

SIDC Space Weather Briefing

24 March 2024-31 March 2024

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& the SIDC forecaster team



Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be

Summary Report

Solar activity from 2024-03-24 12:00 to 2024-03-31 23:59

Active regions	9 numbered active regions: MOAA 3615 was most active
Flares	# C-class flare: 42 # M-class flare: 17 # X-class flare: 1
Coronal Holes	2 small positive CHs, 1 extended negative polarity CH
CMEs	No Earth directed CMEs observed

Proton flux	Above 10pfu threshold until March 25
Electron flux	Remained below 1000pfu threshold

Solar wind and geomagnetic conditions

ICMEs	ICME arrival with shock at 14:11 UTC on March 24 from Halo CME of March 23.
Solar wind conditions	B : 0.28 - 33.34 nT //Bz: -25.9 nT to 30.32 nT //Speed: 315.1 - 792.1km/s
Geomagnetic conditions	max K _{Be} : 7, max K _p (NOAA): 8, Major Storm conditions

All Quiet Alert: Not all quiet

Solar Activity

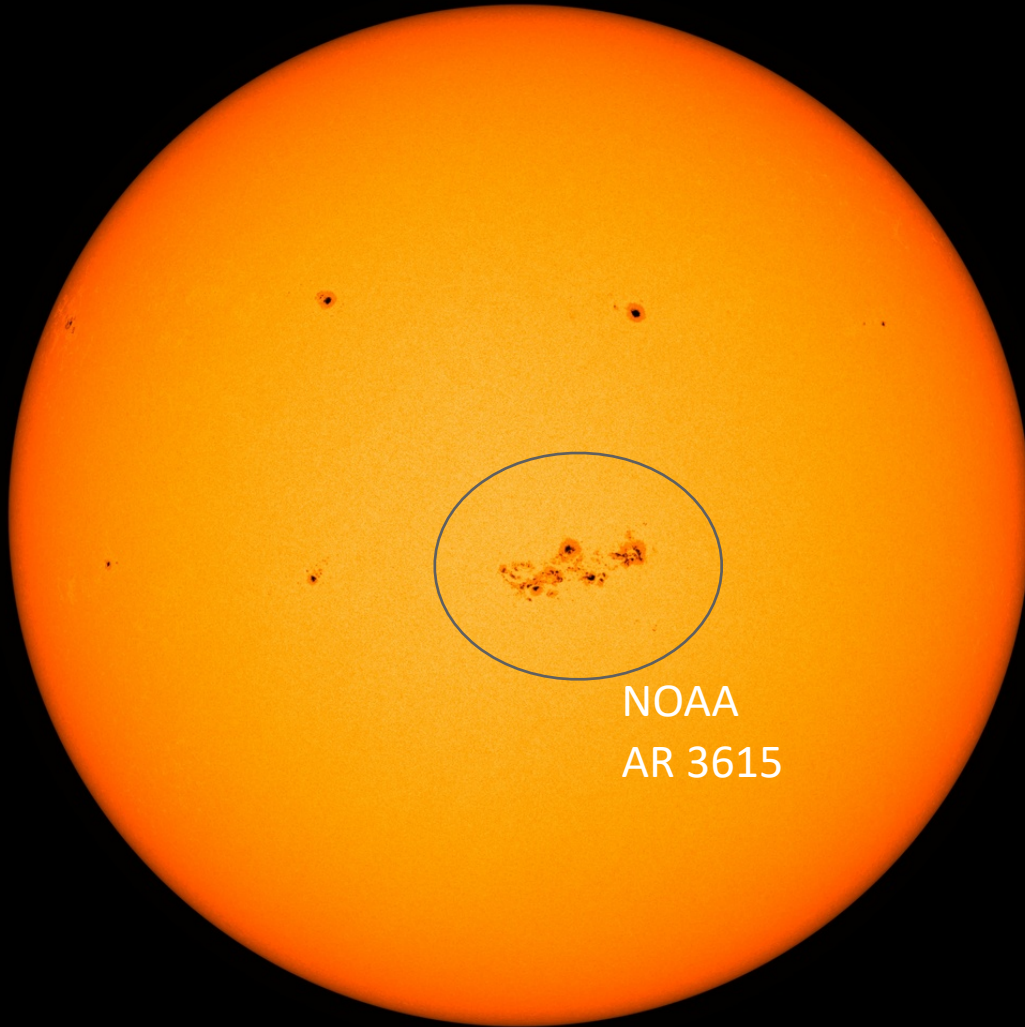


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Solar active regions

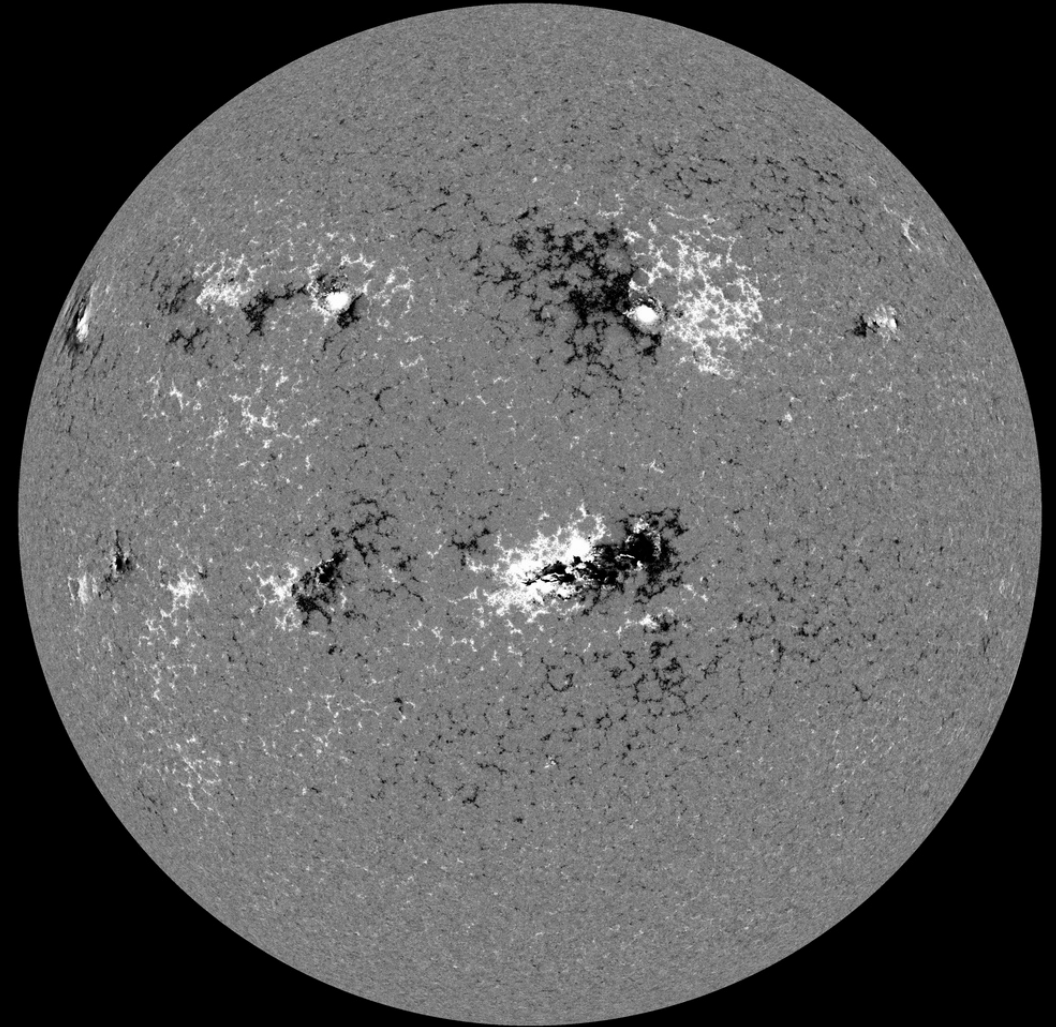
SDO/HMI White Light 2024-03-24



NOAA
AR 3615

SDO/HMI Quick-Look Continuum: 20240324_114500

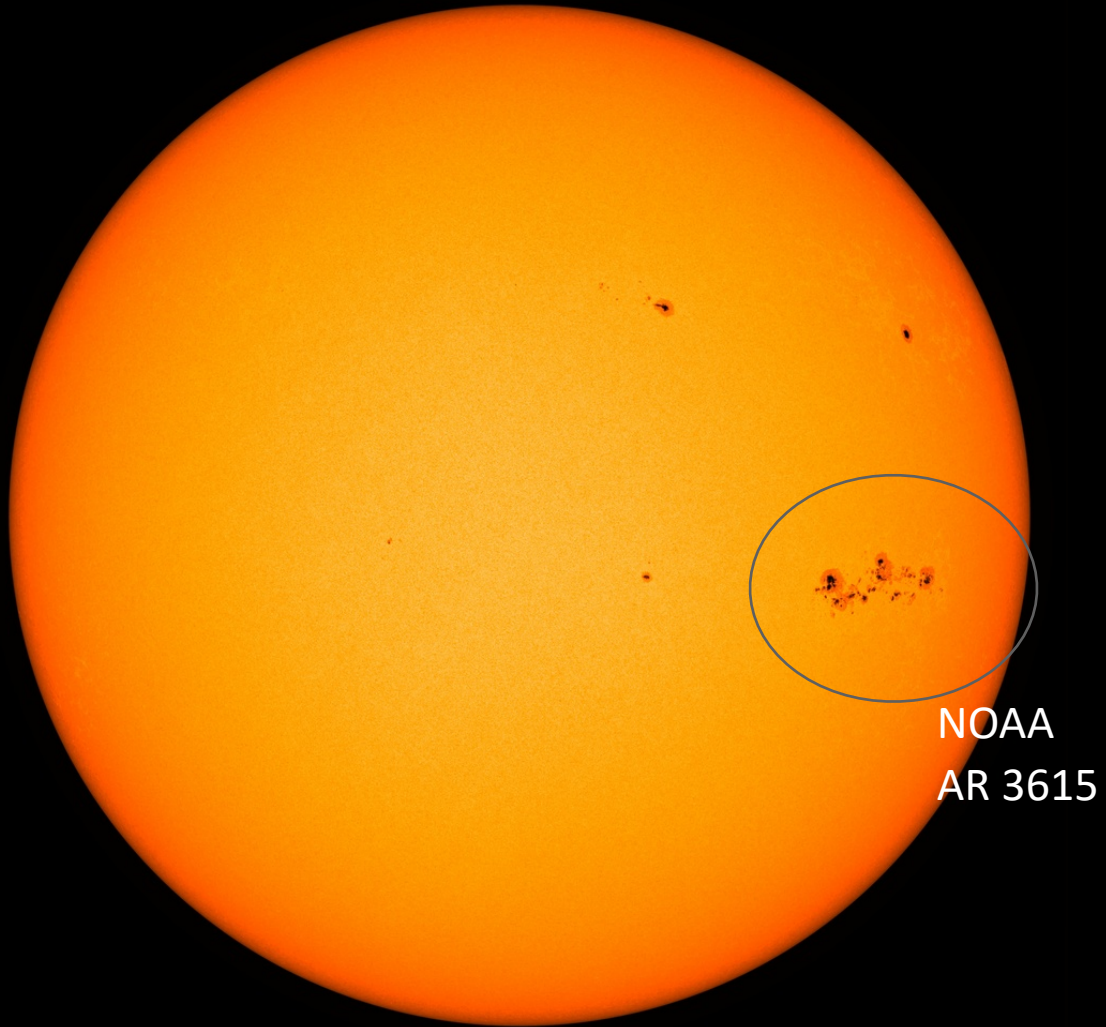
