

SIDC Space Weather Briefing

13 December 2020 - 20 December 2020

Cis Verbeeck

& the SIDC forecaster team



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Data analysis Centre
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Summary Report

Solar activity from 2020-12-13 12:00 to 2020-12-20 23:59

Active regions	Beta regions 2792 and 2793, decayed to plages in second half of the week
Flares	# C-class flare: 1 # M-class flare: 0 # X-class flare: 0
Filament eruptions	1 filament eruption on December 15
Coronal Holes	Extension of the north polar crown coronal hole at CM on December 19

Proton flux	Nominal, below 1 pfu
Electron flux	Nominal

Solar wind and geomagnetic conditions

ICME	None
SW Conditions	B : 0.63 - 10.43 nT // Bz: -8.3 nT to 5.83 nT // Speed: 268.0 - 415.8km/s
K-indices	max K-index (Dourbes): 2 max Kp-index (NOAA): 2

Solar Activity

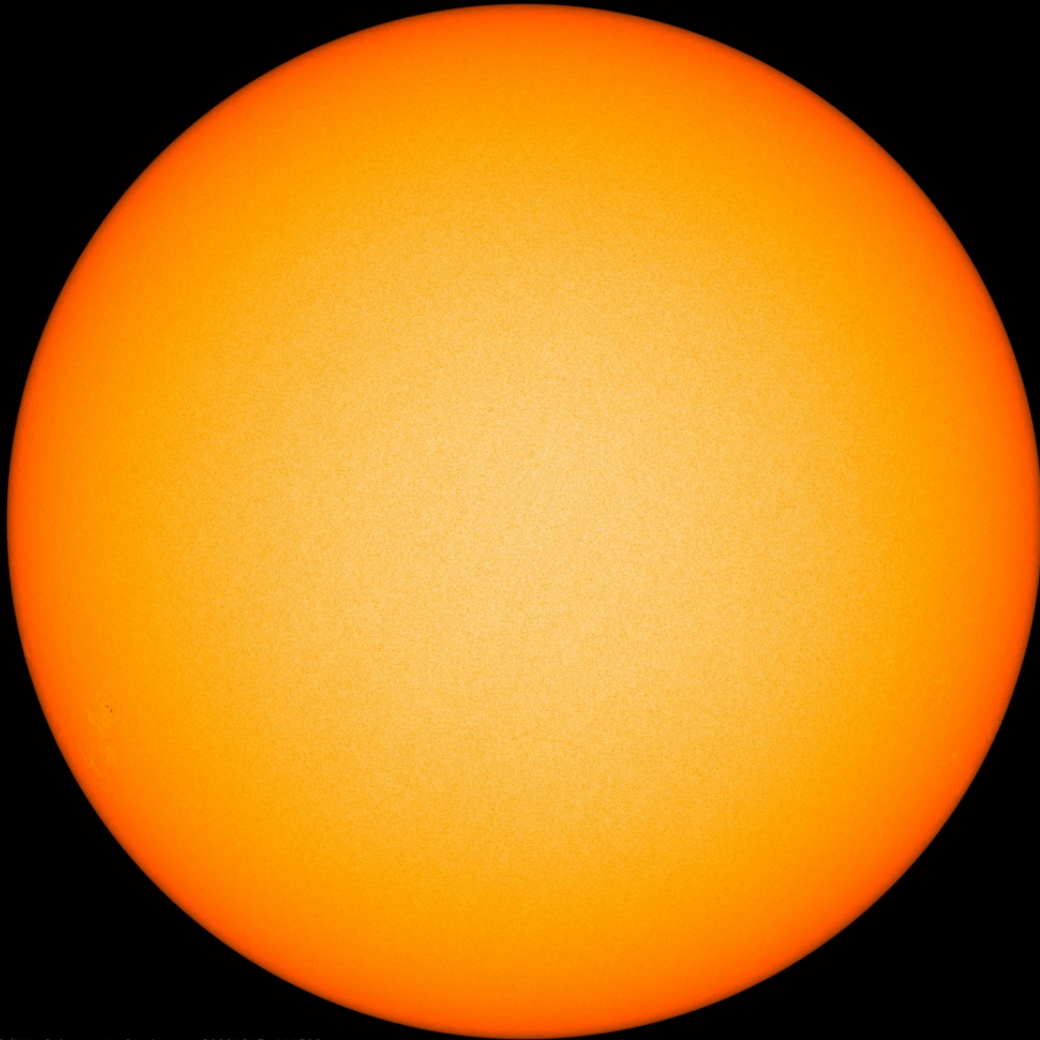


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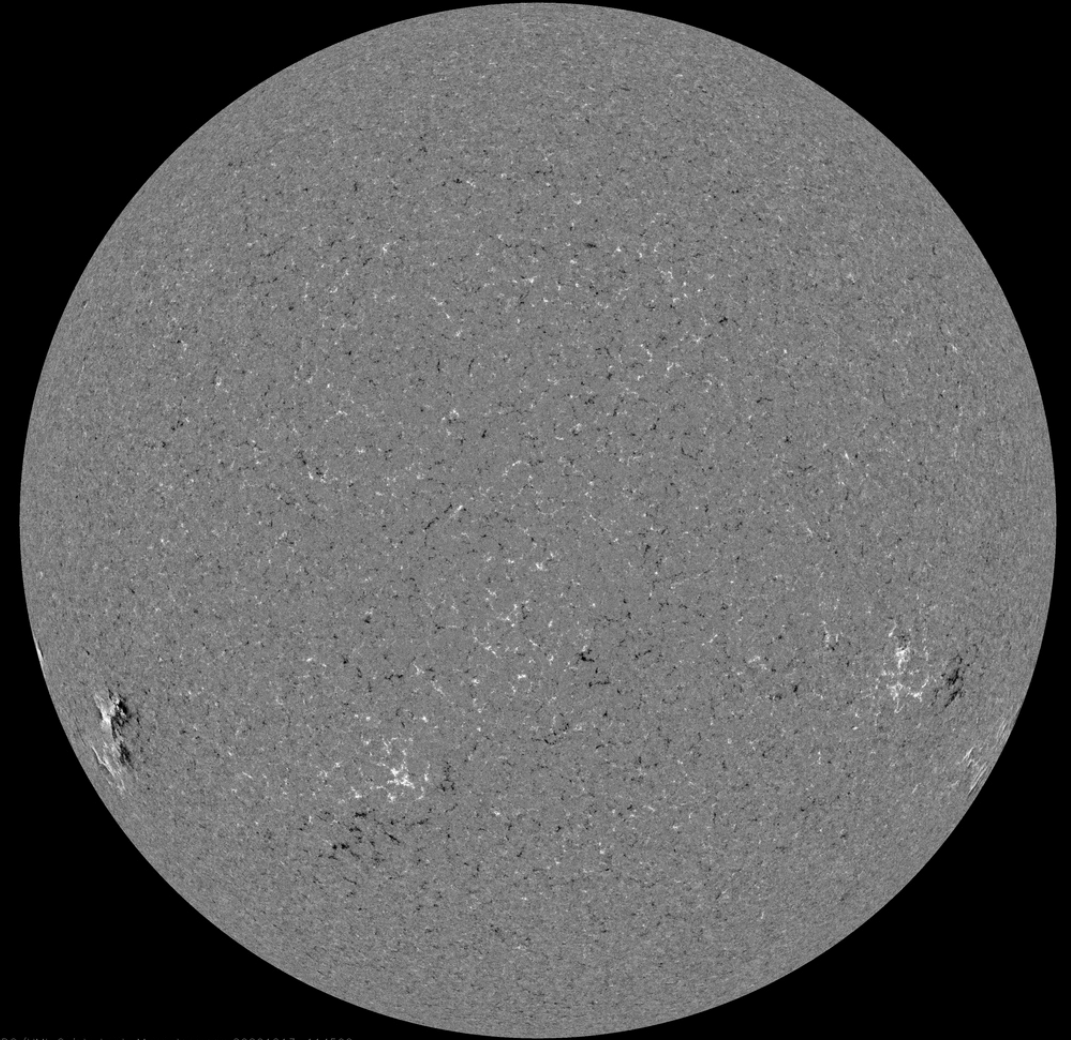
Solar active regions

