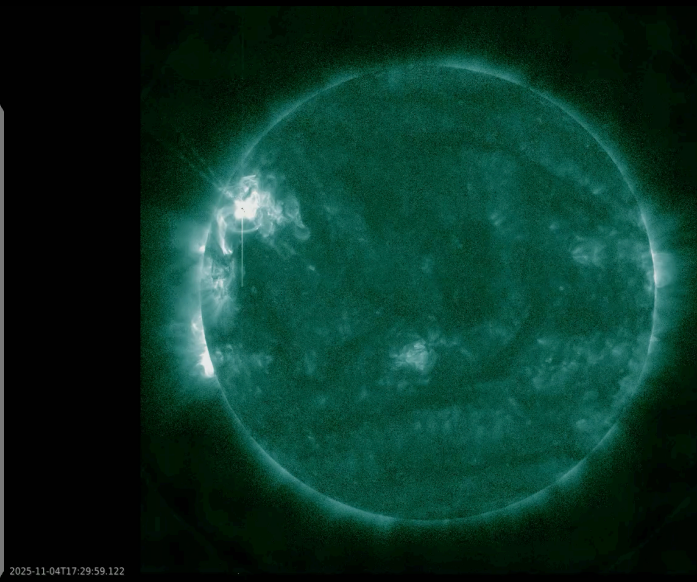
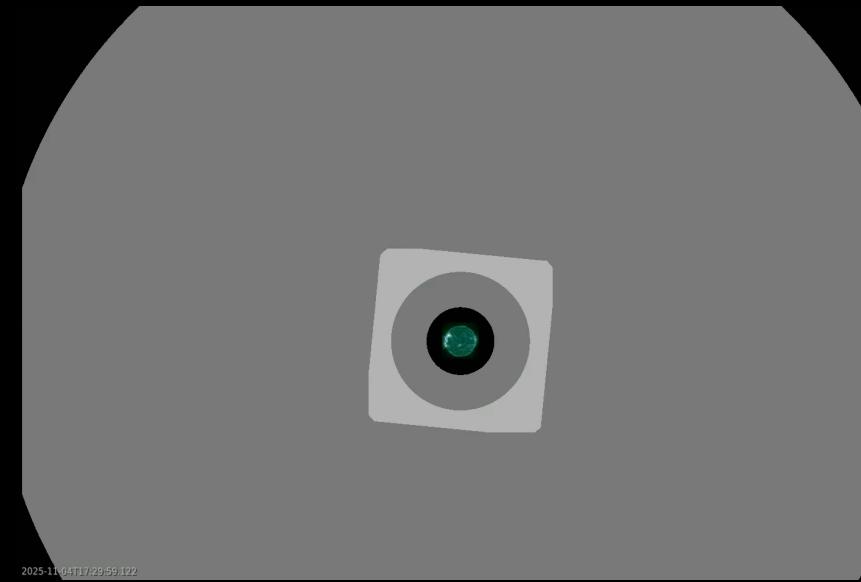
Coronal Mass Ejections



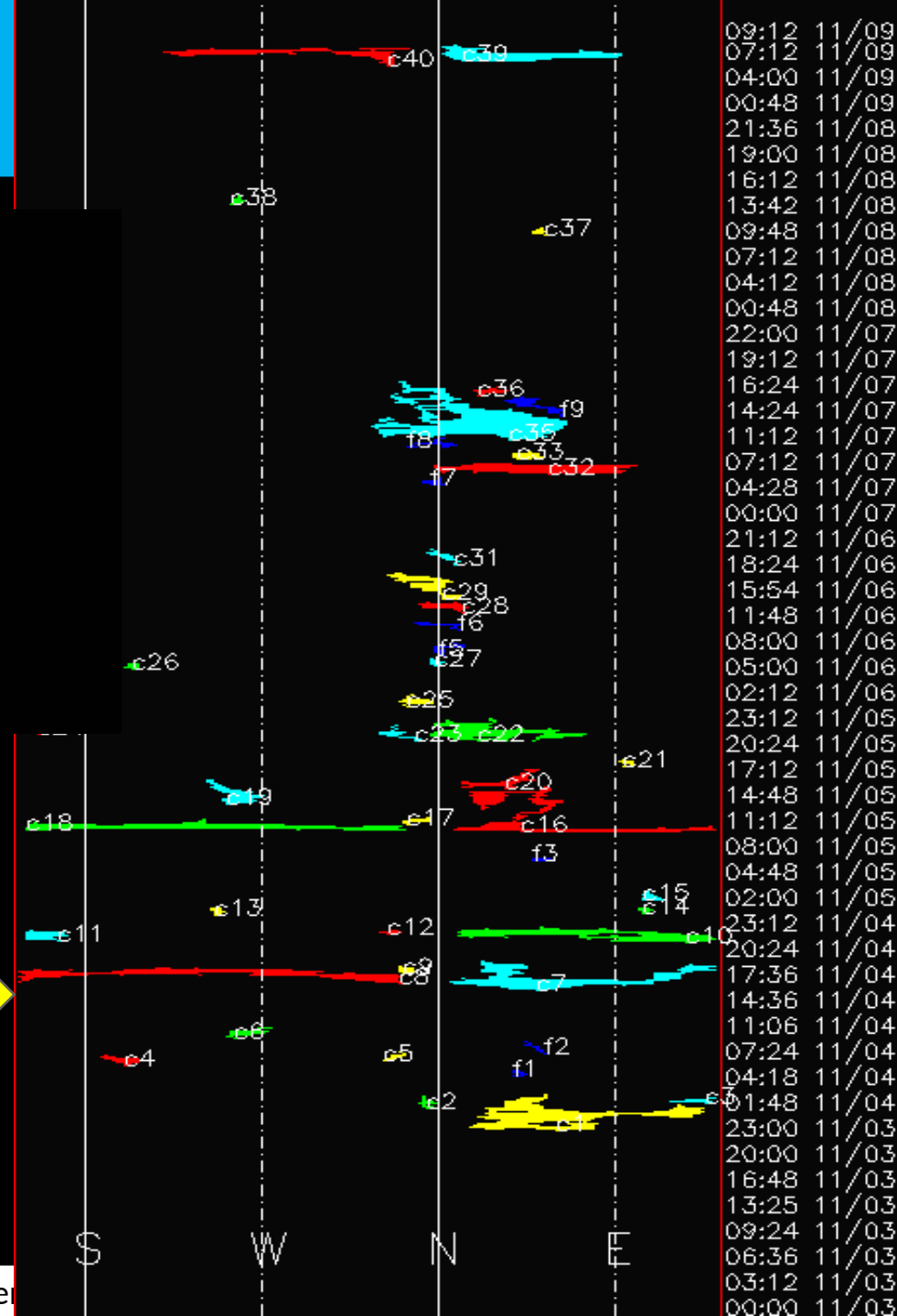
CME left the Sun on Nov 03 at 09:24 from SIDC SG 687
 There is second back sided CME starveling the south
 We estimated the speed of the CME 1118 km/s
 A Type IV radio burst was also detected
 This CME possibly arrived on Nov 06 at 18:40 the signal is the
 solar wind parameters is unclear



