SIDC Space Weather Briefing

31 August 2026-06 September 2026

de Patoul Judith

& the SIDC forecaster team

Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be

Summary Report

Solar activity from 2026-08-31 00:00 to 2026-09-06 23:59

Active regions	SIDC Sunspot Group 951 (NOAA AR 4520) - SIDC Sunspot Group 943 (NOAA AR 4524)
Flares	# C-class flare: 26 # M-class flare: 3 # X-class flare: 0
Coronal Holes	SIDC Coronal Hole 179, an equatorial CH (+), reached the central meridian on Sept 3
CMEs	Several CMEs

Proton flux	SEP event following an M-class flare
Electron flux	Above threshold

Solar wind and geomagnetic conditions

ICMEs	None
Solar wind conditions	|B|: 0.98 - 10.23 nT// Bz: -6.19 nT to 6.53 nT// Speed: 319.3 - 474.3 km/s
Geomagnetic conditions	max KBel: 4.0, max Kp(NOAA): 3.33, Active conditions

All Quiet Alert: OFF

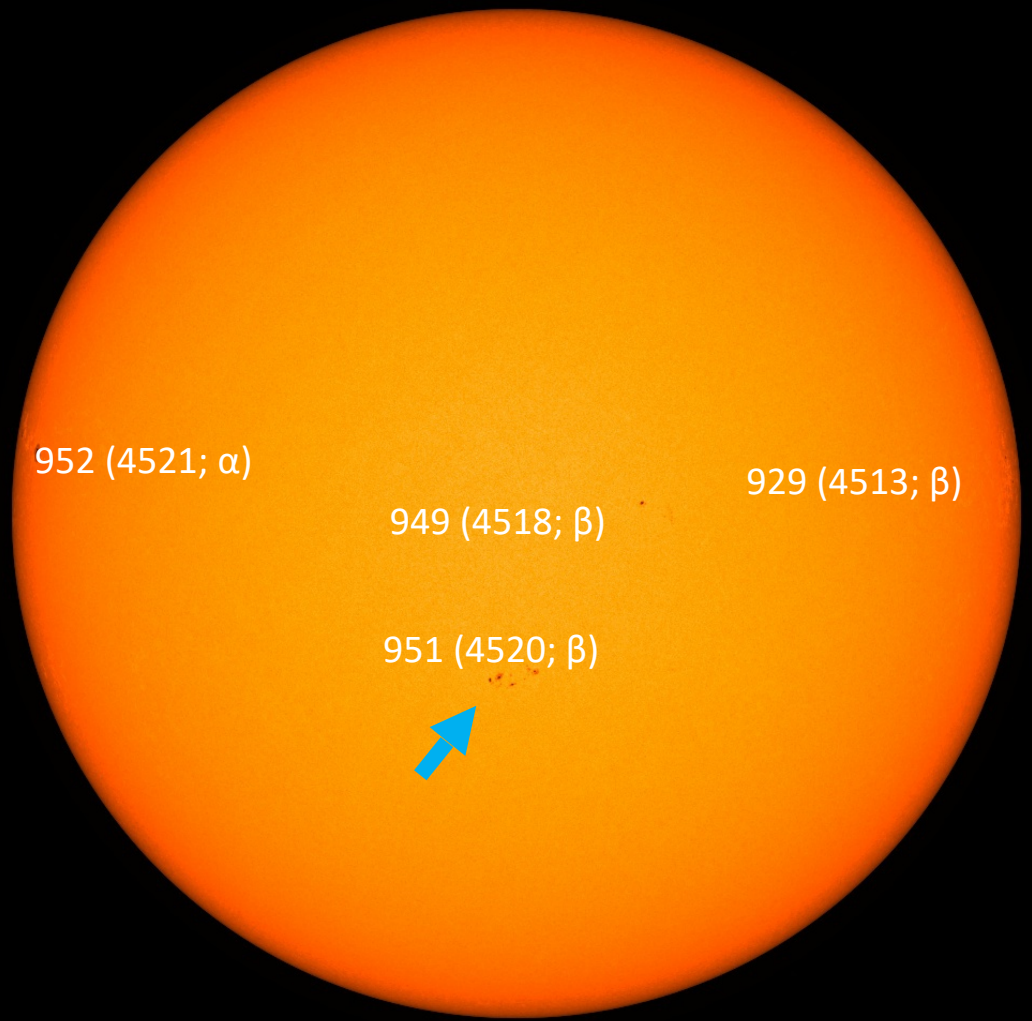
Solar Activity

Royal Observatory
of Belgium

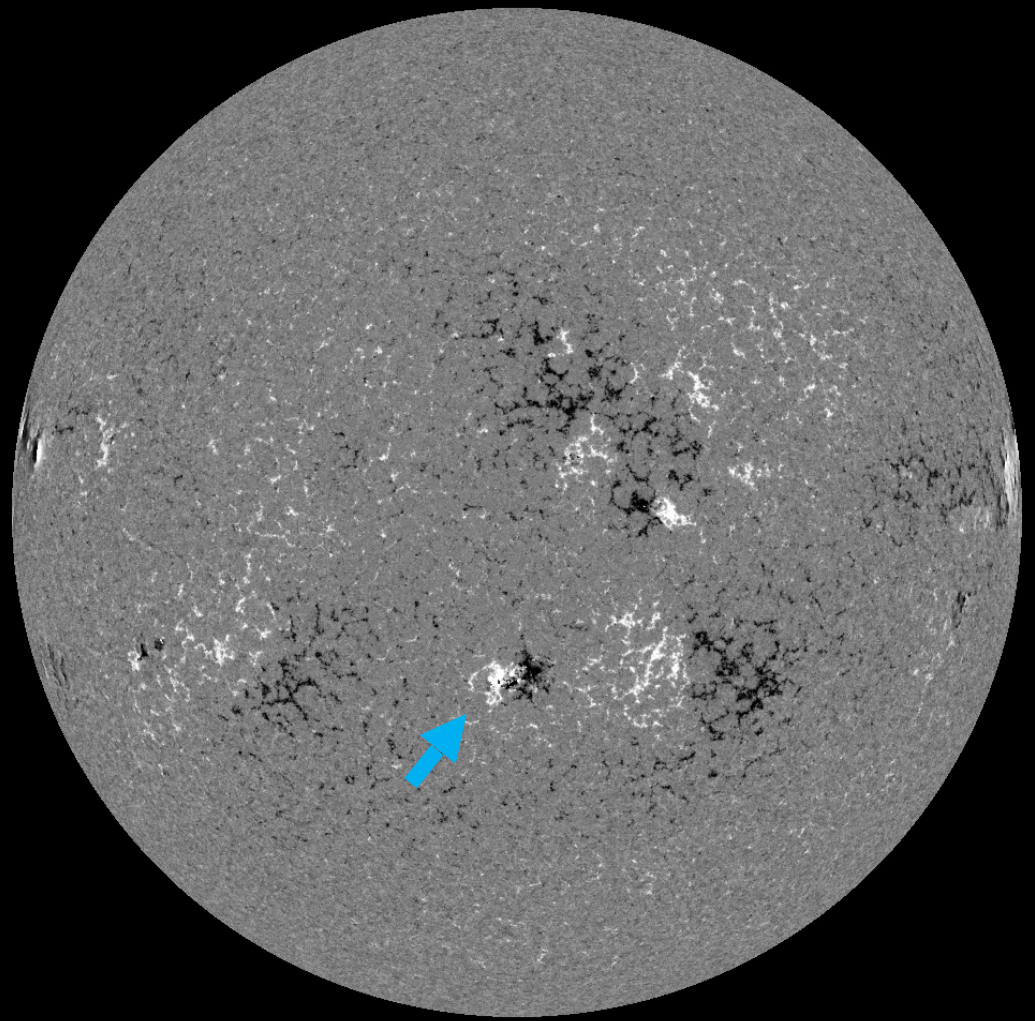
Solar Influences
Data analysis Centre
www.sidc.be