SDO/HMI Magnetogram 2024-03-24



SDO/HMI Quick-Look Magnetogram: 20240324_114500

Solar active regions

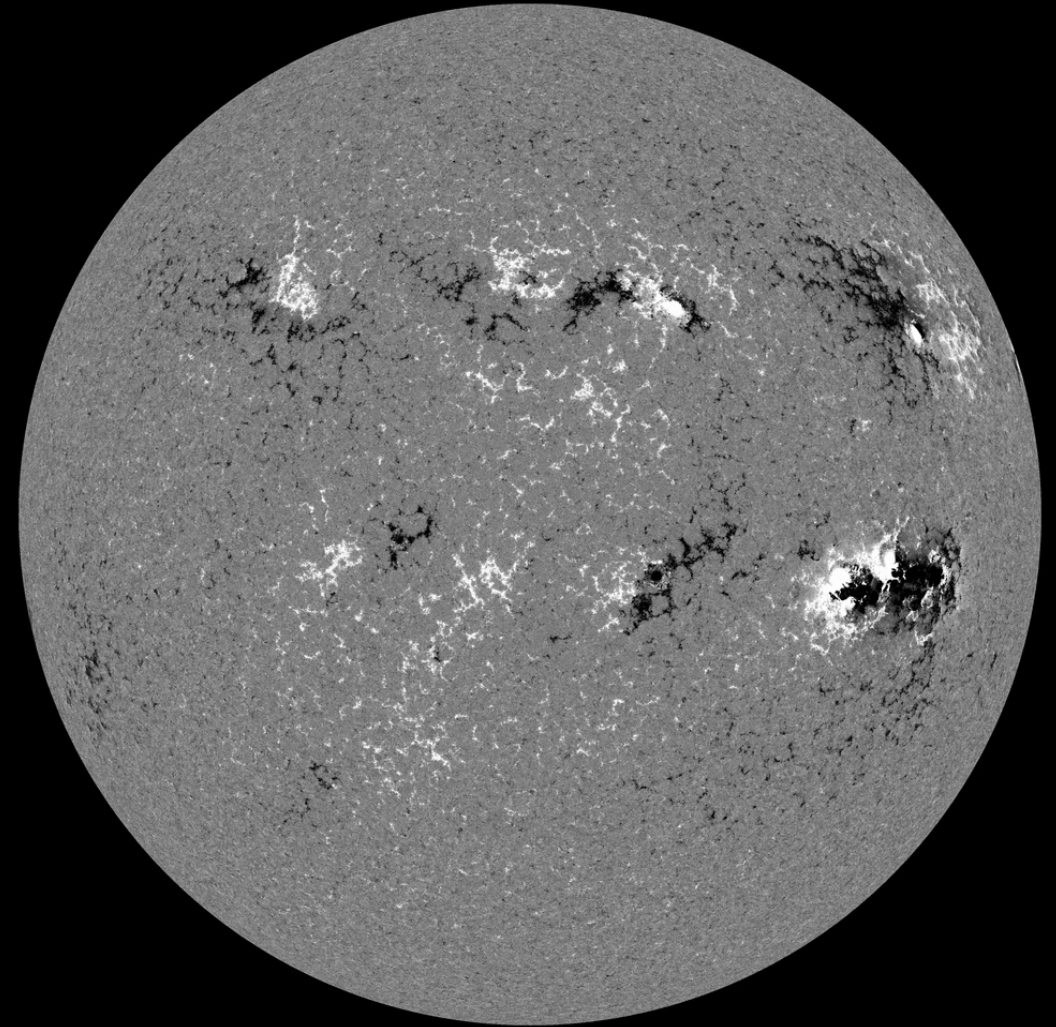
SDO/HMI White Light 2024-03-27



NOAA
AR 3615

SDO/HMI Quick-Look Continuum: 20240327_114500

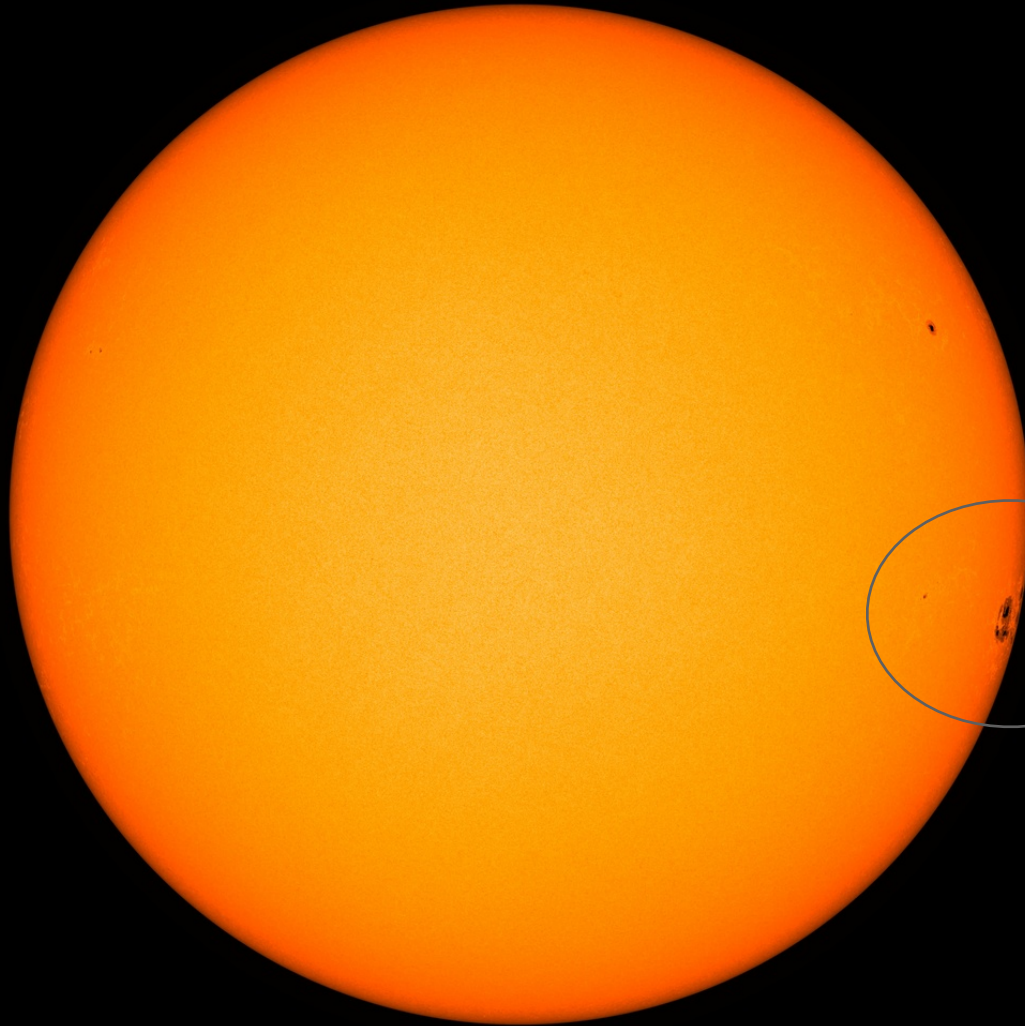
SDO/HMI Magnetogram 2024-03-27



SDO/HMI Quick-Look Magnetogram: 20240327_114500

Solar active regions

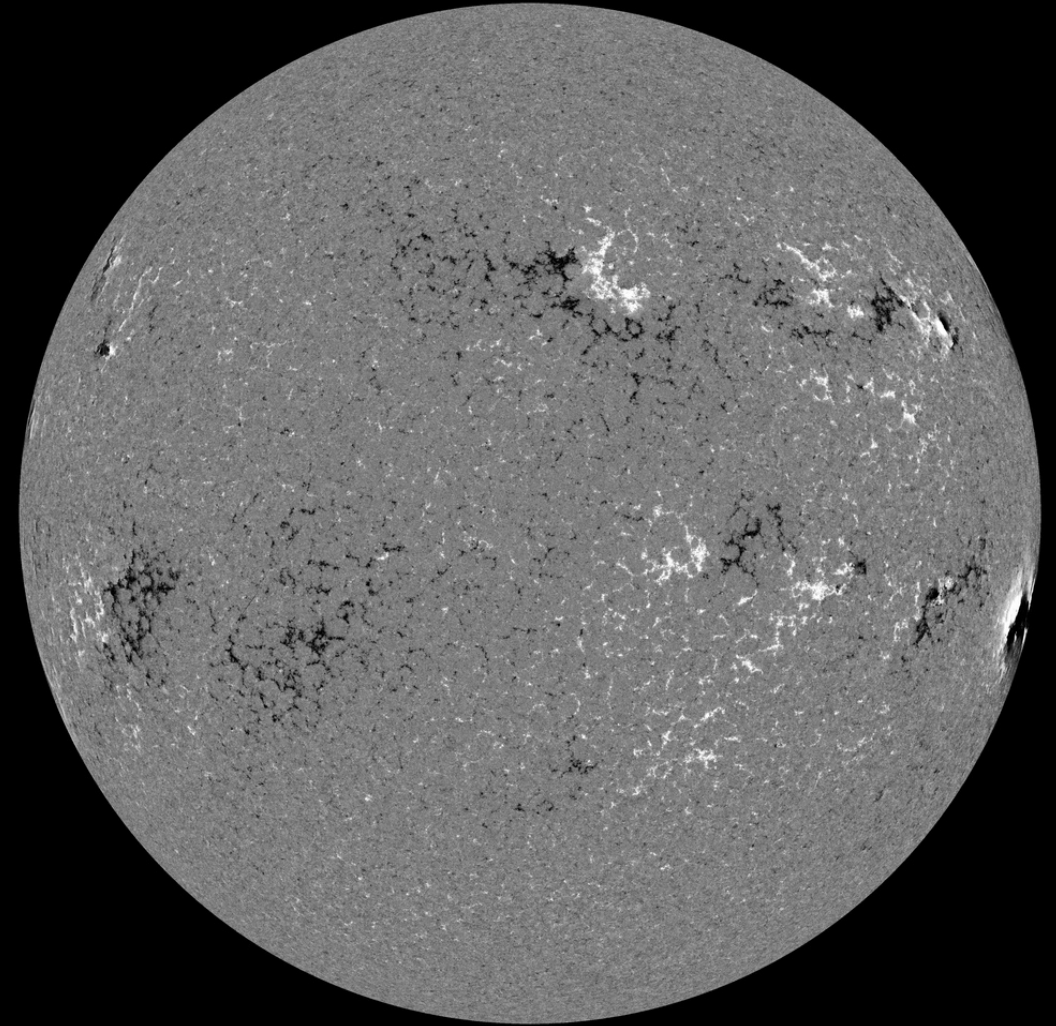
SDO/HMI White Light 2024-03-30



NOAA
AR 3615

SDO/HMI Quick-Look Continuum: 20240330_114500

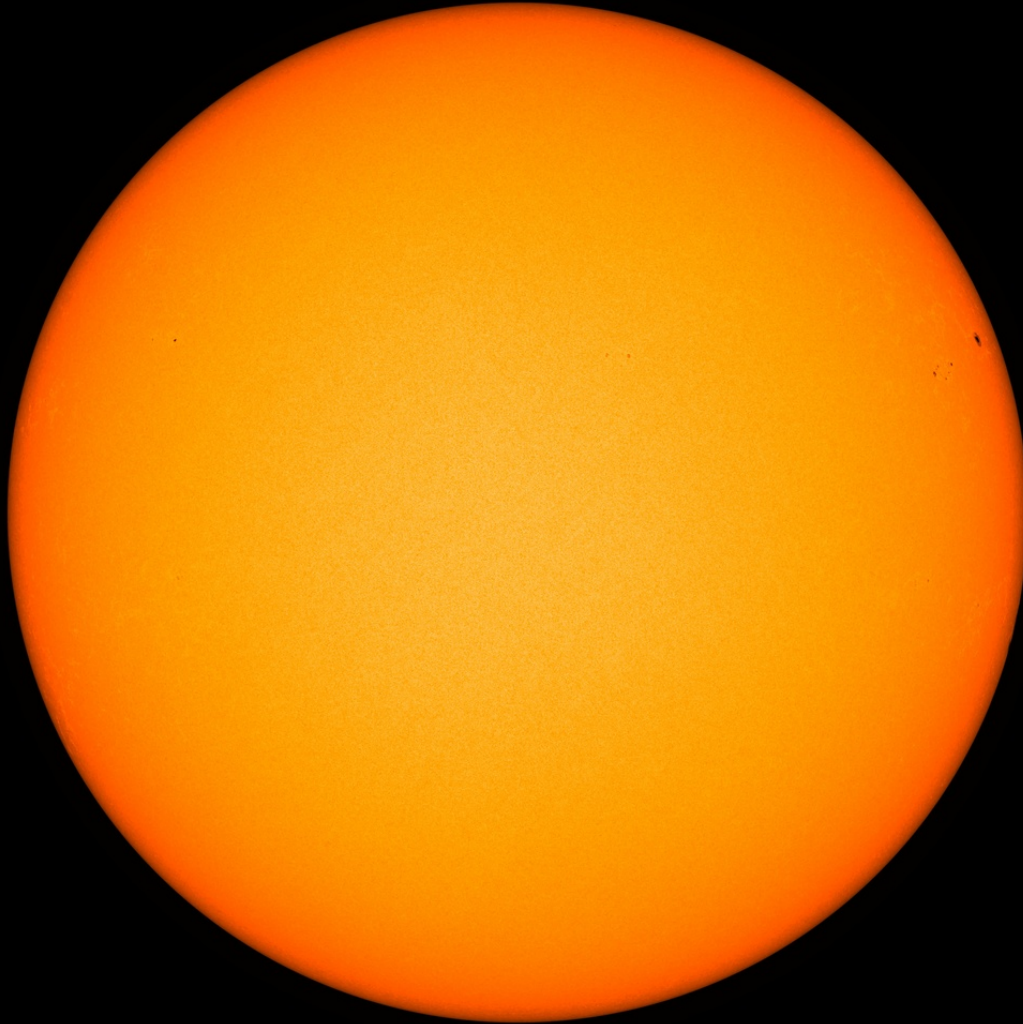
SDO/HMI Magnetogram 2024-03-30



SDO/HMI Quick-Look Magnetogram: 20240330_114500

