

SIDC Space Weather Briefing

14 January 2024-21 January 2024

de Patoul Judith

& the SIDC forecaster team



Royal Observatory
of Belgium

www.sidc.be

Summary Report

Solar activity from 2024-01-14 12:00 to 2024-01-21 23:59

Active regions	Many Active Regions with a very low flaring activity: NOAA AR 3539 →
Flares	# C-class flare: 36 # M-class flare: 0 # X-class flare: 0
Coronal Holes	Two small Coronal Holes crossed the central meridian
CMEs	Two halo CMEs at the end of the week

Proton flux	At background level
Electron flux	At normal level

Solar wind and geomagnetic conditions

ICMEs	None
Solar wind conditions	B : 0.65 - 9.97 nT //Bz: -6.88 nT to 6.84 nT // Speed: 290.6 - 500.0km/s
Geomagnetic conditions	max KBel: 3, max Kp(NOAA): 3, Quiet conditions

All Quiet Alert: Not quiet for the week, due to several C-class flares.

Solar Activity

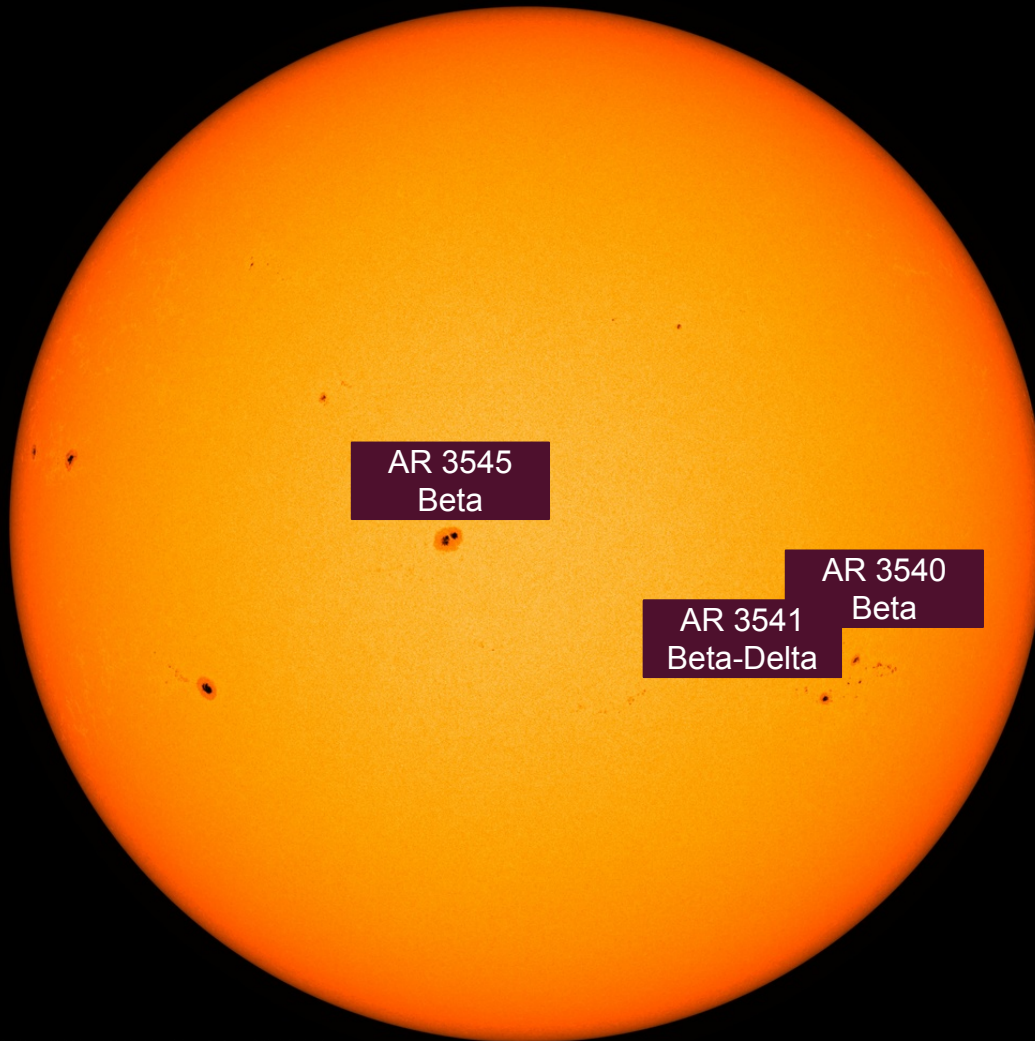


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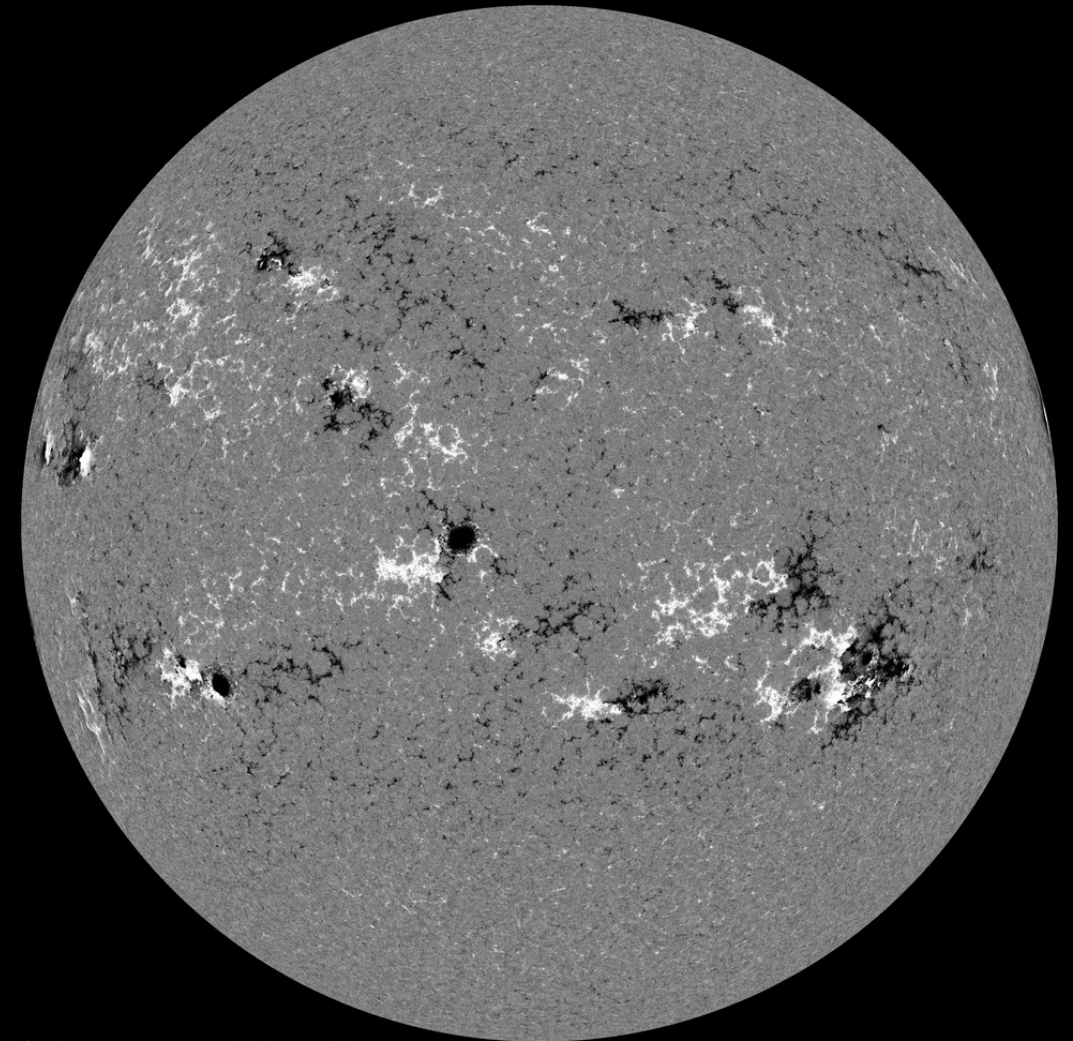
Solar active regions

