

SIDC Space Weather Briefing

27 December 2020 - 03 January 2021

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& the SIDC forecaster team



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Data analysis Centre
www.sidc.be

Summary Report

Solar activity from 2020-12-27 12:00 to 2021-01-03 23:59

Active regions	NOAA AR 2794 (alpha) and NOAA AR2795 (beta)
Flares	# C-class flare: 0 # M-class flare: 0 # X-class flare: 0
Filament eruptions	Multiple filament eruptions (on Dec 29 and on Jan 01-02)
Coronal Holes	Small positive CH, two small negative CHs

Proton flux	At nominal levels
Electron flux	Slightly elevated, passing 1000 pfu threshold on Dec 27

Solar wind and geomagnetic conditions

ICME	None observed
SW Conditions	B : 0.33 - 8.27 nT // Bz: -6.74 nT to 6.99 nT // Speed: 247.4 - 567.9km/s
K-indices	max K-index (Dourbes): 3 max Kp-index (NOAA): 3

All Quiet Alert: On from 2020-Dec-28

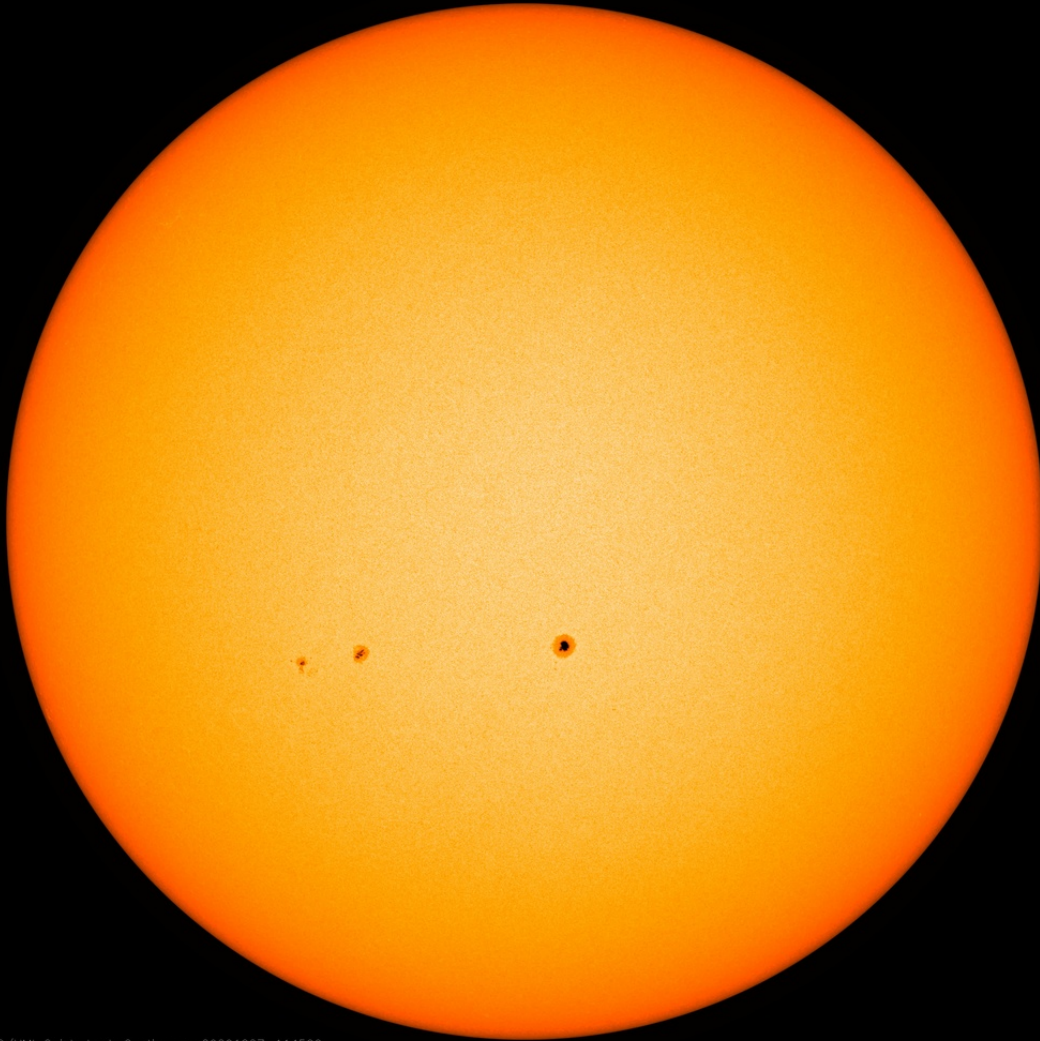
Solar Activity



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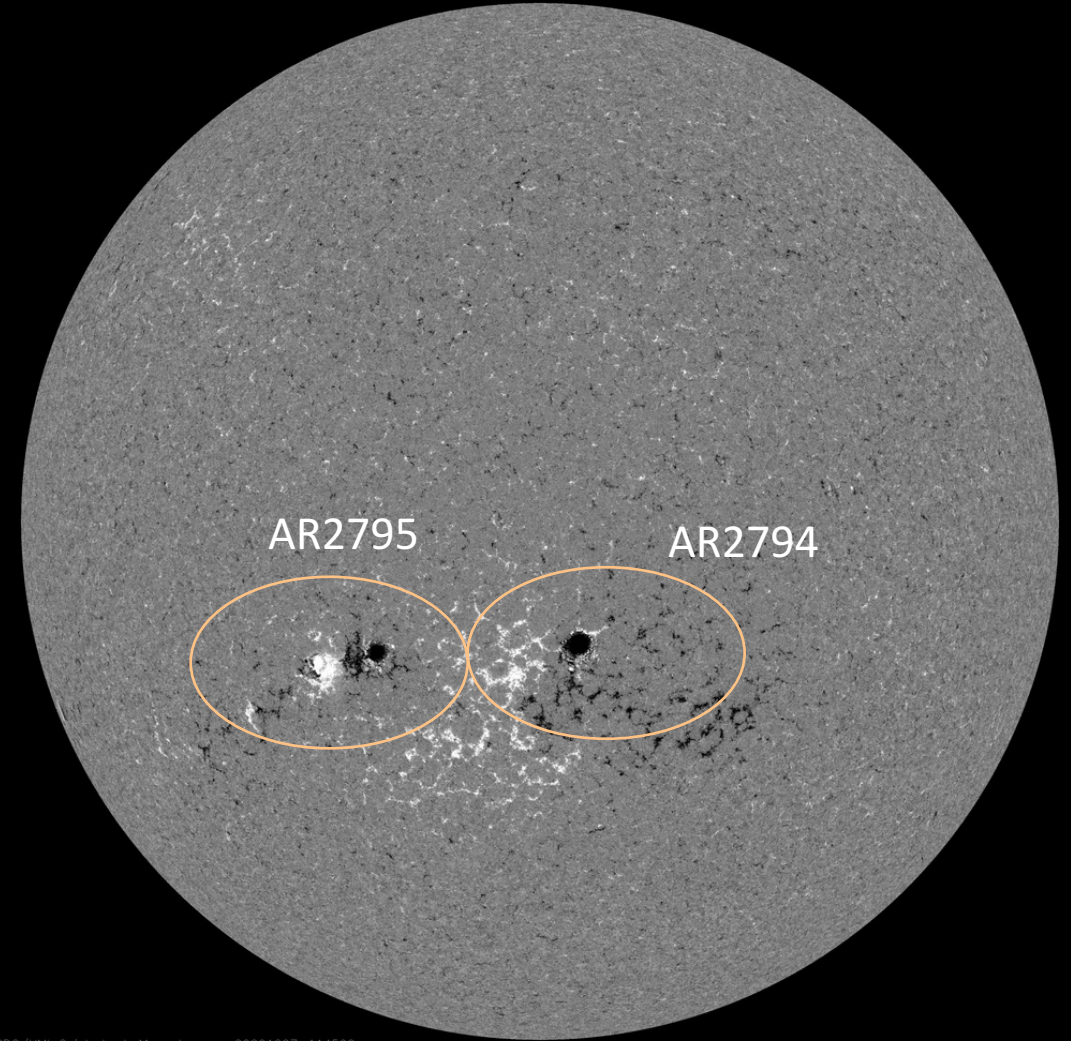
Solar active regions