Solar active regions

SDO/HMI White Light 2026-08-31

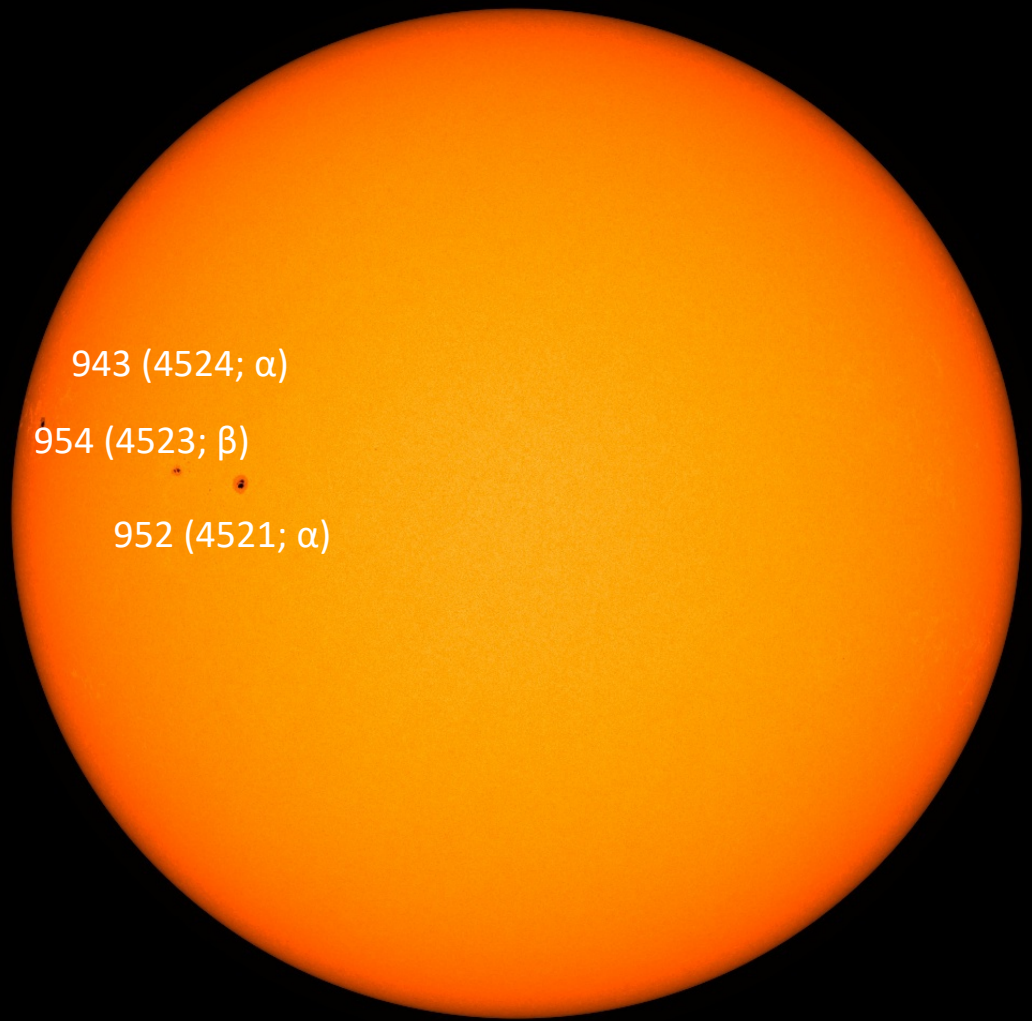


SDO/HMI Magnetogram 2026-08-31

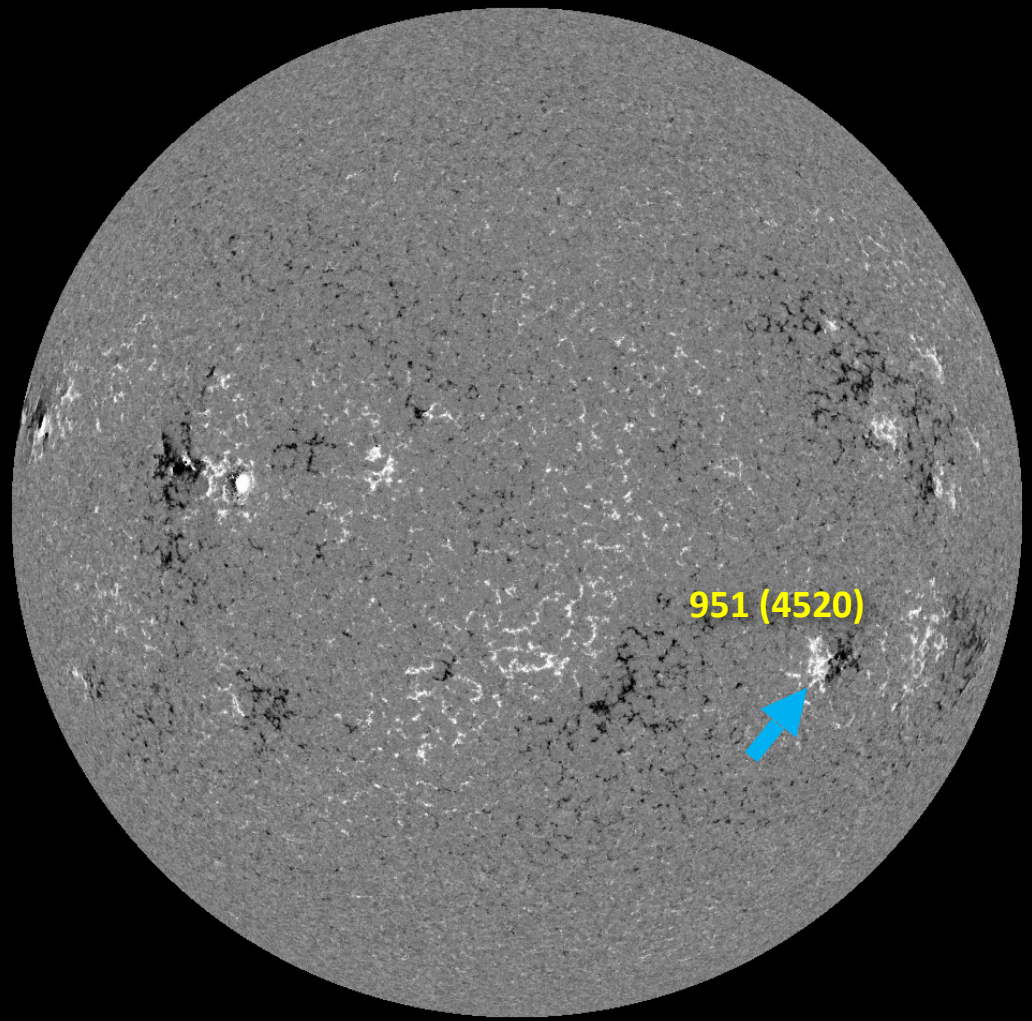


Solar active regions

SDO/HMI White Light 2026-09-03

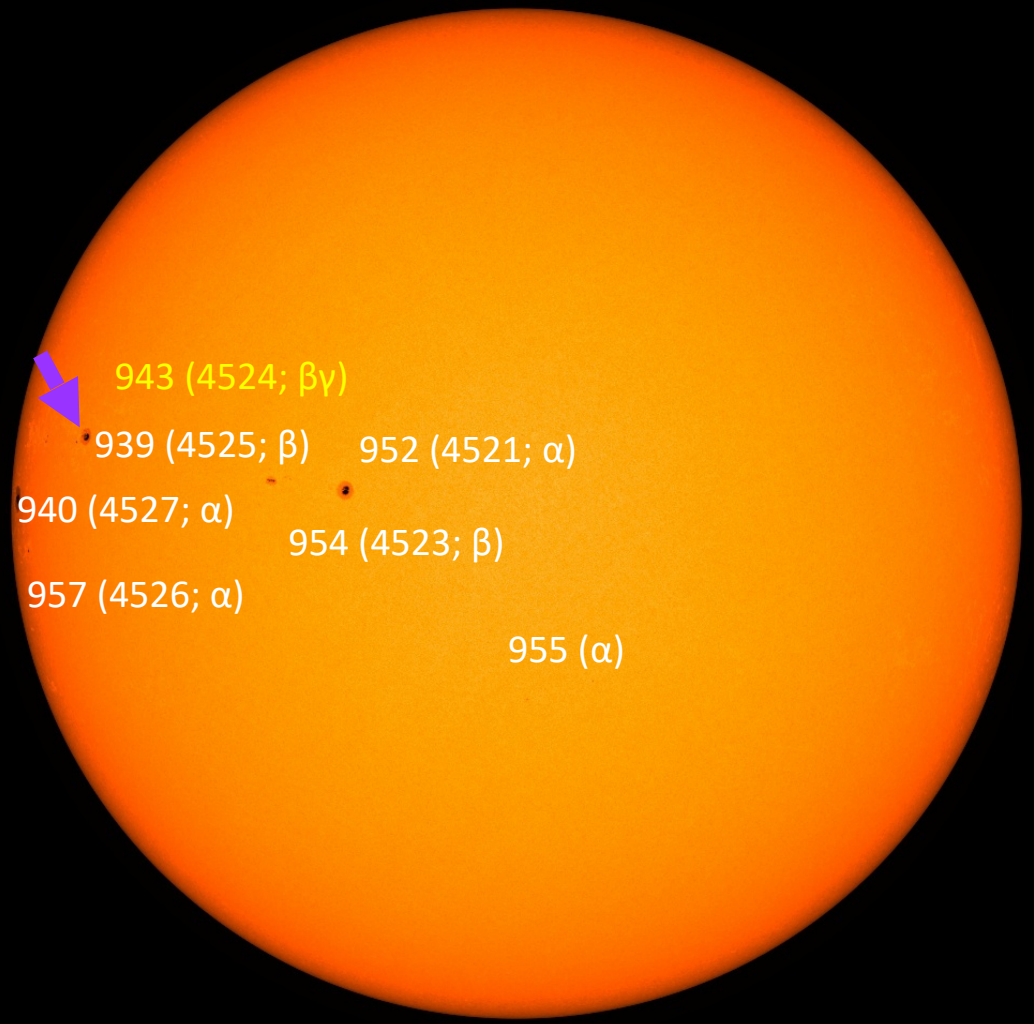


SDO/HMI Magnetogram 2026-09-03

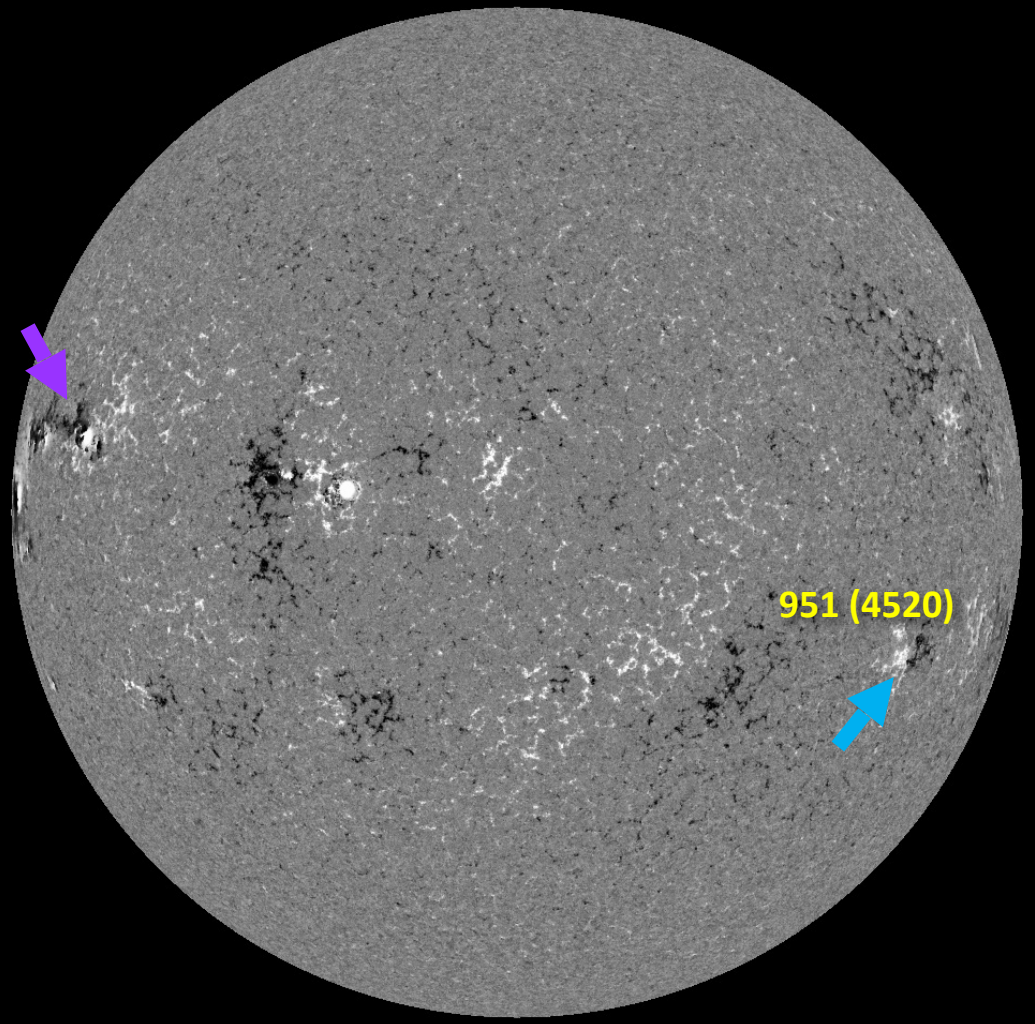


Solar active regions

SDO/HMI White Light 2026-09-04

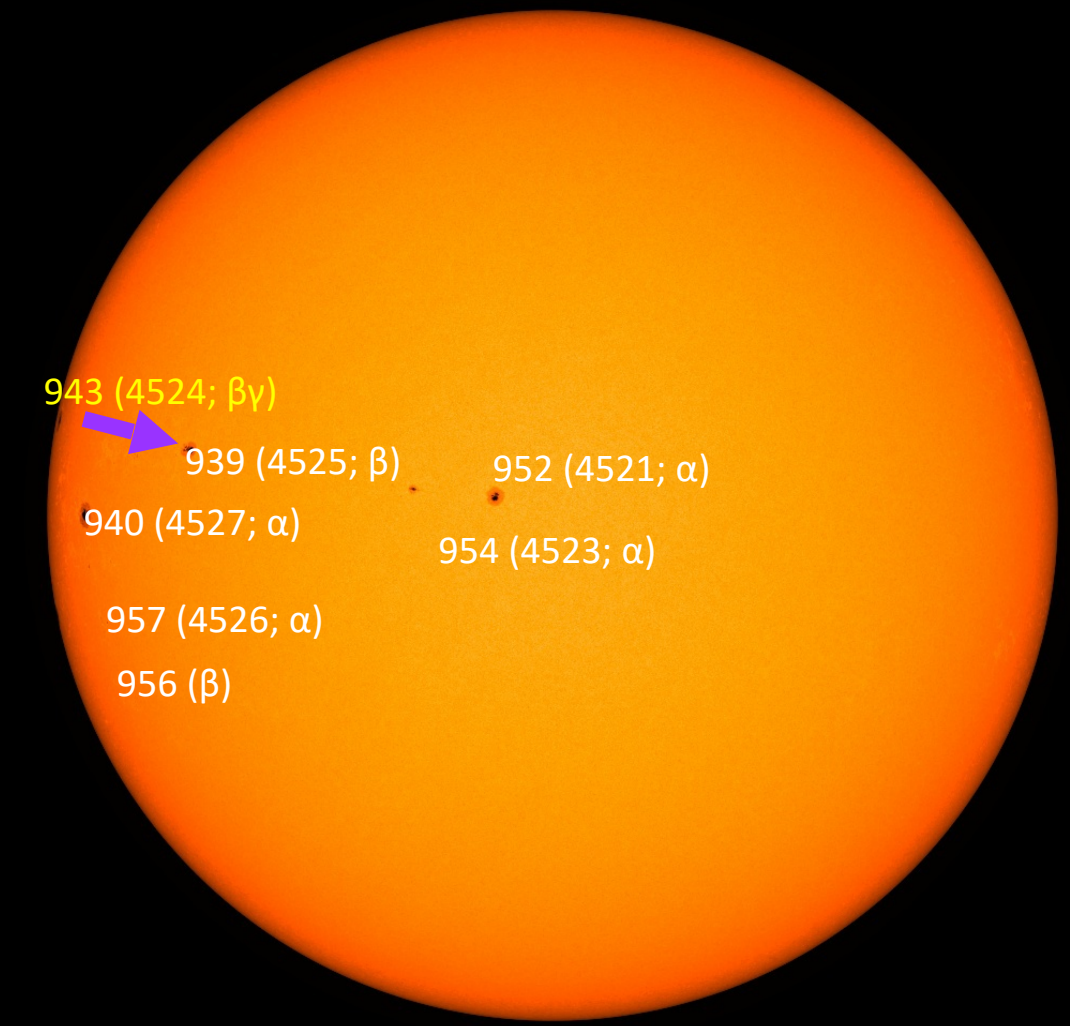


SDO/HMI Magnetogram 2026-09-04

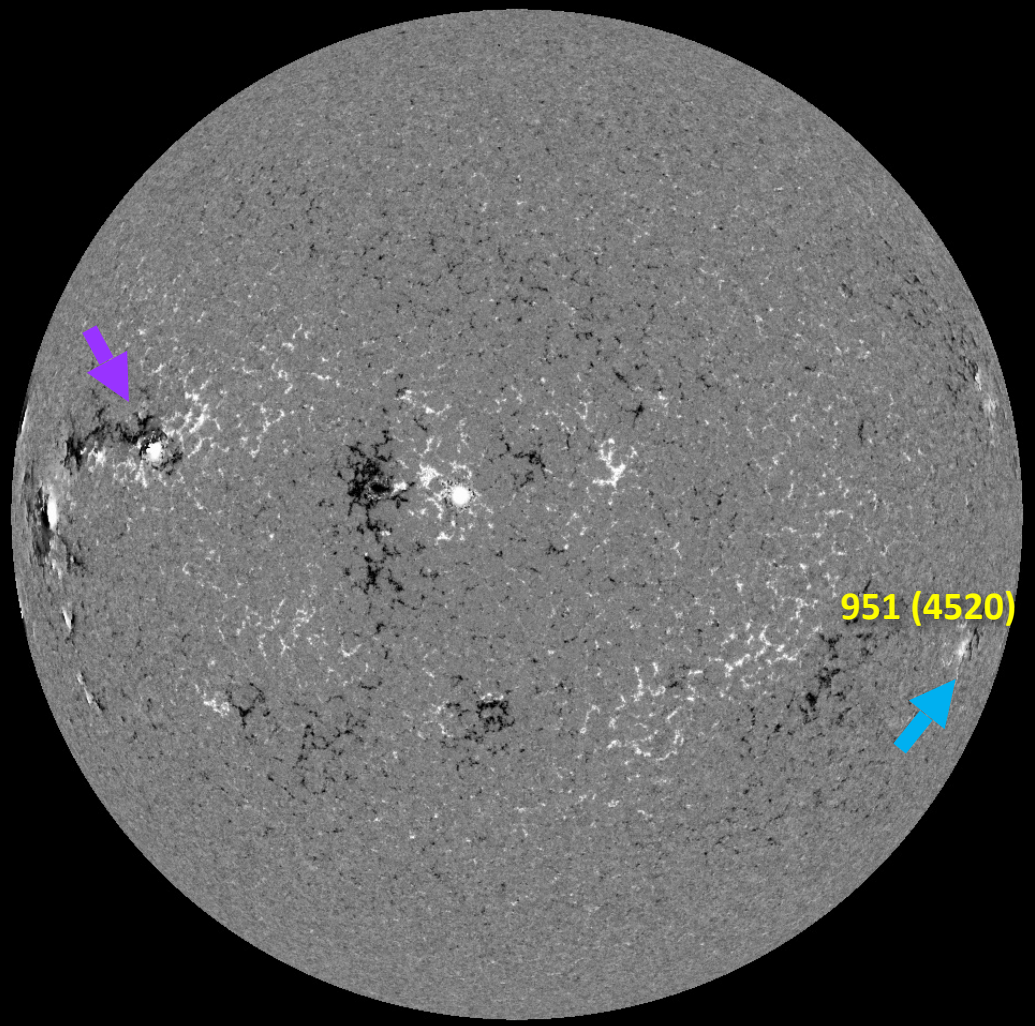


Solar active regions

SDO/HMI White Light 2026-09-05