SDO/HMI White Light 2024-01-14



SDO/HMI Quick-Look Continuum: 20240114_114500

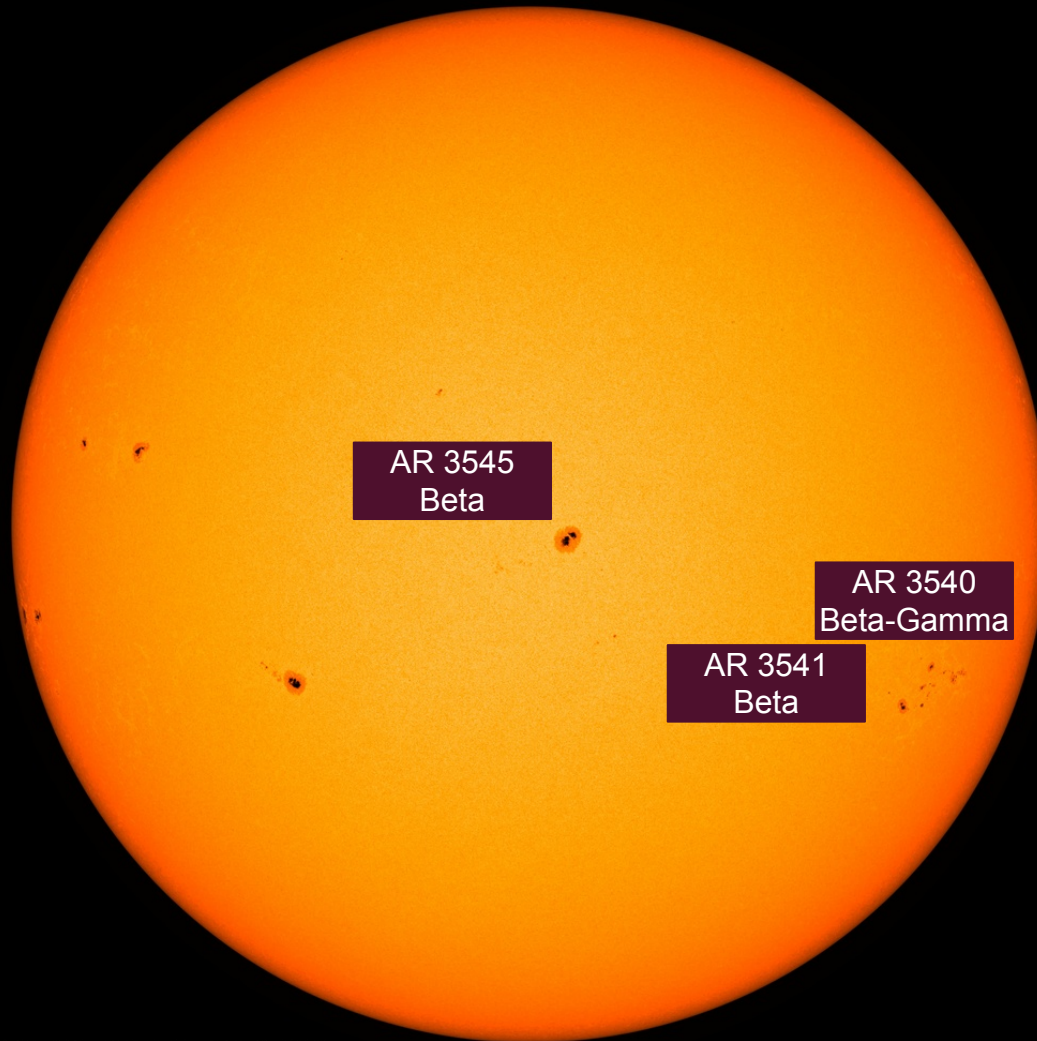
SDO/HMI Magnetogram 2024-01-14



SDO/HMI Quick-Look Magnetogram: 20240114_114500

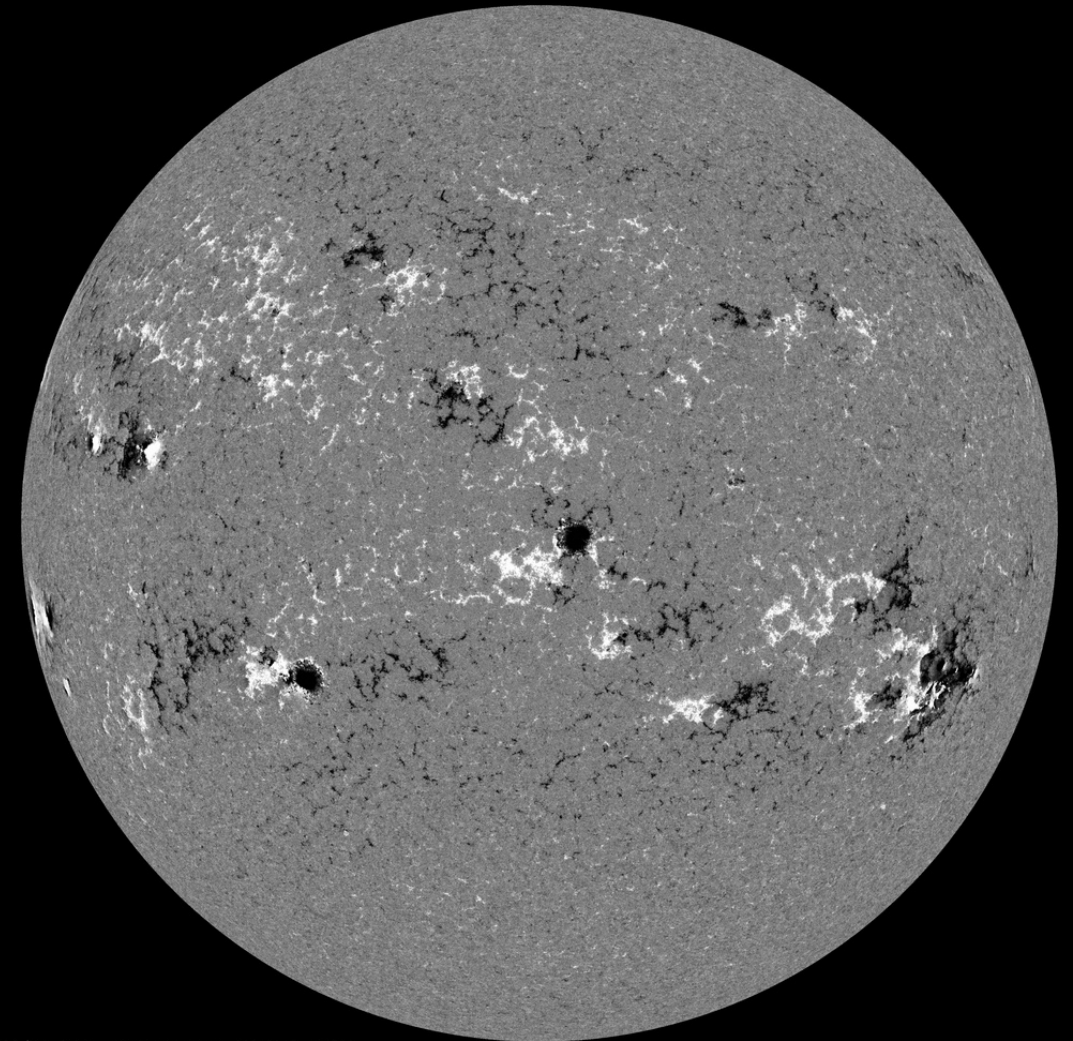
Solar active regions

SDO/HMI White Light 2024-01-15



SDO/HMI Quick-Look Continuum: 20240115_114500

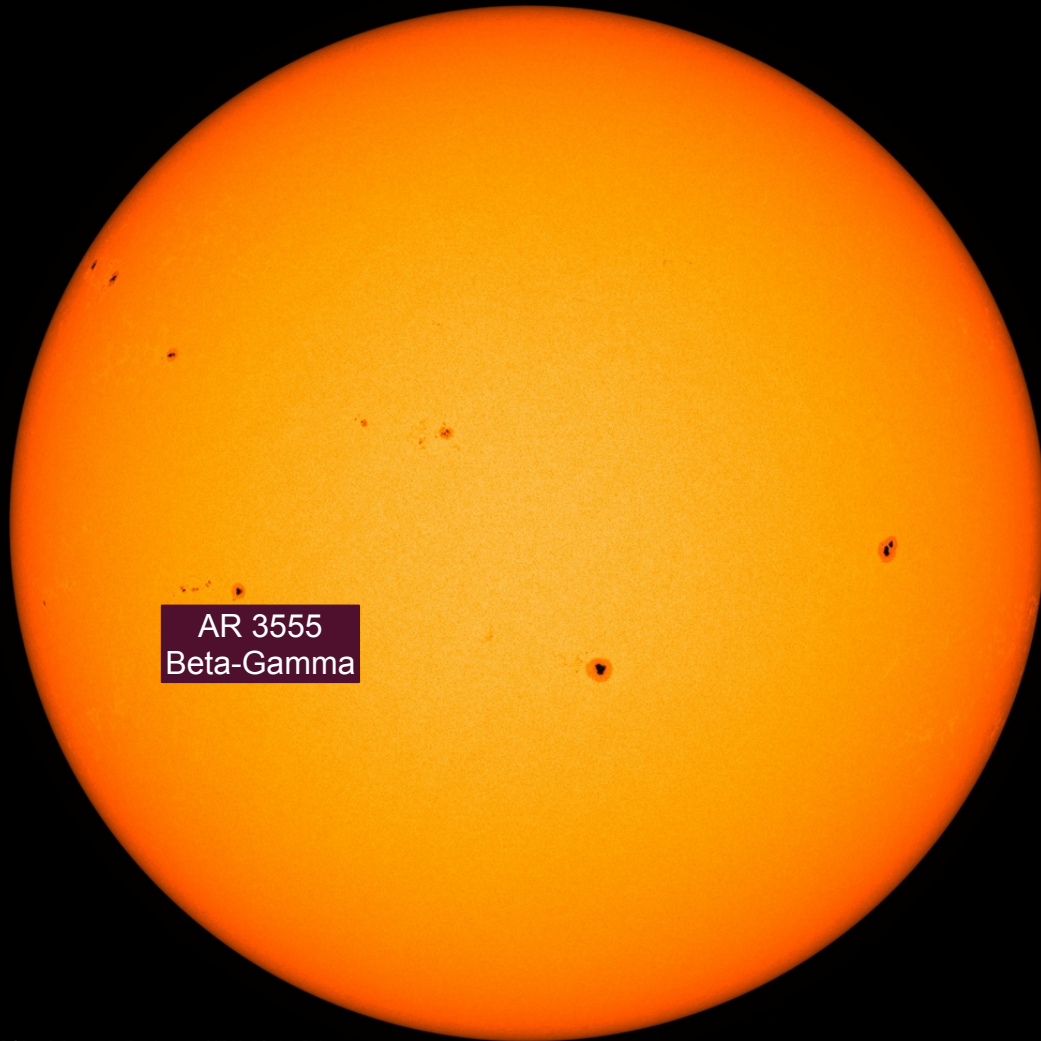
SDO/HMI Magnetogram 2024-01-15



SDO/HMI Quick-Look Magnetogram: 20240115_114500

Solar active regions

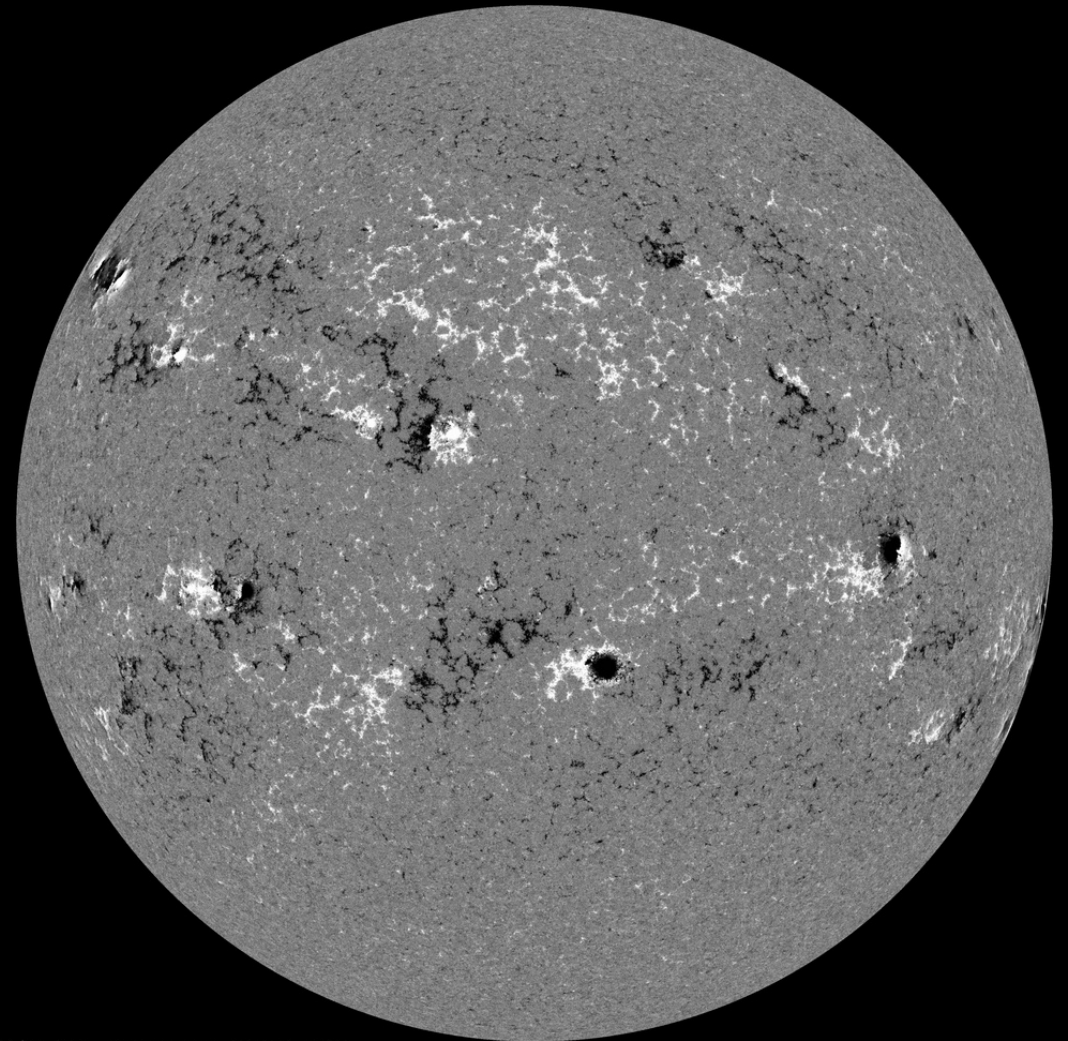
SDO/HMI White Light 2024-01-18



AR 3555
Beta-Gamma

SDO/HMI Quick-Look Continuum: 20240118_114500

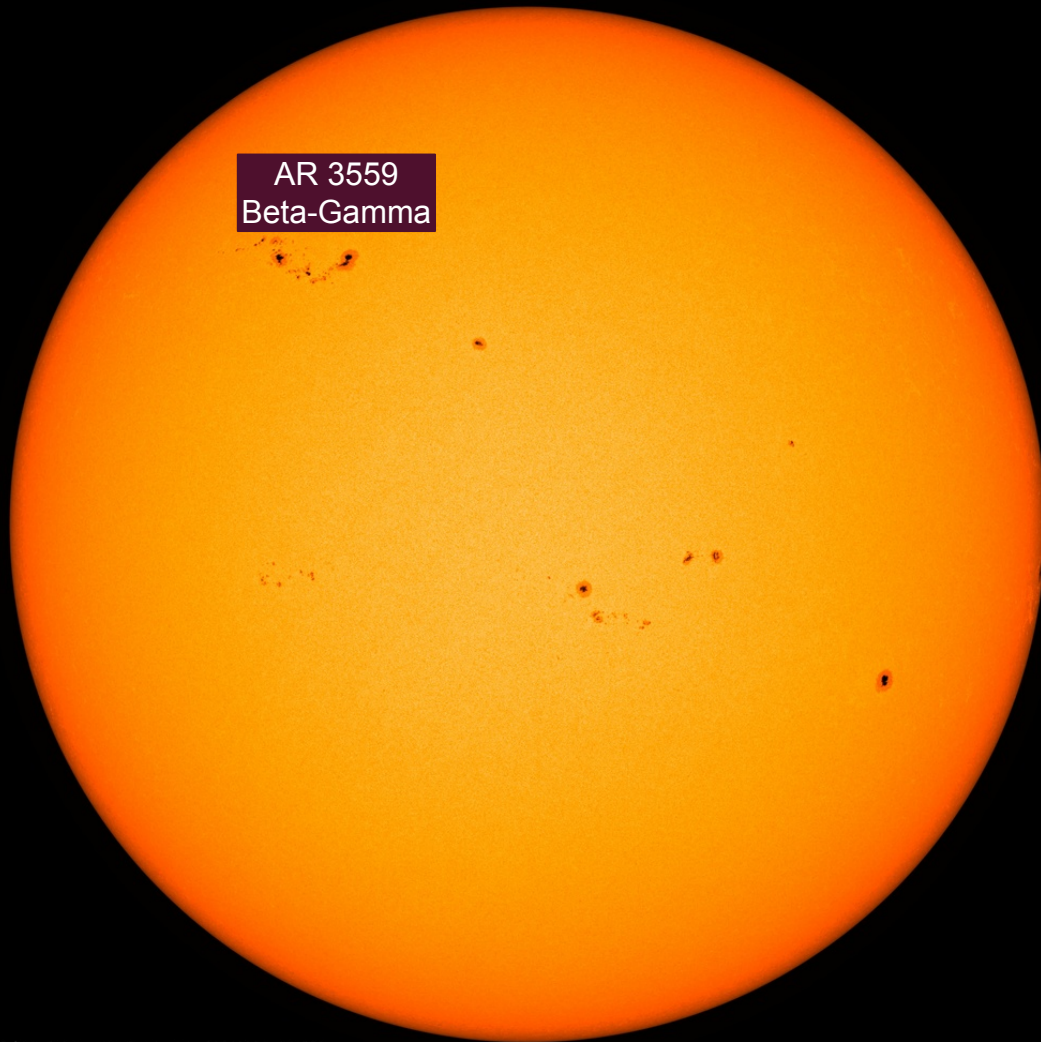
SDO/HMI Magnetogram 2024-01-18



SDO/HMI Quick-Look Magnetogram: 20240118_114500

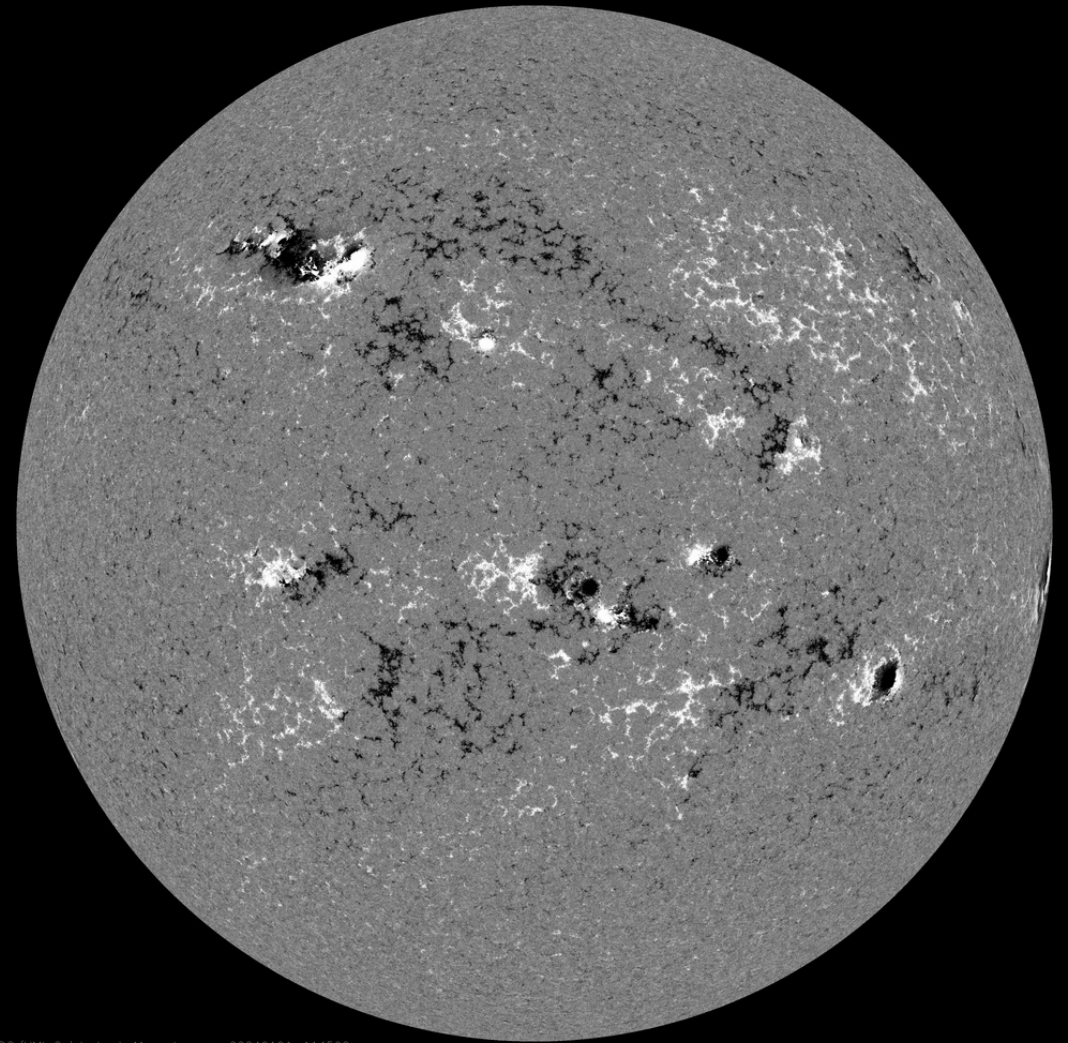
Solar active regions

SDO/HMI White Light 2024-01-21



SDO/HMI Quick-Look Continuum: 20240121_114500

SDO/HMI Magnetogram 2024-01-21

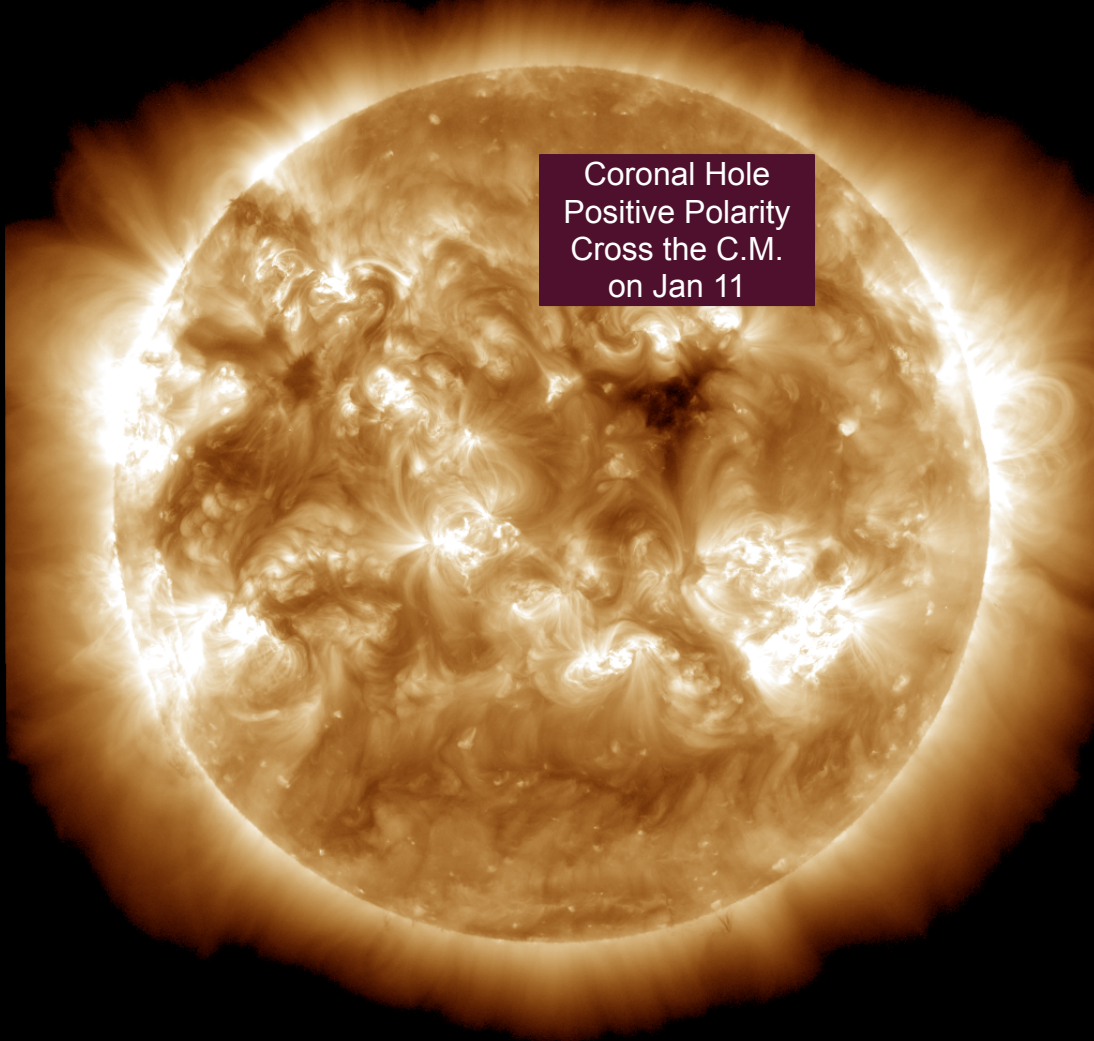


SDO/HMI Quick-Look Magnetogram: 20240121_114500

Coronal holes

SDO/AIA 19.3 nm 2024-01-14

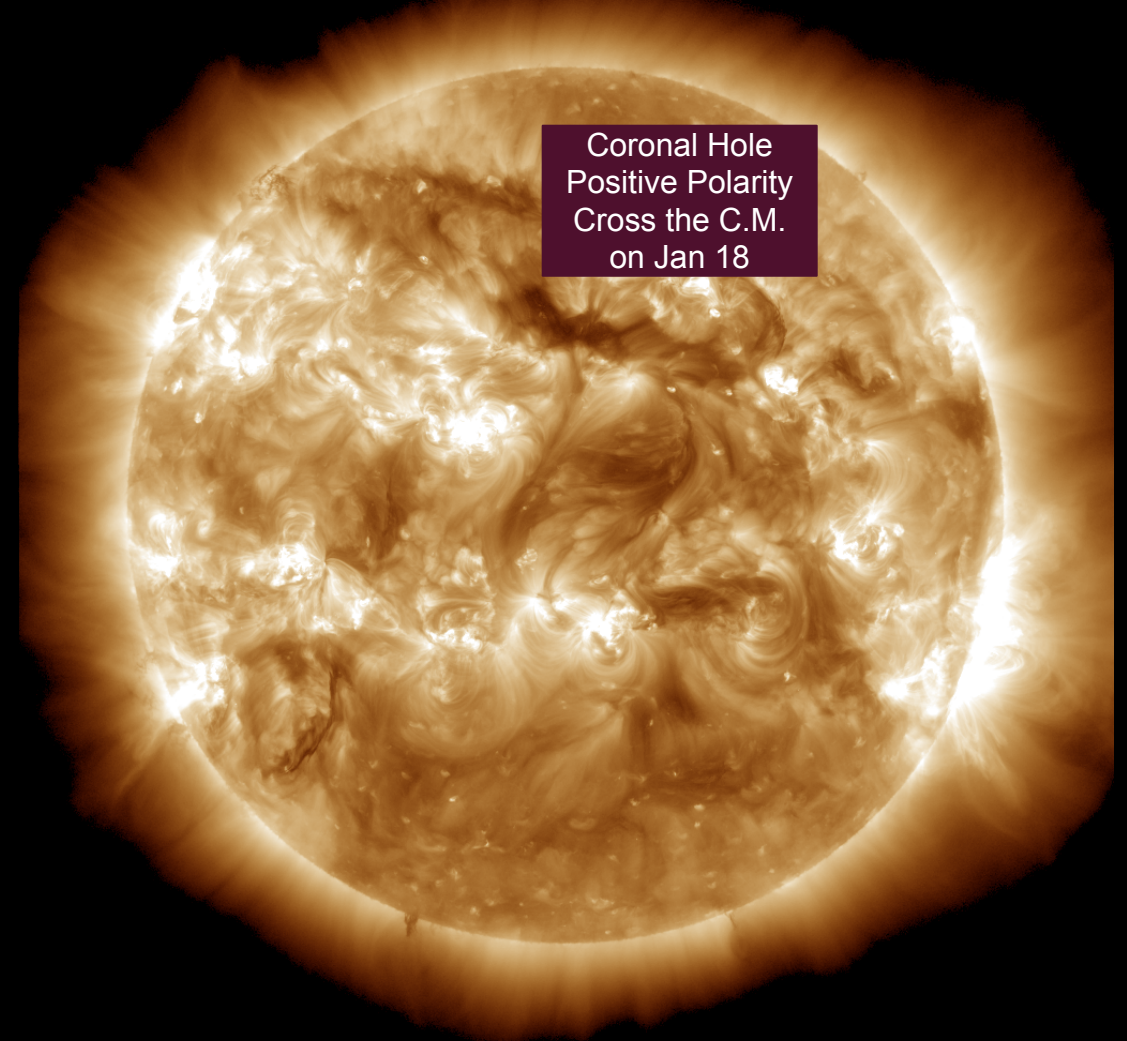
SDO/AIA AIA 193Å 2024-01-14T12:00:05.843