SDO/HMI White Light 2020-12-13



SDO/HMI Quick-Look Continuum: 20201213_114500

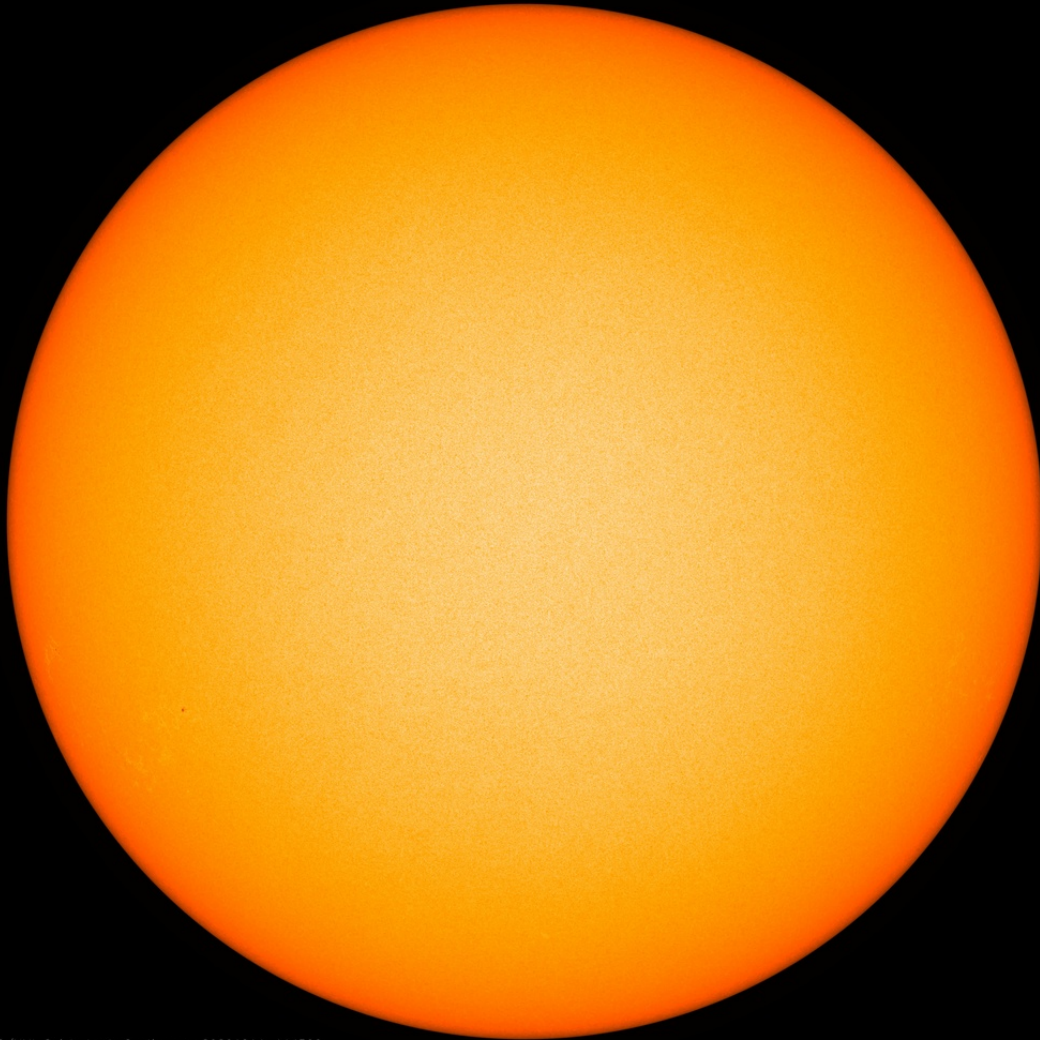
SDO/HMI Magnetogram 2020-12-13



SDO/HMI Quick-Look Magnetogram: 20201213_114500

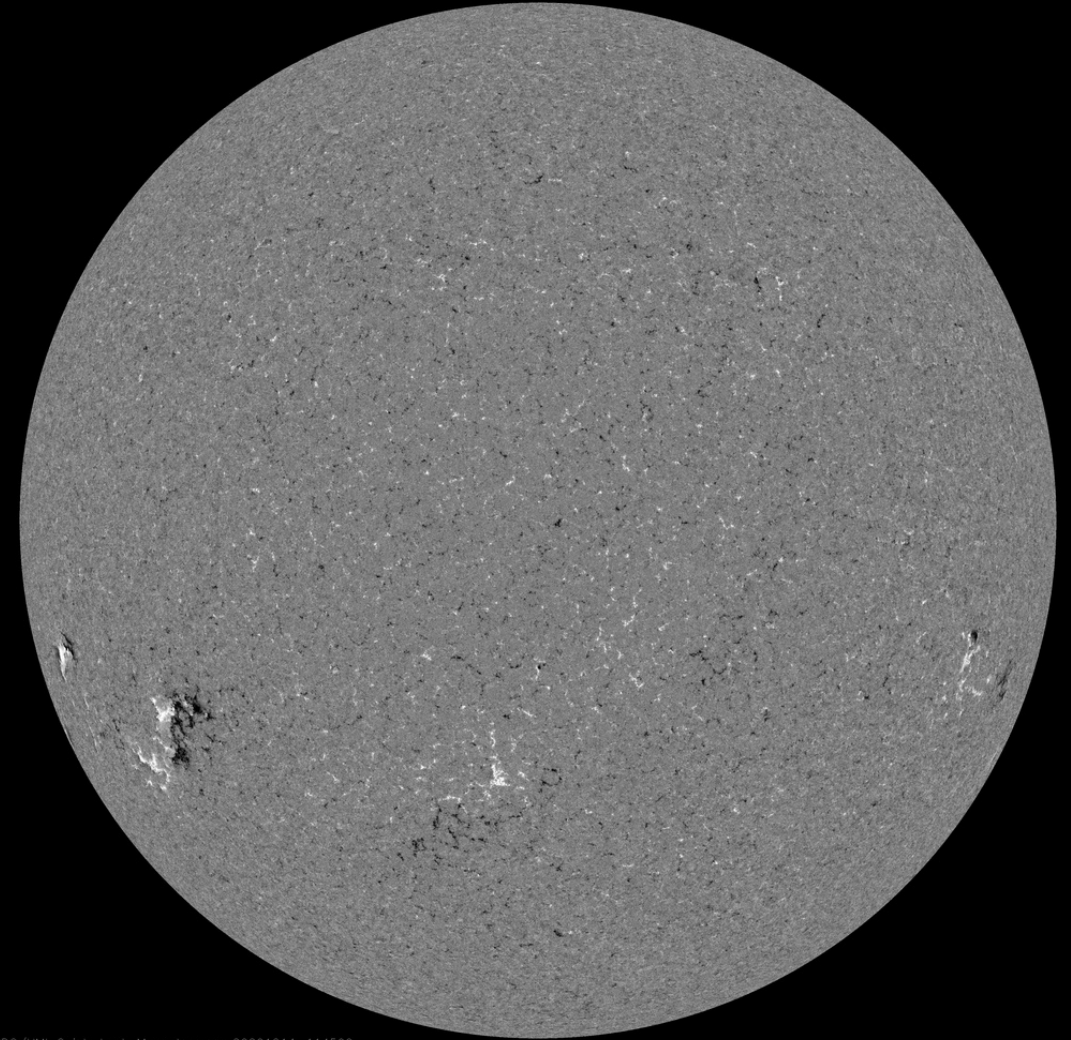
Solar active regions

SDO/HMI White Light 2020-12-14



SDO/HMI Quick-Look Continuum: 20201214_114500

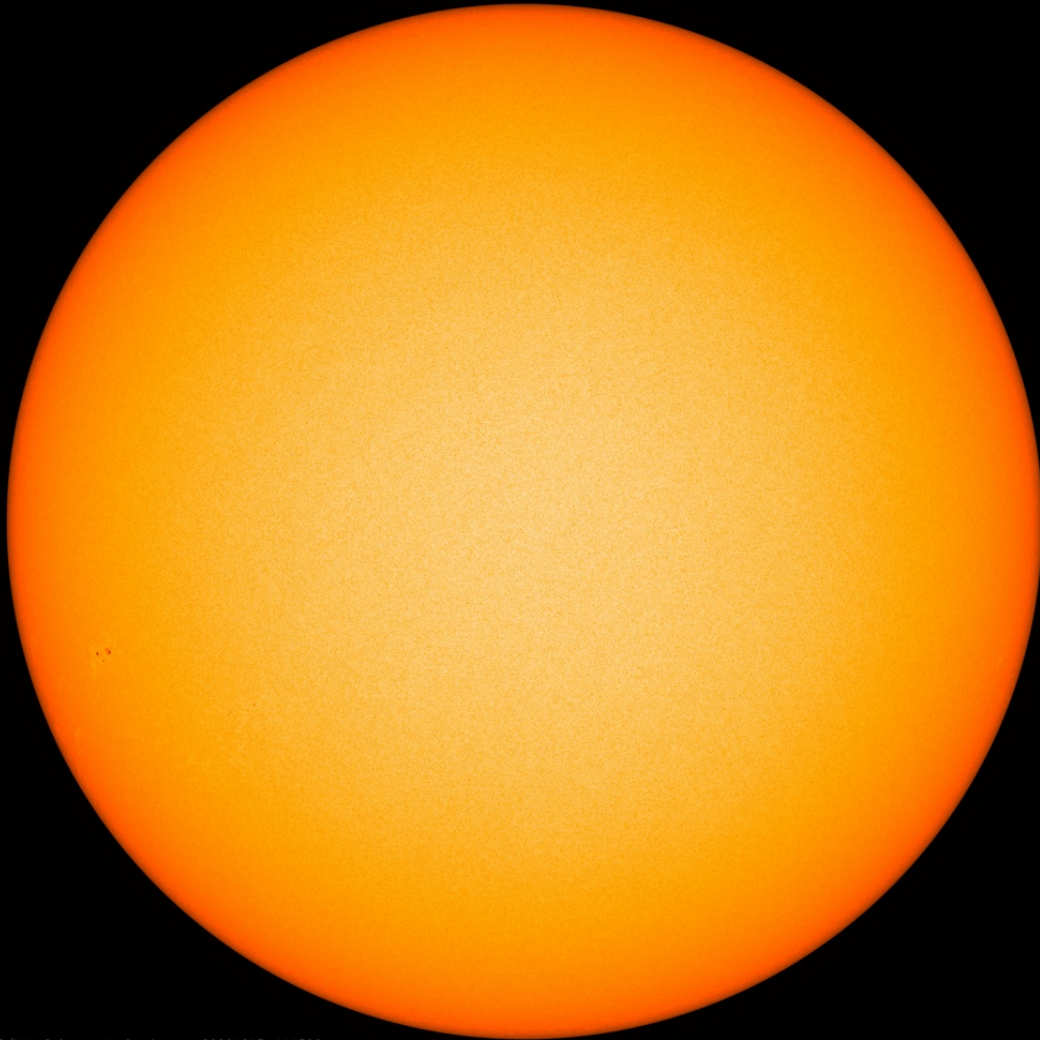
SDO/HMI Magnetogram 2020-12-14



SDO/HMI Quick-Look Magnetogram: 20201214_114500

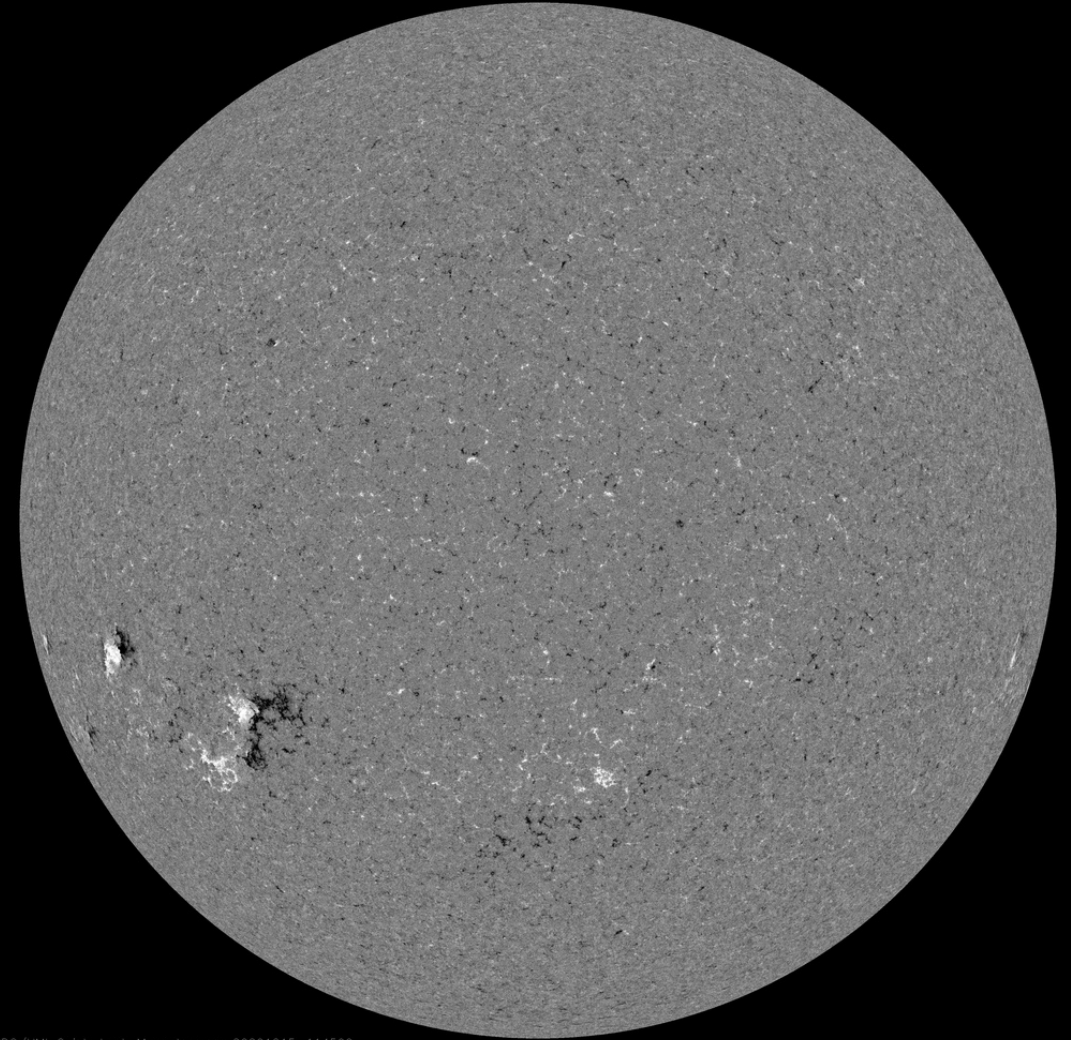
Solar active regions

SDO/HMI White Light 2020-12-15



SDO/HMI Quick-Look Continuum: 20201215_114500