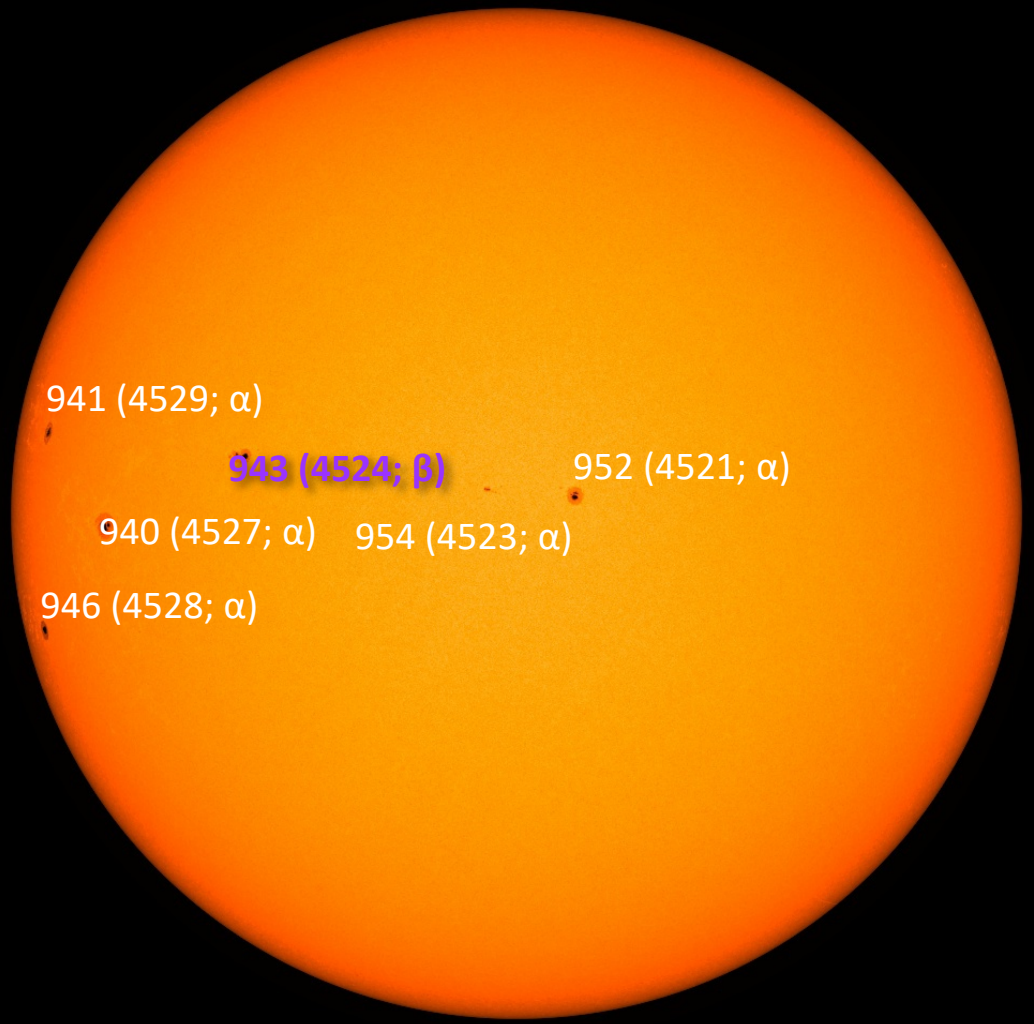


SDO/HMI Magnetogram 2026-09-05

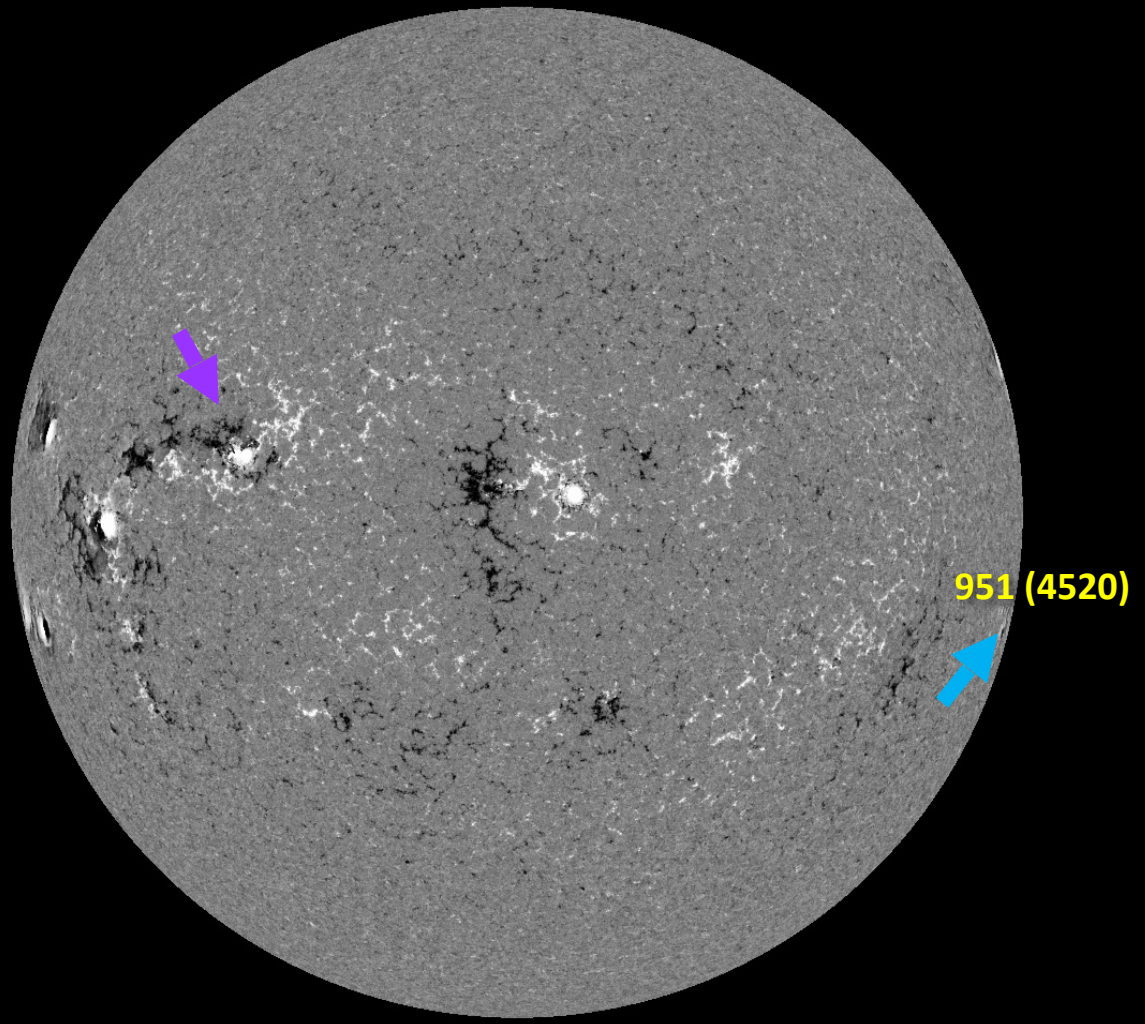


Solar active regions

SDO/HMI White Light 2026-09-06

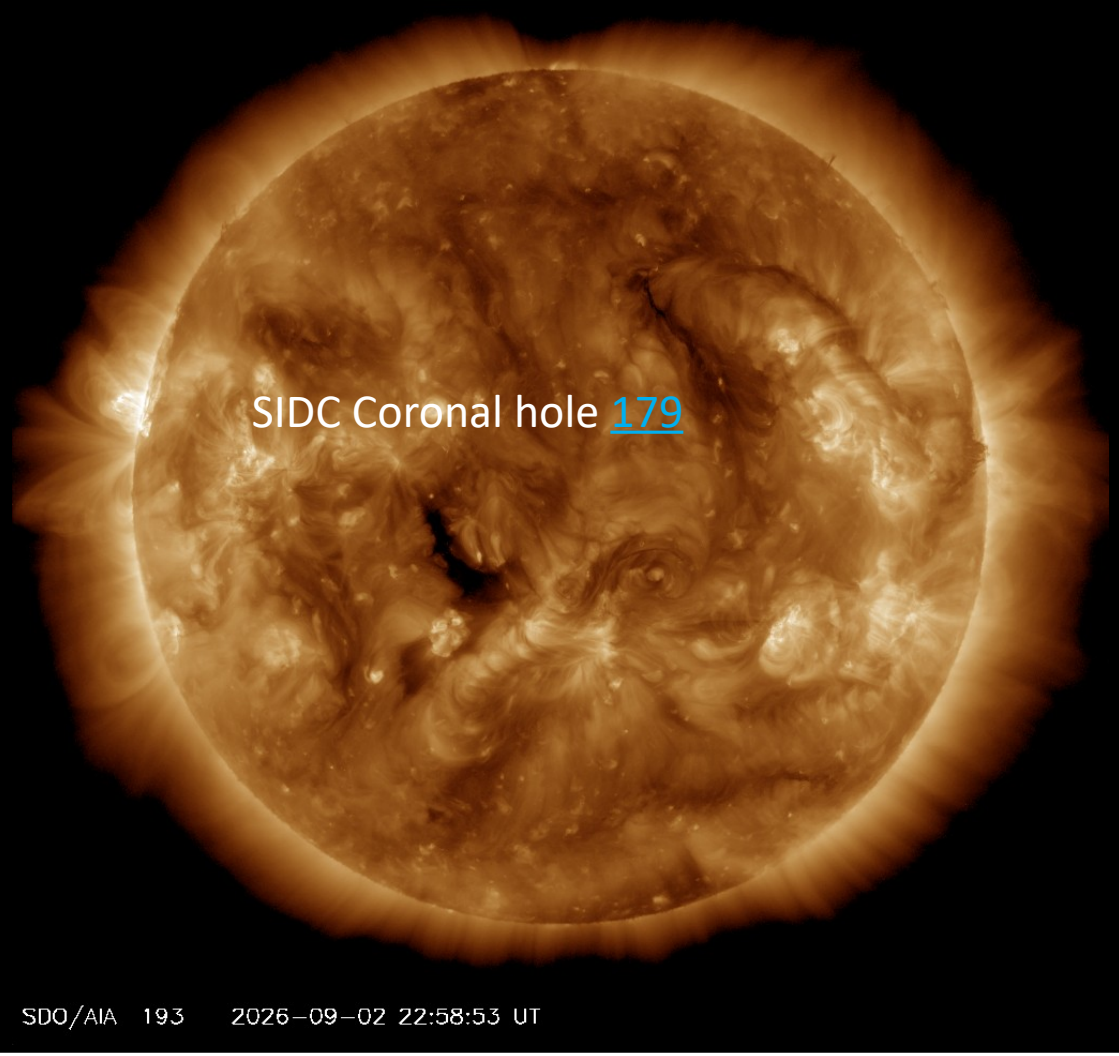


SDO/HMI Magnetogram 2026-09-06

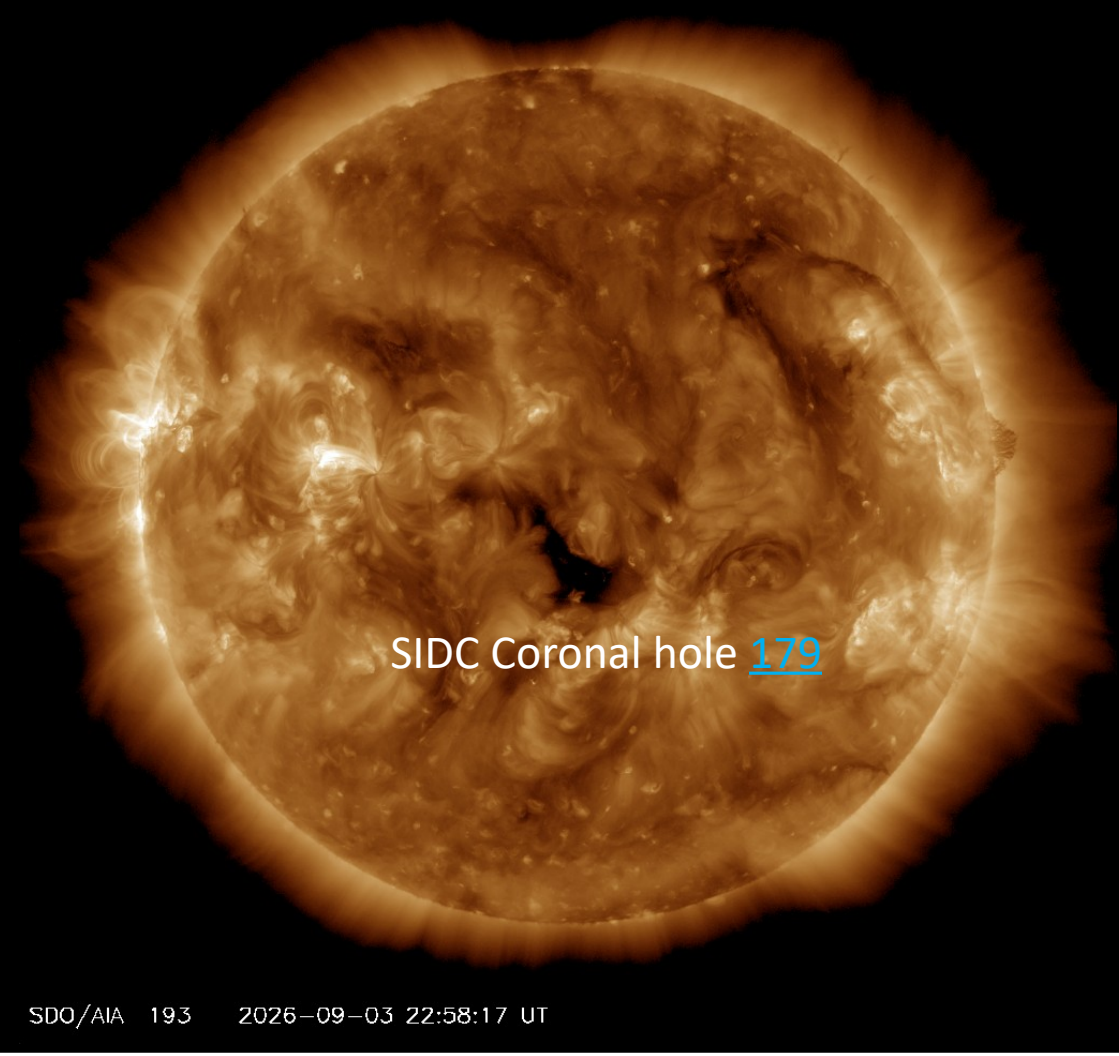


Coronal holes

SDO/AIA 19.3 nm 2026-09-02

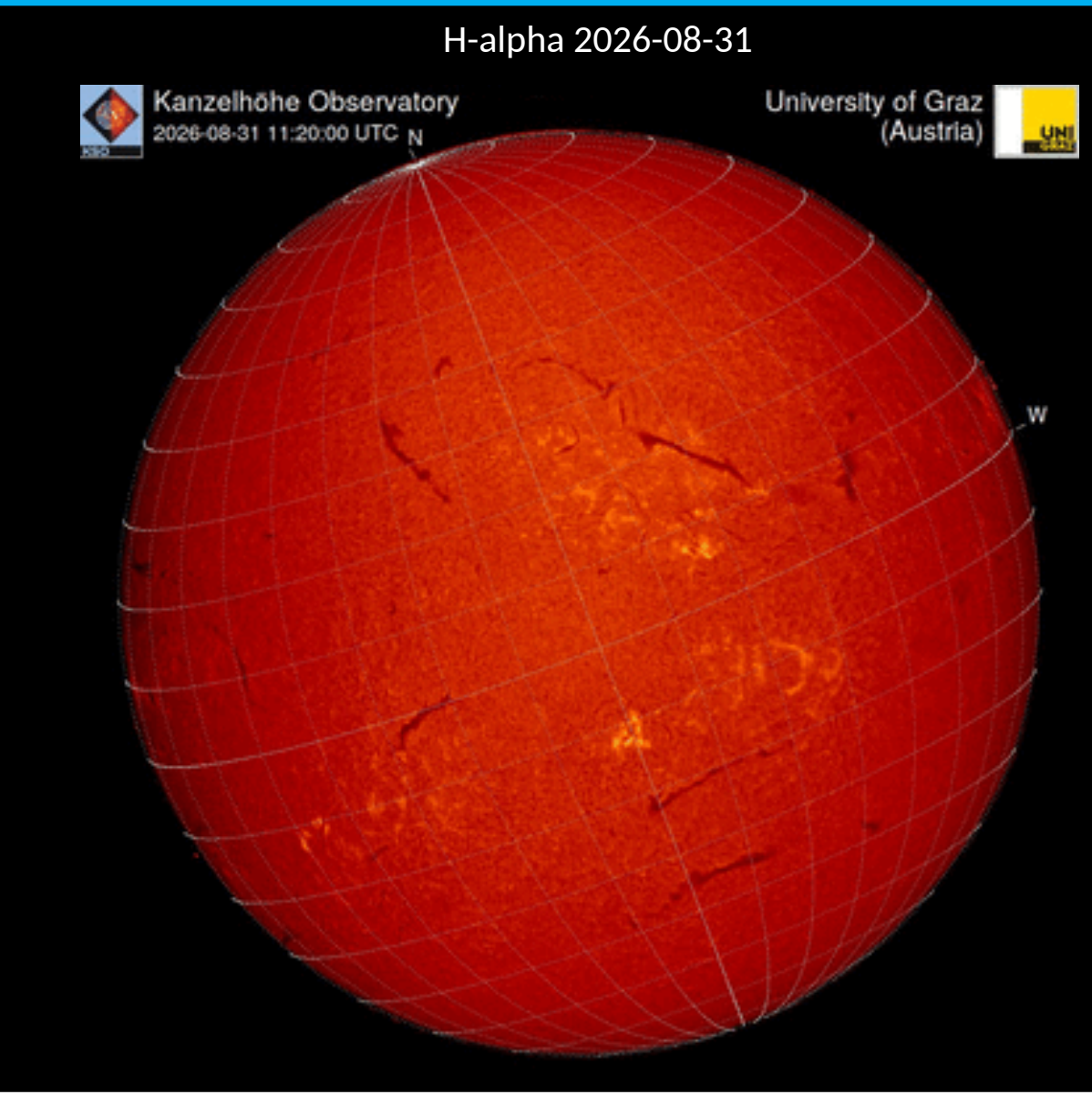


SDO/AIA 19.3 nm 2026-09-03

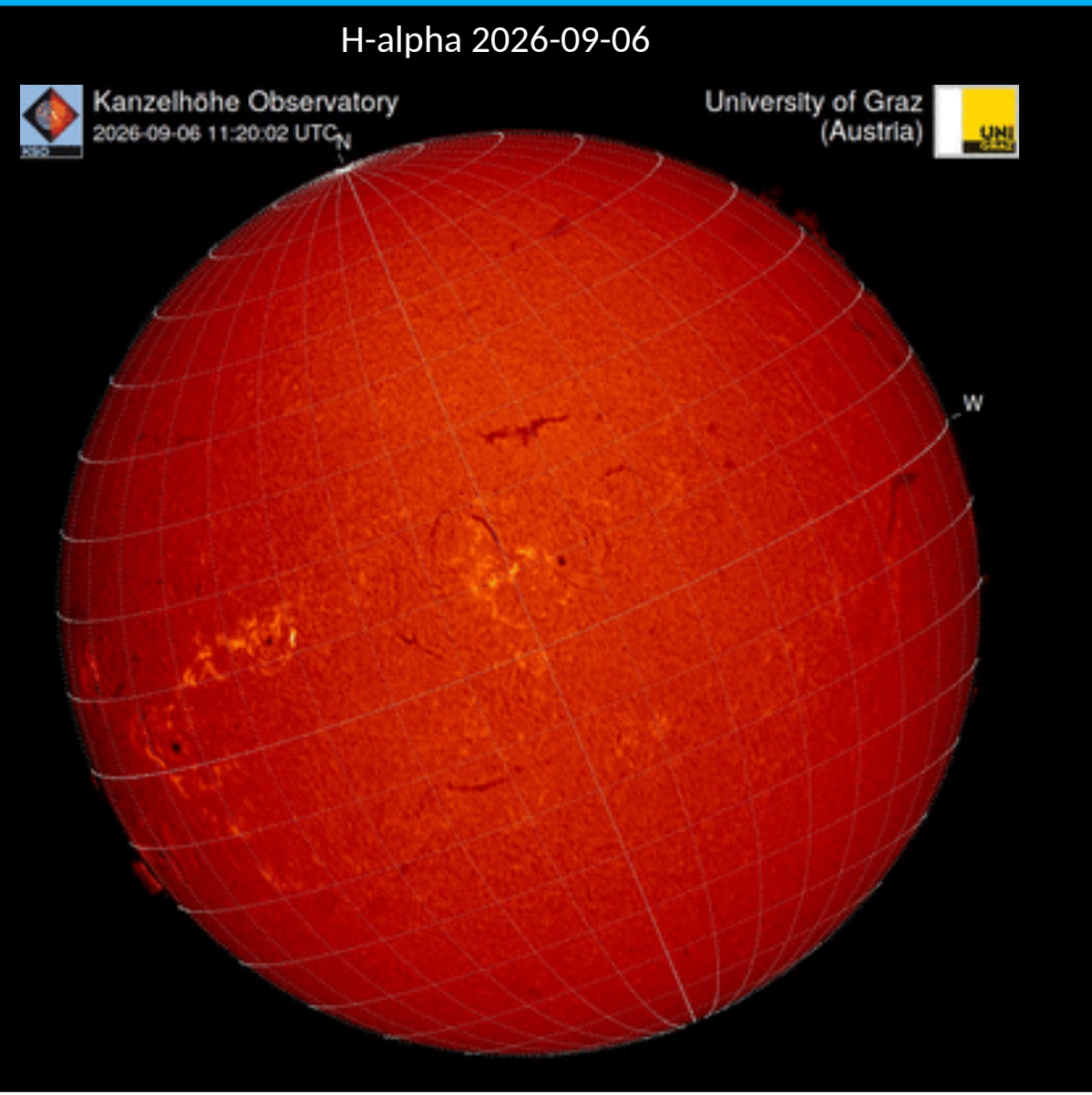


Filaments & Filament eruptions

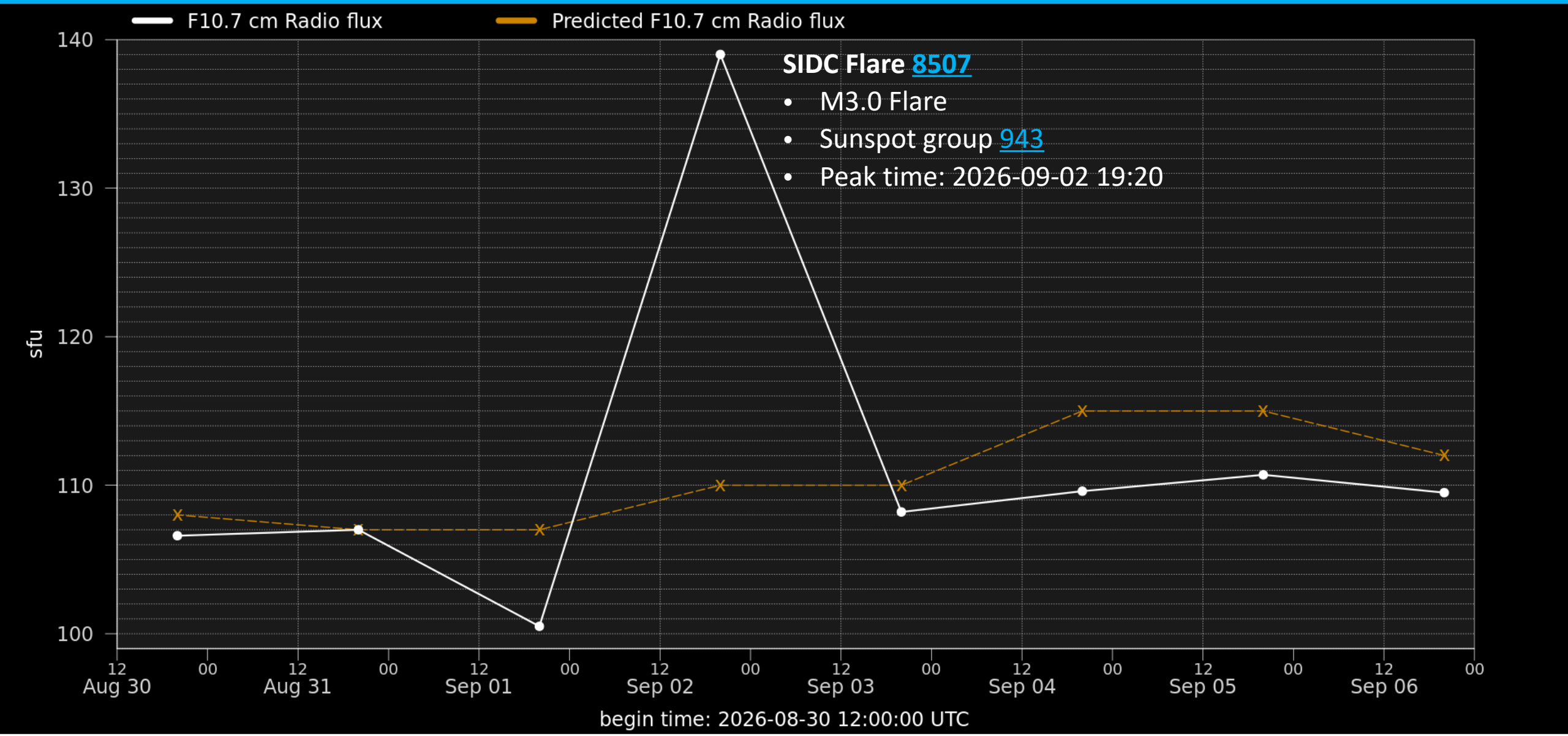
H-alpha 2026-08-31



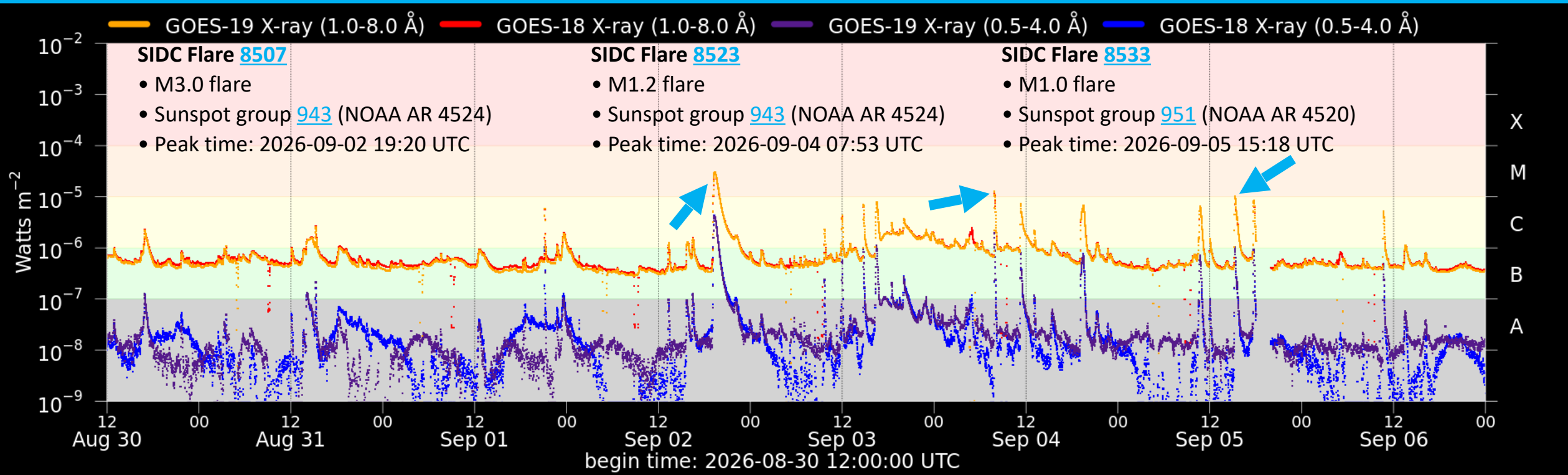