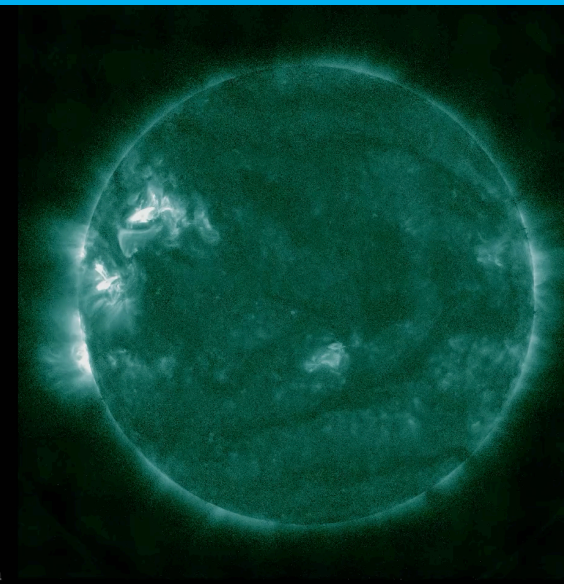
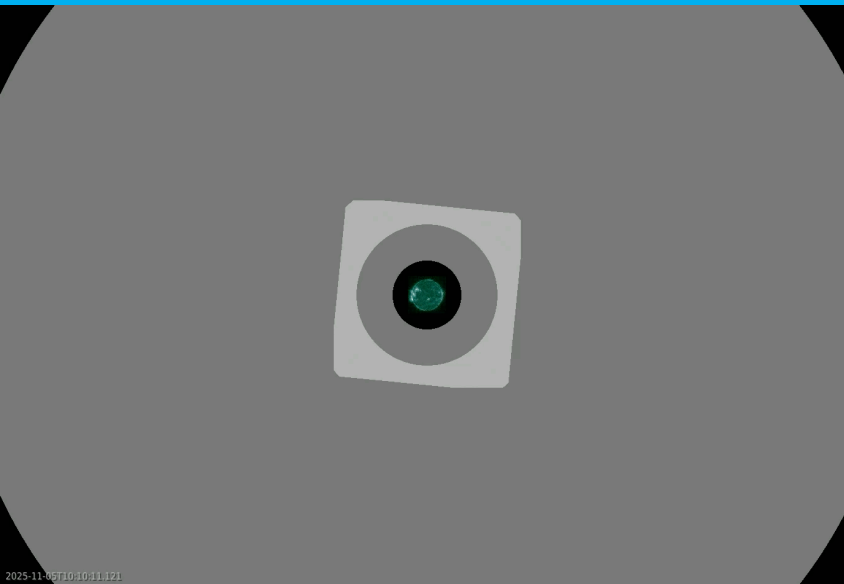
Coronal Mass Ejections



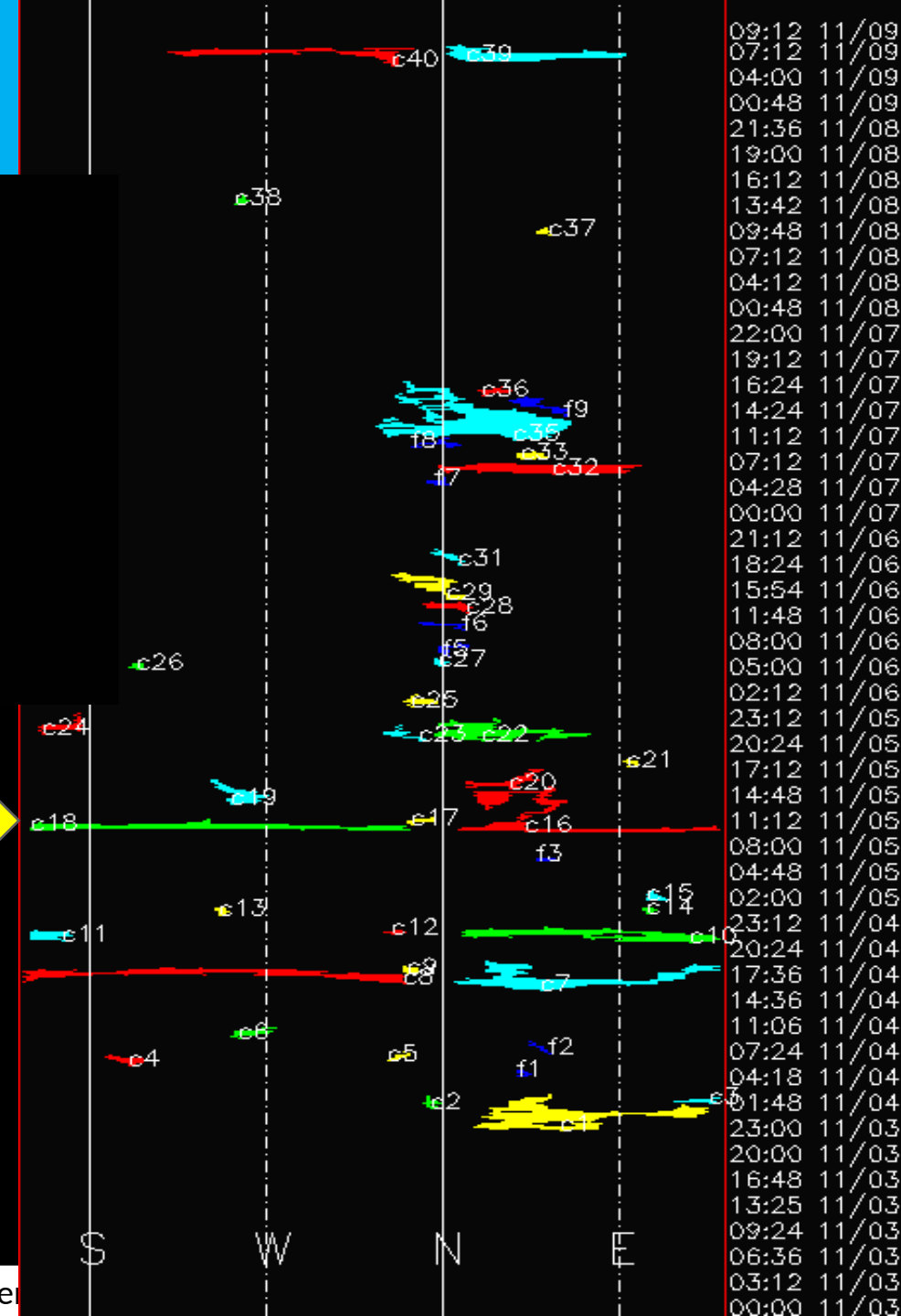
Halo CME left the Sun on Nov 04 at 17:24 from SIDC SG 687
 The CME associated with a X1.8 flare
 There is a second back sided CME traveling to the East associated with X1.1 and SG 689 (4276)
 We estimated the speed of the CME 1297 km/s
 A Type IV radio burst was also detected
 This CME arrived on Nov 07 at 04:42 there is a clear jump in solar wind, total interplanetary magnetic field and density
 The solar wind jumped to 808 km/s



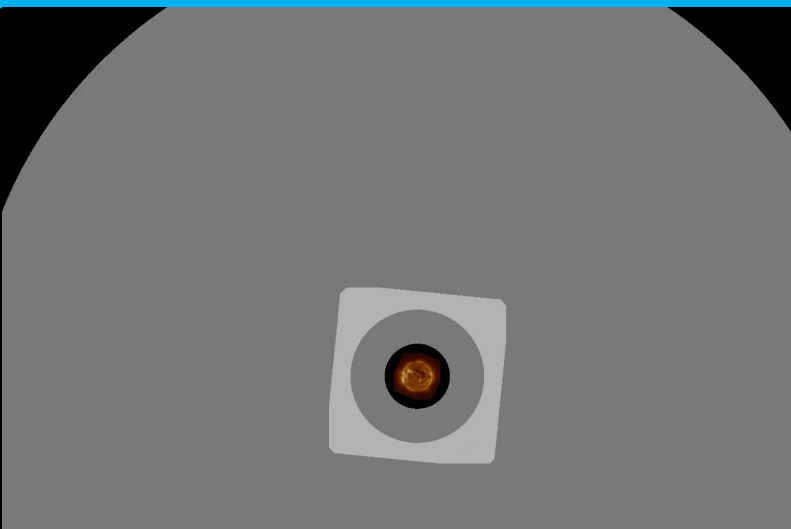
Coronal Mass Ejections



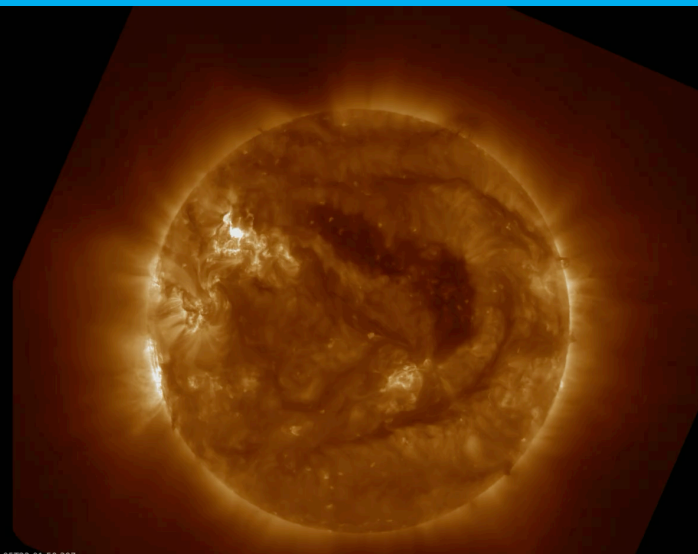
Halo CME left the Sun on Nov 05 at 11:00 from SIDC SG 687
 The CME associated with a M7.4 flare
 We estimated the speed of the CME 844 km/s
 This CME possibly arrived on Nov 07 at 22:39 the signal is the solar
 wind parameters is unclear