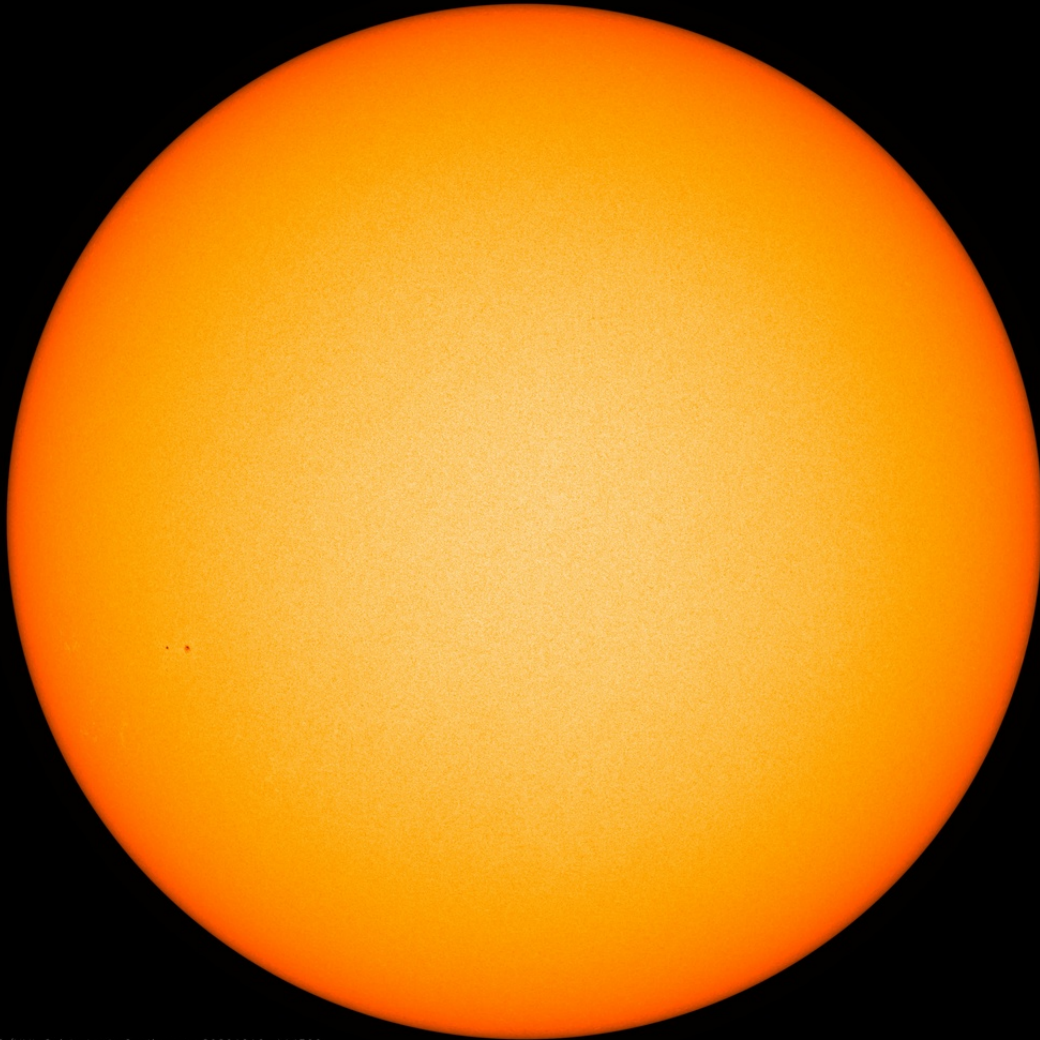
SDO/HMI Magnetogram 2020-12-15



SDO/HMI Quick-Look Magnetogram: 20201215_114500

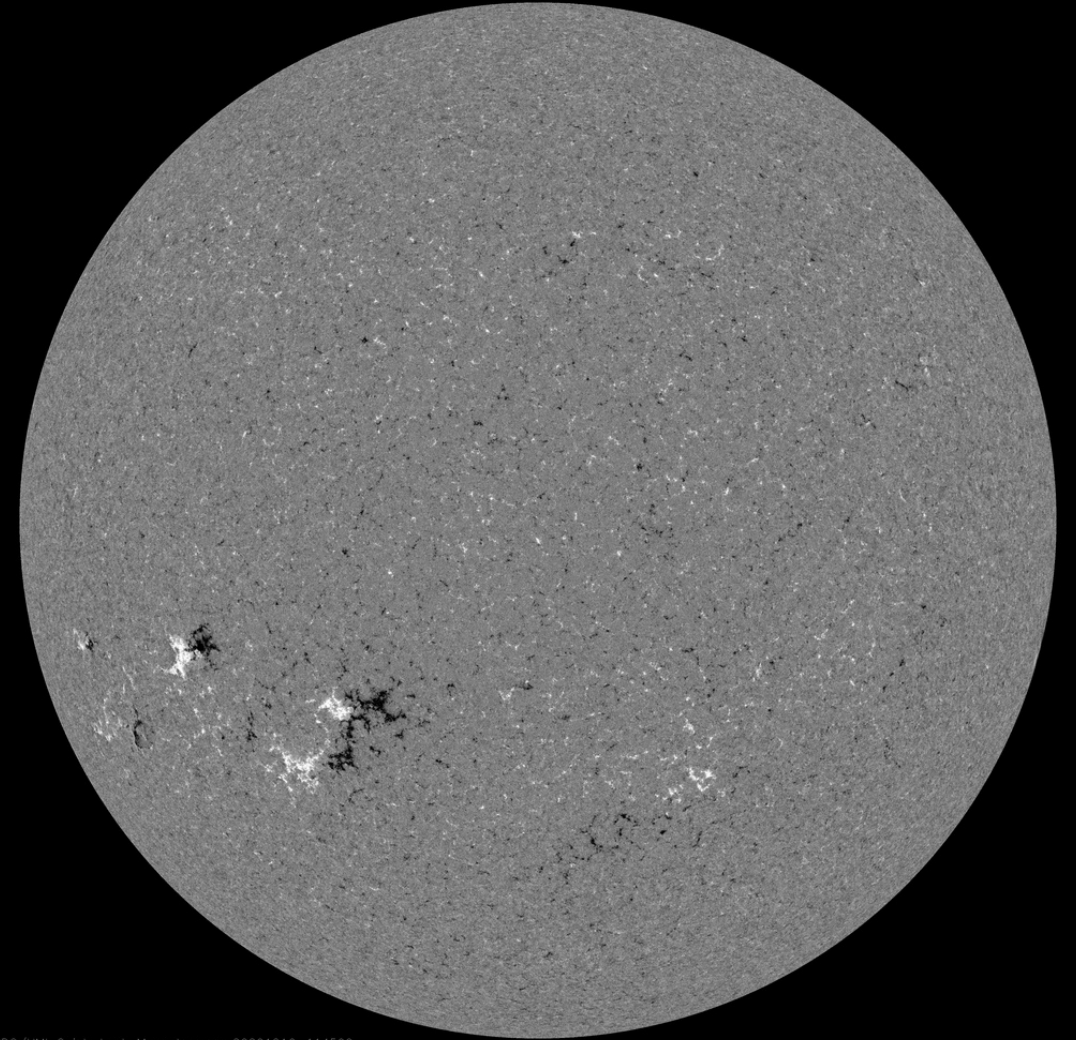
Solar active regions

SDO/HMI White Light 2020-12-16



SDO/HMI Quick-Look Continuum: 20201216_114500

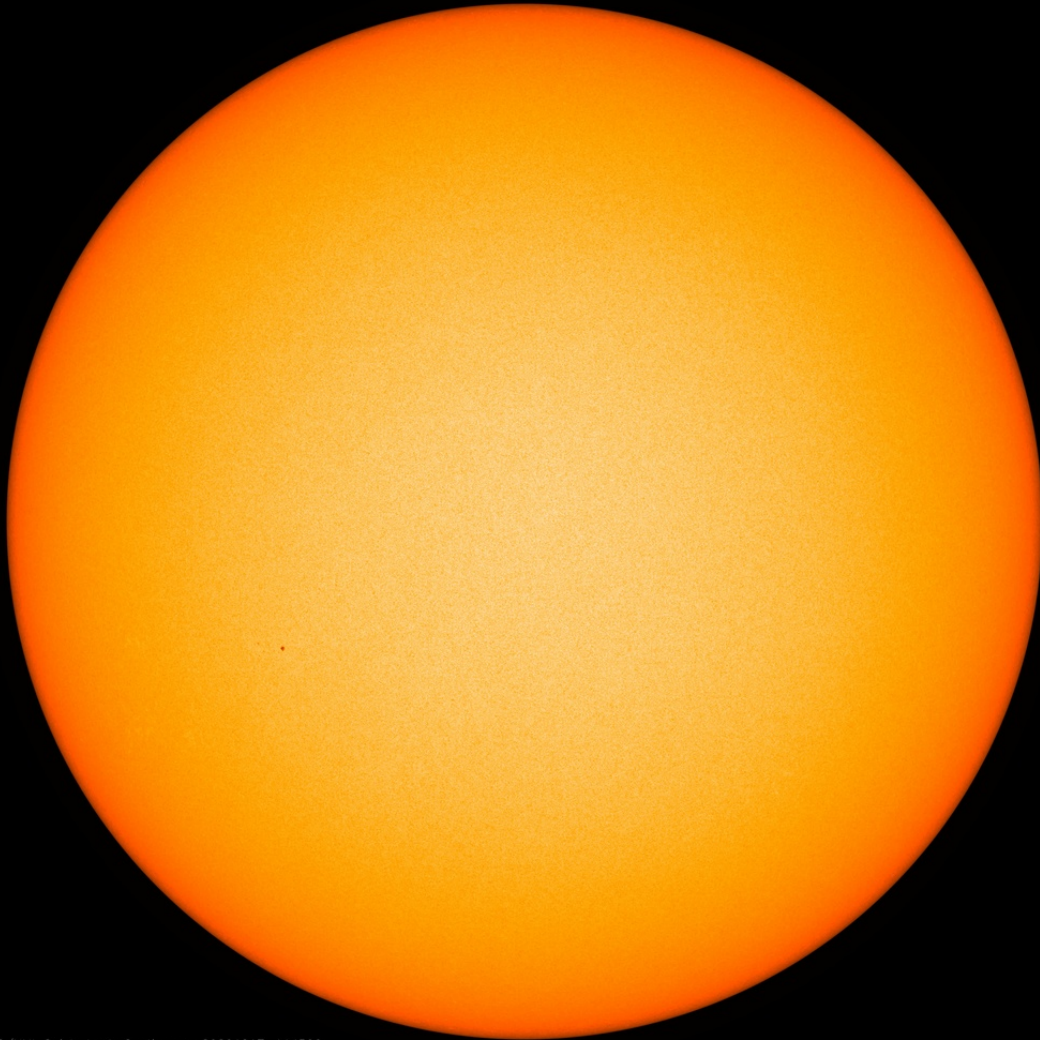
SDO/HMI Magnetogram 2020-12-16



SDO/HMI Quick-Look Magnetogram: 20201216_114500

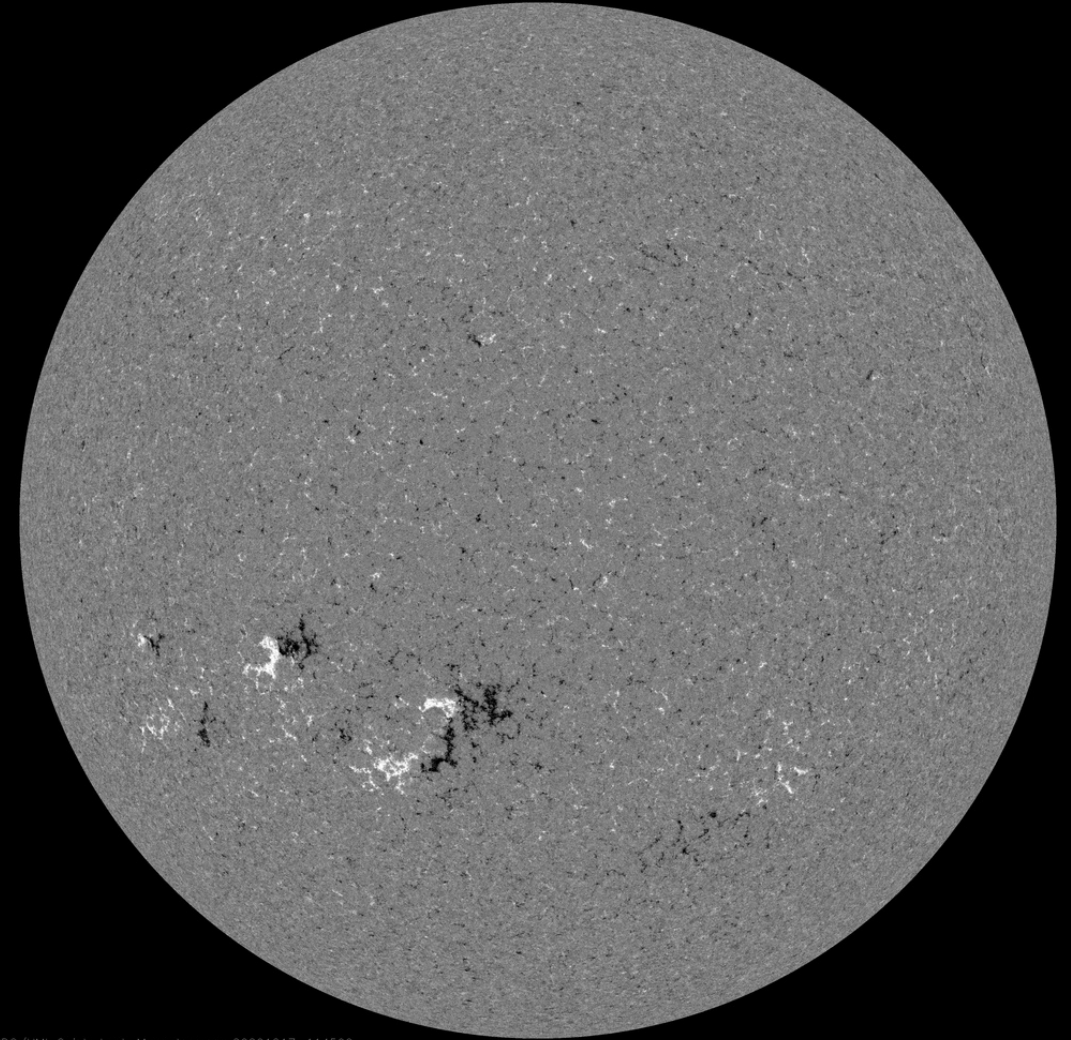
Solar active regions

SDO/HMI White Light 2020-12-17



SDO/HMI Quick-Look Continuum: 20201217_114500

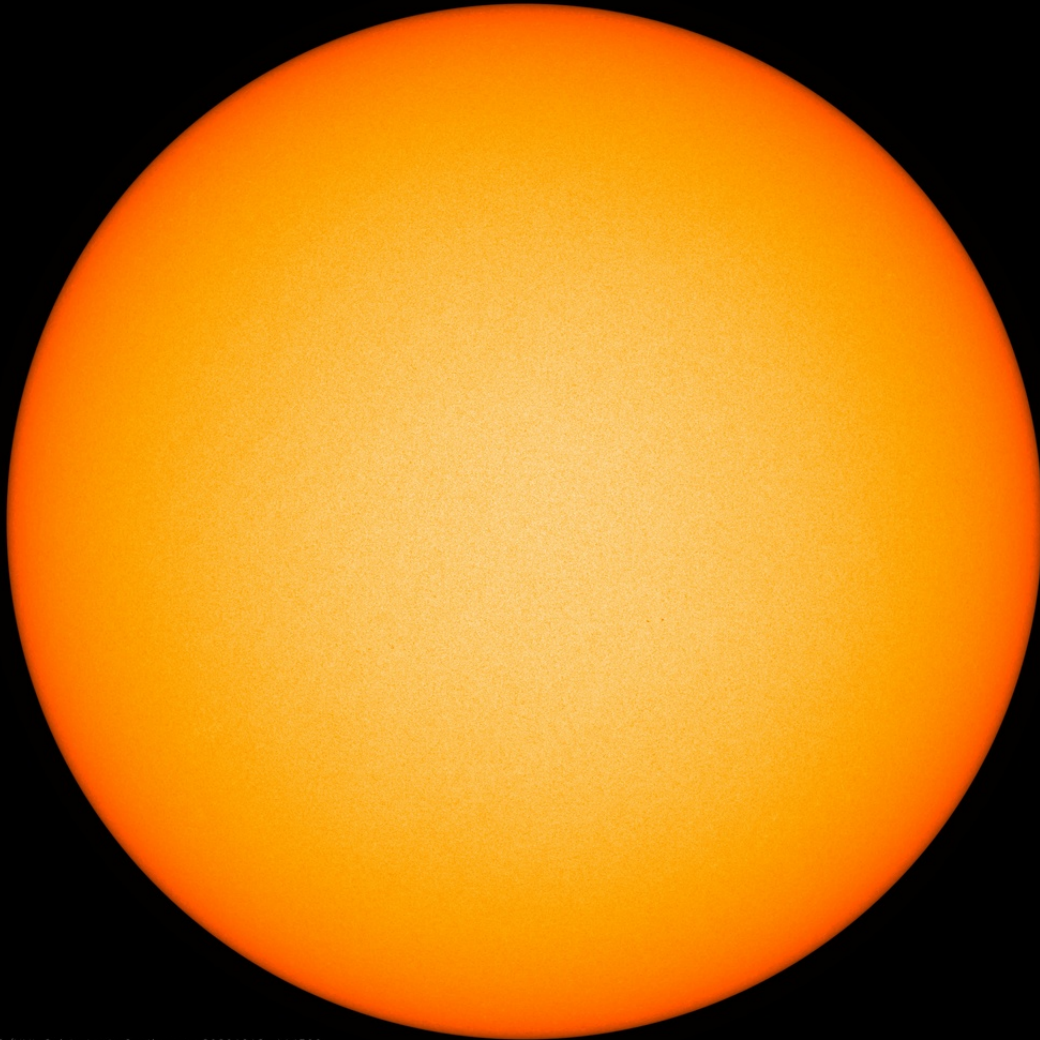
SDO/HMI Magnetogram 2020-12-17



SDO/HMI Quick-Look Magnetogram: 20201217_114500