H-alpha 2026-09-06



Solar F10.7cm radio flux



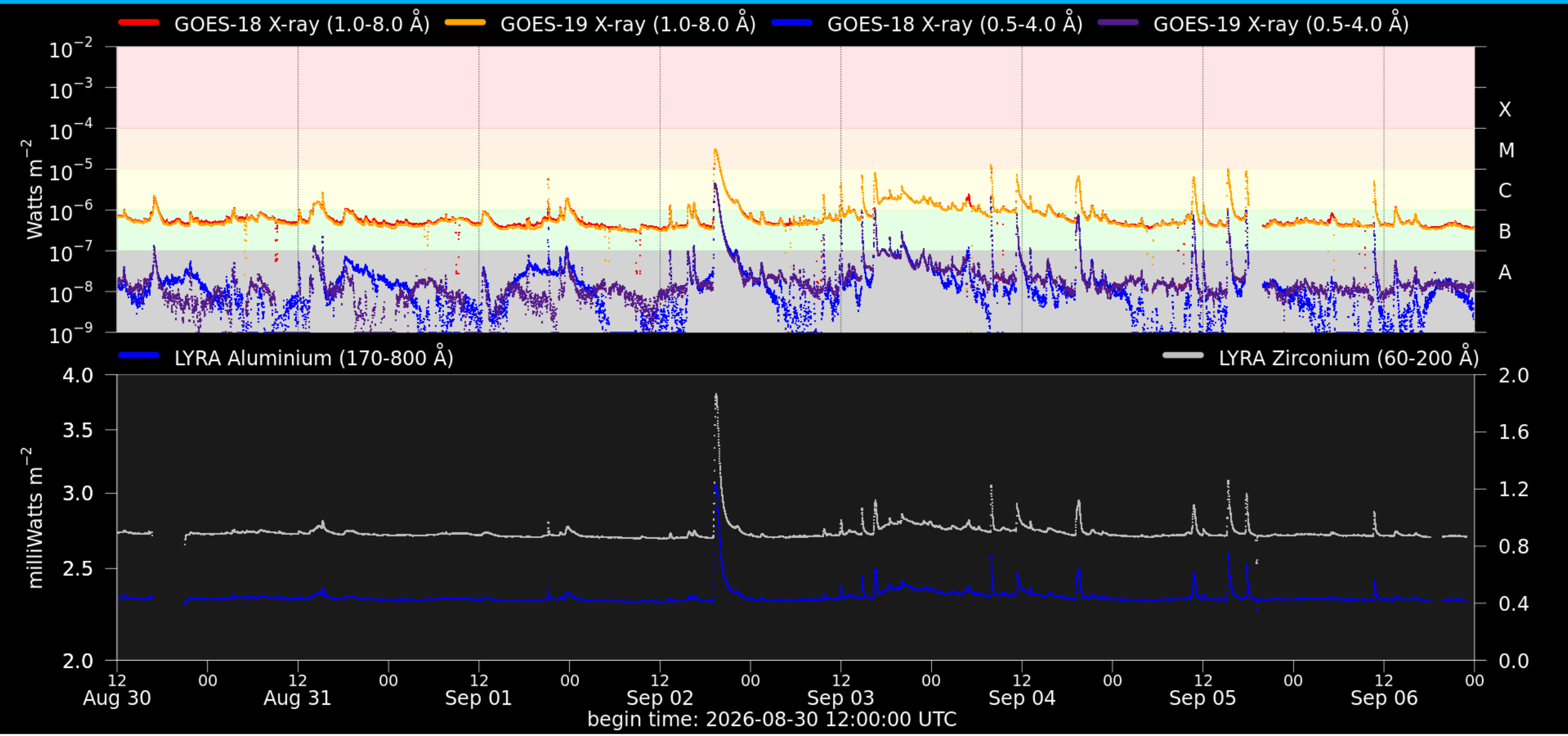
Flaring activity



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

Issue date	2026-08-30	2026-08-31	2026-09-01	2026-09-02	2026-09-03	2026-09-04	2026-09-05	2026-09-06
Probability (%)	90|15|01	49|04|01	75|16|01	82|12|01	82|39|01	95|59|01	95|36|01	89|23|01
Observed (#)	02|00|00	01|00|00	03|00|00	05|01|00	08|01|00	03|00|00	03|01|00	01|00|00

Solar X-Ray and UV flux



Coronal Mass Ejections

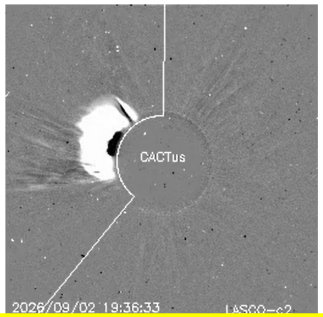
CACTUS

A software package for 'Computer Aided CME Tracking'