Coronal Mass Ejections

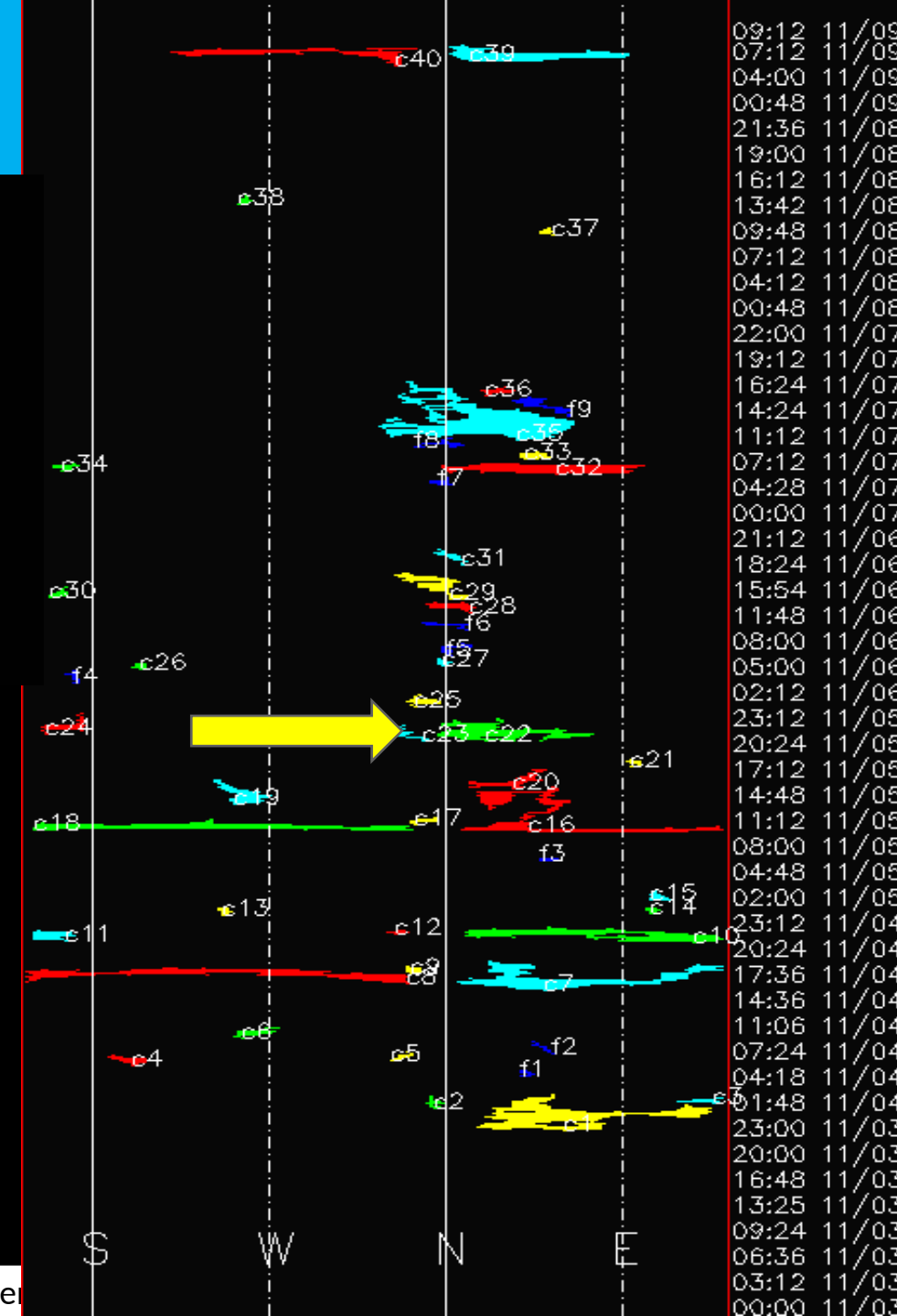


2025-11-05T22:01:50.397

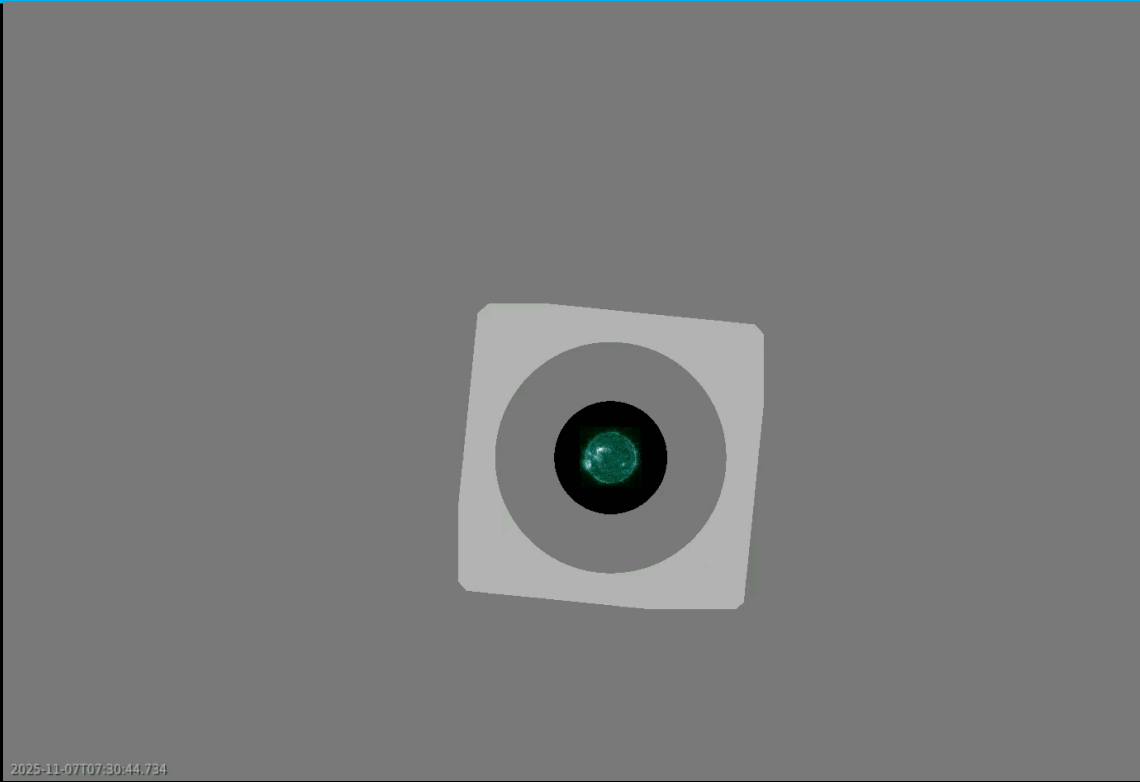


2025-11-05T22:01:50.397

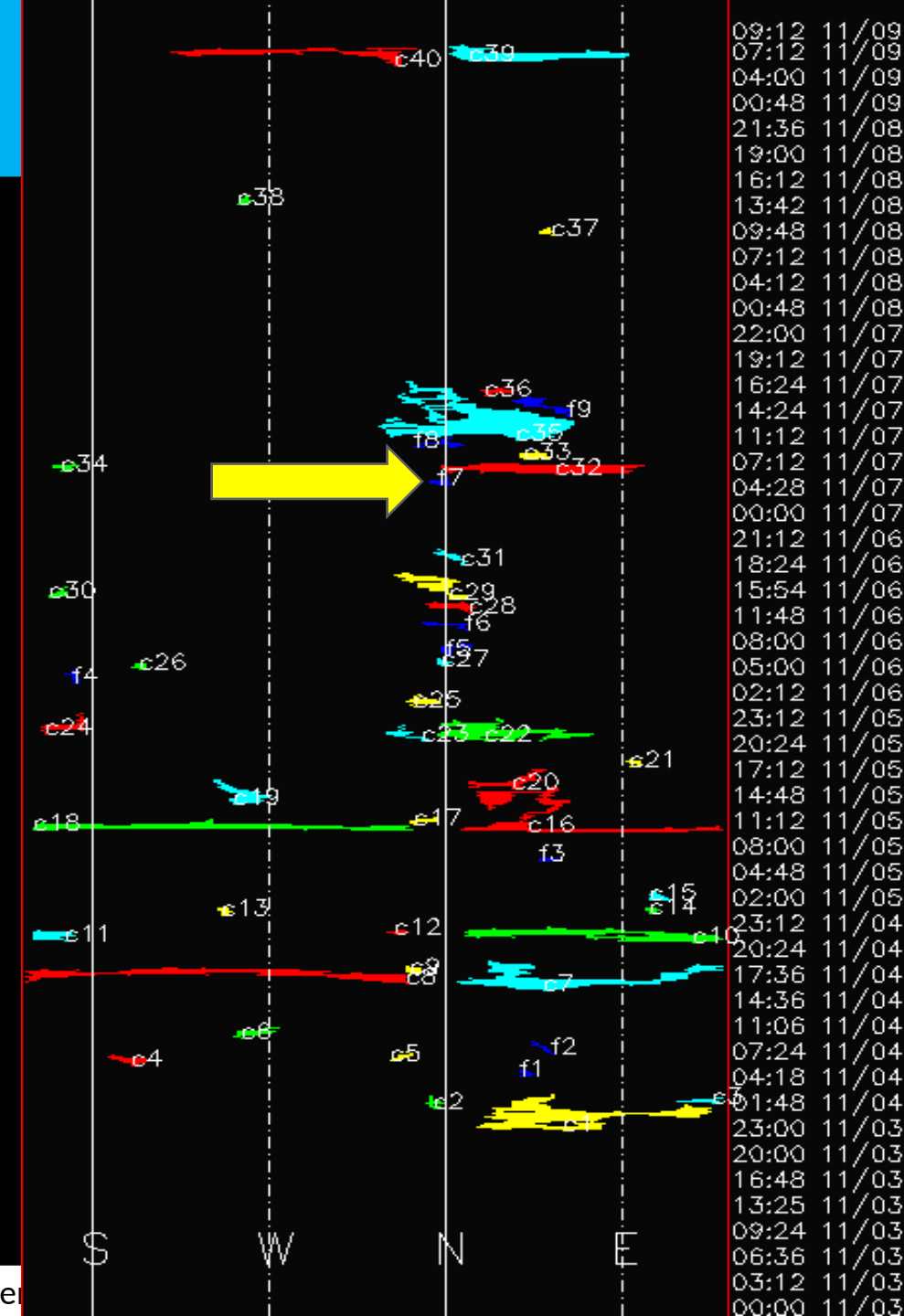
Halo CME left the Sun on Nov 05 at 22:12 from SIDC SG 687
 The CME associated with a M8.6 flare