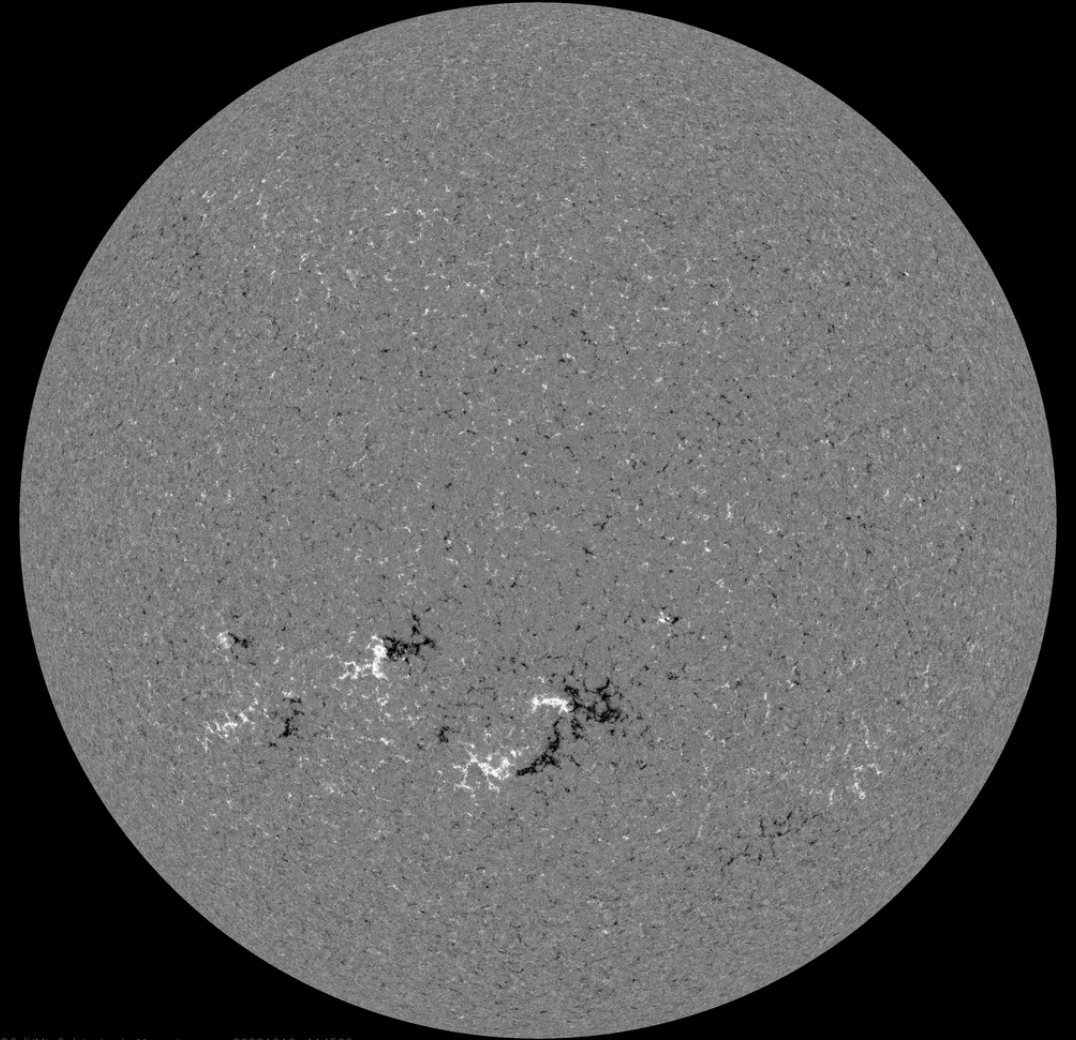
Solar active regions

SDO/HMI White Light 2020-12-18



SDO/HMI Quick-Look Continuum: 20201218_114500

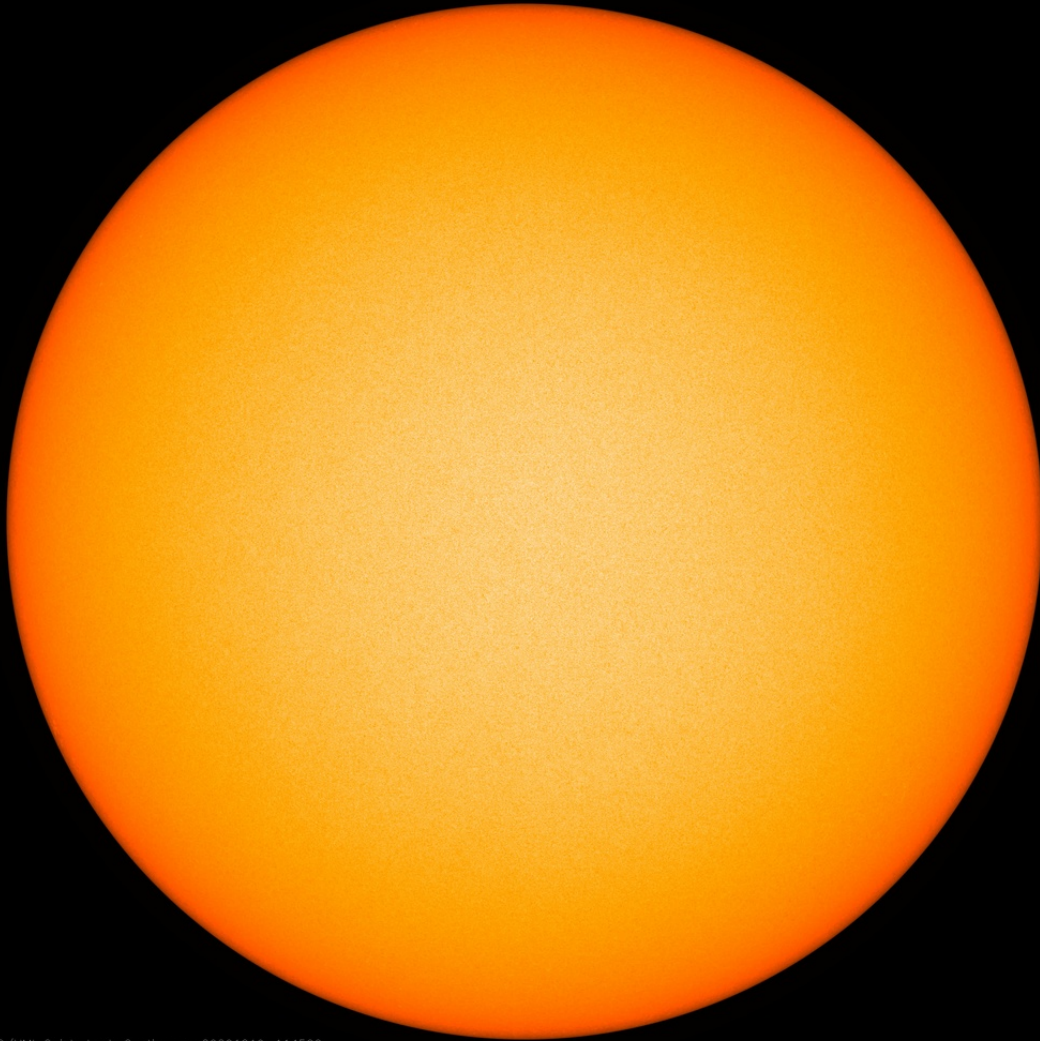
SDO/HMI Magnetogram 2020-12-18



SDO/HMI Quick-Look Magnetogram: 20201218_114500

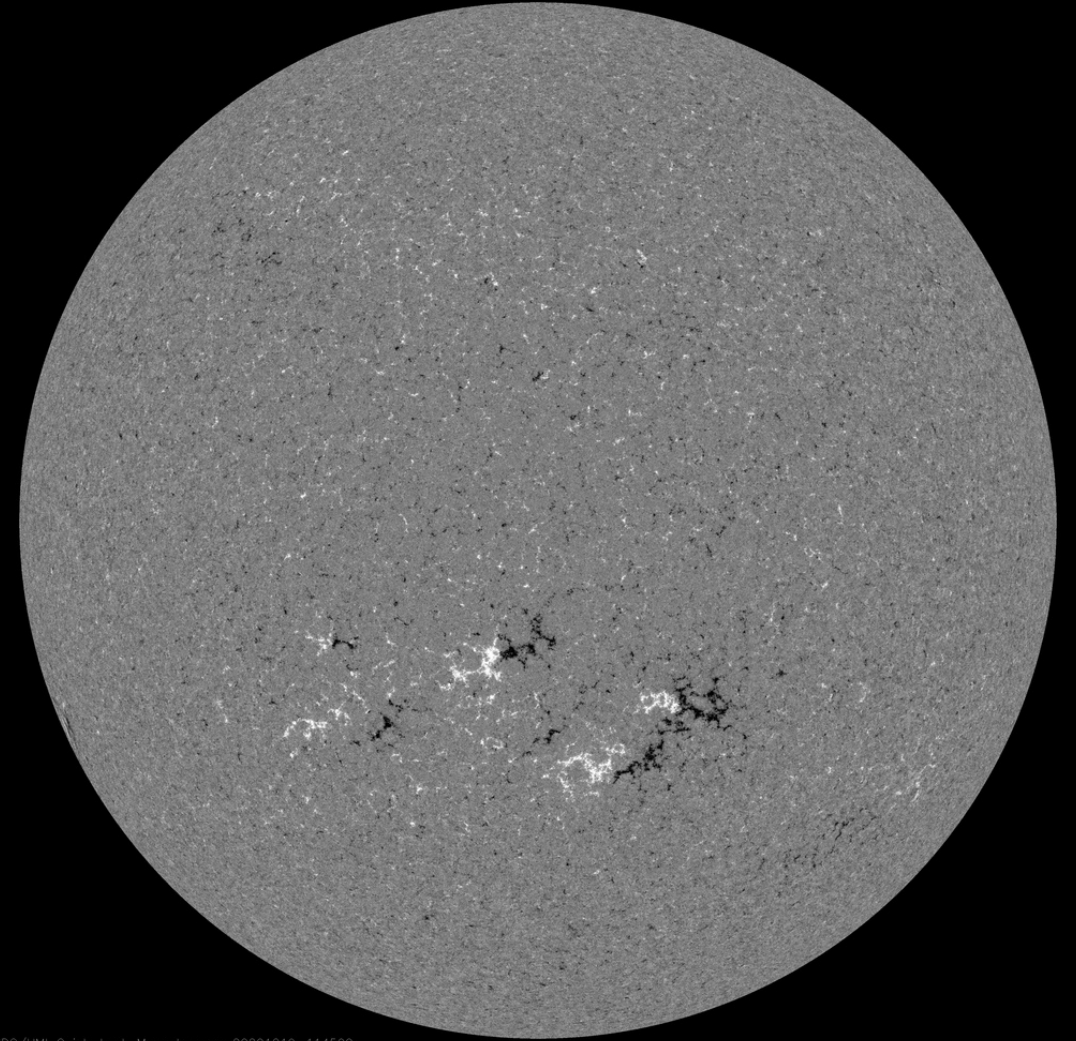
Solar active regions

SDO/HMI White Light 2020-12-19



SDO/HMI Quick-Look Continuum: 20201219_114500

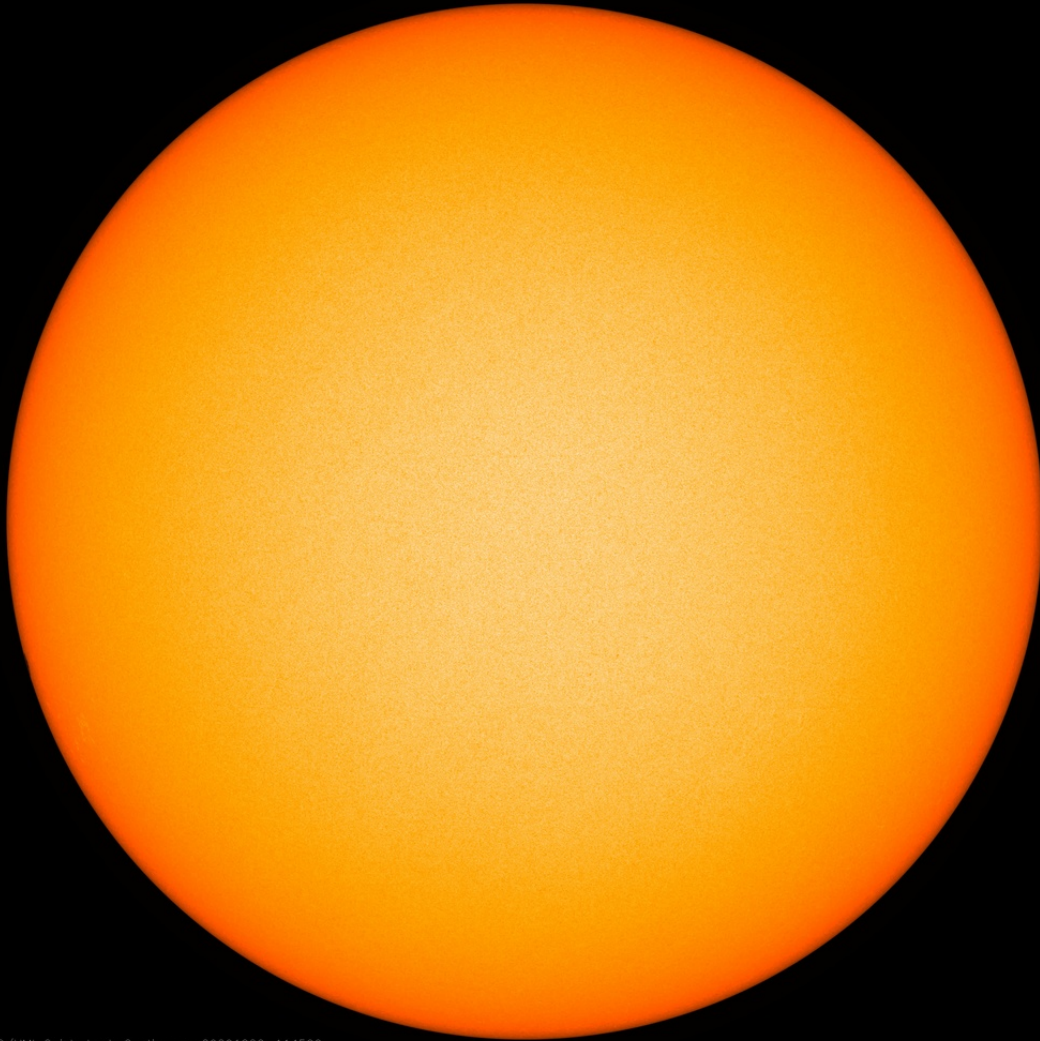
SDO/HMI Magnetogram 2020-12-19



SDO/HMI Quick-Look Magnetogram: 20201219_114500

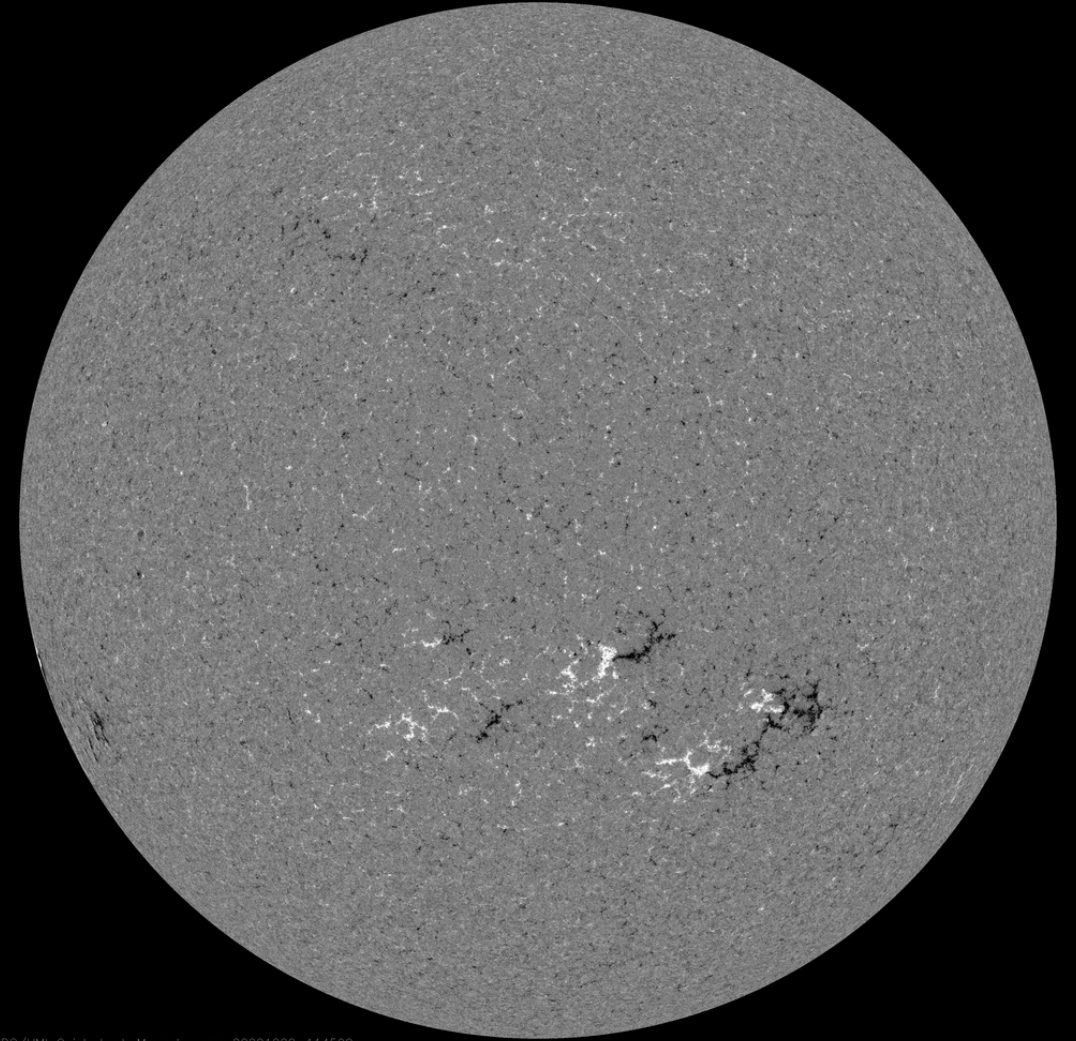
Solar active regions