SDO/HMI White Light 2020-12-27



SDO/HMI Quick-Look Continuum: 20201227_114500

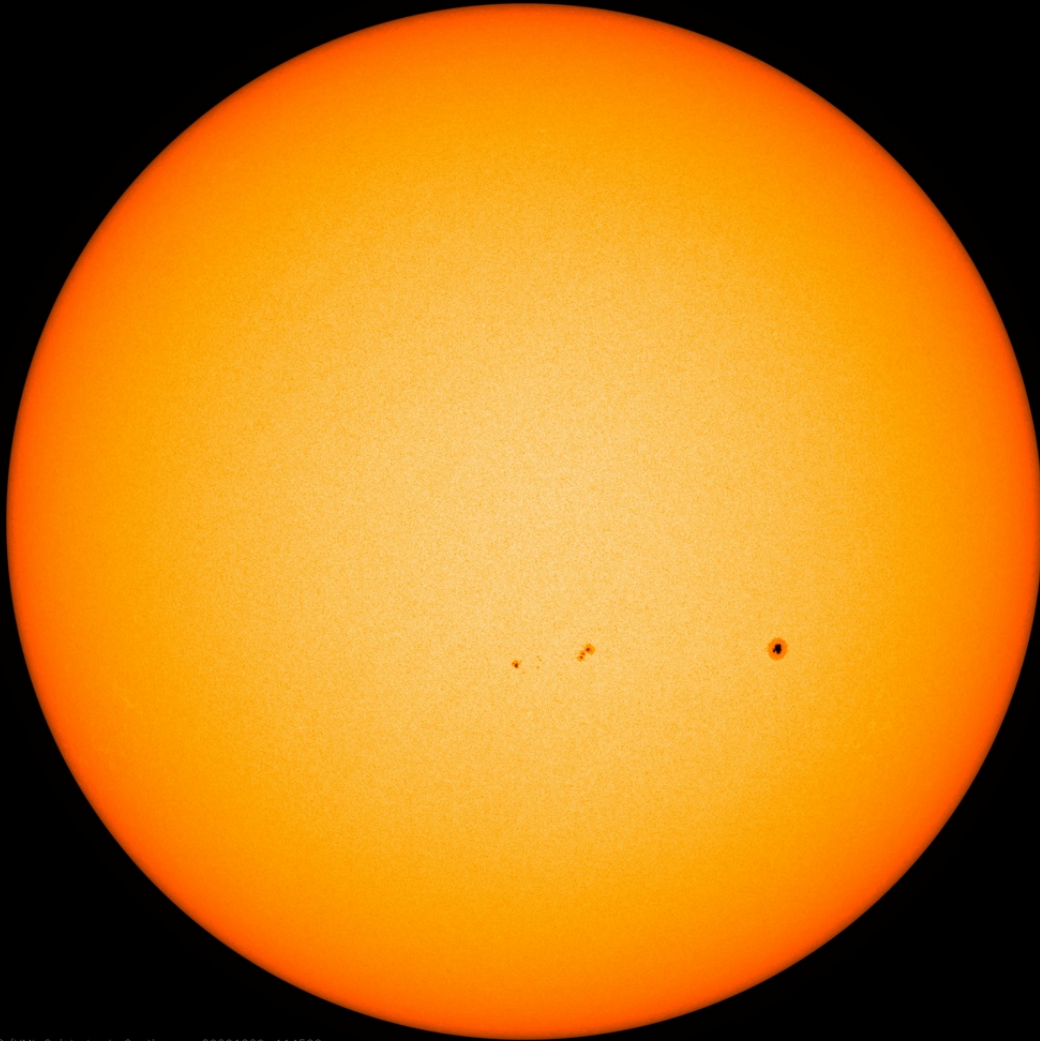
SDO/HMI Magnetogram 2020-12-27



SDO/HMI Quick-Look Magnetogram: 20201227_114500

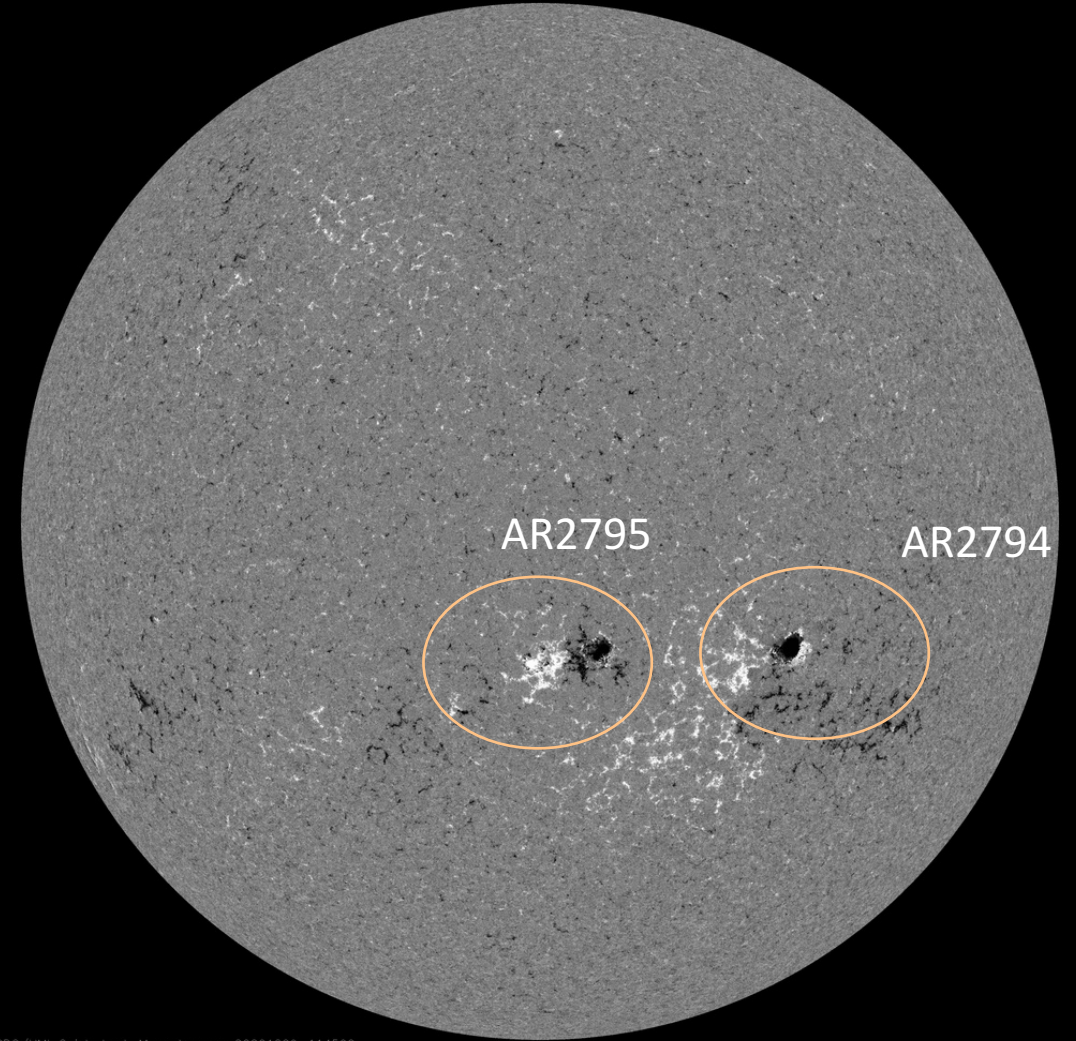
Solar active regions

SDO/HMI White Light 2020-12-29



SDO/HMI Quick-Look Continuum: 20201229_114500

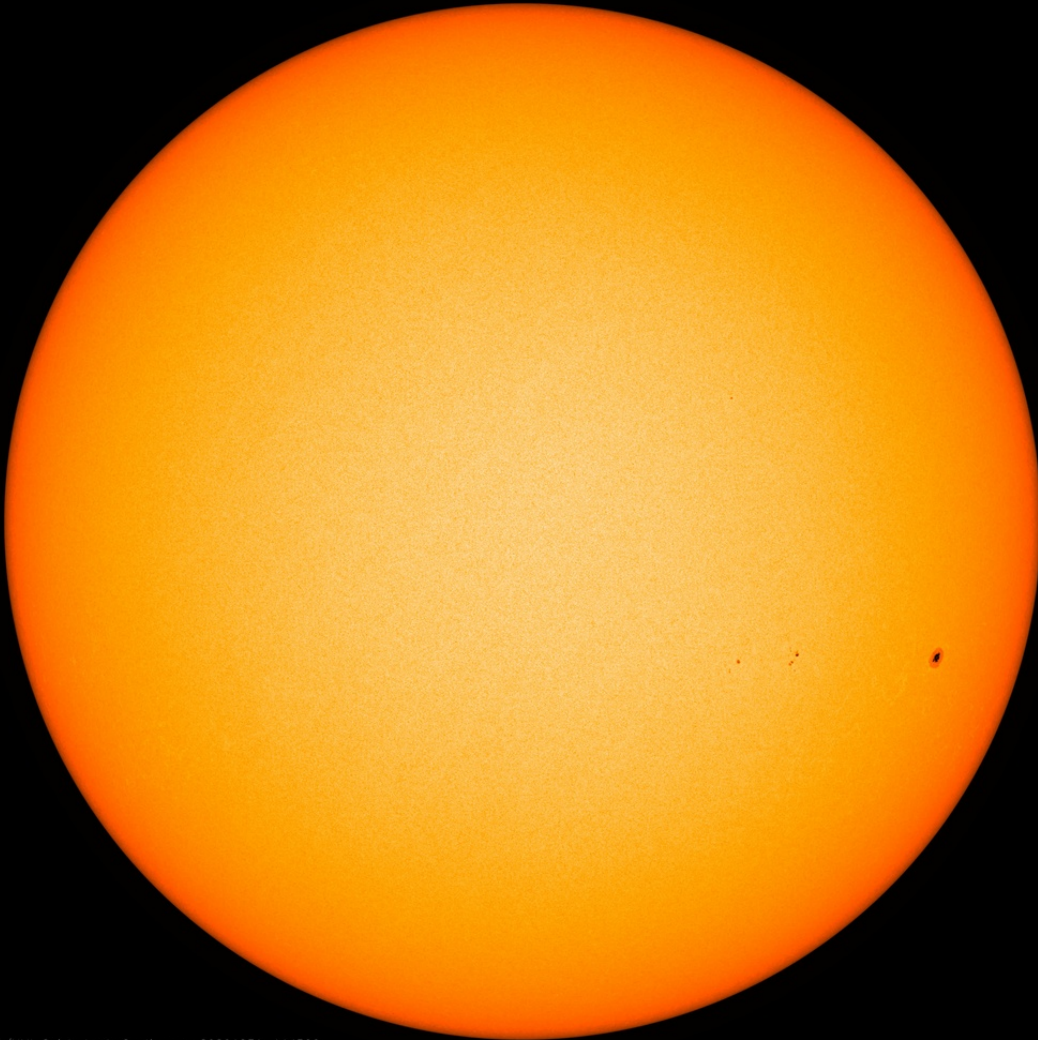
SDO/HMI Magnetogram 2020-12-29



SDO/HMI Quick-Look Magnetogram: 20201229_114500

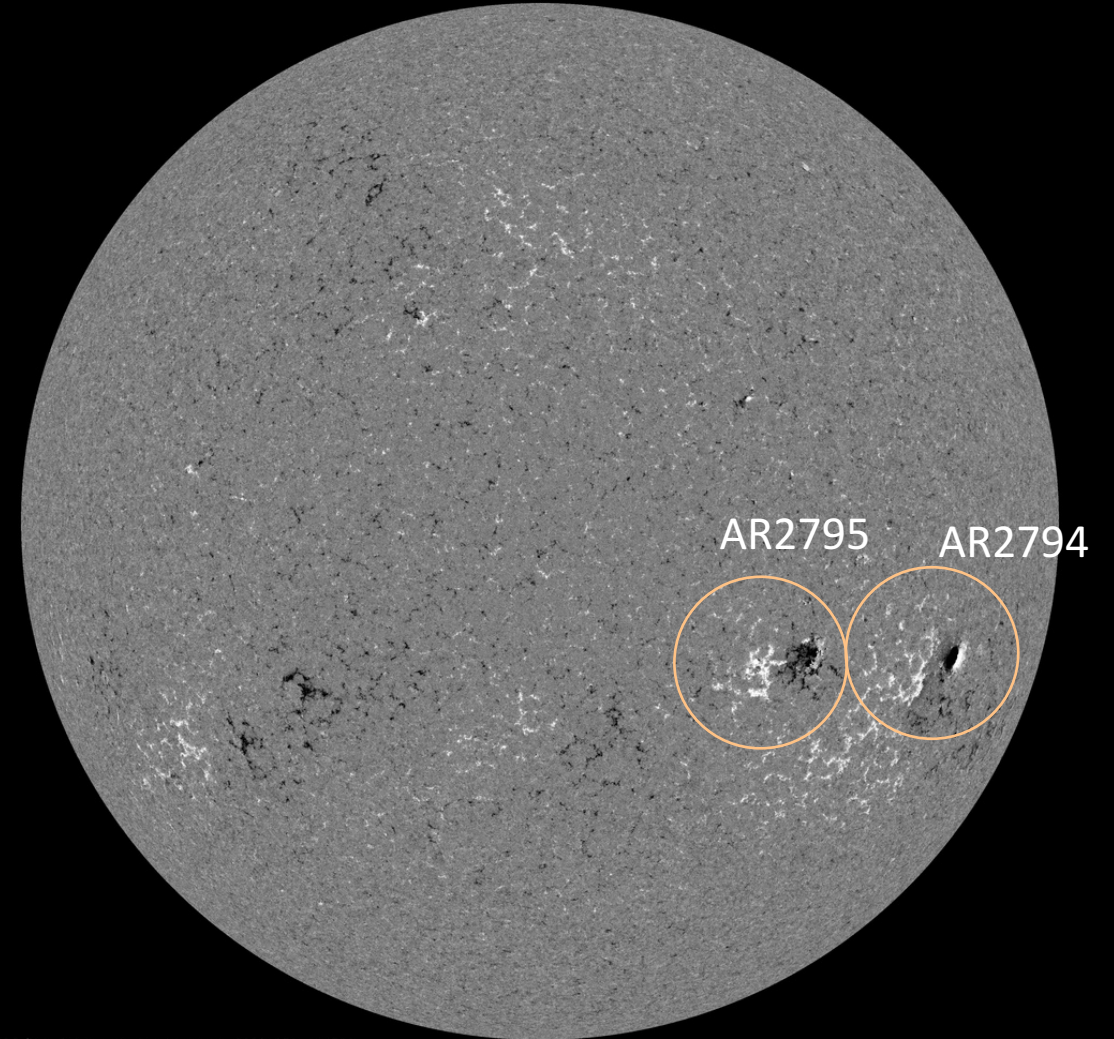
Solar active regions