 We estimated the speed of the CME 800 km/s
 This CME either did not arrive to Earth or its signal was masked in
 the disturbed solar wind parameters



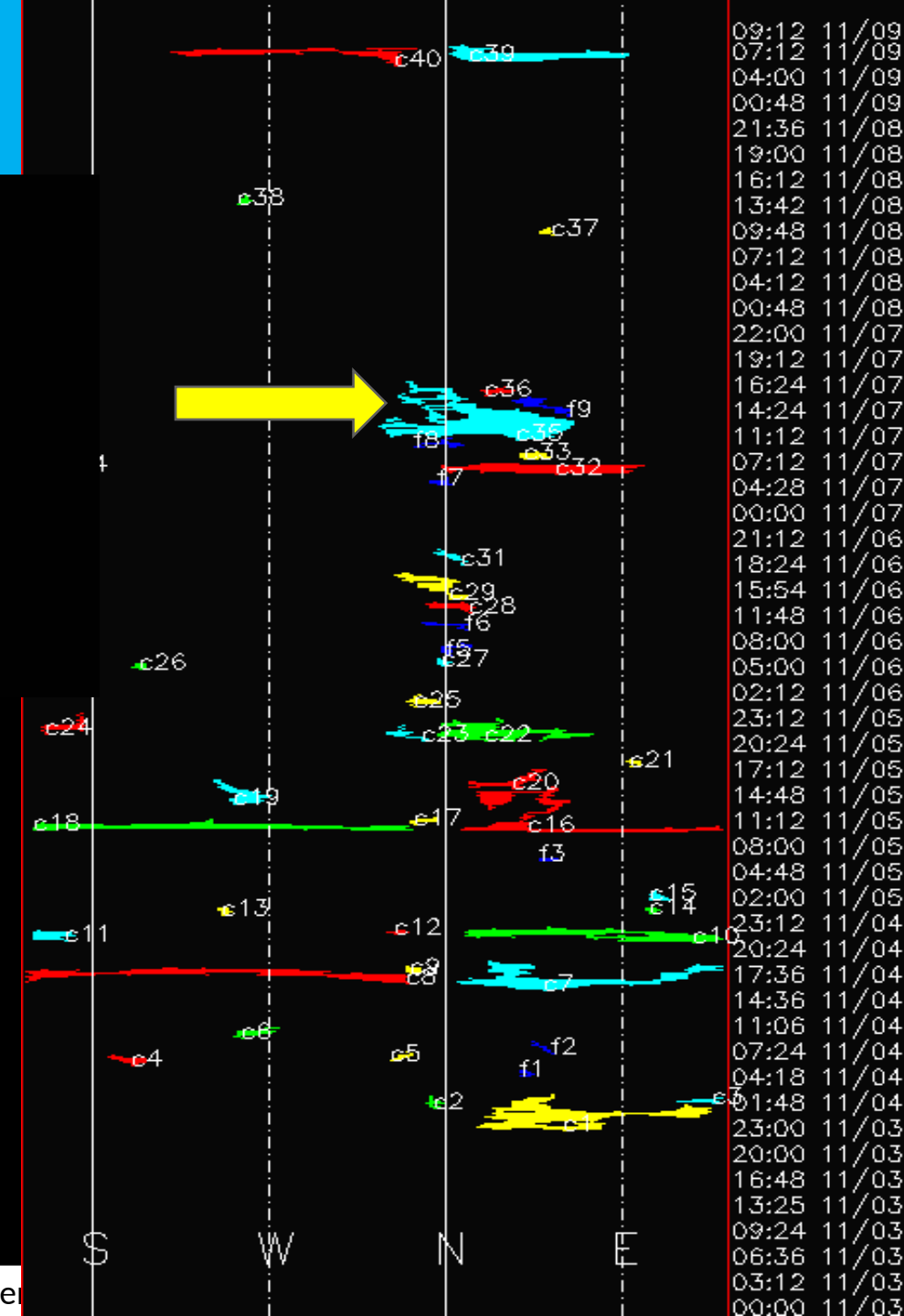
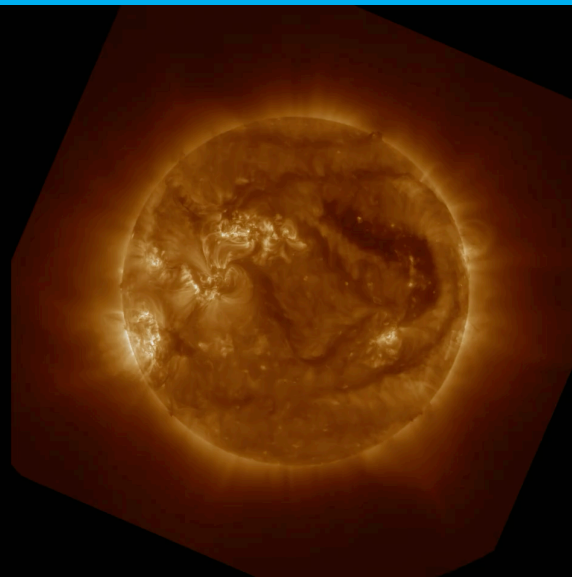
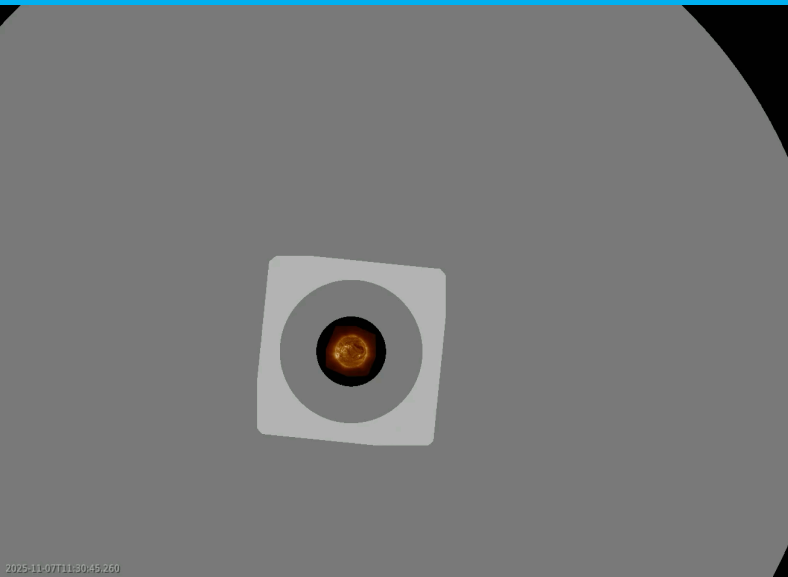
Coronal Mass Ejections



