

SIDC Space Weather Briefing

19 January 2025-26 January 2025

Senthamizh Pavai Valliappan

& the SIDC forecaster team



Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be

Solar Activity



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Summary Report

Solar activity from 2025-01-19 12:00 to 2025-01-26 23:59

Active regions	12 Active Regions: NOAA AR 3959, 3961, 3962, 3964, 3965, 3967- 3973
Flares	# C-class flare: > 80 # M-class flare: 3 # X-class flare: 0
Coronal Holes	No equatorial CH
CMEs	3 CMEs (1 partial halo)

Proton flux	Below 10 pfu threshold
Electron flux	Exceeded 1000 pfu threshold

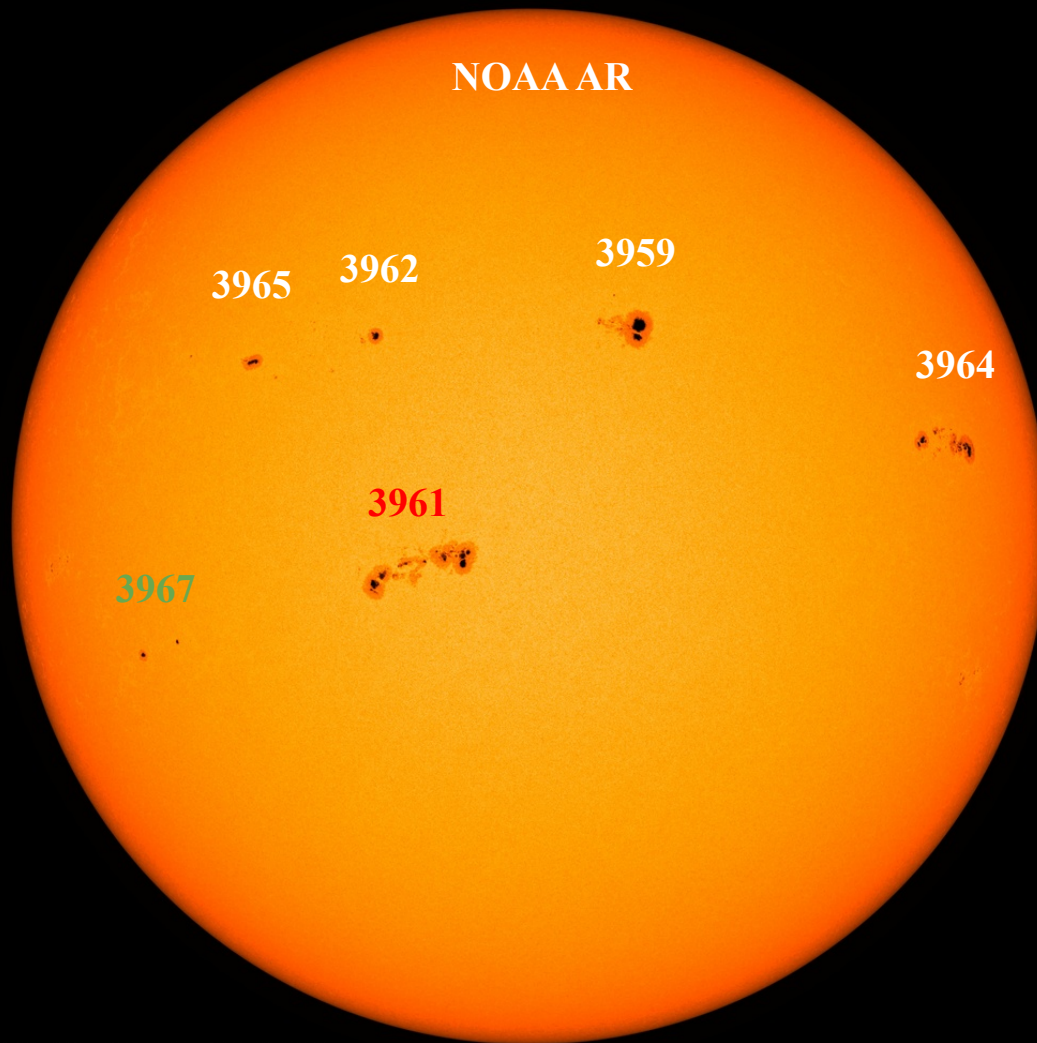
Solar wind and geomagnetic conditions

ICMEs	No ICME arrival
Solar wind conditions	B : 0.23 - 10 nT //Bz: -10 nT to 9 nT //Speed: 267 - 710 km/s
Geomagnetic conditions	max K _{Be} : 4.0, max K _p (NOAA): 4.33, Active conditions