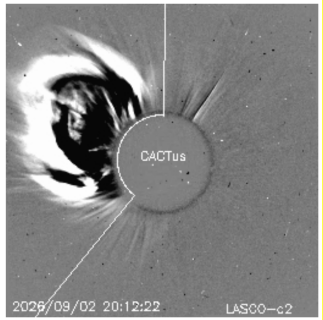
Details and graphs for CME0007

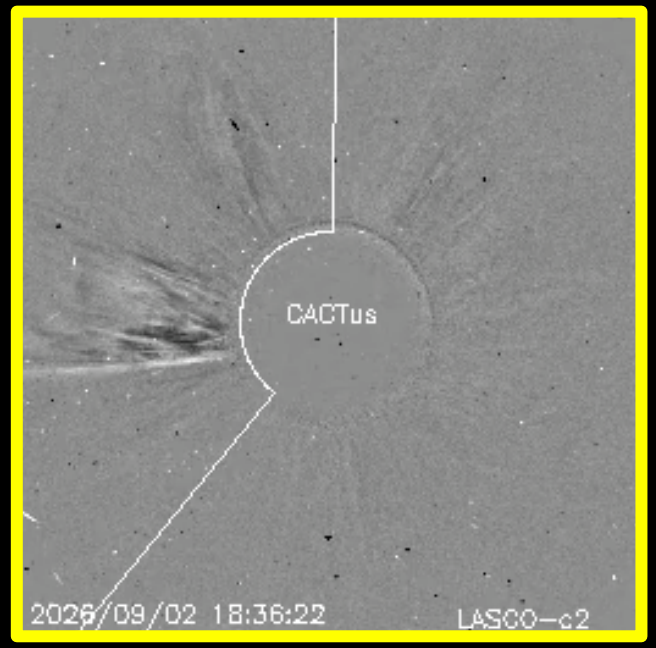
```
# CME |          t0     | dt0| pa | da |  v   |  dv  | minv| maxv| halo?
  0007|2026/09/02 19:36| 02 | 070| 142| 0710| 0221| 0231| 1249|   II
```

CME Movie :: Download ::

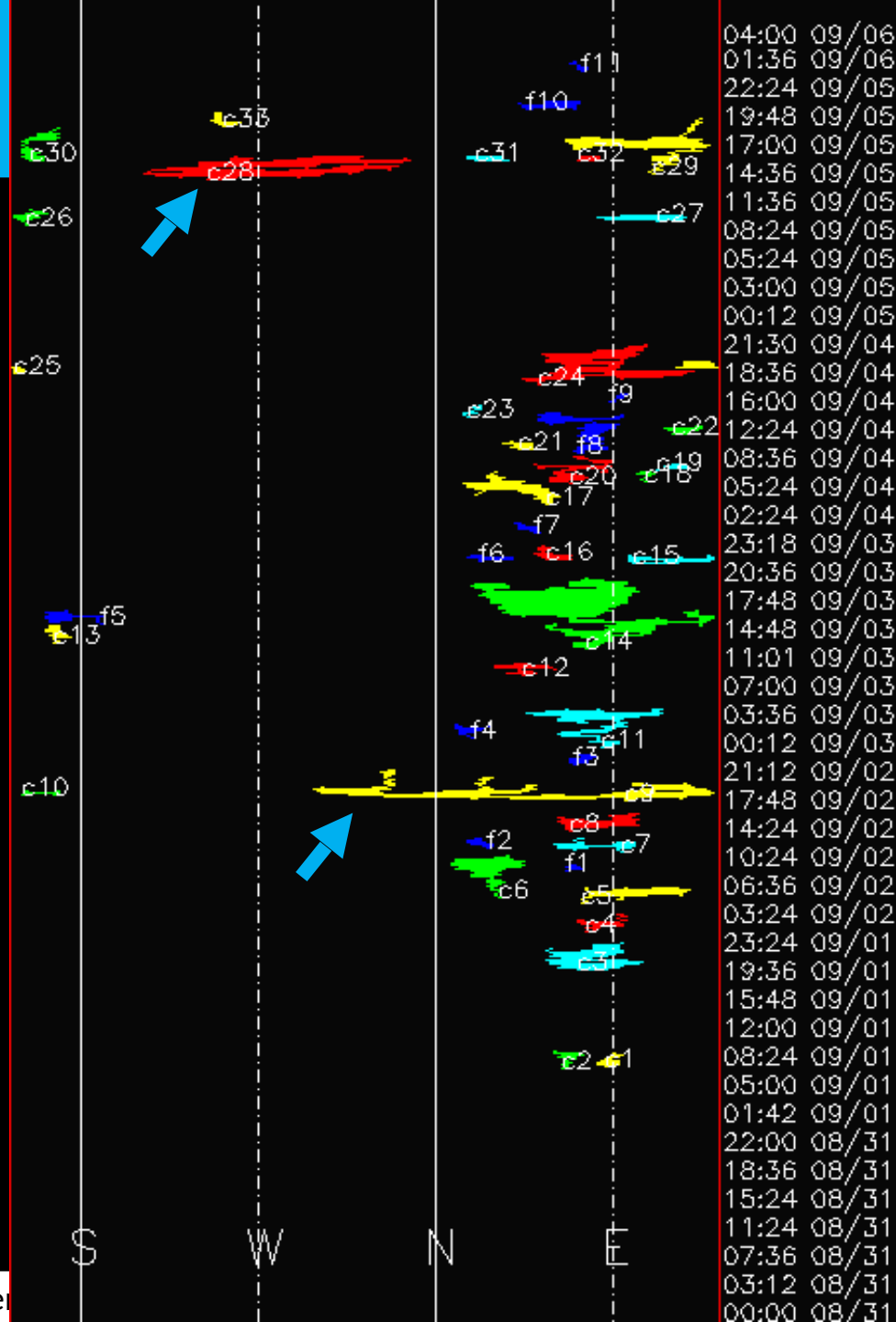


Sample Image






```
:Issued: 2026 Sep 03 0715 UTC
:Product: documentation at http://www.sidc.be/products/presto
#-----------------------------------------------------------------#
# FAST WARNING 'PRESTO' MESSAGE  from the SIDC (RWC-Belgium)      #
#-----------------------------------------------------------------#
A halo Coronal Mass Ejection (CME) was observed from around 19:36 UTC on
September 2, associated with an M3.0 flare that peaked at 19:20 UTC from
NOAA Active Region 4524 close to the east limb (N12E88). The region may
correspond to the returning SIDC Sunspot Group 943. The eruption was
accompanied by Type II and Type IV radio emissions. The CME had an
estimated plane-of-sky speed of about 740 km/s. Despite its halo
appearance, the source region was located close to the east limb and the
CME is not expected to have a significant Earth-directed component. The
active region is rotating onto the Earth-facing side of the Sun and may
remain a source of further flaring and eruptive activity over the coming
days.
```



Coronal Mass Ejections

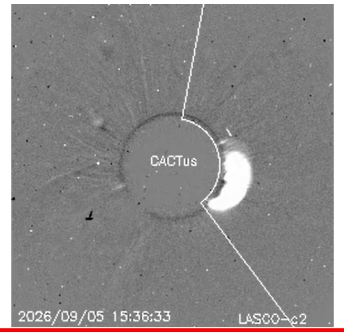
CACTUS

A software package for 'Computer Aided CME Tracking'

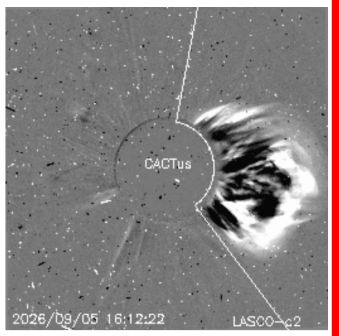
Details and graphs for CME0023

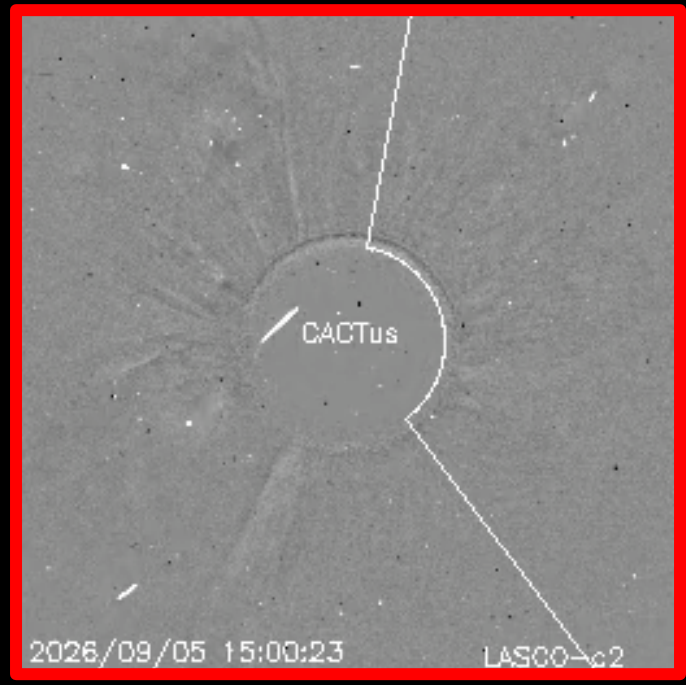
```
# CME |          t0     | dt0| pa | da |  v   |  dv  | minv| maxv| halo?
  0023|2026/09/05 15:36| 02 | 283| 132| 0625| 0207| 0116| 1077|  II
```

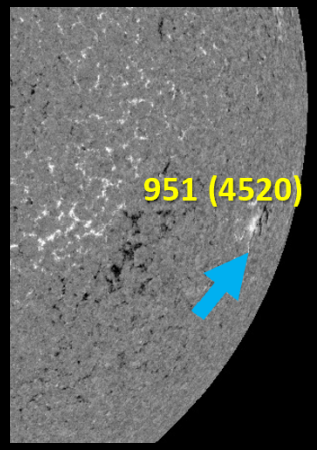
CME Movie :: Download ::



Sample Image





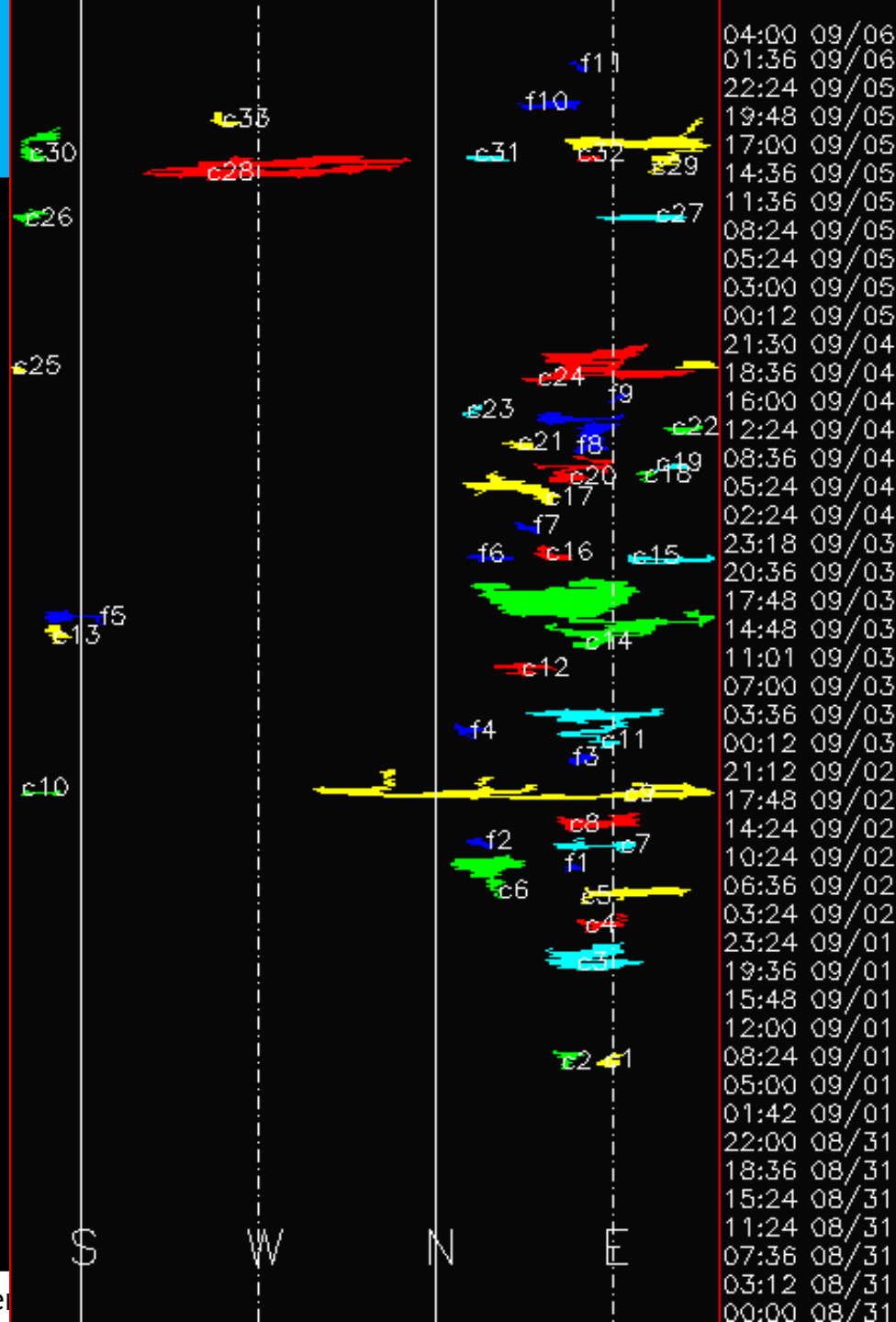


SIDC Flare 8533

- M1.0 flare
- Sunspot group 951 (NOAA AR 4520)
- Peak time: 2026-09-05 15:18 UTC

```
:Issued: 2026 Sep 05 1741 UTC
:Product: documentation at http://www.sidc.be/products/presto
#-----------------------------------------------------------------------#
# FAST WARNING 'PRESTO' MESSAGE  from the SIDC (RWC-Belgium)           #
#-----------------------------------------------------------------------#
The greater than 10 MeV proton flux crossed the 10 pfu alert threshold
at 16:15 UTC on September 5. The proton event followed an M1.0 flare
that peaked at 15:18 UTC from SIDC Sunspot Group 951 (NOAA Active Region
4520), near S12W68. Strong coronal dimming was observed in association
with the flare. A fast halo coronal mass ejection (CME) was subsequently
observed in coronagraph imagery from around 15:36 UTC, with an estimated
plane-of-sky speed of about 1400 km/s.

The greater than 10 MeV proton flux may increase further over the coming
hours. Given the source location, an Earth-directed component of the CME
is possible, with a potential impact at Earth. Due to the high CME
speed, if the Earth-directed component arrives, a solar wind shock and
enhanced geomagnetic activity, potentially reaching storm levels, may
occur. The CME is currently being analysed to determine its trajectory,
expected arrival time, and geomagnetic impact at Earth.
```