Halo CME left the Sun on Nov 07 at 07:36 from SIDC SG 687
 The CME associated with a M1.76 flare
 We estimated the speed of the CME 528 km/s
 A Type IV radio burst was also detected
 This CME was expected arrival Nov 10 00:00 UT
 There was a bump in the solar wind speed around Nov 09 at 21:00



Coronal Mass Ejections



Halo CME left the Sun on Nov 07 at 12:12 from SIDC SG 687

The CME associated with a C3.1 flare

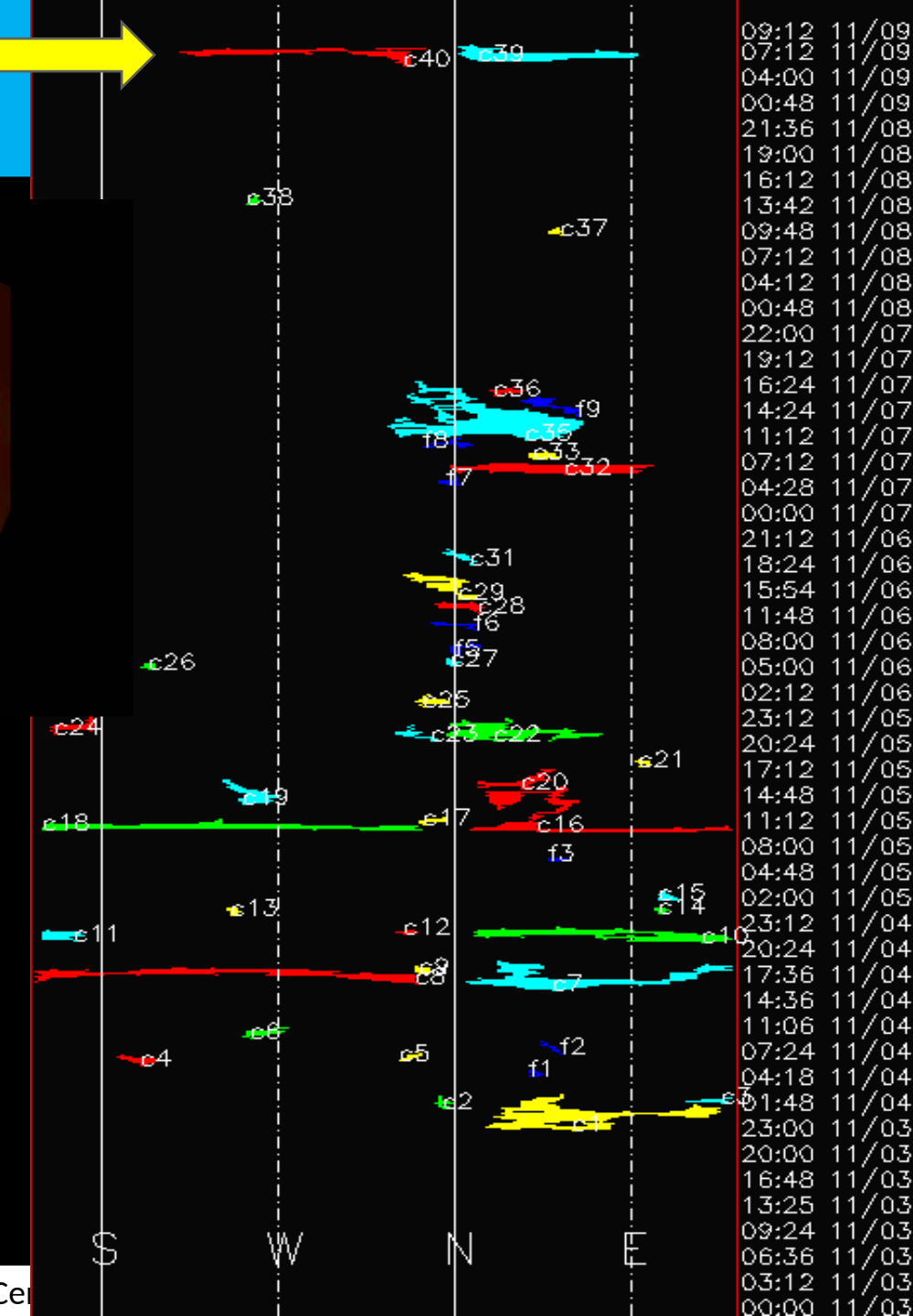
We estimated the speed of the CME 350 km/s

There a westward component that could be part of this CME

This CME is expected arrival around Nov 12 07:12 UT

This CME if it arrives will probably collide with the next CME

This CME is expected to arrive at Earth around Nov 12 at 03:11 UT



Solar Wind and

Geomagnetic Activity



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Solar wind parameters

HSS SIDC CH 123 & 129

HSS SIDC CH 116

ICME Nov 04 (X1.8)