SDO/HMI White Light 2020-12-20



SDO/HMI Quick-Look Continuum: 20201220_114500

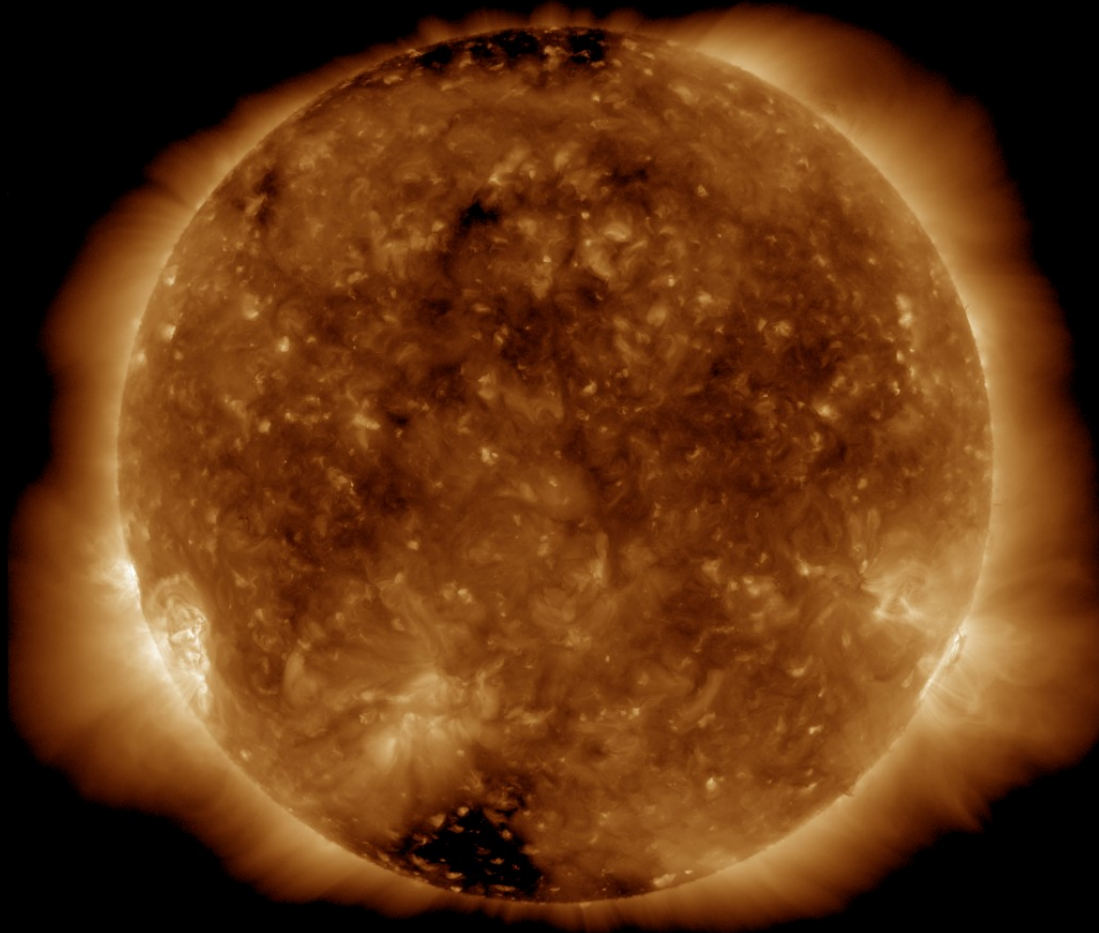
SDO/HMI Magnetogram 2020-12-20



SDO/HMI Quick-Look Magnetogram: 20201220_114500

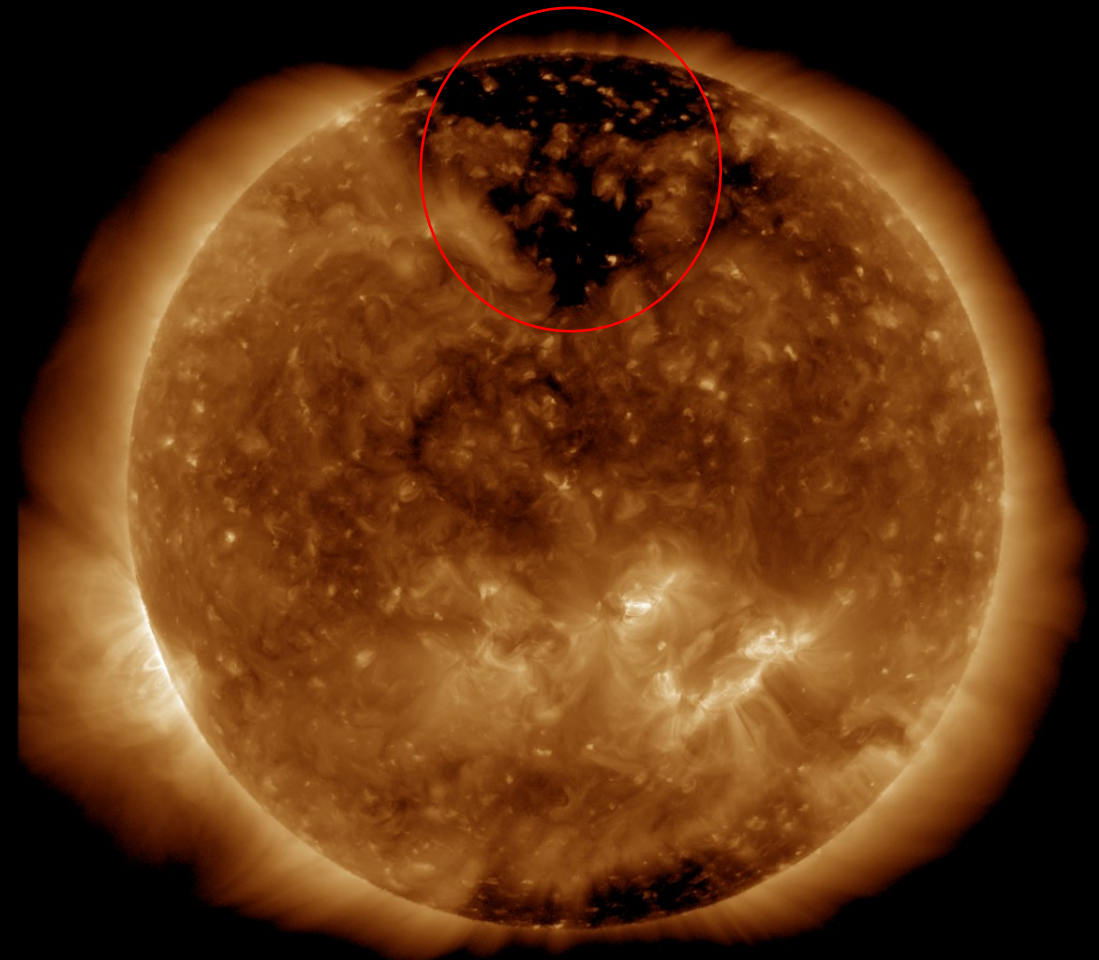
Coronal holes

SDO/AIA 19.3 nm 2020-12-13



SDO/AIA 193 2020-12-13 12:17:29 UT

SDO/AIA 19.3 nm 2020-12-20

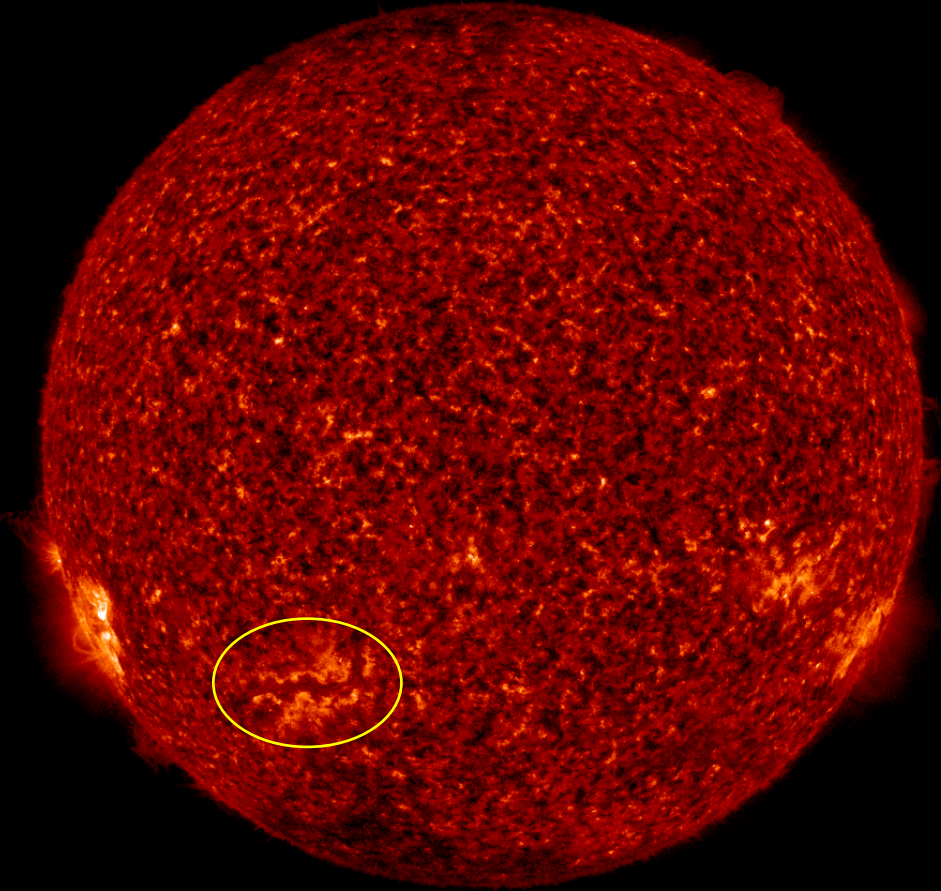


SDO/AIA 193 2020-12-20 12:18:05 UT

Filaments

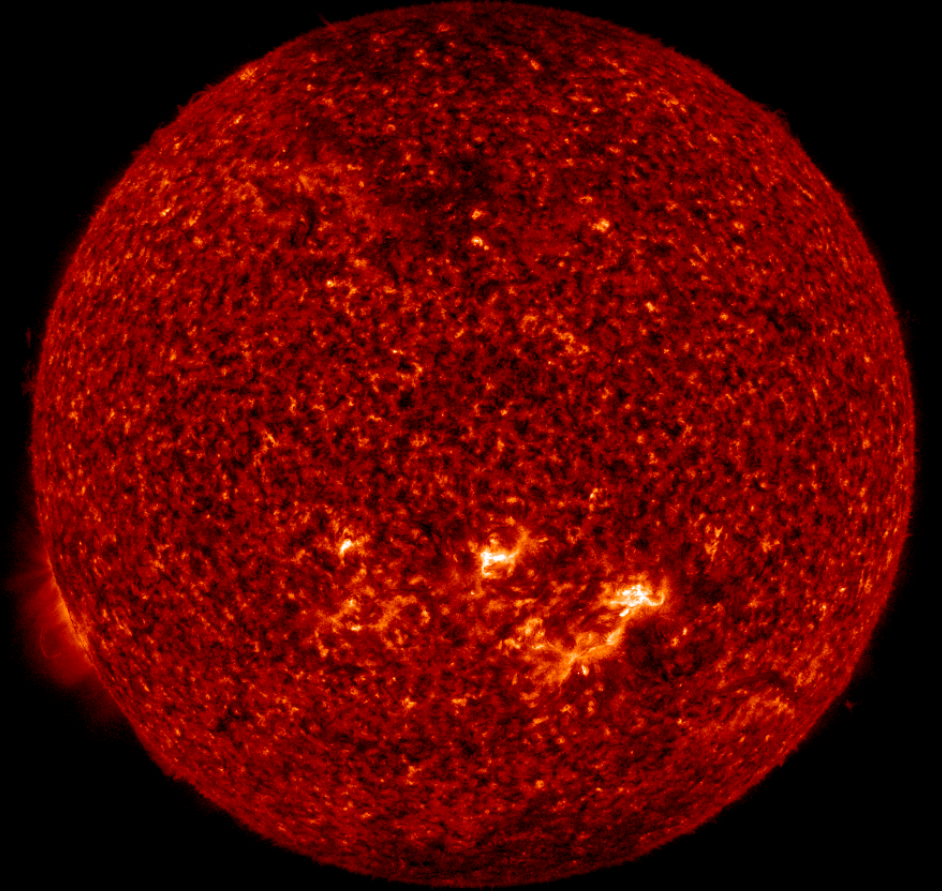
SDO/AIA 30.4 nm 2020-12-13

SDO/AIA AIA 304Å 2020-12-13T00:00:06.58

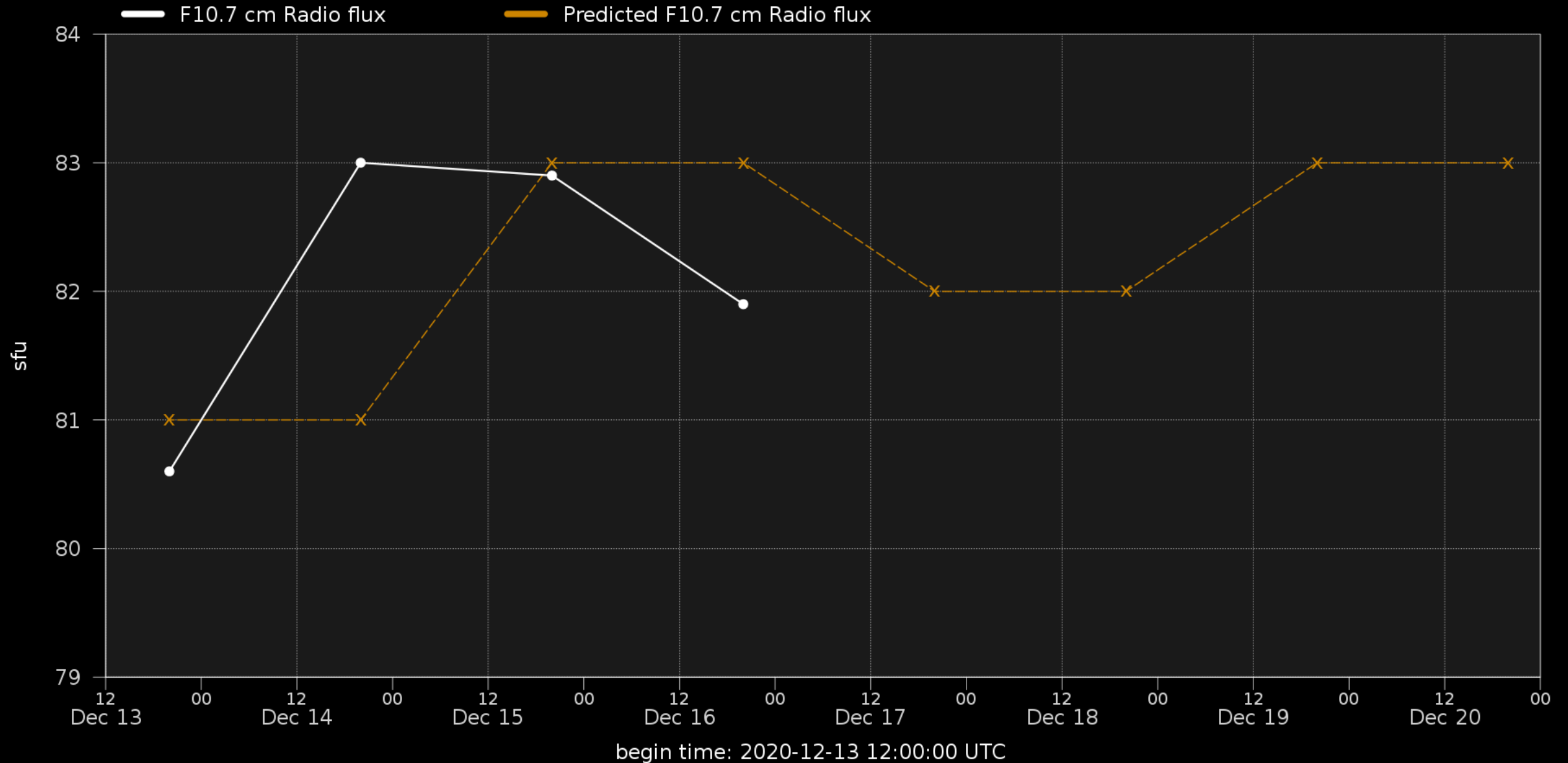


SDO/AIA 30.4 nm 2020-12-20