SDO/HMI White Light 2020-12-31



SDO/HMI Quick-Look Continuum: 20201231_114500

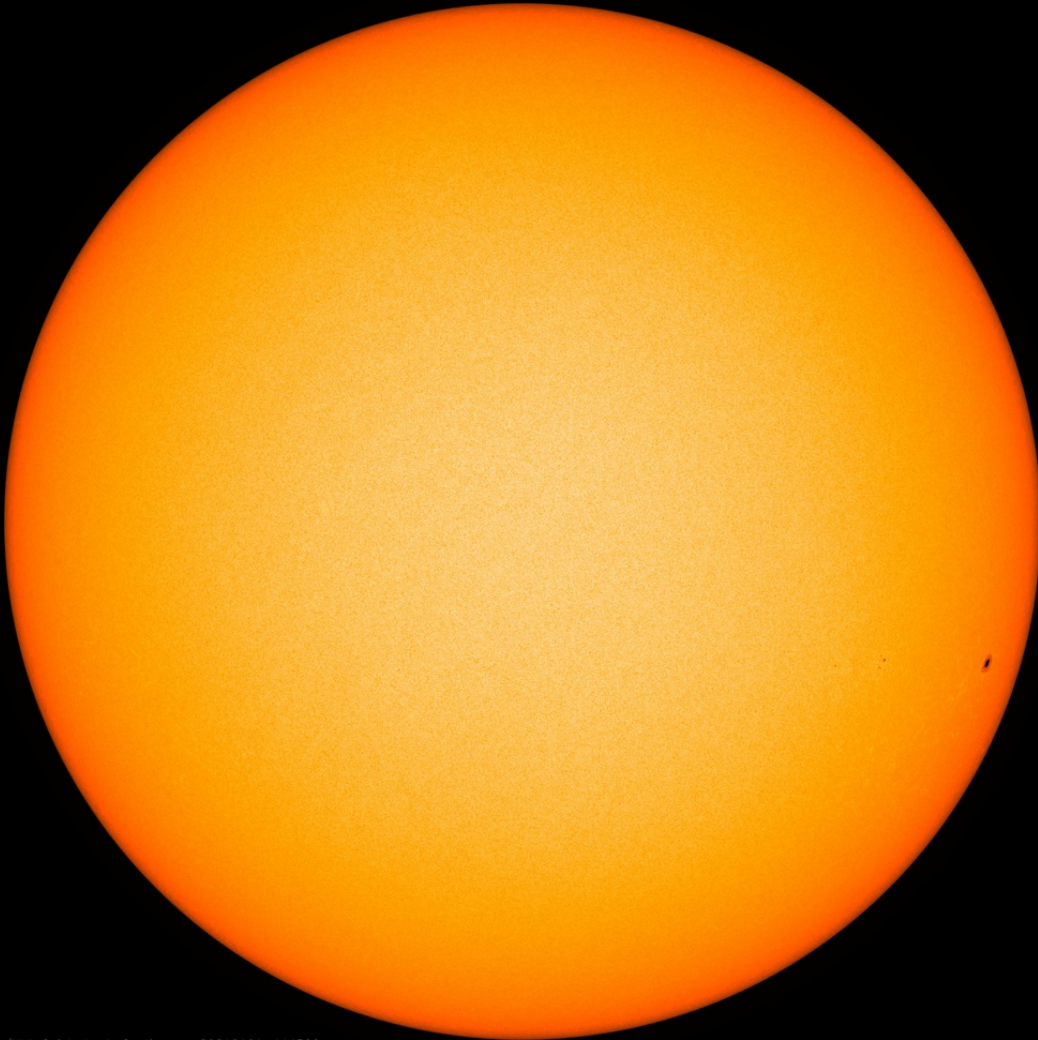
SDO/HMI Magnetogram 2020-12-31



SDO/HMI Quick-Look Magnetogram: 20201231_114500

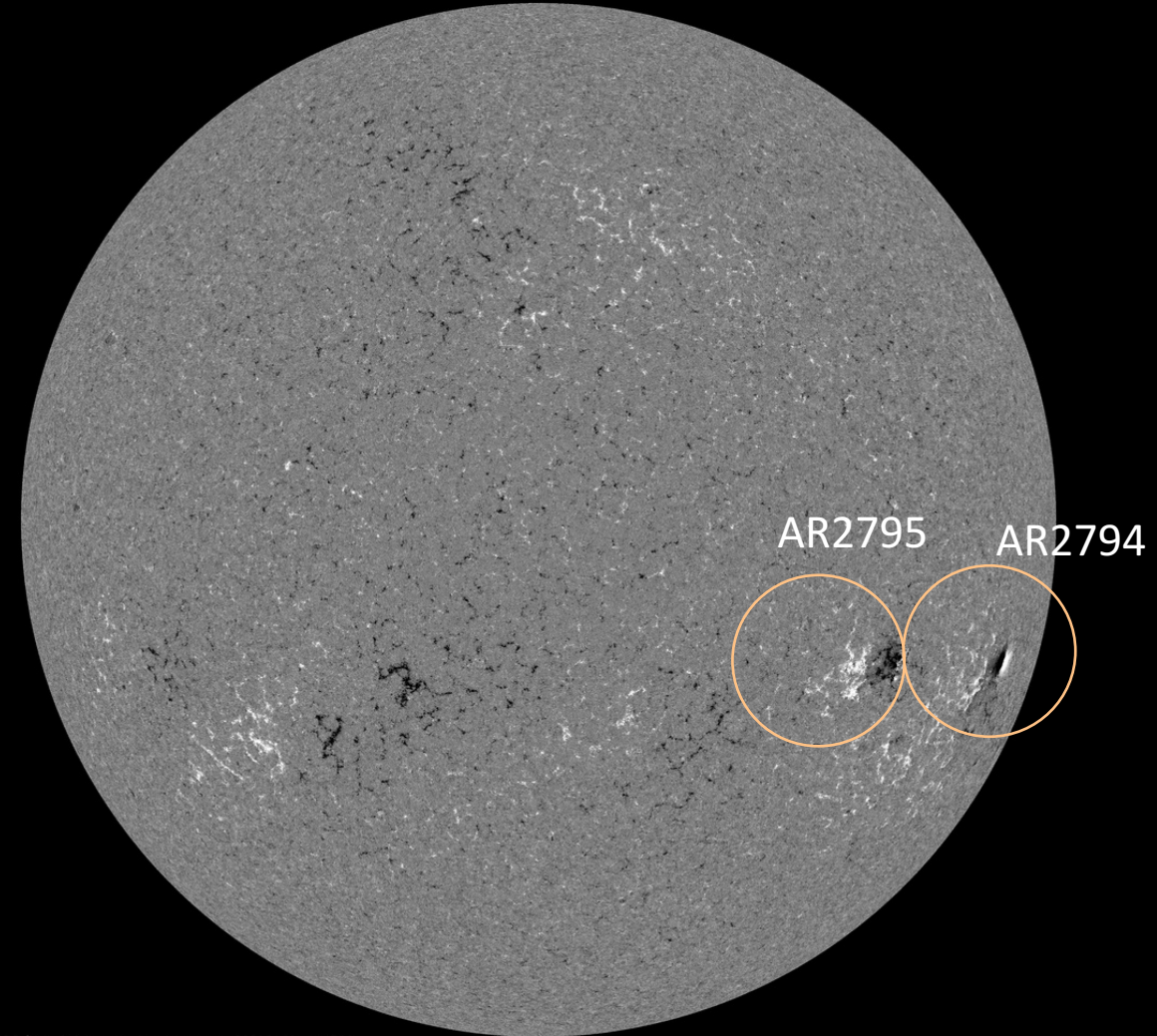
Solar active regions

SDO/HMI White Light 2021-01-01



SDO/HMI Quick-Look Continuum: 20210101_114500

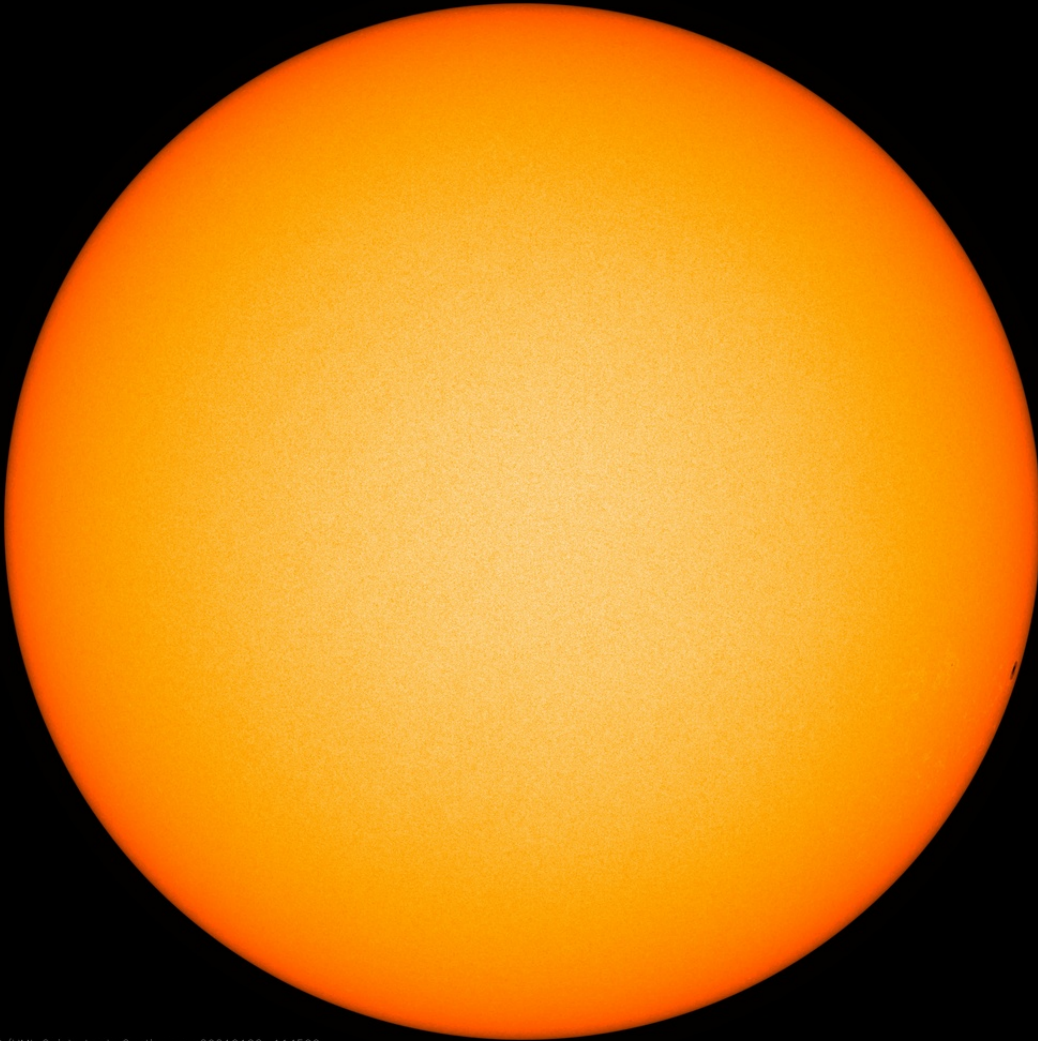
SDO/HMI Magnetogram 2021-01-01



SDO/HMI Quick-Look Magnetogram: 20210101_114500

Solar active regions

SDO/HMI White Light 2021-01-02



