

SIDC Space Weather Briefing

01 November 2020 - 08 November 2020

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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 2020-11-01 to 2020-11-08

Active regions	Catania sunspot group 50 (AR 2781) & Catania sunspot group 51 (AR 2780)
Flares	# B-class flare: 117 # C-class flare: 31 # M-class flare: 0 # X-class flare: 0
Filament eruptions	No filament eruption
Coronal Holes	South polar coronal hole extension (negative polarity)

Proton flux	Background levels
Electron flux	Above thresholds for short periods

Solar wind and geomagnetic conditions from 2020-11-01T12:00:00 to 2020-11-08T12:00:00

ICME	yes
SW Conditions	B : 0.32 - 10.41 nT // Bz: -7.66 nT to 7.97 nT // Speed: 282.2 - 541.3km/s
K-indices	max K-index (Dourbes): 4 max Kp-index (NOAA): 3

All Quiet Alert: not quiet alert

Solar Activity

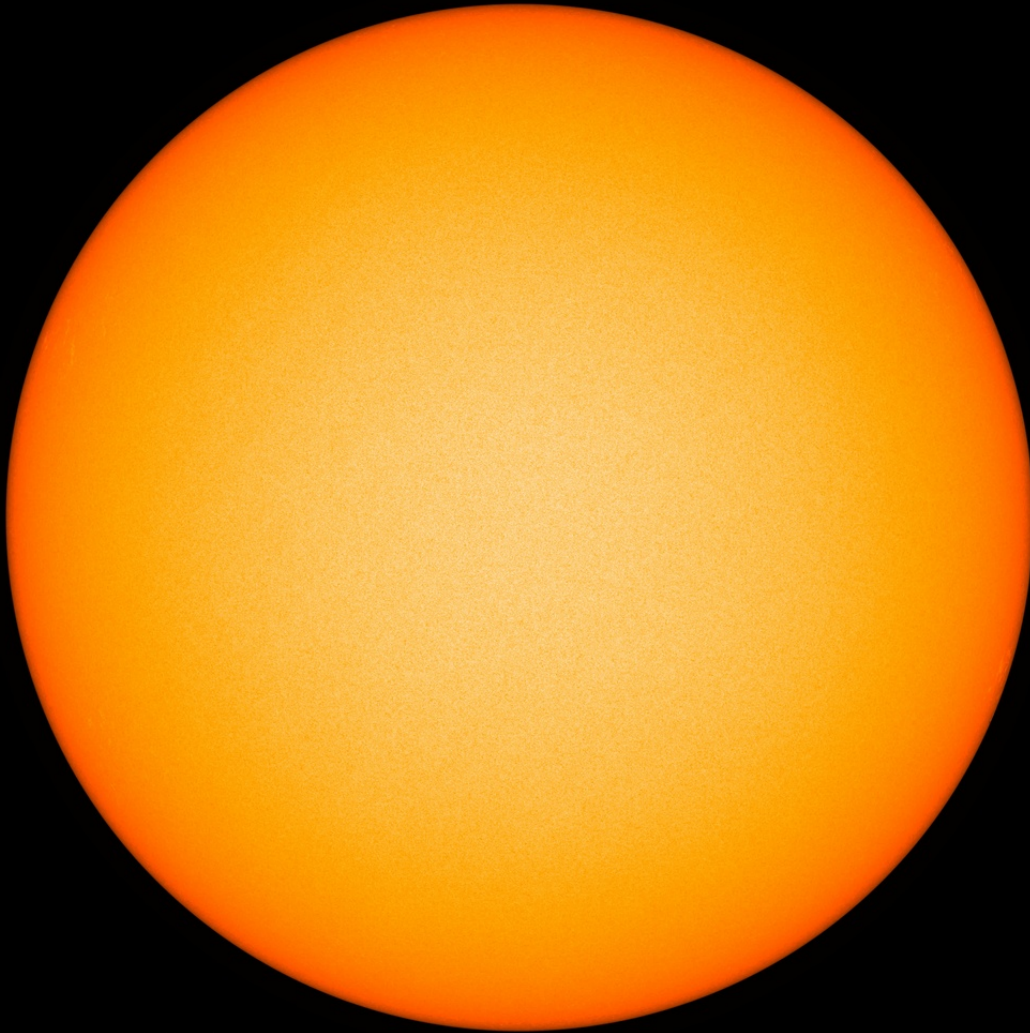


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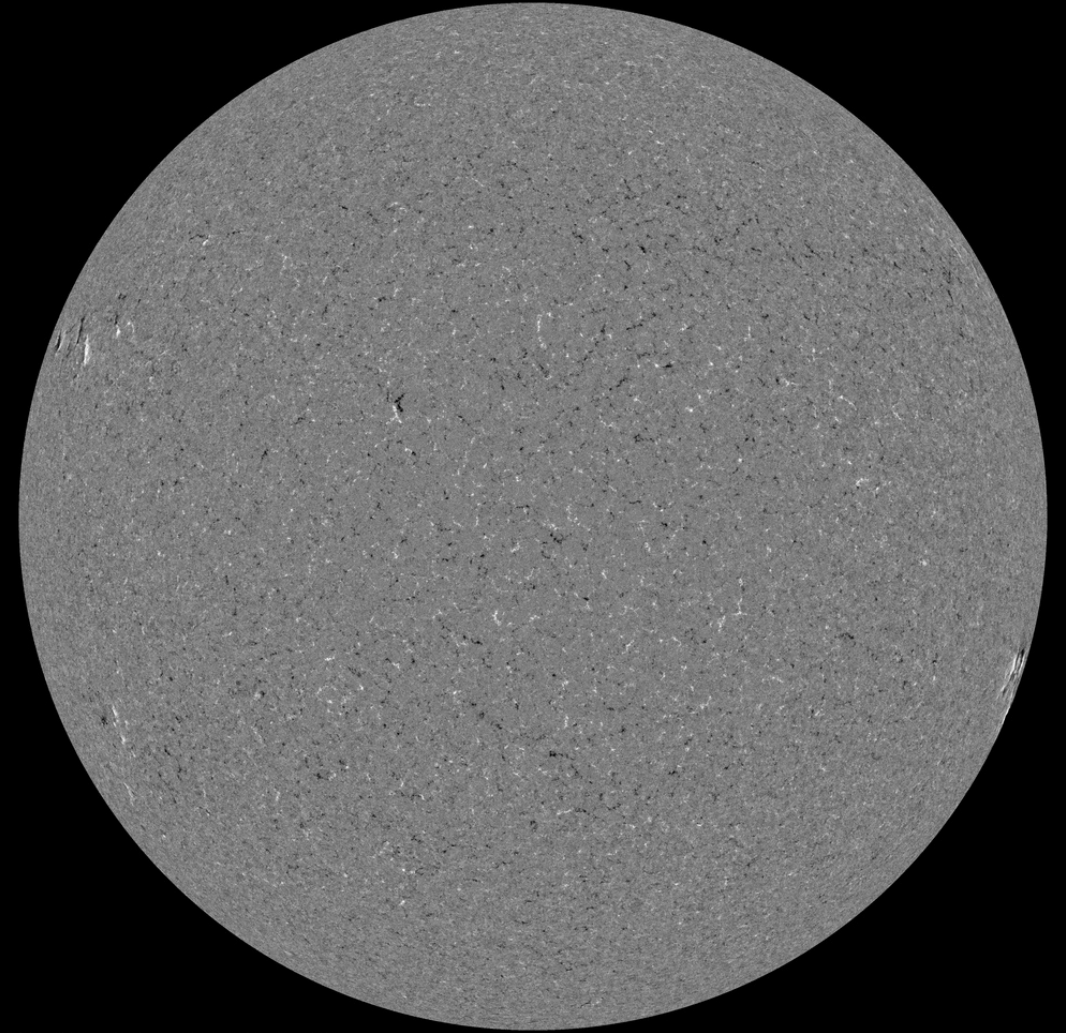
Solar active regions - Sunday