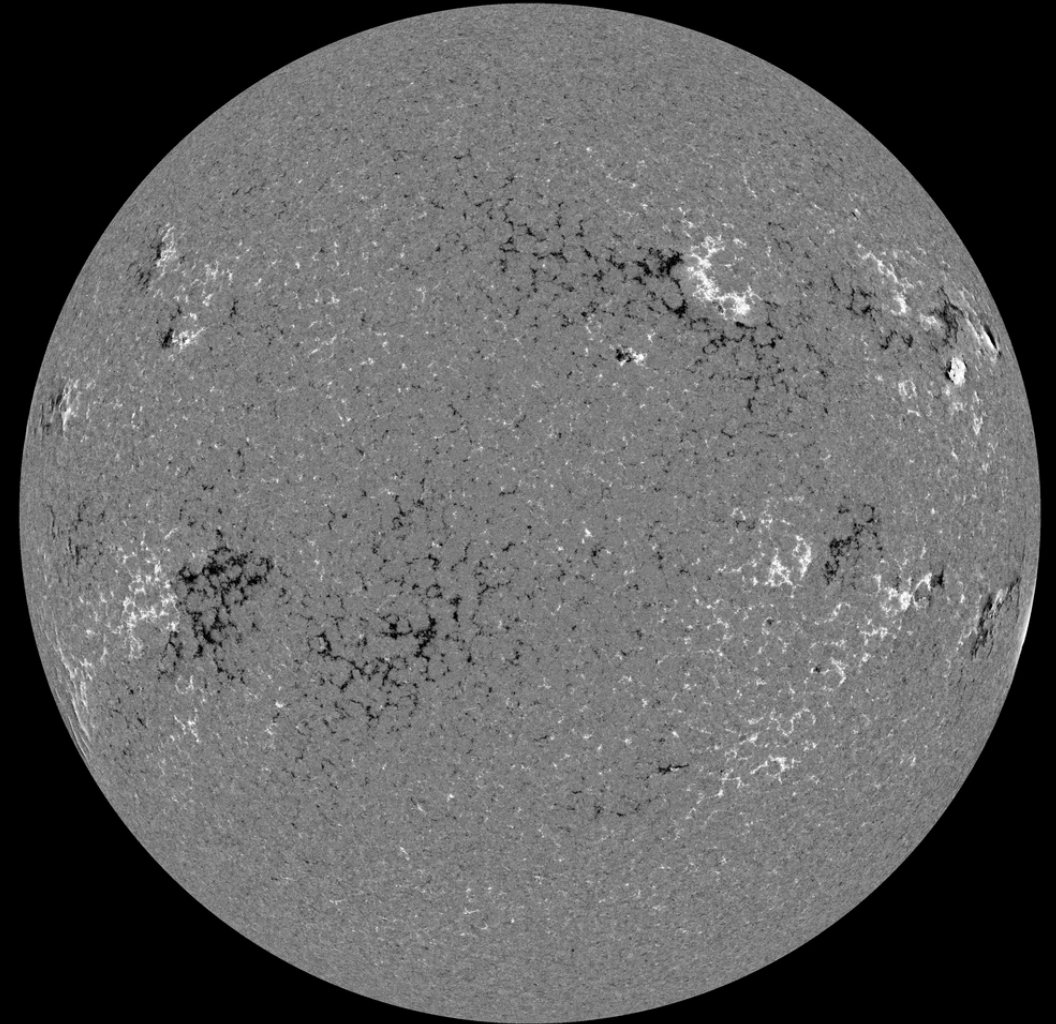
Solar active regions

SDO/HMI White Light 2024-03-31



SDO/HMI Quick-Look Continuum: 20240331_114500

SDO/HMI Magnetogram 2024-03-31

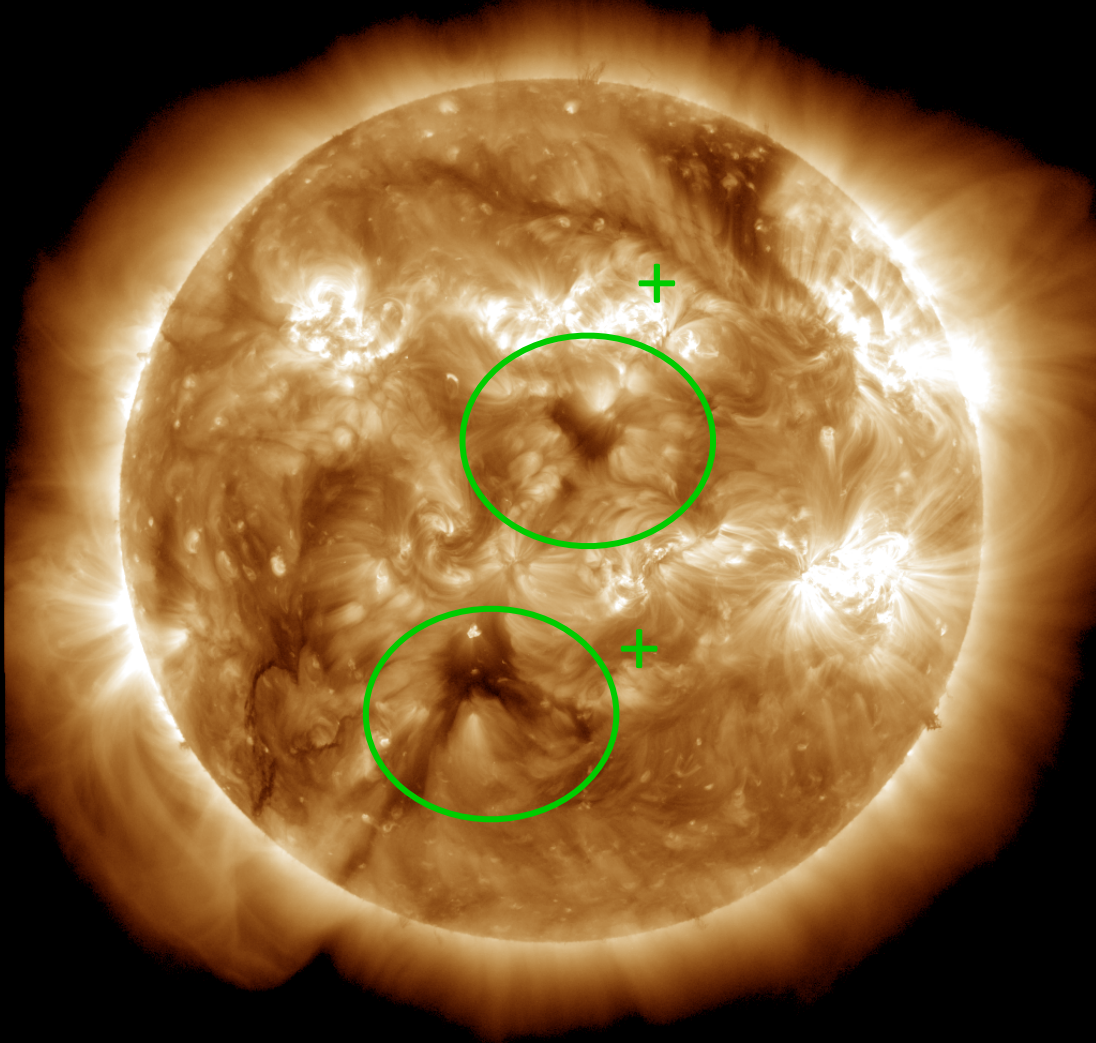


SDO/HMI Quick-Look Magnetogram: 20240331_114500

Coronal holes

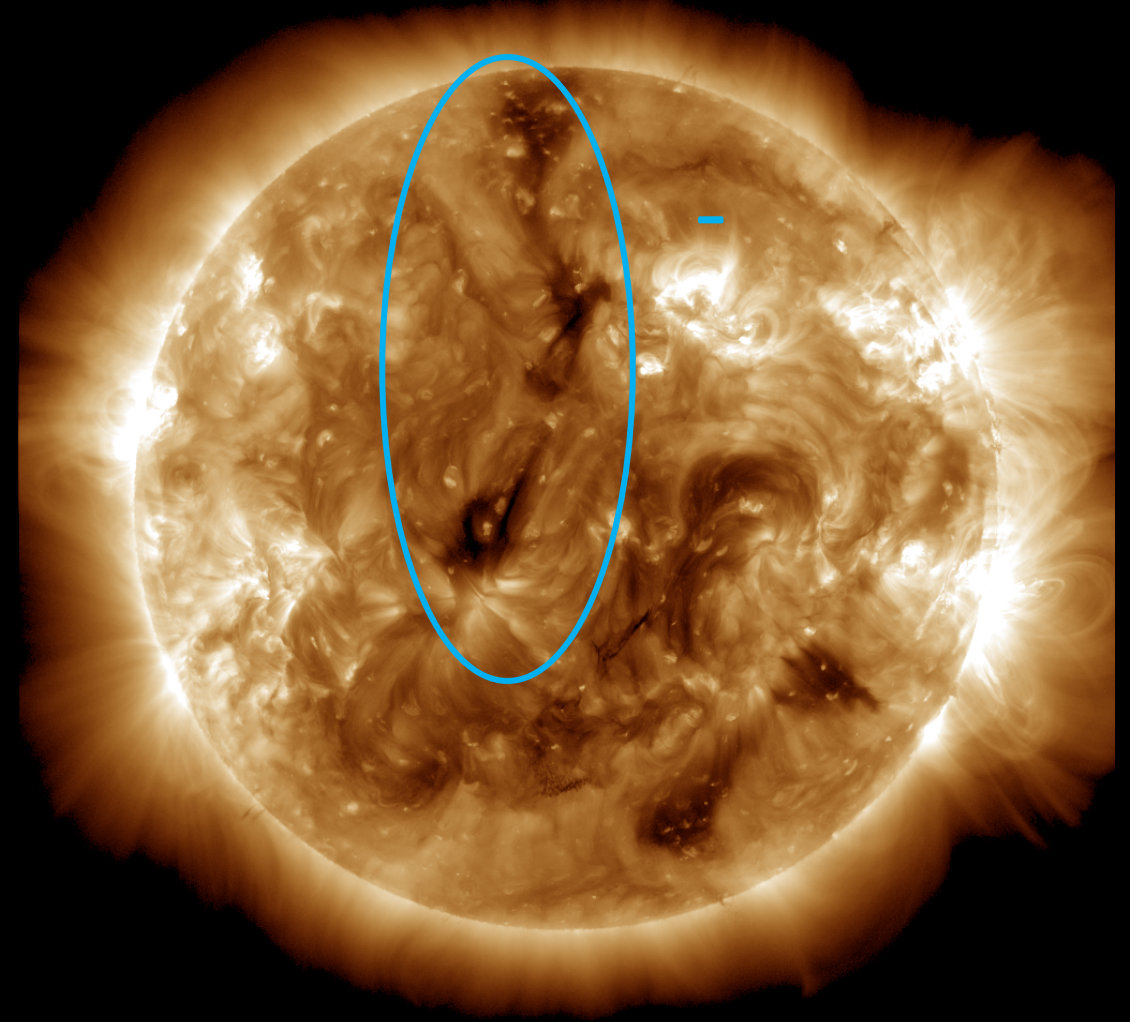
SDO/AIA 19.3 nm 2024-03-27

SDO/AIA AIA 193Å 2024-03-27T12:00:06.557



SDO/AIA 19.3 nm 2024-03-31

SDO/AIA AIA 193Å 2024-03-31T12:00:05.843



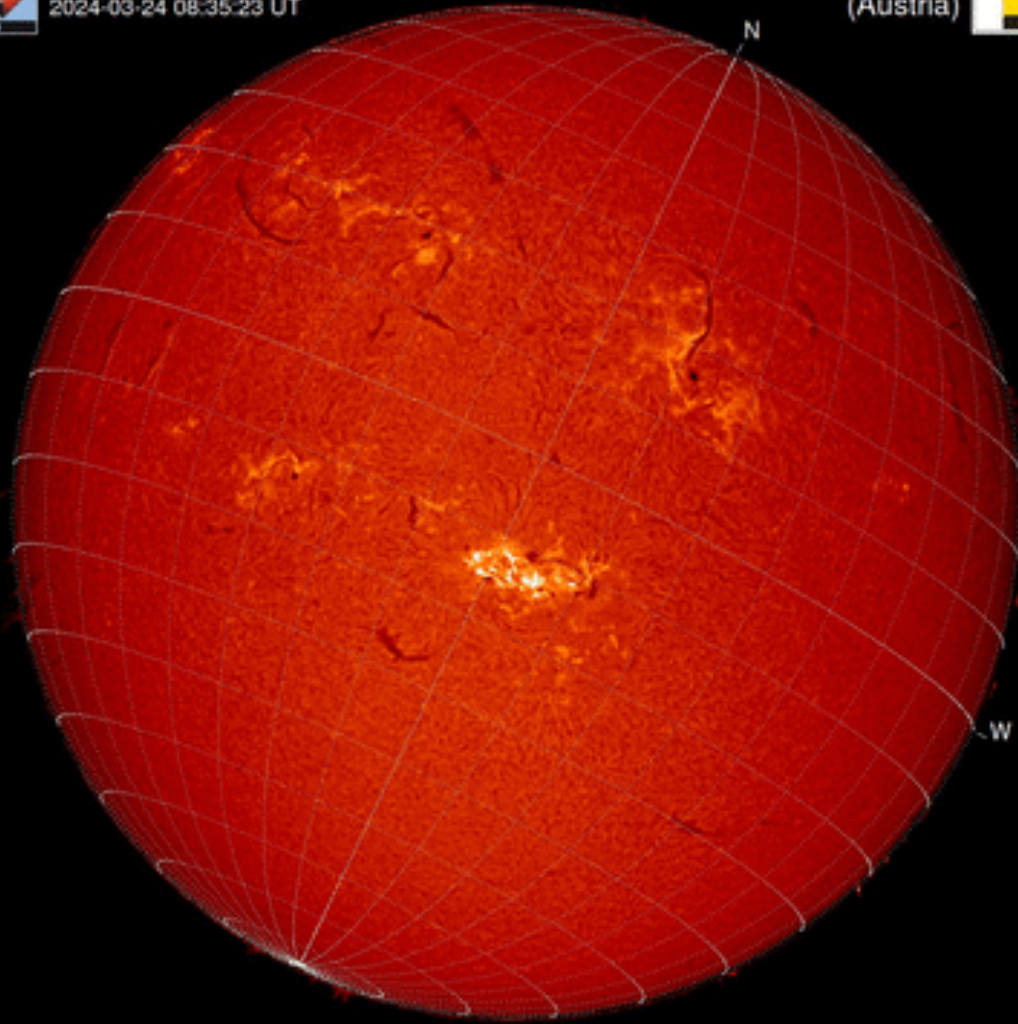
Filaments & Filament eruptions

H-alpha 2024-03-24



Kanzelhöhe Observatory
2024-03-24 08:35:23 UT

University of Graz
(Austria)