SDO/HMI Quick-Look Continuum: 20210102_114500

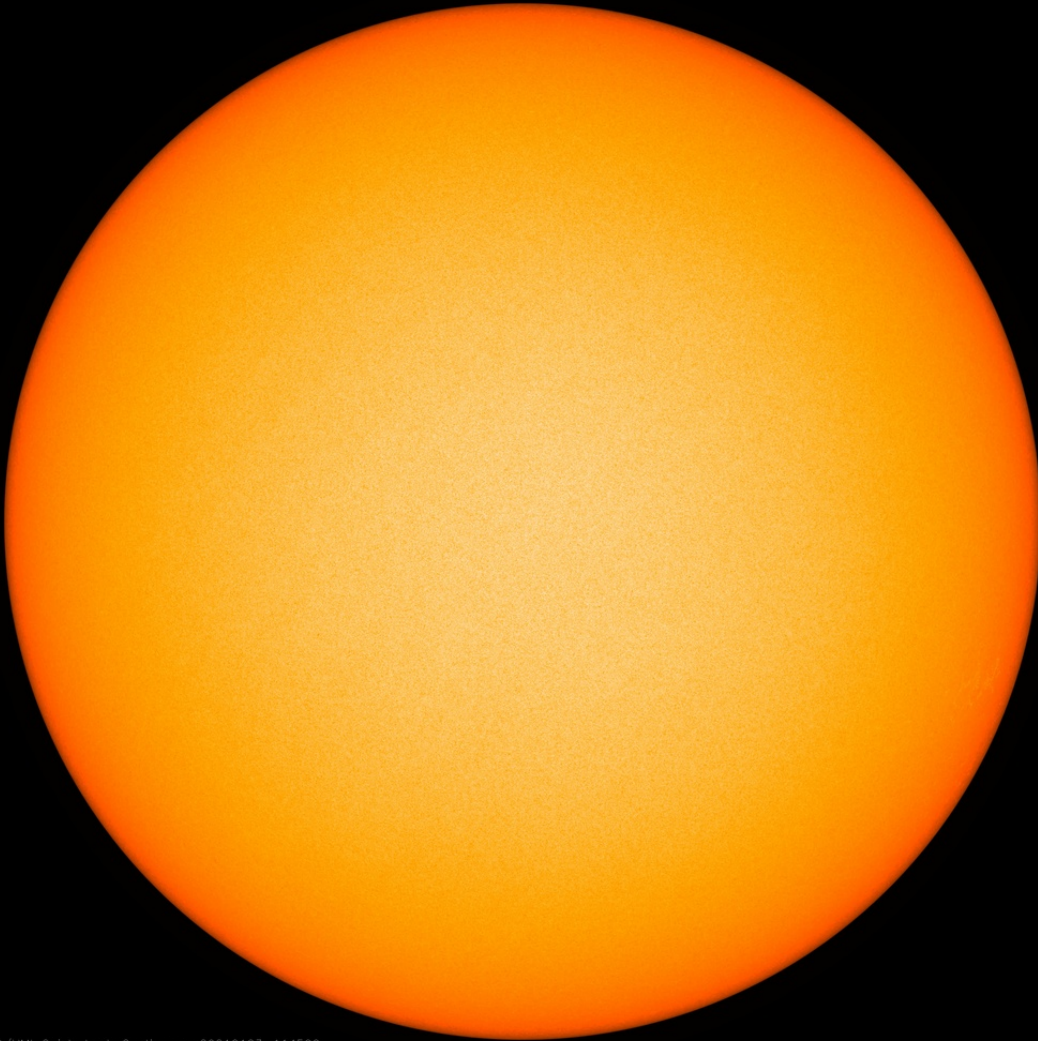
SDO/HMI Magnetogram 2021-01-02



SDO/HMI Quick-Look Magnetogram: 20210102_114500

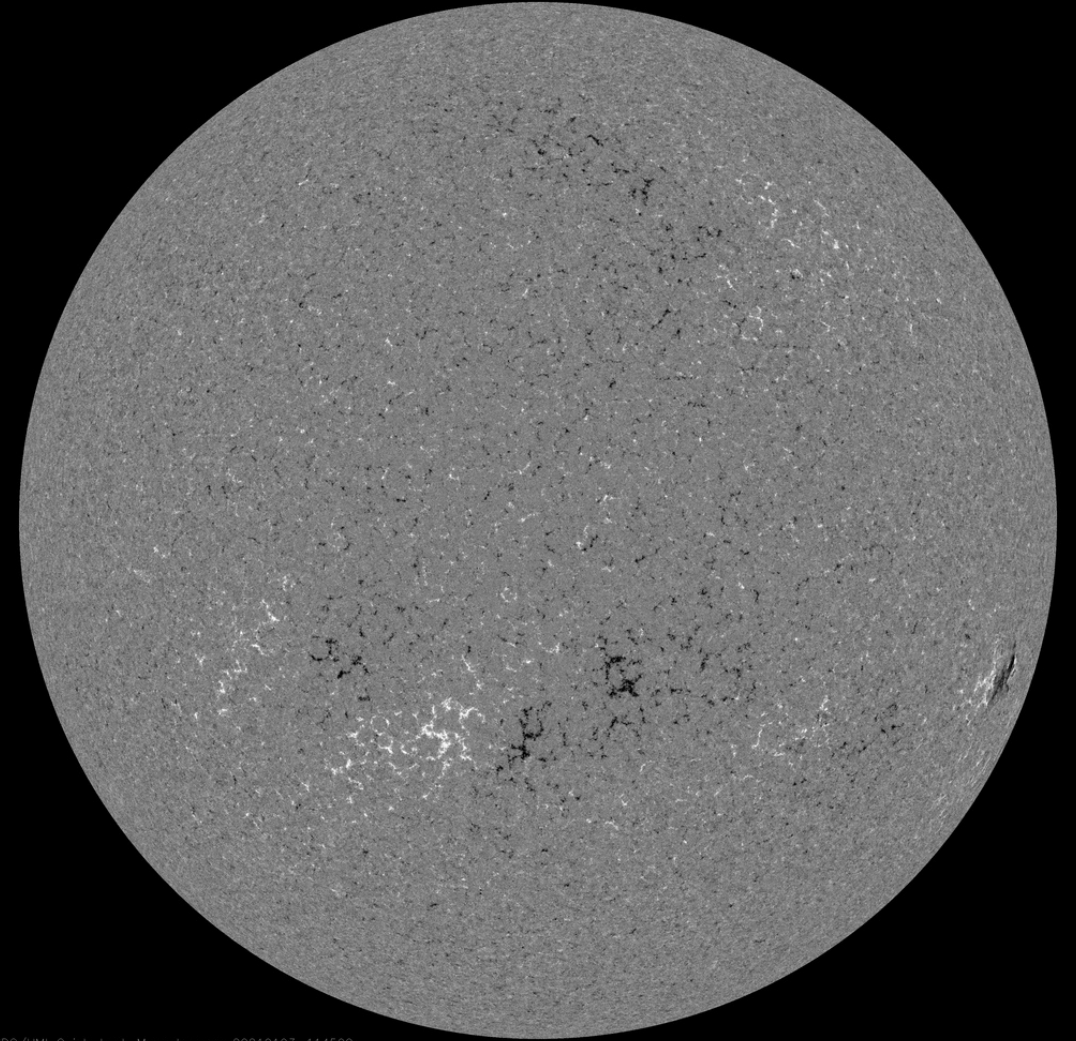
Solar active regions

SDO/HMI White Light 2021-01-03



SDO/HMI Quick-Look Continuum: 20210103_114500

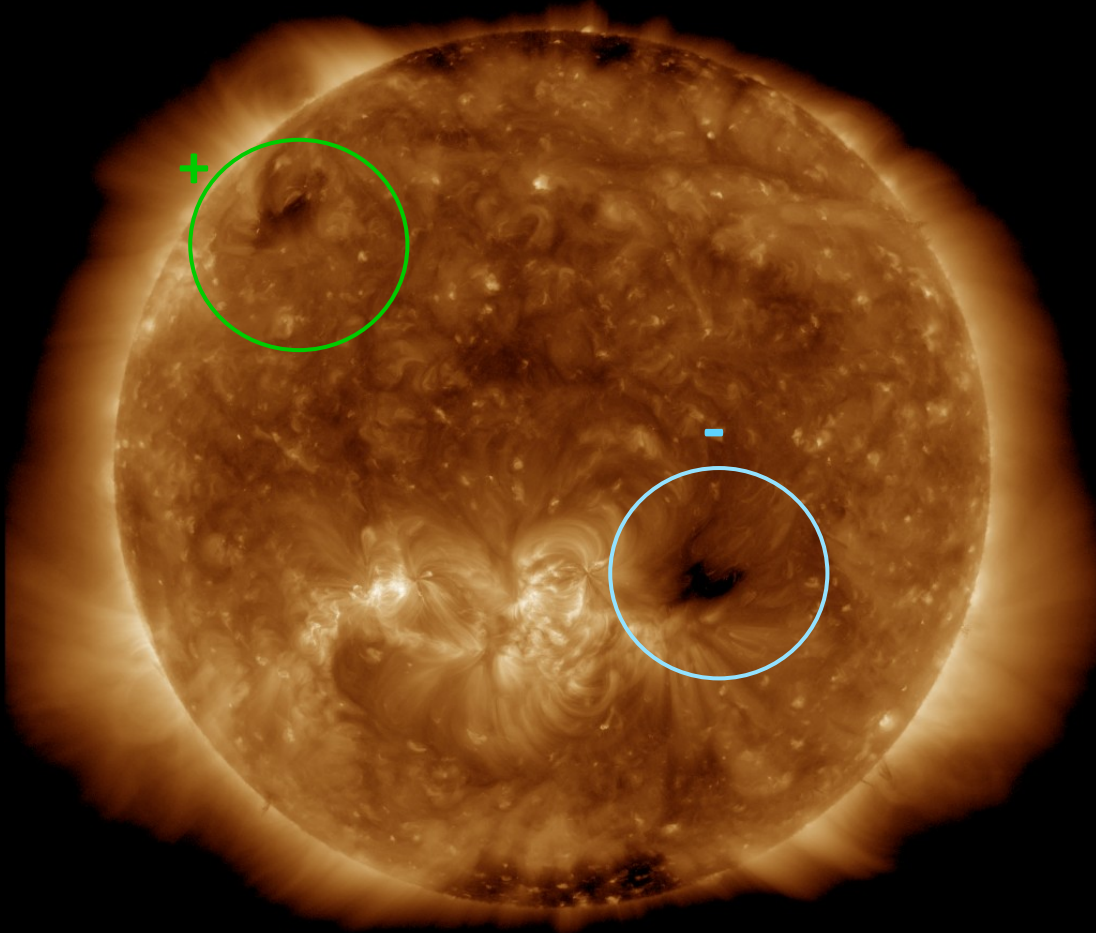
SDO/HMI Magnetogram 2021-01-03



SDO/HMI Quick-Look Magnetogram: 20210103_114500

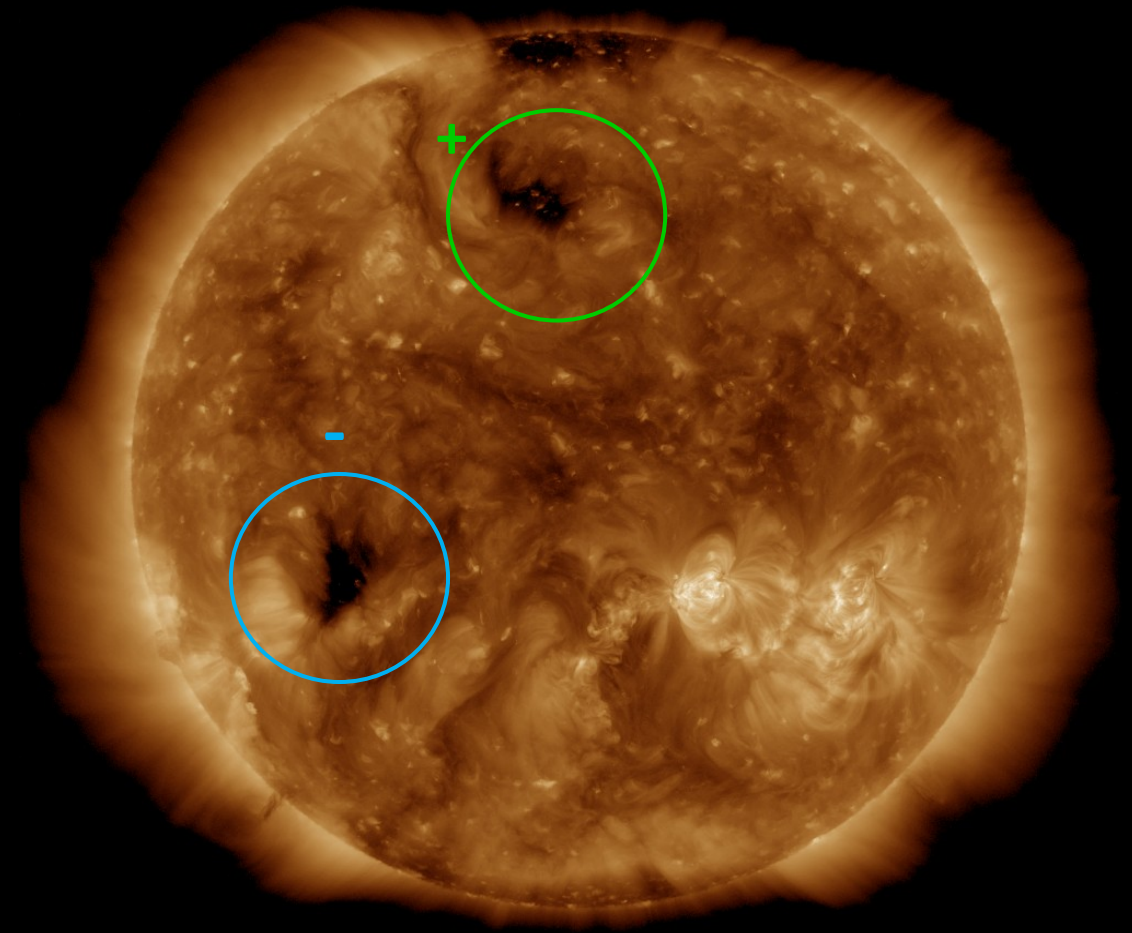
Coronal holes

SDO/AIA 19.3 nm 2020-12-27