SDO/HMI White Light 2020-11-01



SDO/HMI Quick-Look Continuum: 20201101_114500

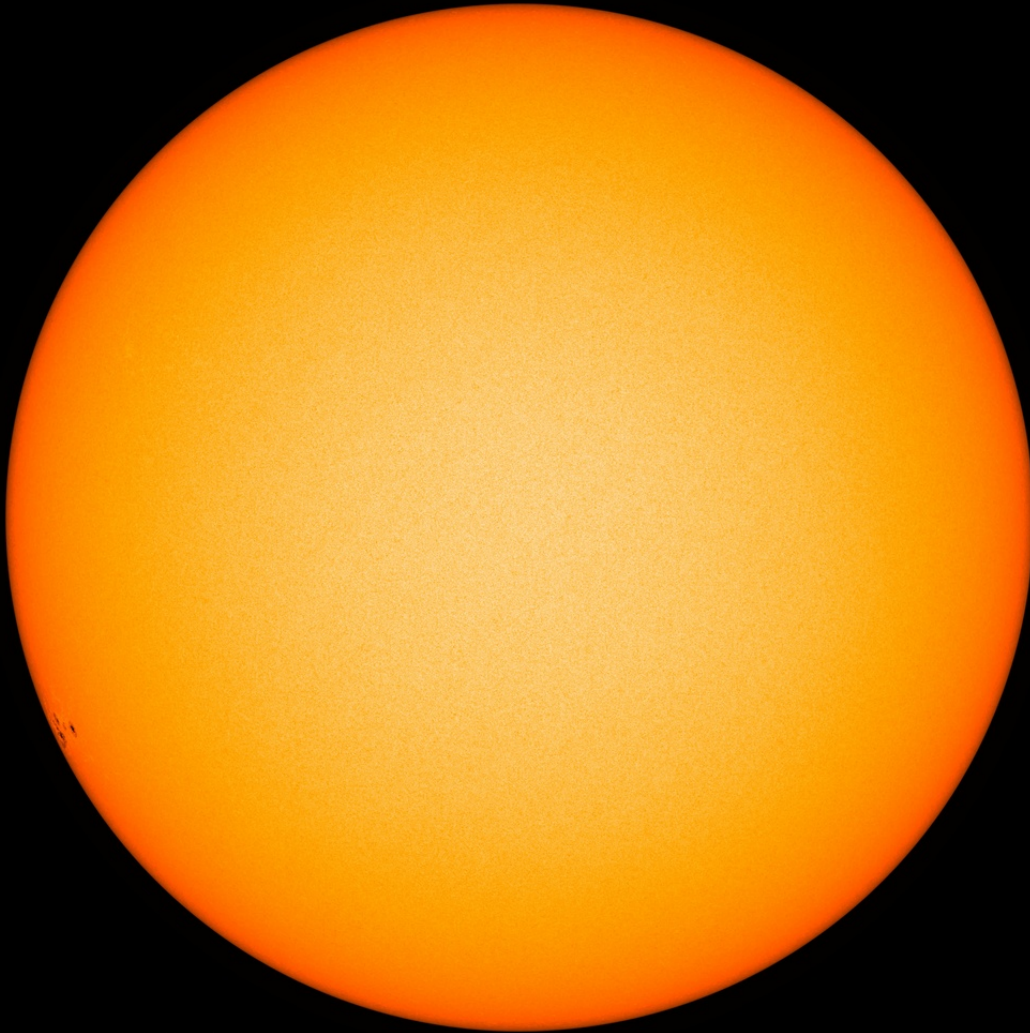
SDO/HMI Magnetogram 2020-11-01