All Quiet Alert: All quiet off

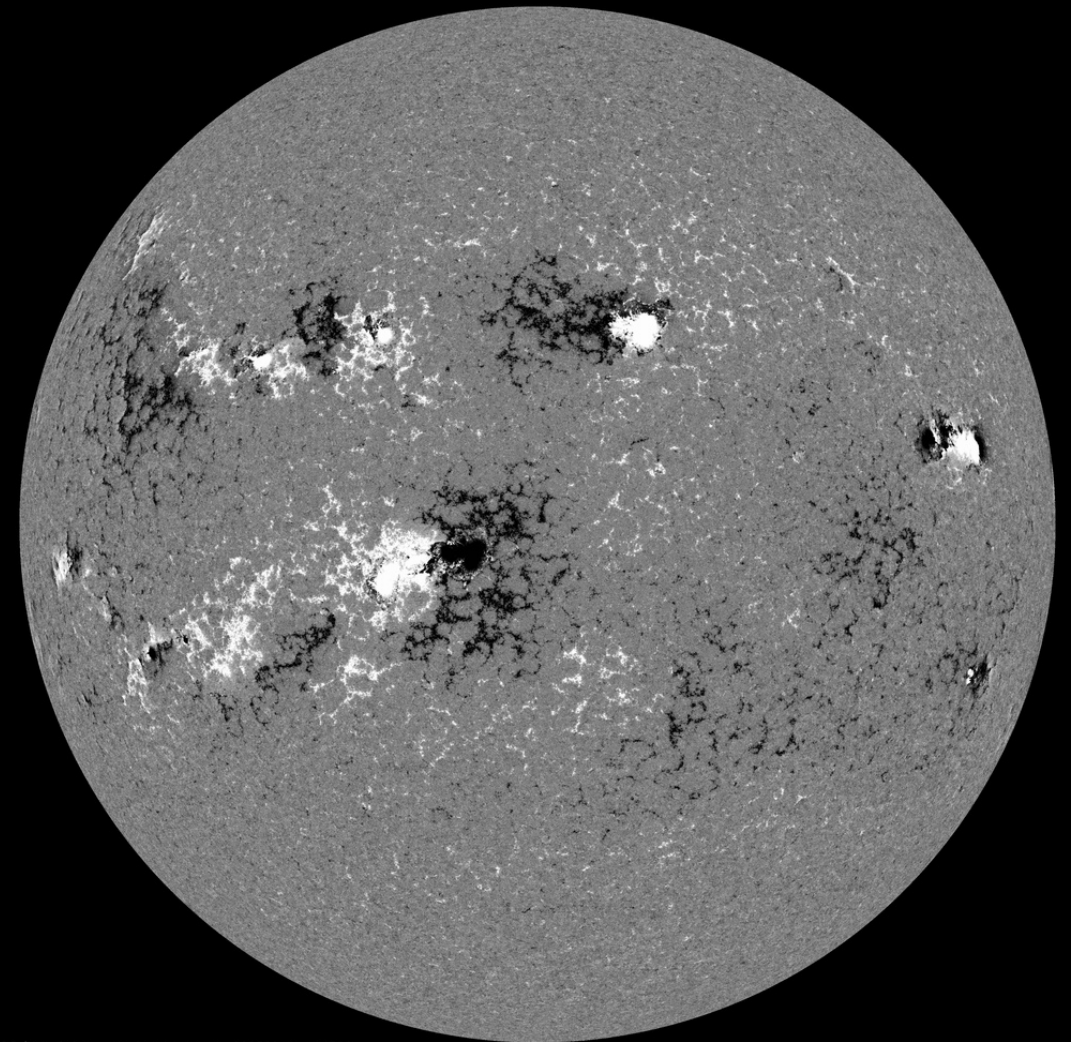
Solar active regions

SDO/HMI White Light 2025-01-19



SDO/HMI Quick-Look Continuum: 20250119_114500

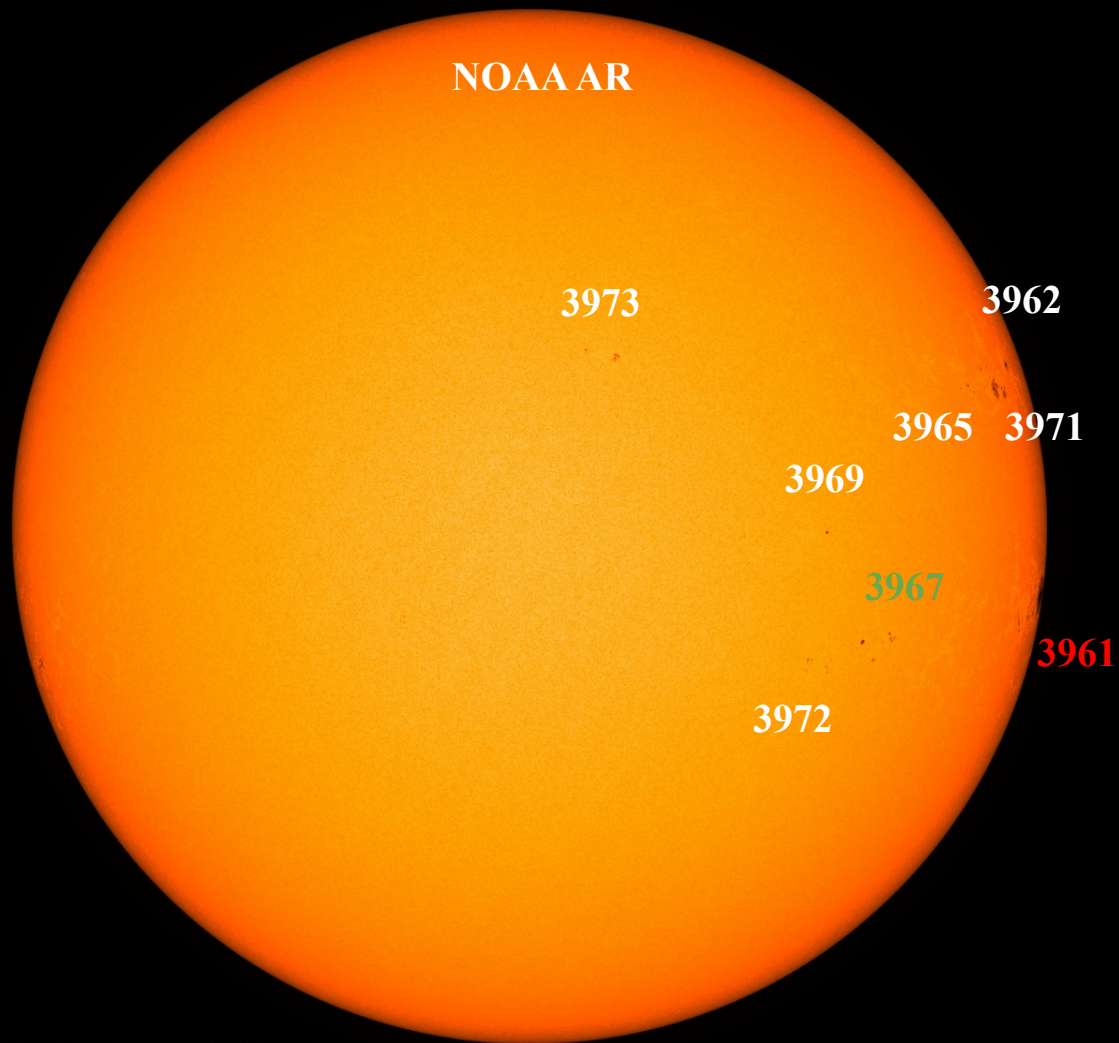
SDO/HMI Magnetogram 2025-01-19



SDO/HMI Quick-Look Magnetogram: 20250119_114500

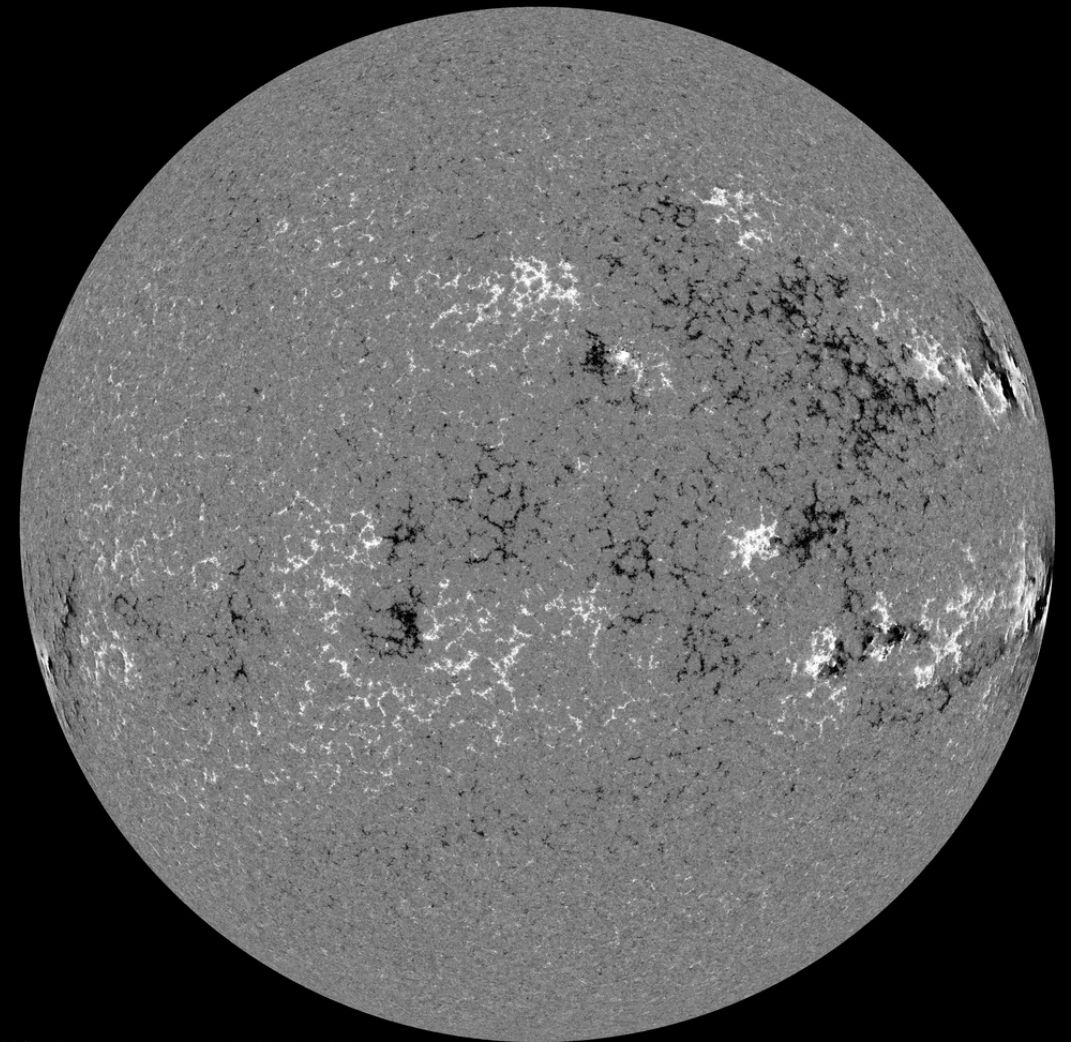
Solar active regions

SDO/HMI White Light 2025-01-26



SDO/HMI Quick-Look Continuum: 20250126_114500

SDO/HMI Magnetogram 2025-01-26

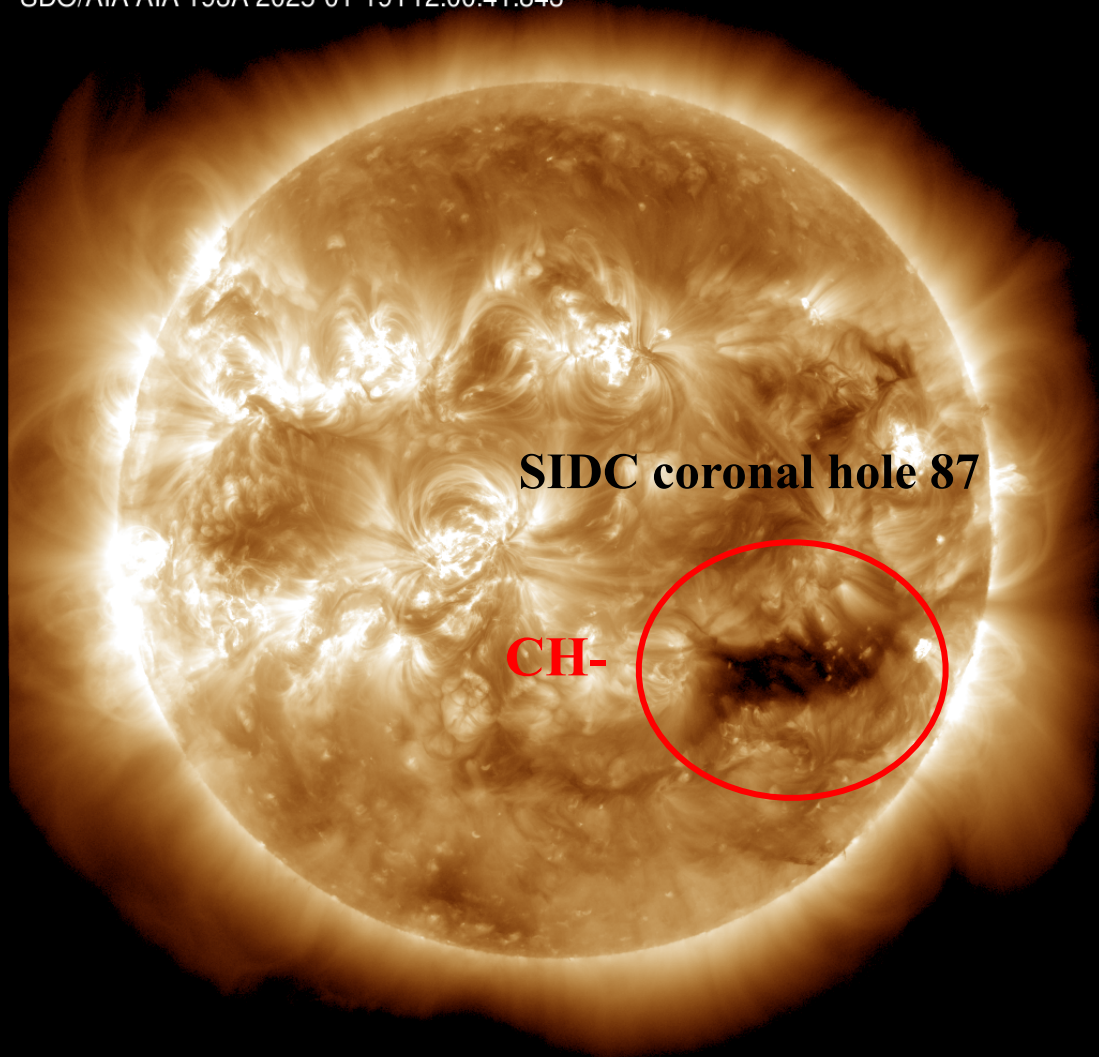


SDO/HMI Quick-Look Magnetogram: 20250126_114500

Coronal holes

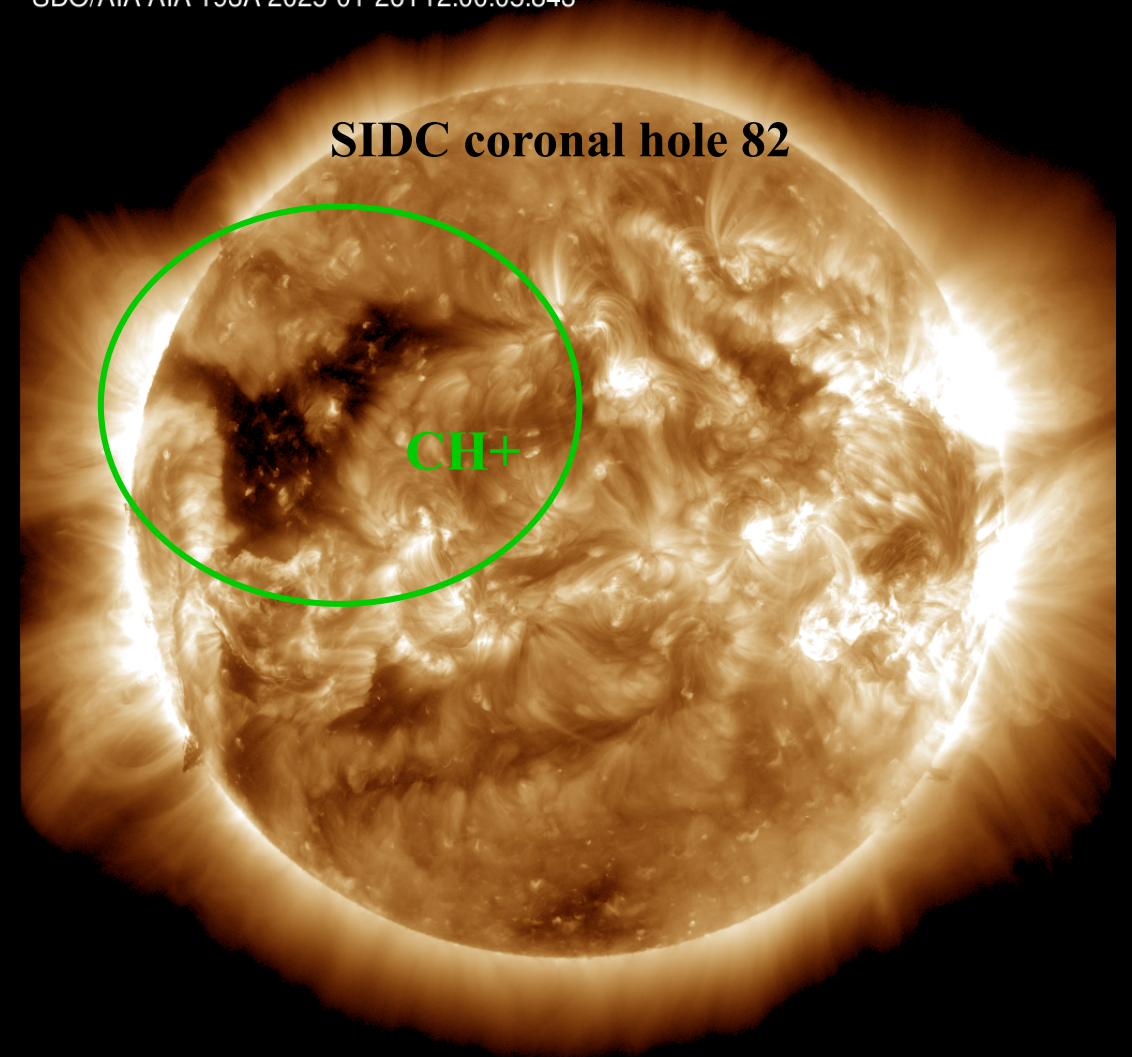
SDO/AIA 19.3 nm 2025-01-19

SDO/AIA AIA 193Å 2025-01-19T12:00:41.843



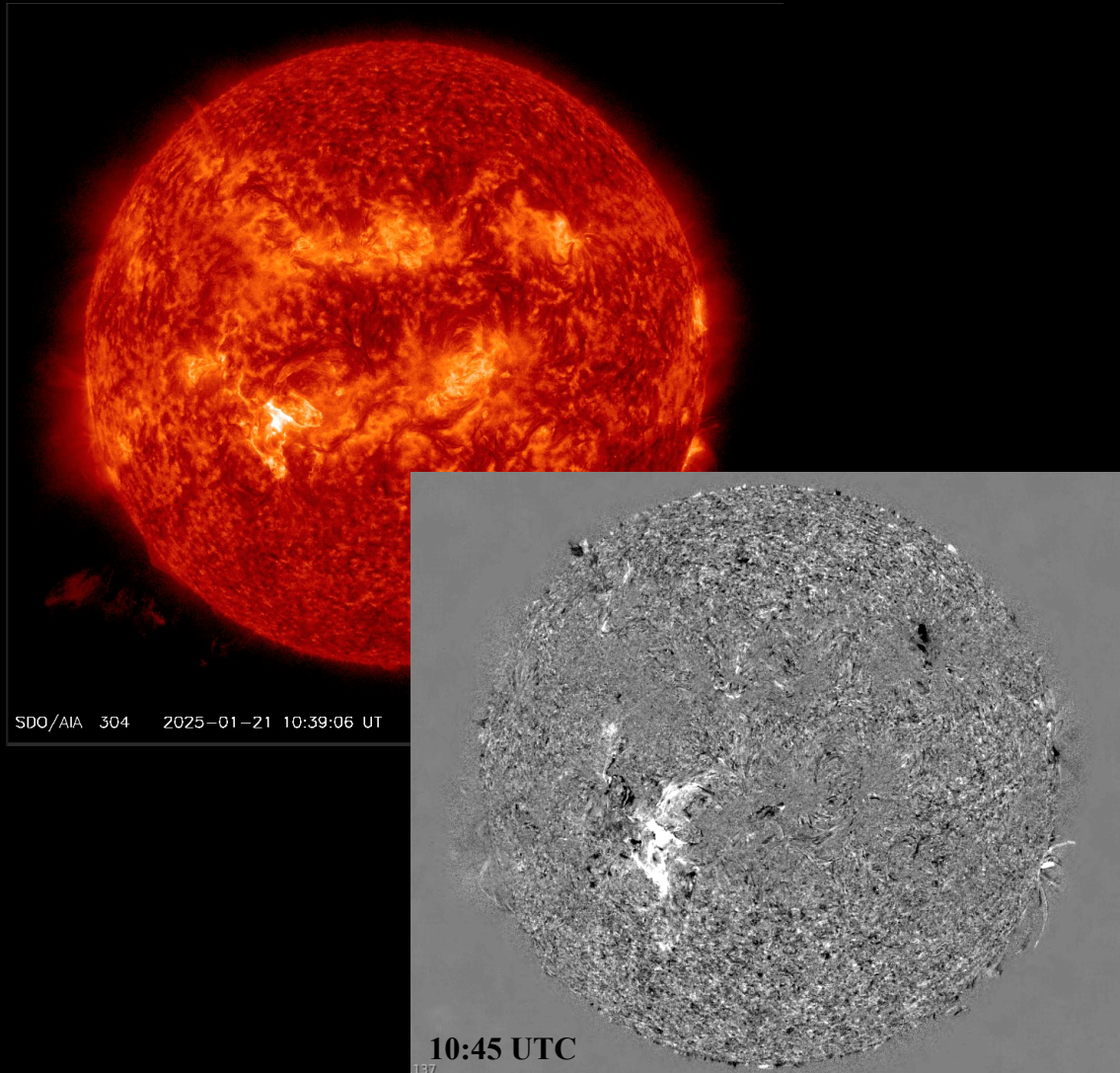
SDO/AIA 19.3 nm 2025-01-26

SDO/AIA AIA 193Å 2025-01-26T12:00:05.843

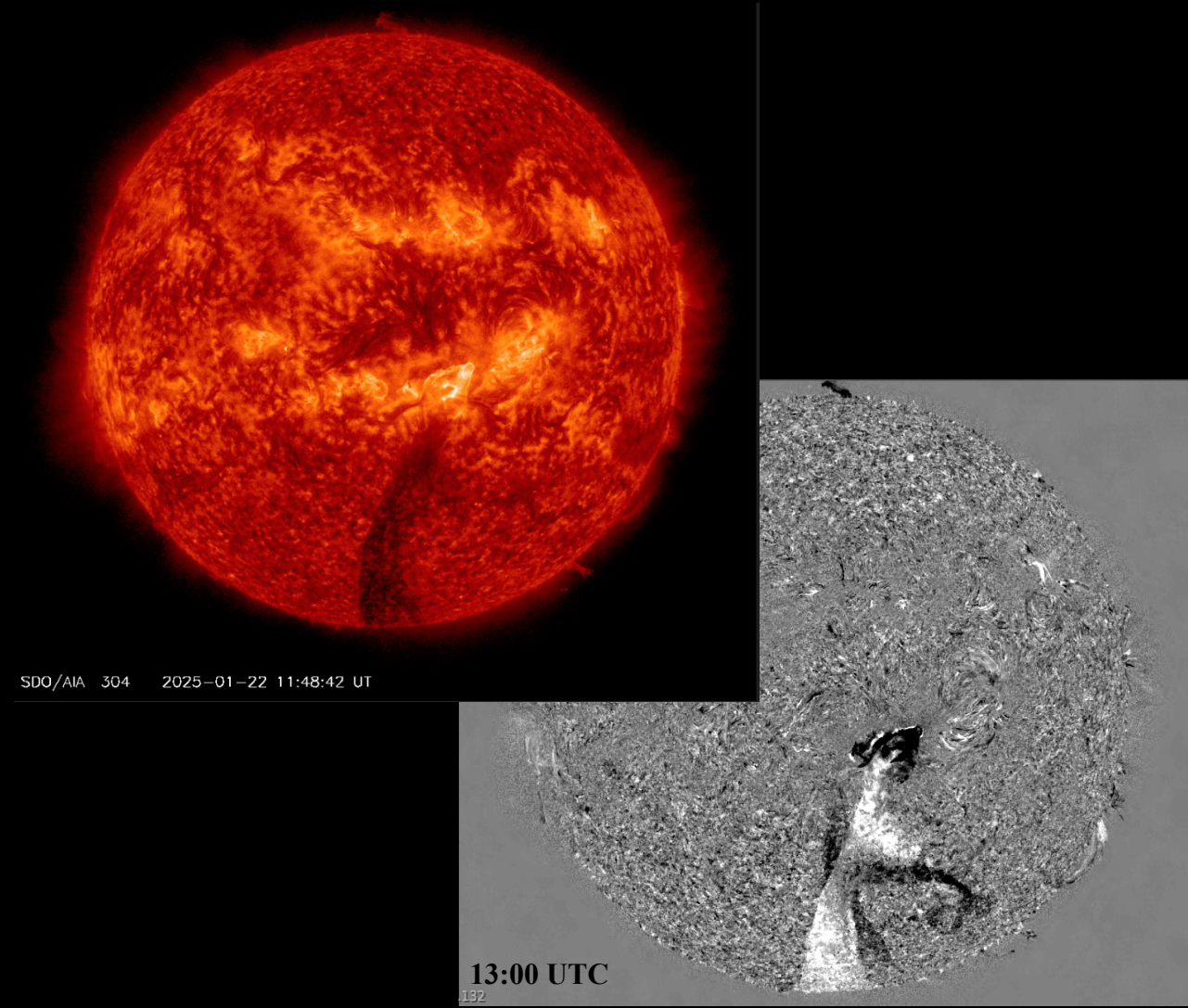


Filaments

SDO/AIA 30.4 nm 2025-01-21

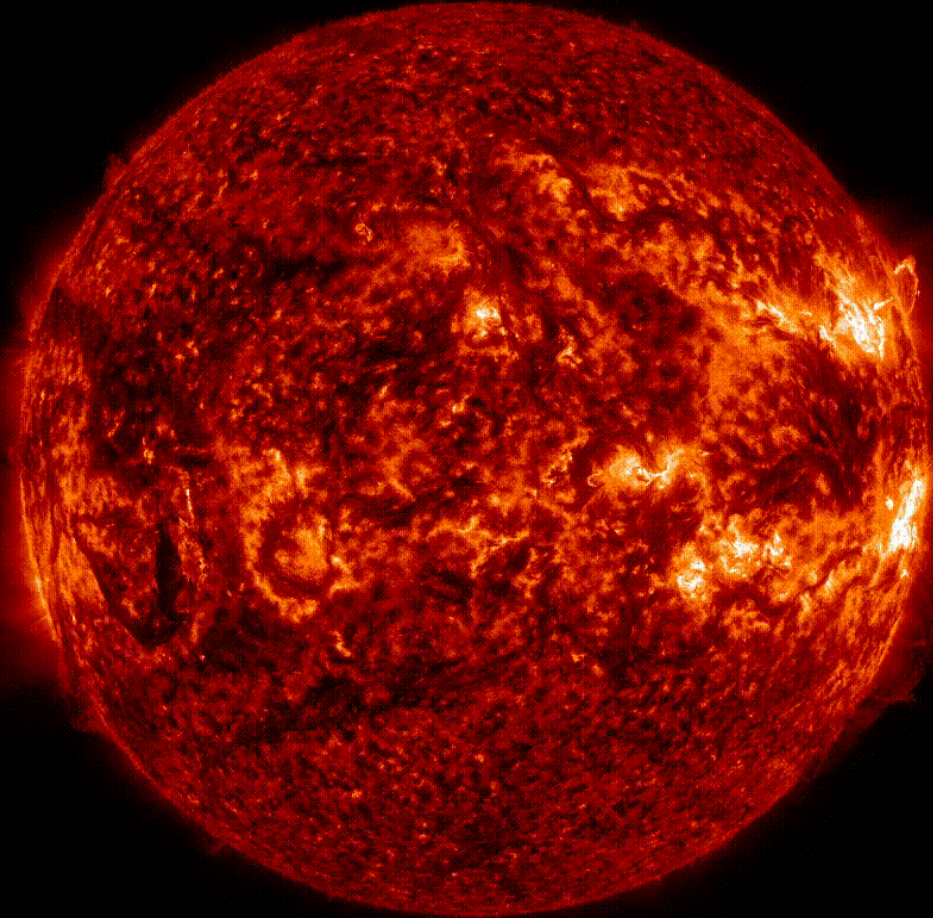


SDO/AIA 30.4 nm 2025-01-22

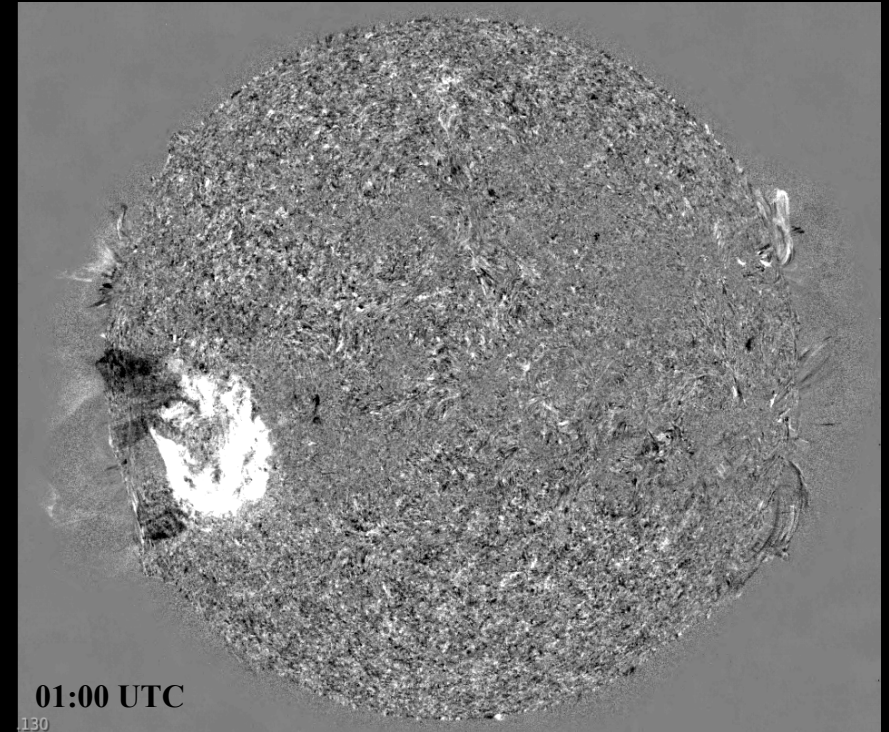


Filaments

SDO/AIA 30.4 nm 2025-01-26



2025-01-26T00:16:17.129



01:00 UTC

130

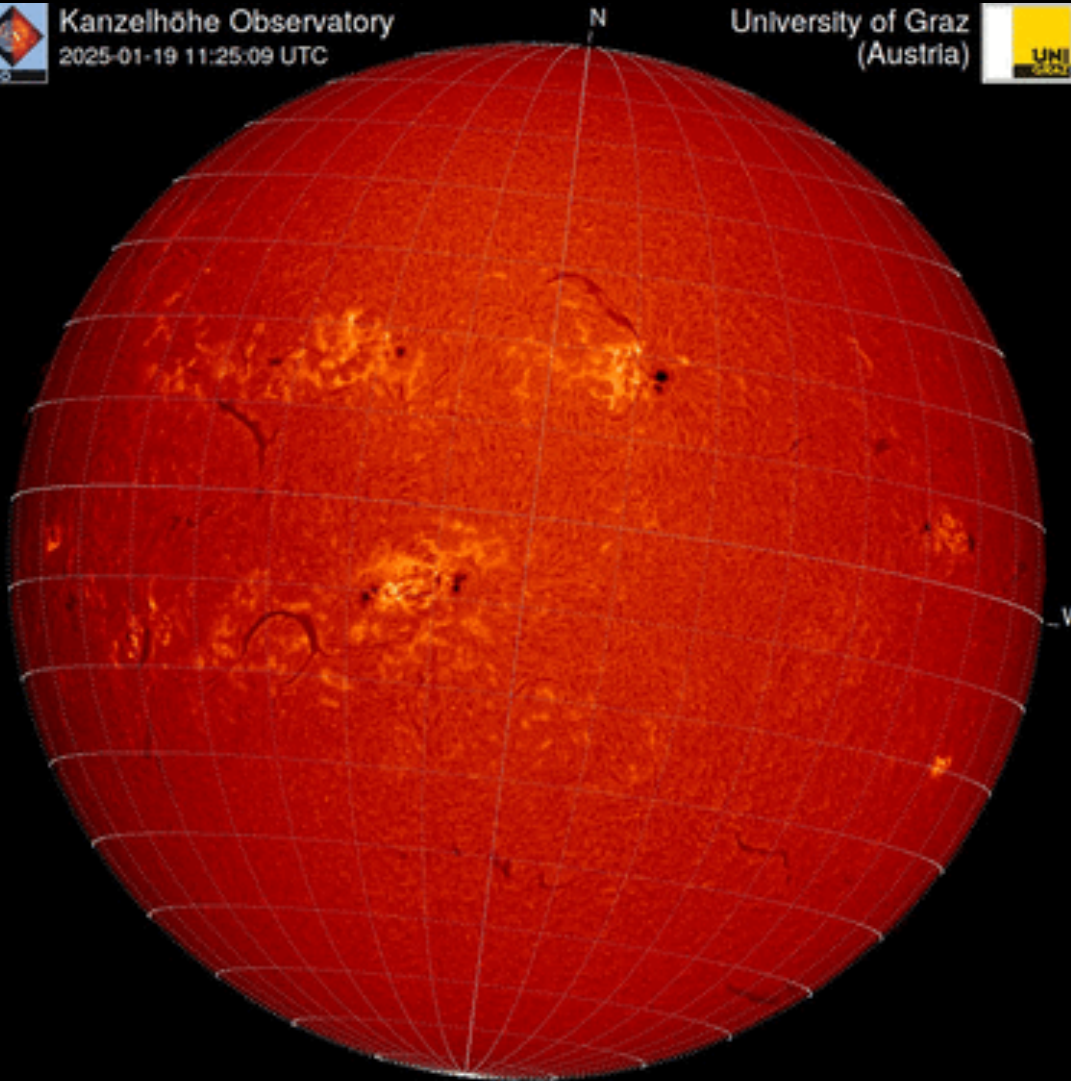
Filaments & Filament eruptions

H-alpha 2025-01-19



Kanzelhöhe Observatory
2025-01-19 11:25:09 UTC

University of Graz
(Austria)