SDO/AIA 193 2020-12-27 12:17:53 UT

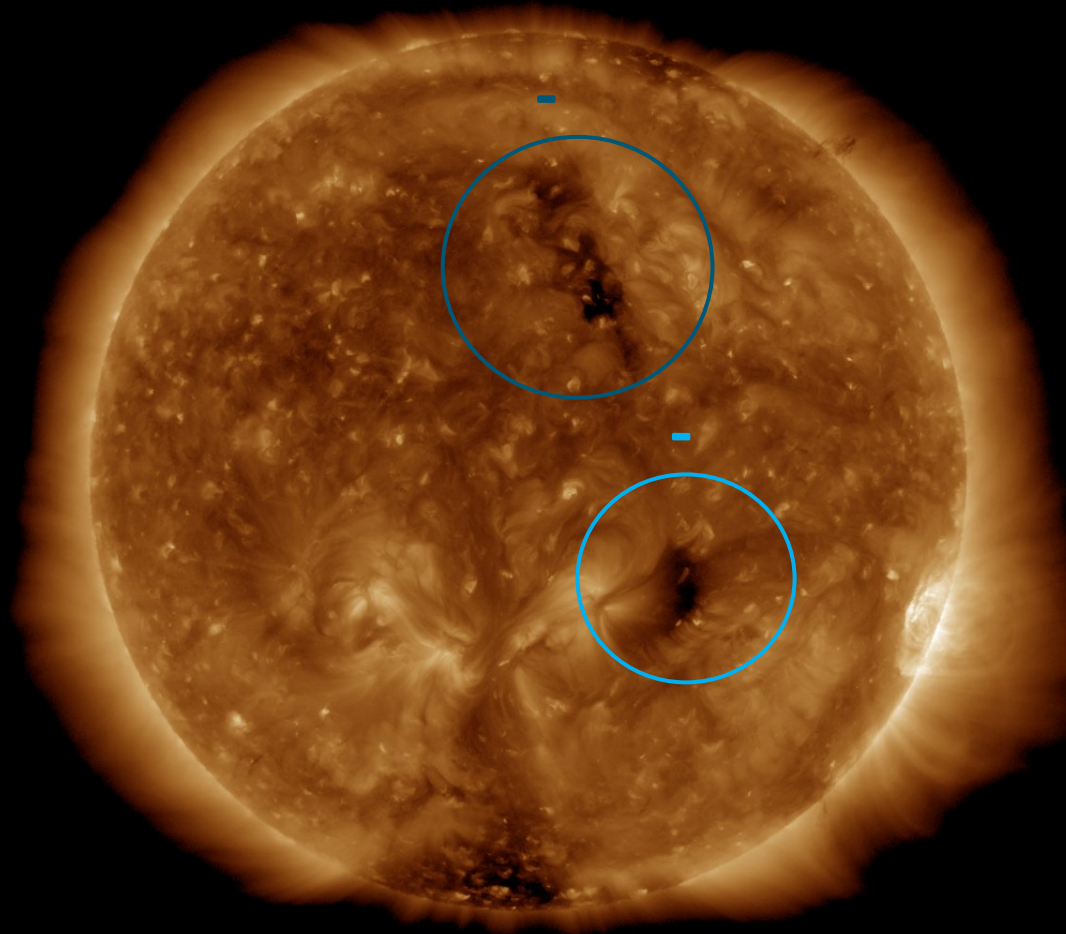
SDO/AIA 19.3 nm 2020-12-30



SDO/AIA 193 2020-12-30 12:18:17 UT

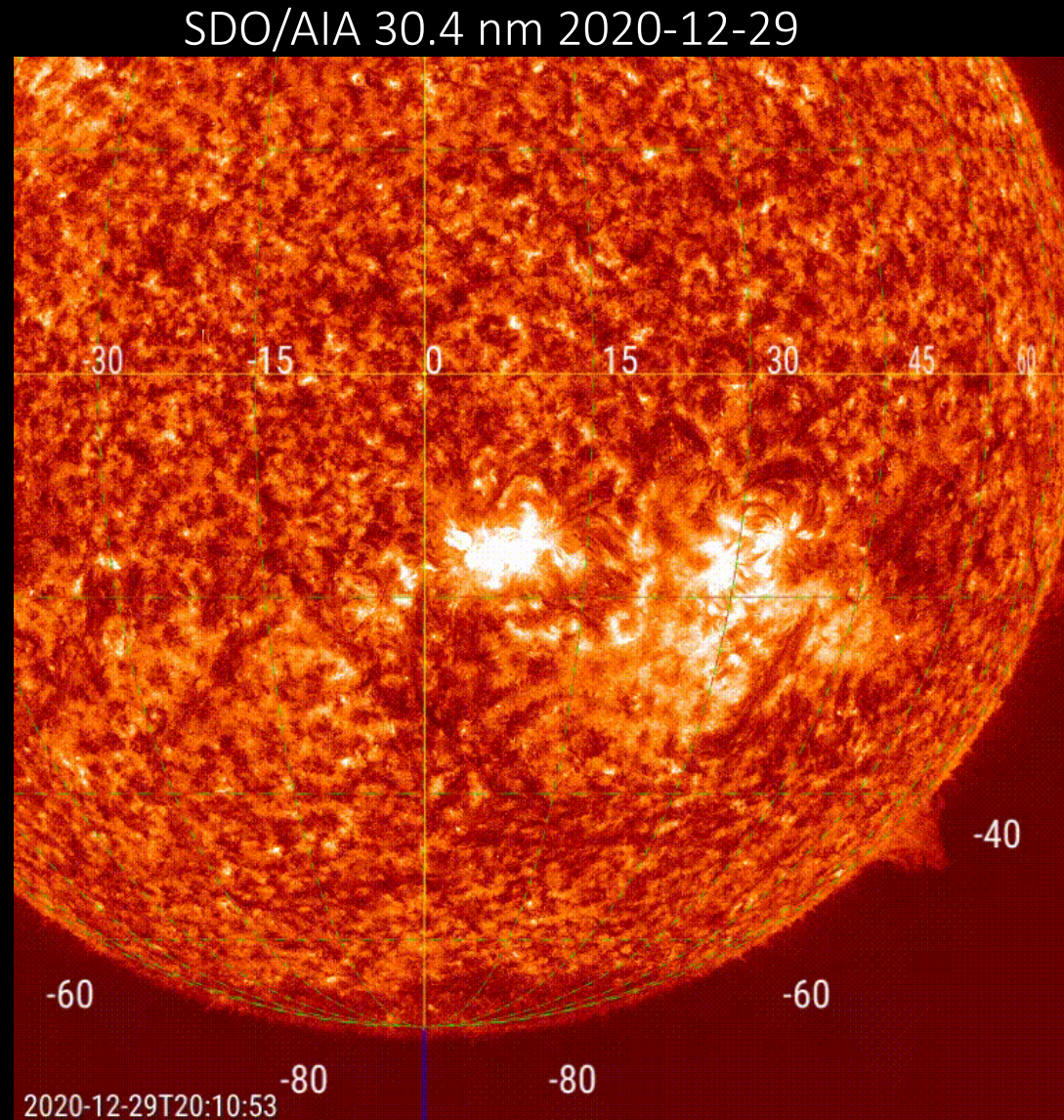
Coronal holes

SDO/AIA 19.3 nm 2021-01-03



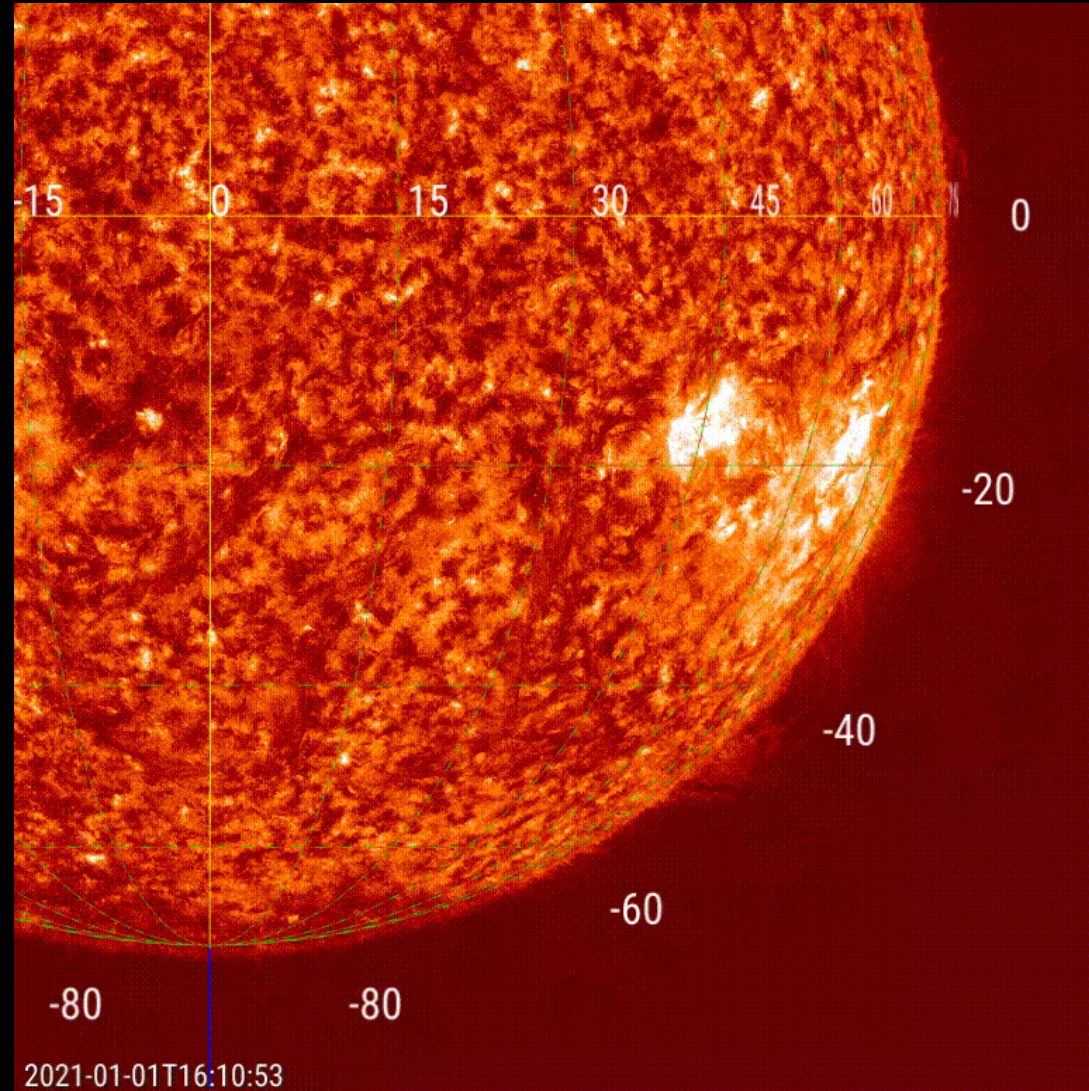
SDO/AIA 193 2021-01-03 12:18:17 UT

Filaments & Filament eruptions

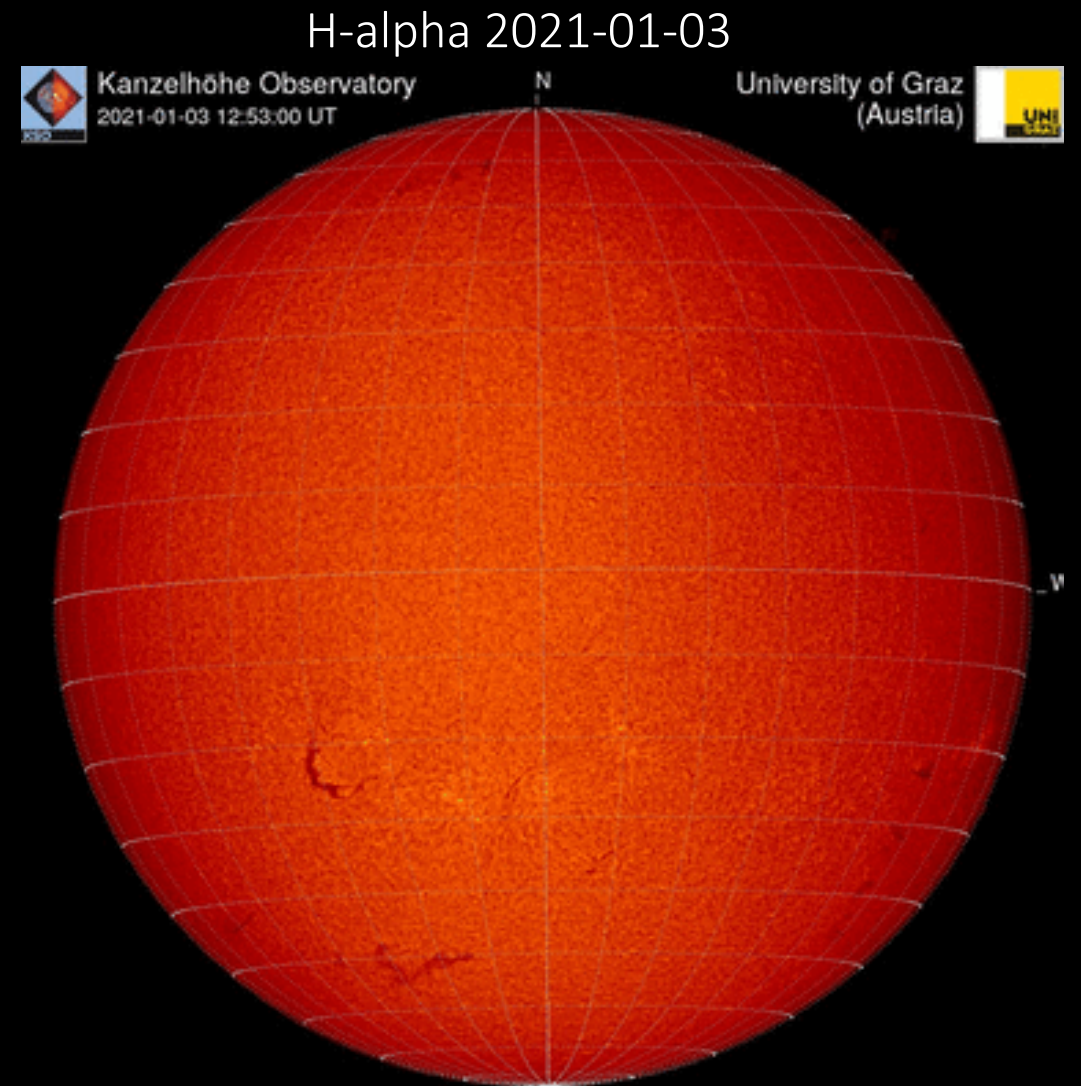
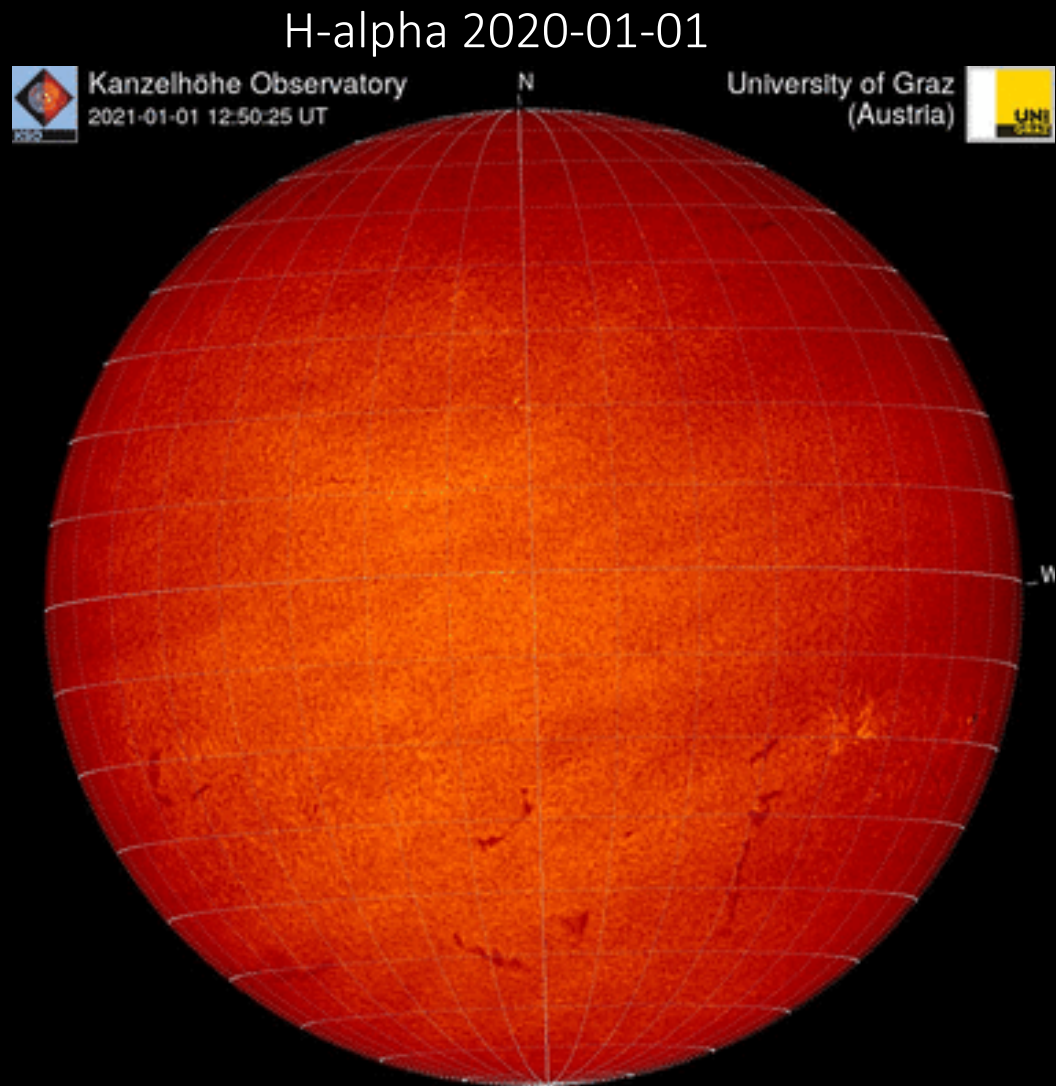


Filaments & Filament eruptions

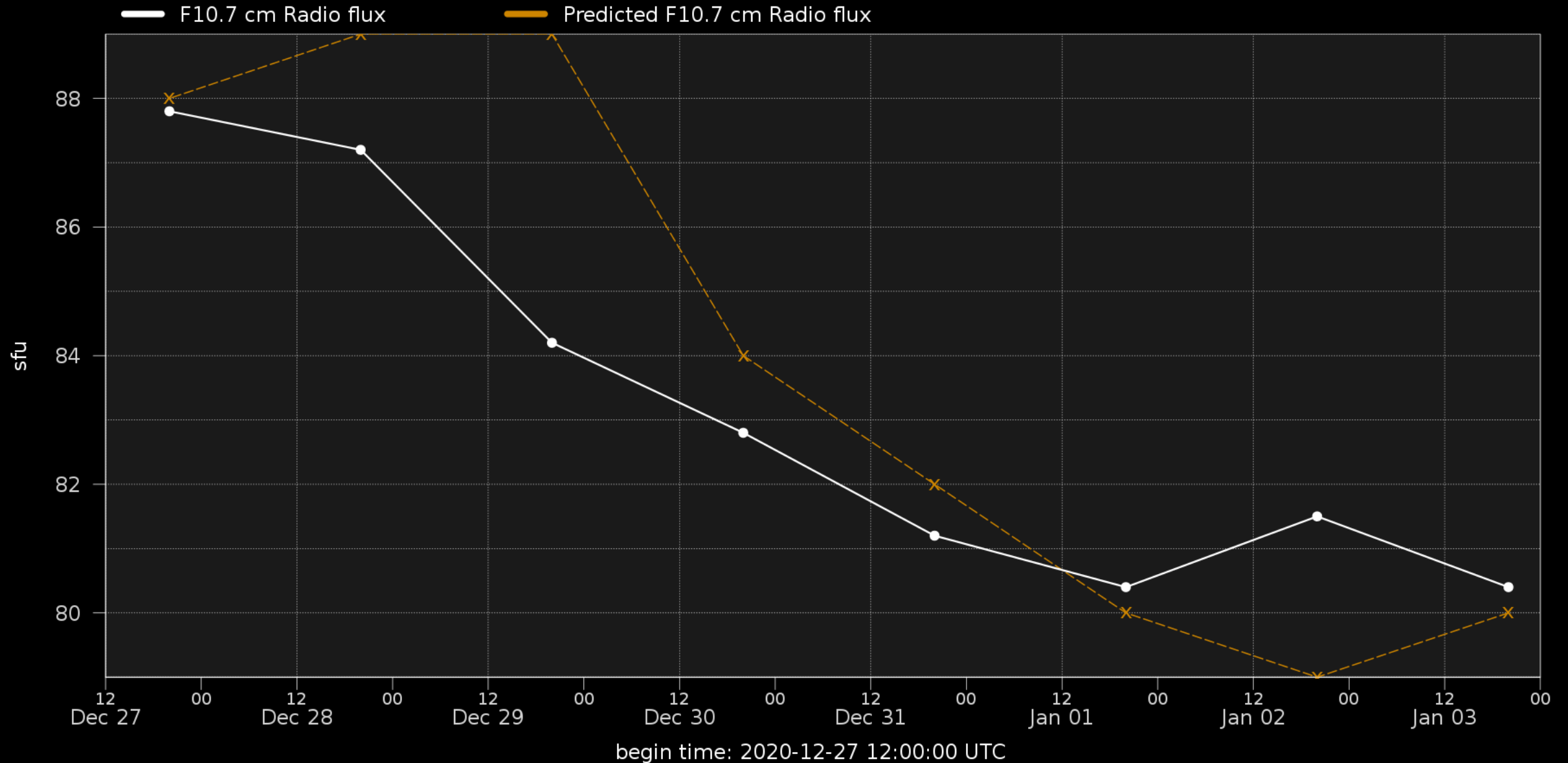
SDO/AIA 30.4 nm 2021-01-01 to 2021-01-03