Coronal Hole
Positive Polarity
Cross the C.M.
on Jan 11

SDO/AIA 19.3 nm 2024-01-18

SDO/AIA AIA 193Å 2024-01-18T12:00:05.843



Coronal Hole
Positive Polarity
Cross the C.M.
on Jan 18

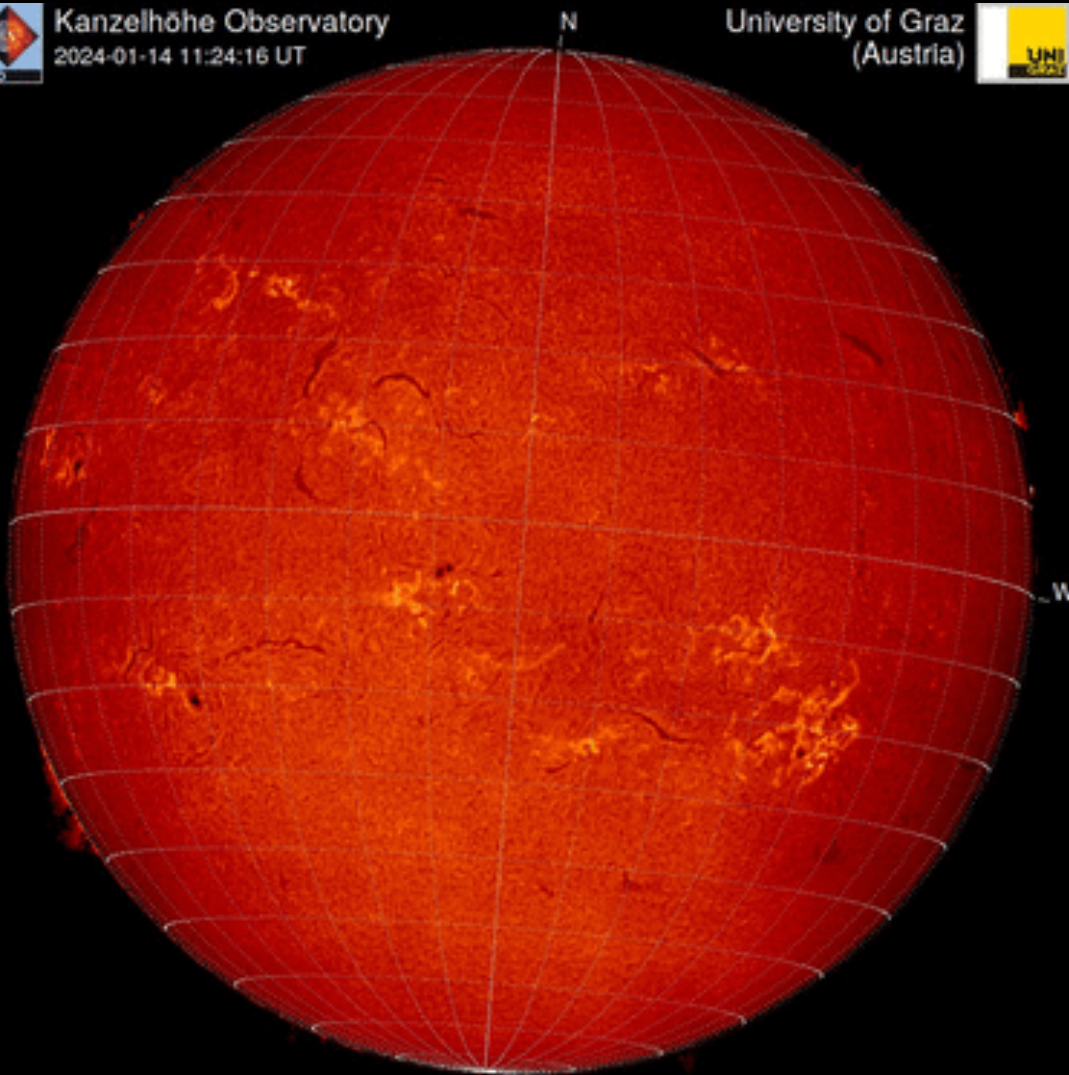
Filaments & Filament eruptions

H-alpha 2024-01-14



Kanzelhöhe Observatory
2024-01-14 11:24:16 UT

University of Graz
(Austria)

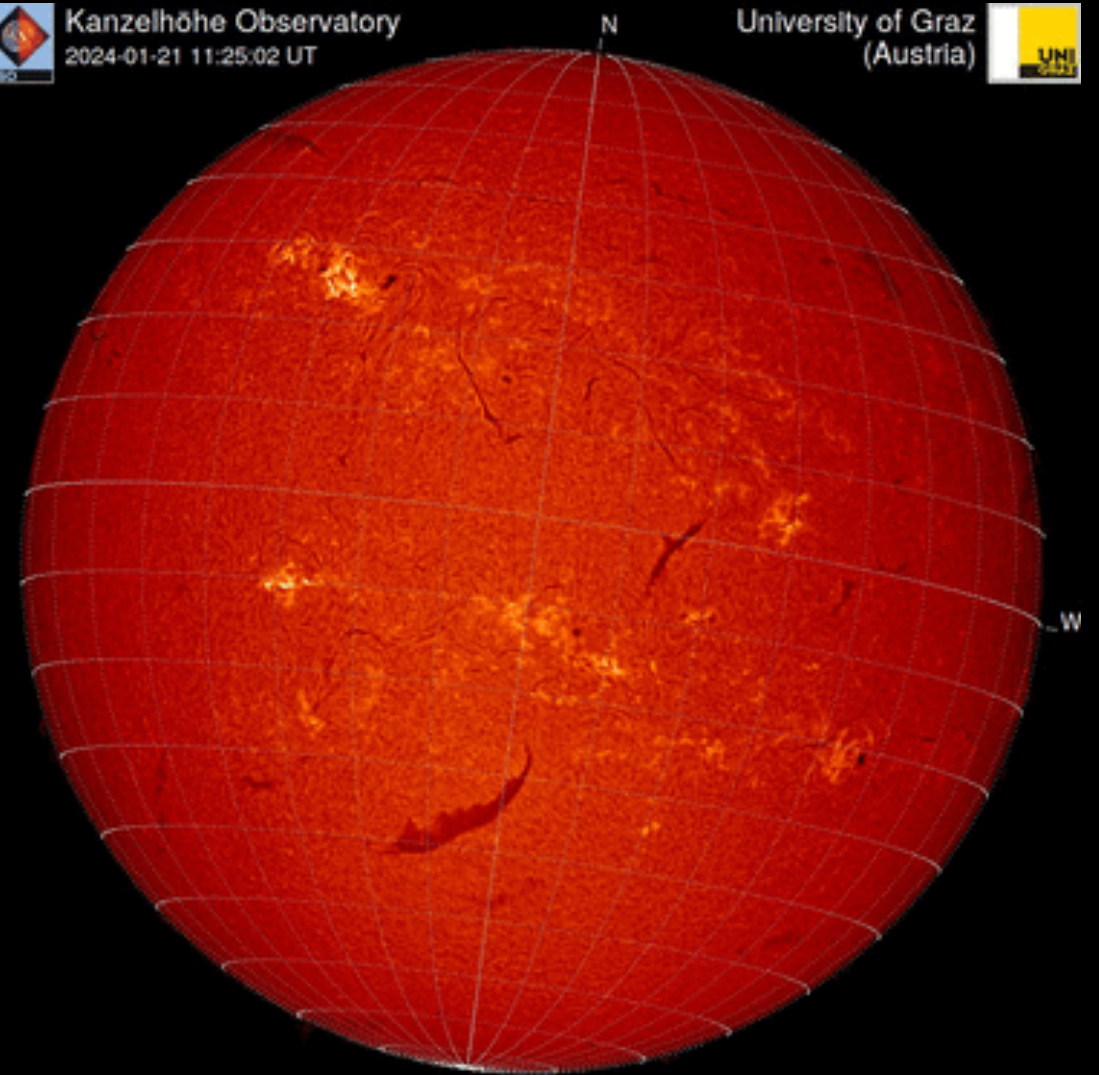


H-alpha 2024-01-21

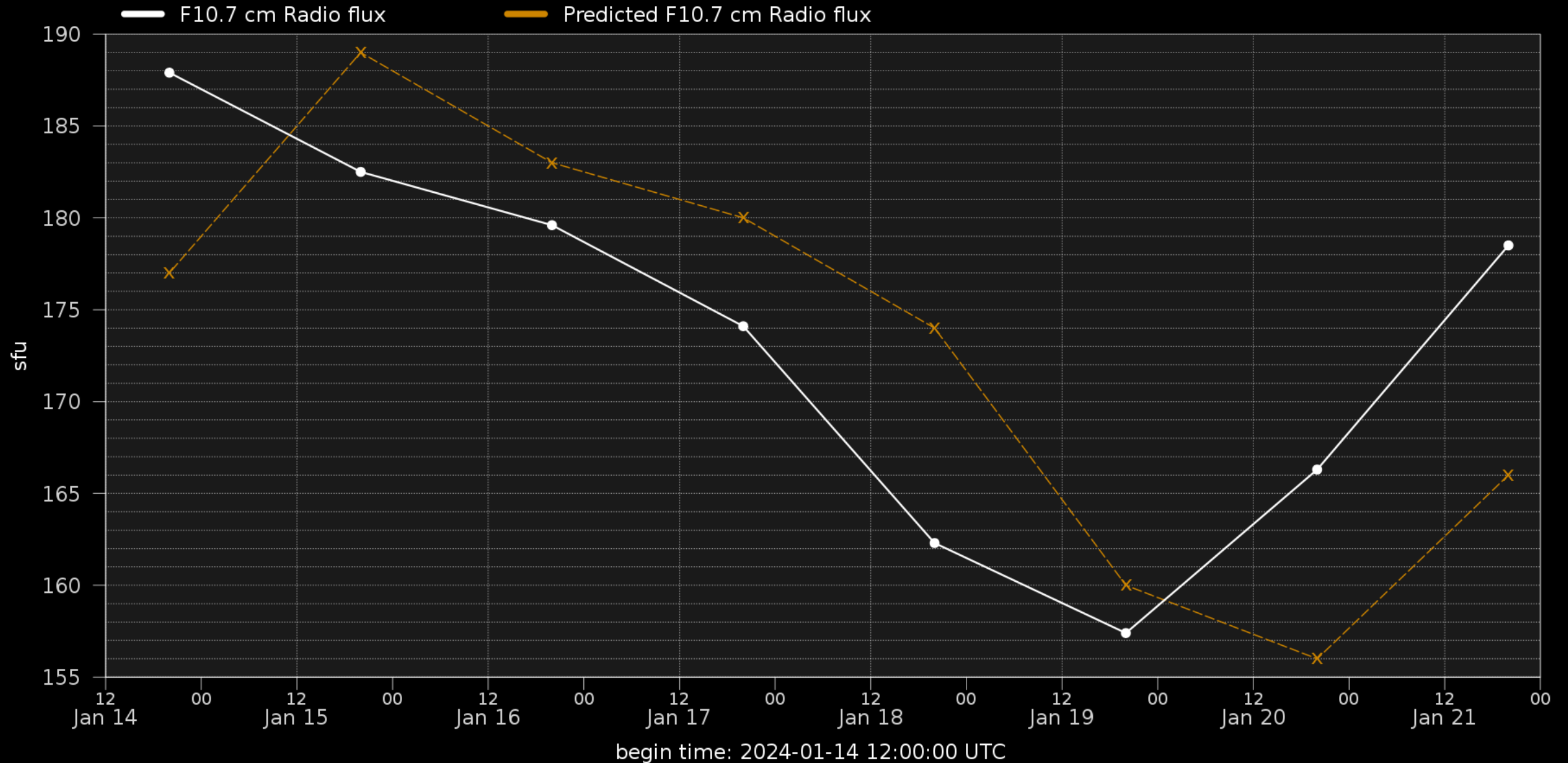


Kanzelhöhe Observatory
2024-01-21 11:25:02 UT

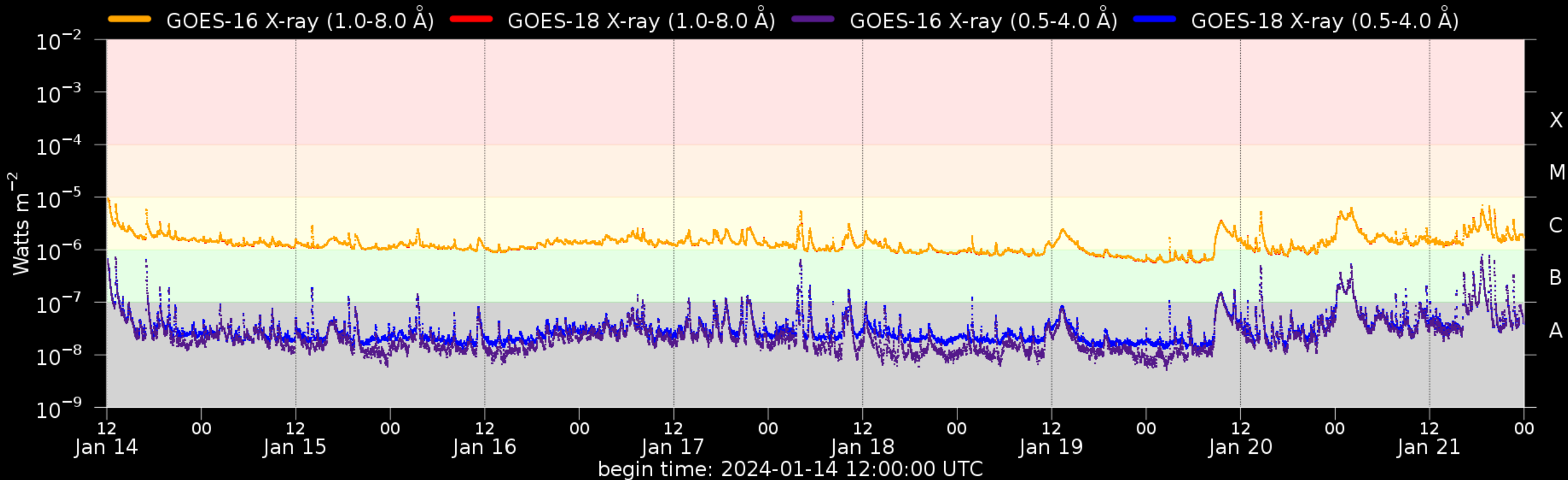
University of Graz
(Austria)