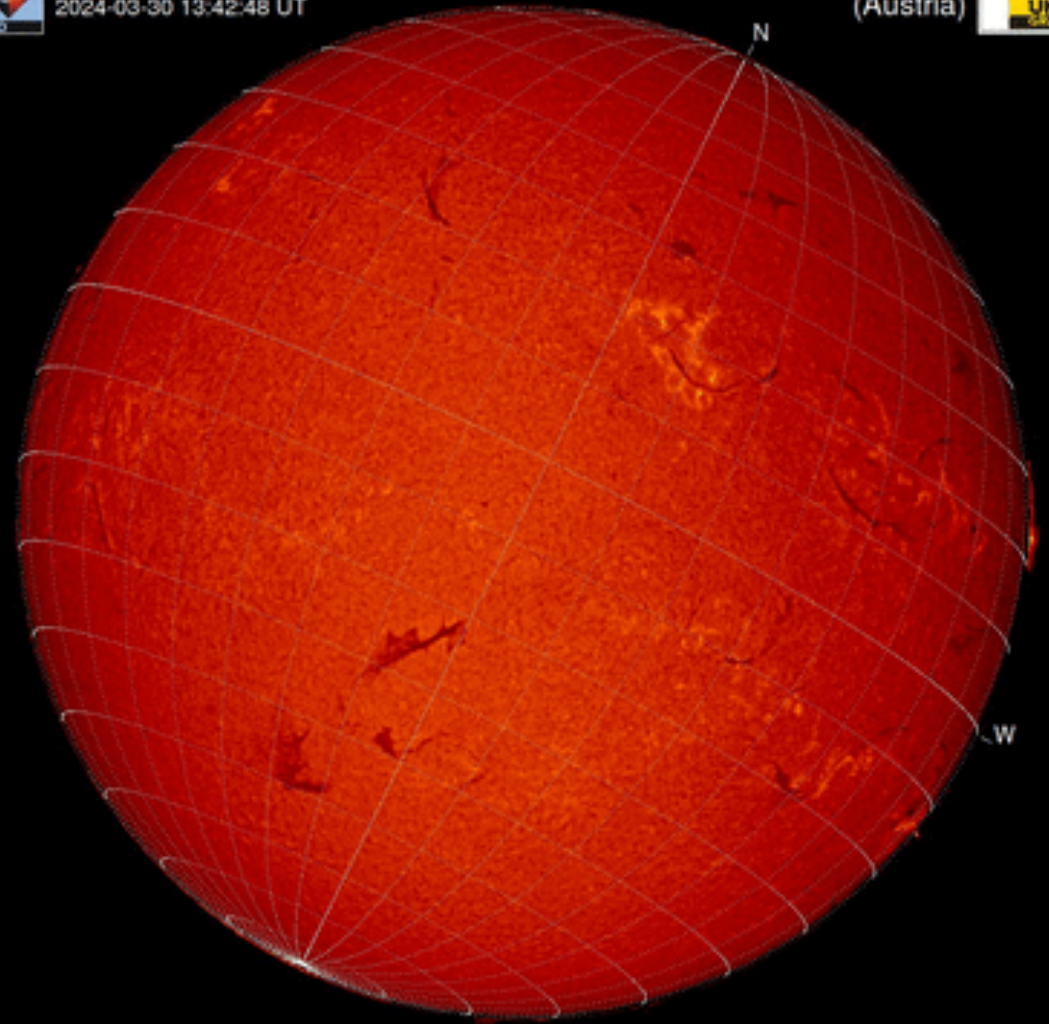


H-alpha 2024-03-31

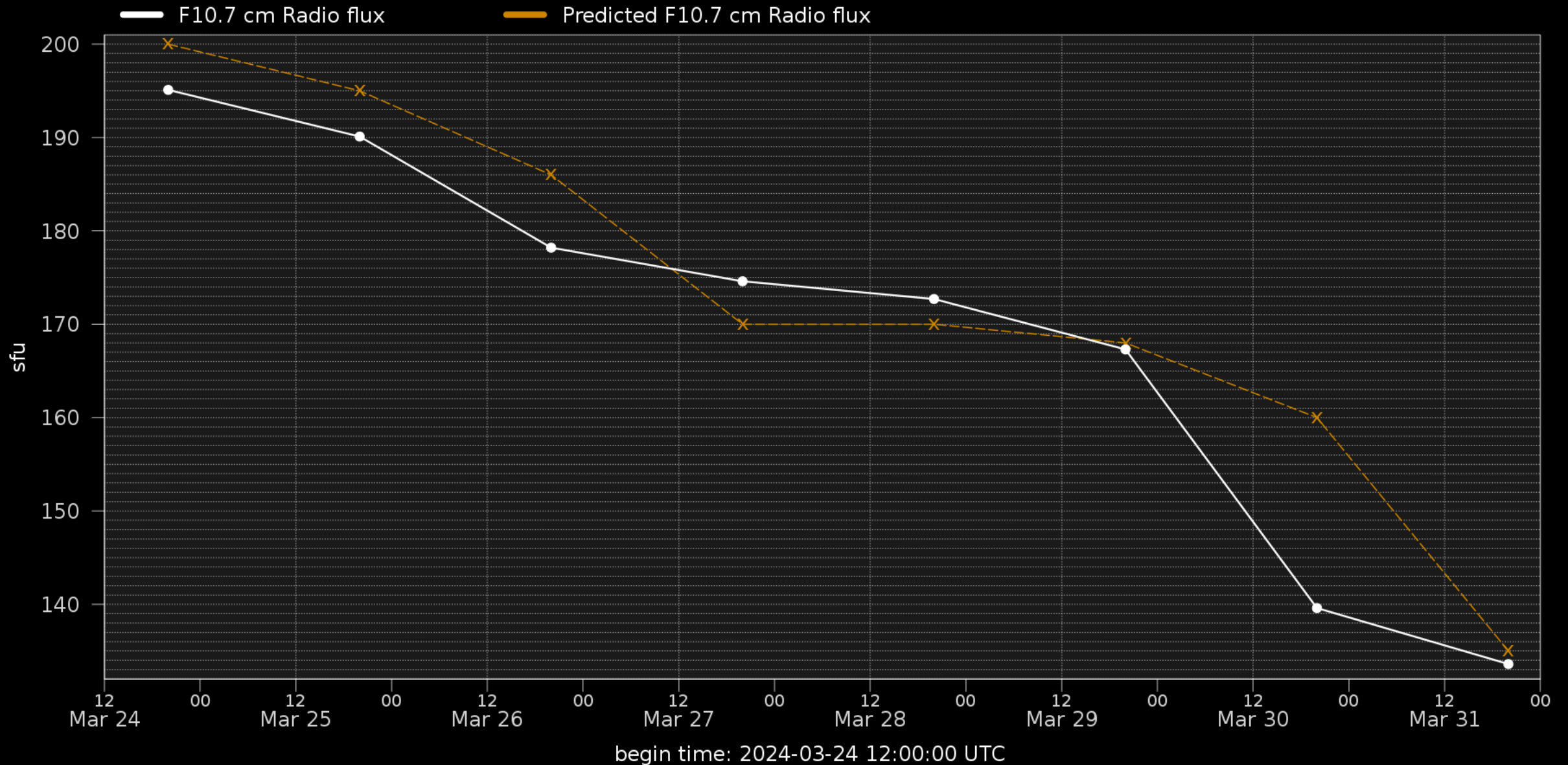


Kanzelhöhe Observatory
2024-03-30 13:42:48 UT

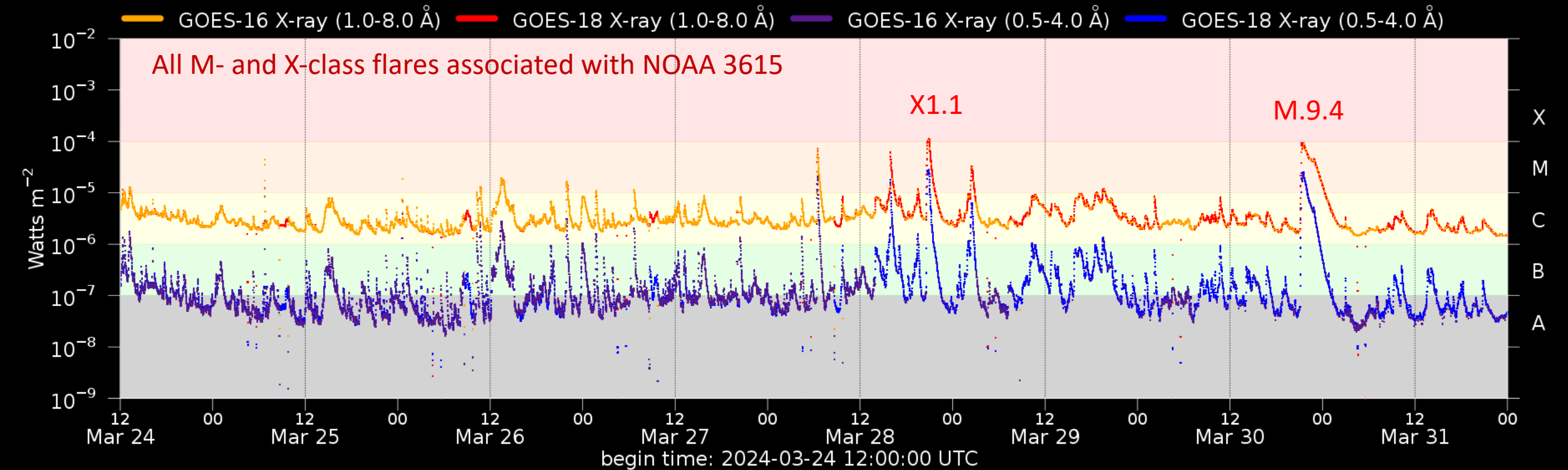
University of Graz
(Austria)