SDO/HMI Quick-Look Magnetogram: 20201101_114500

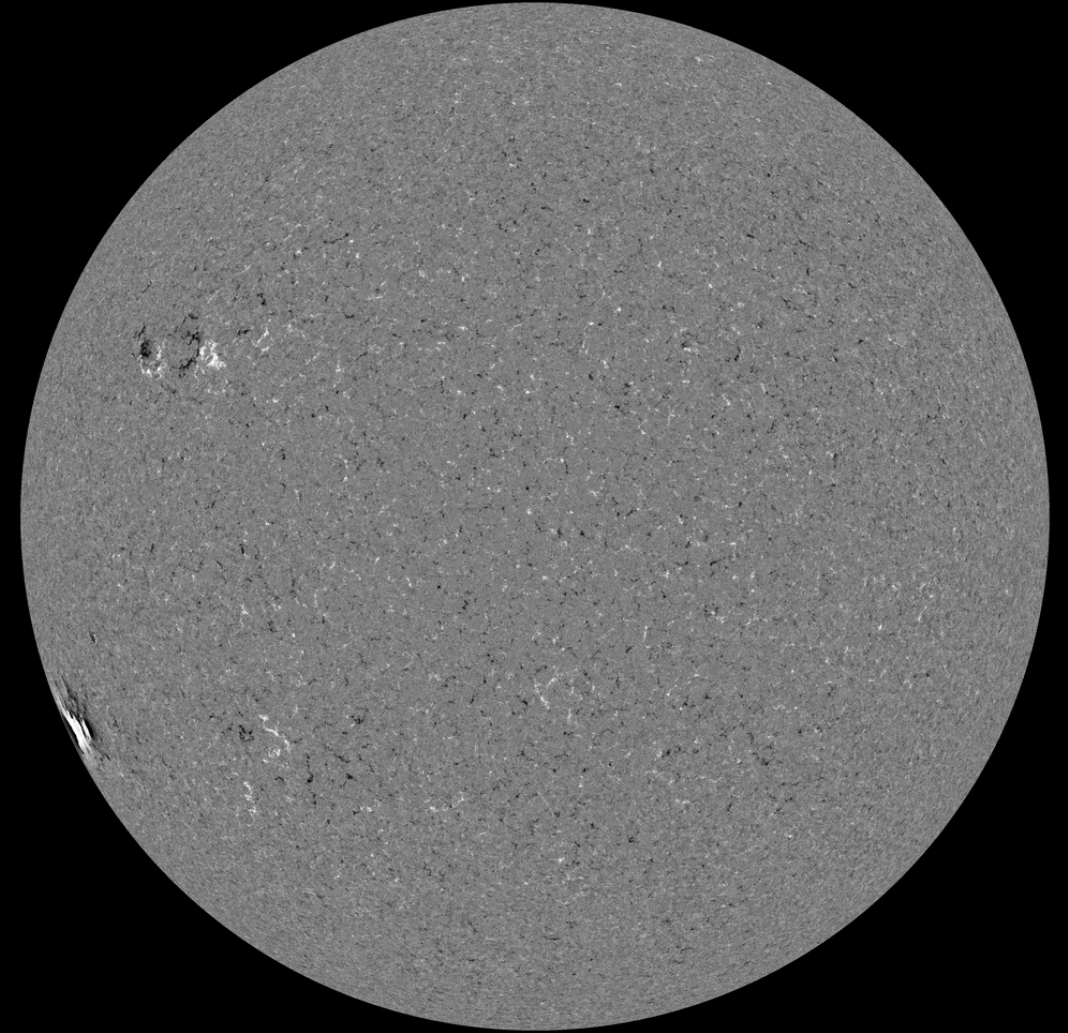
Solar active regions - Tuesday

SDO/HMI White Light 2020-11-03