Solar F10.7cm radio flux



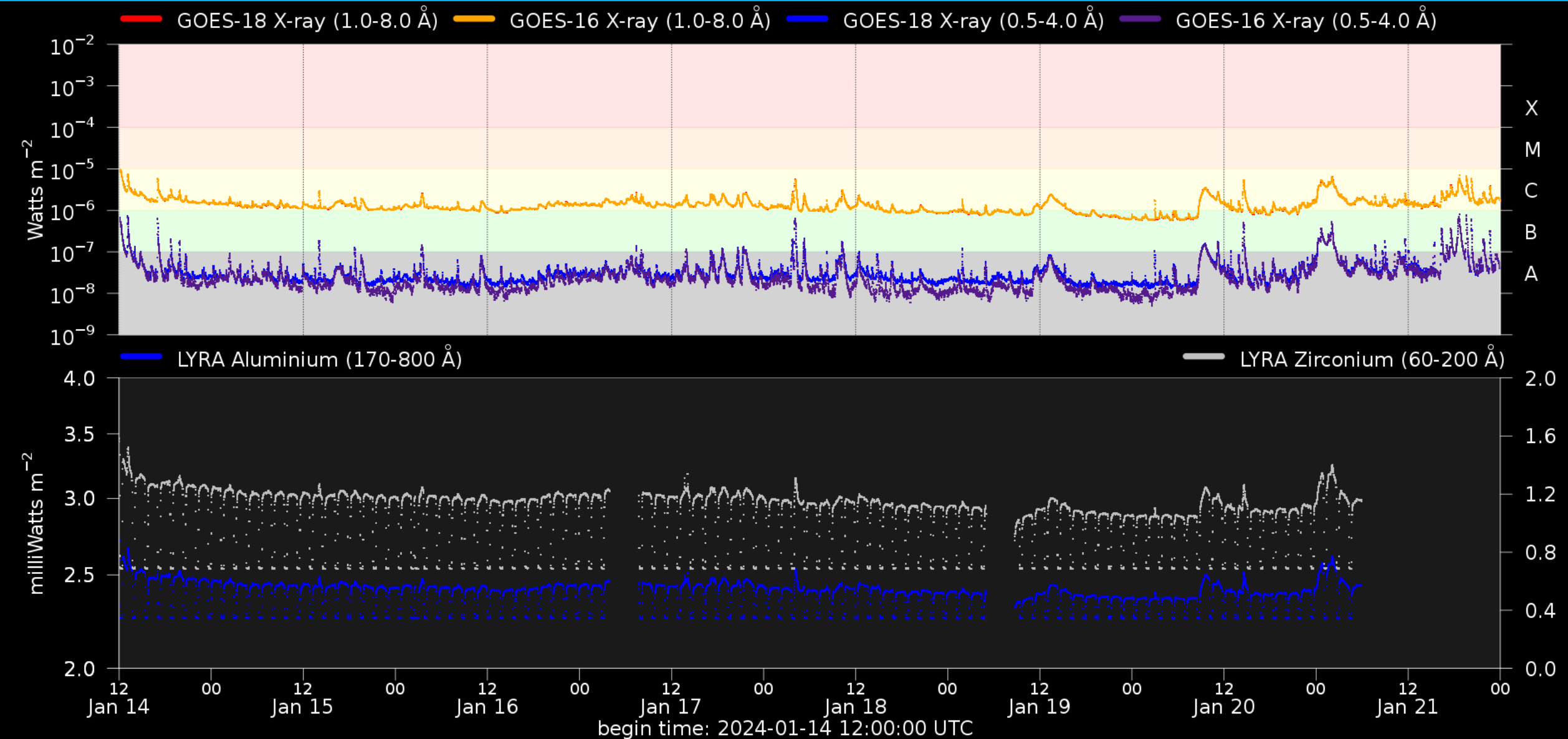
Flaring activity



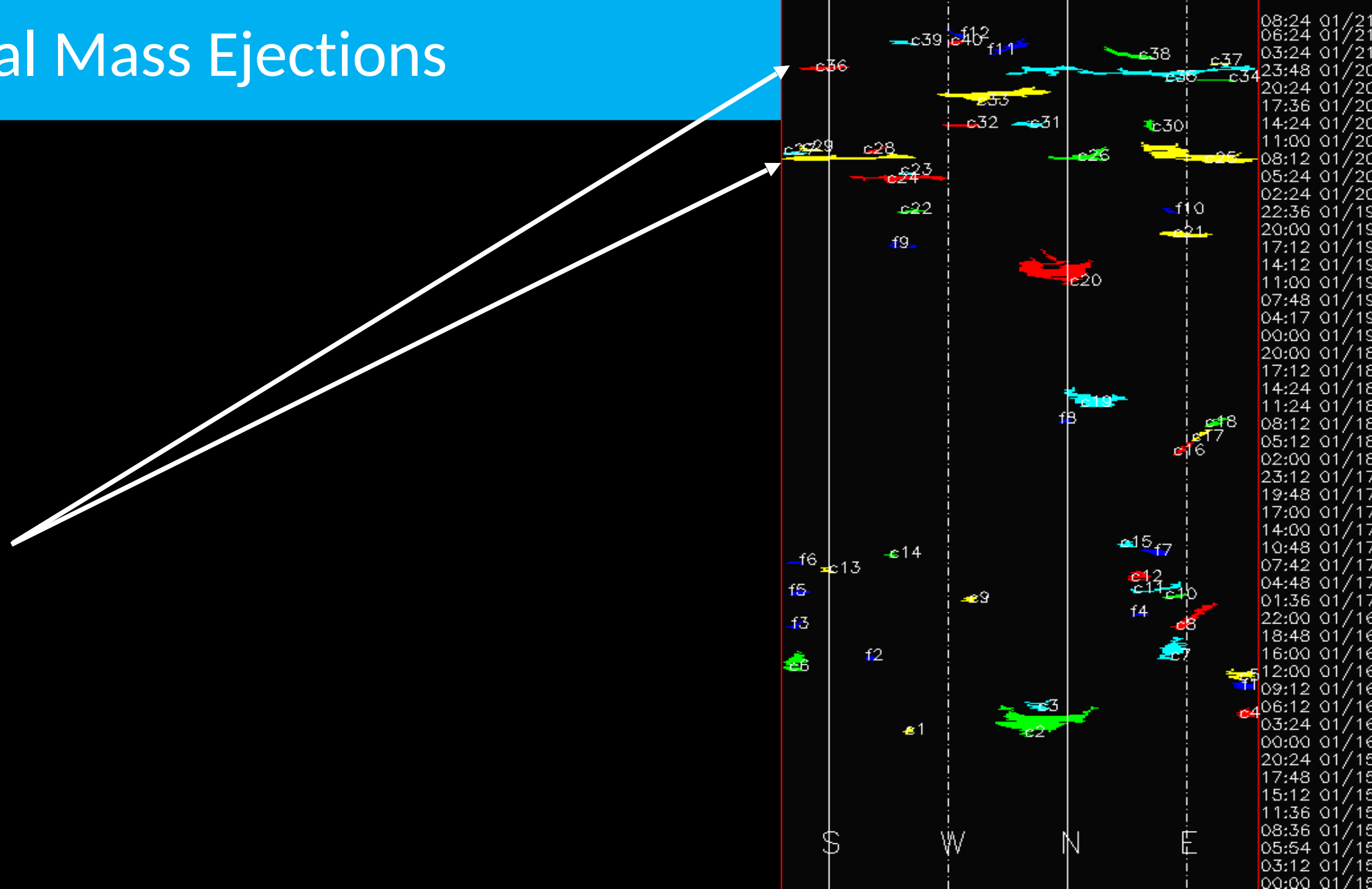
Probabilities (%) and occurrences (#) of C/M/X-flares daily, from noon to noon:

Issue date	2024-01-14	2024-01-15	2024-01-16	2024-01-17	2024-01-18	2024-01-19	2024-01-20	2024-01-21
Probability (%)	99 55 10	99 25 05	95 10 05	95 10 05	95 10 01	95 05 01	80 05 01	90 05 01
Observed (#)	06 00 00	04 00 00	02 00 00	07 00 00	01 00 00	01 00 00	07 00 00	08 00 00

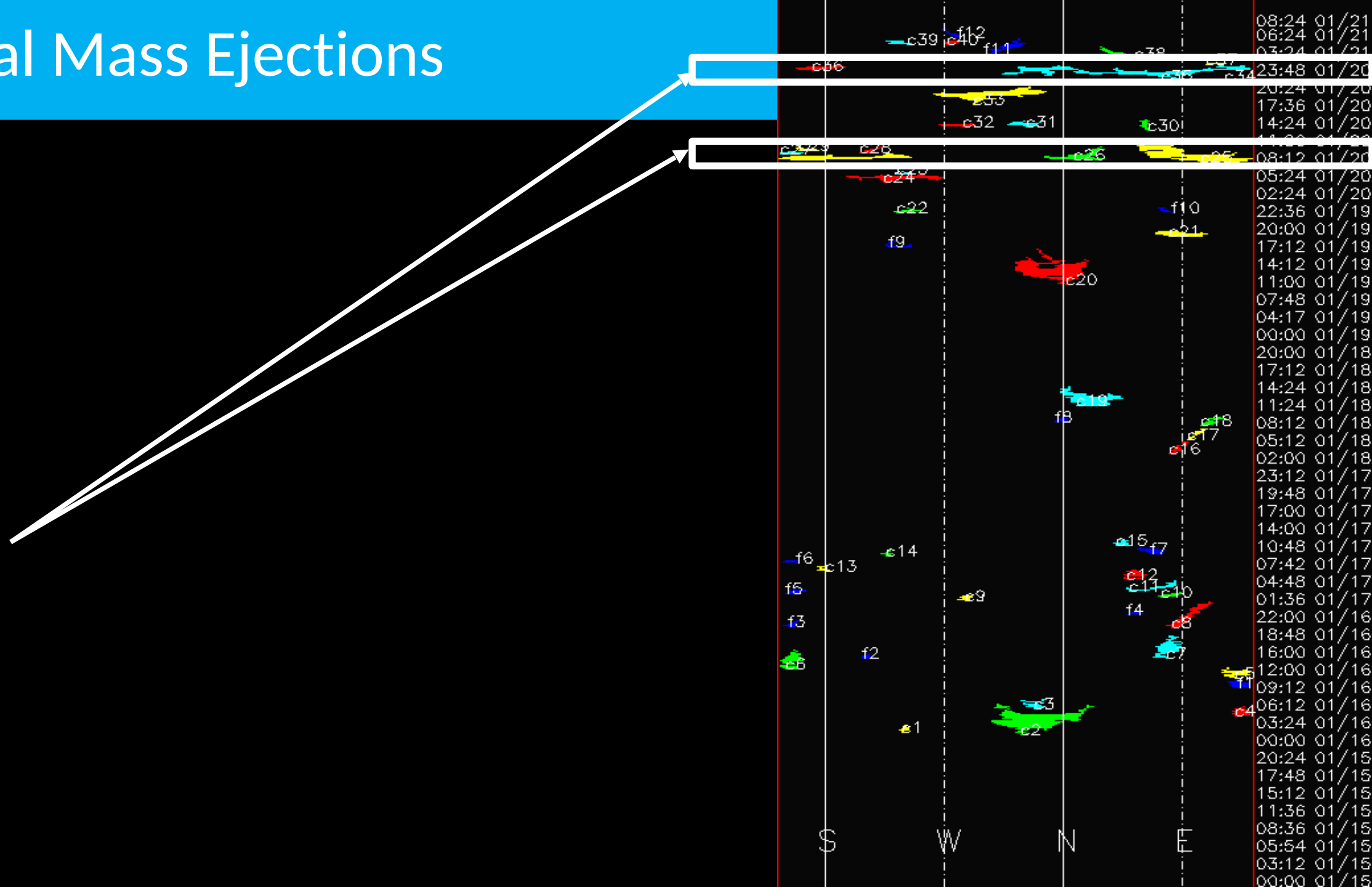
Solar X-Ray and UV flux



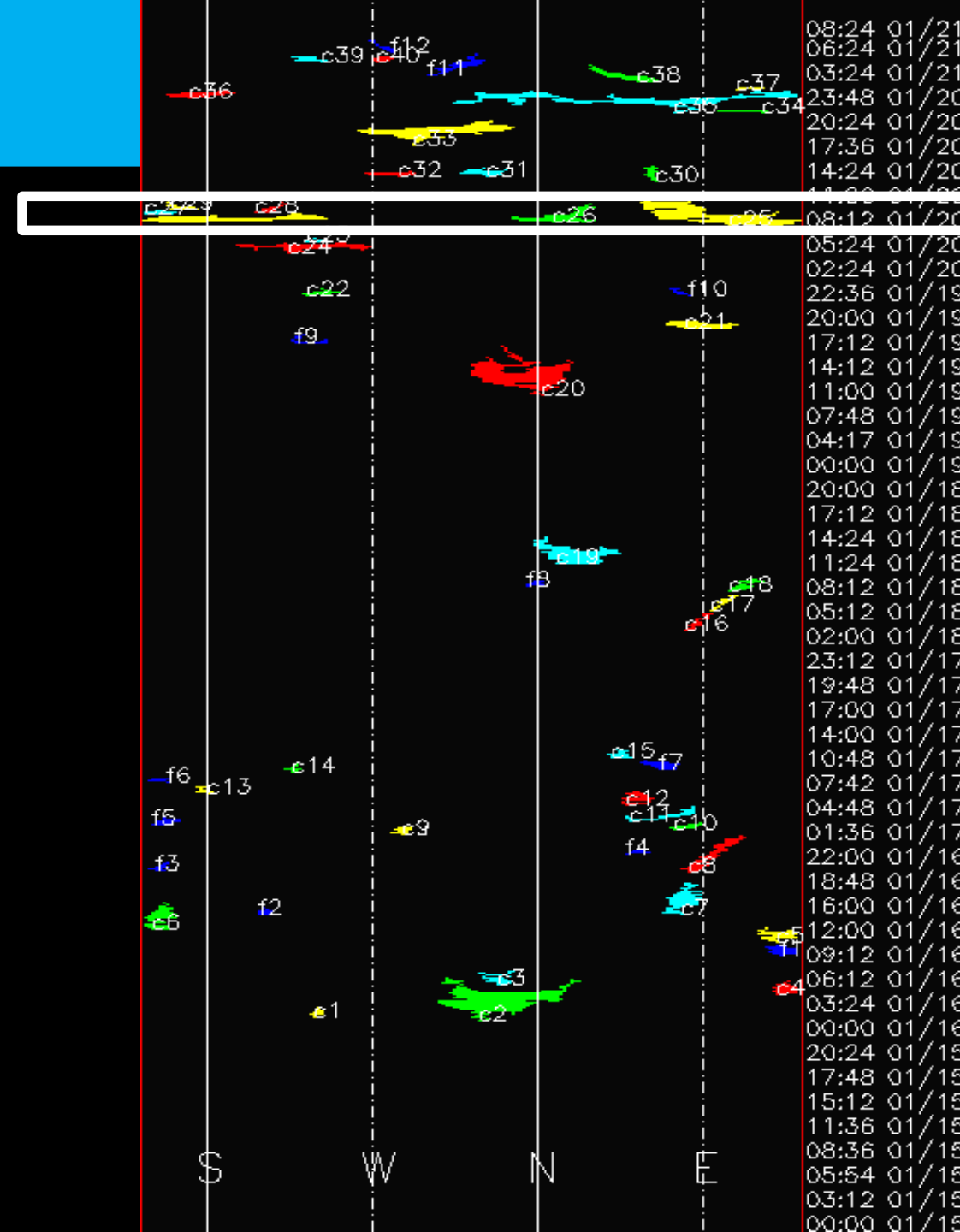
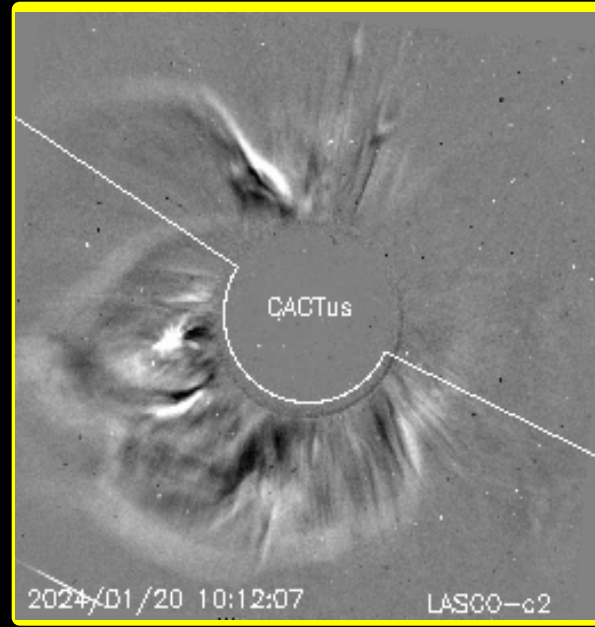
Coronal Mass Ejections