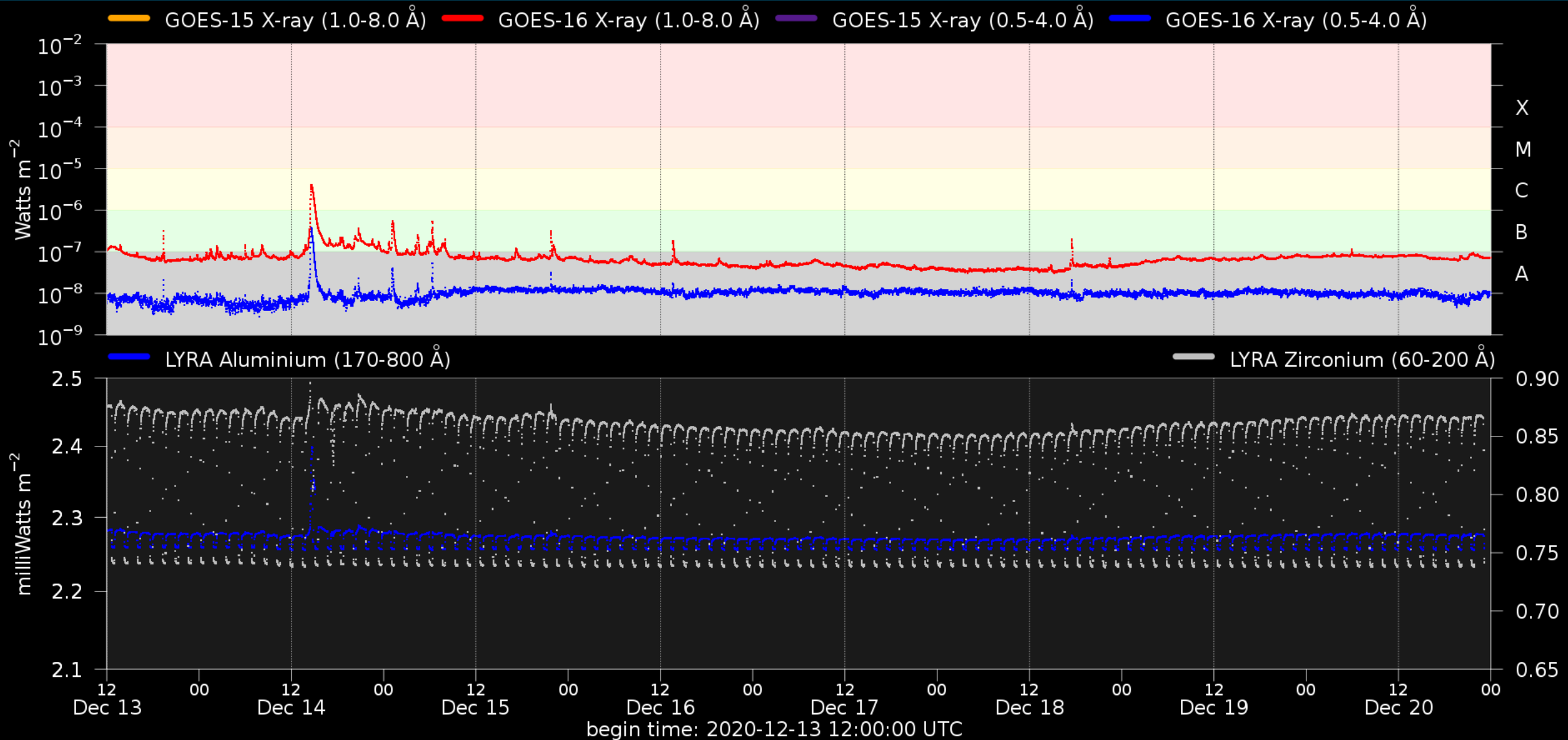
SDO/AIA AIA 304Å 2020-12-20T00:00:06.57



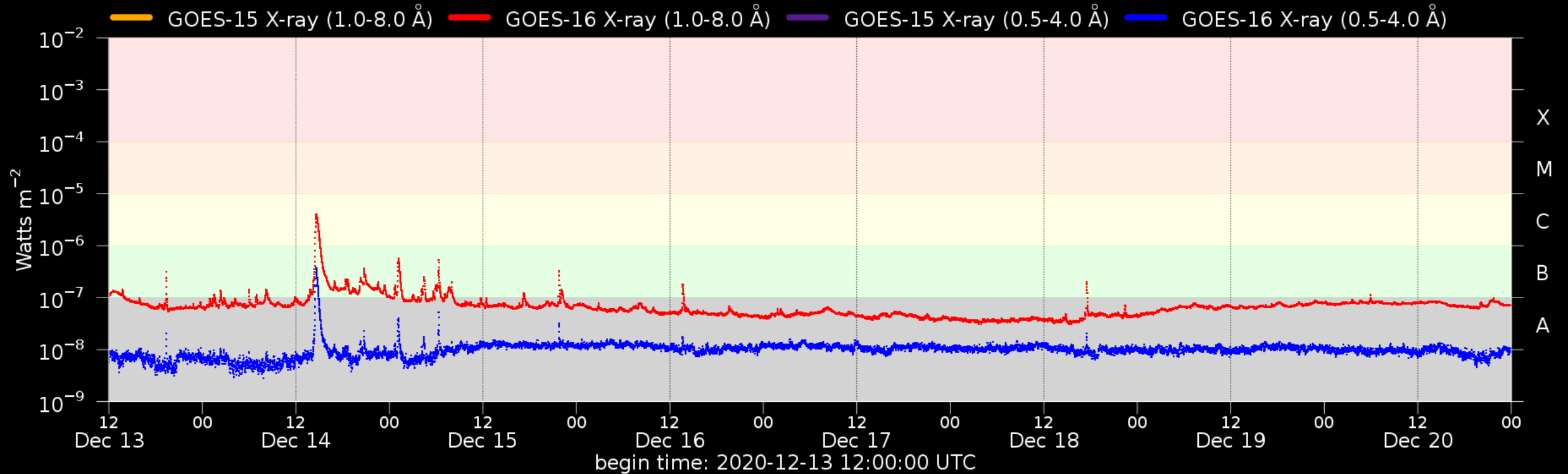
Solar F10.7cm radio flux



Solar X-Ray and UV flux



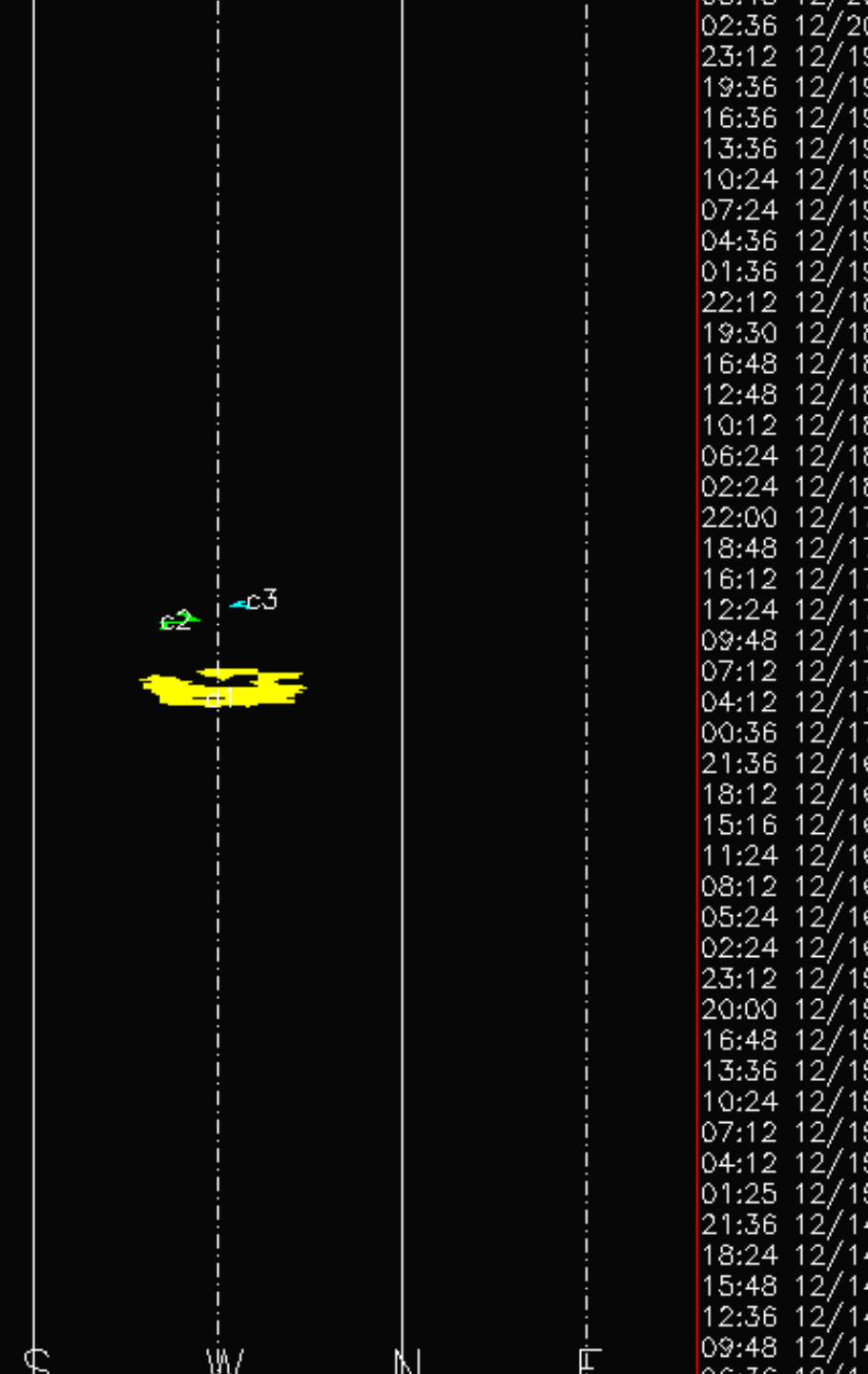
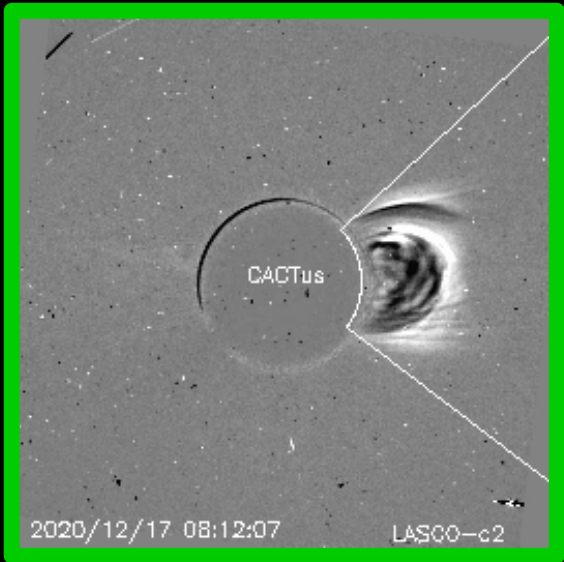
Flaring activity



Probabilities (%) and occurrences (#) of C/M/X-flares issued at 12:30 and over the next 24h:

Issue date	2020-12-13	2020-12-14	2020-12-15	2020-12-16	2020-12-17	2020-12-18	2020-12-19	2020-12-20
Probability (%)	40 02 01	15 01 01	50 05 01	30 01 01	10 01 01	05 01 01	05 01 01	05 01 01
Observed (#)	00 00 00	01 00 00	00 00 00	00 00 00	00 00 00	00 00 00	00 00 00	00 00 00