Coronal Mass Ejections

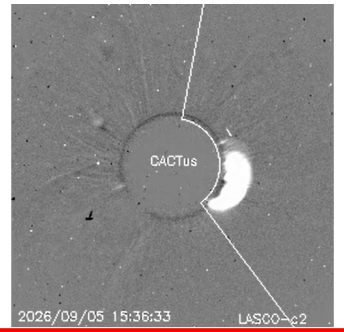
CACTUS

A software package for 'Computer Aided CME Tracking'

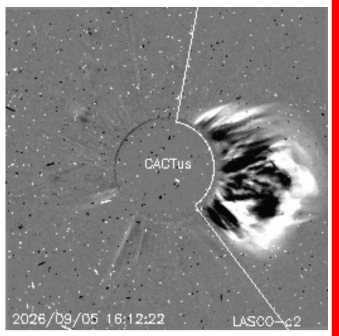
Details and graphs for CME0023

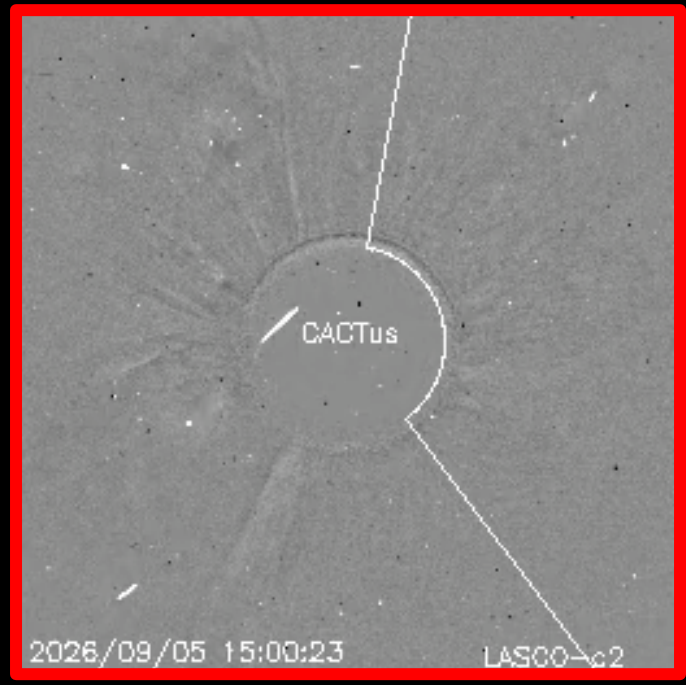
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# CME |          t0     | dt0| pa | da |  v   |  dv  | minv| maxv| halo?
  0023|2026/09/05 15:36| 02 | 283| 132| 0625| 0207| 0116| 1077|  II
```

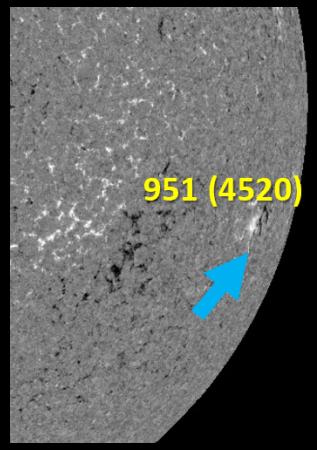
CME Movie :: Download ::



Sample Image





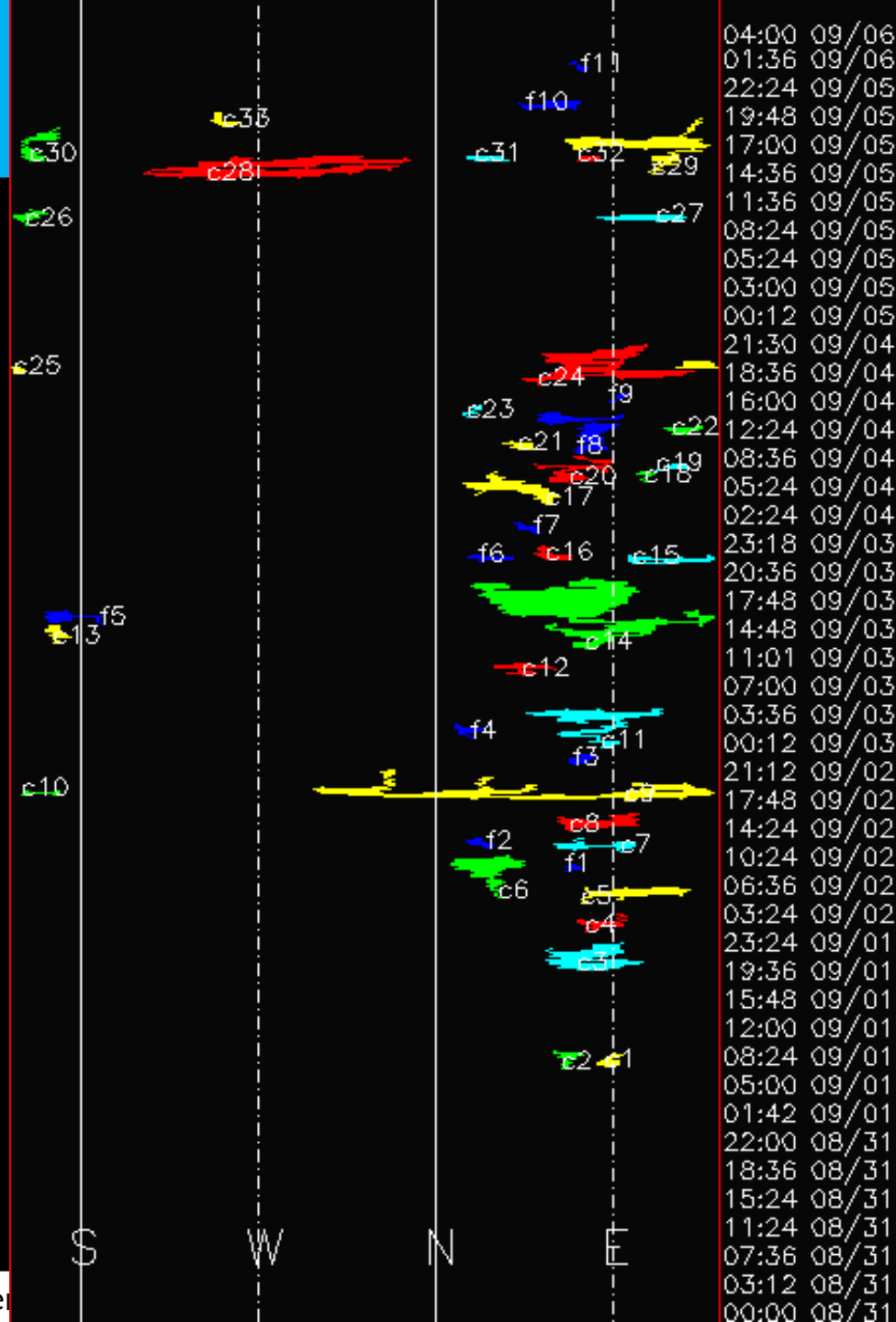


SIDC Flare 8533

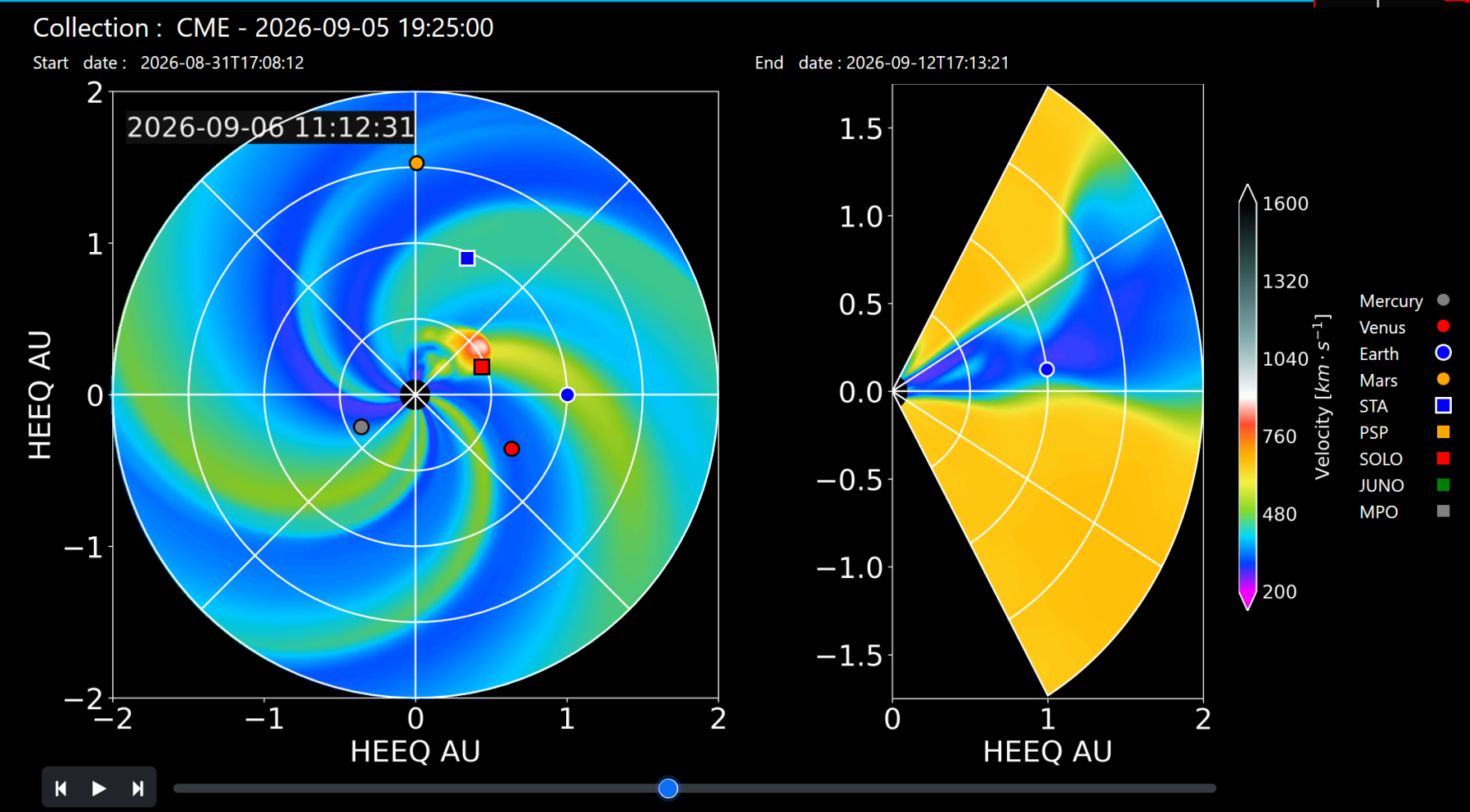
- M1.0 flare
- Sunspot group 951 (NOAA AR 4520)
- Peak time: 2026-09-05 15:18 UTC

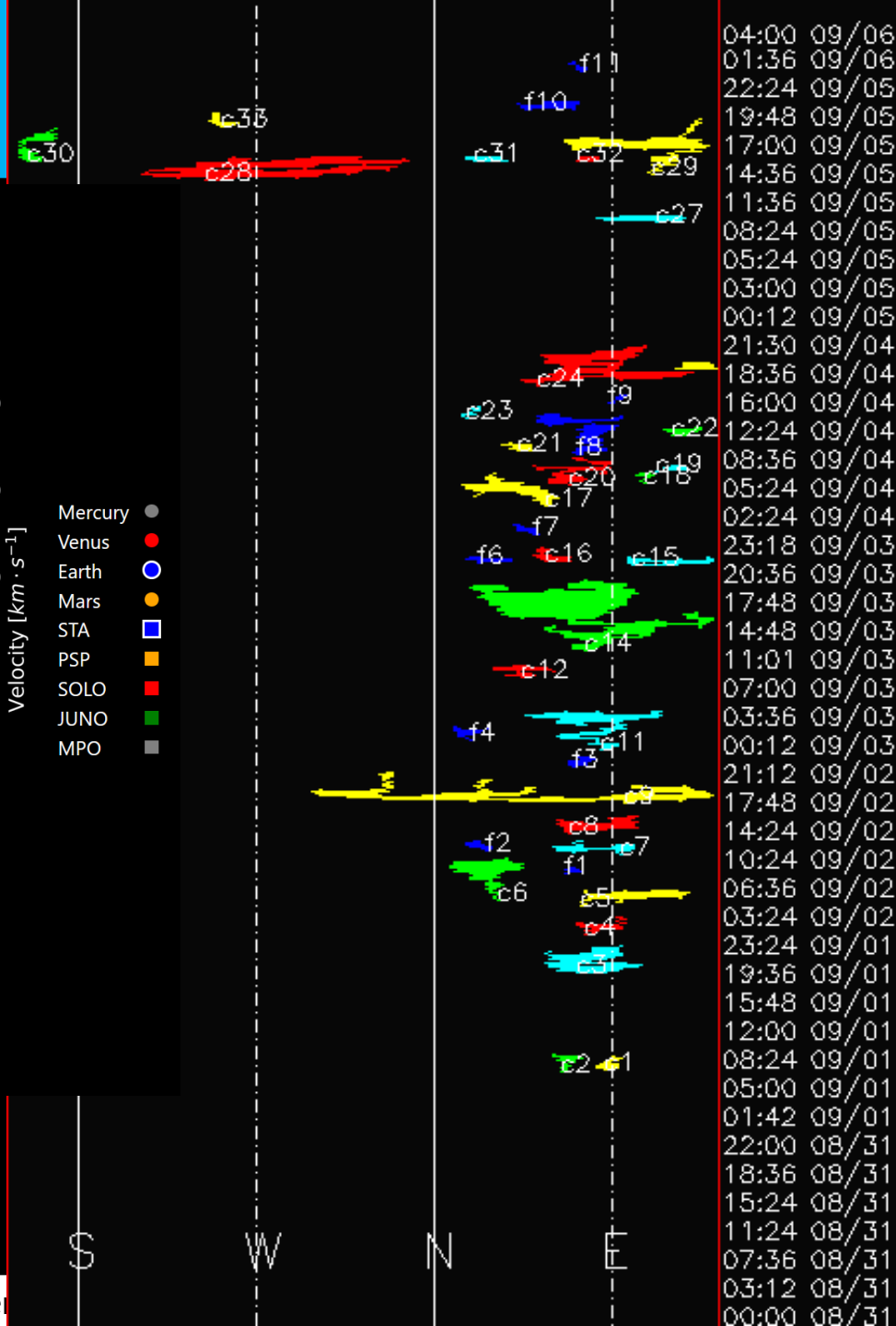
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:Issued: 2026 Sep 05 1741 UTC
:Product: documentation at http://www.sidc.be/products/presto
#-----------------------------------------------------------------------#
# FAST WARNING 'PRESTO' MESSAGE  from the SIDC (RWC-Belgium)           #
#-----------------------------------------------------------------------#
The greater than 10 MeV proton flux crossed the 10 pfu alert threshold
at 16:15 UTC on September 5. The proton event followed an M1.0 flare
that peaked at 15:18 UTC from SIDC Sunspot Group 951 (NOAA Active Region
4520), near S12W68. Strong coronal dimming was observed in association
with the flare. A fast halo coronal mass ejection (CME) was subsequently
observed in coronagraph imagery from around 15:36 UTC, with an estimated
plane-of-sky speed of about 1400 km/s.

The greater than 10 MeV proton flux may increase further over the coming
hours. Given the source location, an Earth-directed component of the CME
is possible, with a potential impact at Earth. Due to the high CME
speed, if the Earth-directed component arrives, a solar wind shock and
enhanced geomagnetic activity, potentially reaching storm levels, may
occur. The CME is currently being analysed to determine its trajectory,
expected arrival time, and geomagnetic impact at Earth.
```



Coronal Mass Ejections





A fast halo coronal mass ejection (CME), first observed in coronagraph imagery from around 15:36 UTC on September 5, was associated with the M1.0 flare from the decayed SIDC Sunspot Group 951 (NOAA Active Region 4520) near the west limb. The CME had an estimated plane-of-sky speed of about 1400 km/s. Due to its source location and the estimated 3D propagation direction, there is only a low chance of arrival at Earth. If an Earth-directed component does arrive, it would most likely be as a glancing blow, potentially around September 8 before noon.