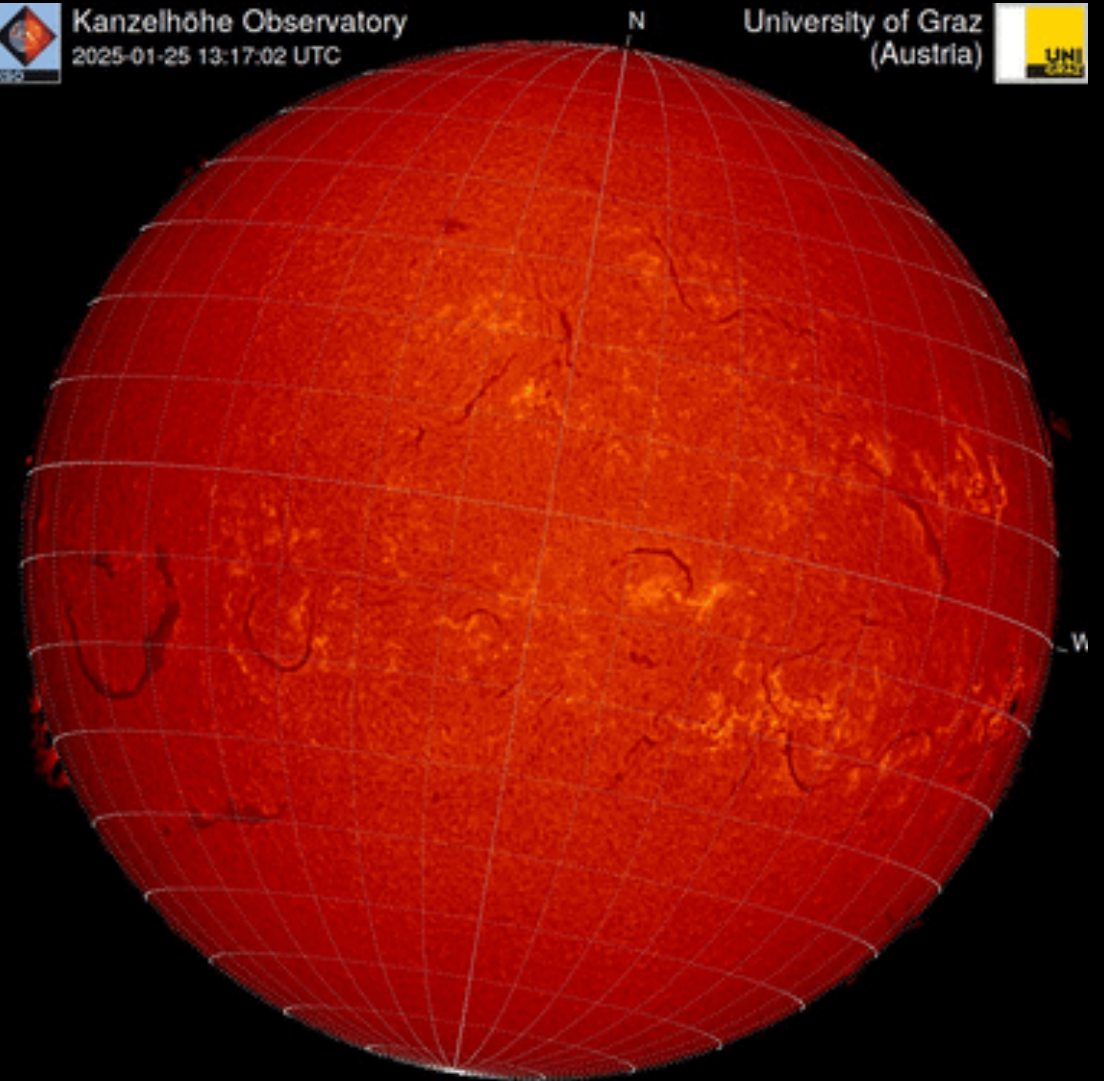


H-alpha 2025-01-26

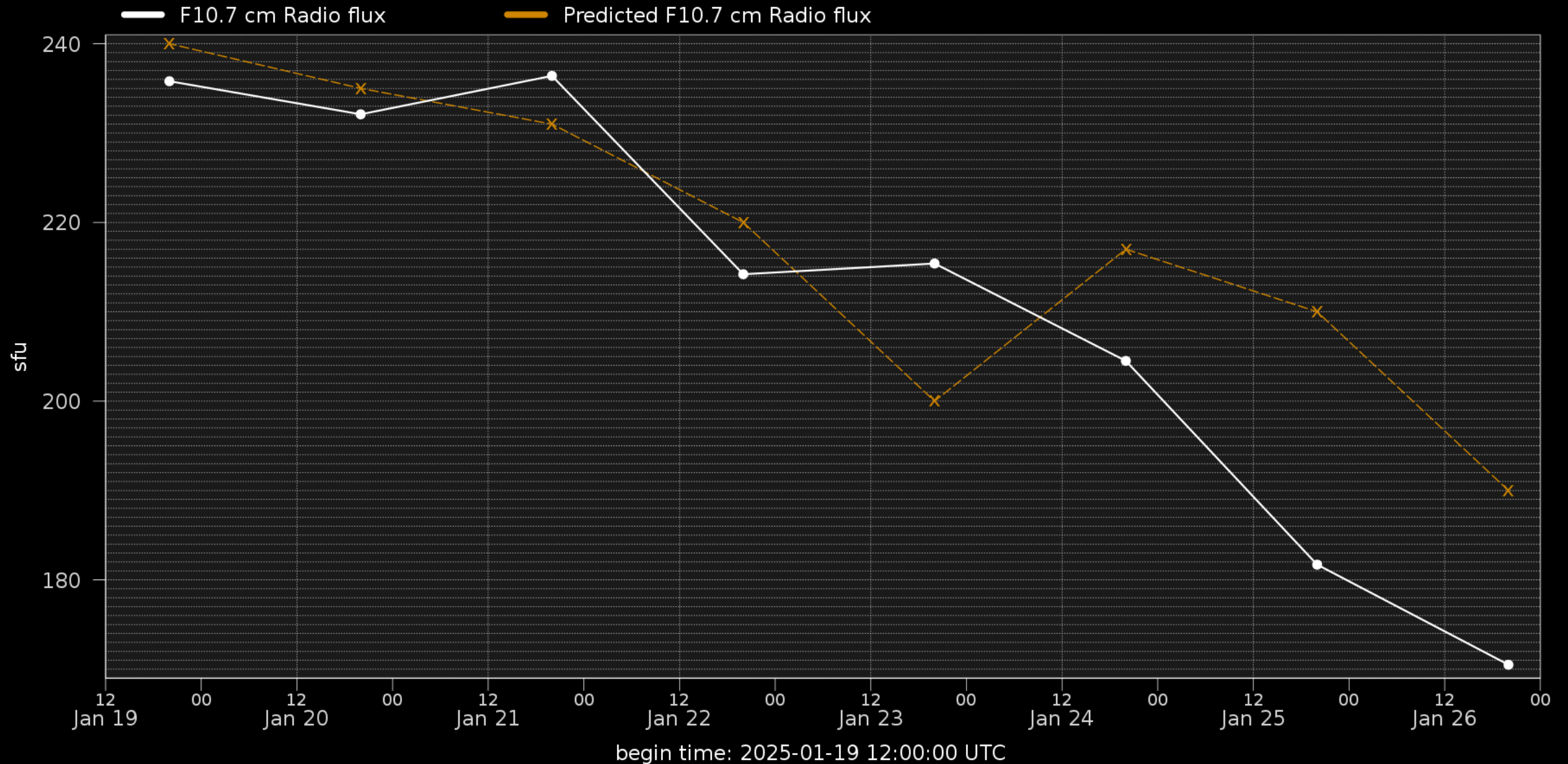


Kanzelhöhe Observatory
2025-01-25 13:17:02 UTC

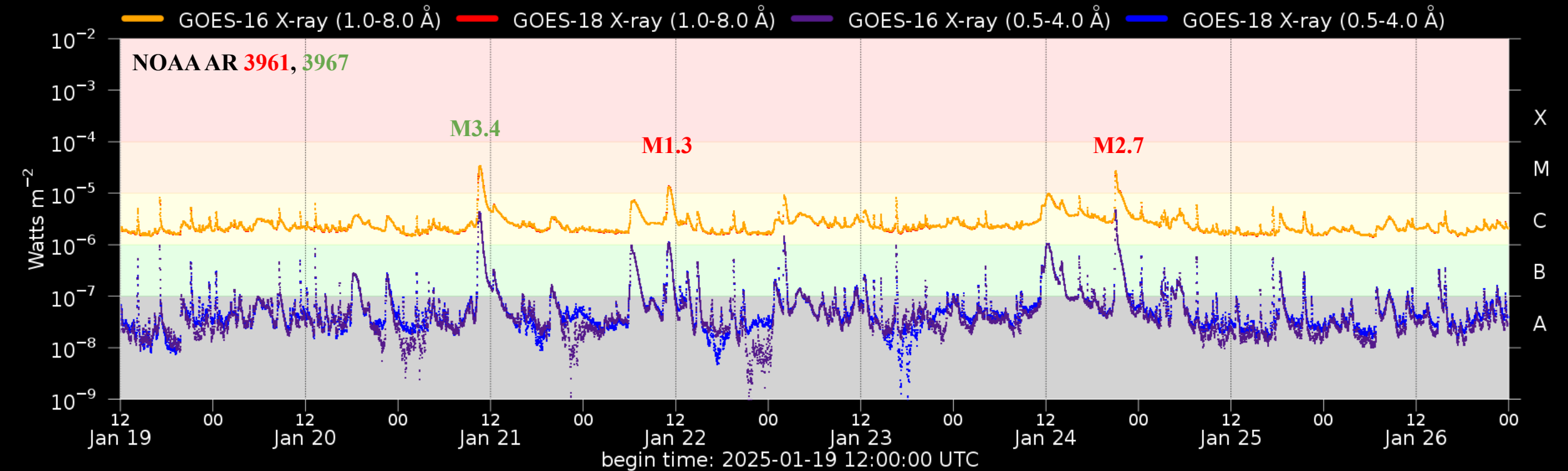
University of Graz
(Austria)



Solar F10.7cm radio flux



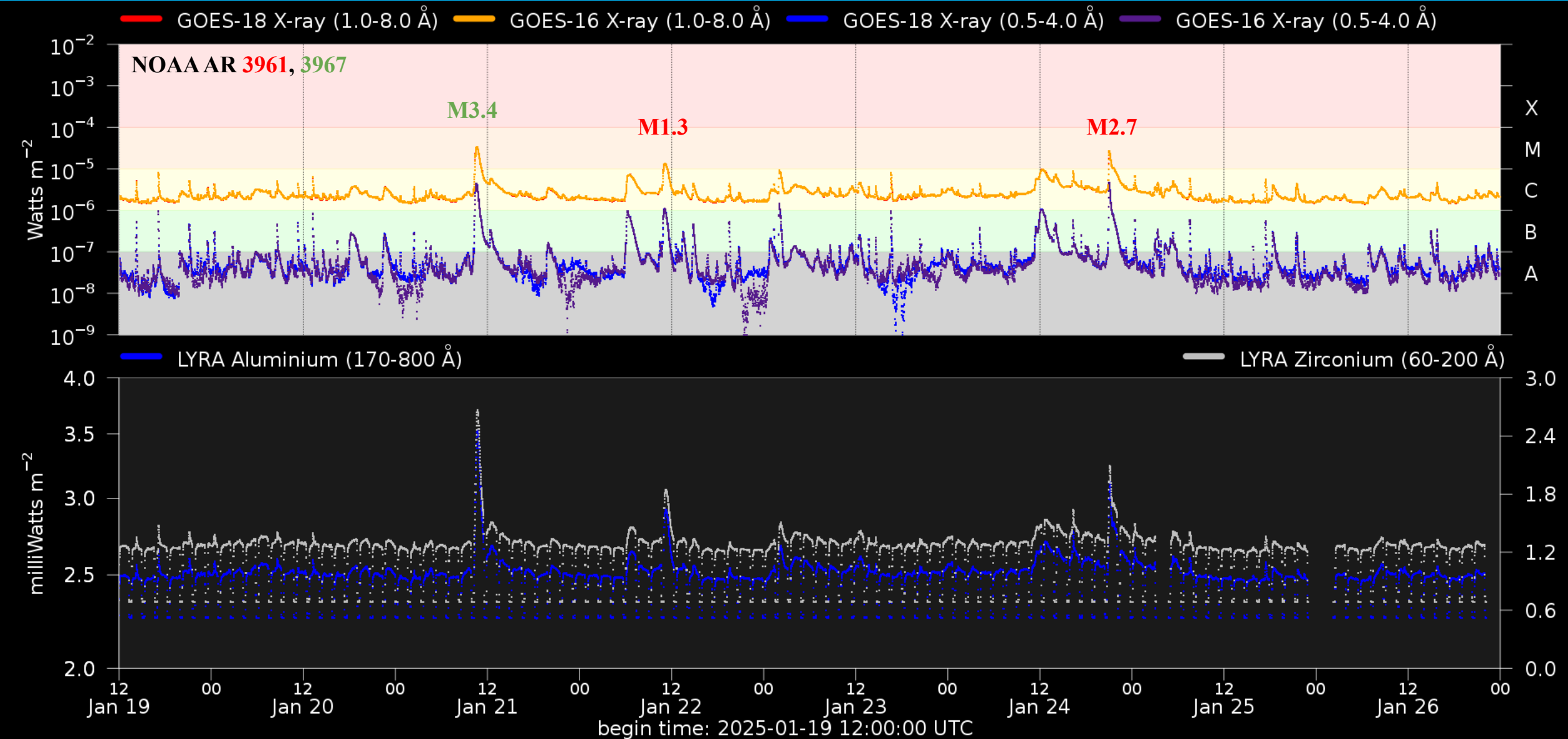
Flaring activity



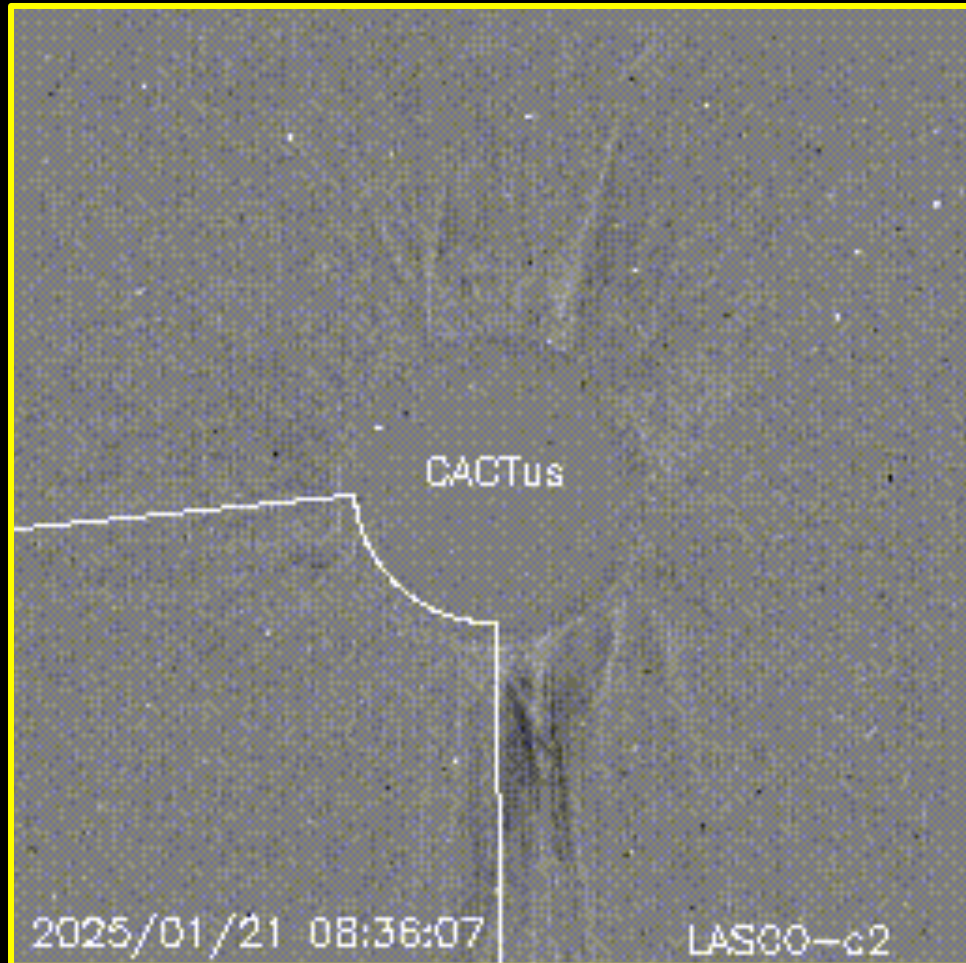
Probabilities (%) and occurrences (#) of C/M/X-flares daily, from noon to noon:

Issue date	2025-01-19	2025-01-20	2025-01-21	2025-01-22	2025-01-23	2025-01-24	2025-01-25	2025-01-26
Probability (%)	99 96 28	85 50 10	85 55 20	90 55 15	90 55 20	90 60 15	90 55 10	90 55 15
Observed (#)	09 00 00	04 01 00	01 00 00	05 00 00	07 00 00	06 01 00	05 00 00	01 00 00

Solar X-Ray and UV flux



Coronal Mass Ejections



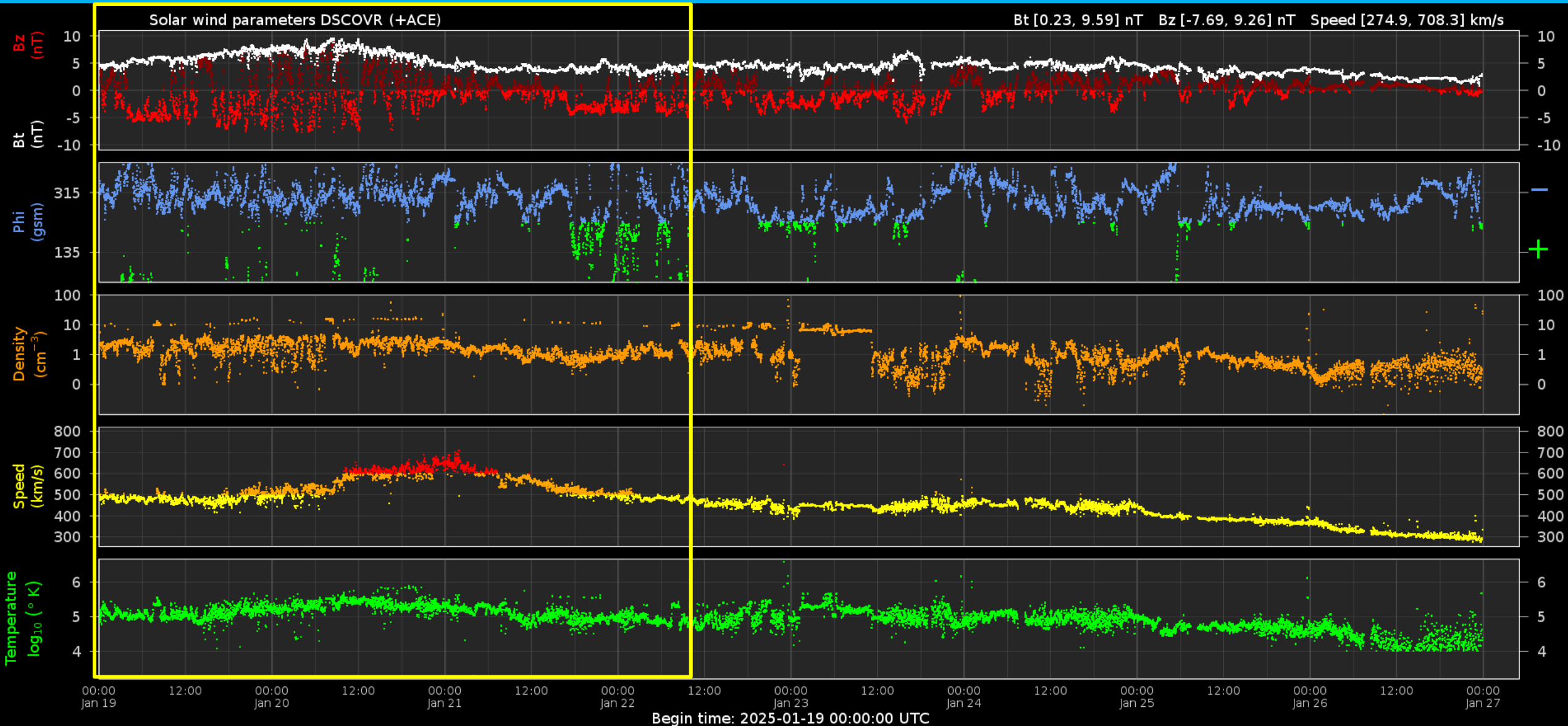
Observation: CME at 10:53 UTC Jan 21.

Associated with M3.4 flare (peak: 10:39 UTC, AR 3967, S17 E23) and nearby filament eruption. Coronal dimming and EUV wave. Associated type II radio emissions from 10:27 UTC. Main bulk of the mass towards SE.

Prediction:</

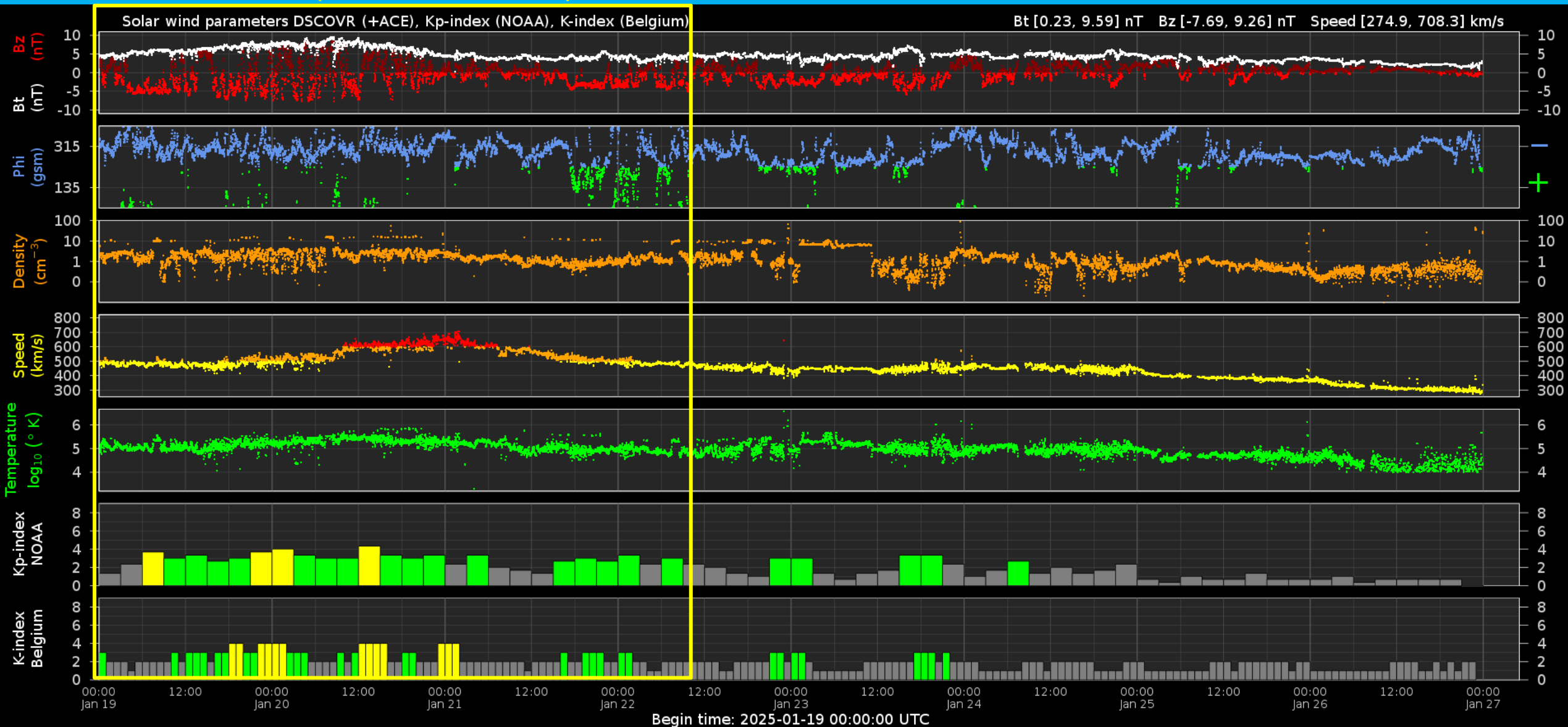
Solar wind parameters

HSS - CH (crossed CM on Jan 17)



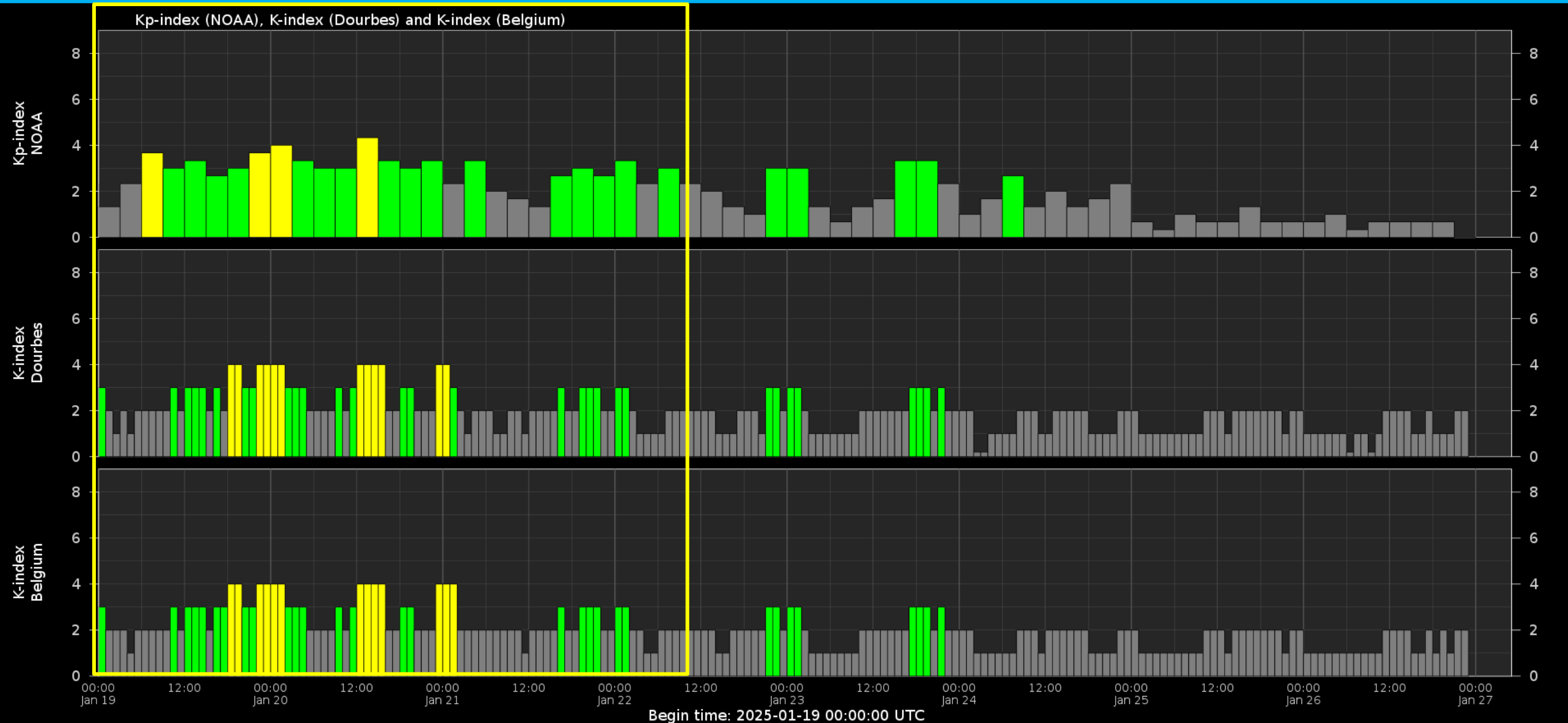
Solar wind parameters & K-indices

HSS - CH (crossed CM on Jan 17)