SDO/HMI Quick-Look Continuum: 20201103_114500

SDO/HMI Magnetogram 2020-11-03

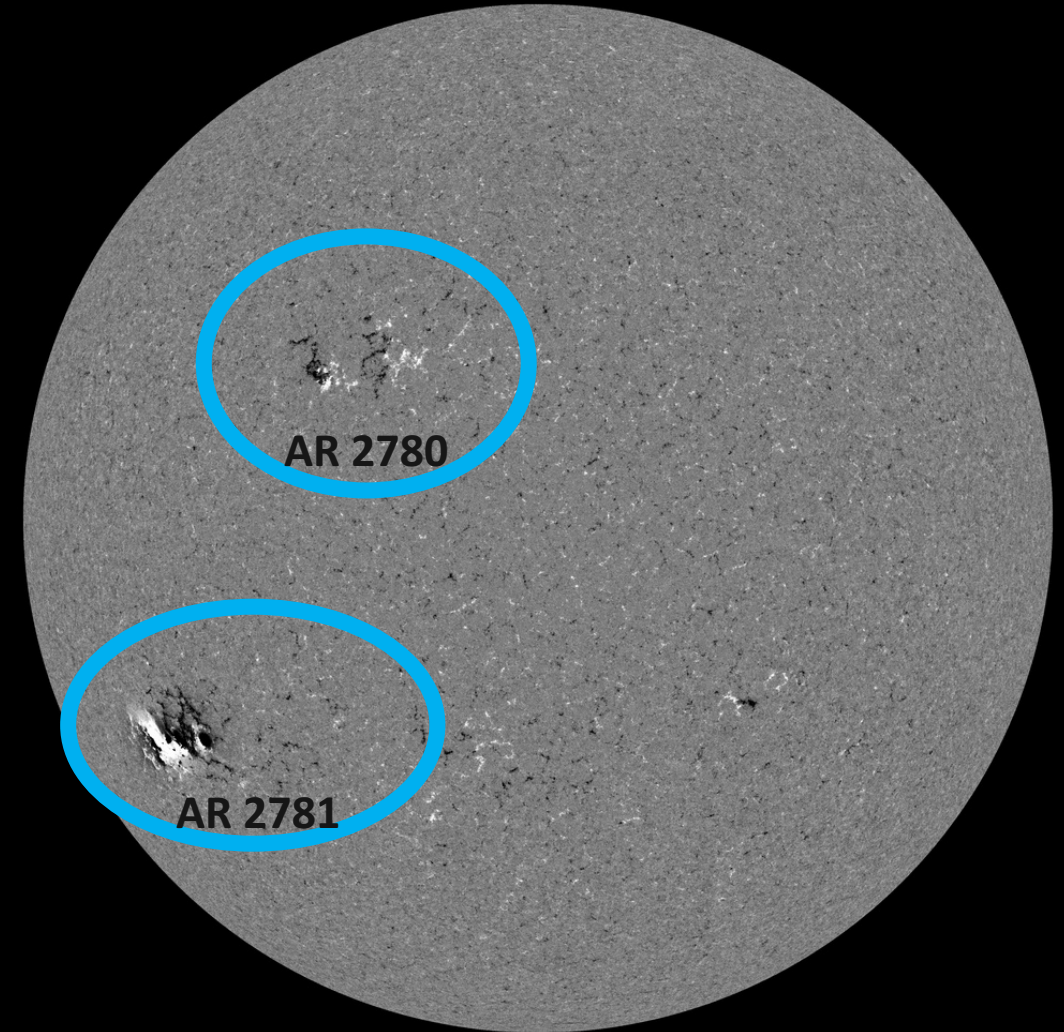
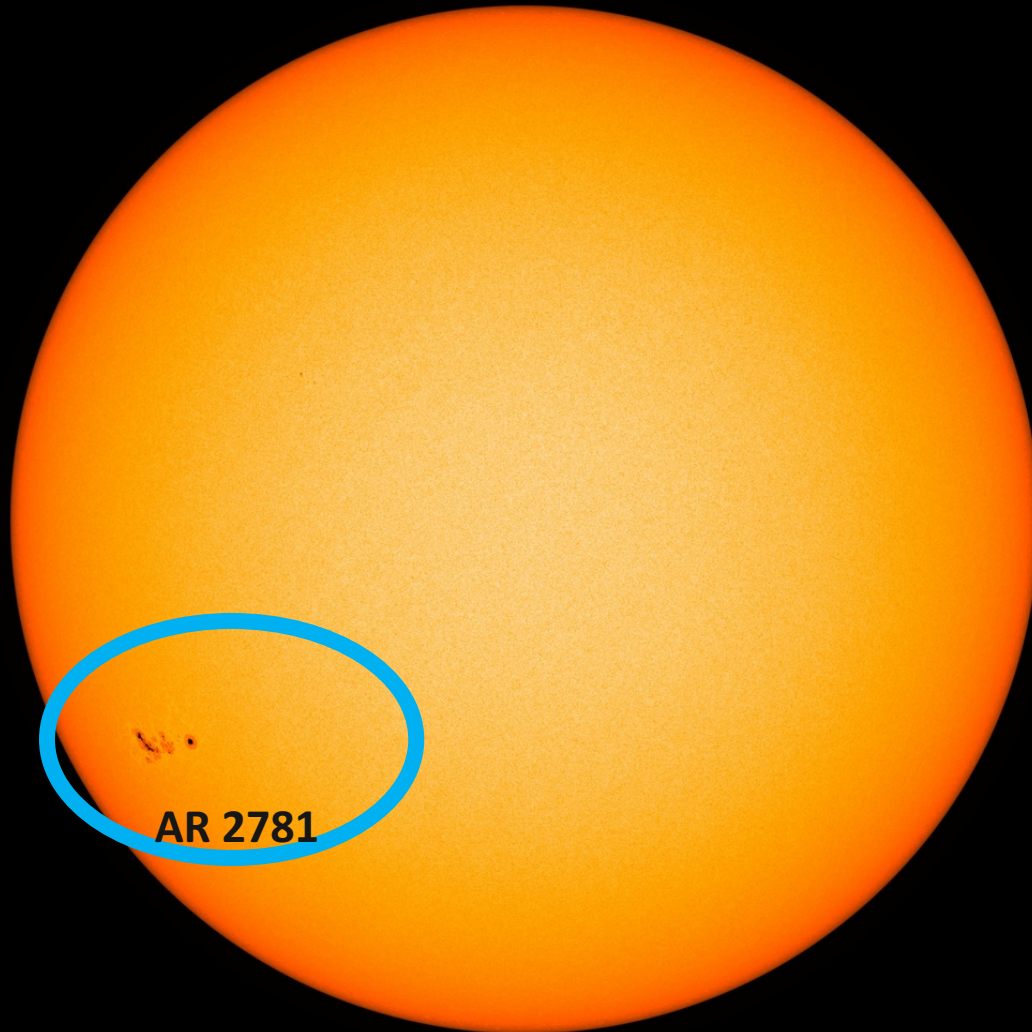