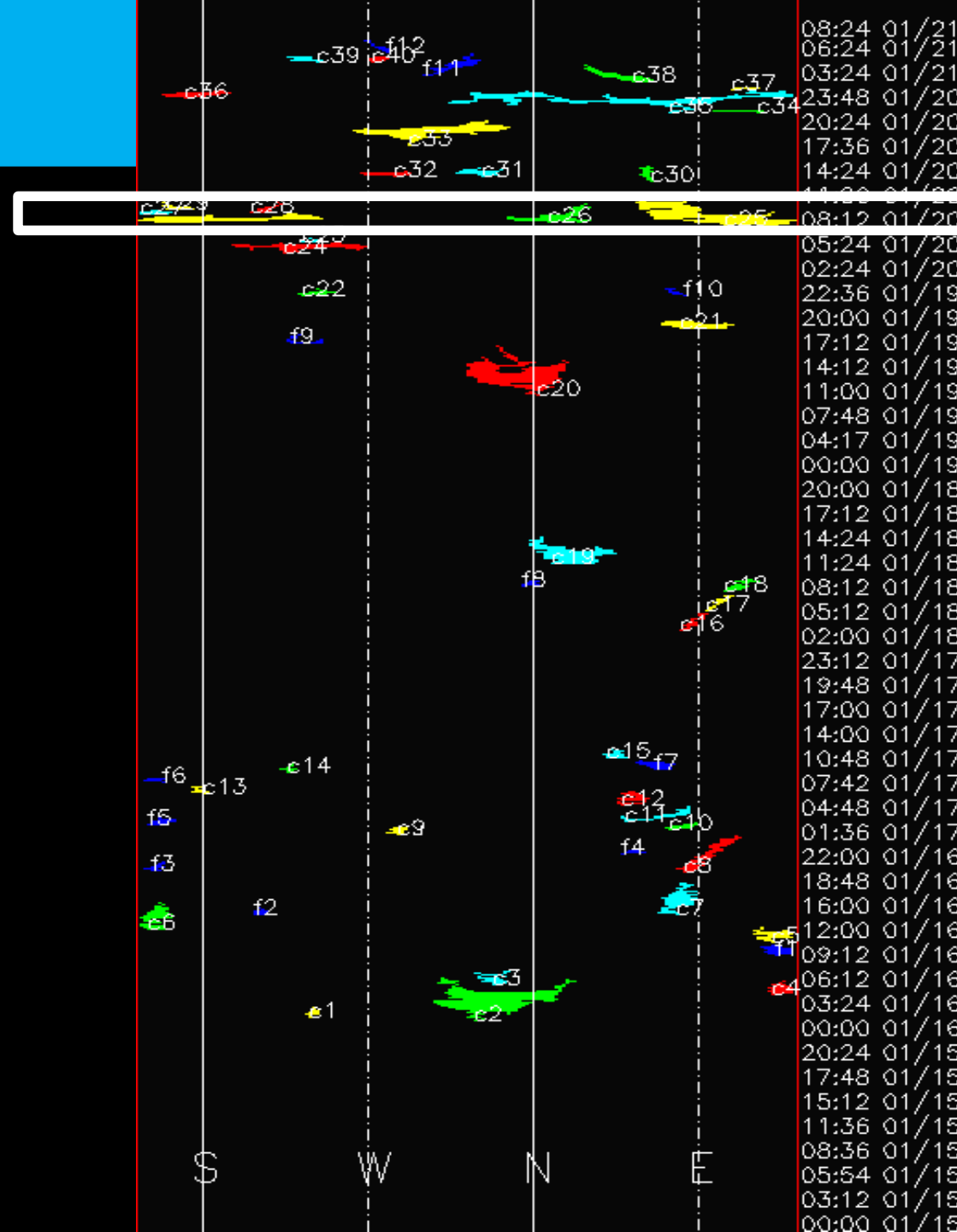
Coronal Mass Ejections



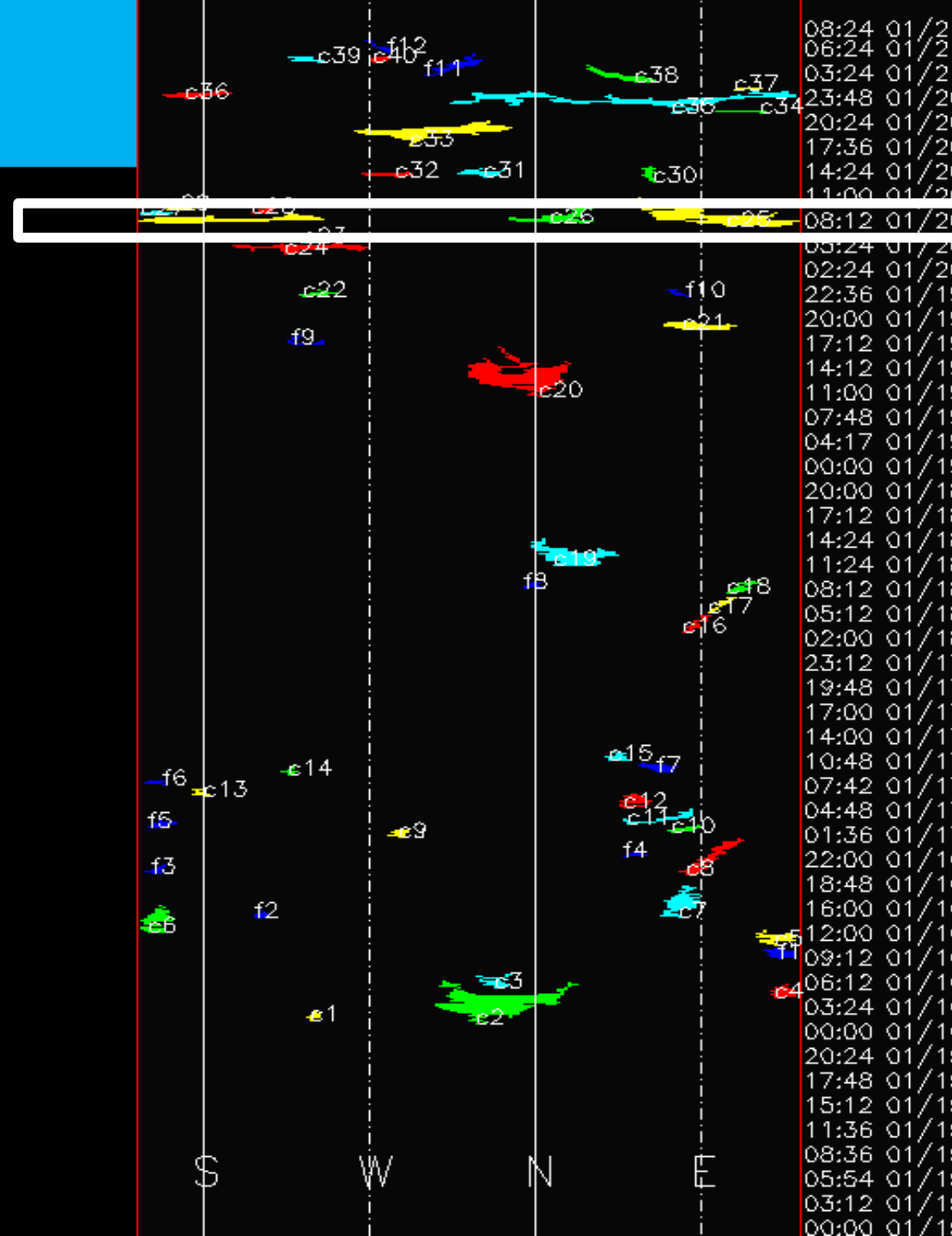
Coronal Mass Ejections



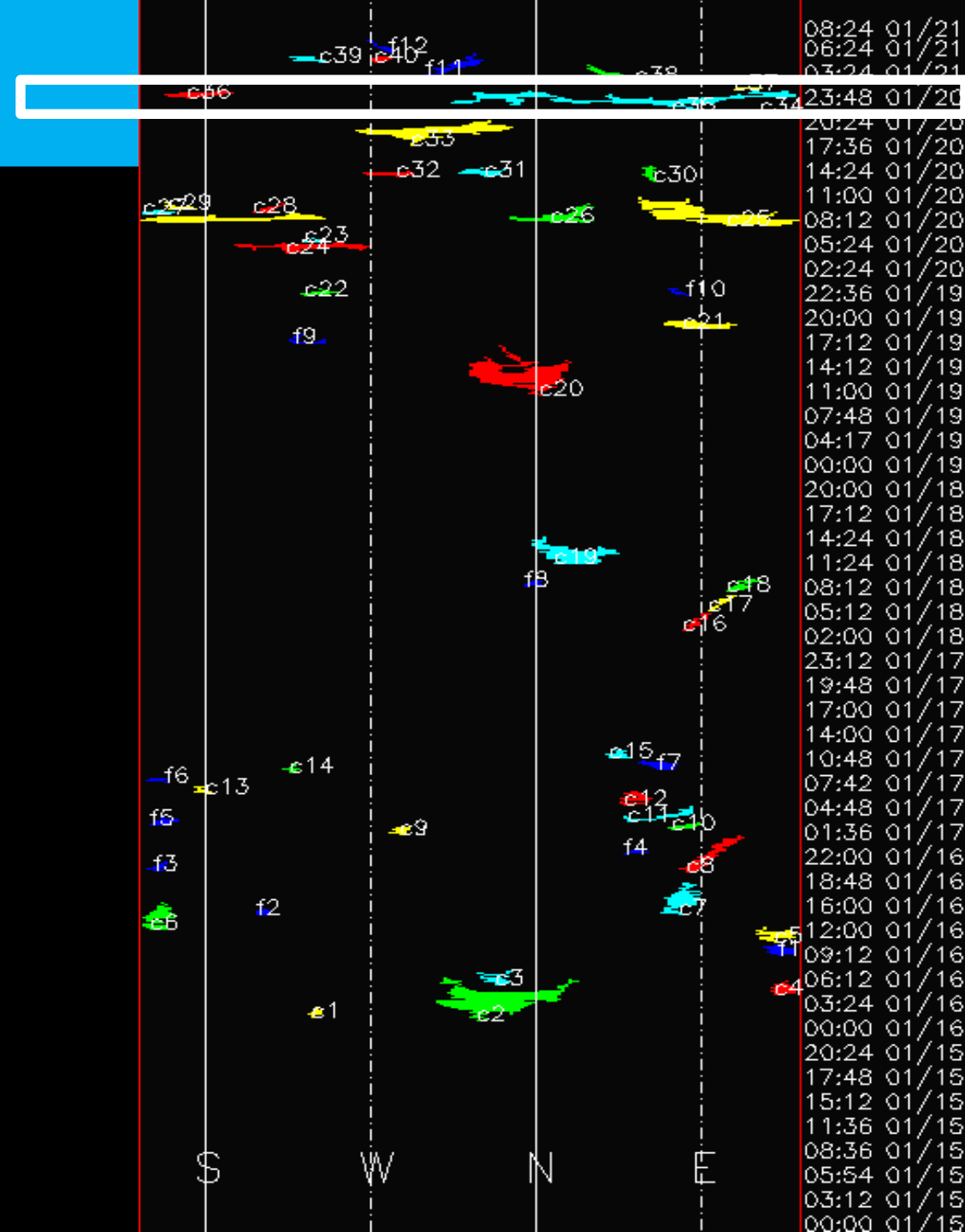
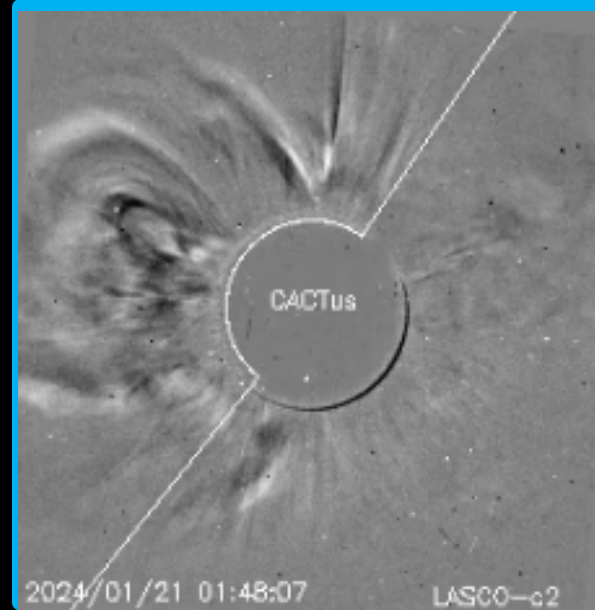
Coronal Mass Ejections



Coronal Mass Ejections



Coronal Mass Ejections



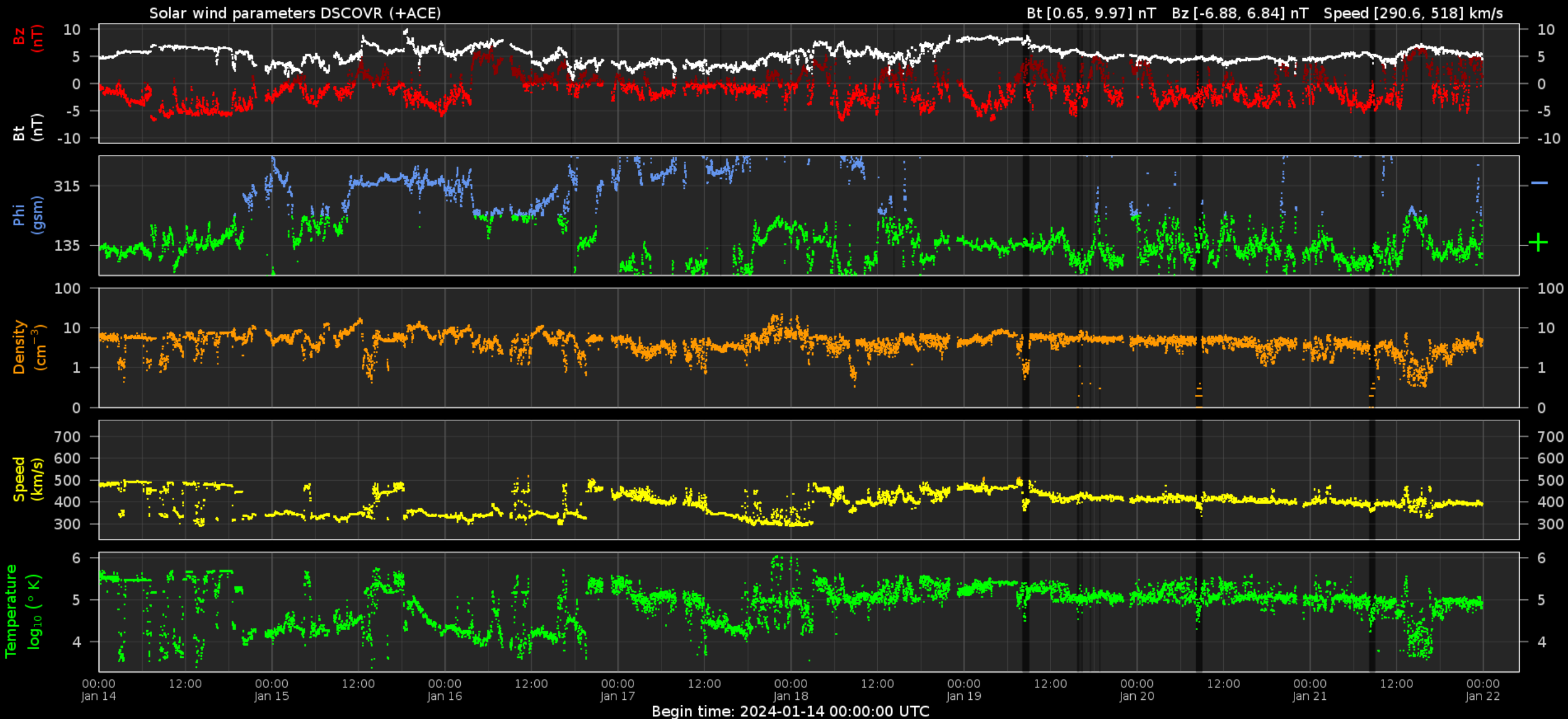
Solar Wind and Geomagnetic Activity



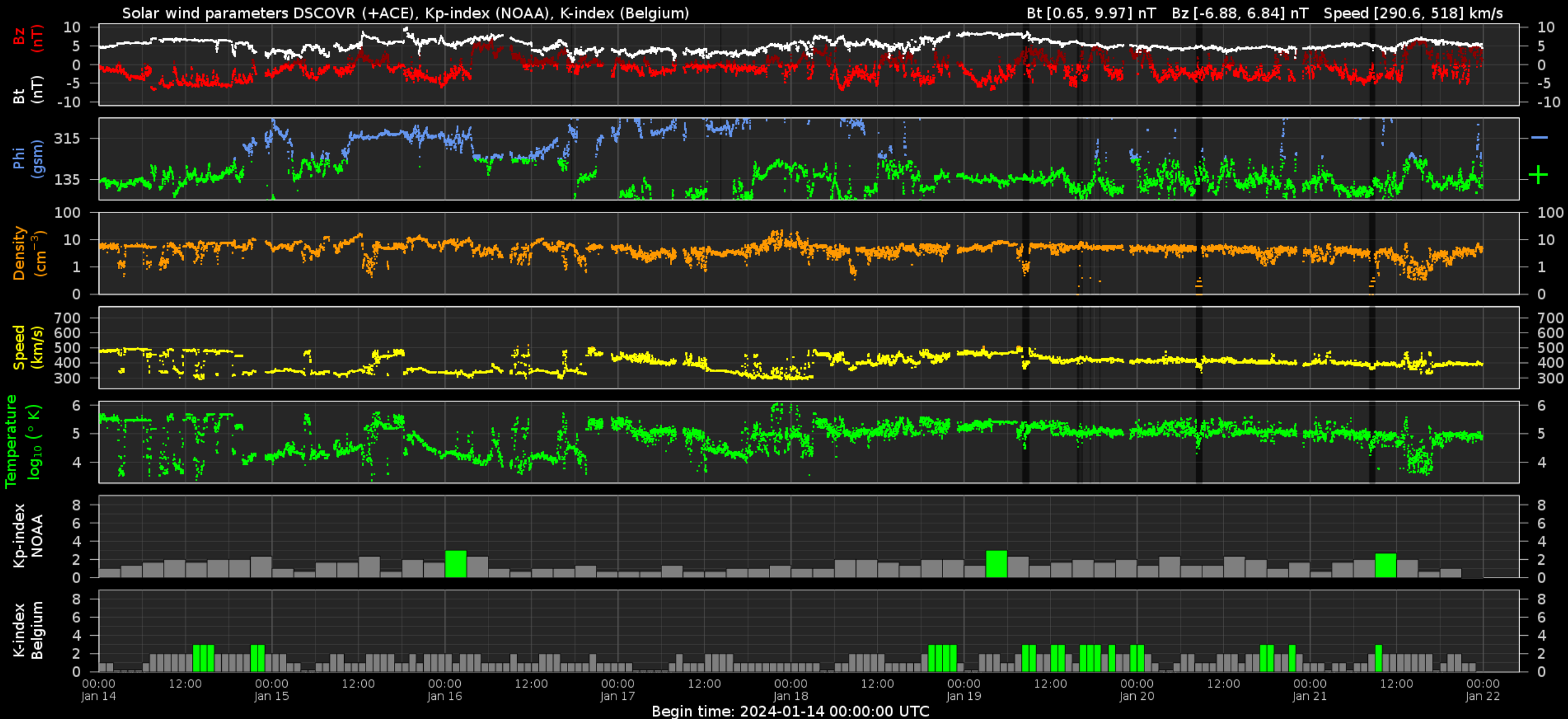
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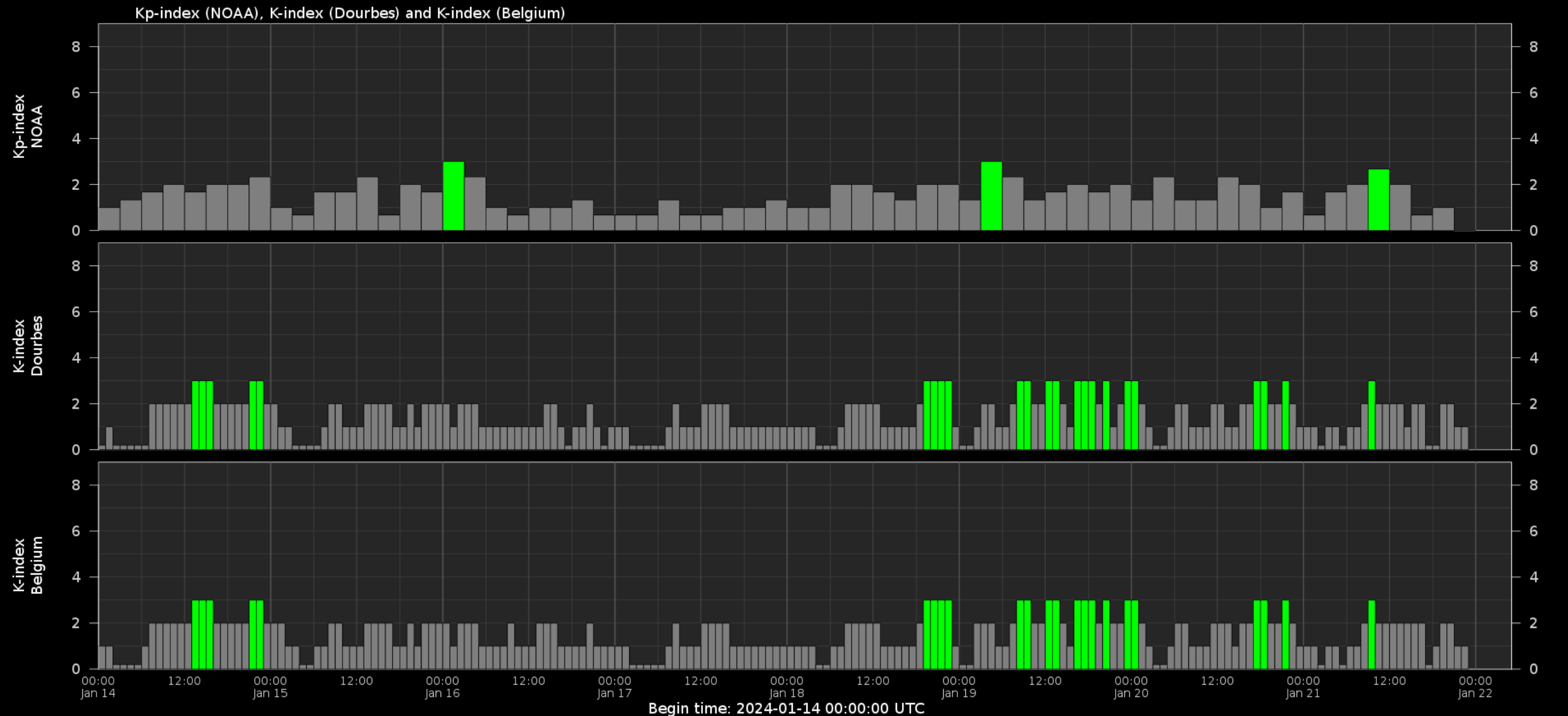
Solar wind parameters