ICME Nov 03

ICME Nov 05



Solar wind parameters & K-indices

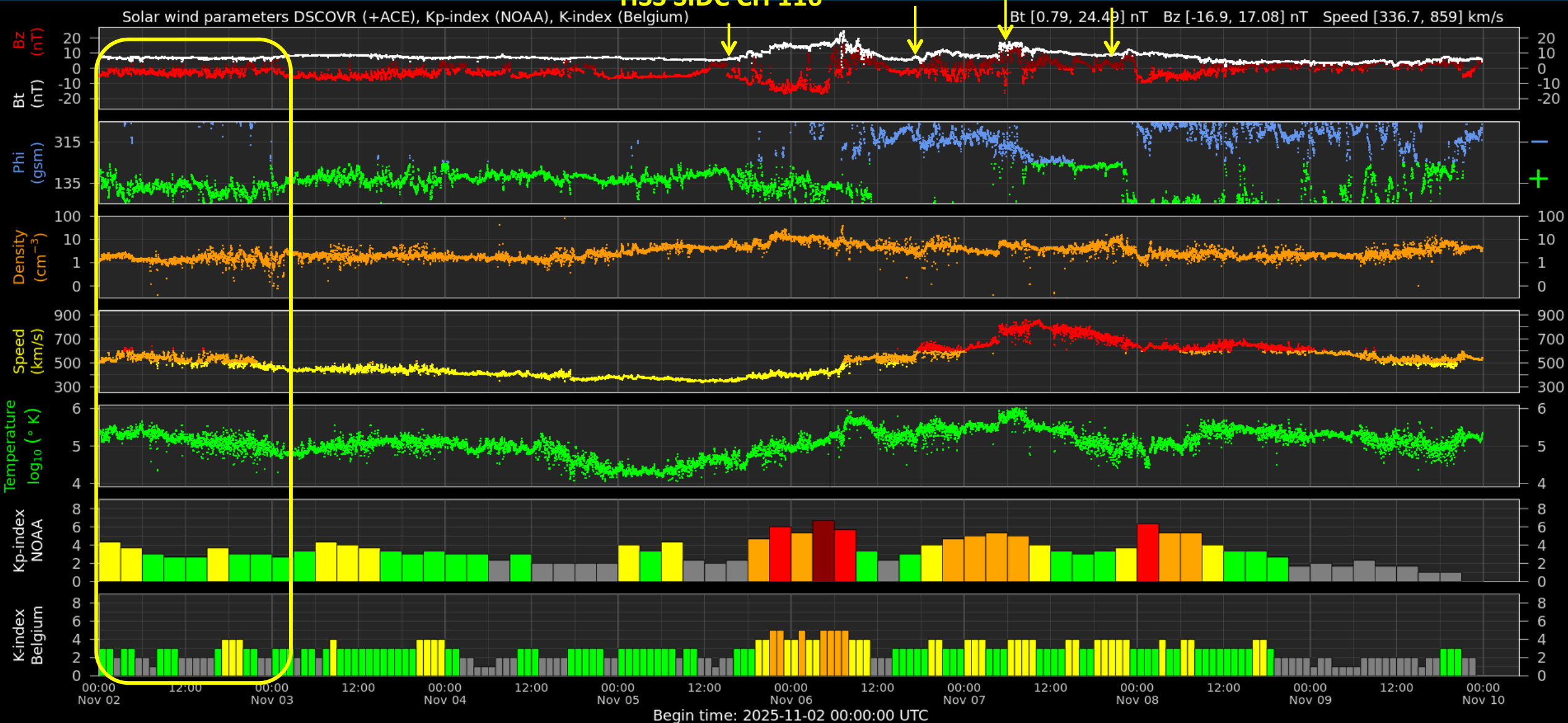
HSS SIDC CH 123 & 129

HSS SIDC CH 116

ICME Nov 04 (X1.8)

ICME Nov 03

ICME Nov 05



Geomagnetic activity (K-indexes)



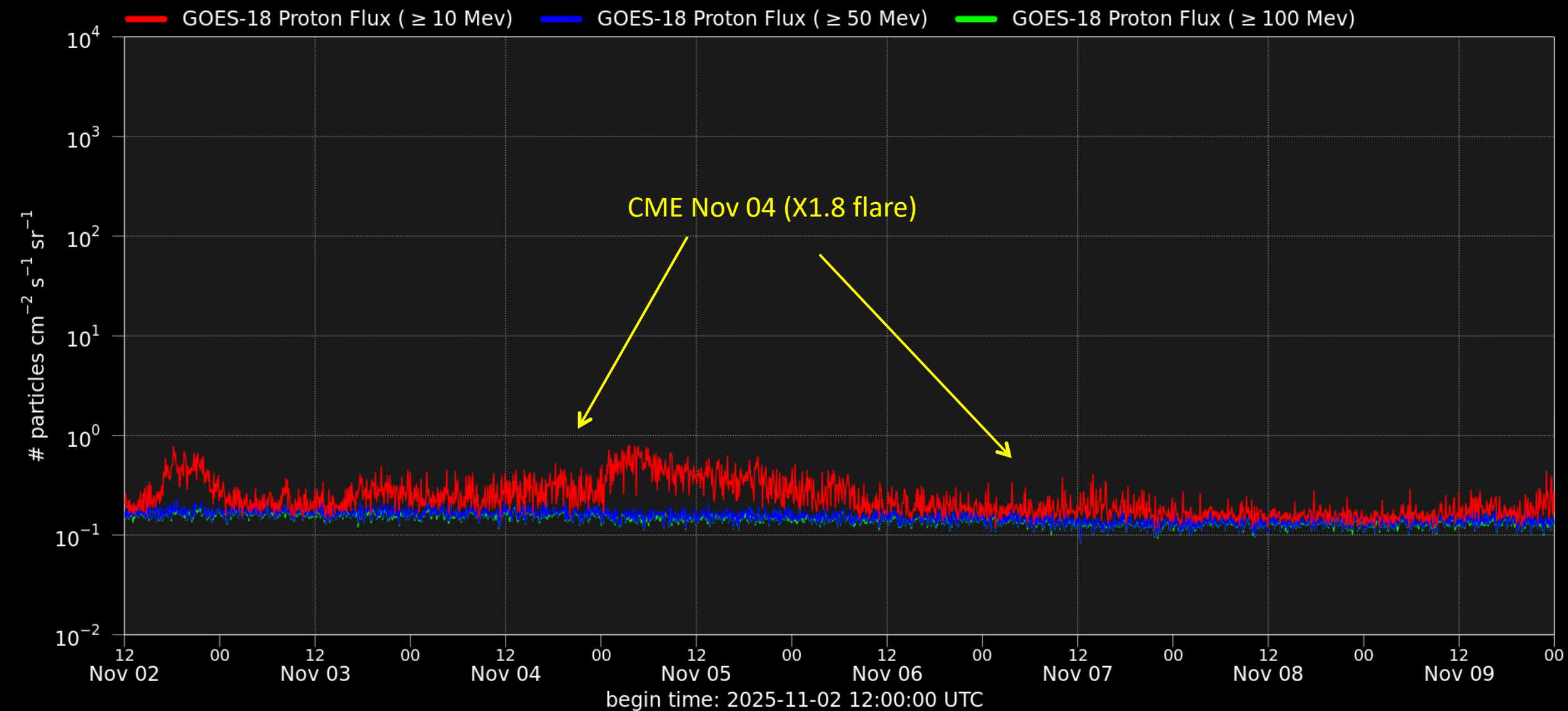
Energetic Particles



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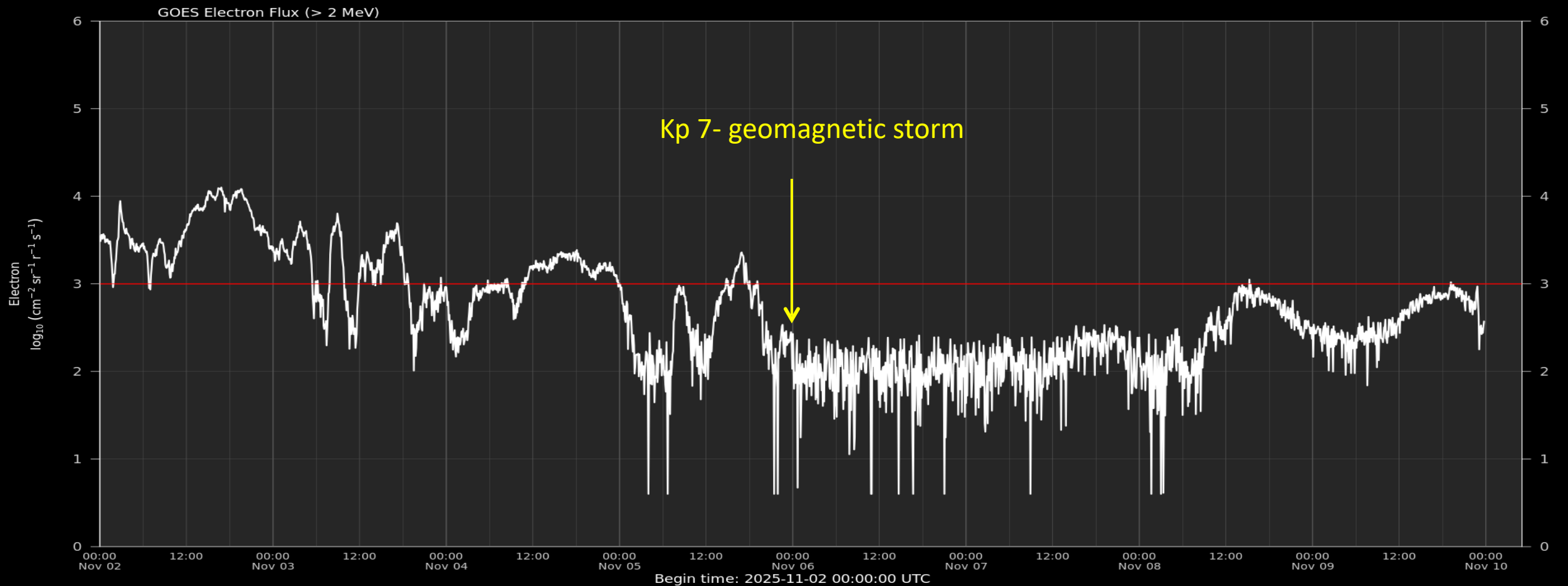
Solar proton flux