Coronal Mass Ejections



Solar Wind and

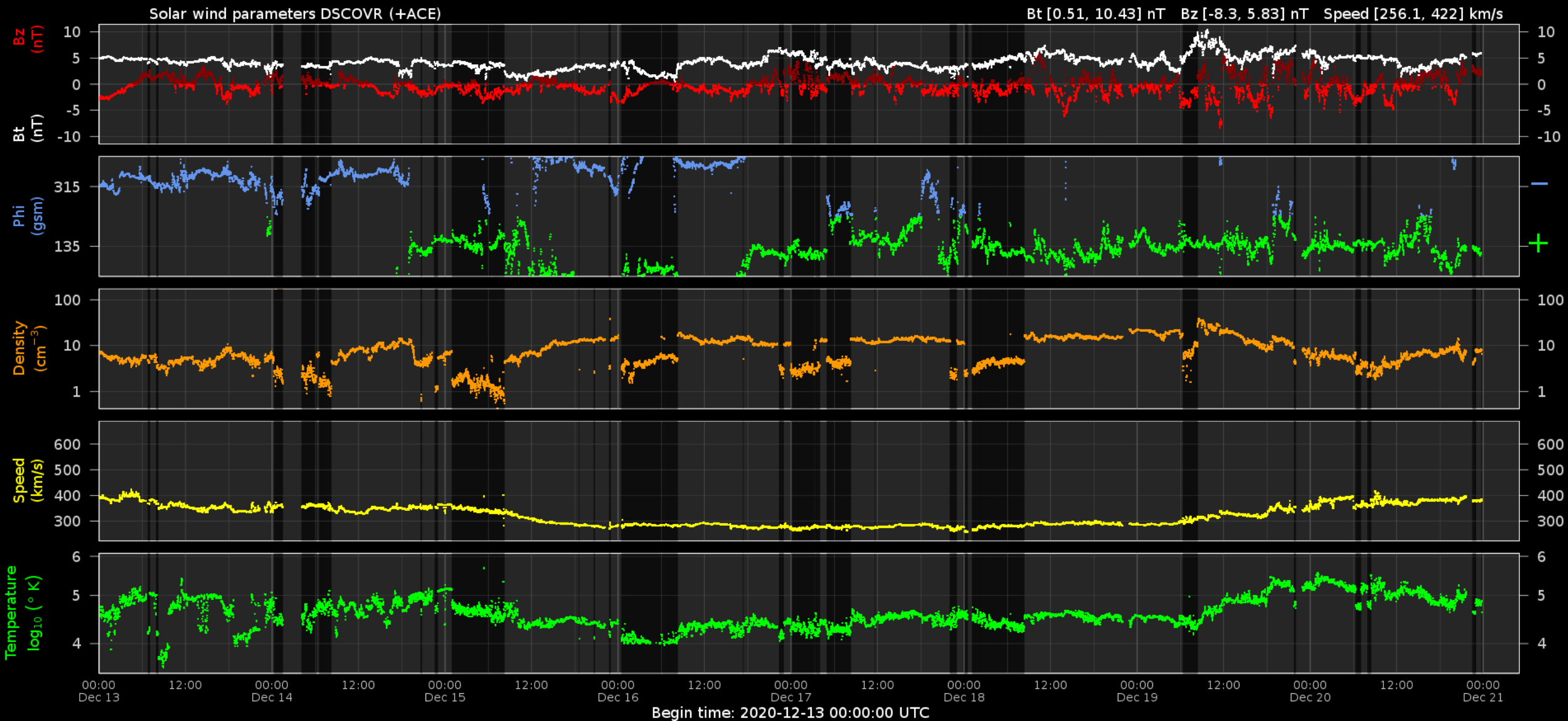
Geomagnetic Activity



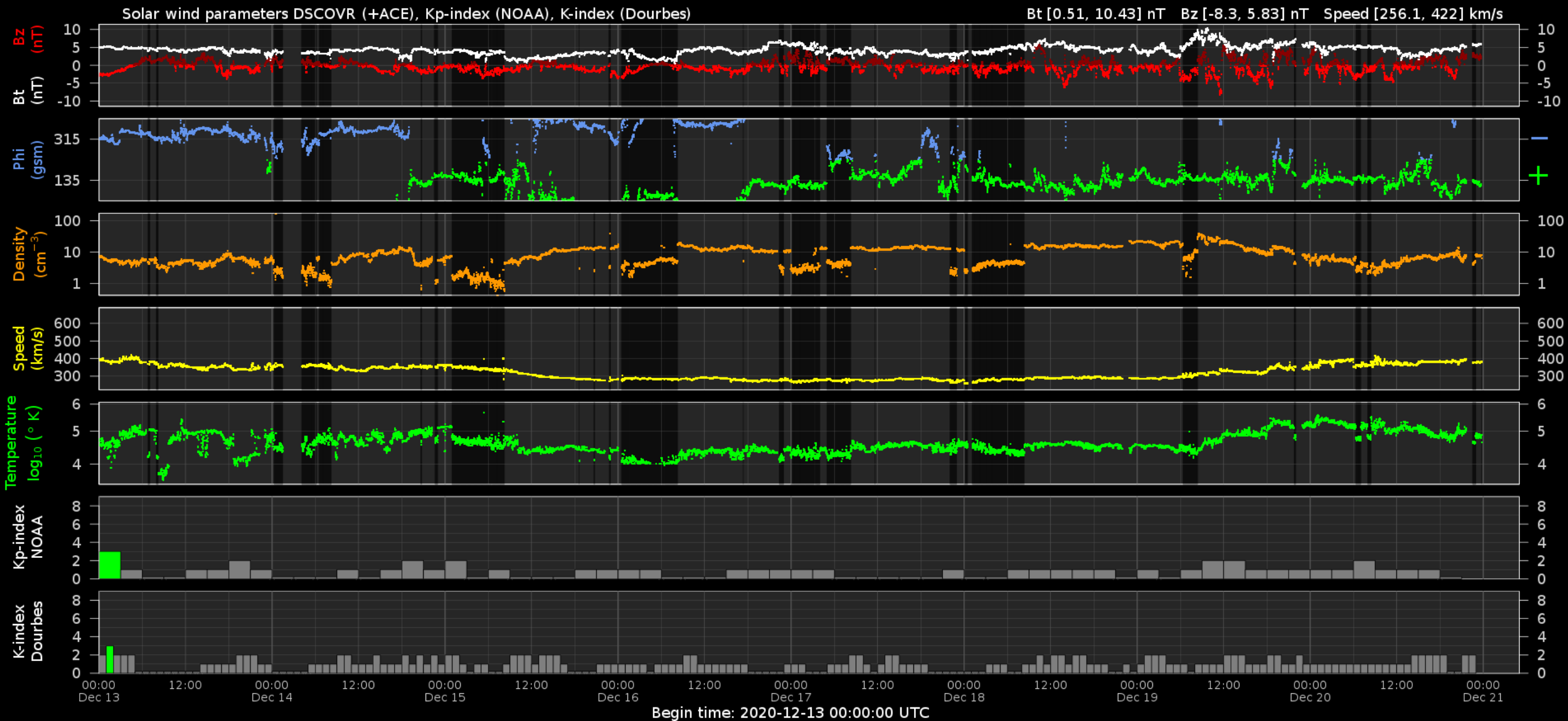
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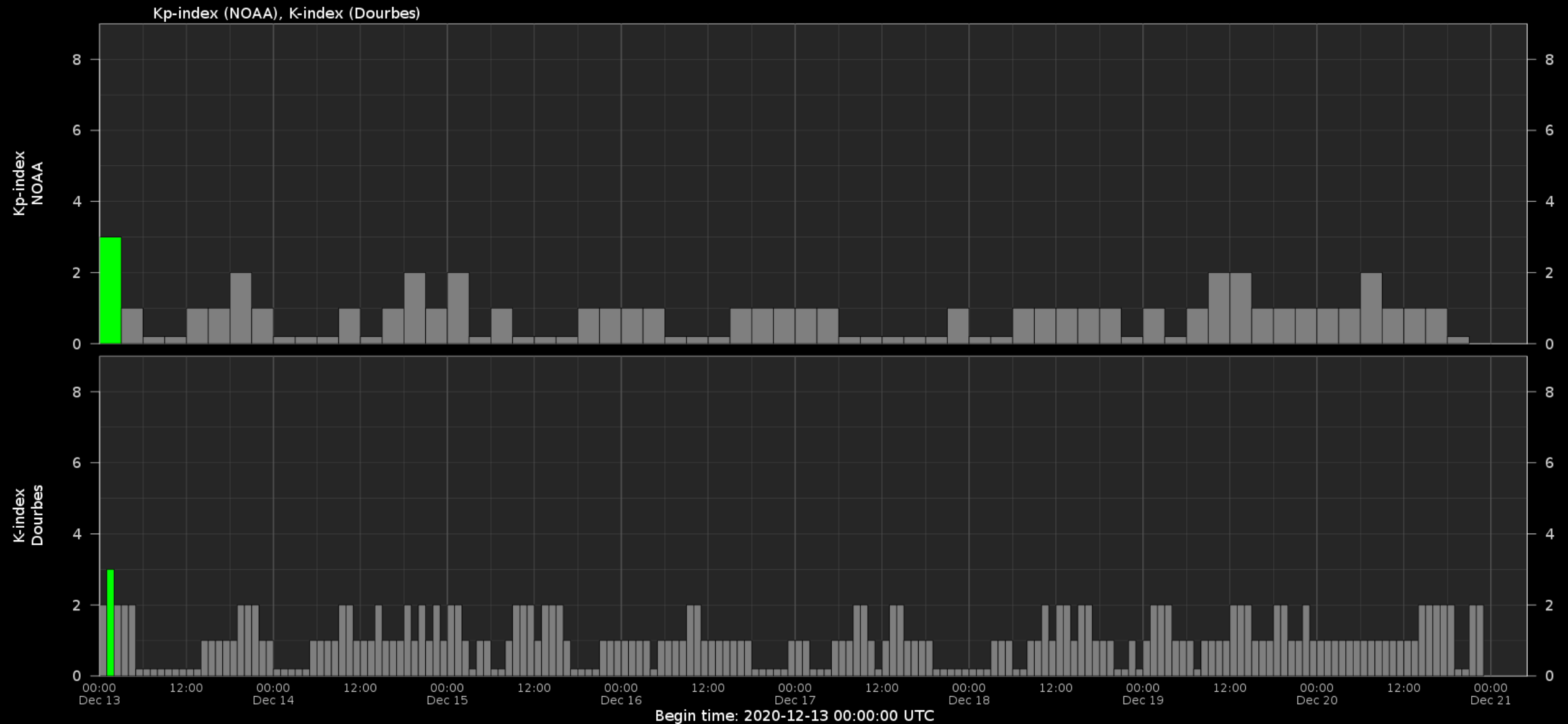
Solar wind parameters



Solar wind parameters & K-indices



Geomagnetic activity (K-indexes)



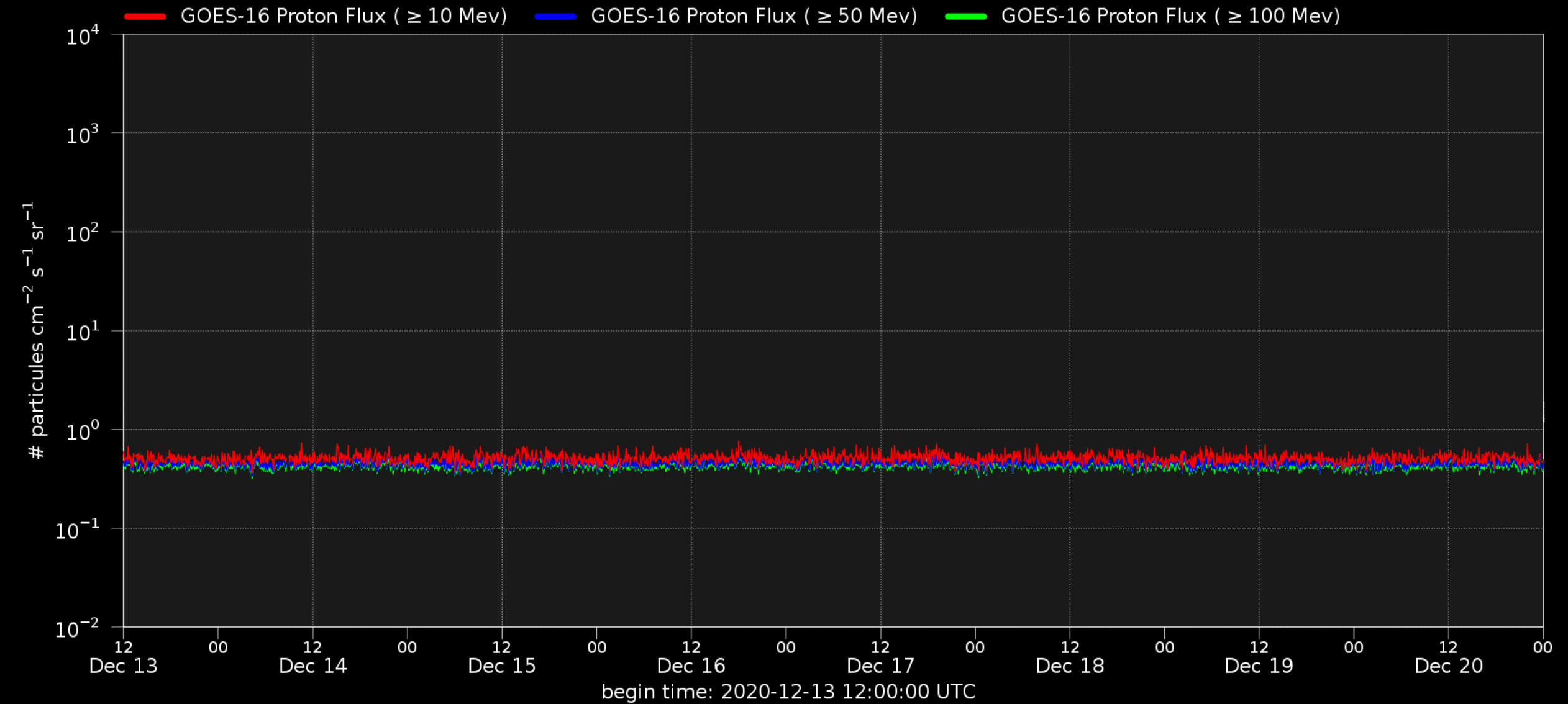
Energetic Particles



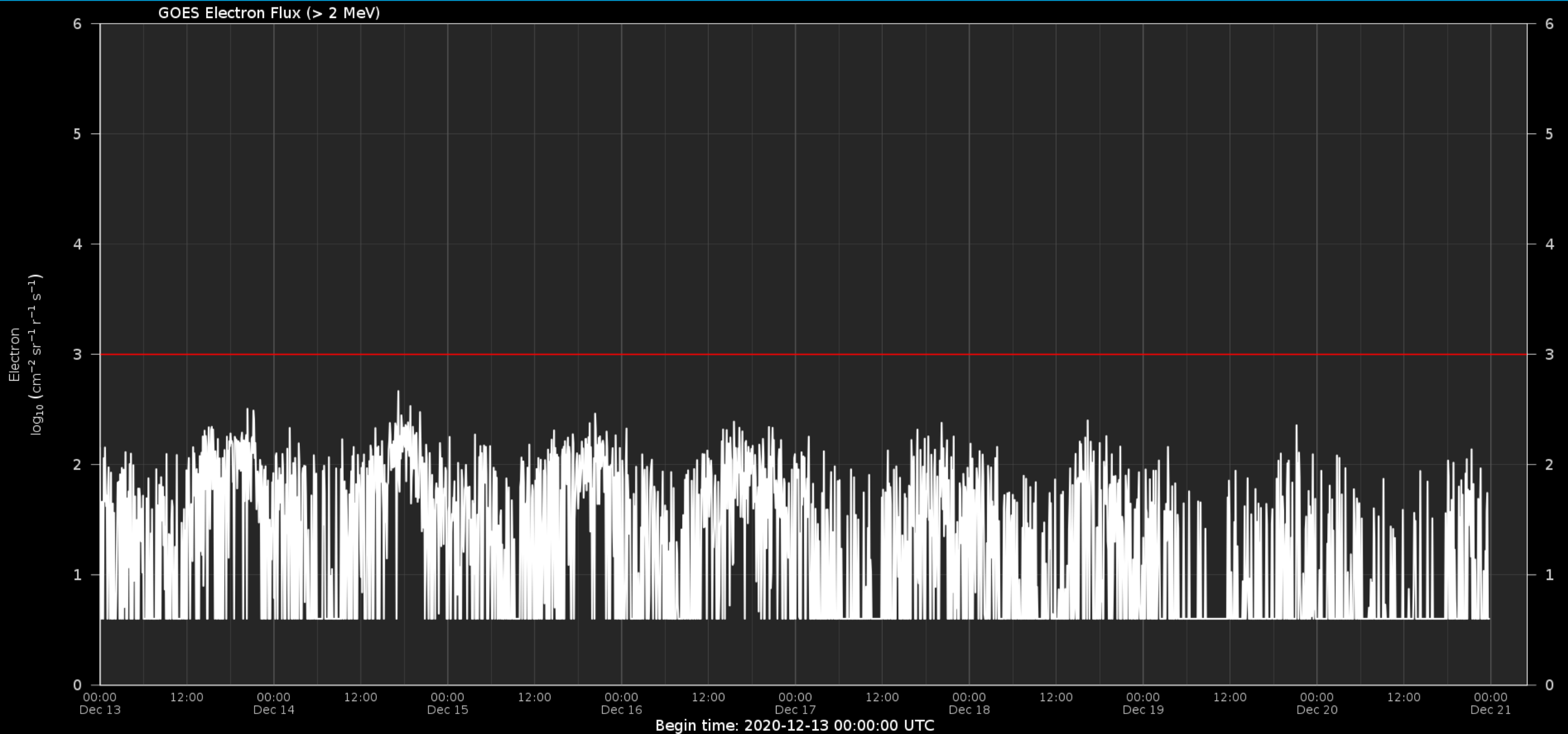
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Solar proton flux