Solar wind parameters & K-indices



Geomagnetic activity (K-indexes)



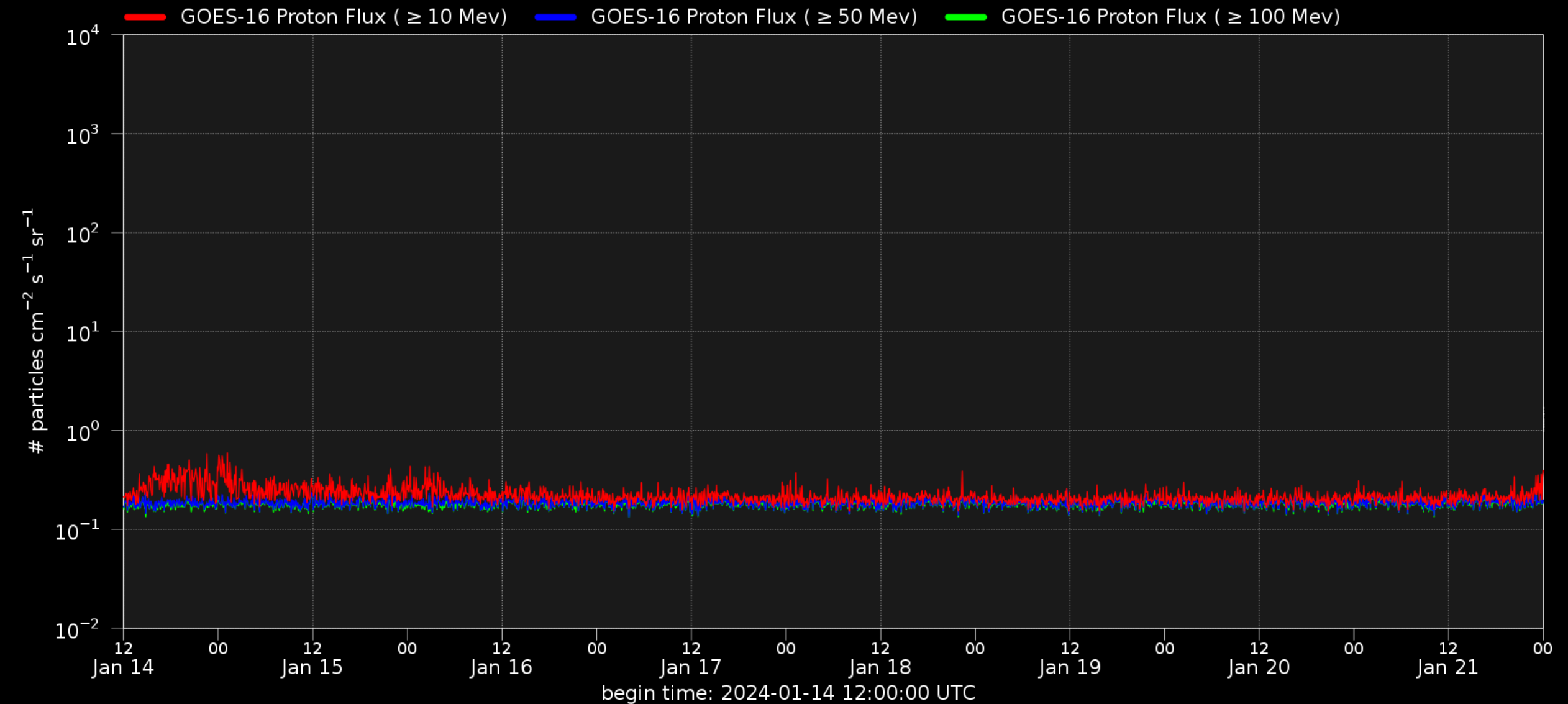
Energetic Particles



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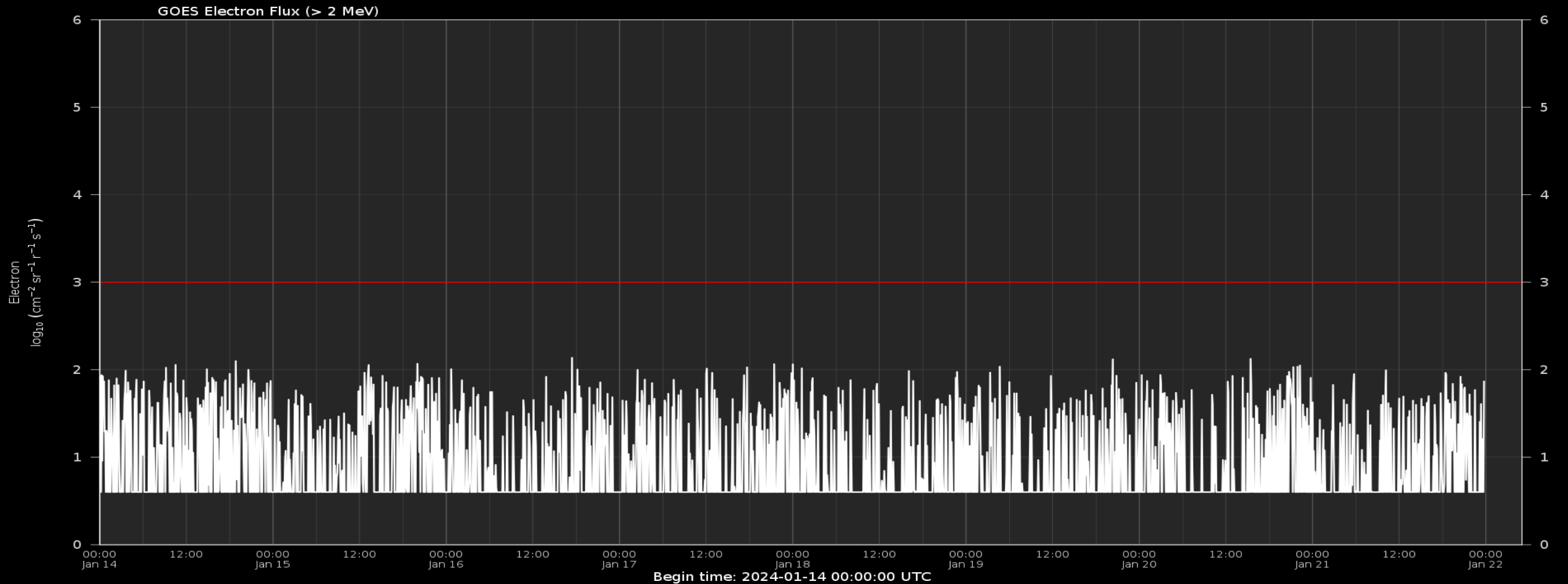
Solar proton flux



Electron flux at GEO

www.stce.be/educational/classification#electrons

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



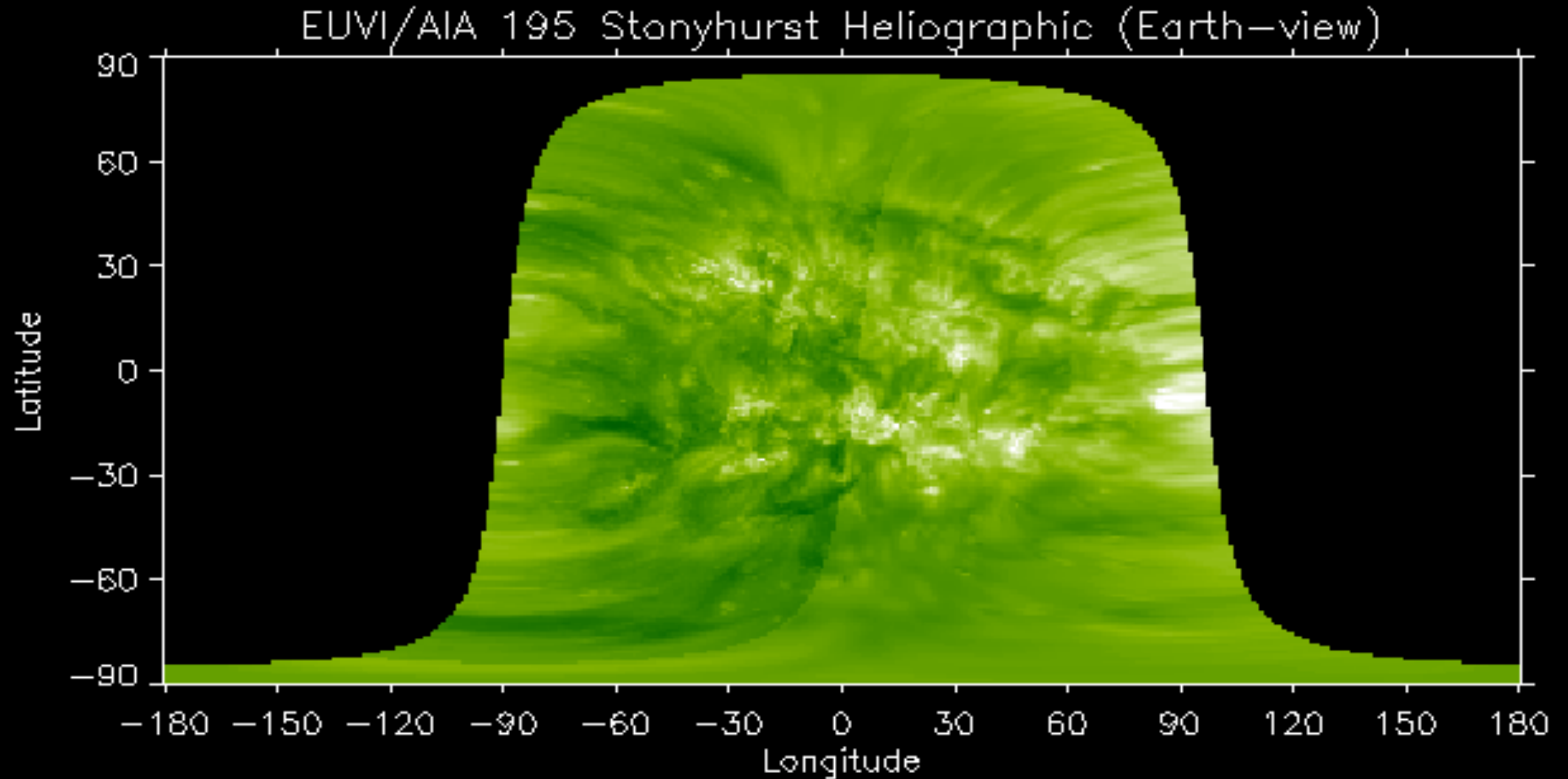
Outlook



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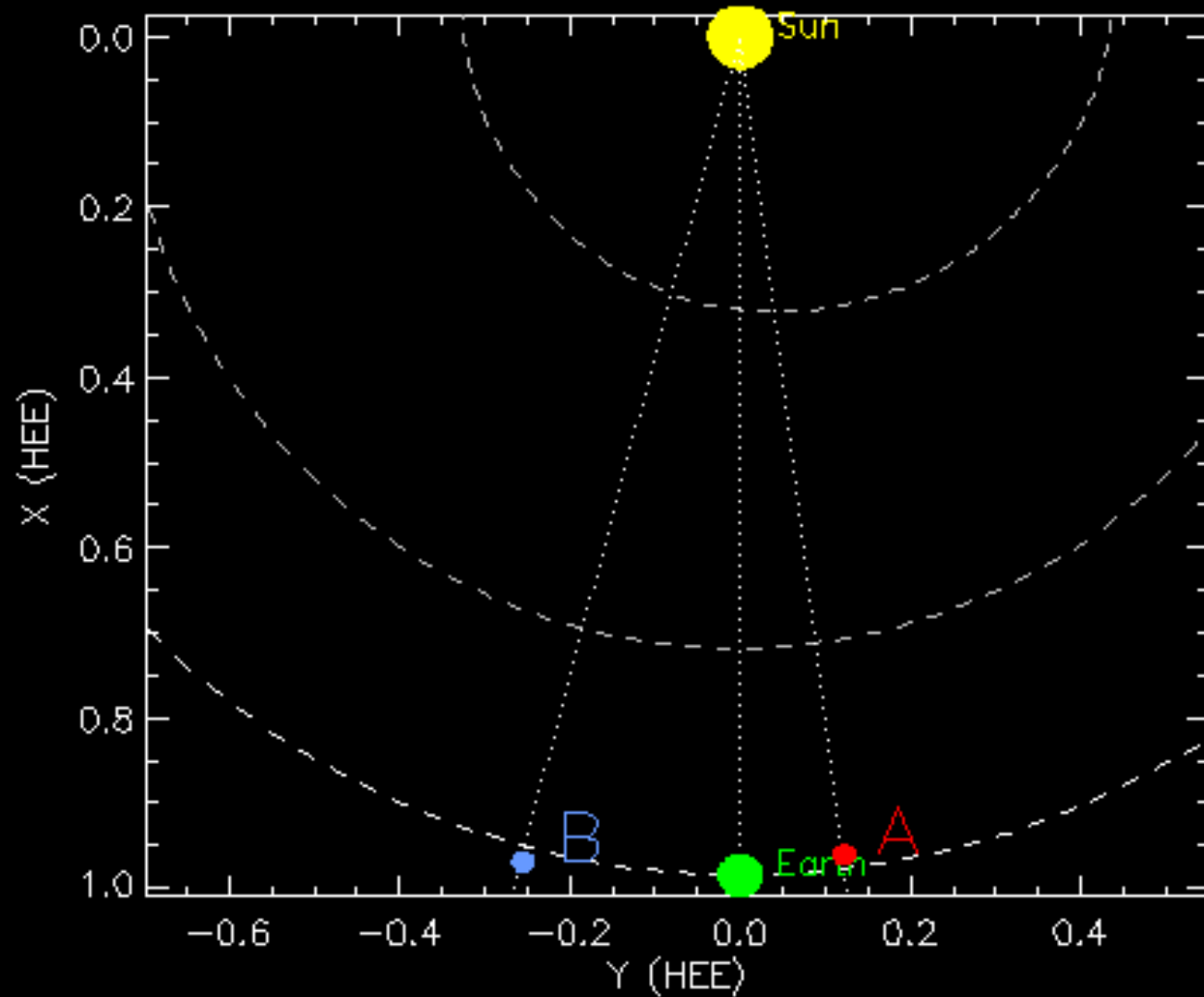
www.sidc.be