Electron flux at GEO

www.stce.be/educational/classification#electrons

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



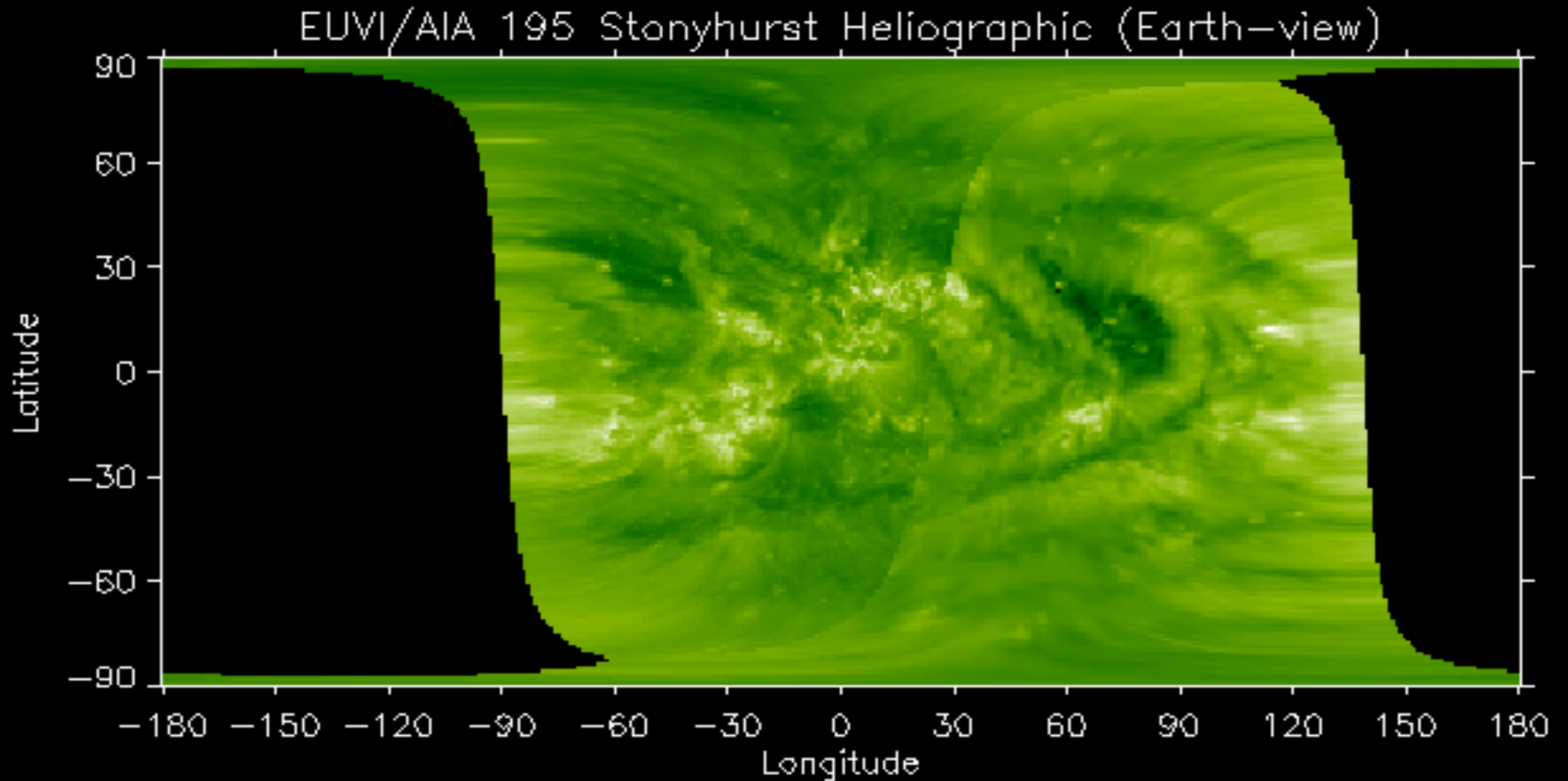
Outlook



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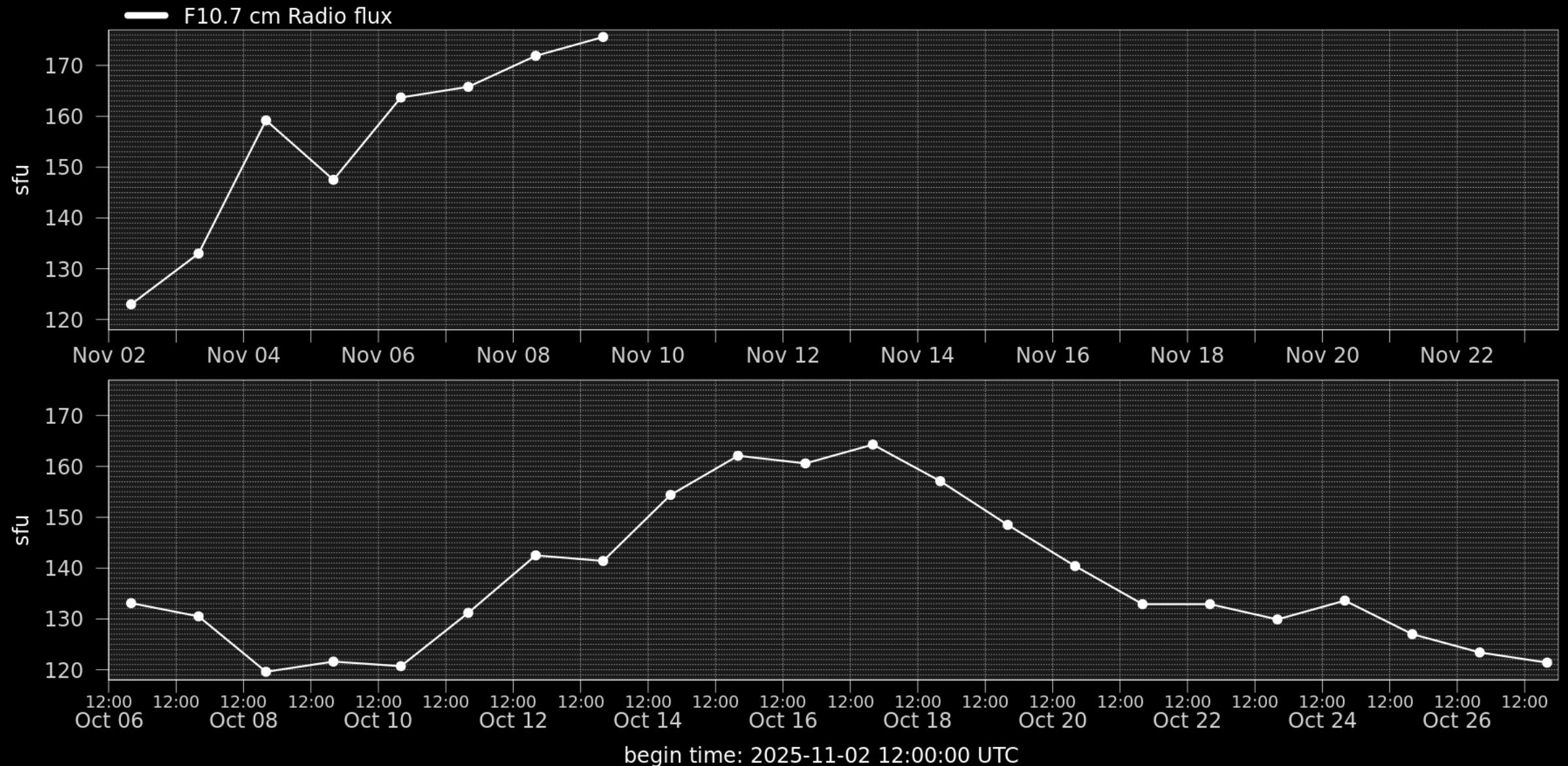
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Outlook: Solar activity