Solar F10.7cm radio flux



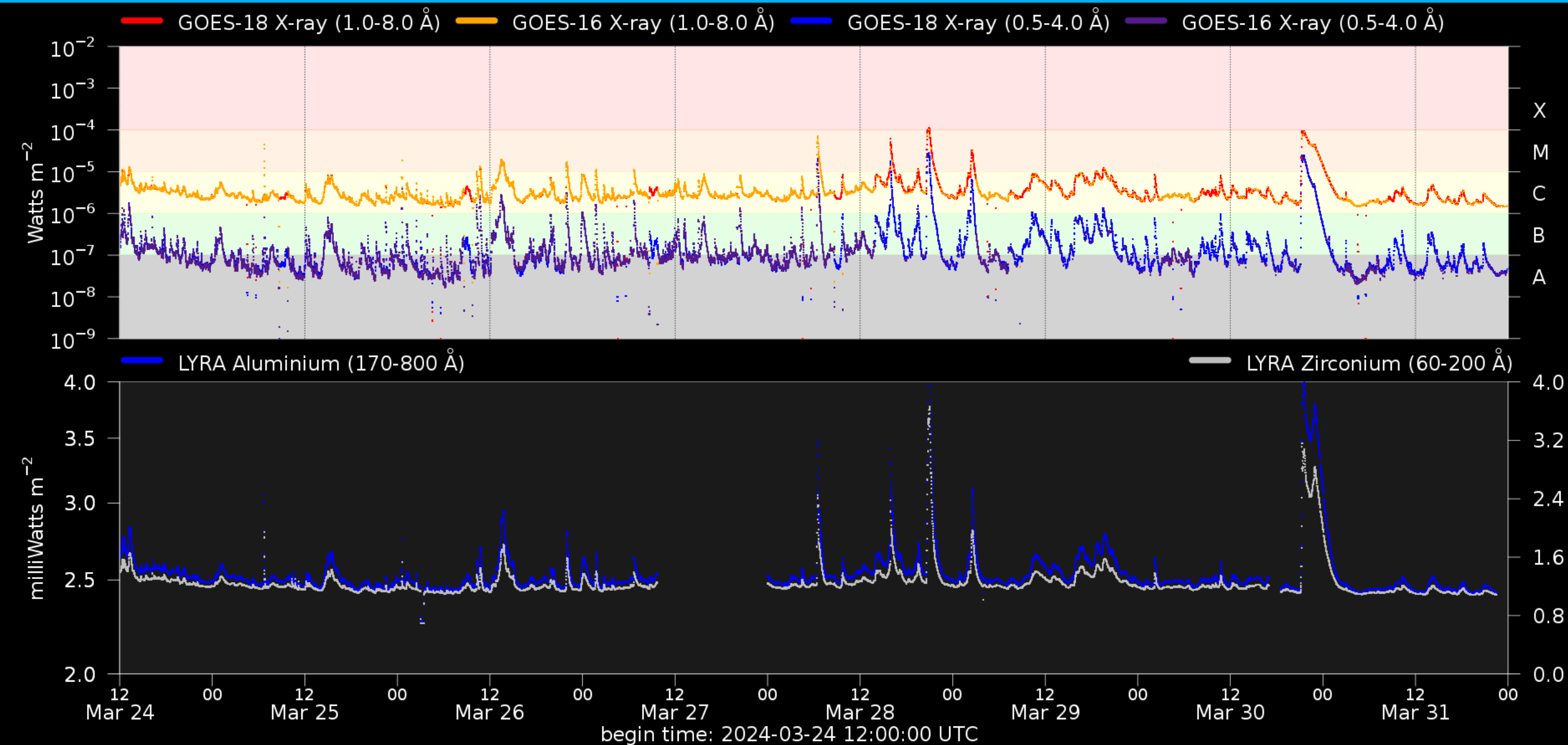
Flaring activity



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

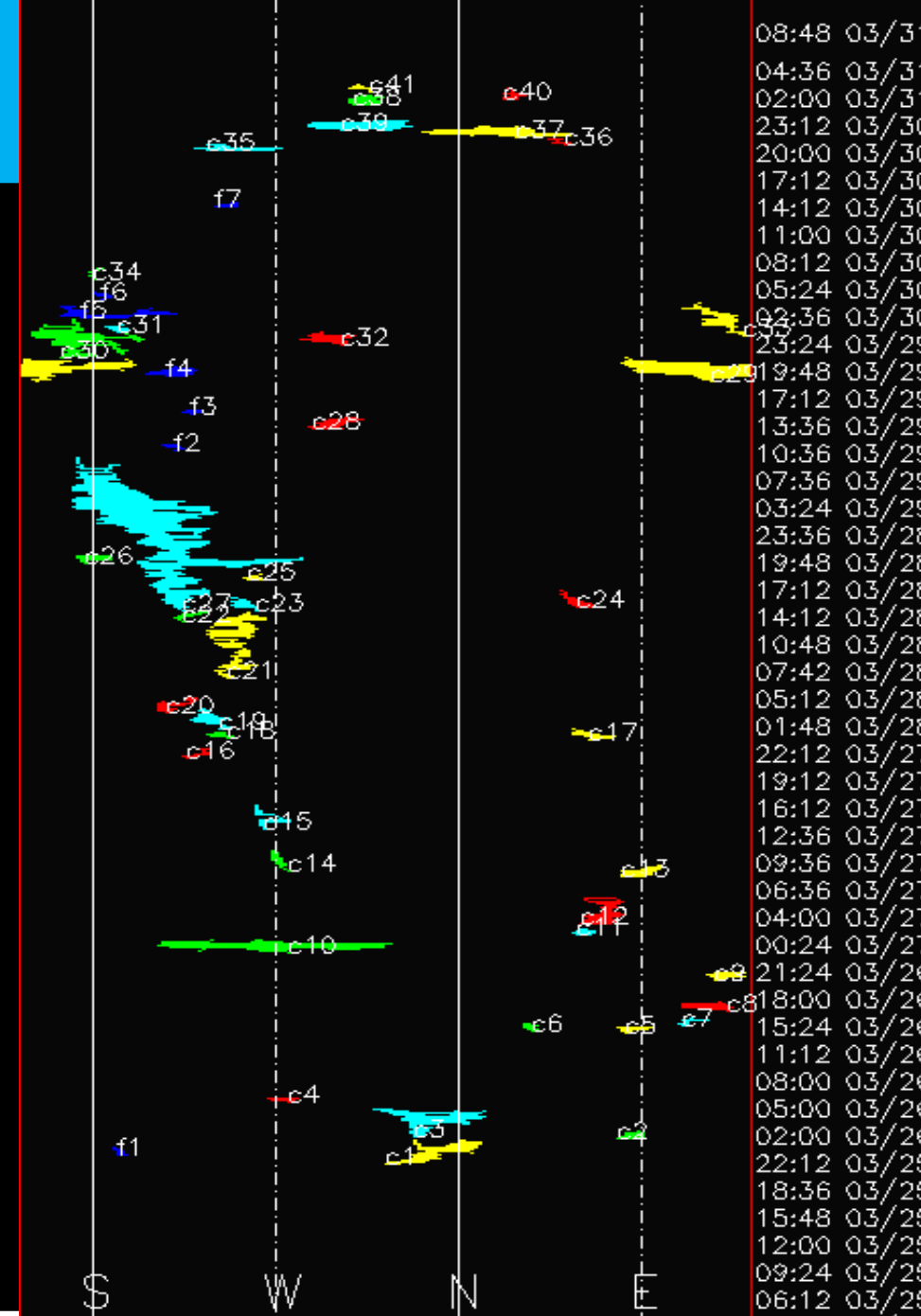
Issue date	2024-03-24	2024-03-25	2024-03-26	2024-03-27	2024-03-28	2024-03-29	2024-03-30	2024-03-31
Probability (%)	99 90 40	99 85 25	99 80 25	99 75 20	99 70 20	99 75 20	99 70 25	99 60 10
Observed (#)	03 03 00	12 03 00	07 04 00	08 01 00	04 03 01	05 02 00	03 01 00	00 00 00