Outlook: Solar activity



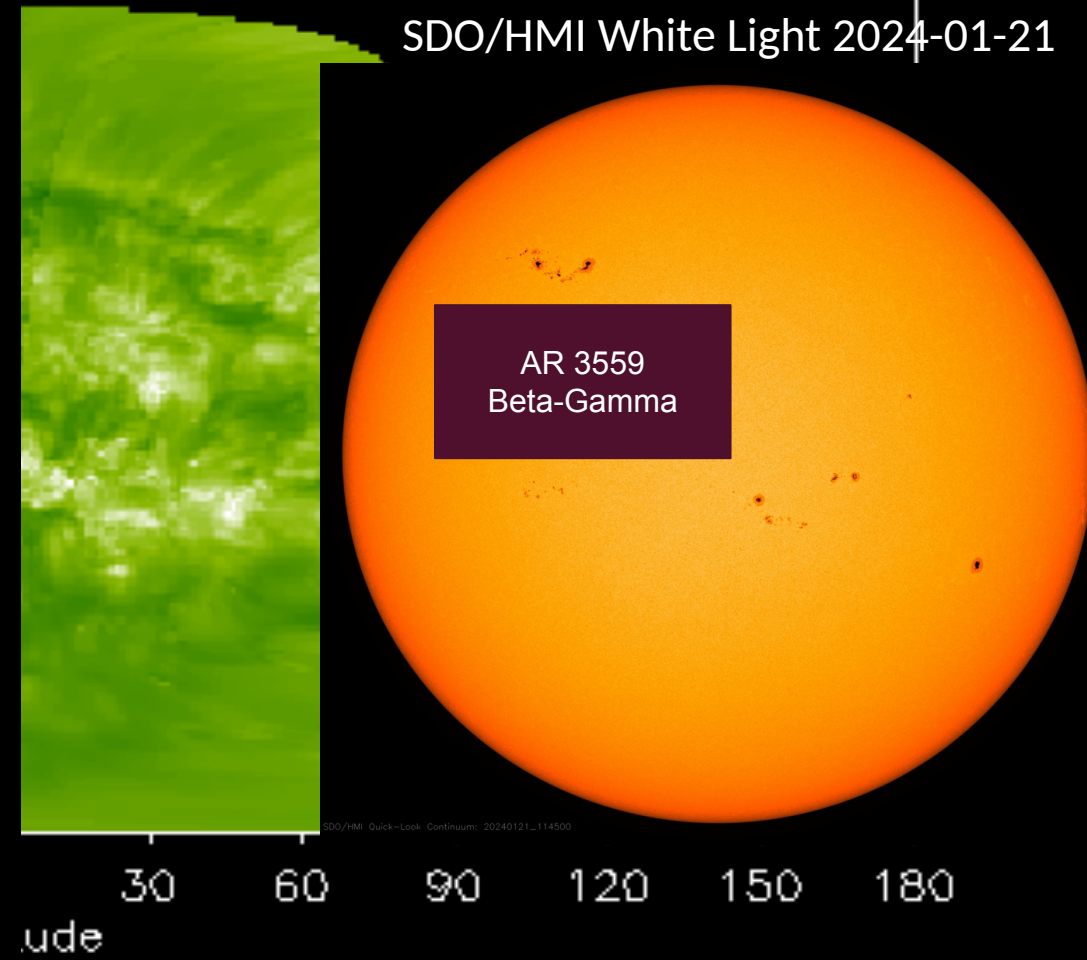
Observation date: 2024/01/21 17:05:00

Outlook: Solar activity

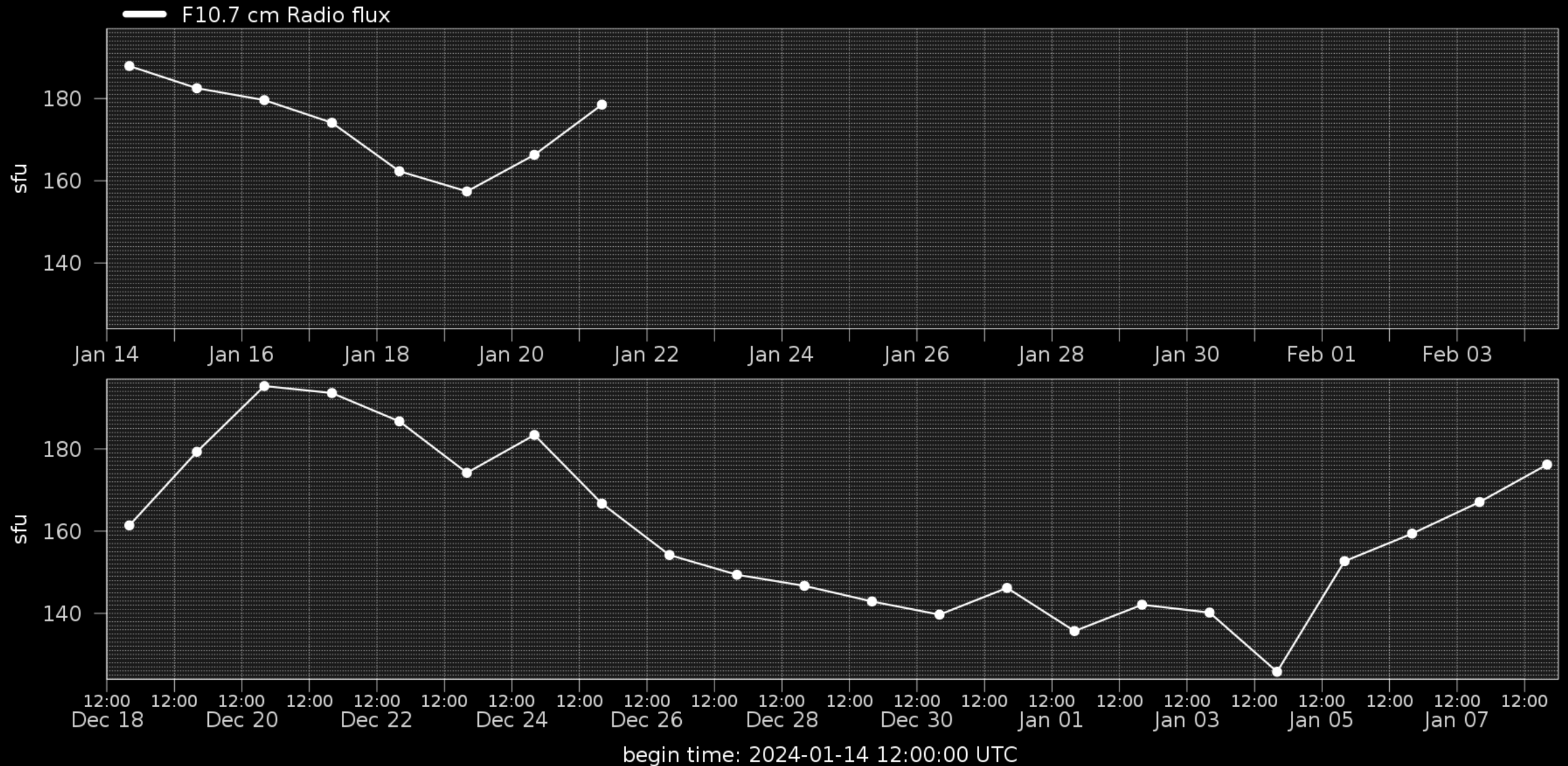


Observation date: 2024/01/21 17:05:00

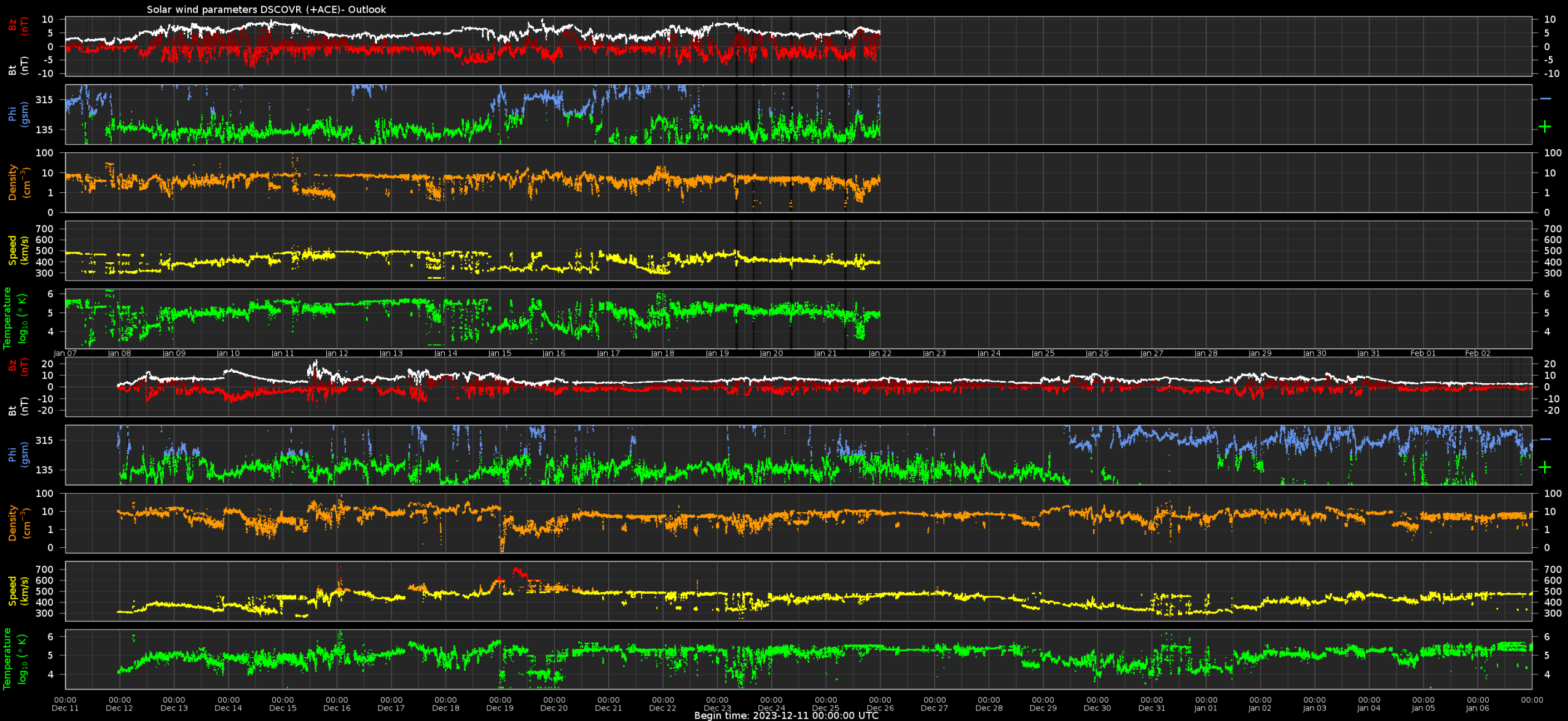
Heliographic (Earth-view)



Outlook: Solar F10.7cm radio flux



Outlook: Solar wind parameters



Outlook: Geomagnetic activity



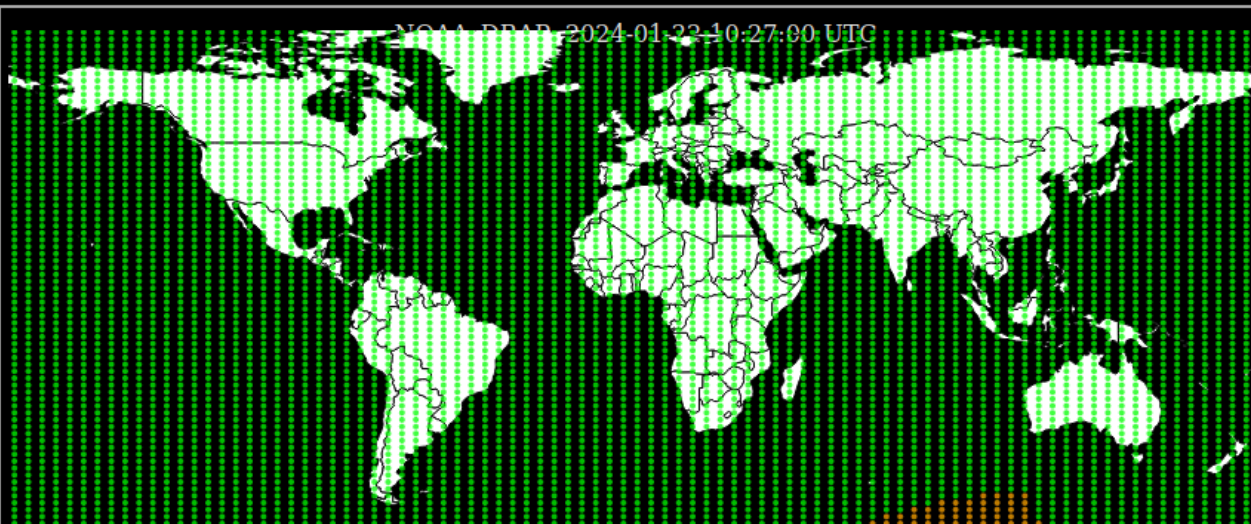
PECASUS



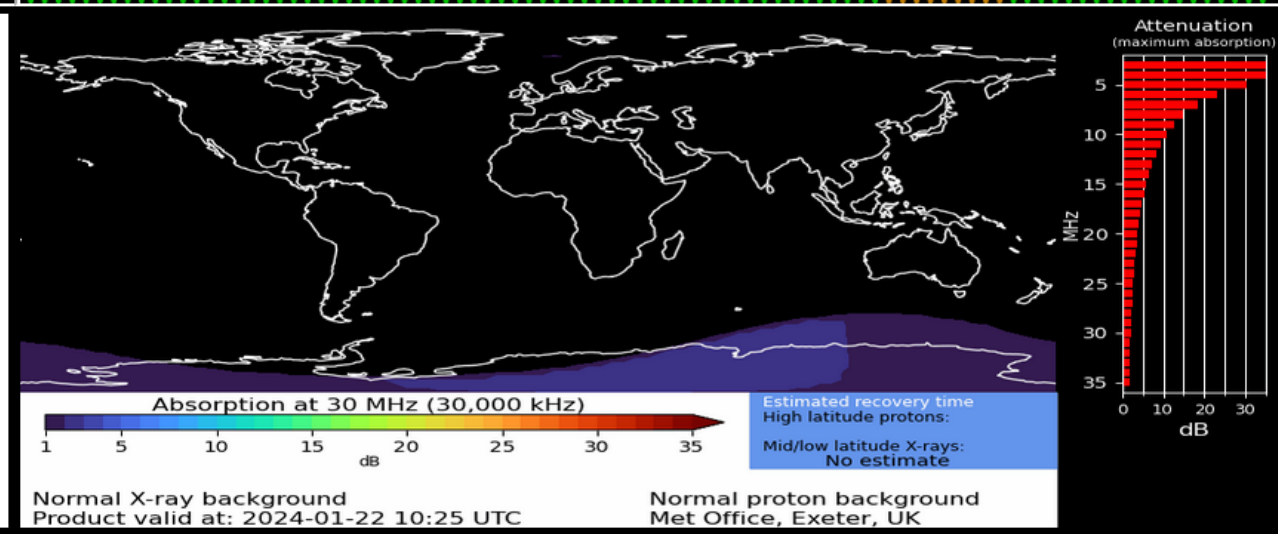
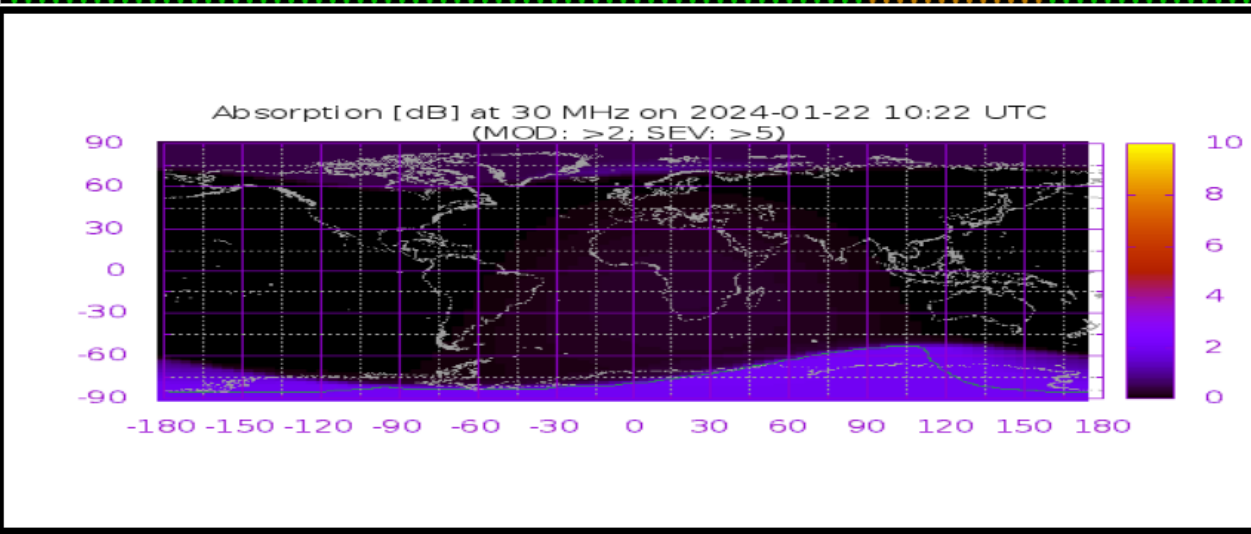
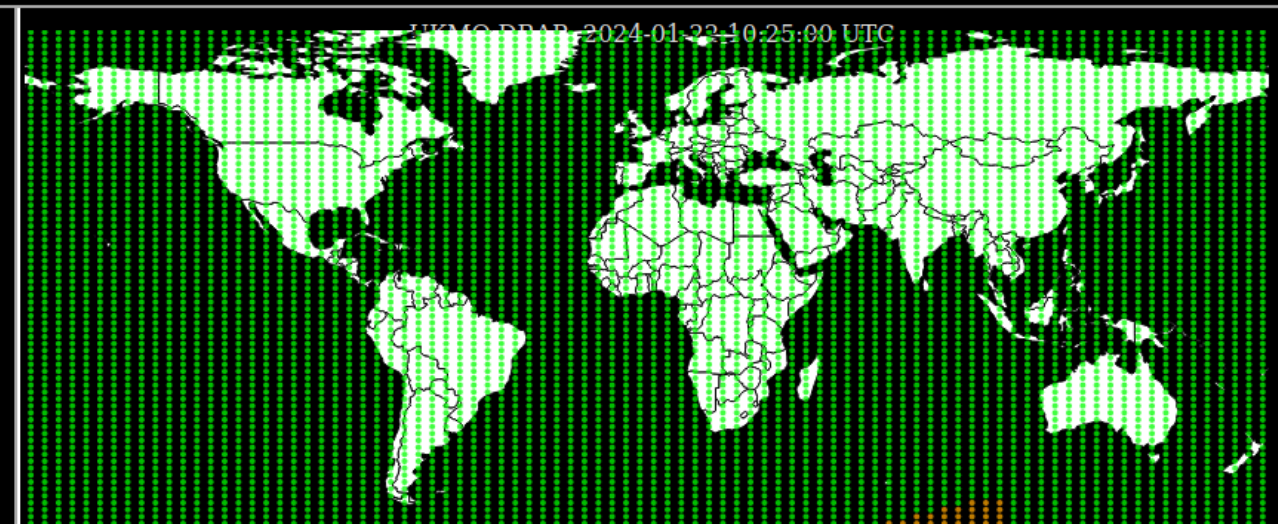
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HF/PCA (dB from 30MHz data) - NOAA