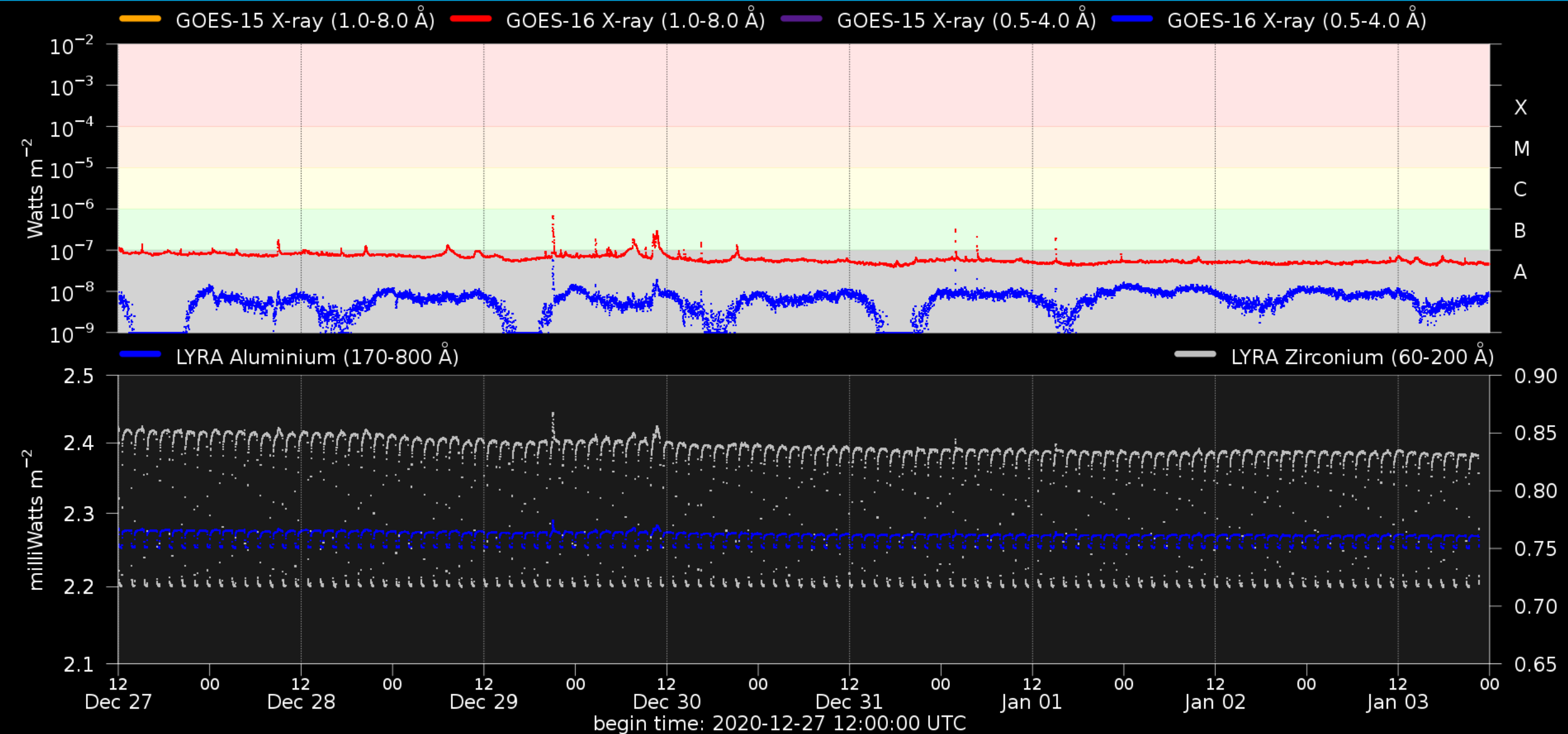
Filaments & Filament eruptions



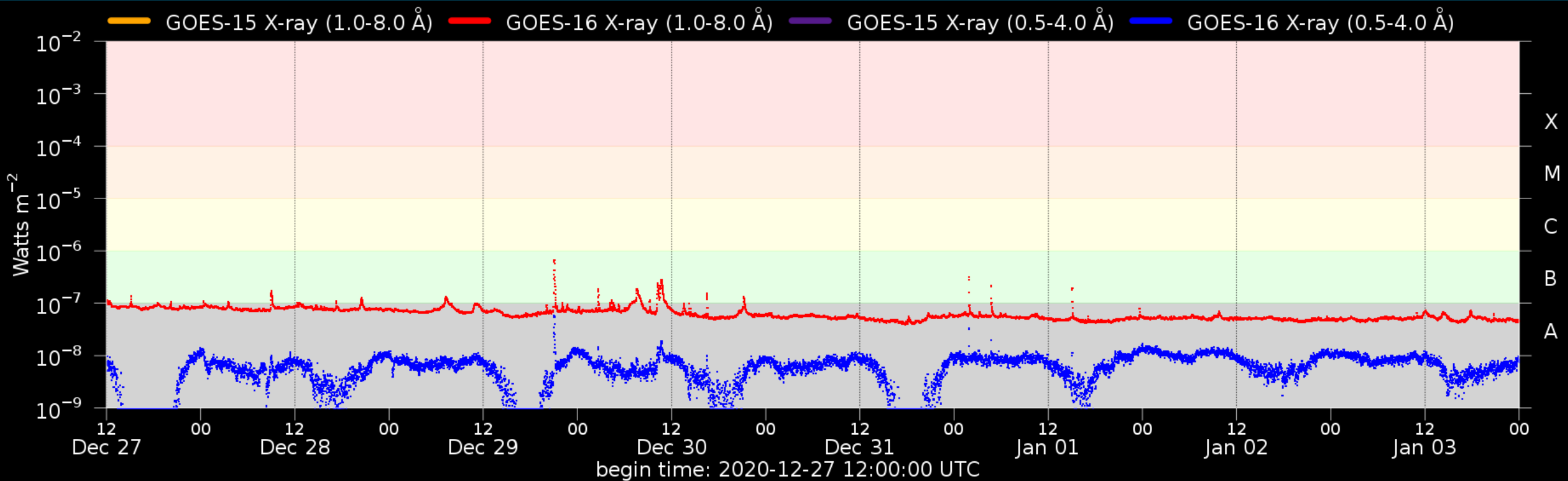
Solar F10.7cm radio flux



Solar X-Ray and UV flux



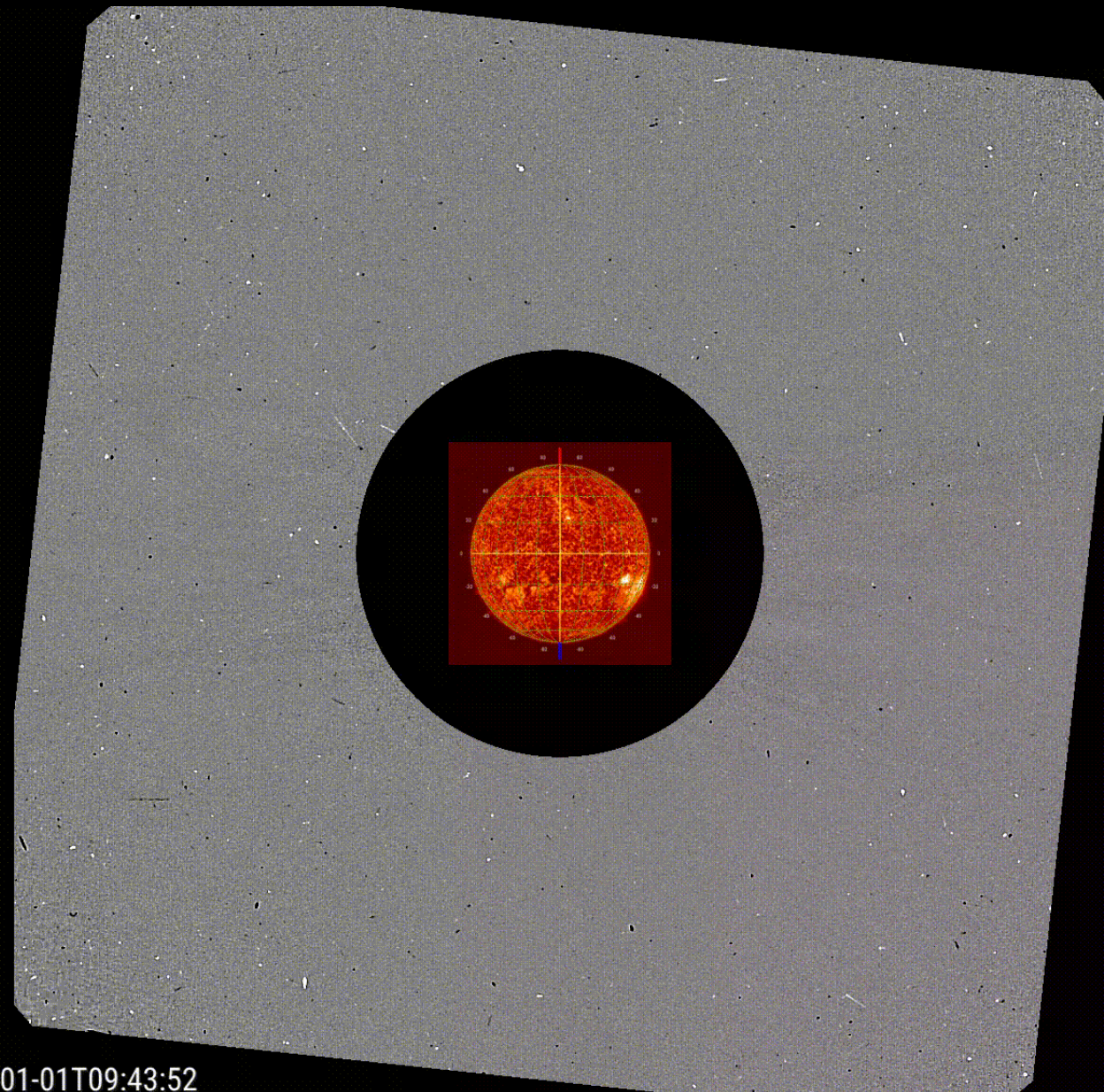
Flaring activity



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

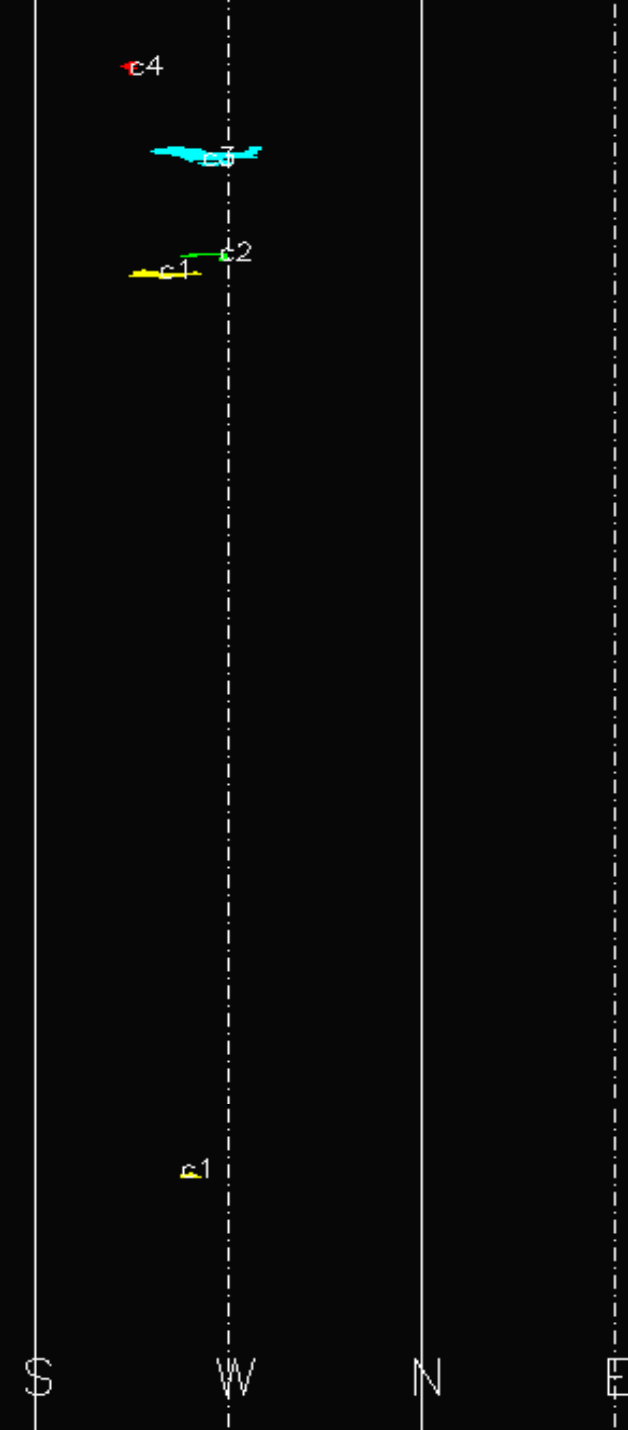
Issue date	2020-12-27	2020-12-28	2020-12-29	2020-12-30	2020-12-31	2021-01-01	2021-01-02	2021-01-03
Probability (%)	15 01 01	15 01 01	15 01 01	15 01 01	15 01 01	10 01 01	05 01 01	01 01 01
Observed (#)	00 00 00	00 00 00	00 00 00	00 00 00	00 00 00	00 00 00	00 00 00	00 00 00

Coronal Mass Ejections



2021-01-01T09:43:52

s Cer



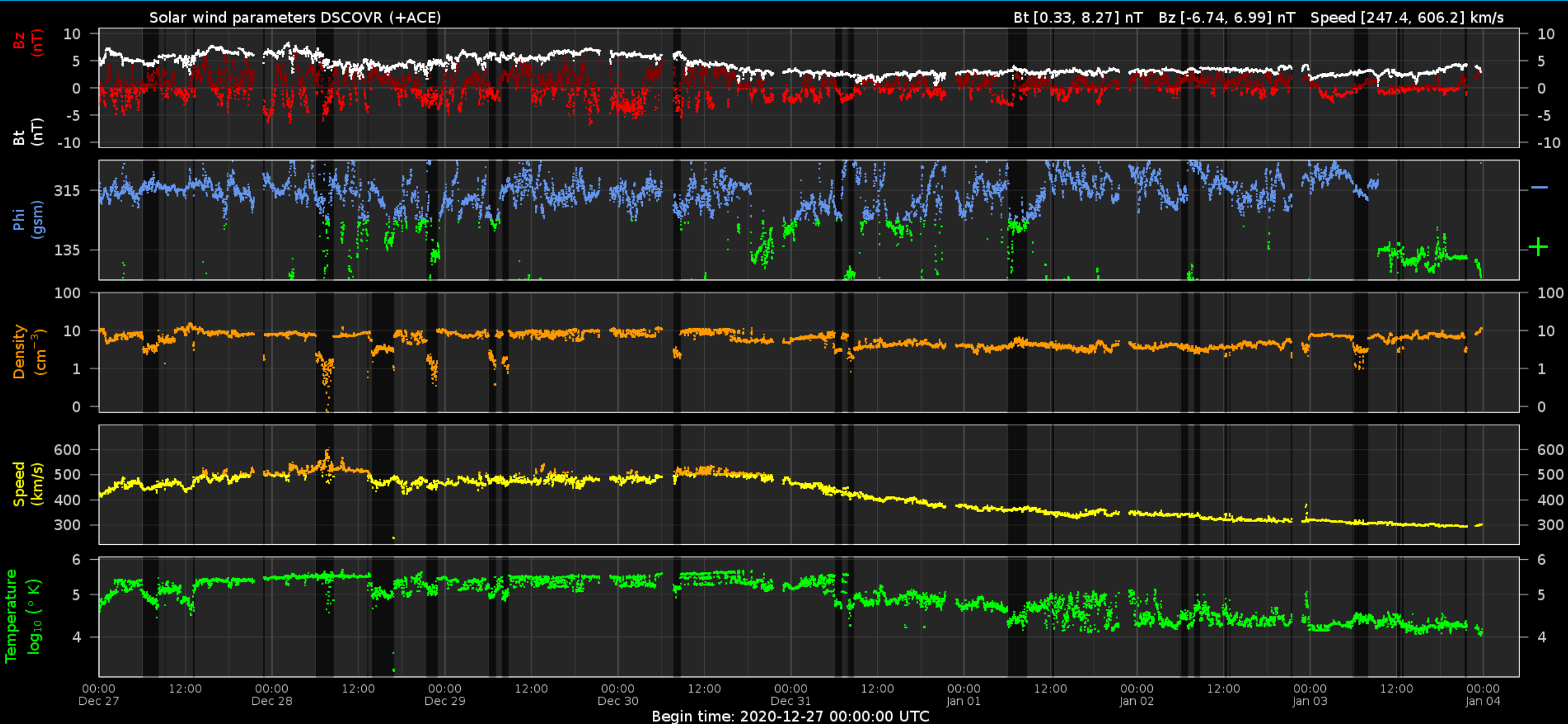
18:00	01/03
11:48	01/03
09:12	01/03
06:00	01/03
02:48	01/03
23:36	01/02
20:24	01/02
17:48	01/02
14:48	01/02
11:48	01/02
08:36	01/02
05:36	01/02
02:48	01/02
23:48	01/01
20:24	01/01
17:24	01/01
14:24	01/01
11:00	01/01
05:36	01/01
20:17	12/31
17:00	12/31
13:48	12/31
11:00	12/31
08:00	12/31
05:00	12/31
02:12	12/31
23:12	12/30
19:36	12/30
16:36	12/30
13:25	12/30
10:24	12/30
07:30	12/30
04:48	12/30
02:00	12/30
22:12	12/29
19:24	12/29
16:36	12/29
12:24	12/29
10:24	12/29
07:00	12/29
04:12	12/29
00:48	12/29
21:36	12/28
18:36	12/28
15:24	12/28
12:12	12/28
09:24	12/28
06:24	12/28
03:24	12/28
00:00	12/28