SDO/HMI Quick-Look Magnetogram: 20201103_114500

Solar active regions - Thursday

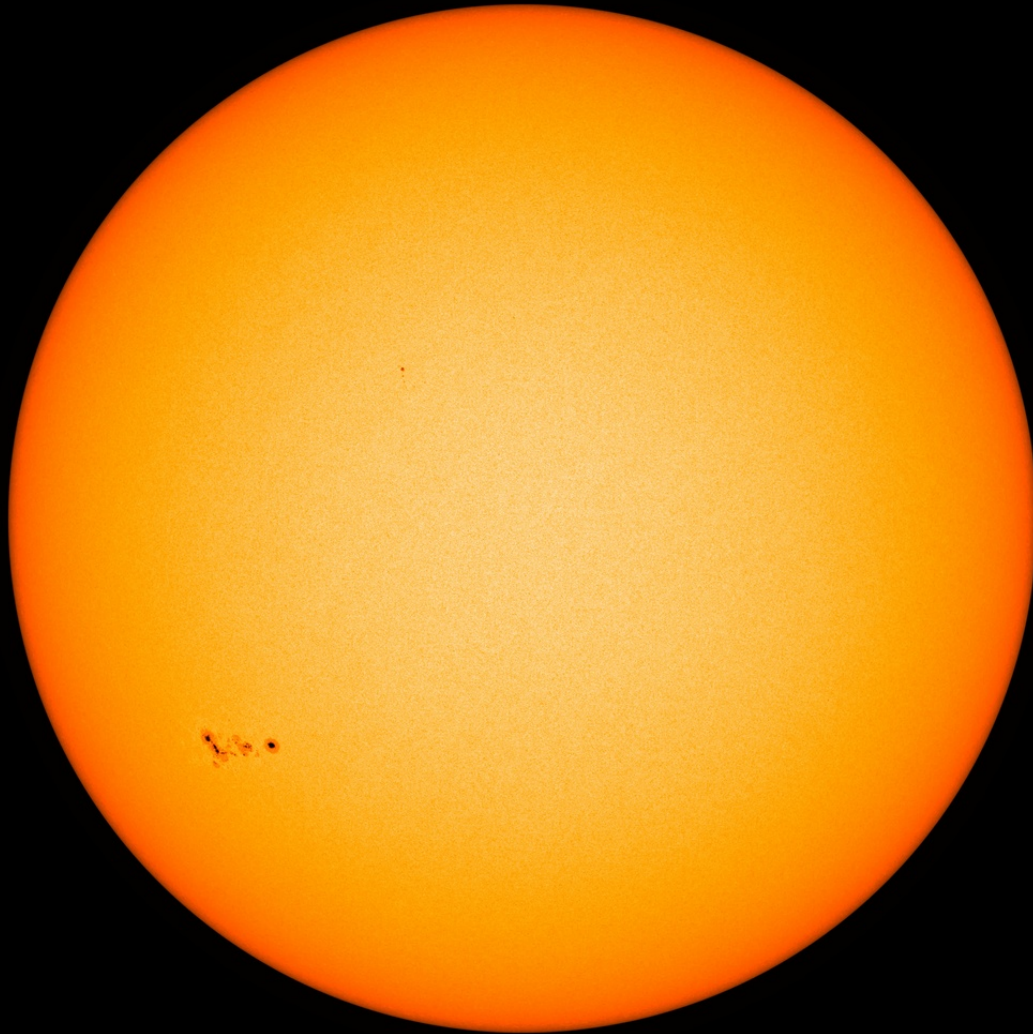
SDO/HMI White Light 2020-11-05

SDO/HMI Magnetogram 2020-11-05