Solar Wind and

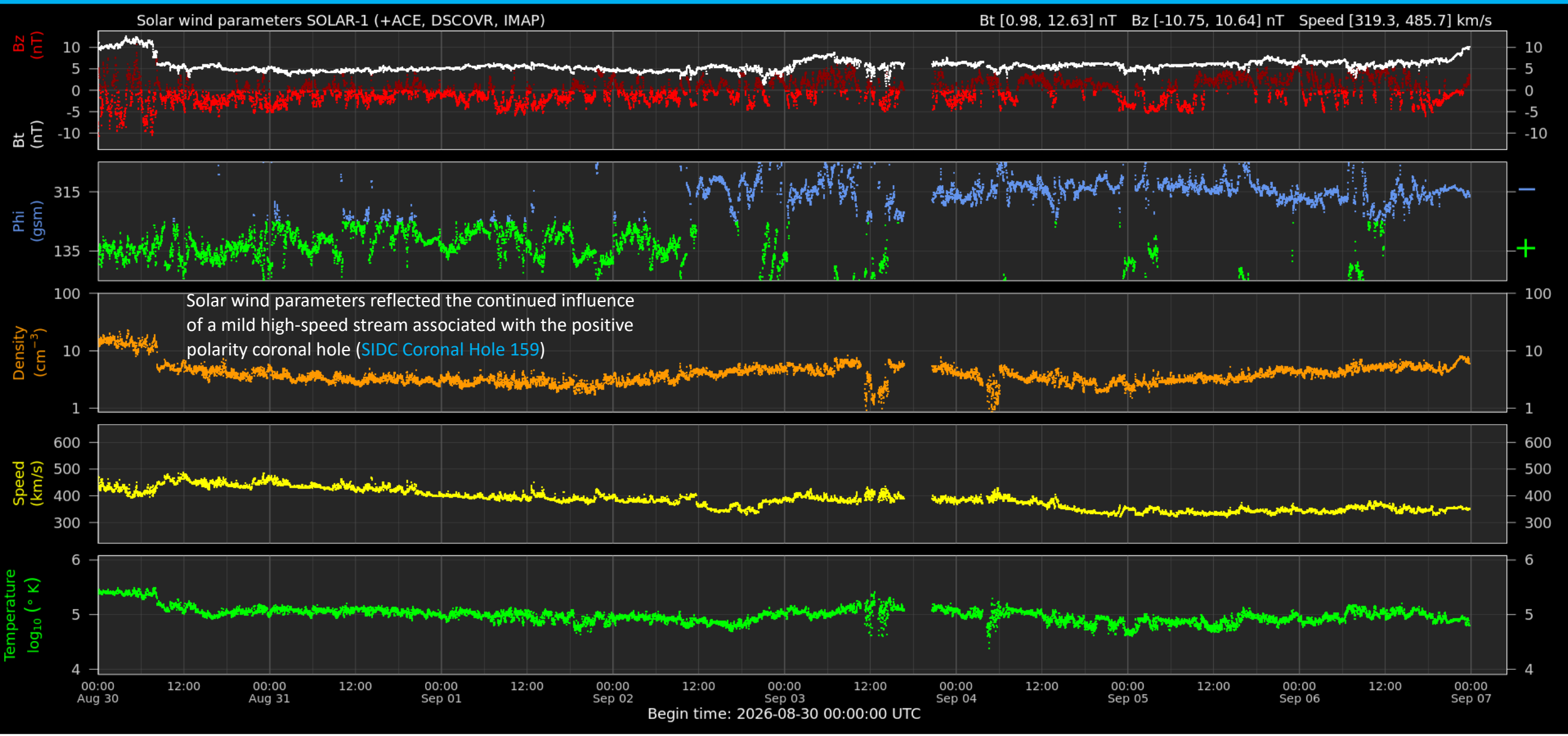
Geomagnetic Activity



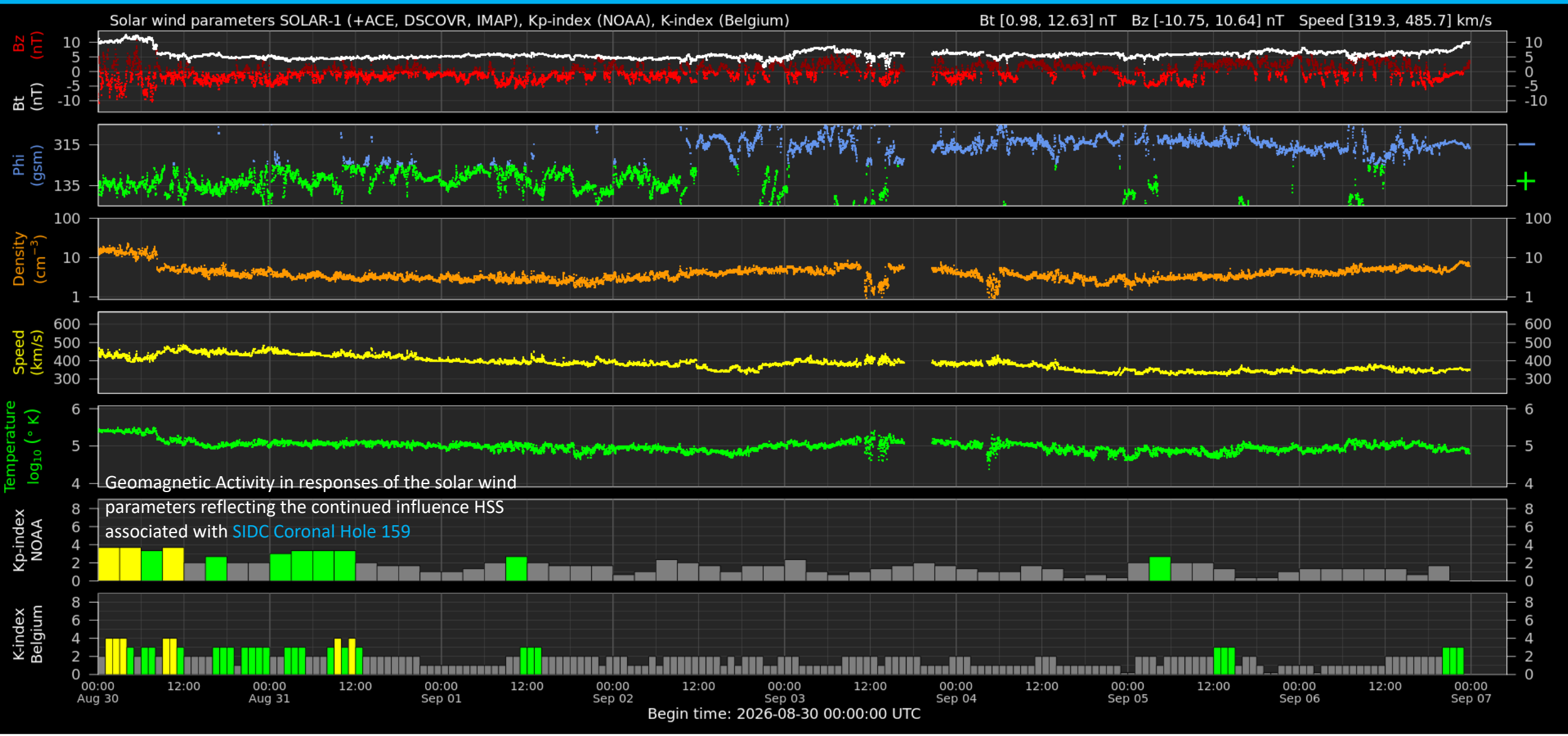
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Solar wind parameters



Solar wind parameters & K-indices



Geomagnetic activity (K-indexes)



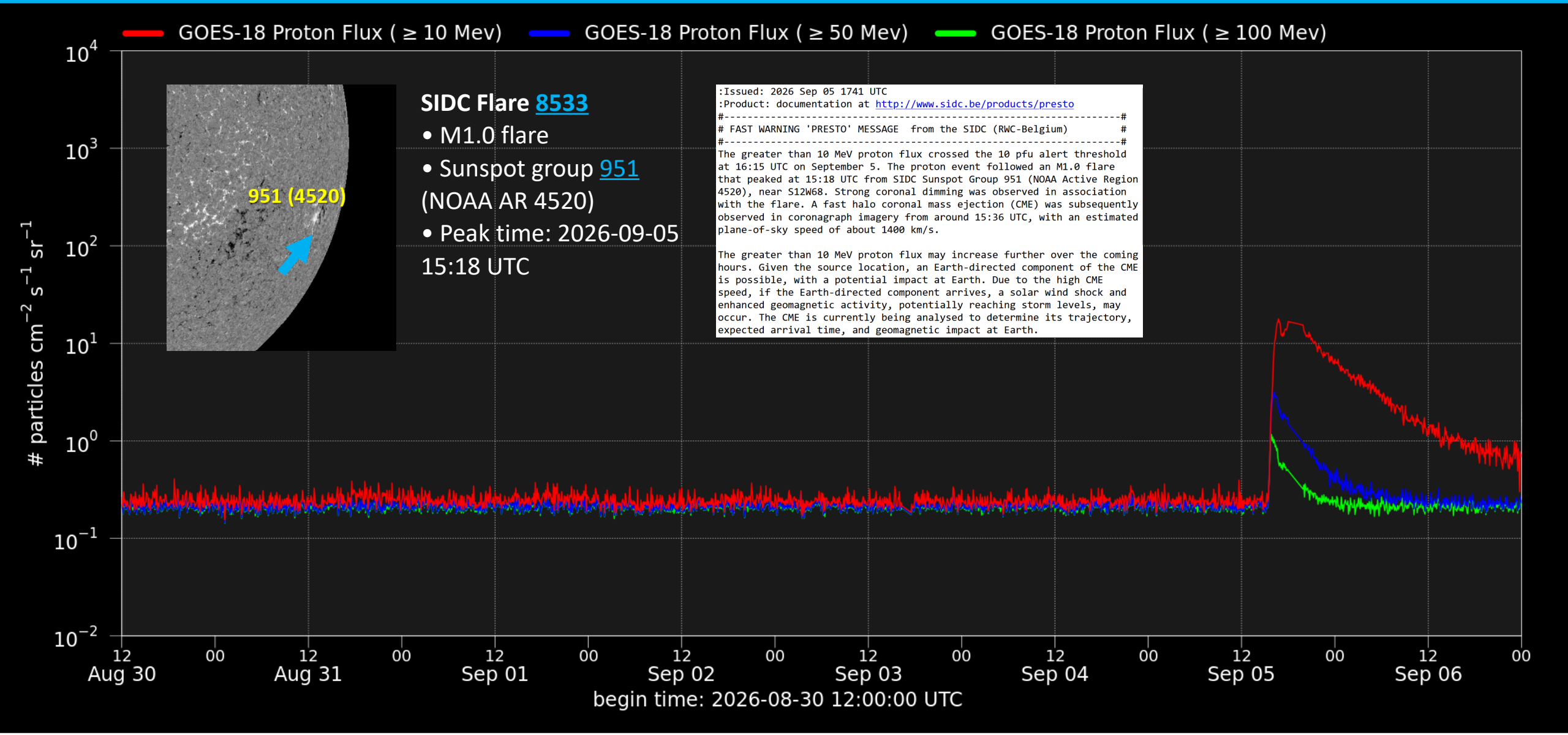
Energetic Particles



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of Belgium

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Data analysis Centre
www.sidc.be