Geomagnetic activity (K-indexes)

HSS - CH (crossed CM on Jan 17)



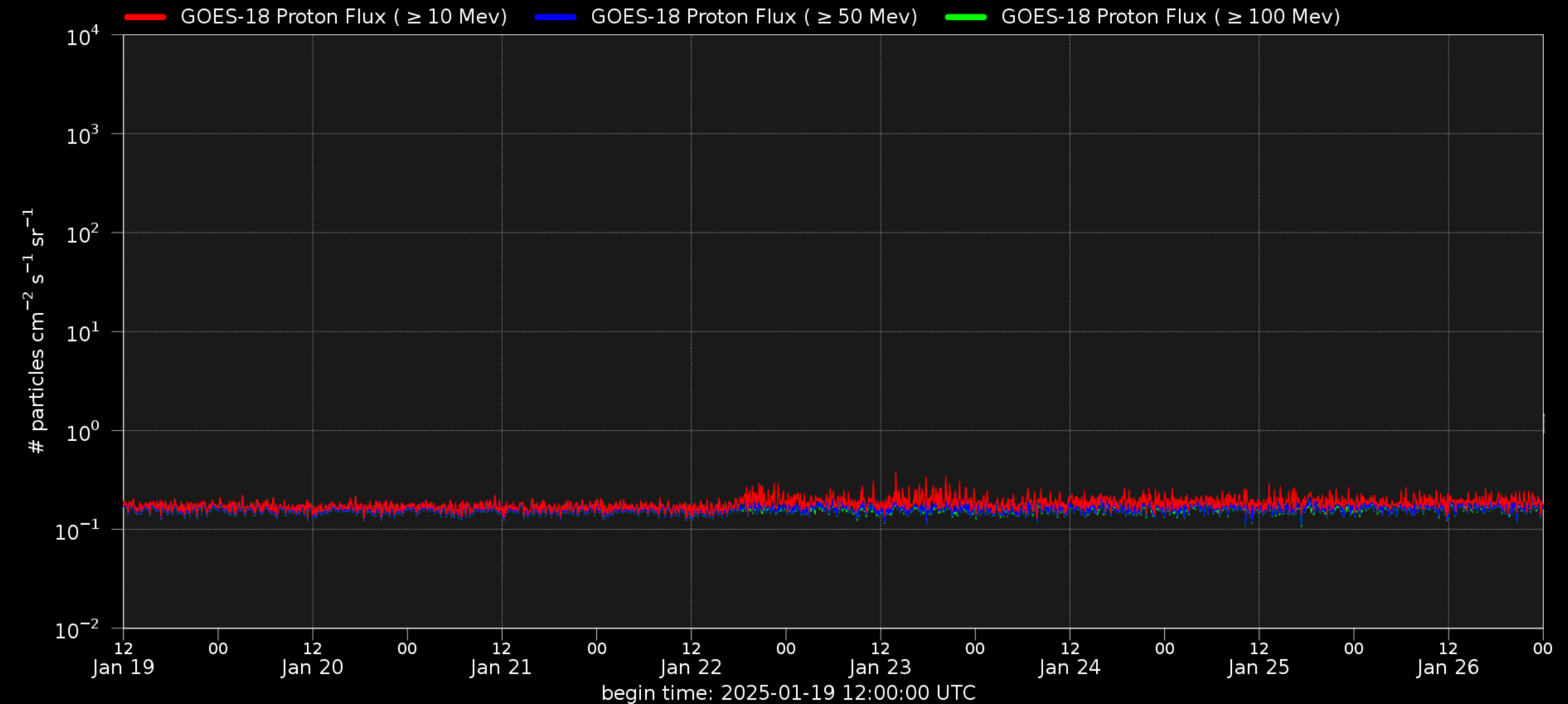
Energetic Particles



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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



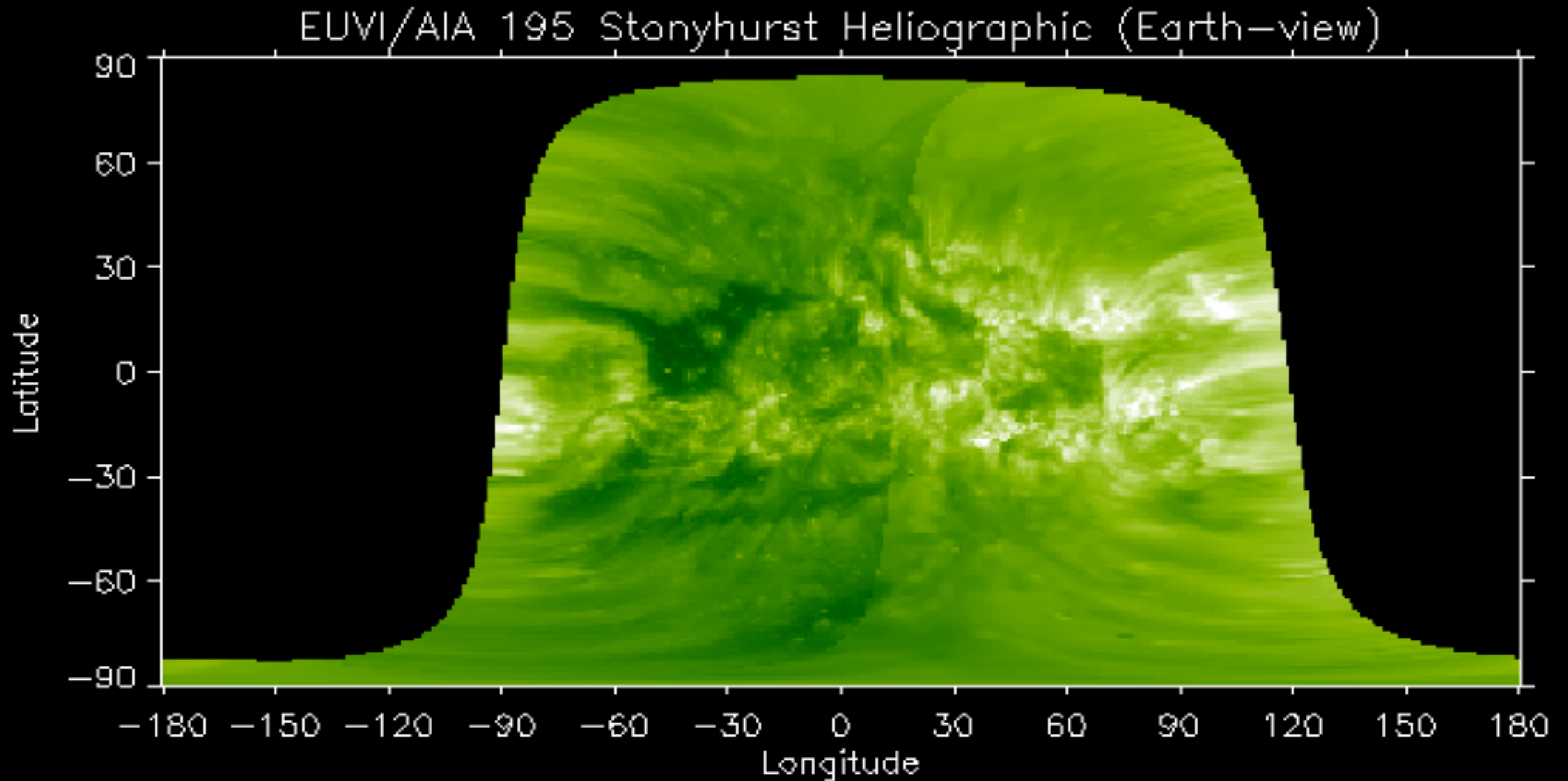
Outlook



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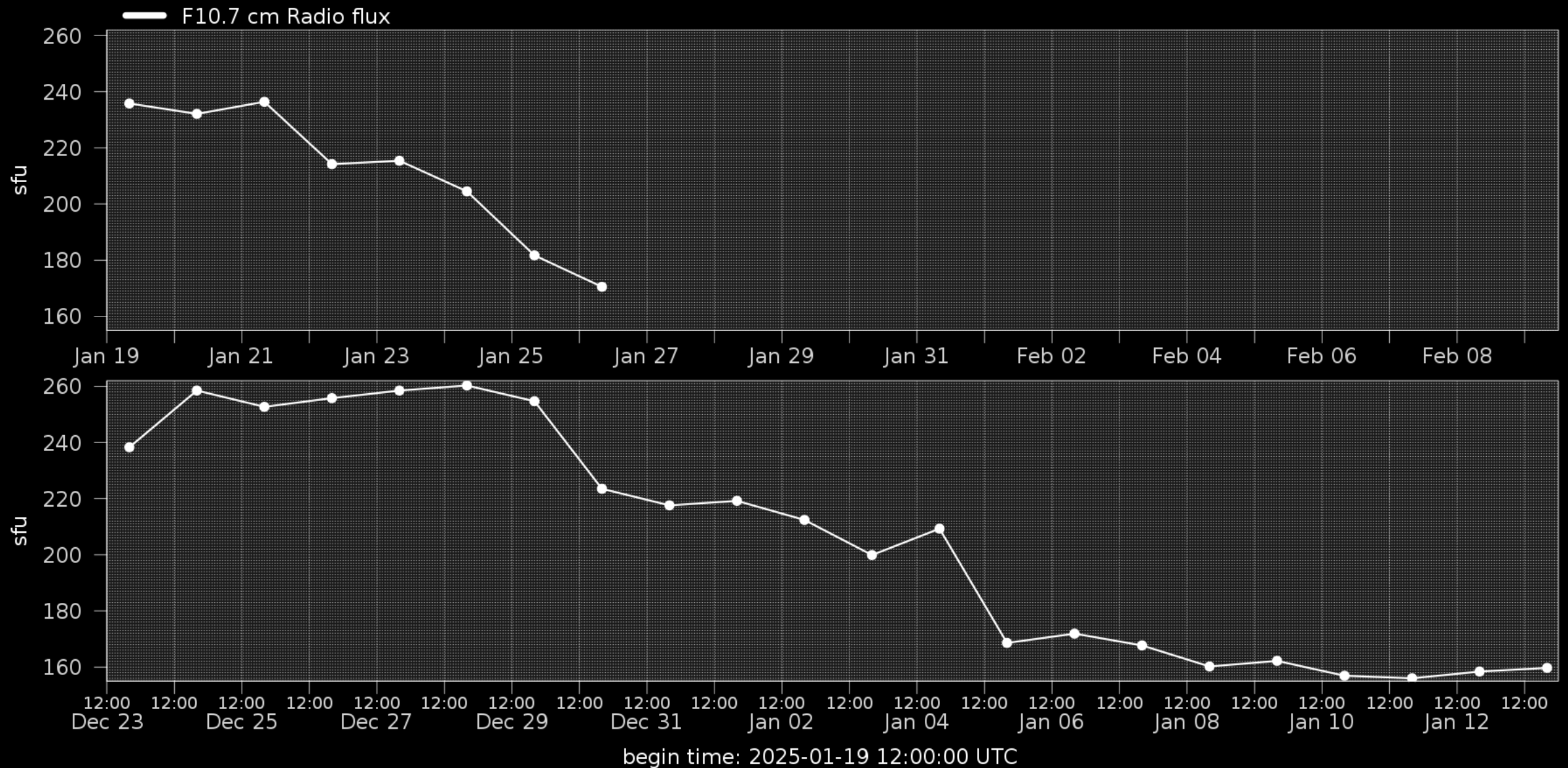
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Outlook: Solar activity

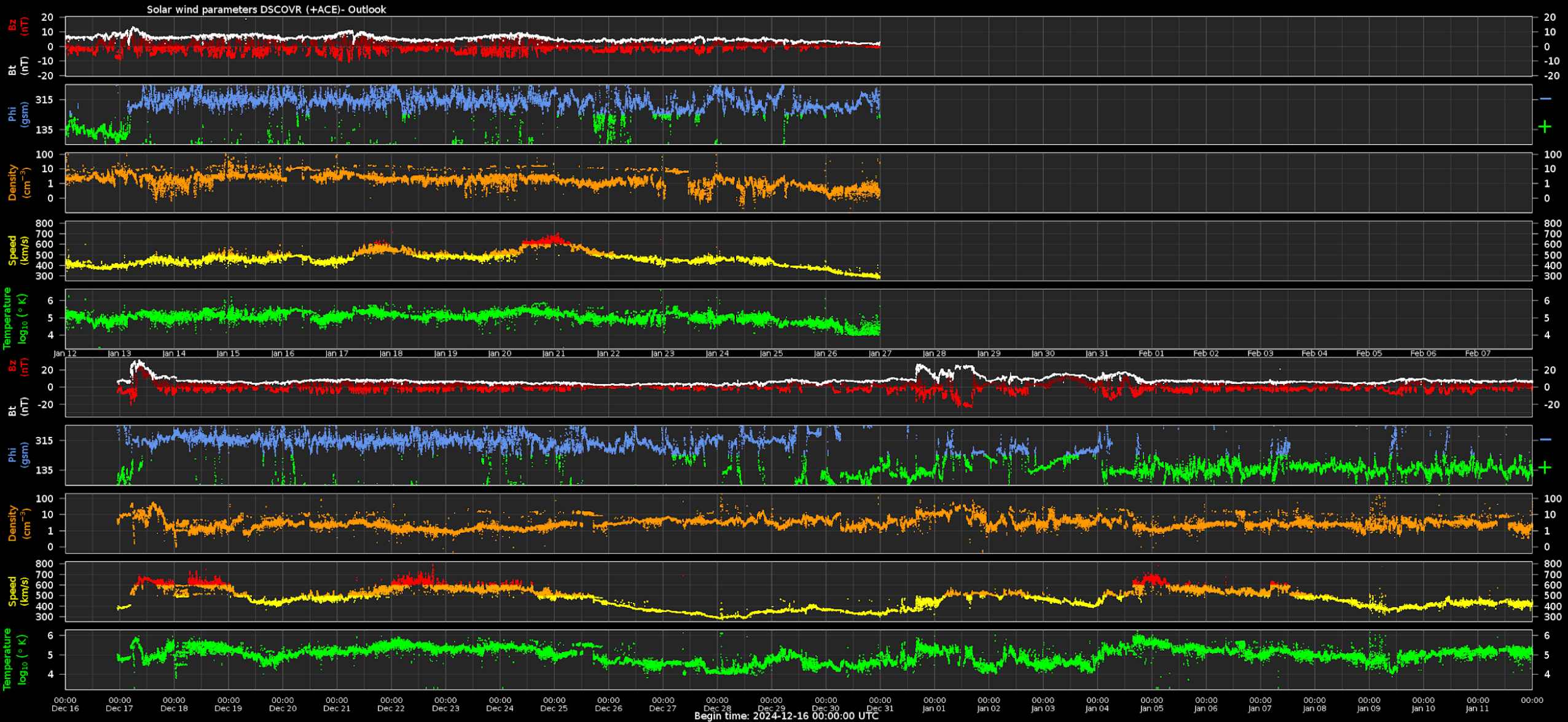


Observation date: 2025/01/26 13:35:00

Outlook: Solar F10.7cm radio flux



Outlook: Solar wind parameters



Outlook: Geomagnetic activity



Outlook: Electron Flux at GEO Outlook



PECASUS



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Pecarus related events

Several advisories for Amplitude and Phase Scintillations.

SIDC Space Weather Briefing

See you at our next briefing!

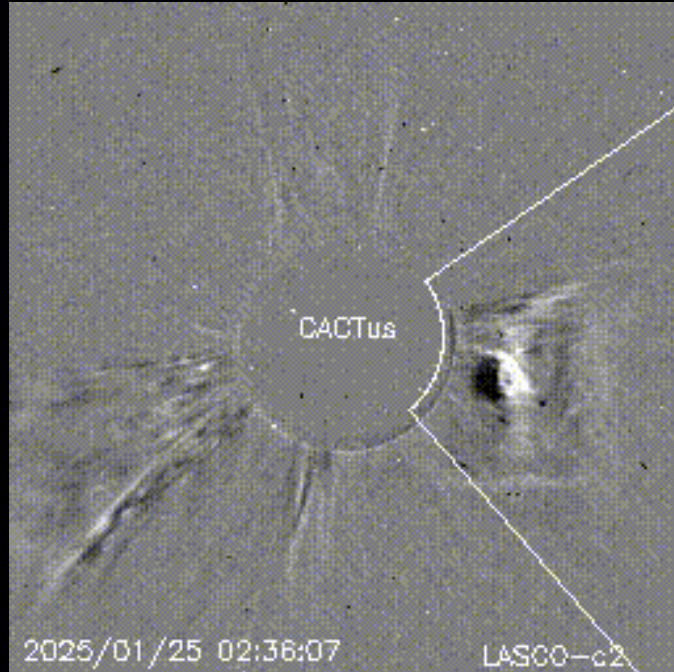
Or visit us at www.sidc.be



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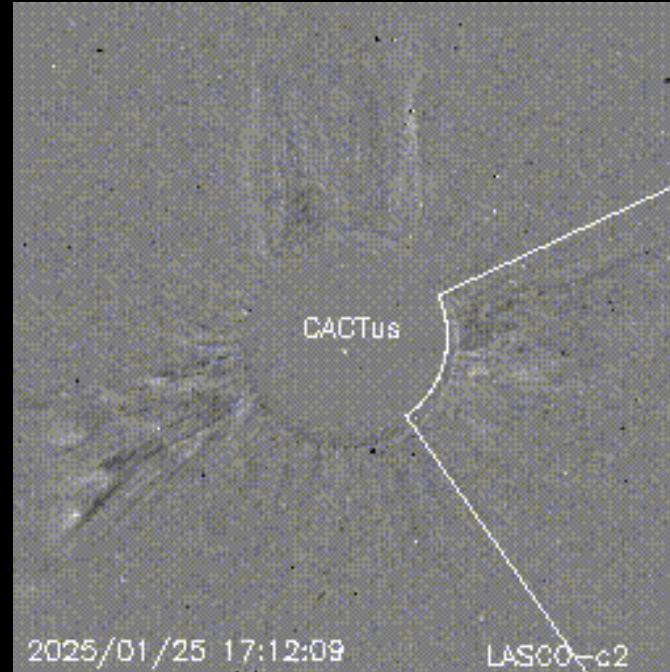
Solar Influences
Data analysis Centre
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Coronal Mass Ejections



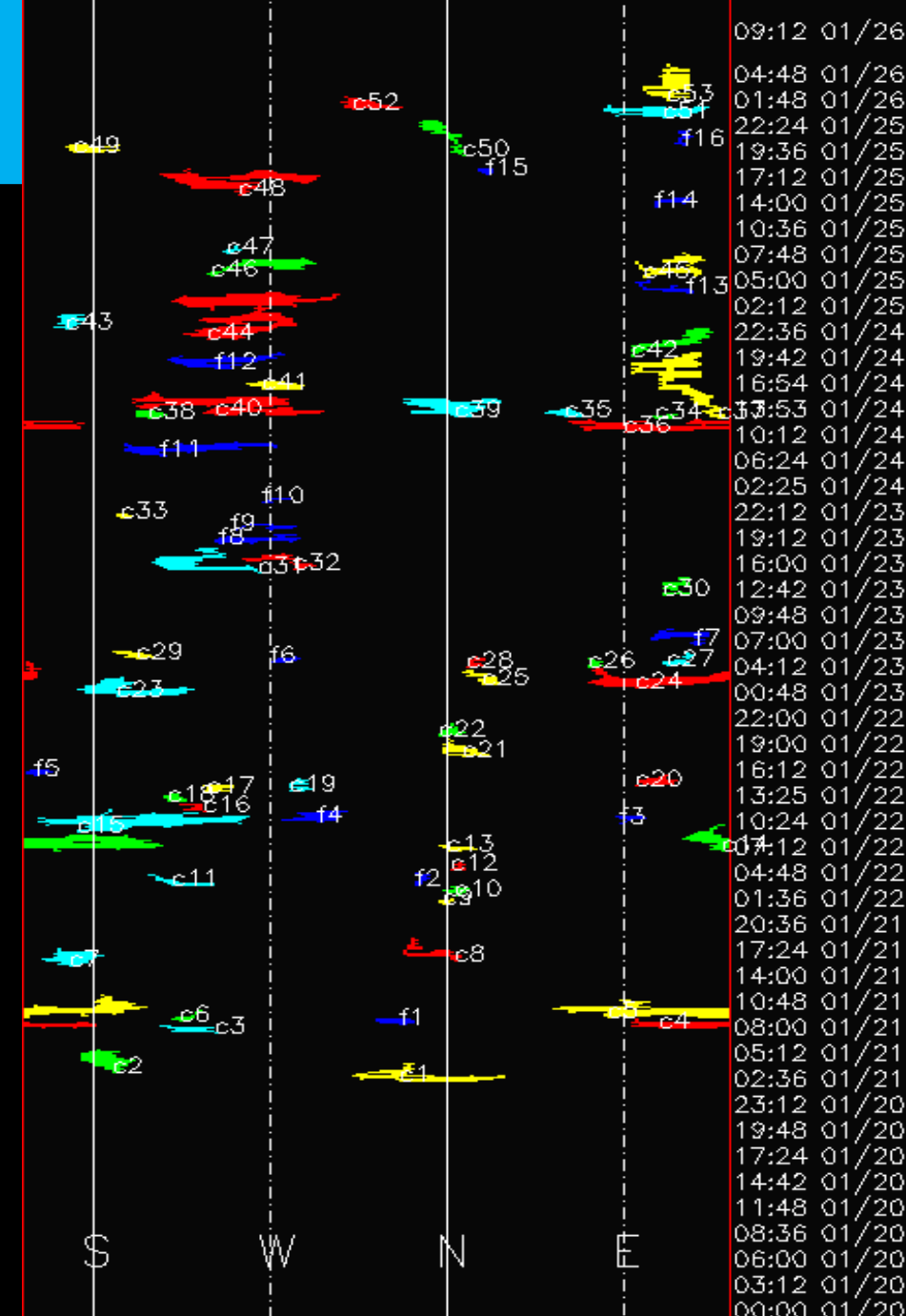
CME at 03:24 UTC on Jan 25. Associated with C-class flarings from AR 3961 (S11 W66). It has a projected width of about 110 deg and a projected speed of about 420 km/s (as measured by Cactus tool), with the bulk of the mass going strongly SW from the Sun-Earth line.