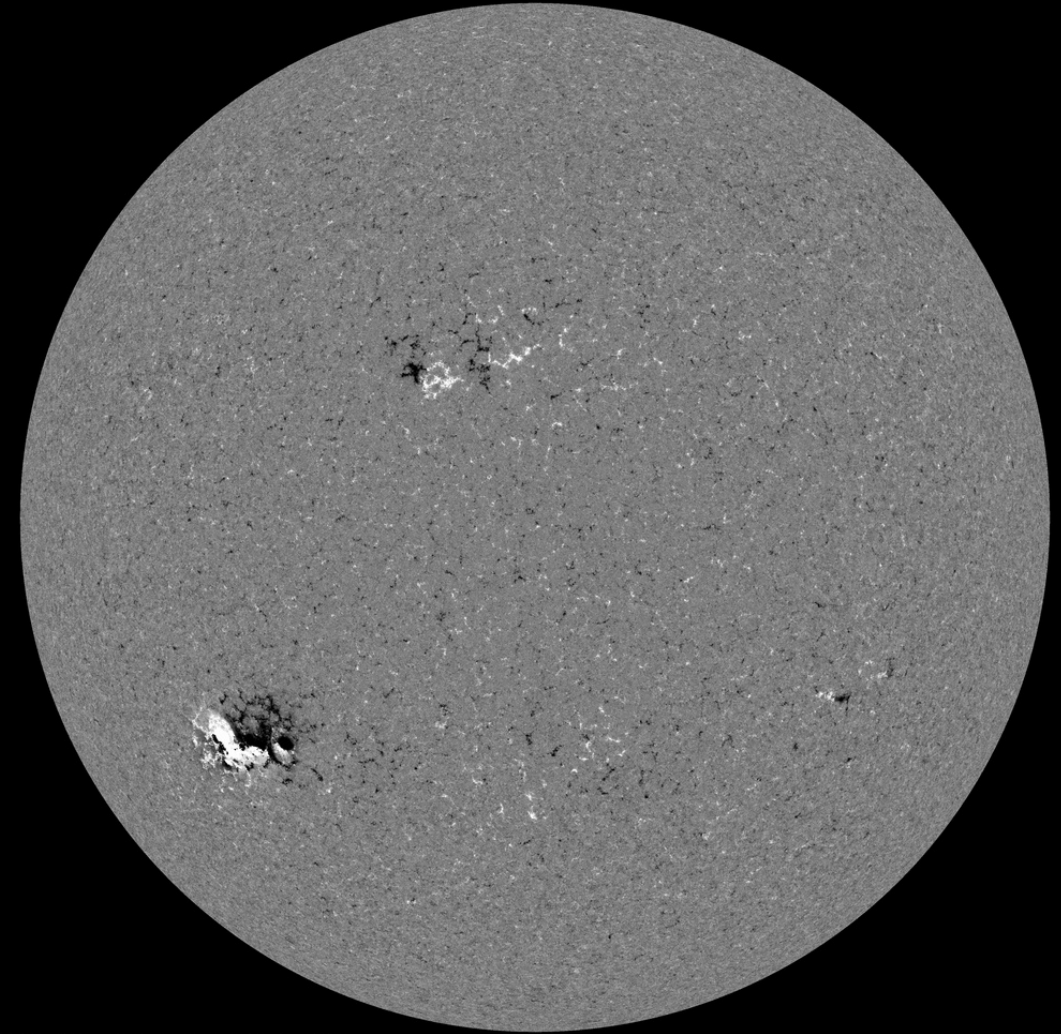
Solar active regions - Friday

SDO/HMI White Light 2020-11-06



SDO/HMI Quick-Look Continuum: 20201106_114500

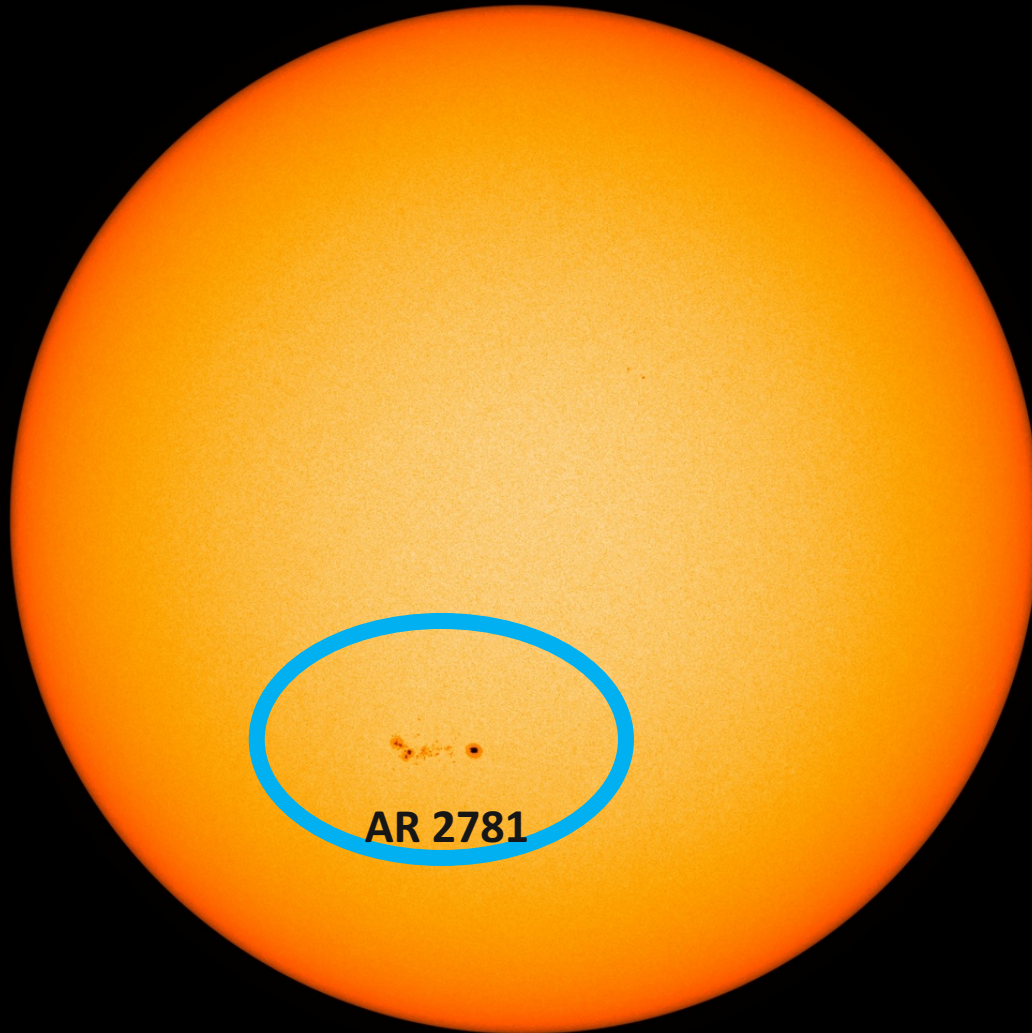
SDO/HMI Magnetogram 2020-11-06