Solar Wind and Geomagnetic Activity

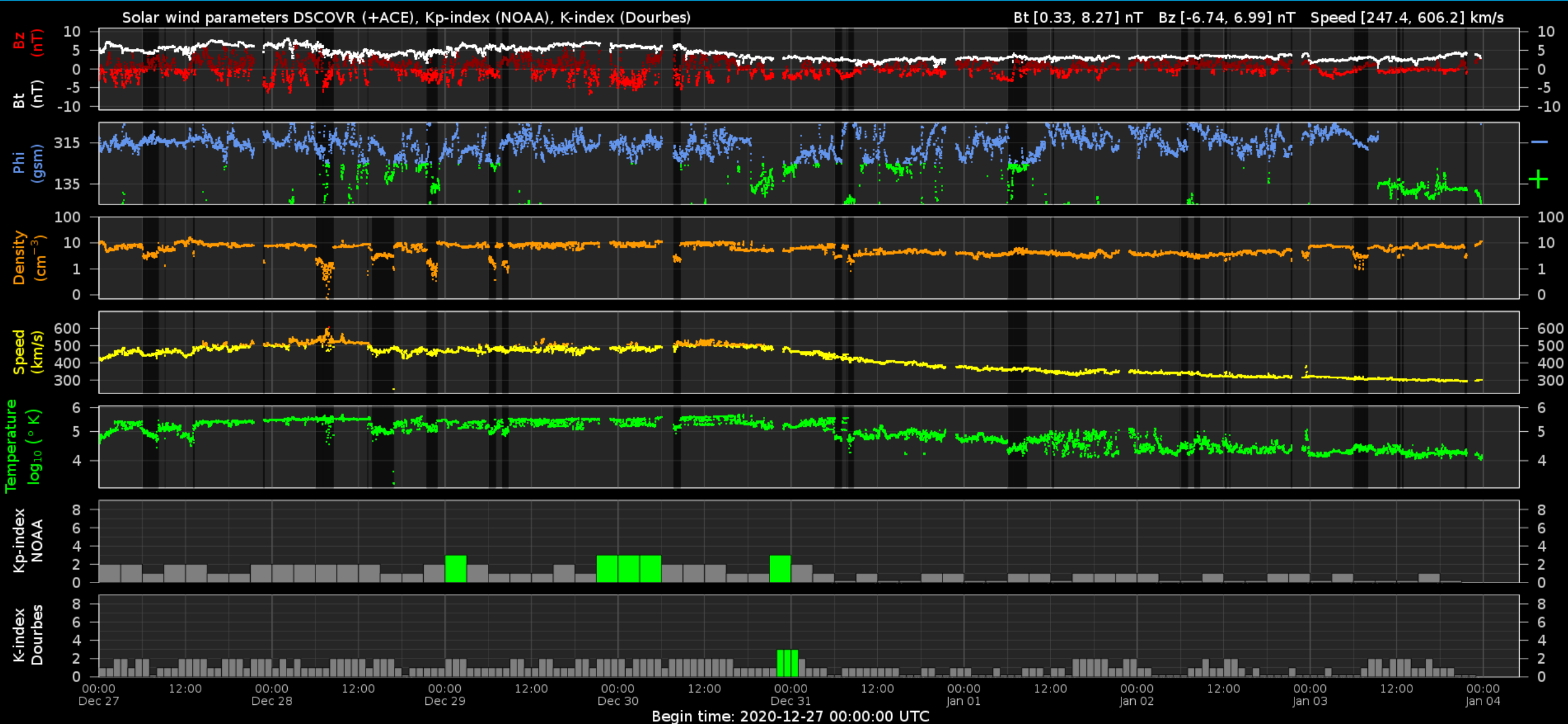


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Solar wind parameters



Solar wind parameters & K-indices

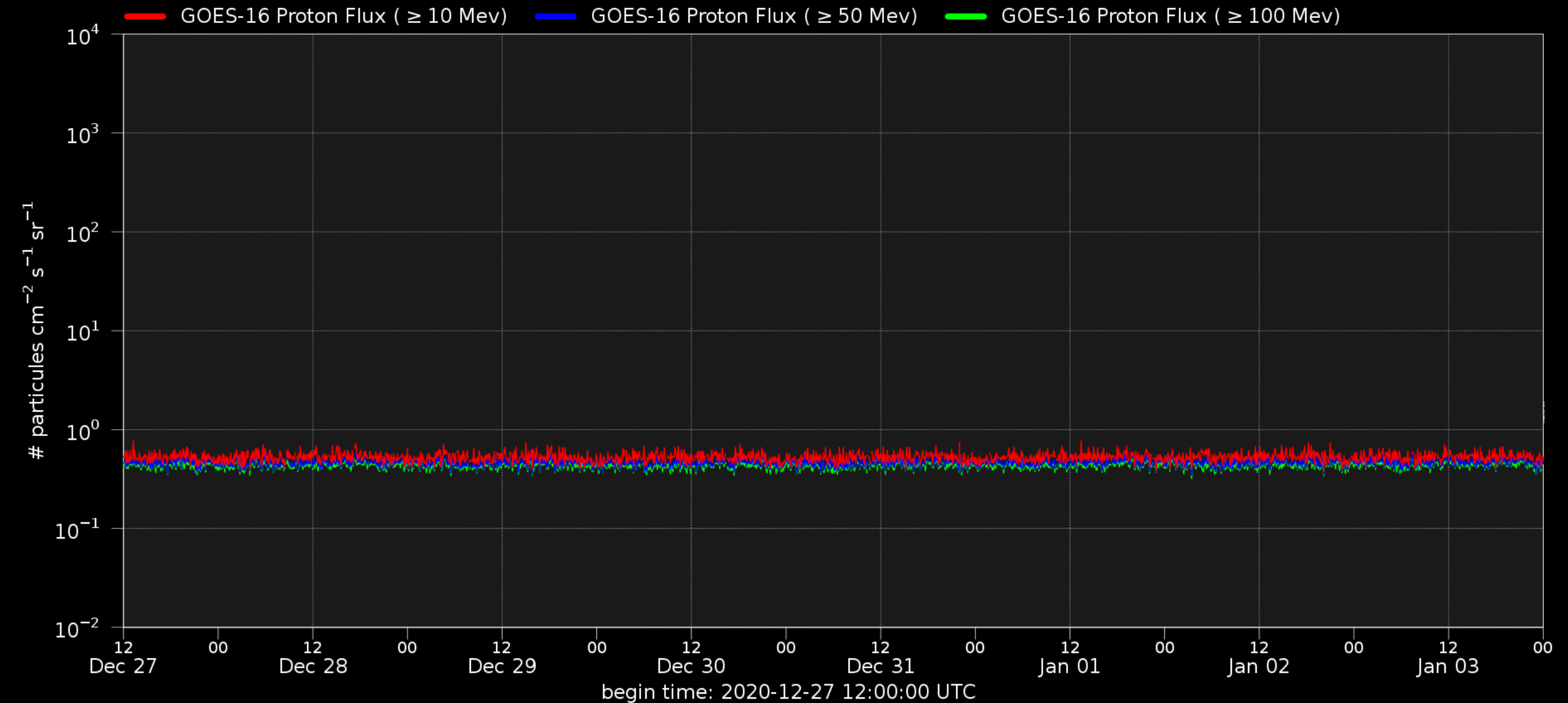


Energetic Particles

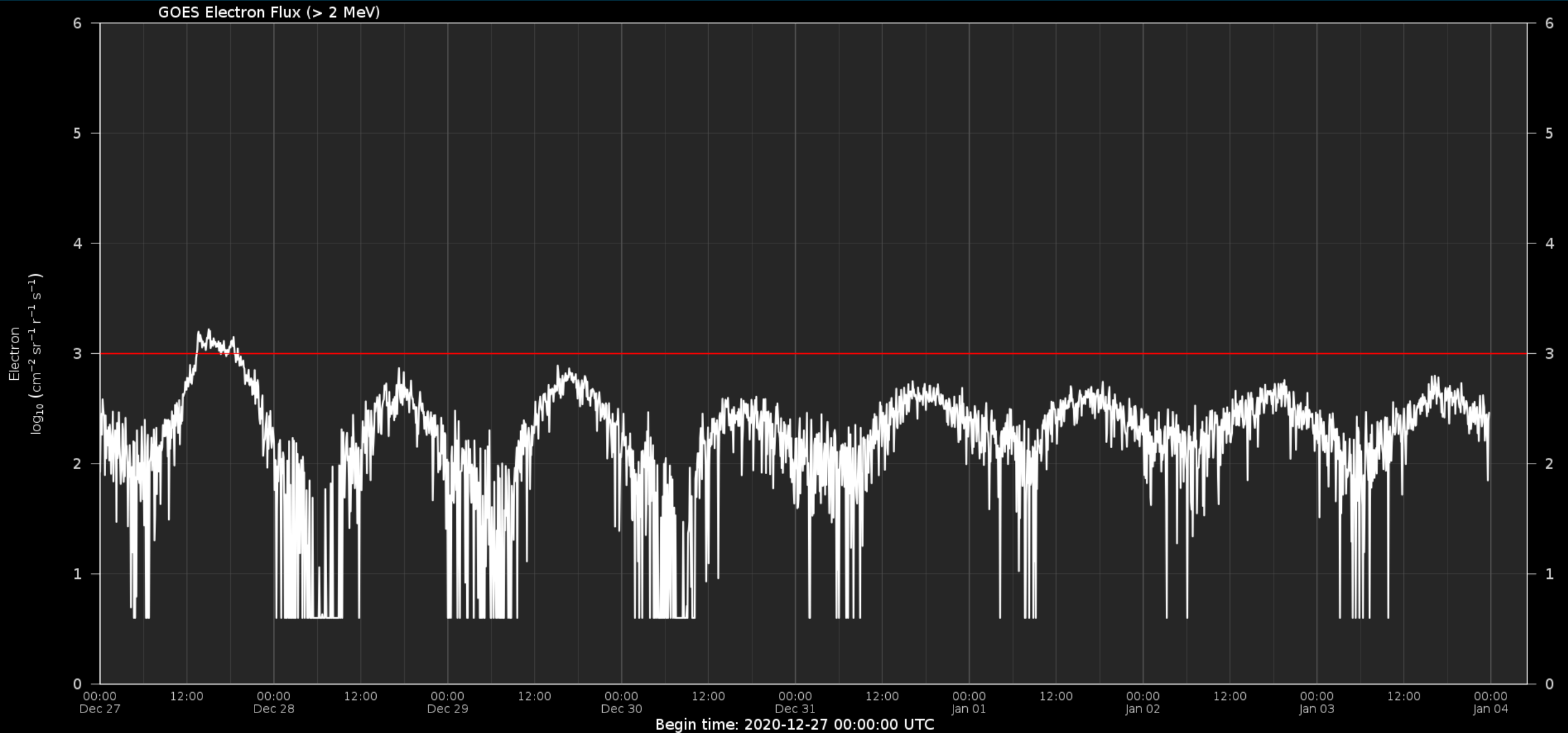


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Solar proton flux



Electron flux at GEO



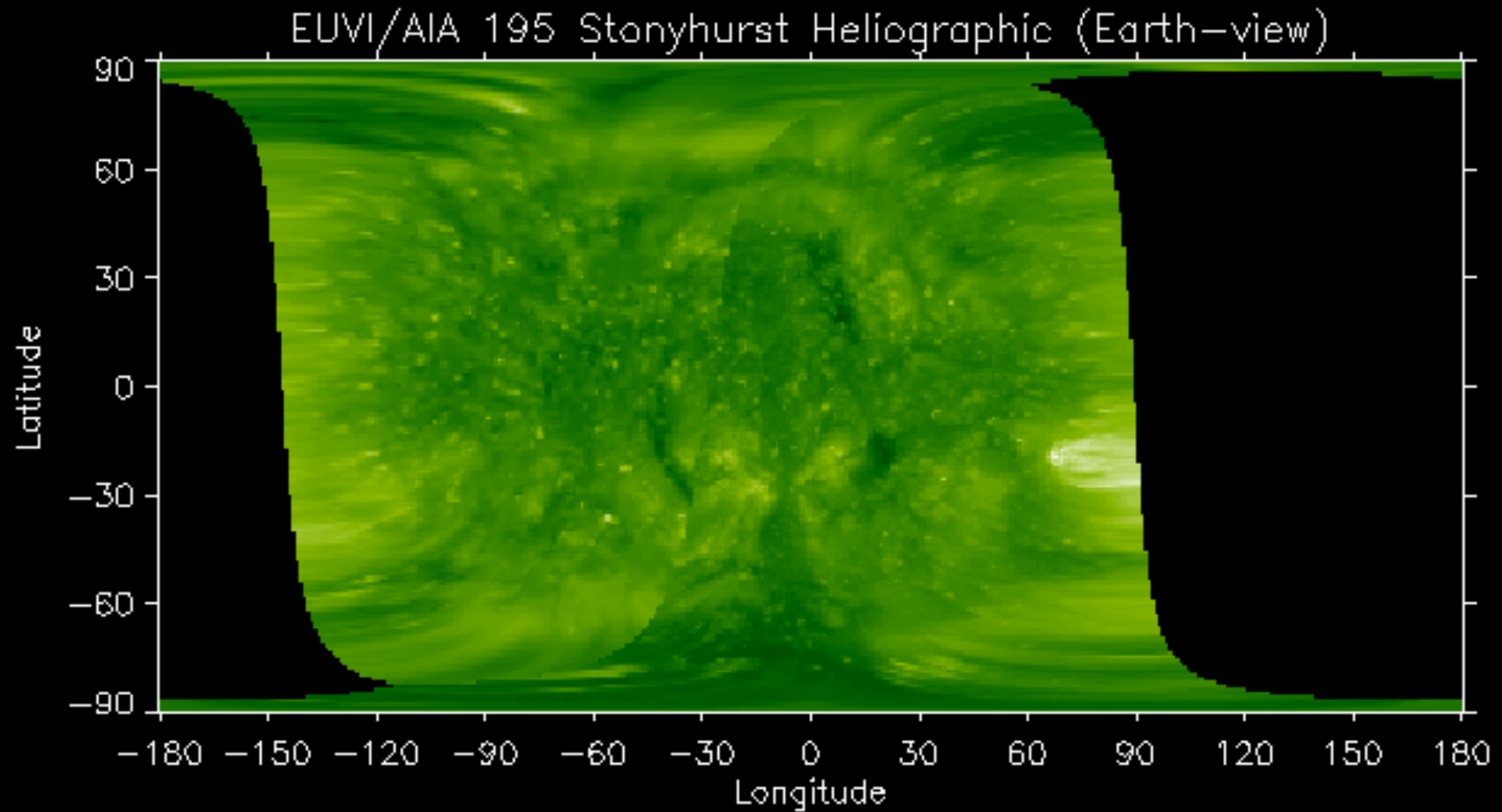
Outlook



Royal Observatory
of Belgium

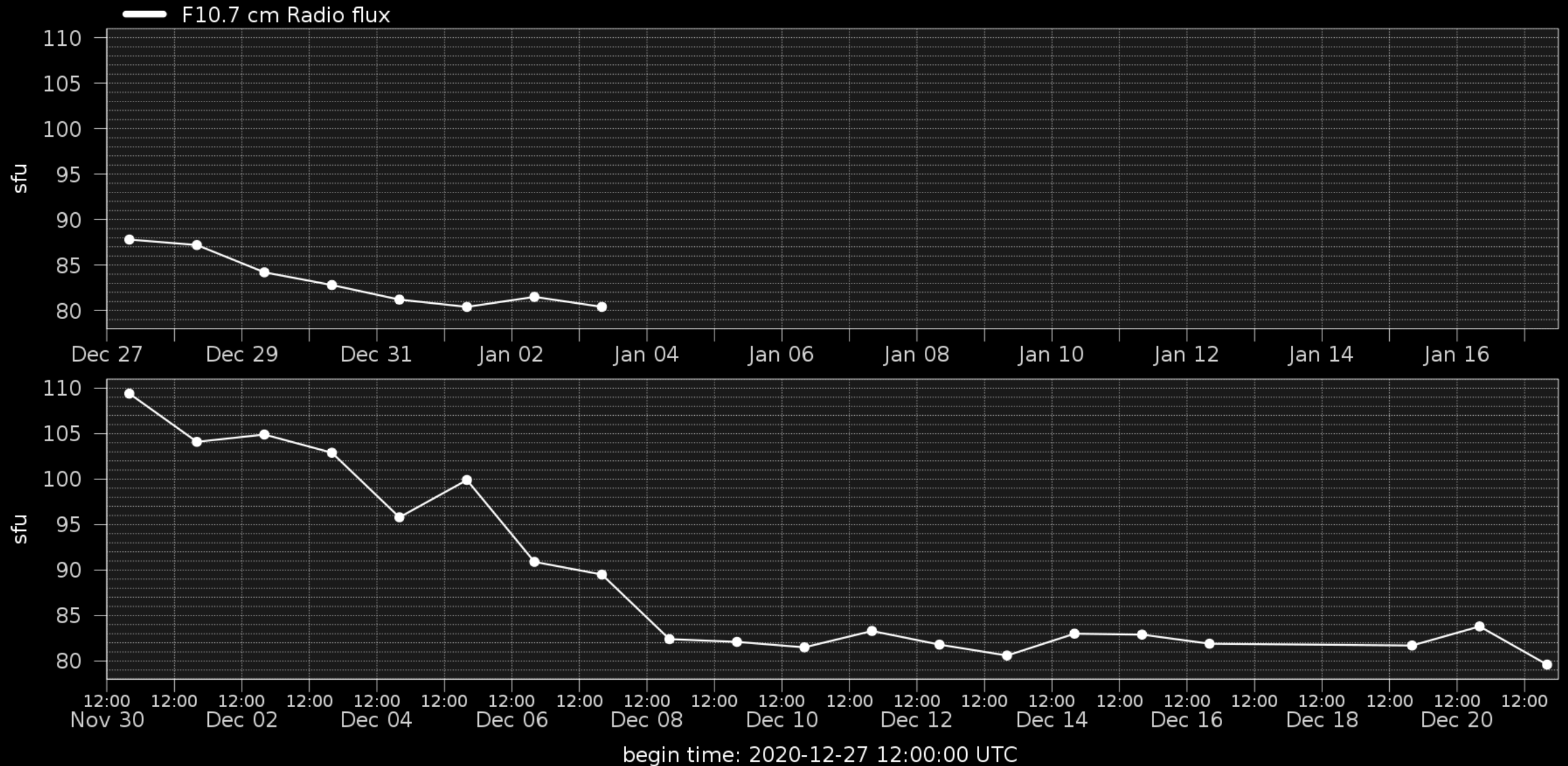
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Outlook: Solar activity