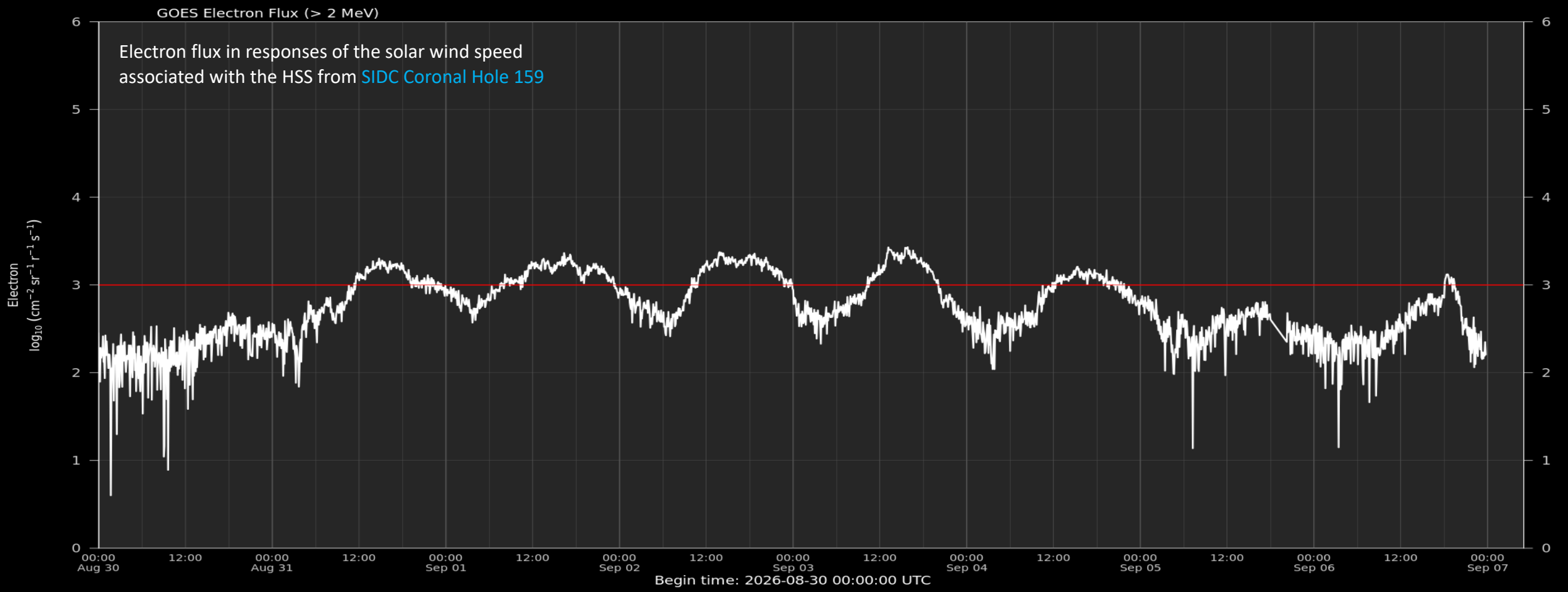
Solar proton flux



Electron flux at GEO

www.stce.be/educational/classification#electrons

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

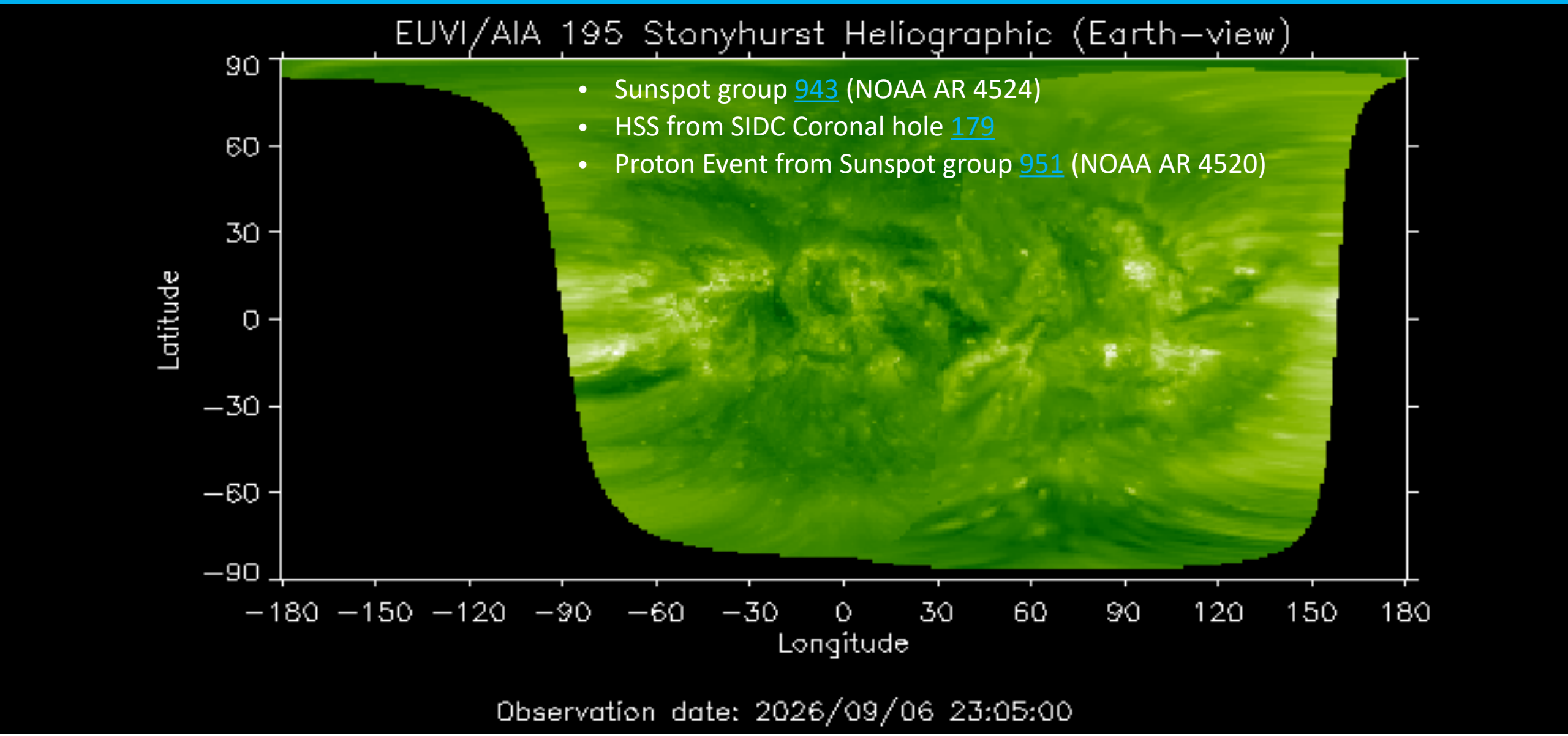


Outlook

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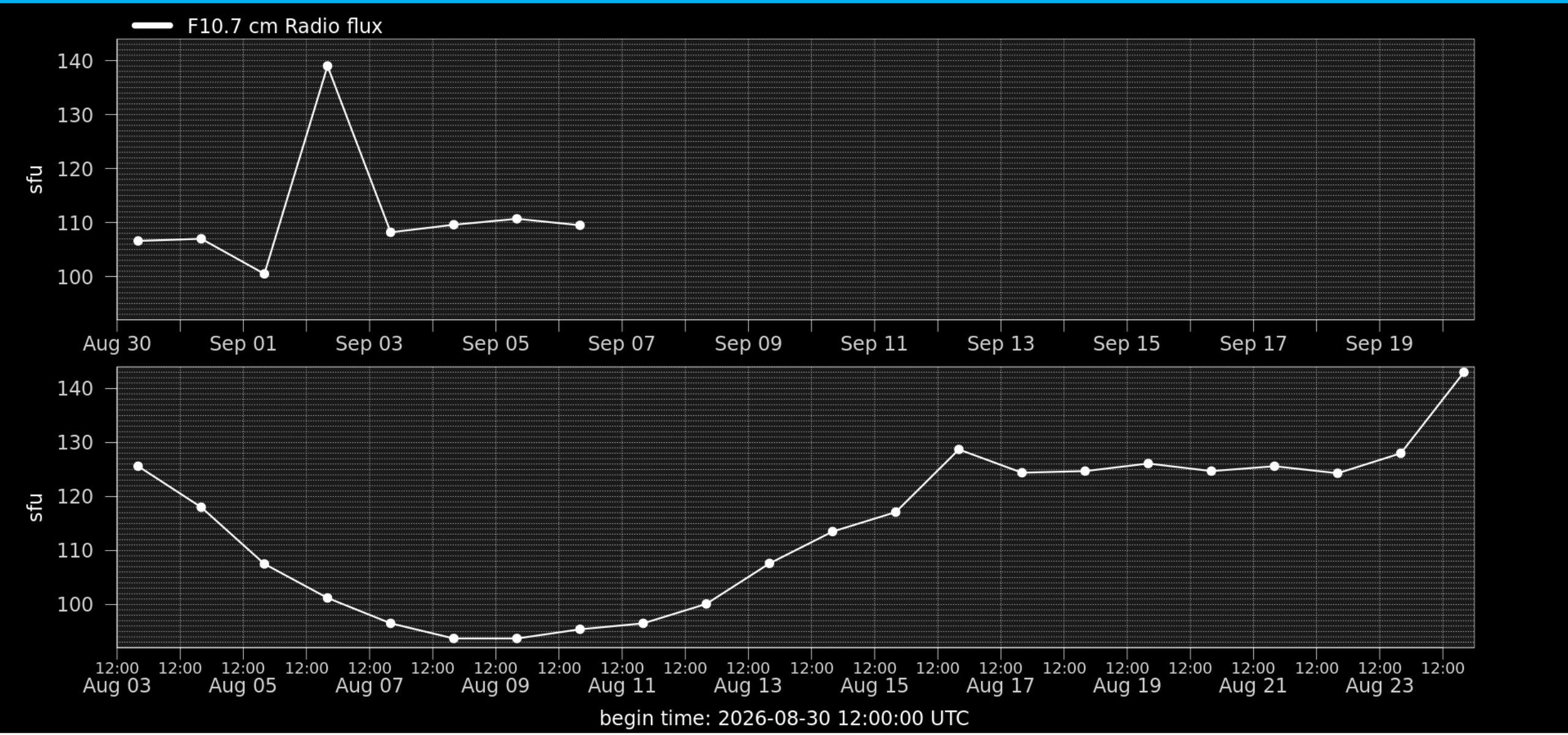
Solar Influences
Data analysis Centre
www.sidc.be

Outlook: Solar activity

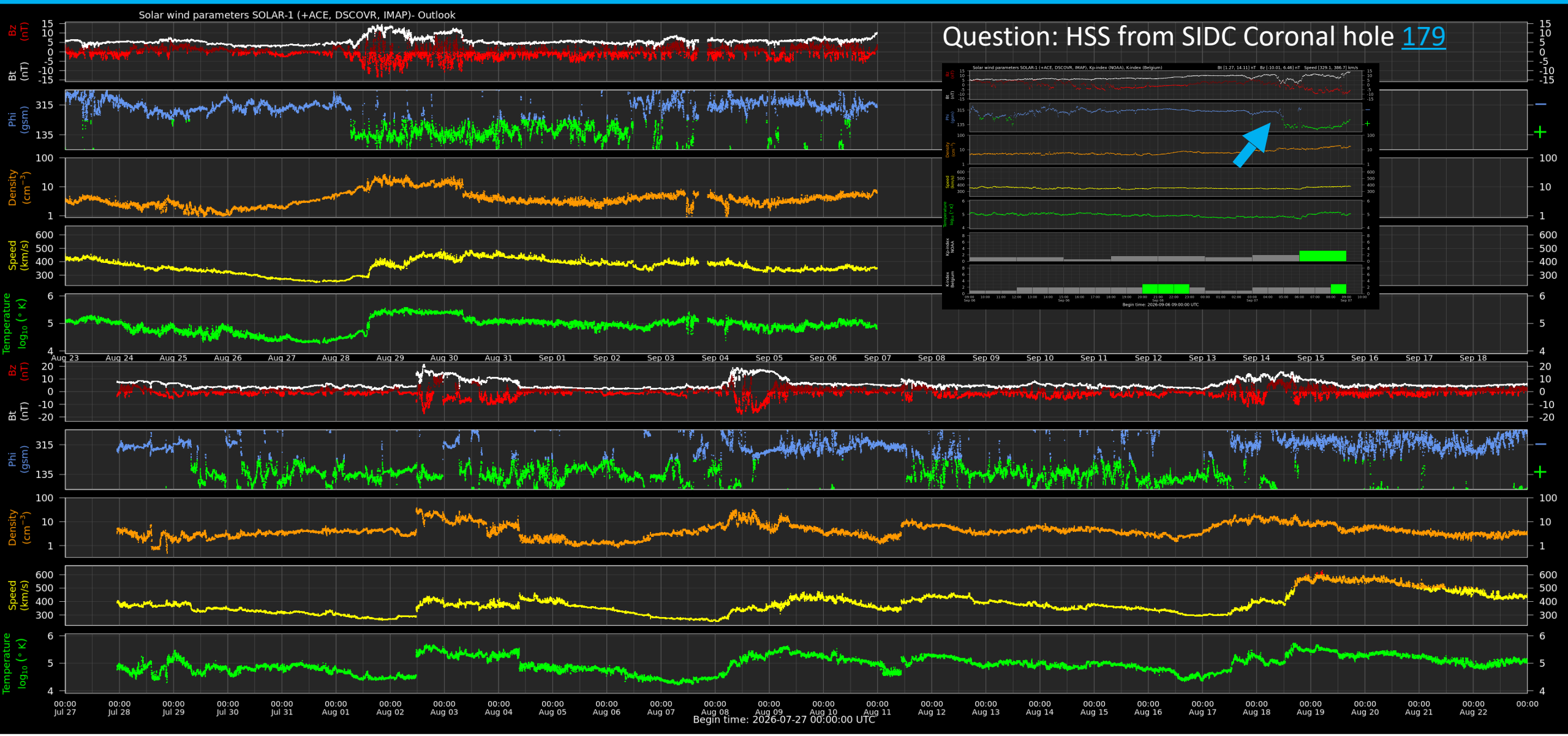


- Sunspot group 943 (NOAA AR 4524)
- HSS from SIDC Coronal hole 179
- Proton Event from Sunspot group 951 (NOAA AR 4520)

Outlook: Solar F10.7cm radio flux

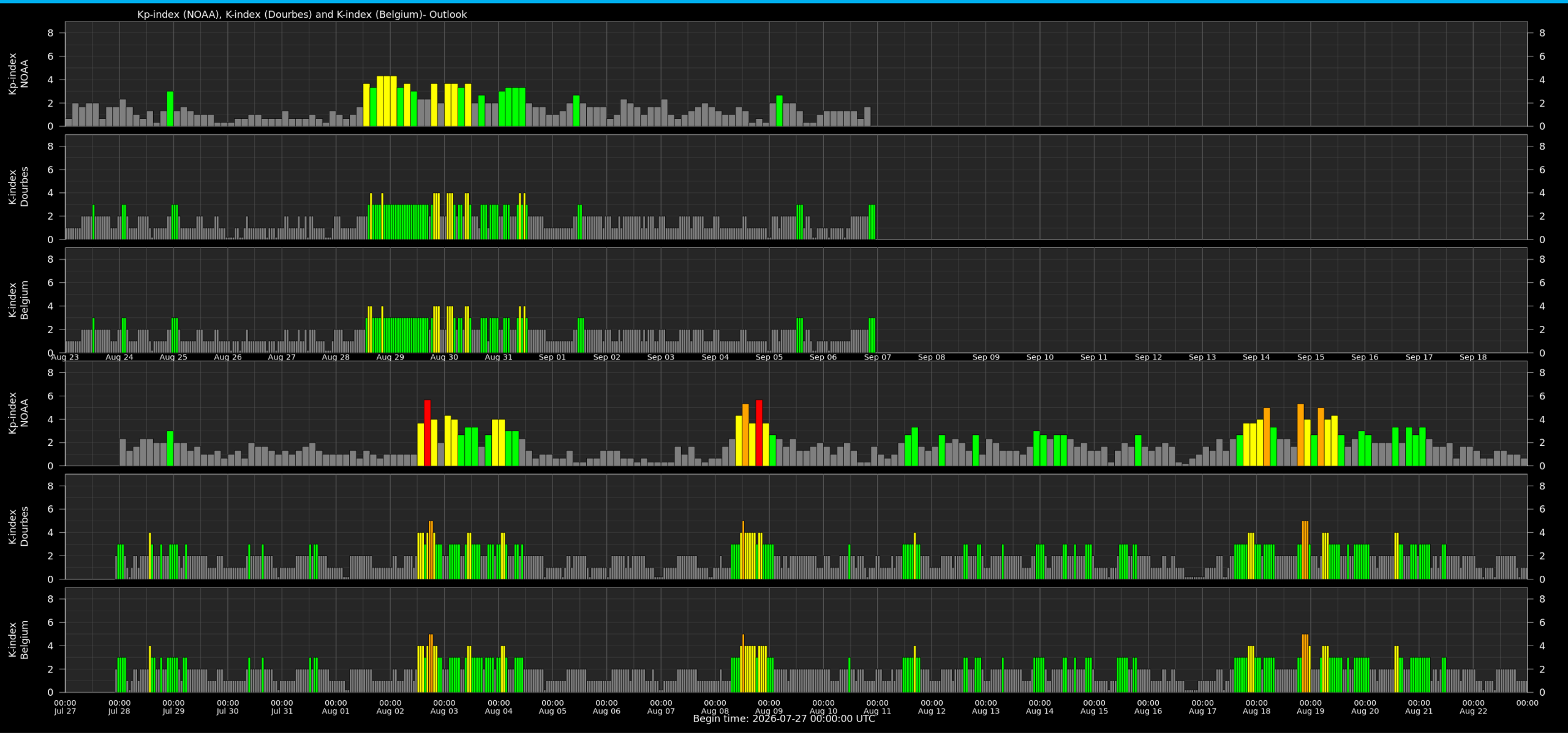


Outlook: Solar wind parameters



Question: HSS from SIDC Coronal hole [179]

Outlook: Geomagnetic activity



PECASUS

Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be

Pecasus related events

- [PECASUS] [On Duty Centre] since September 1
- All quiet.

SIDC Space Weather Briefing

See you at our next briefing!

Or visit us at www.sidc.be

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of Belgium

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Data analysis Centre
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