Arrival not seen in EUHFORIA.



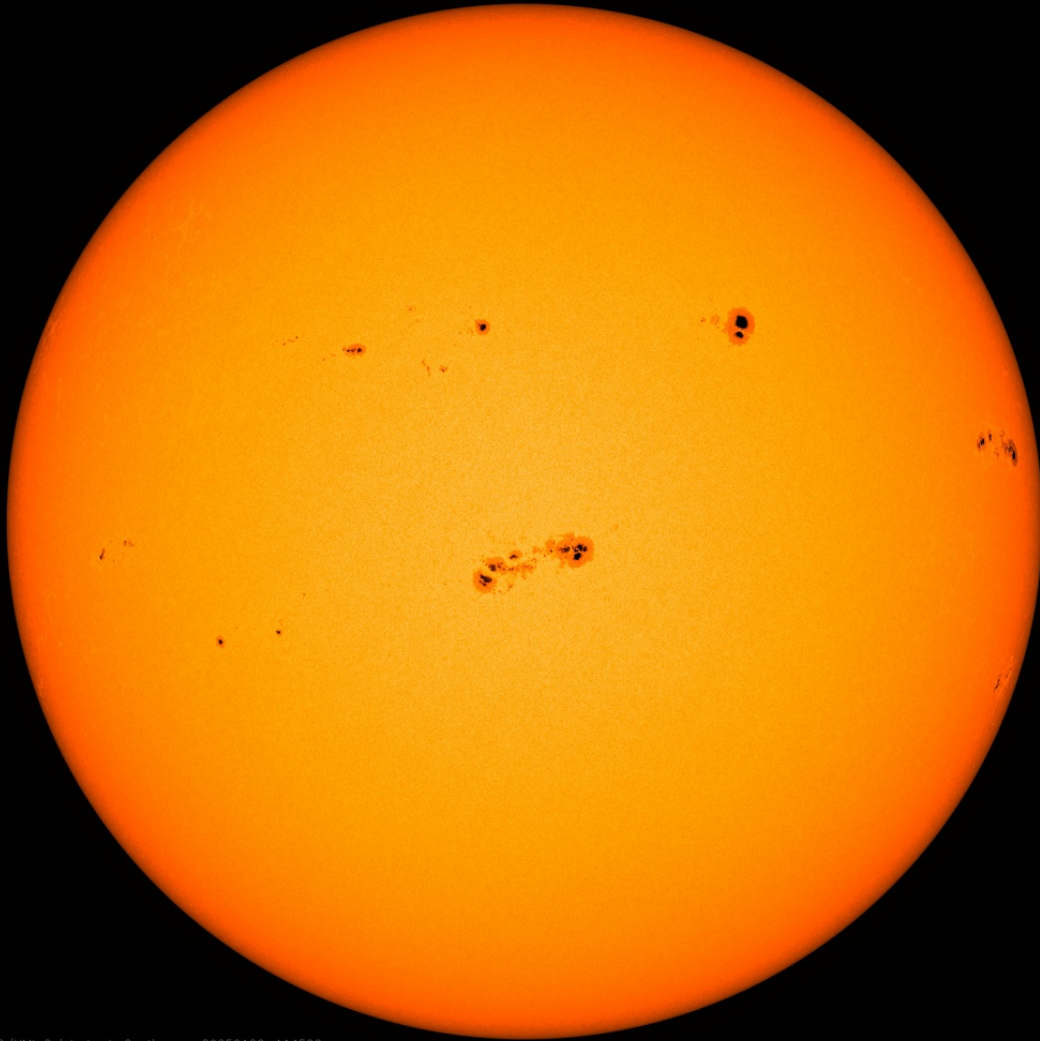
CME at 17:48 UTC on Jan 25. Associated with C5.4 flare (peak time: 17:27, S11 W78) from AR 3961. It has a width of about 110 deg and speed of 800 km/s.

Arrival not seen in EUHFORIA.