Solar X-Ray and UV flux



Coronal Mass Ejections

No new Earth-directed CMEs observed in coronagraph imagery



Solar Wind and

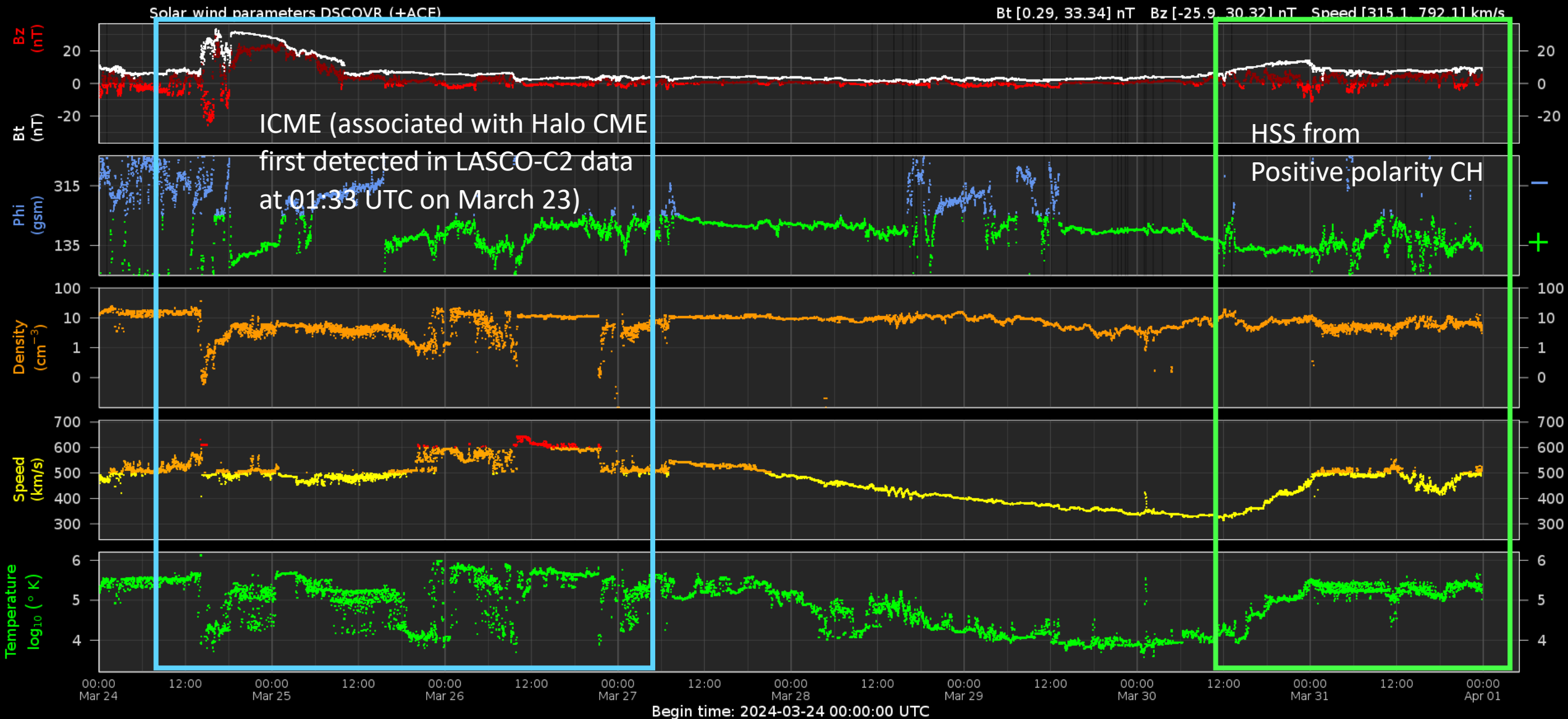
Geomagnetic Activity



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Solar wind parameters



Solar wind parameters & K-indices



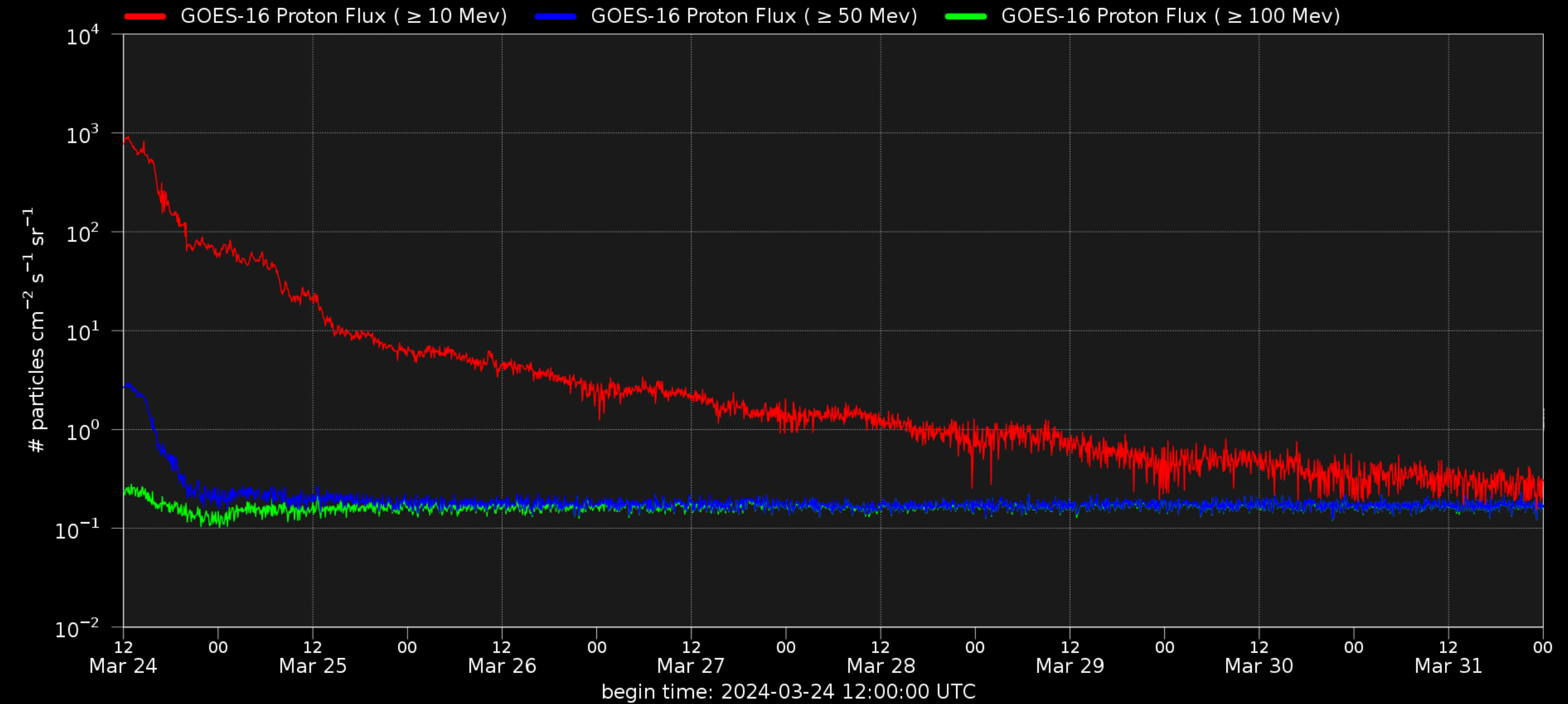
Energetic Particles



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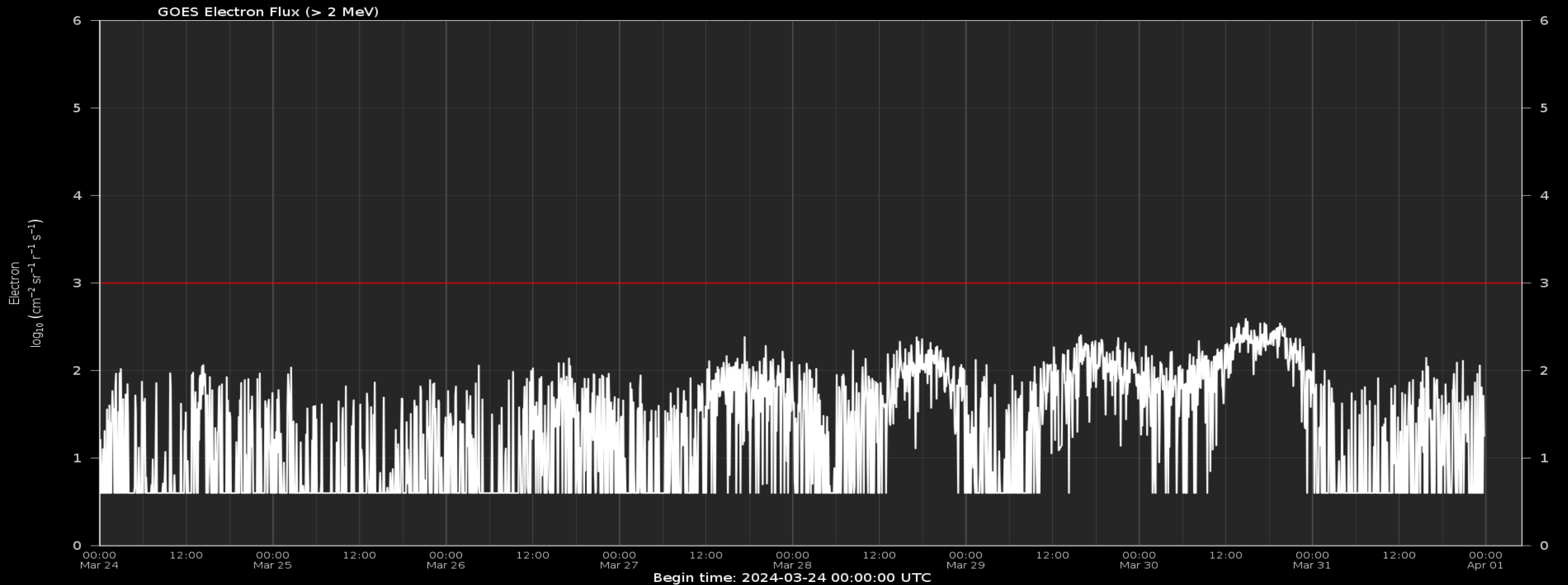
Solar proton flux