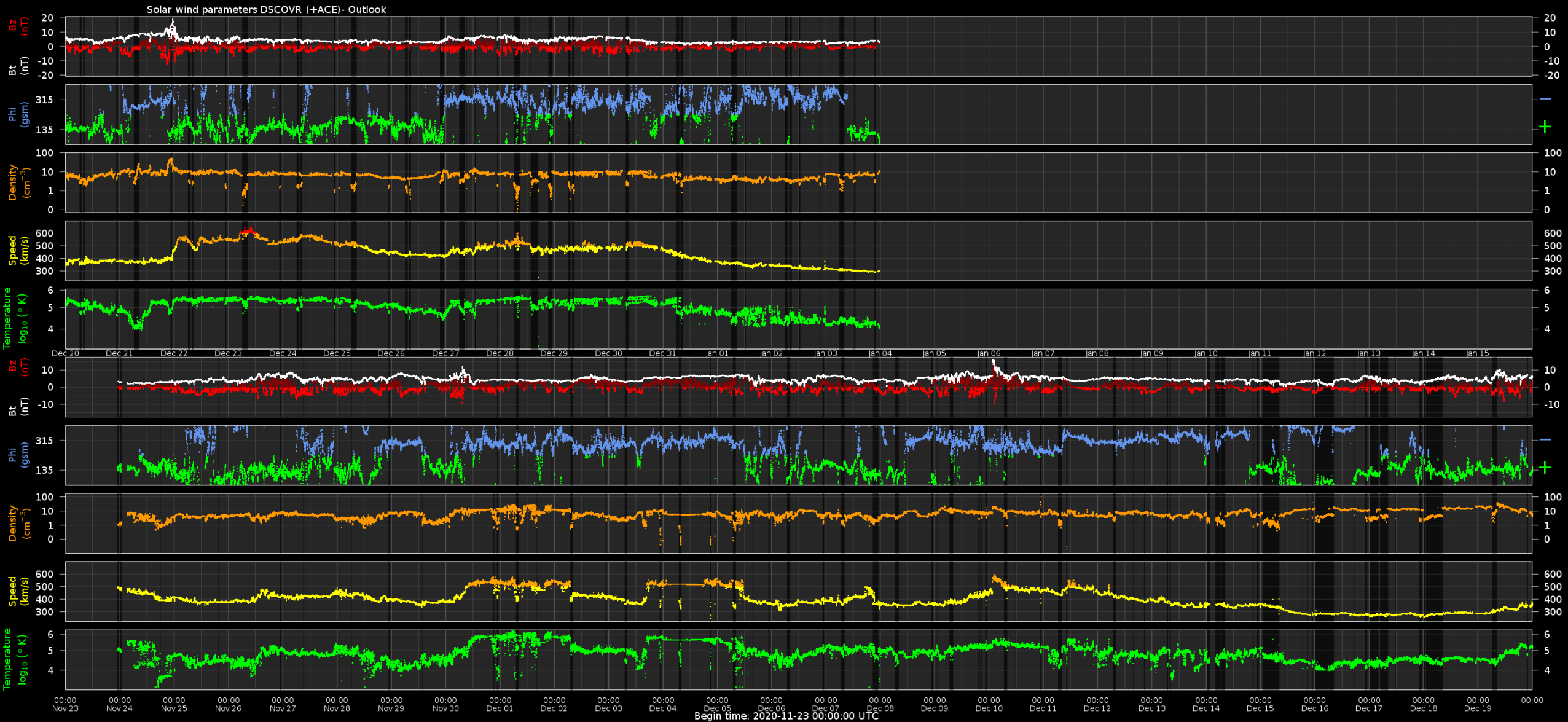


Observation date: 2021/01/03 09:55:30

Outlook: Solar F10.7cm radio flux

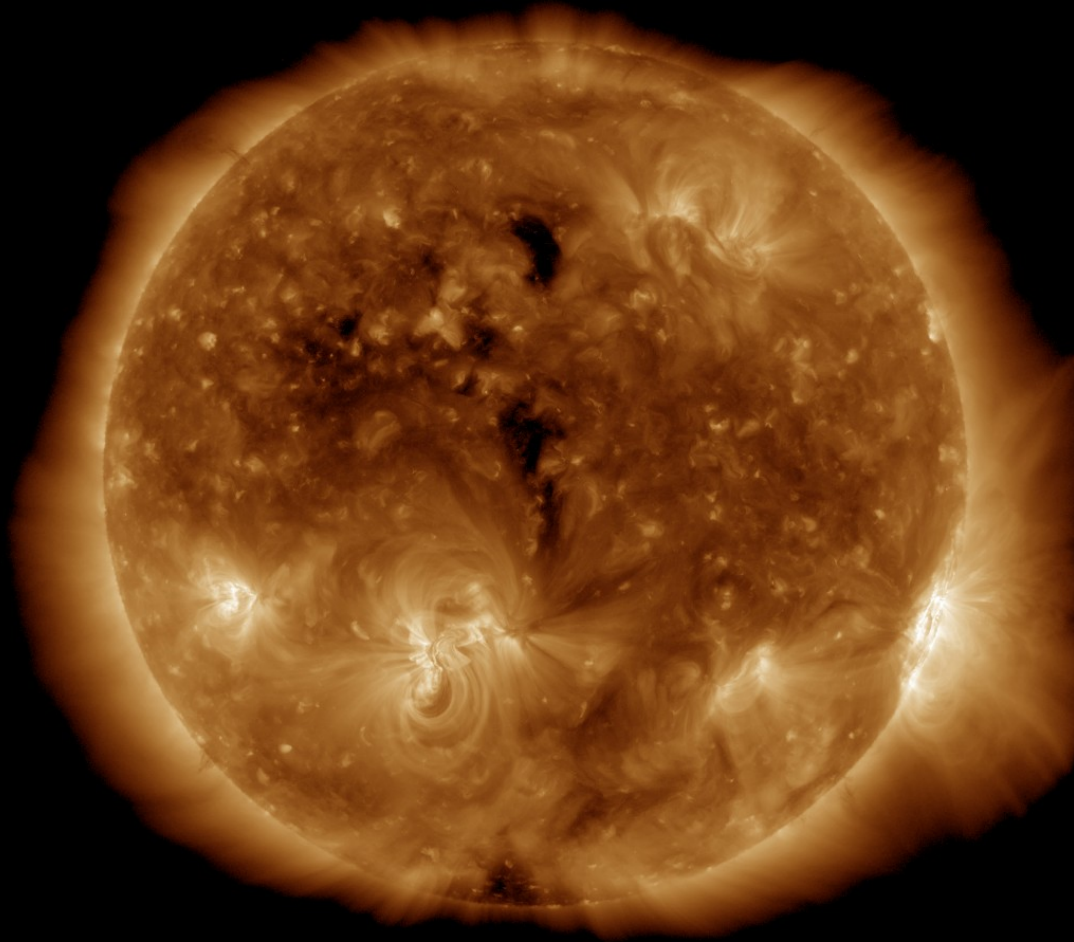


Outlook: Solar wind parameters



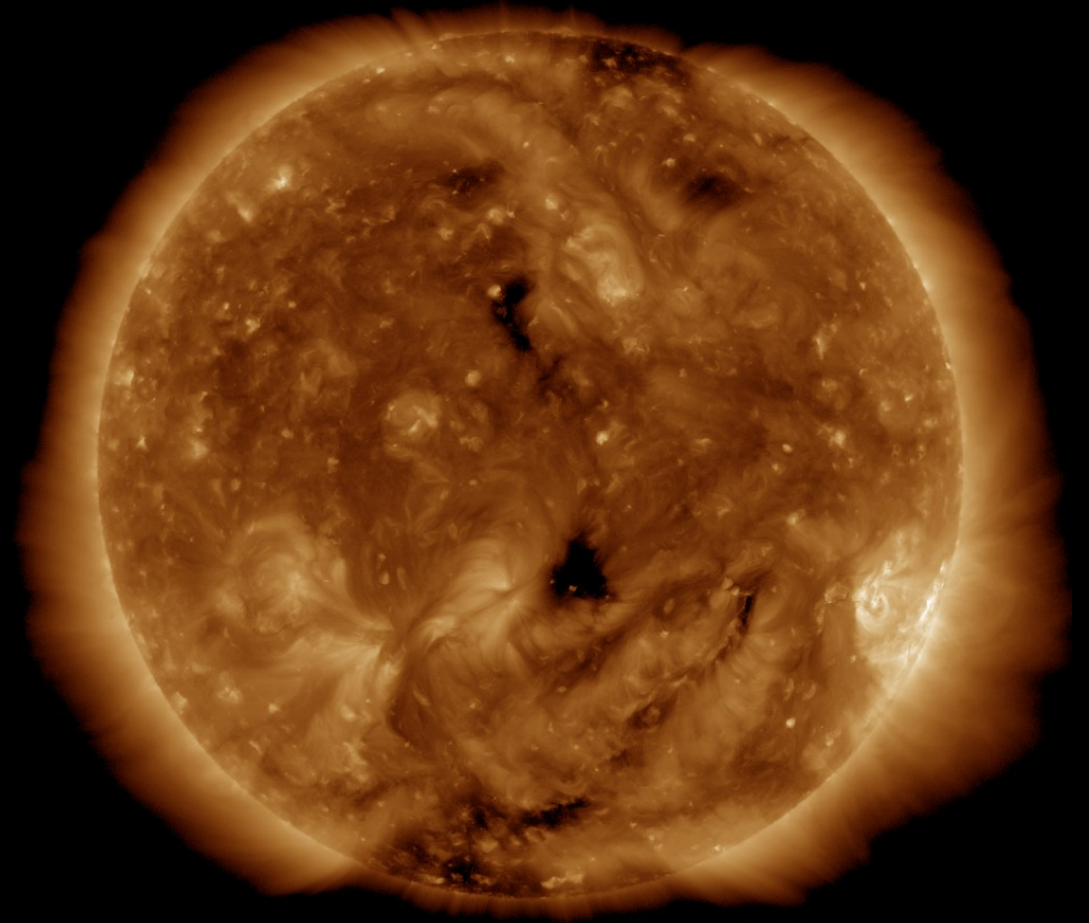
Outlook: Solar wind parameters

SDO/AIA 19.3 nm 2020-12-05



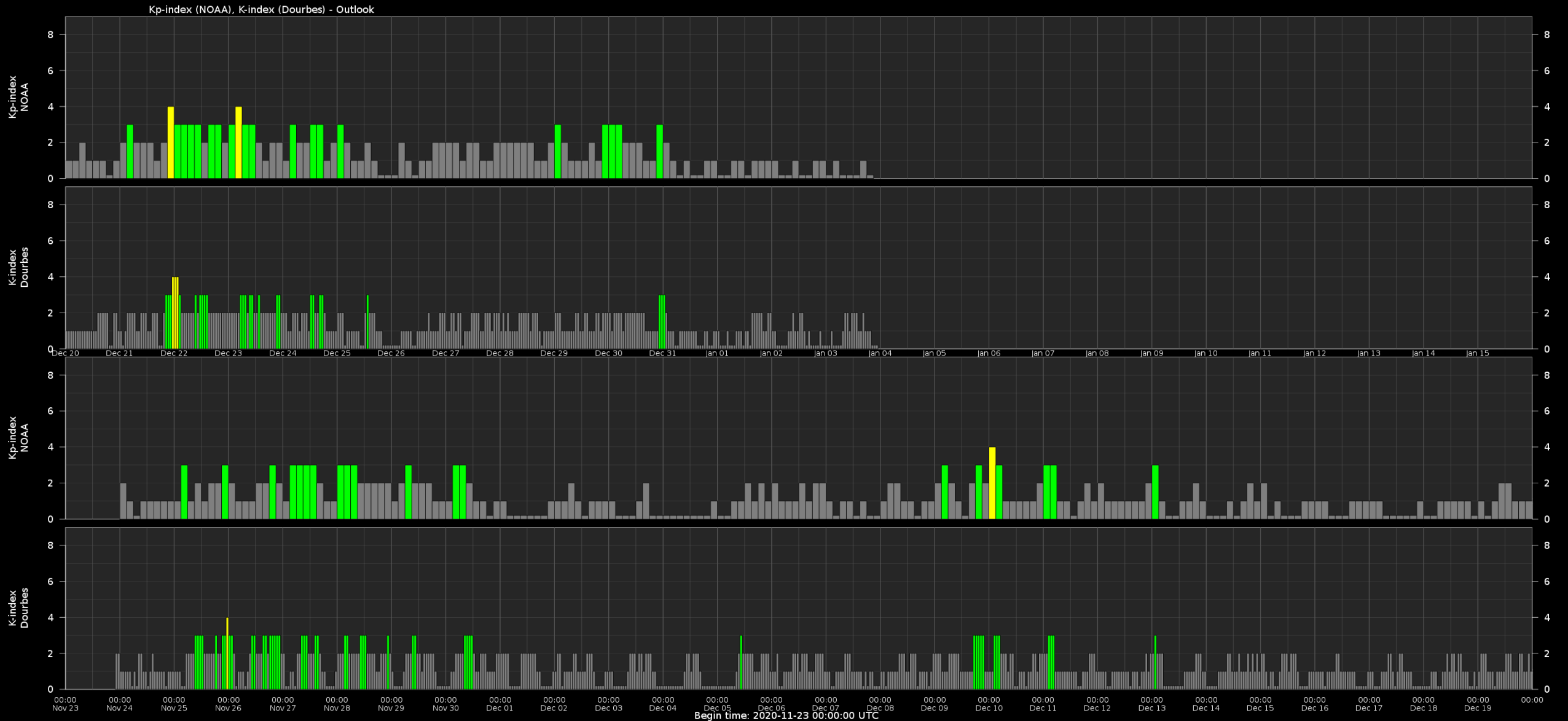
SDO/AIA 193 2020-12-05 23:28:17 UT

SDO/AIA 19.3 nm 2021-01-02



SDO/AIA 193 2021-01-02 12:17:53 UT

Outlook: Geomagnetic activity



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See you at our next briefing!

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