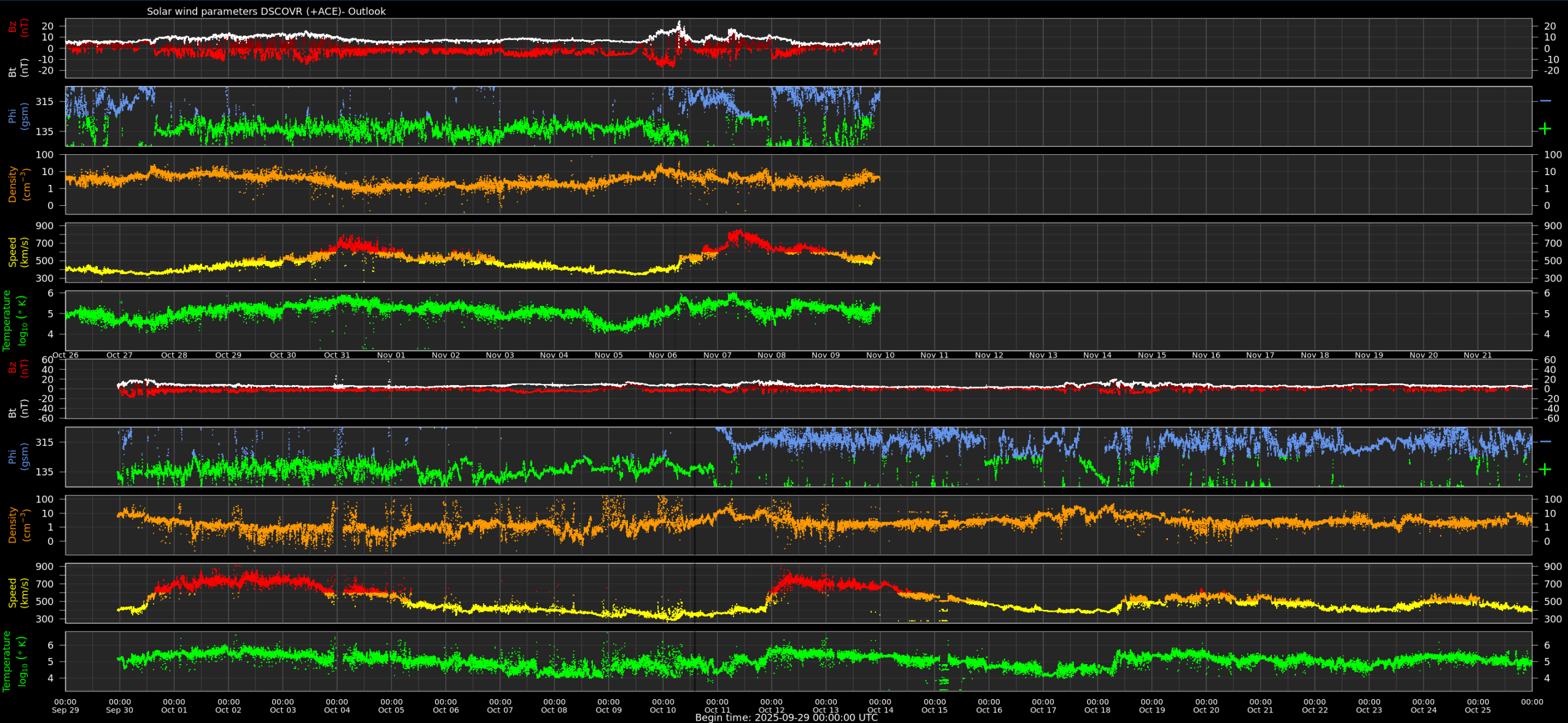


Observation date: 2025/11/09 23:05:00

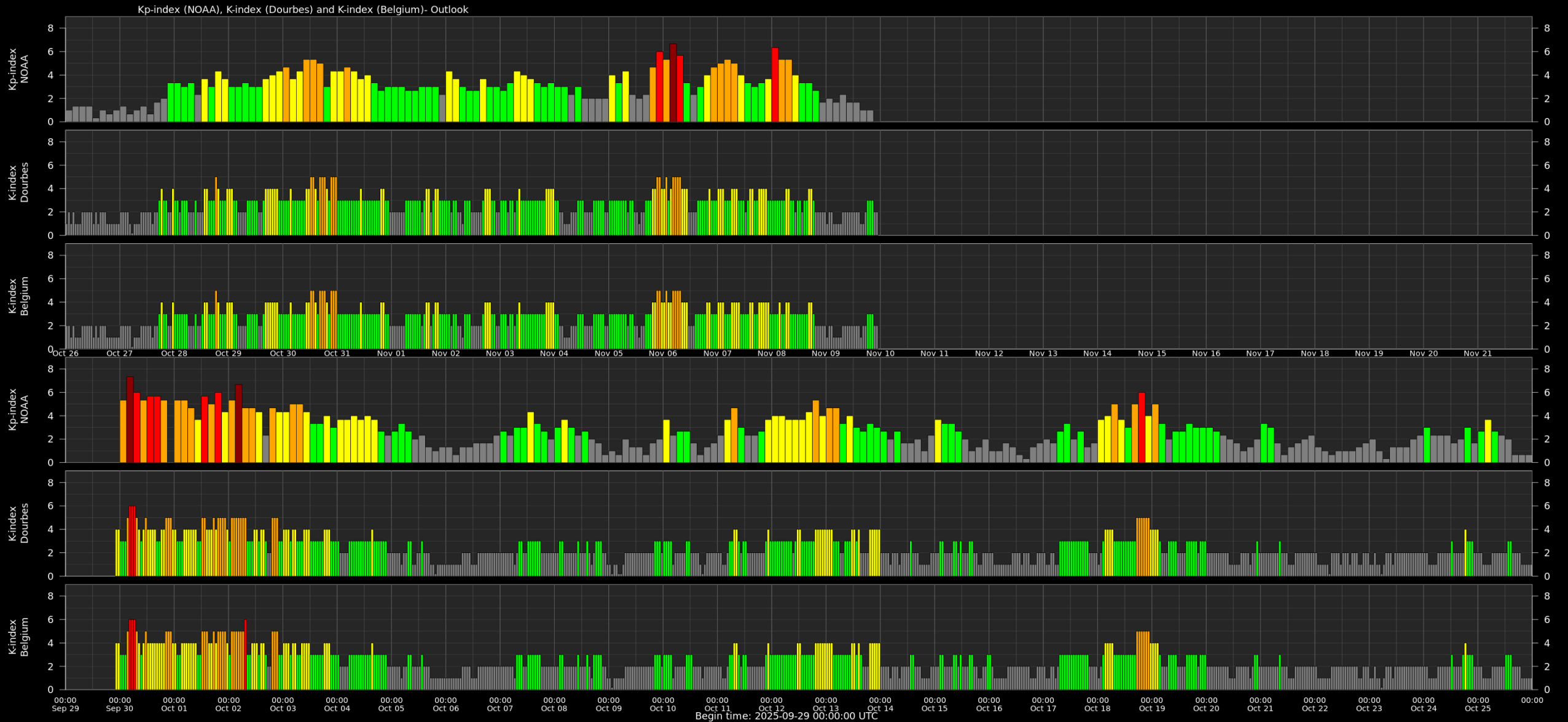
Outlook: Solar F10.7cm radio flux



Outlook: Solar wind parameters



Outlook: Geomagnetic activity



Outlook: Electron Flux at GEO Outlook



PECASUS



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Pegasus related events

HF event:

- Shortwave Fadeout (SWF) – 3 X-class flares 2 on Nov 4 and 1 on Nov 9
- Post storm depression MOD to SEV starting on Nov 06

GNSS evnets:

- Ionospheric scintillation MOD SEV – Gap Nov 6 – Nov 9

SIDC Space Weather Briefing

See you at our next briefing!

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