Electron flux at GEO



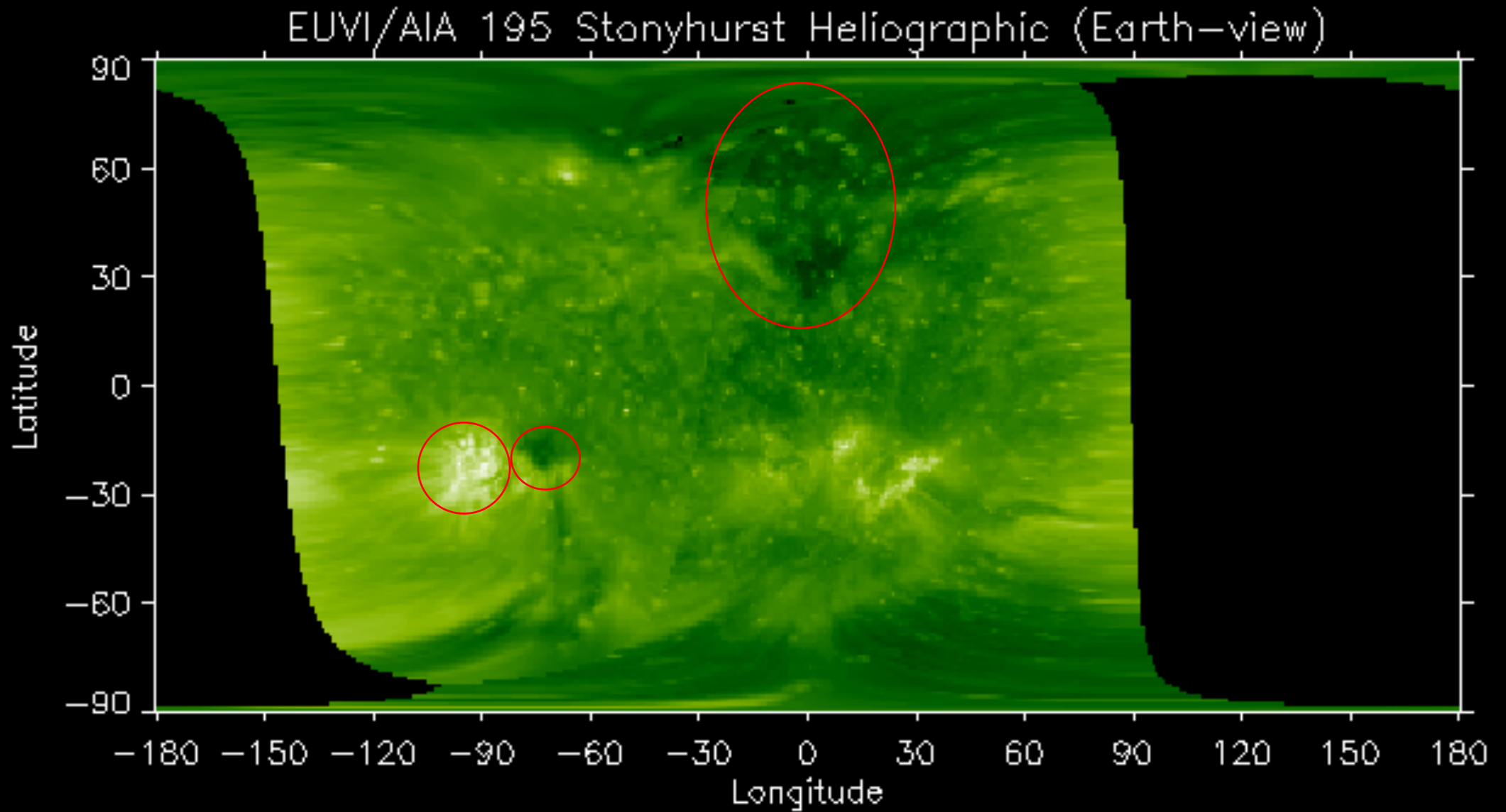
Outlook



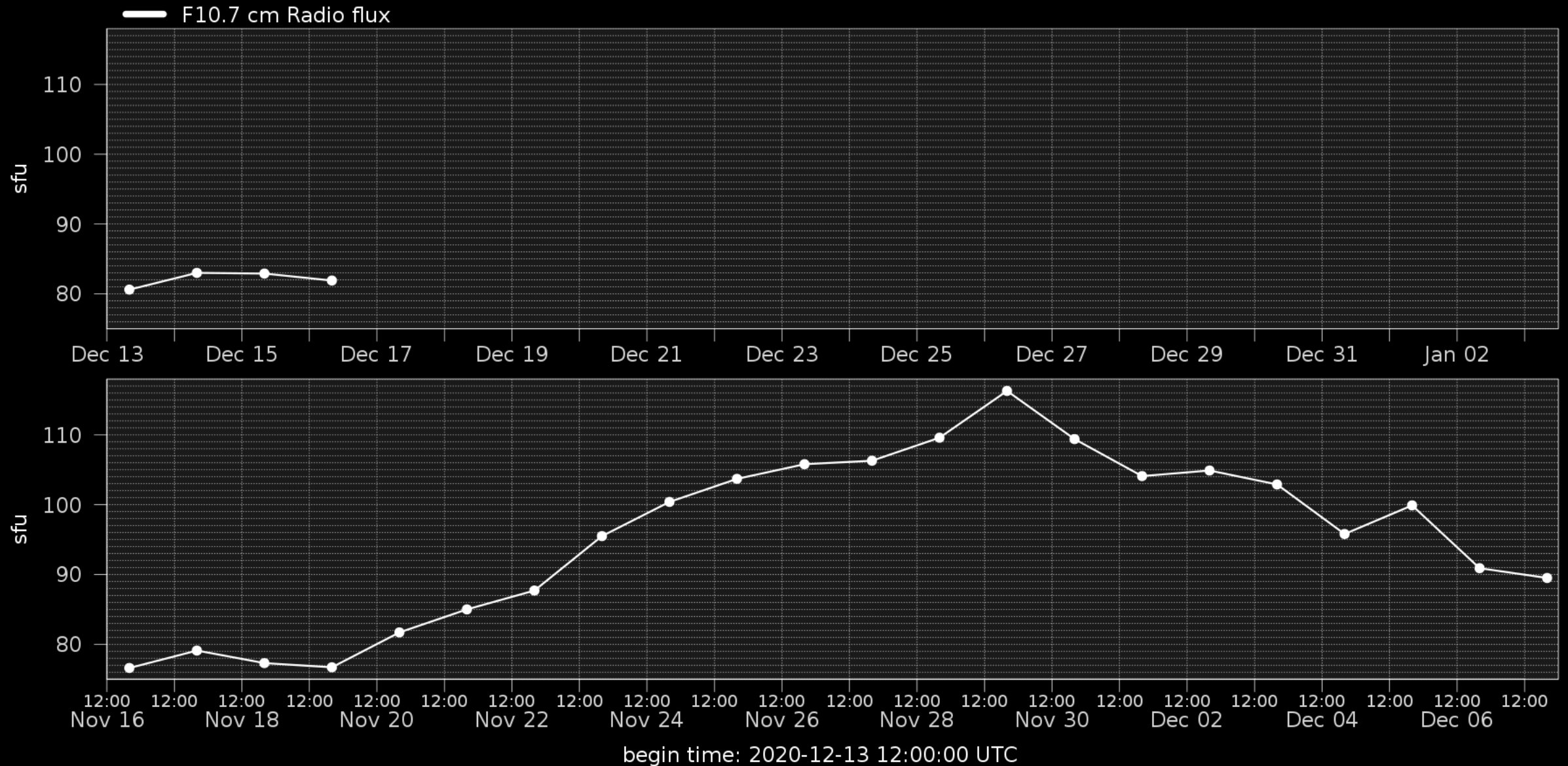
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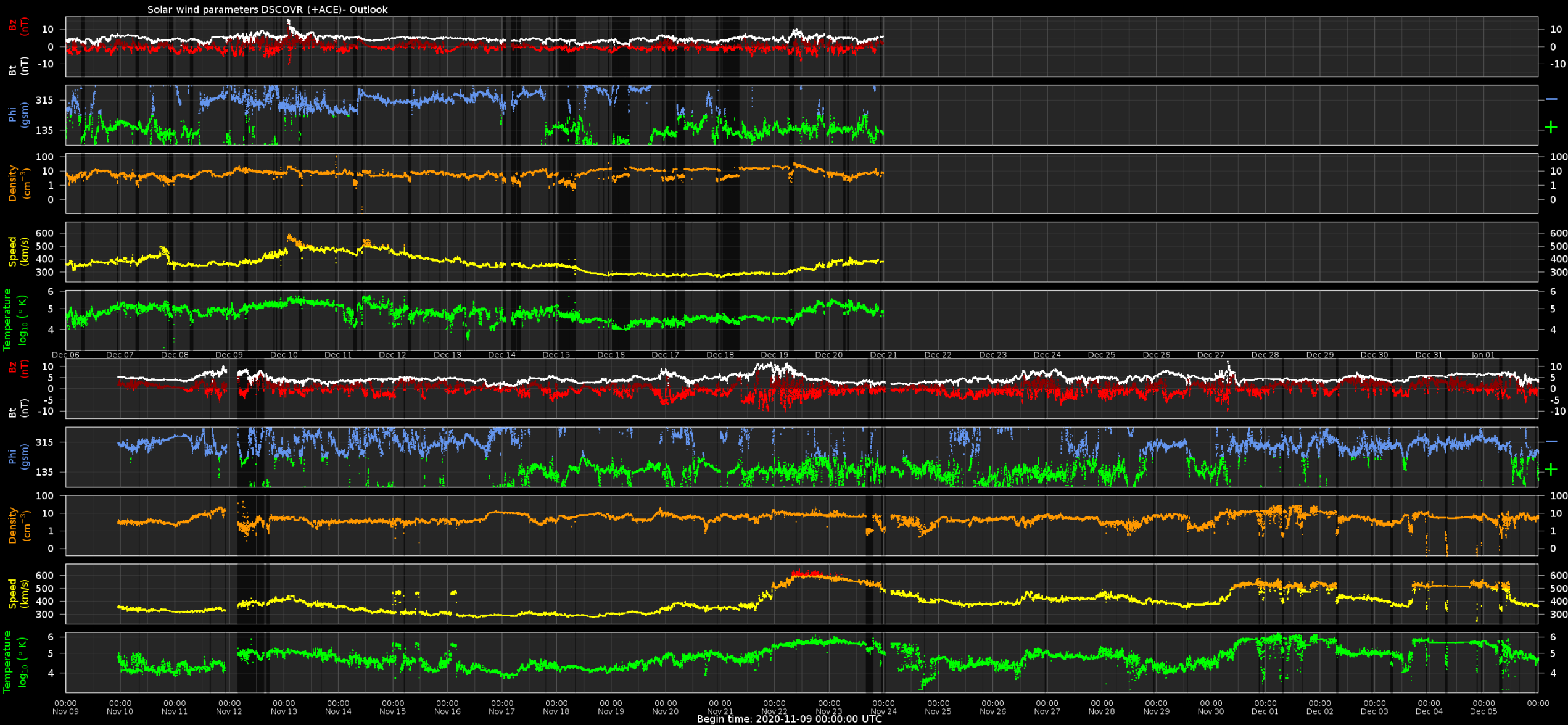
Outlook: Solar activity



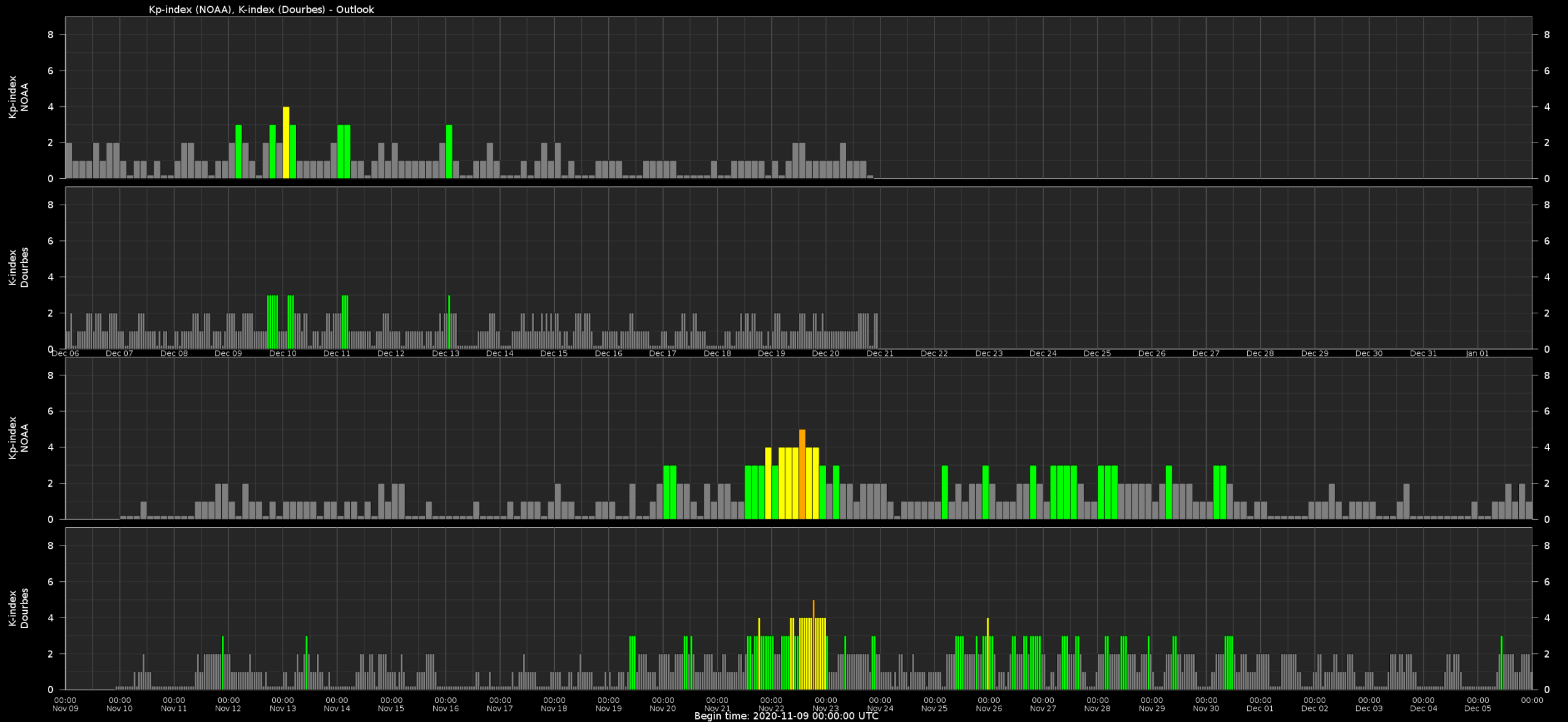
Outlook: Solar F10.7cm radio flux



Outlook: Solar wind parameters



Outlook: Geomagnetic activity



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