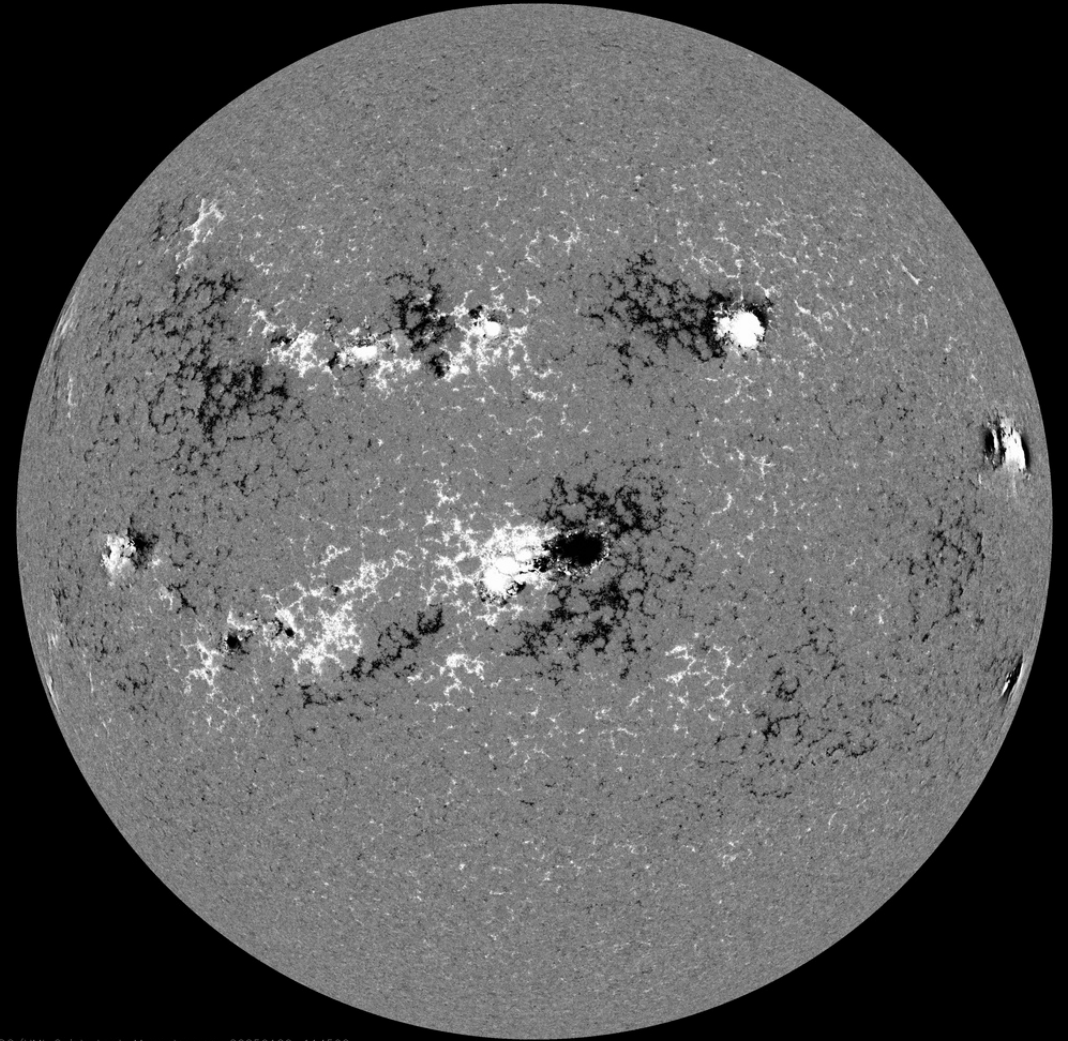
Solar active regions

SDO/HMI White Light 2025-01-20



SDO/HMI Quick-Look Continuum: 20250120_114500

SDO/HMI Magnetogram 2025-01-20



SDO/HMI Quick-Look Magnetogram: 20250120_114500

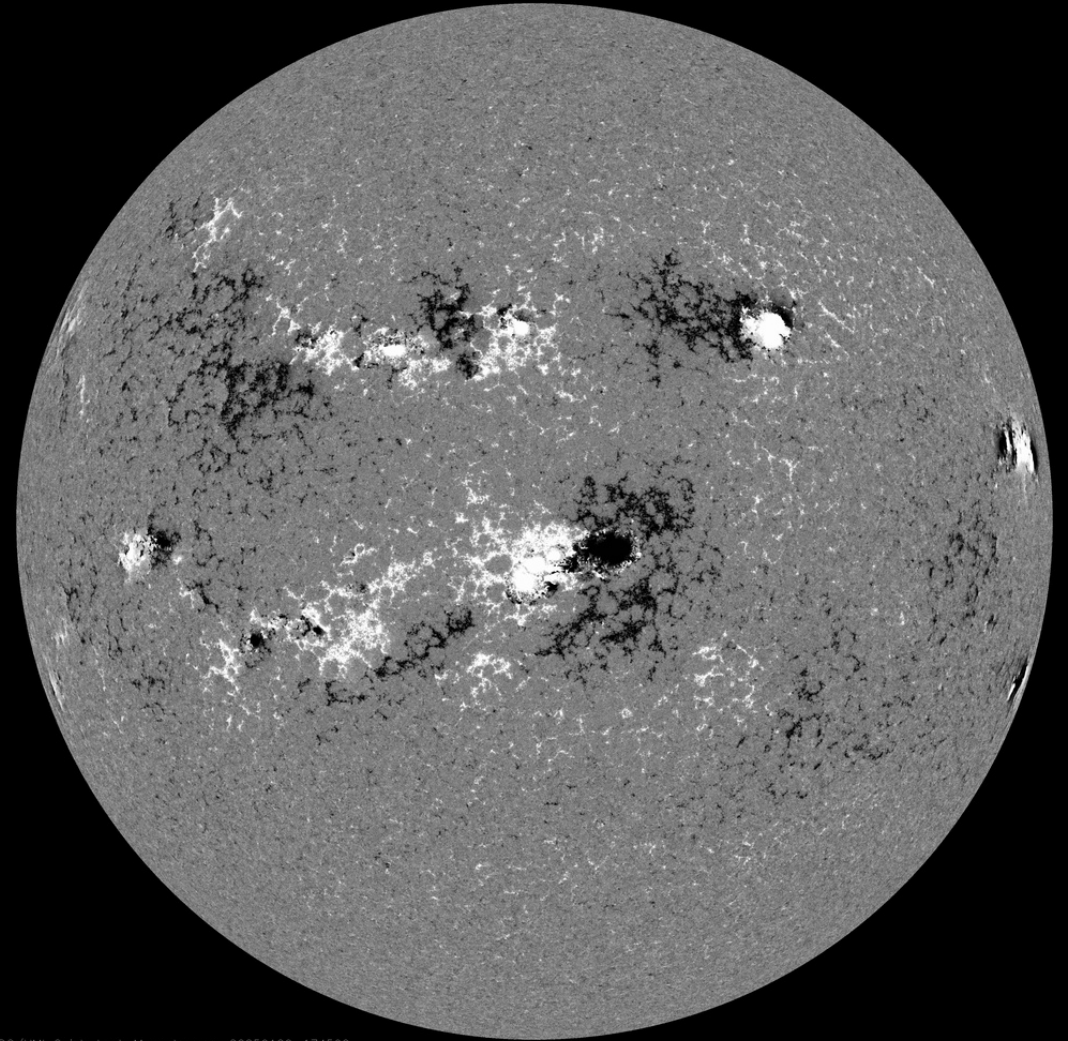
Solar active regions

SDO/HMI White Light 2025-01-21



SDO/HMI Quick-Look Continuum: 20250120_174500

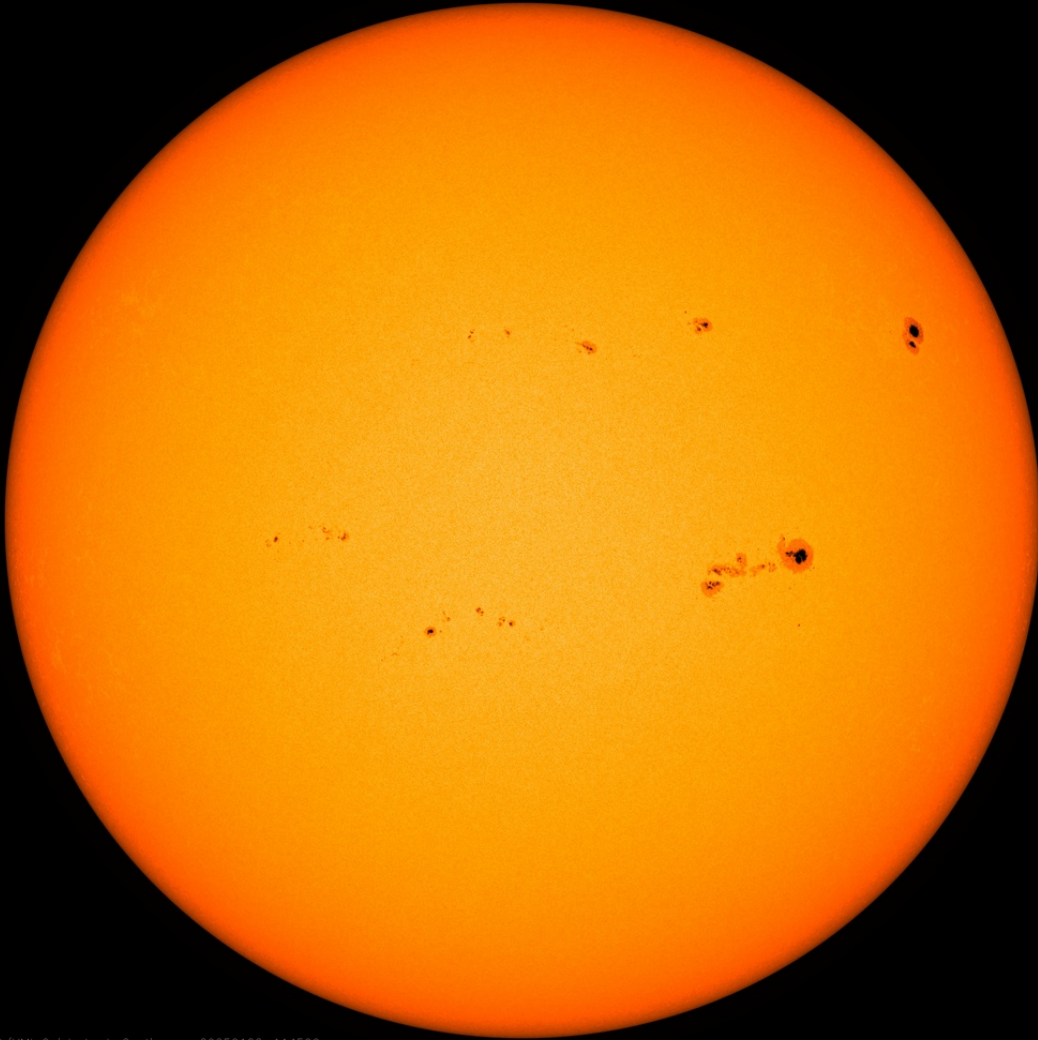
SDO/HMI Magnetogram 2025-01-21



SDO/HMI Quick-Look Magnetogram: 20250120_174500

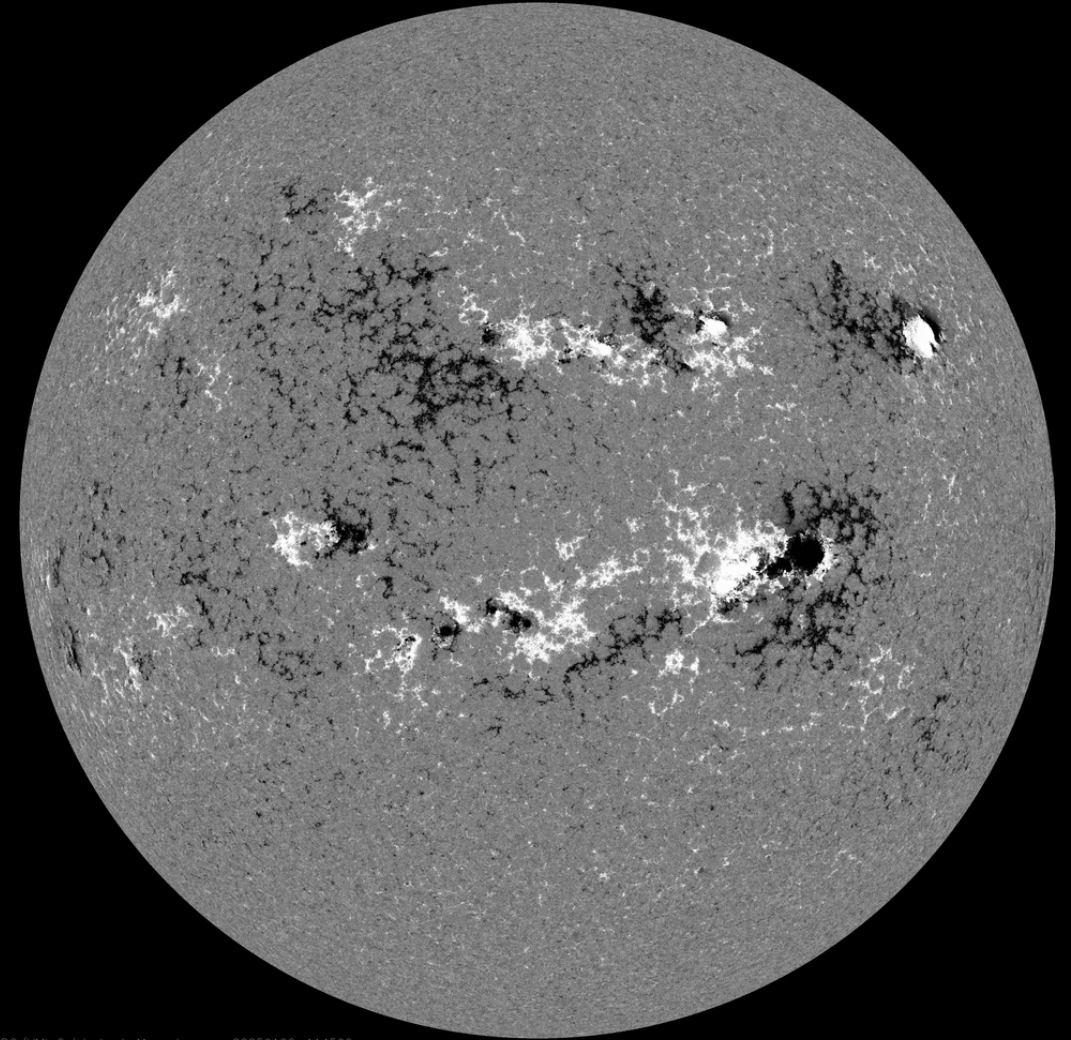
Solar active regions

SDO/HMI White Light 2025-01-22



SDO/HMI Quick-Look Continuum: 20250122_114500

SDO/HMI Magnetogram 2025-01-22



SDO/HMI Quick-Look Magnetogram: 20250122_114500

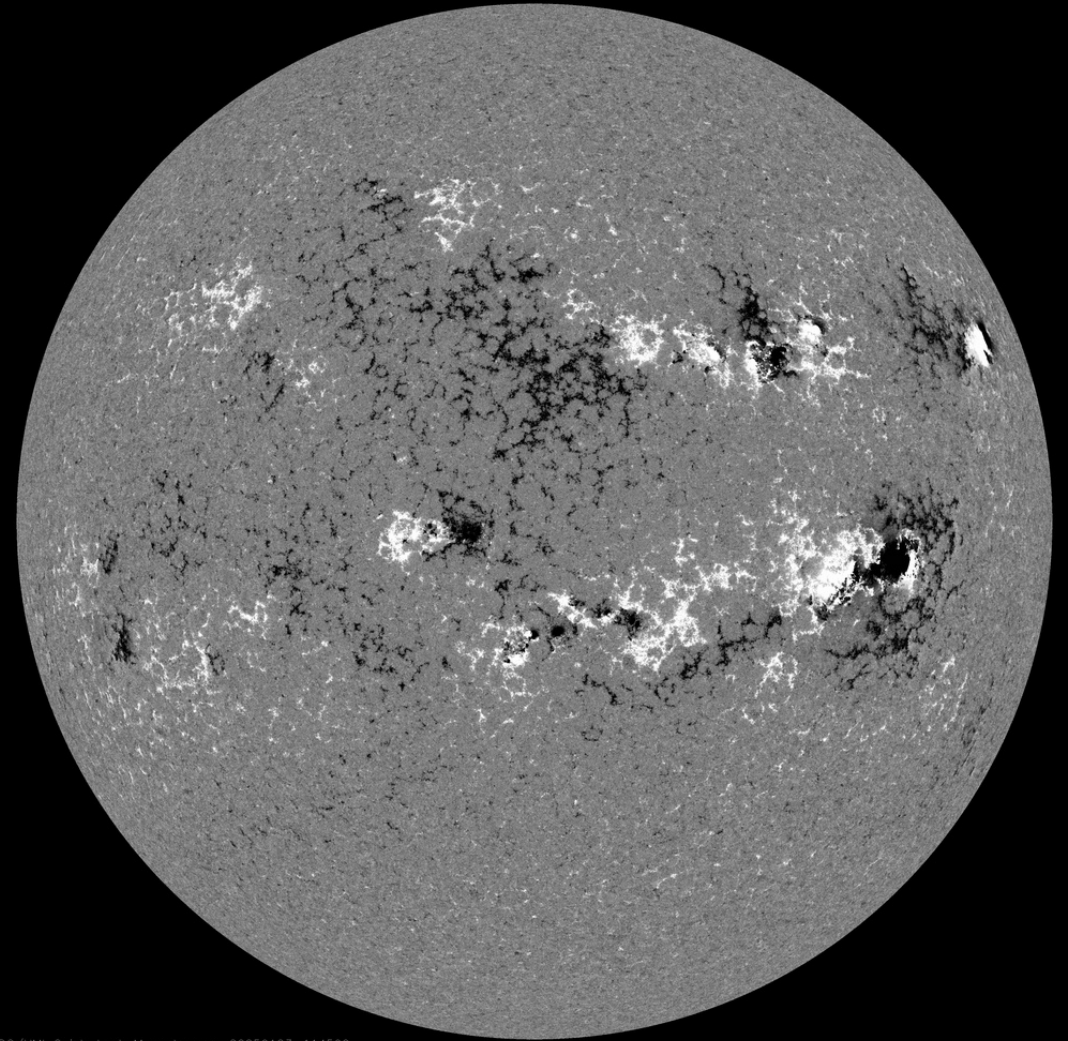
Solar active regions

SDO/HMI White Light 2025-01-23



SDO/HMI Quick-Look Continuum: 20250123_114500

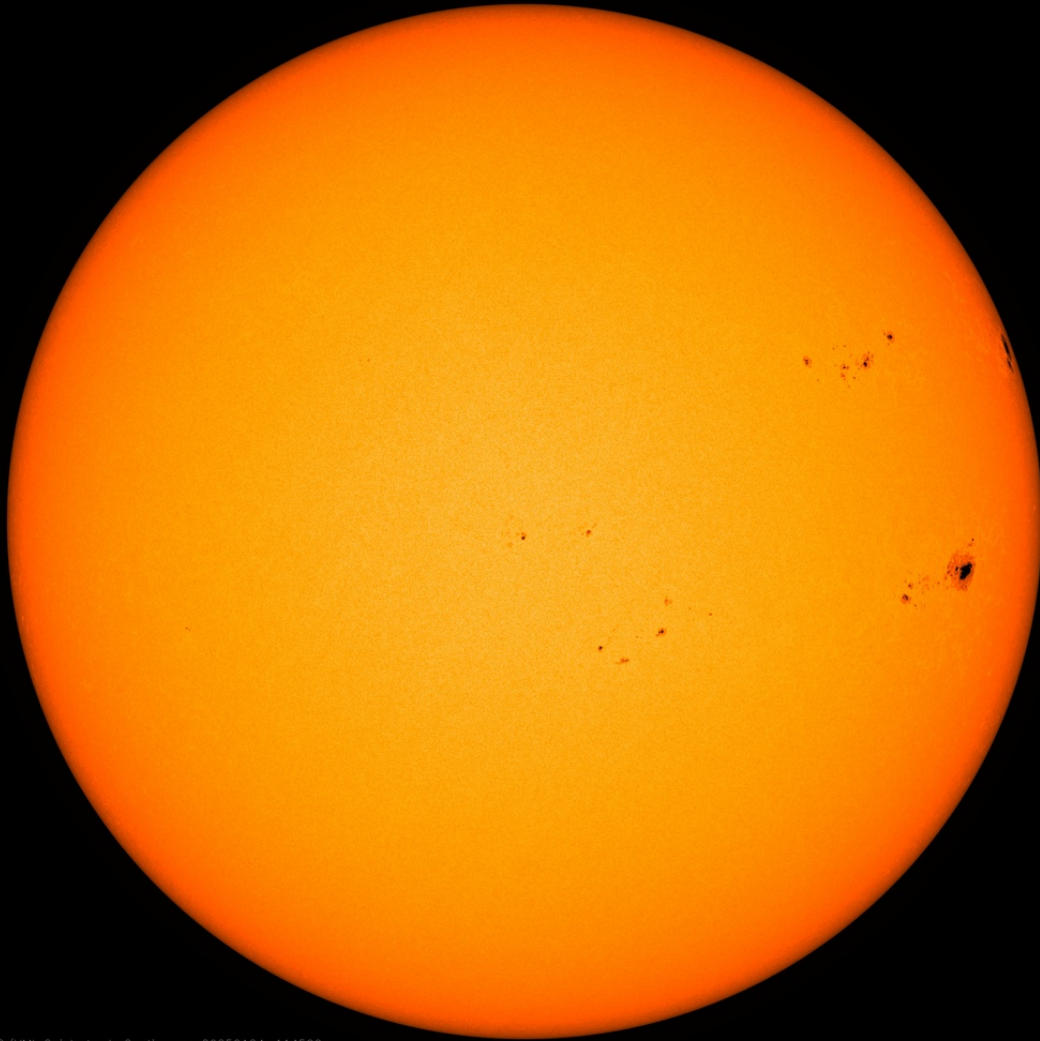
SDO/HMI Magnetogram 2025-01-23



SDO/HMI Quick-Look Magnetogram: 20250123_114500

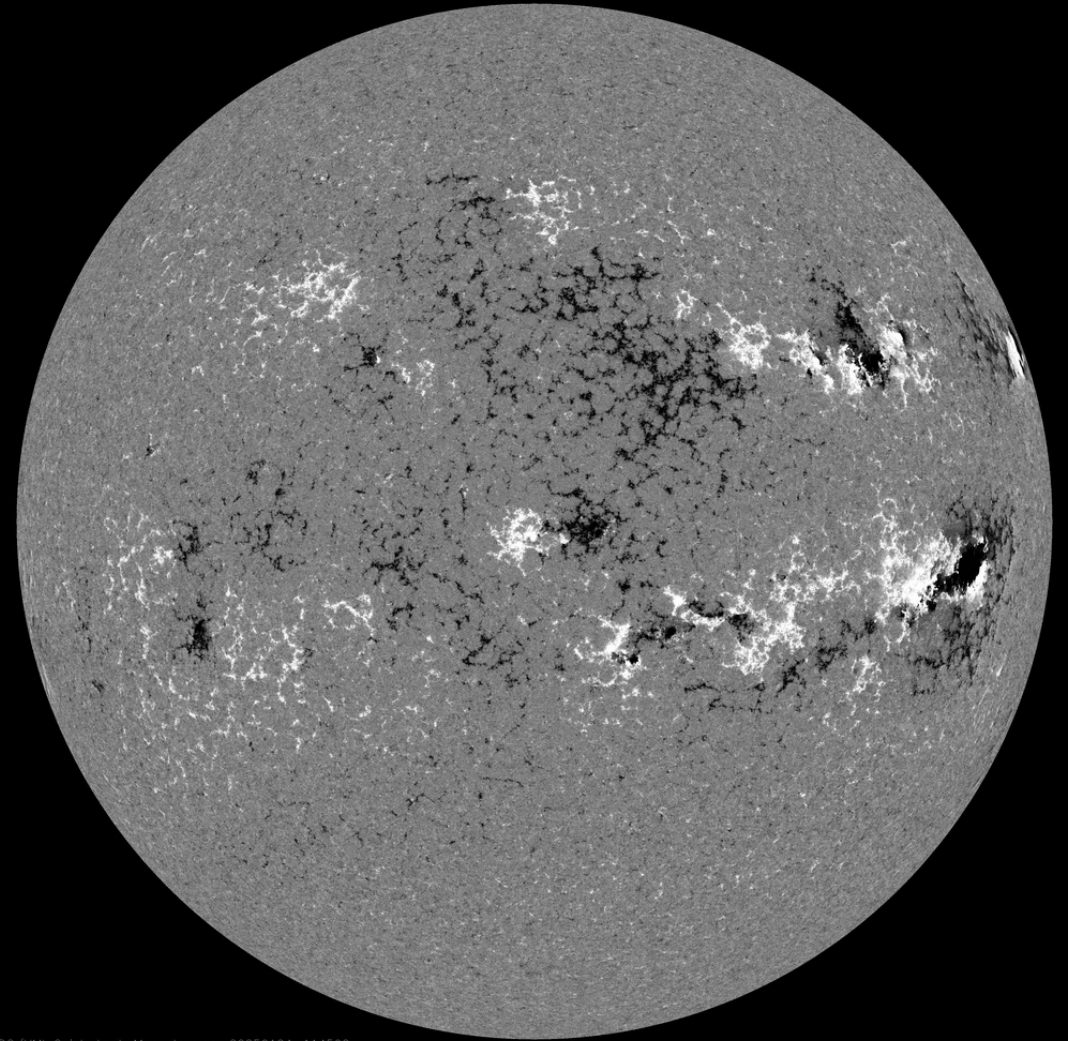
Solar active regions

SDO/HMI White Light 2025-01-24



SDO/HMI Quick-Look Continuum: 20250124_114500