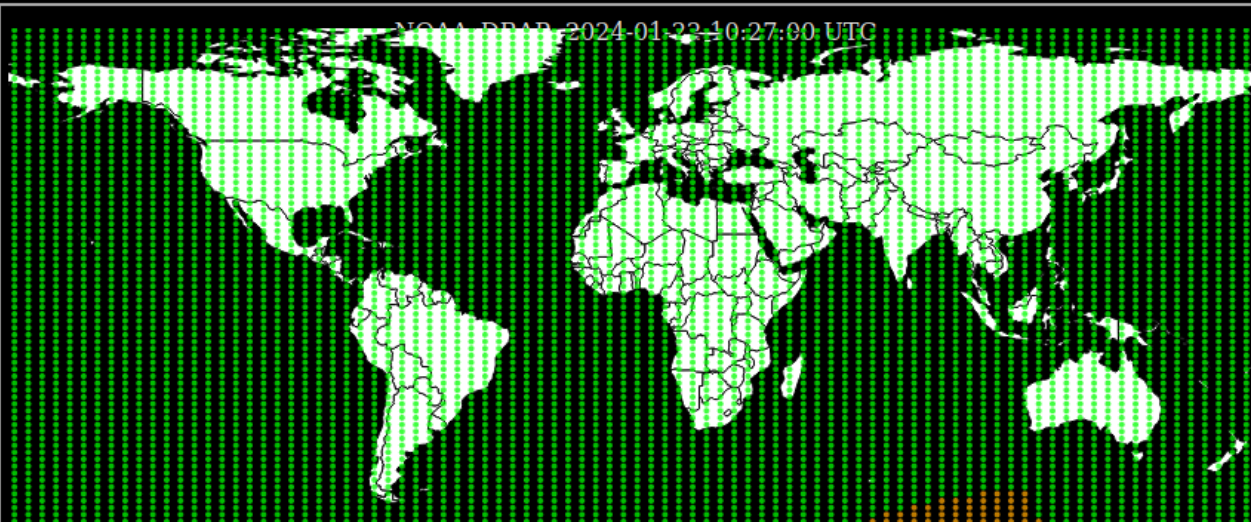
HF/PCA (dB from 30MHz data) - UKMO



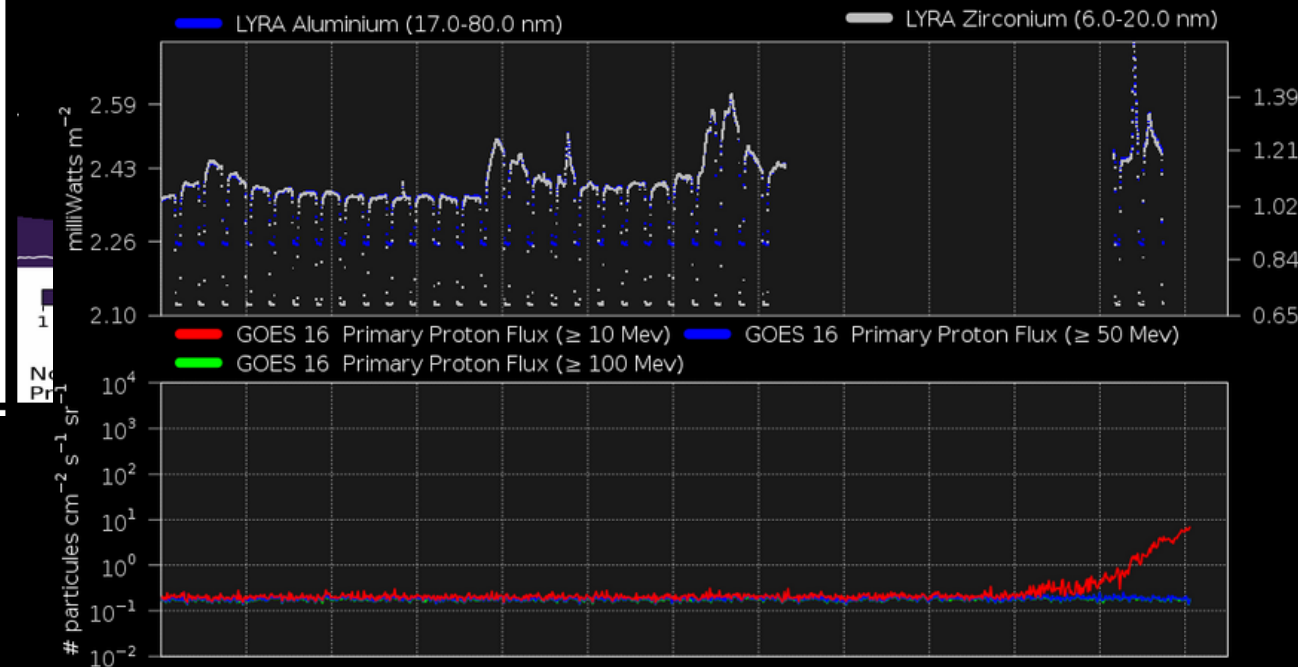
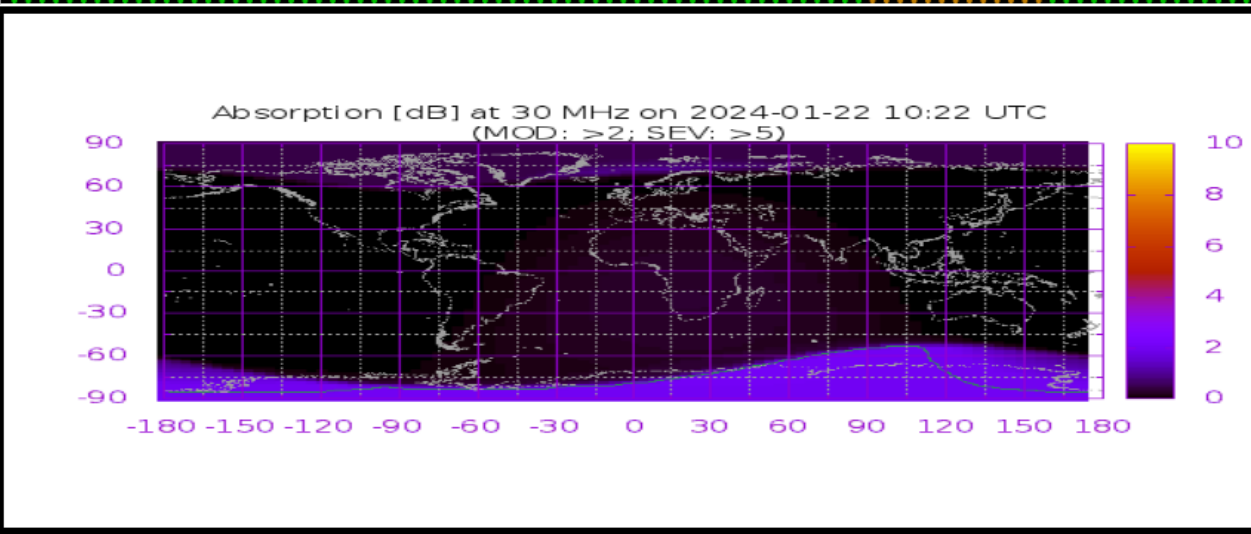
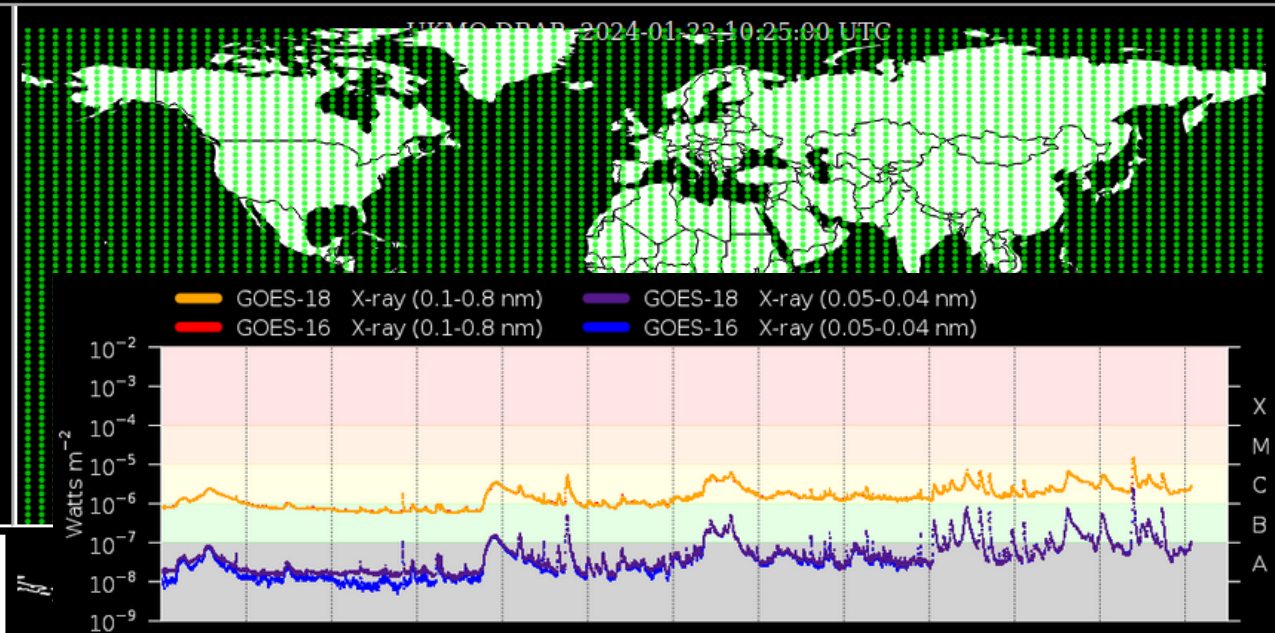
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HF/PCA (dB from 30MHz data) - NOAA

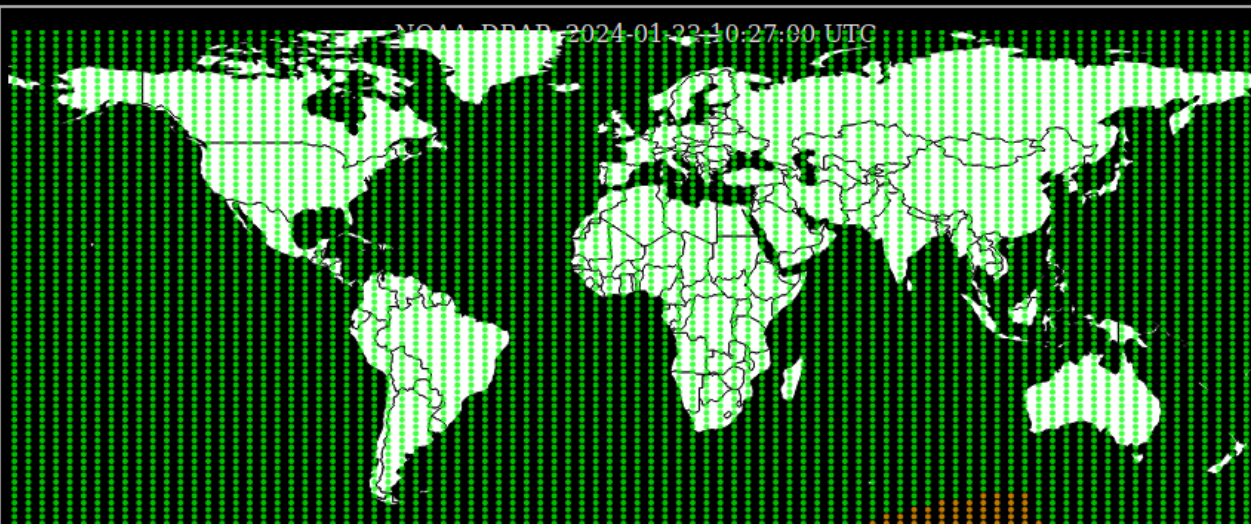


HF/PCA (dB from 30MHz data) - UKMO

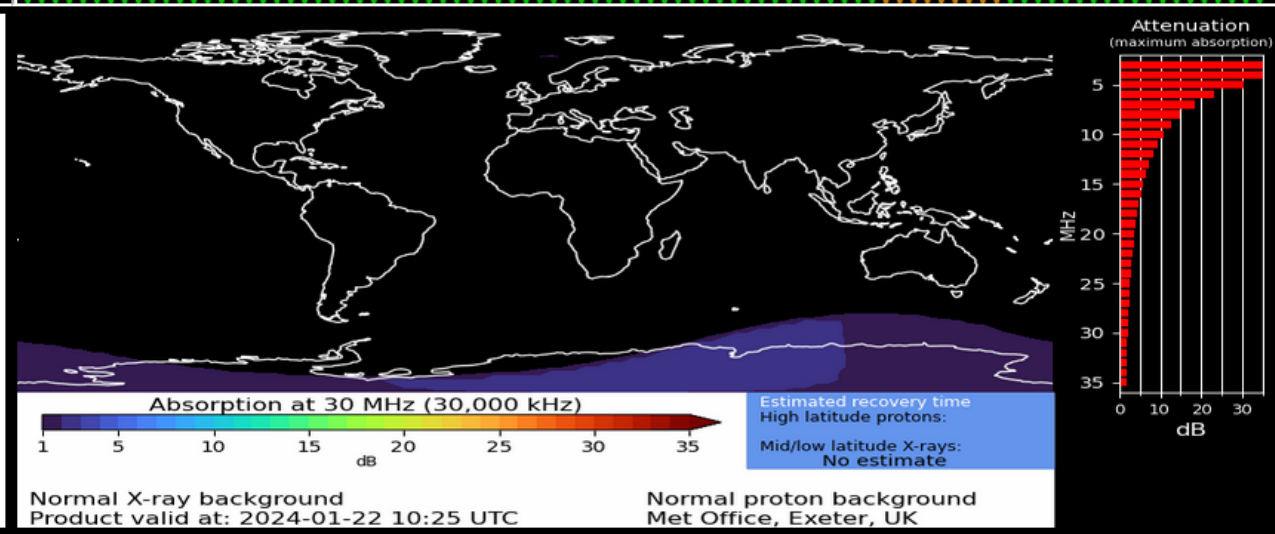
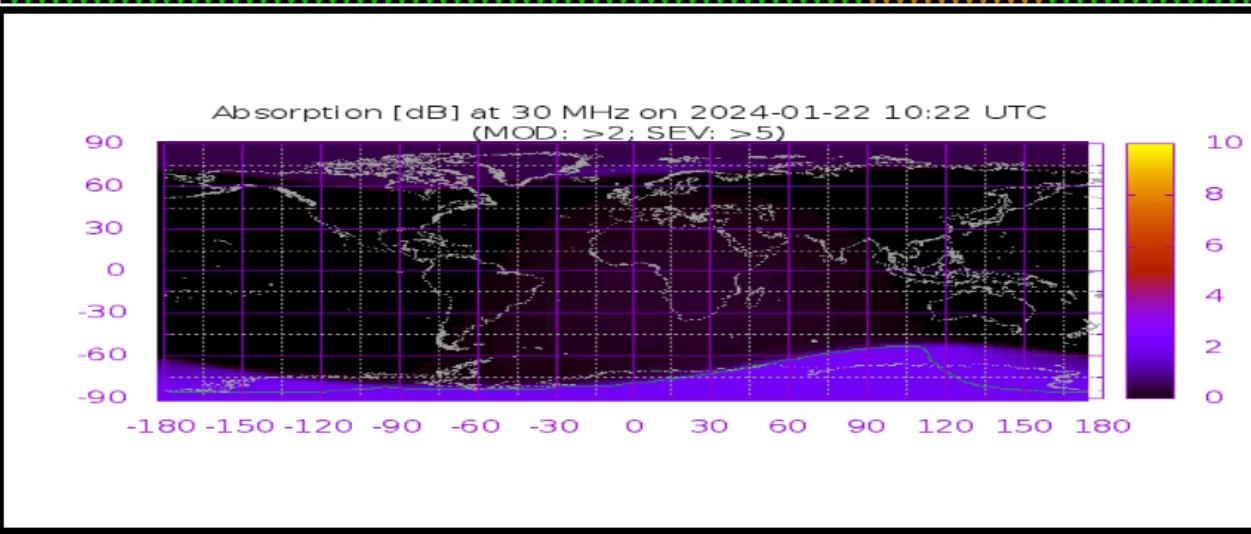
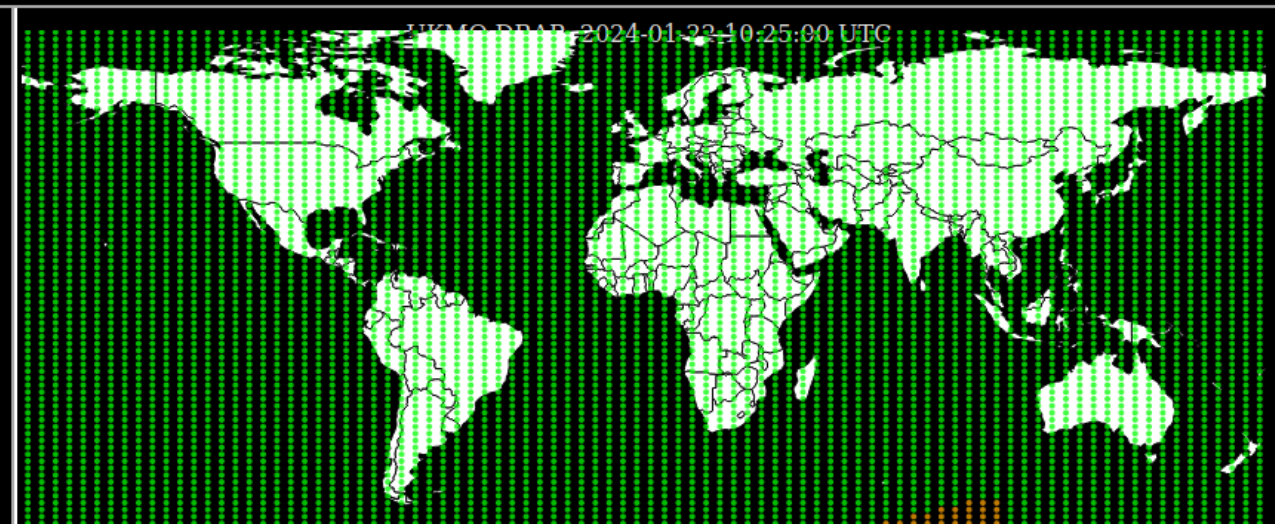


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HF/PCA (dB from 30MHz data) - NOAA



HF/PCA (dB from 30MHz data) - UKMO



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