Electron flux at GEO

www.stce.be/educational/classification#electrons

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



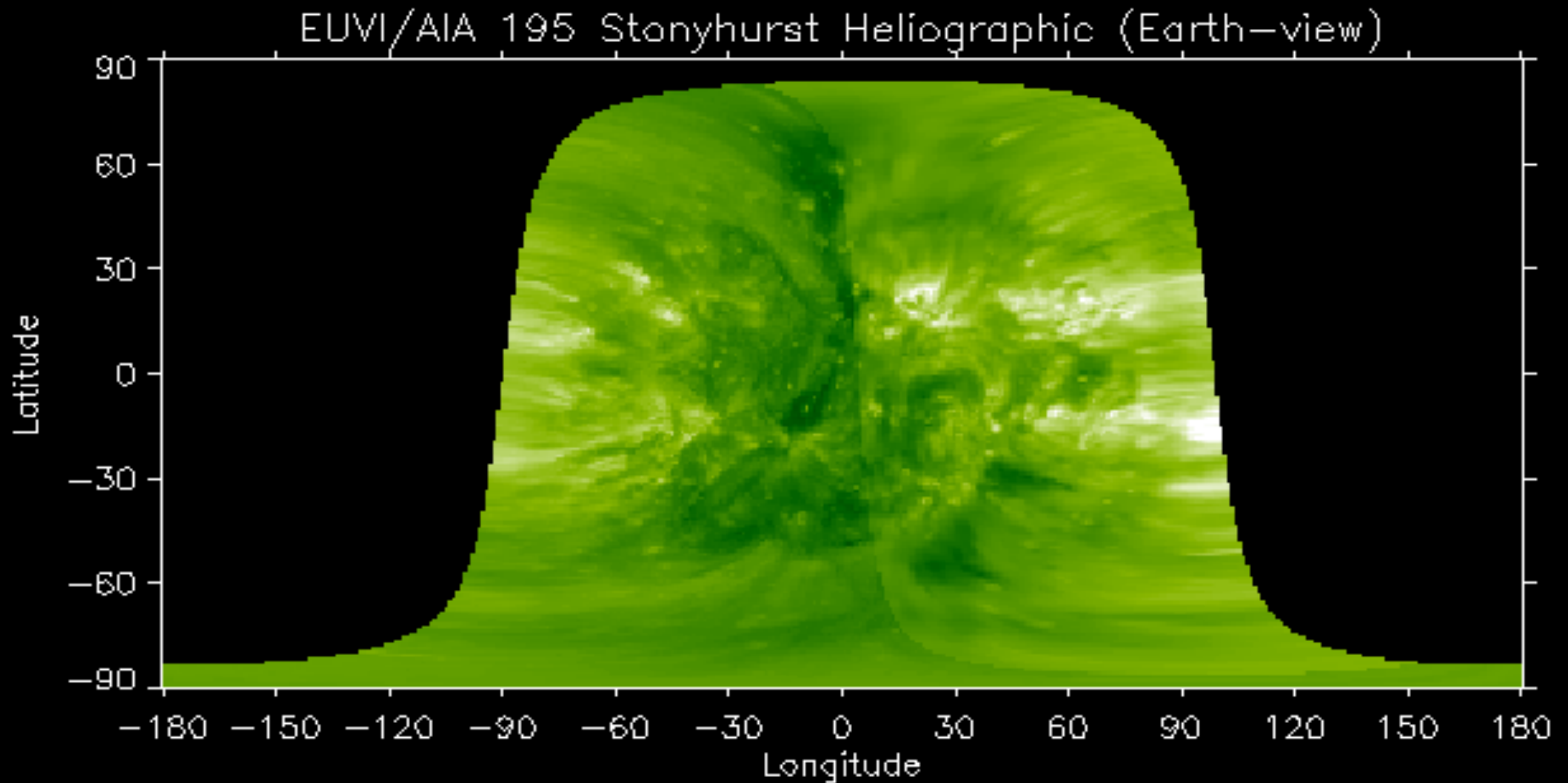
Outlook



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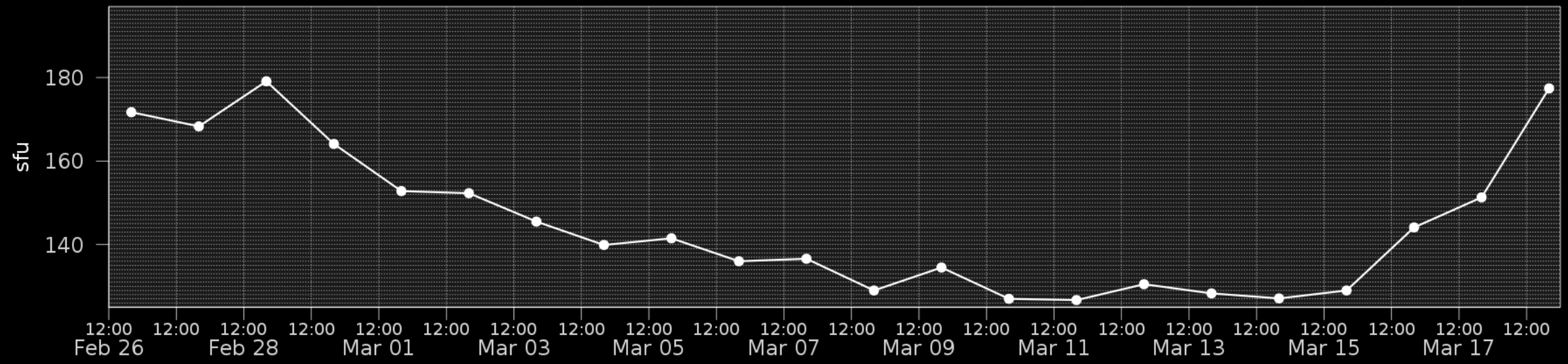
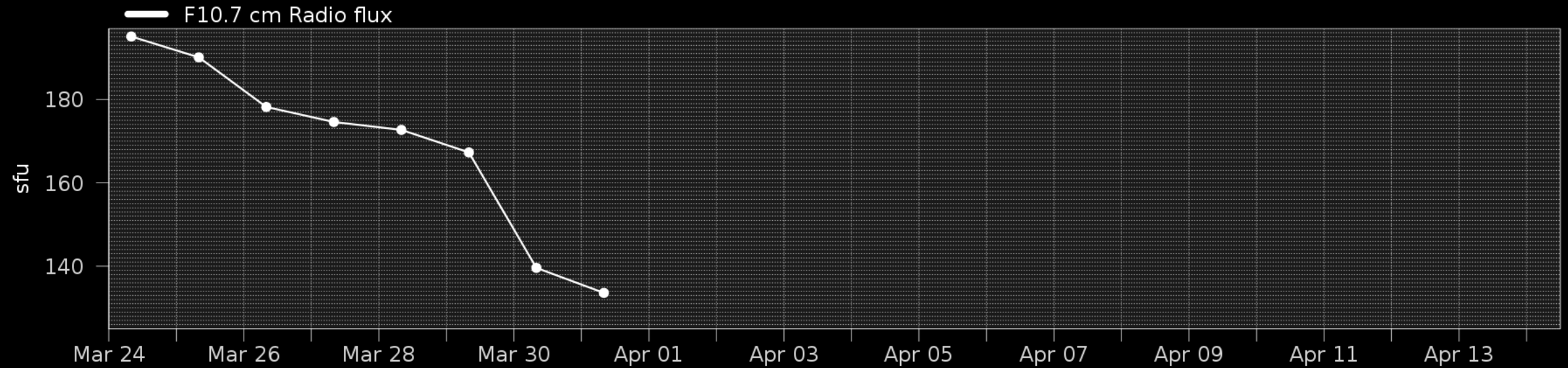
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Outlook: Solar activity



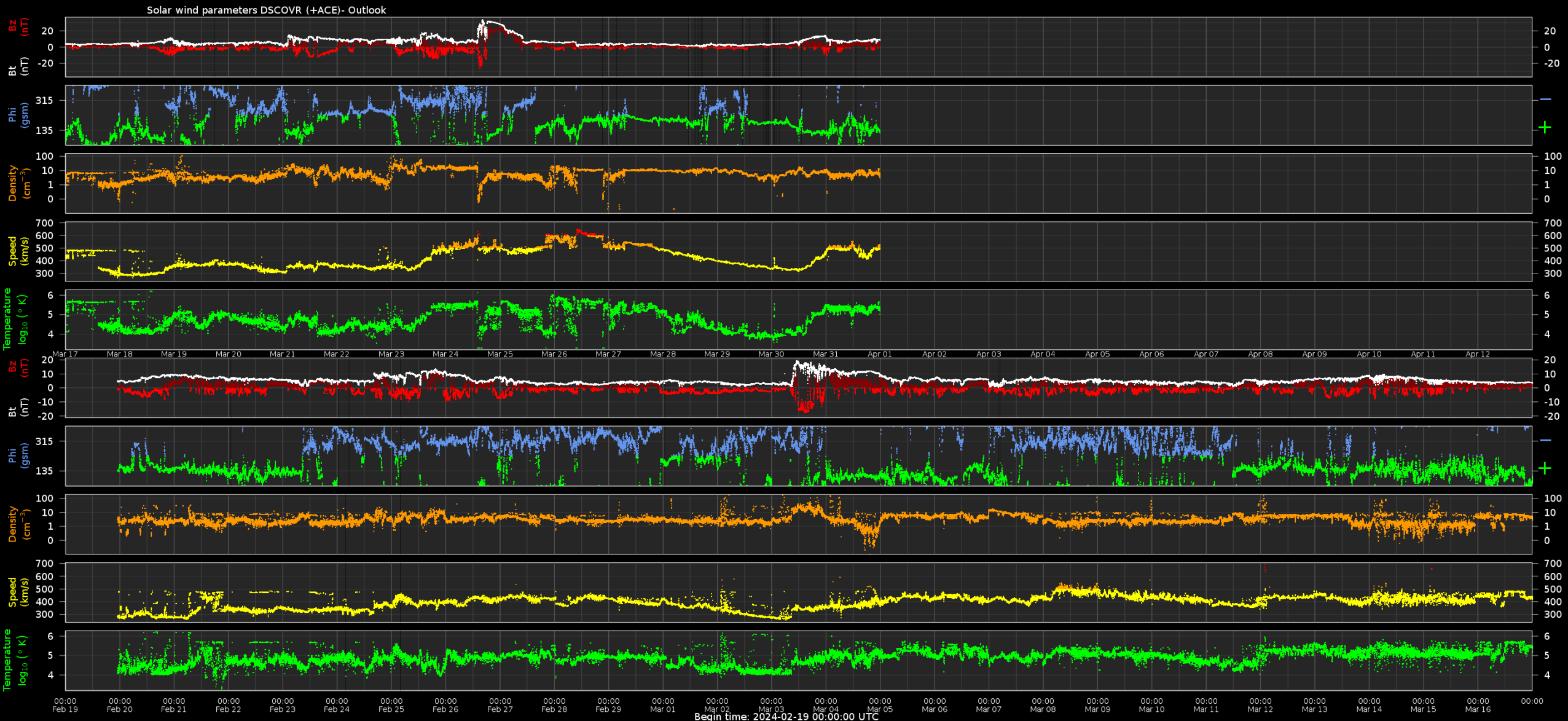
Observation date: 2024/03/31 15:05:00

Outlook: Solar F10.7cm radio flux



begin time: 2024-03-24 12:00:00 UTC

Outlook: Solar wind parameters



Outlook: Geomagnetic activity



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See you at our next briefing!

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