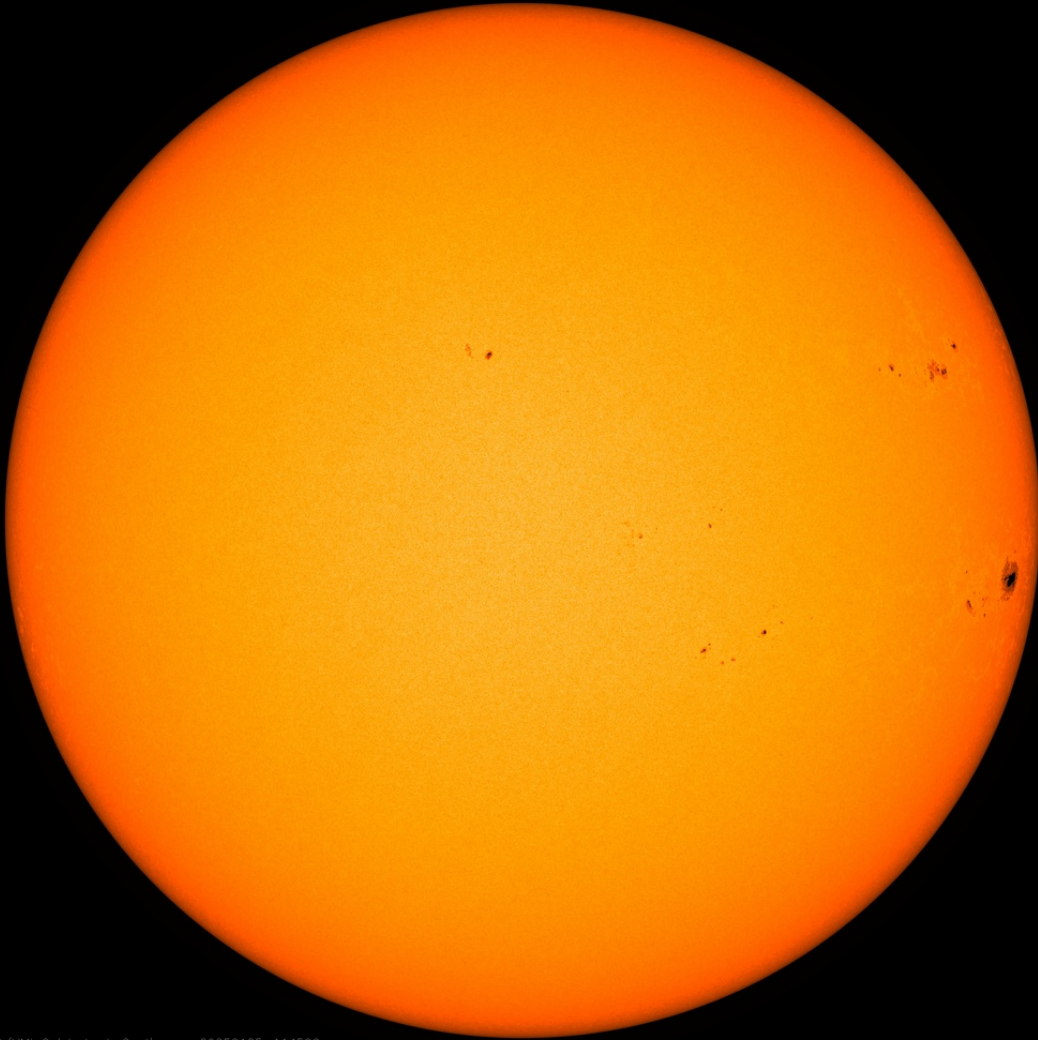
SDO/HMI Magnetogram 2025-01-24



SDO/HMI Quick-Look Magnetogram: 20250124_114500

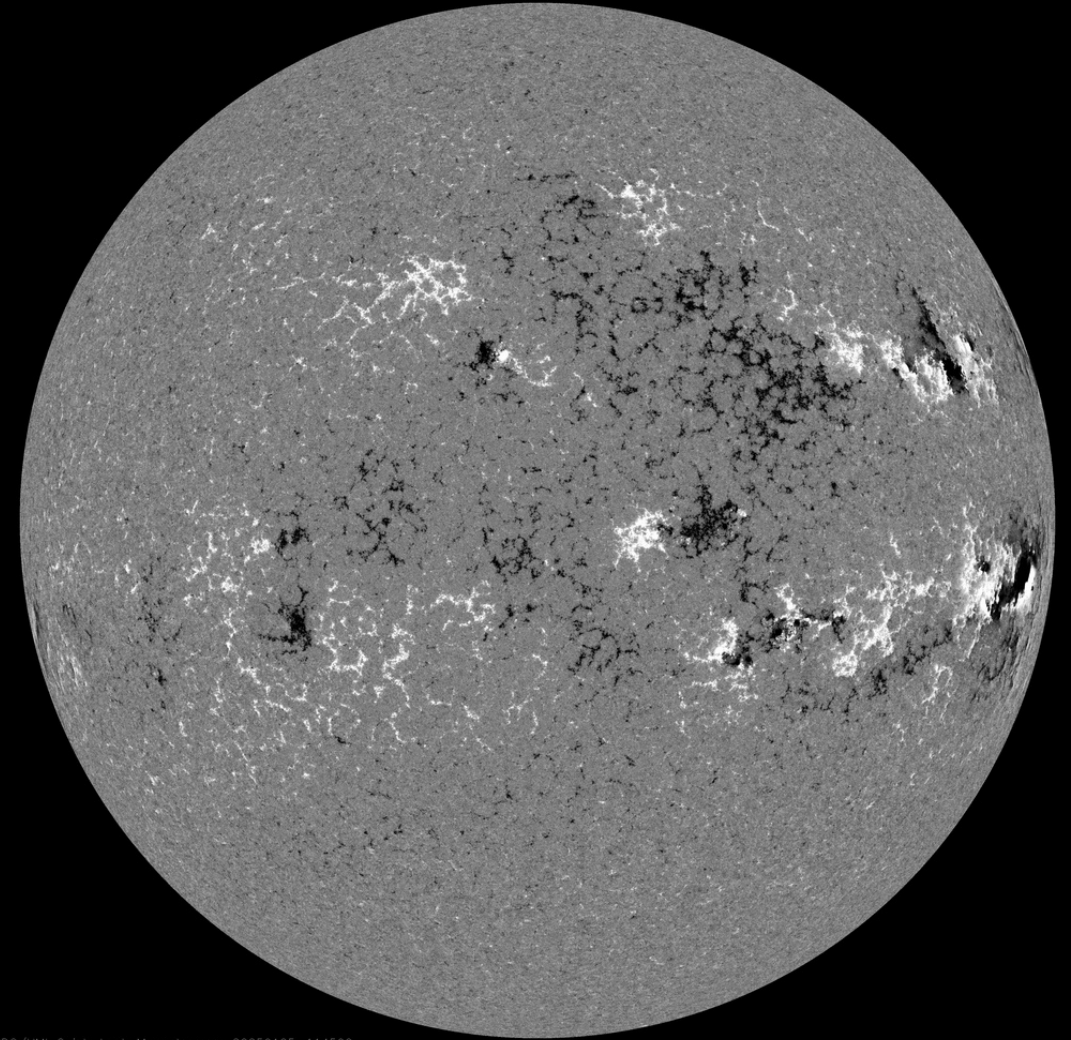
Solar active regions

SDO/HMI White Light 2025-01-25



SDO/HMI Quick-Look Continuum: 20250125_114500

SDO/HMI Magnetogram 2025-01-25

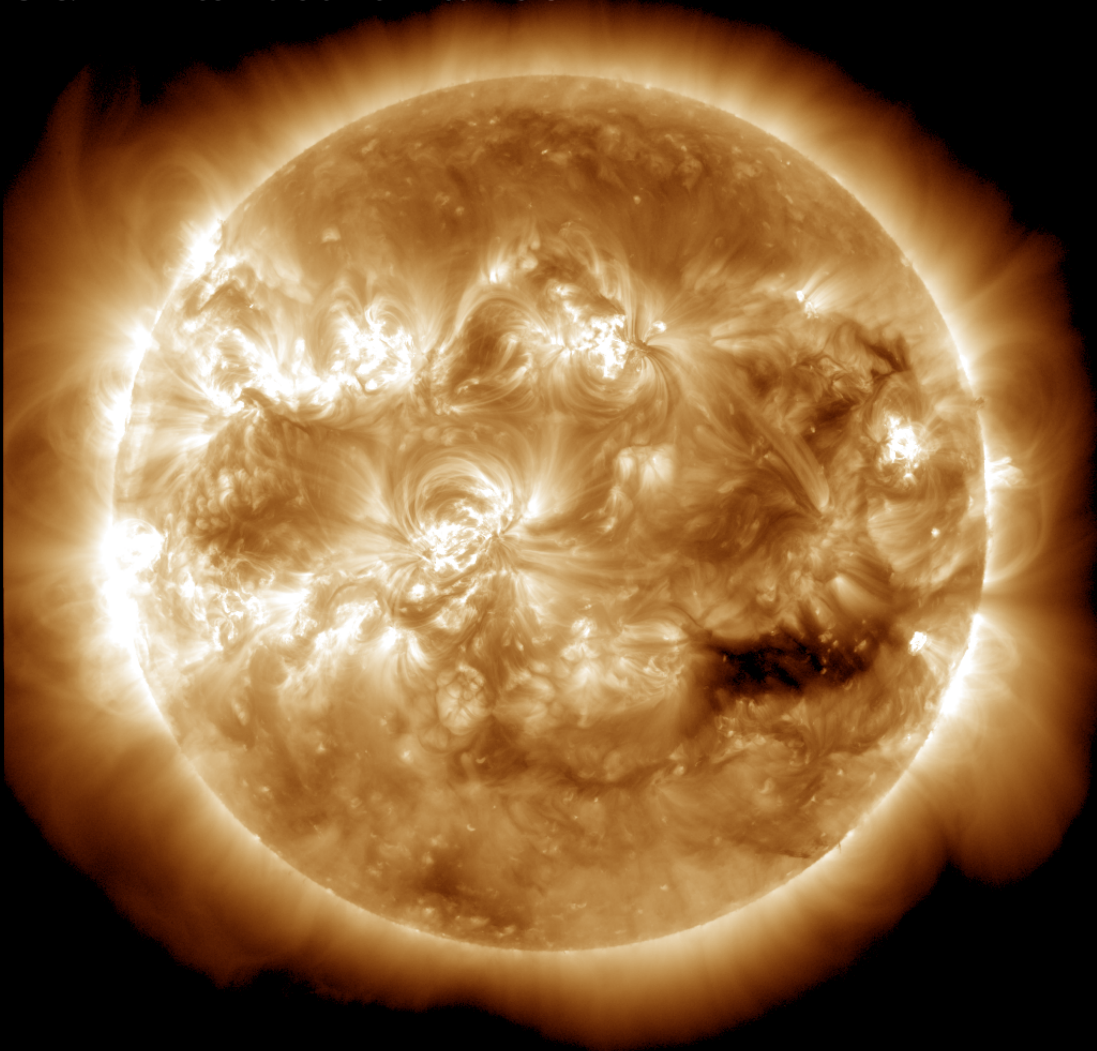


SDO/HMI Quick-Look Magnetogram: 20250125_114500

Coronal holes

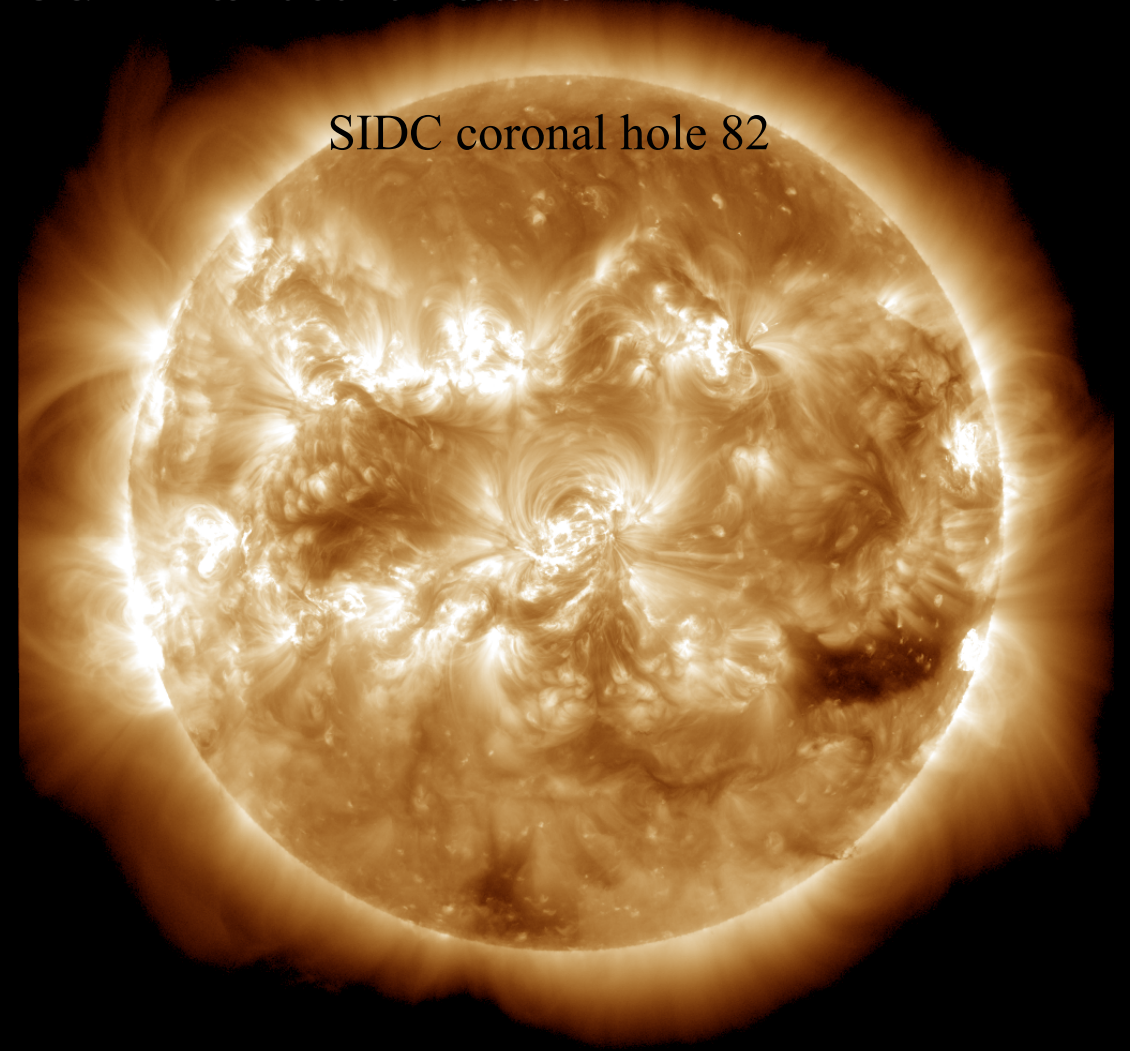
SDO/AIA 19.3 nm 2025-01-19

SDO/AIA AIA 193Å 2025-01-19T12:00:41.843



SDO/AIA 19.3 nm 2025-01-20

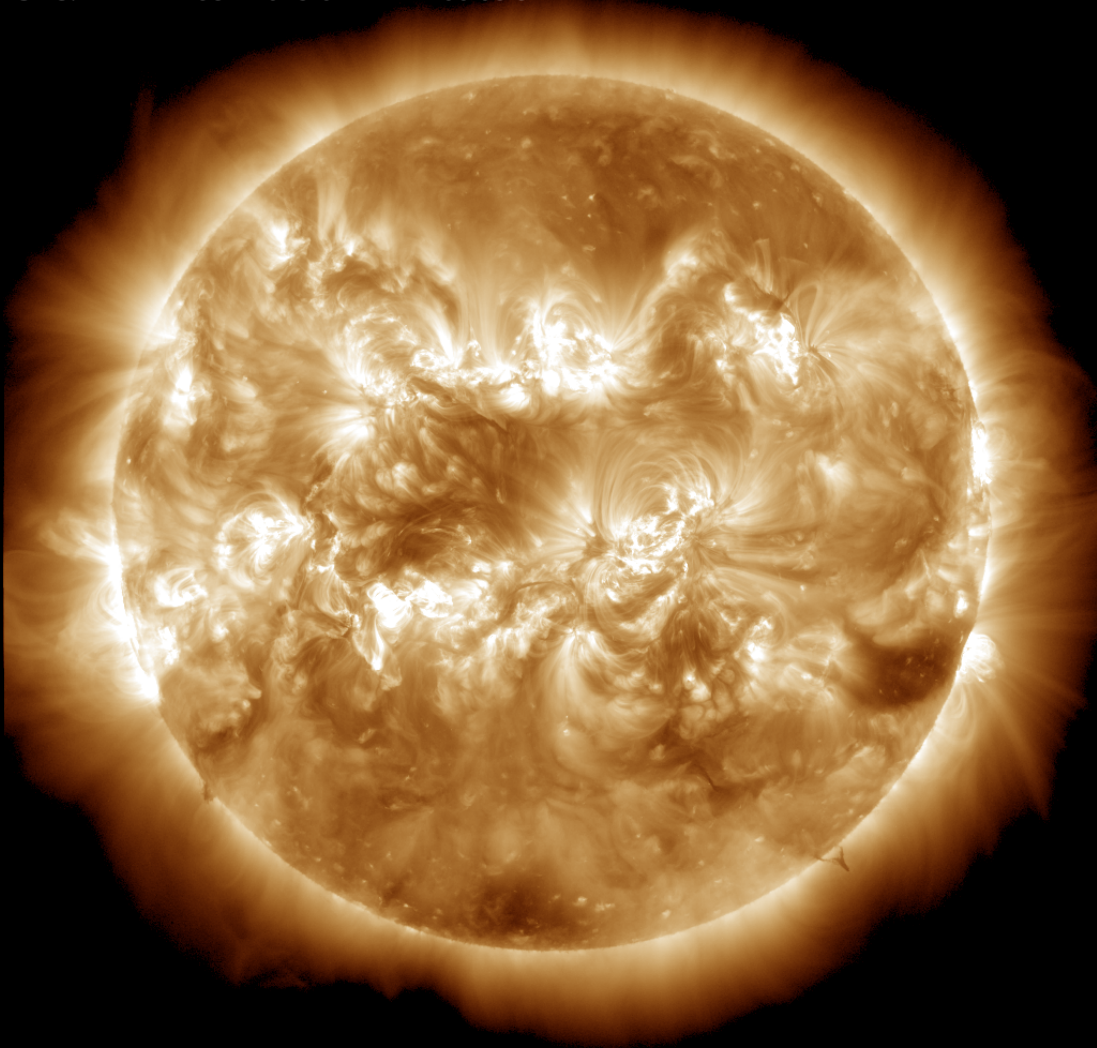
SDO/AIA AIA 193Å 2025-01-20T12:00:05.843



Coronal holes

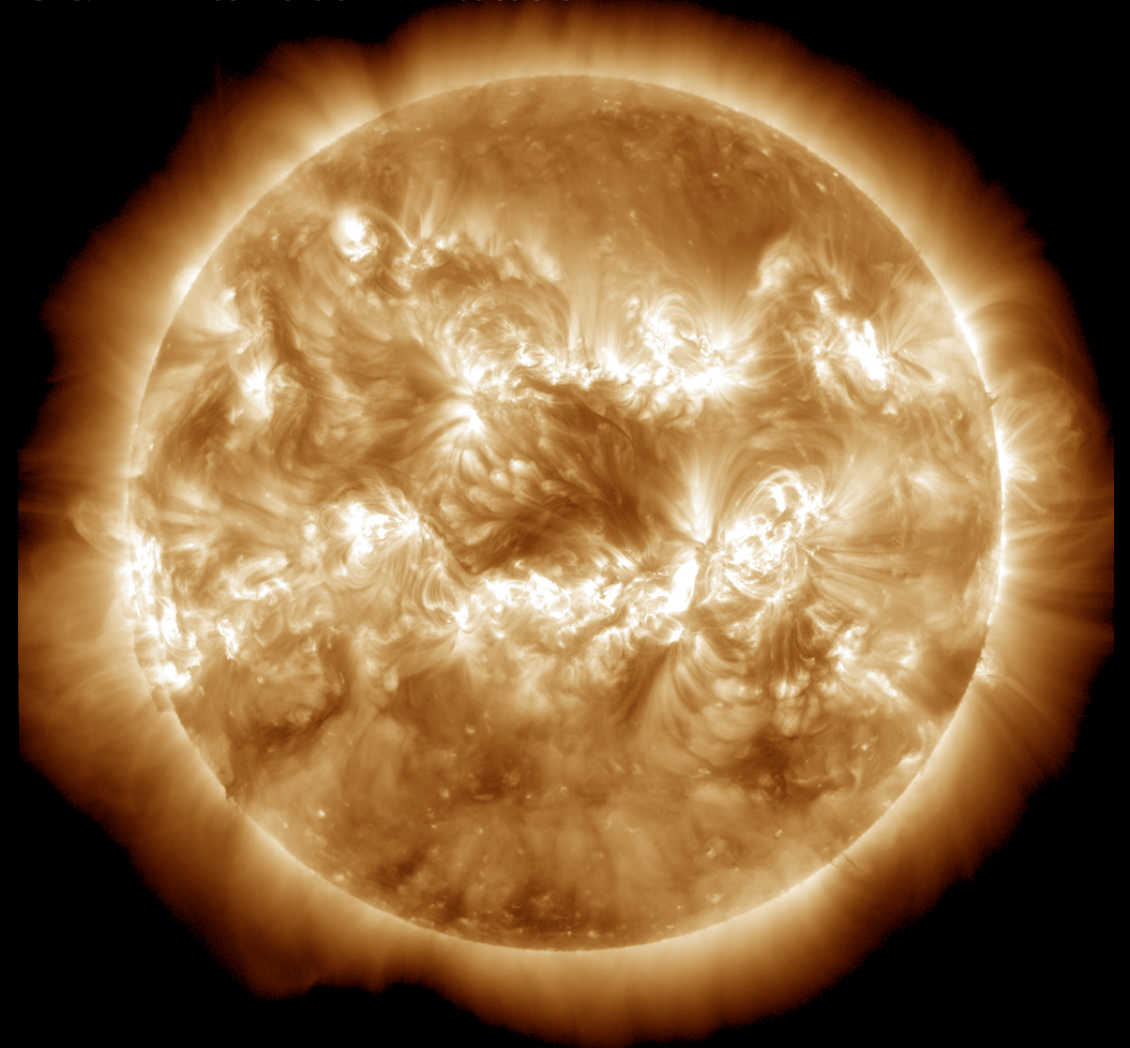
SDO/AIA 19.3 nm 2025-01-21

SDO/AIA AIA 193Å 2025-01-21T12:00:05.844



SDO/AIA 19.3 nm 2025-01-22

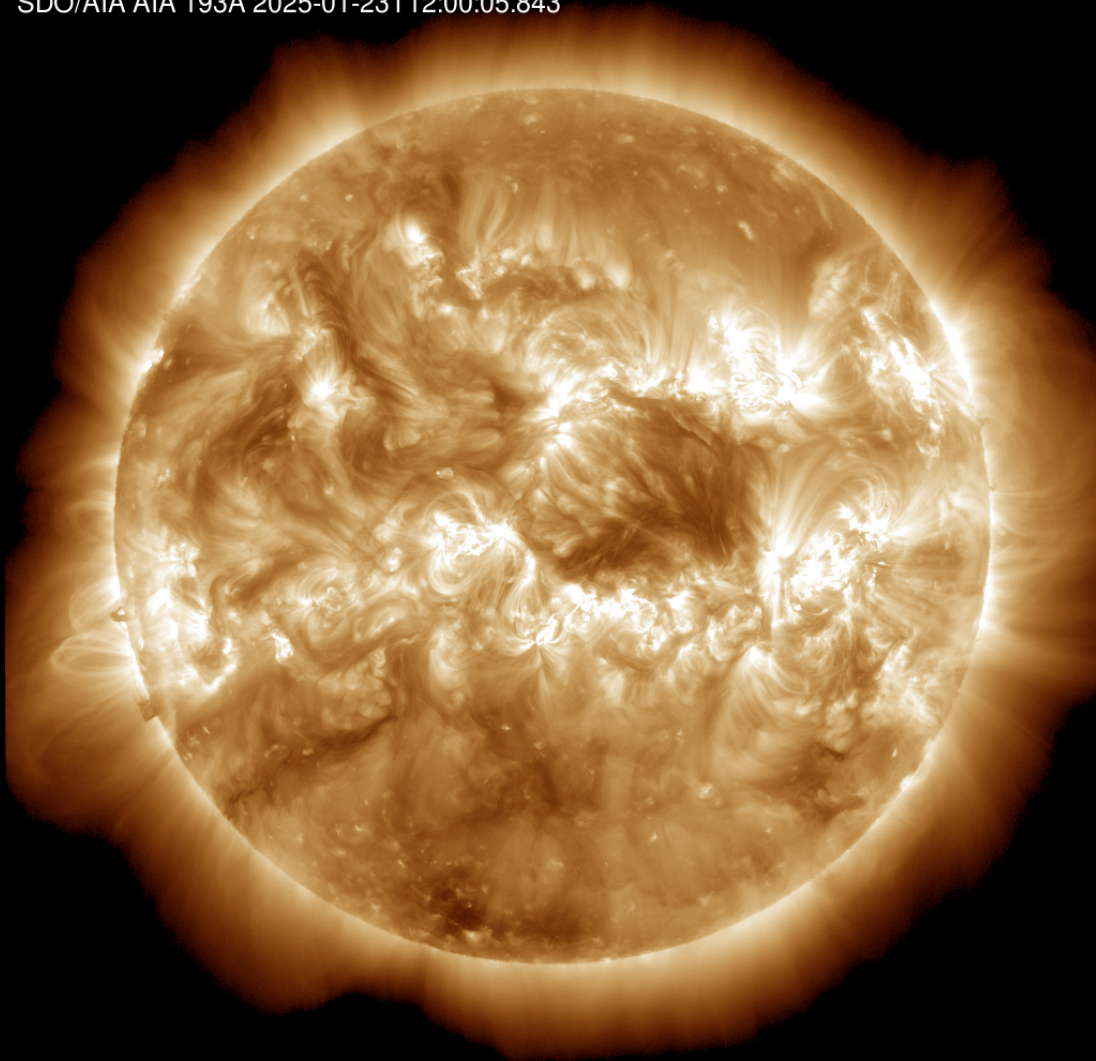
SDO/AIA AIA 193Å 2025-01-22T12:00:05.843



Coronal holes

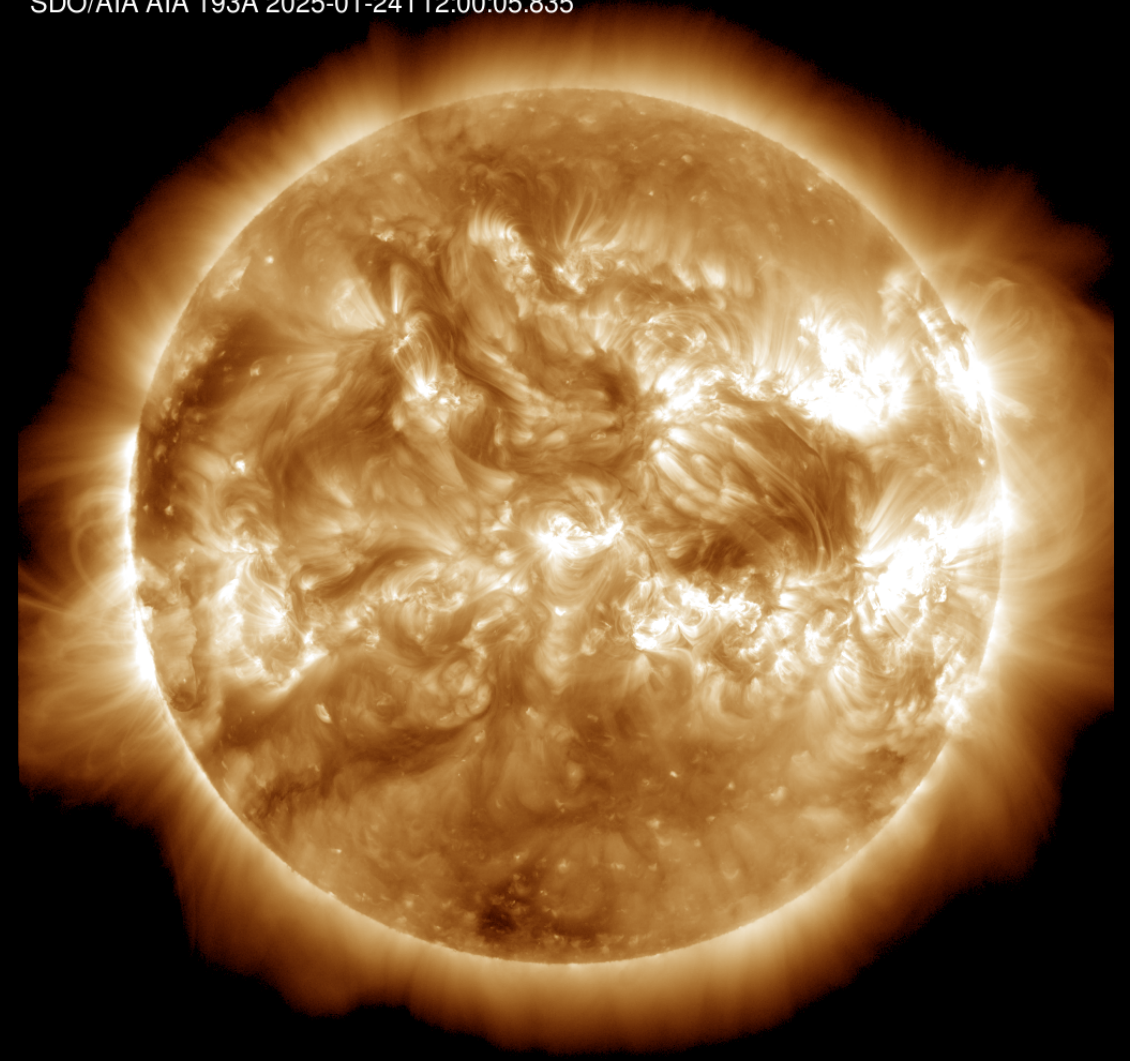
SDO/AIA 19.3 nm 2025-01-23

SDO/AIA AIA 193Å 2025-01-23T12:00:05.843



SDO/AIA 19.3 nm 2025-01-24

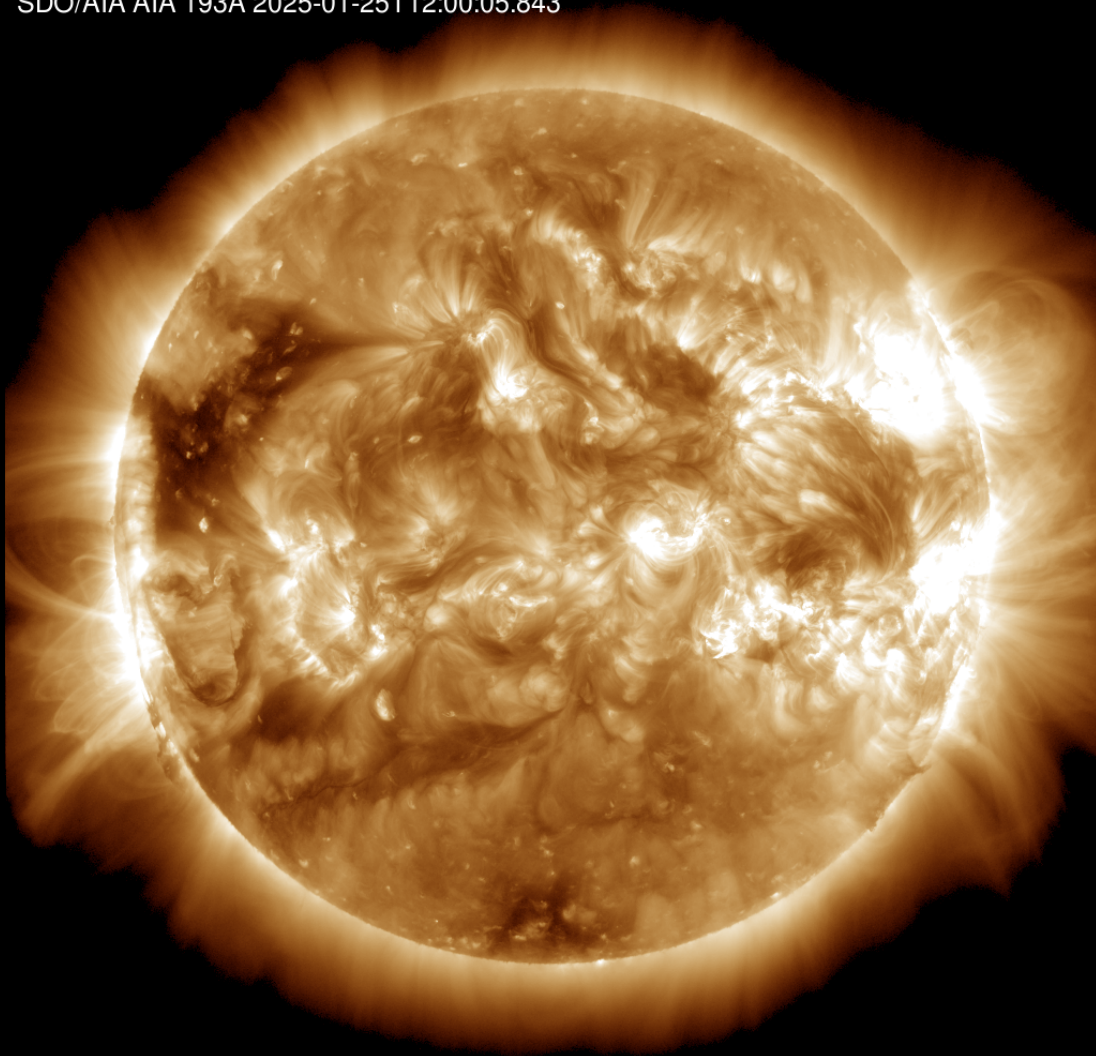
SDO/AIA AIA 193Å 2025-01-24T12:00:05.835



Coronal holes

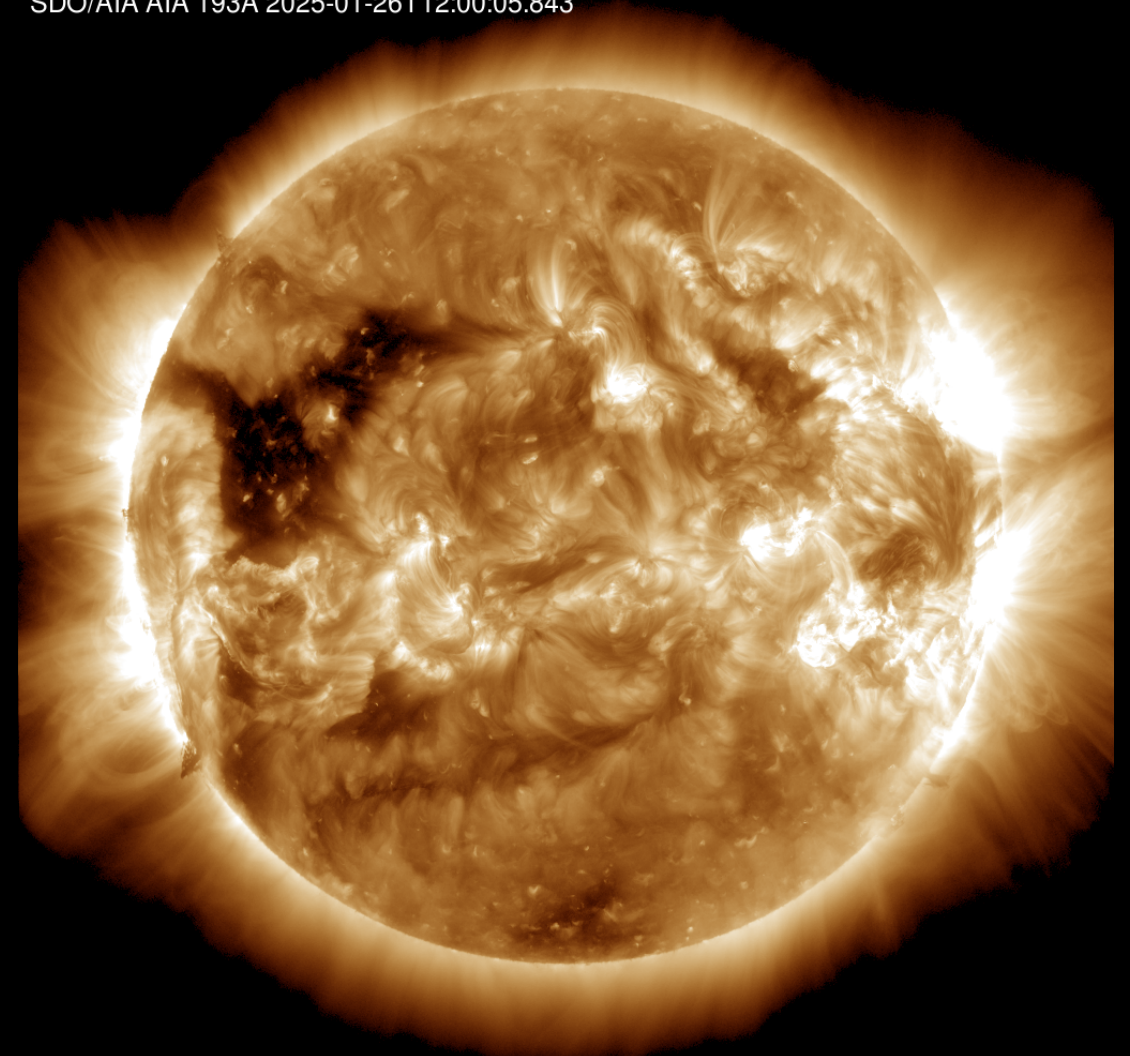
SDO/AIA 19.3 nm 2025-01-25

SDO/AIA AIA 193Å 2025-01-25T12:00:05.843



SDO/AIA 19.3 nm 2025-01-26

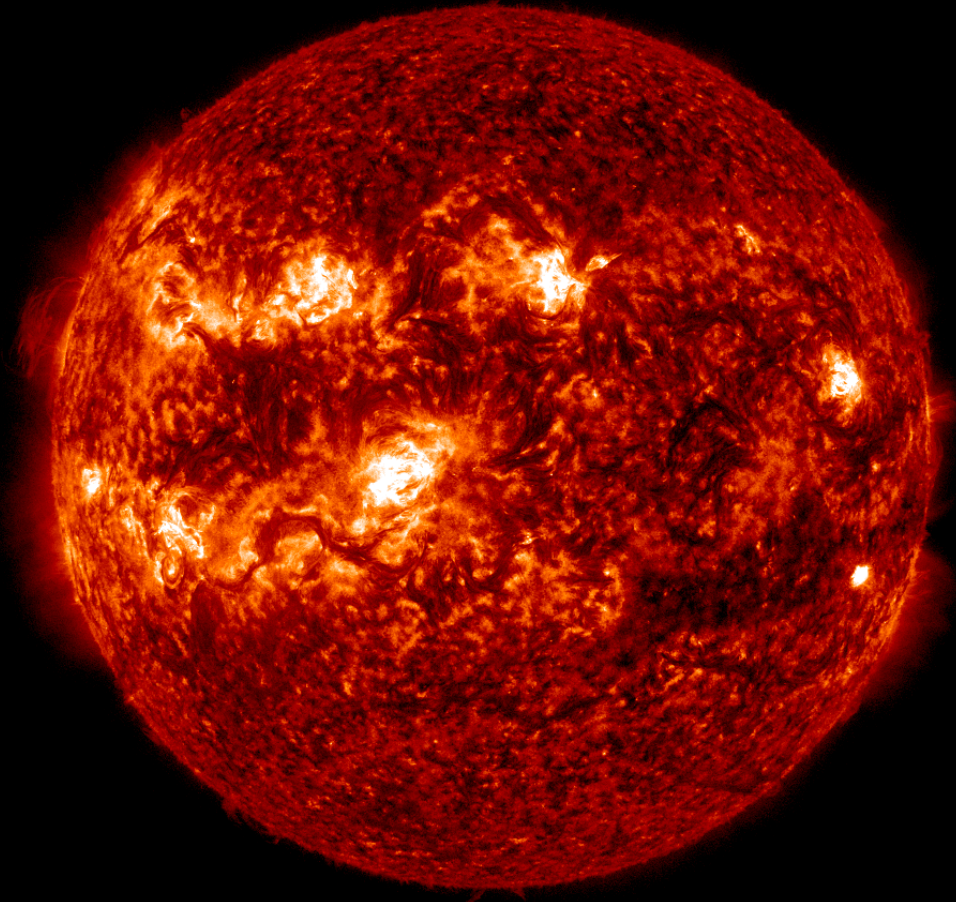
SDO/AIA AIA 193Å 2025-01-26T12:00:05.843



Filaments

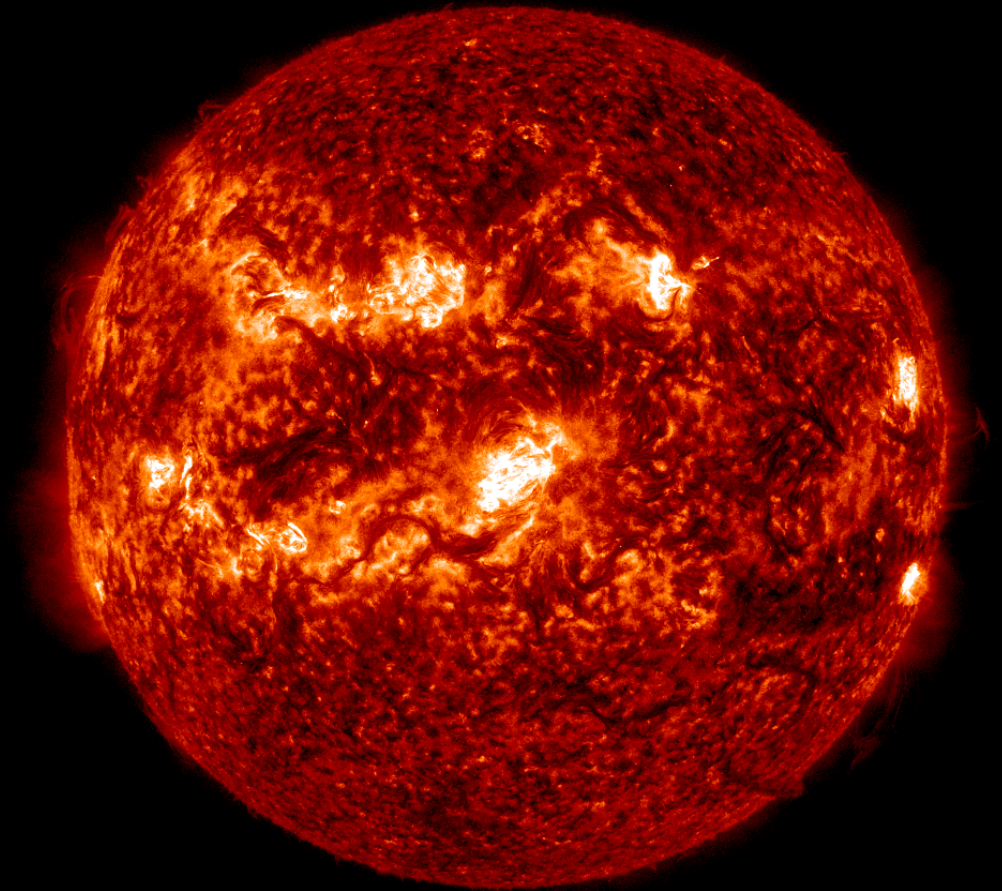
SDO/AIA 30.4 nm 2025-01-19

SDO/AIA AIA 304Å 2025-01-19T12:00:18.581



SDO/AIA 30.4 nm 2025-01-20

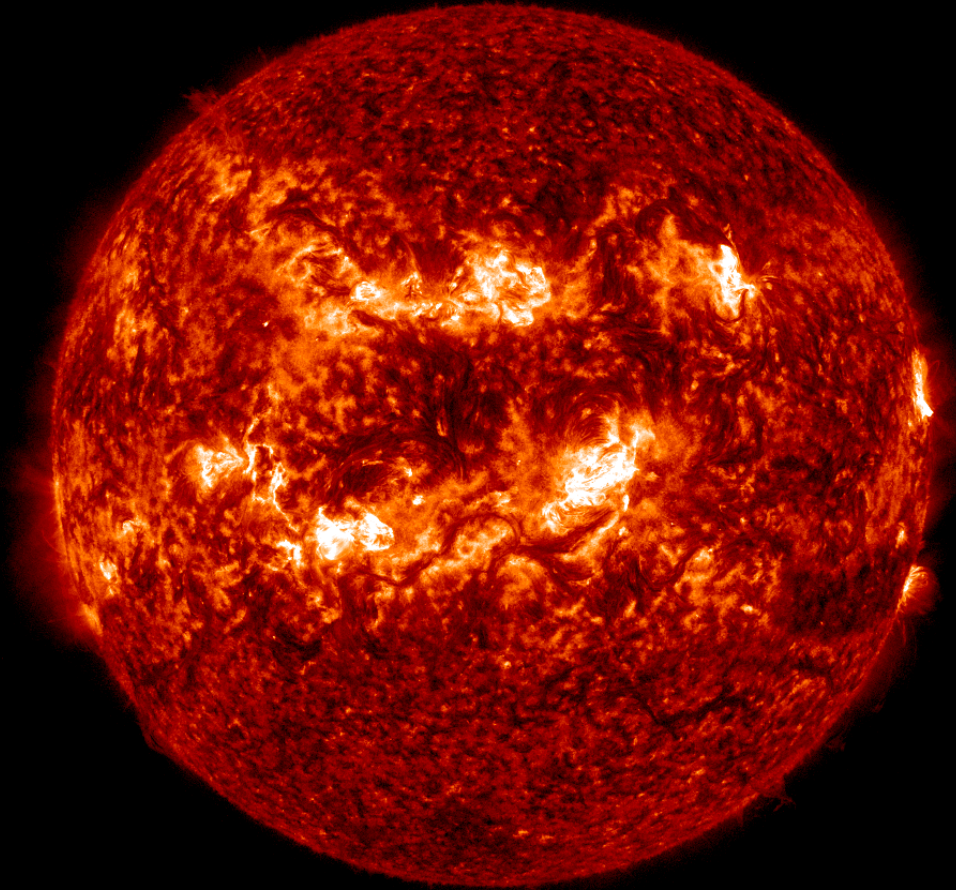
SDO/AIA AIA 304Å 2025-01-20T12:00:06.584



Filaments

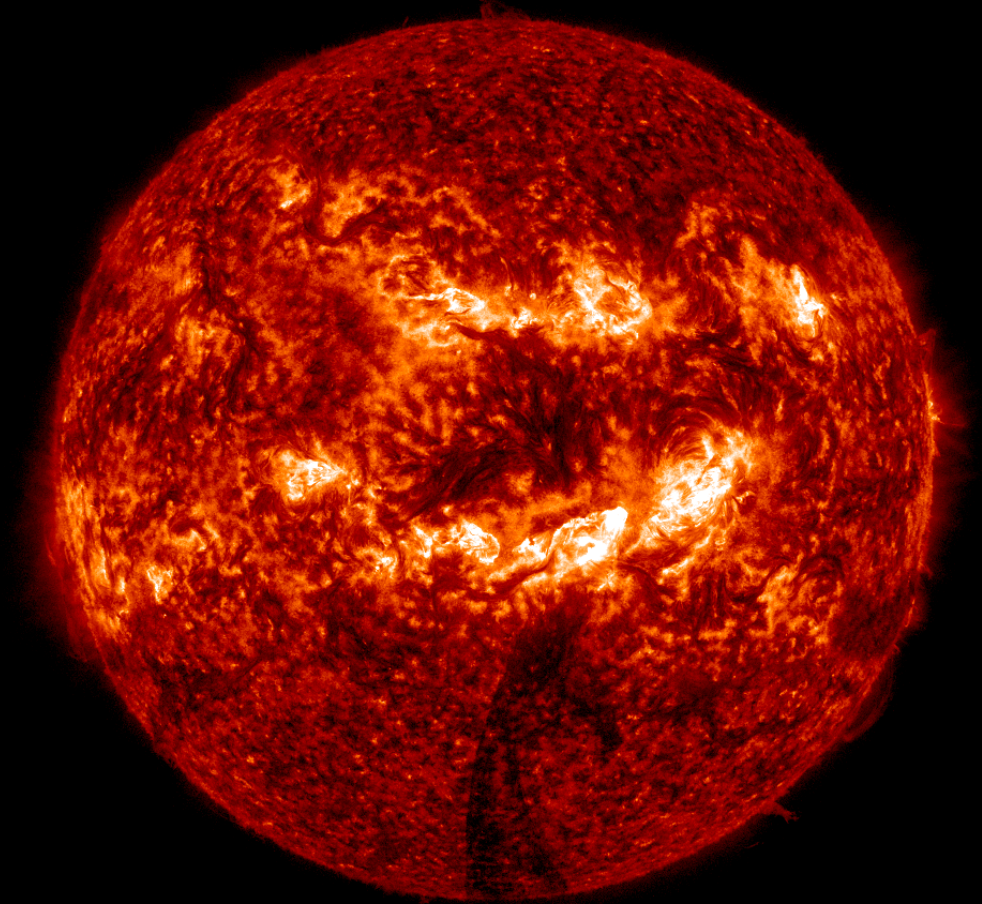
SDO/AIA 30.4 nm 2025-01-21

SDO/AIA AIA 304Å 2025-01-21T12:00:06.581



SDO/AIA 30.4 nm 2025-01-22

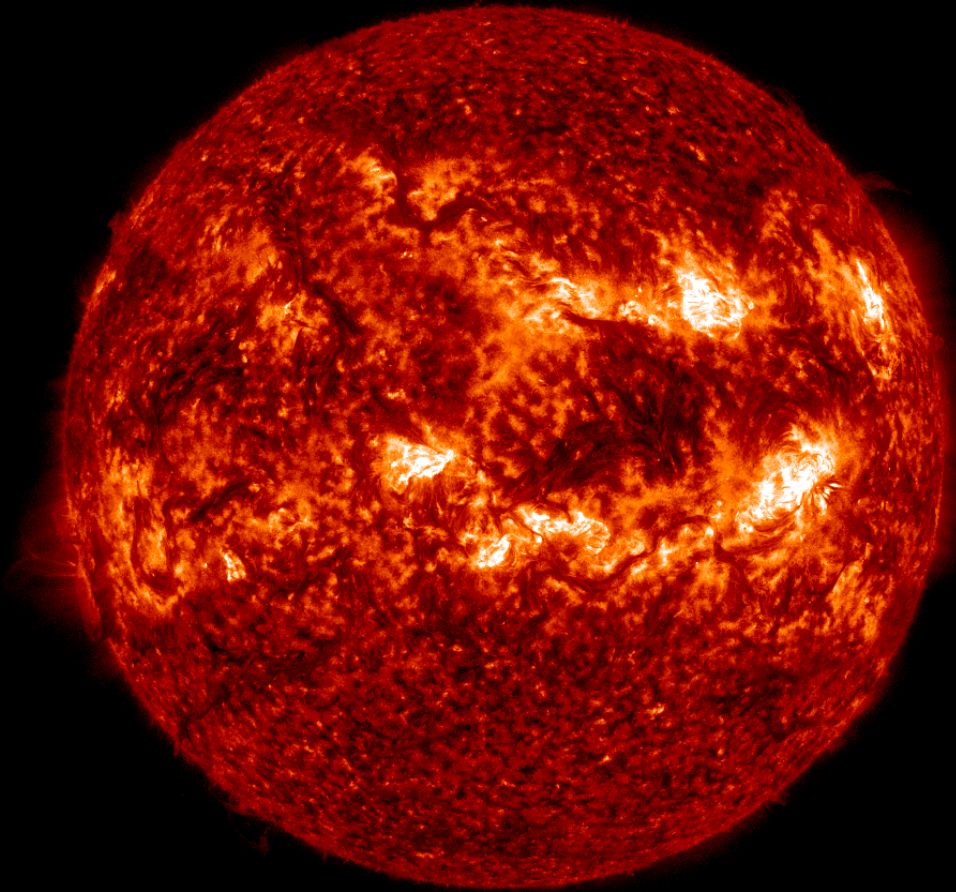
SDO/AIA AIA 304Å 2025-01-22T12:00:06.576



Filaments

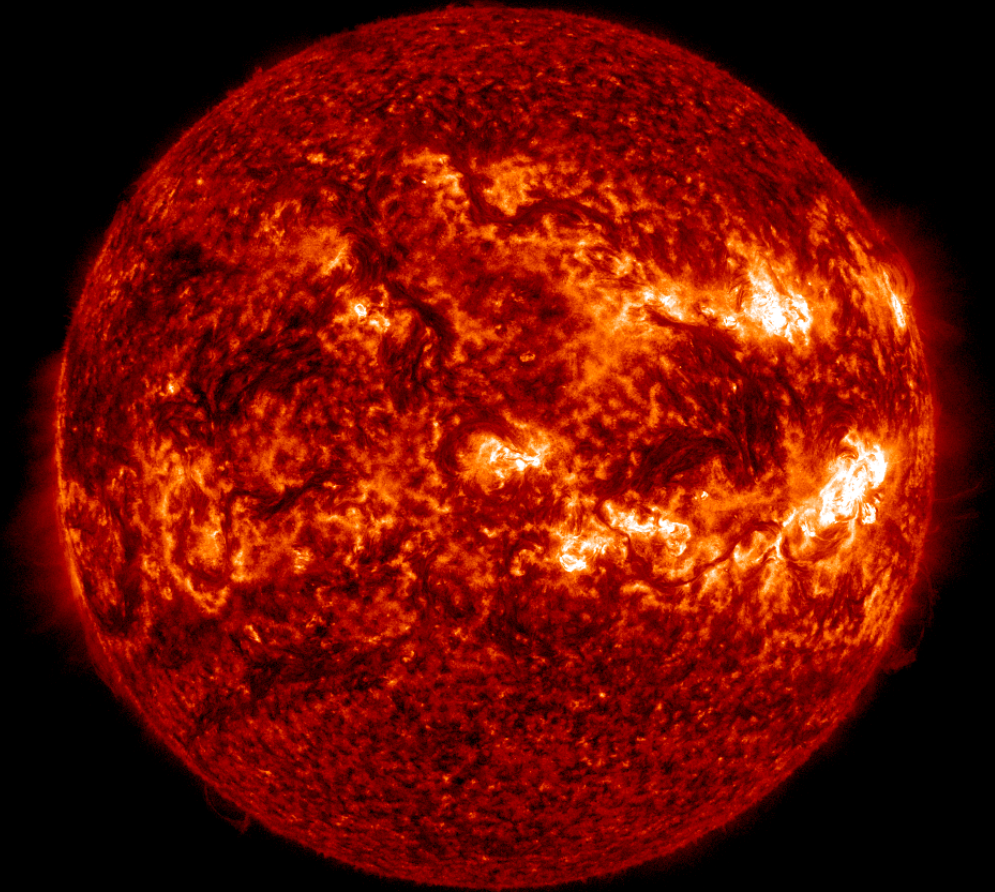
SDO/AIA 30.4 nm 2025-01-23

SDO/AIA AIA 304Å 2025-01-23T12:00:06.580



SDO/AIA 30.4 nm 2025-01-24

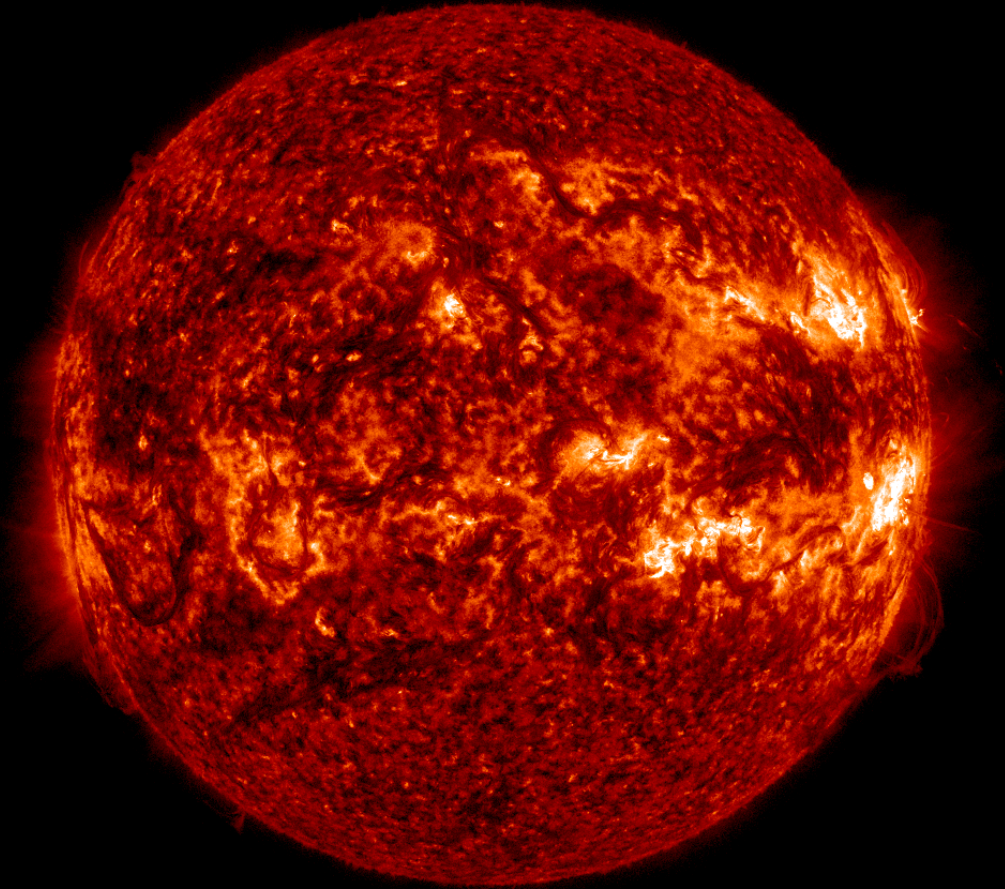
SDO/AIA AIA 304Å 2025-01-24T12:00:06.581



Filaments

SDO/AIA 30.4 nm 2025-01-25

SDO/AIA AIA 304Å 2025-01-25T12:00:06.580



SDO/AIA 30.4 nm 2025-01-26

SDO/AIA AIA 304Å 2025-01-26T12:00:06.580