SDO/HMI Quick-Look Magnetogram: 20201106_114500

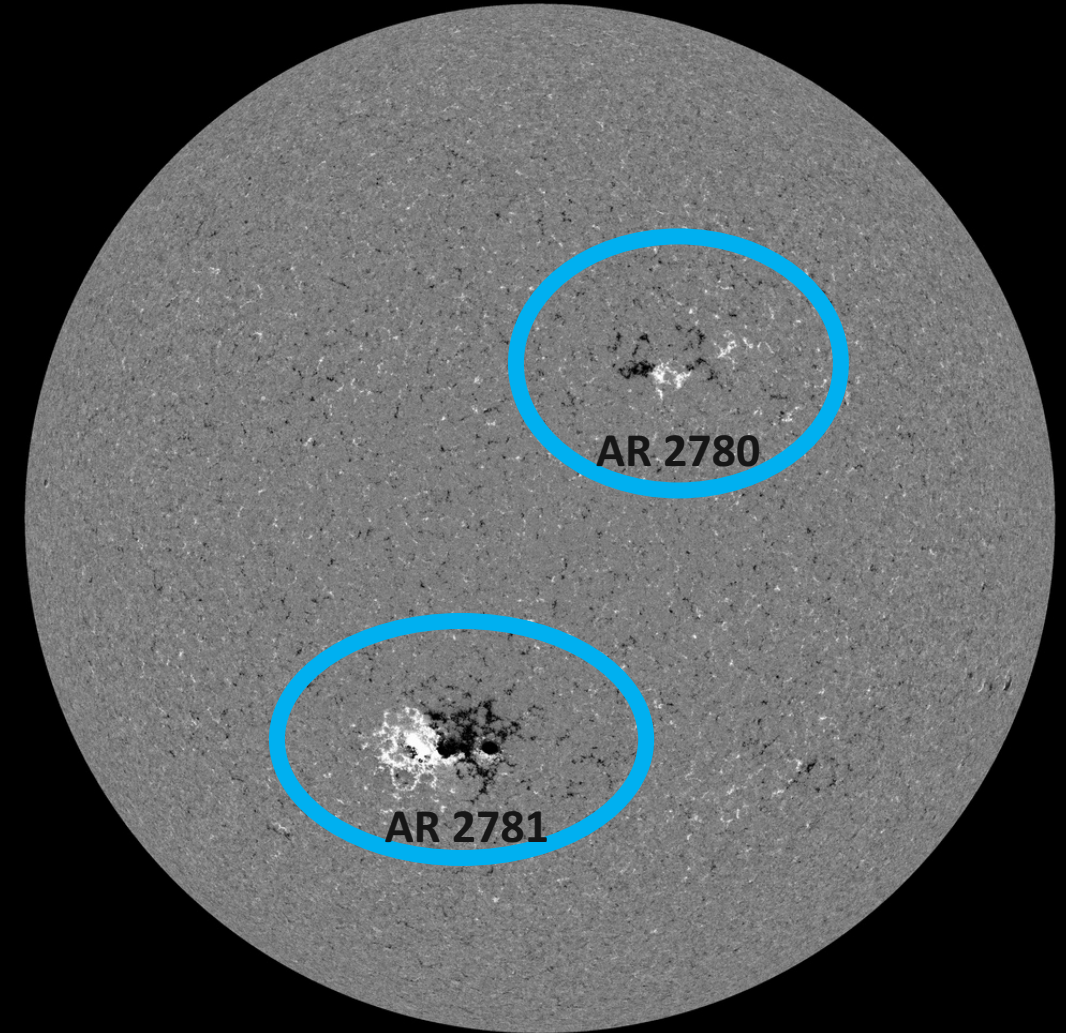
Solar active regions - Sunday

SDO/HMI White Light 2020-11-08



SDO/HMI Quick-Look Continuum: 20201108_114500

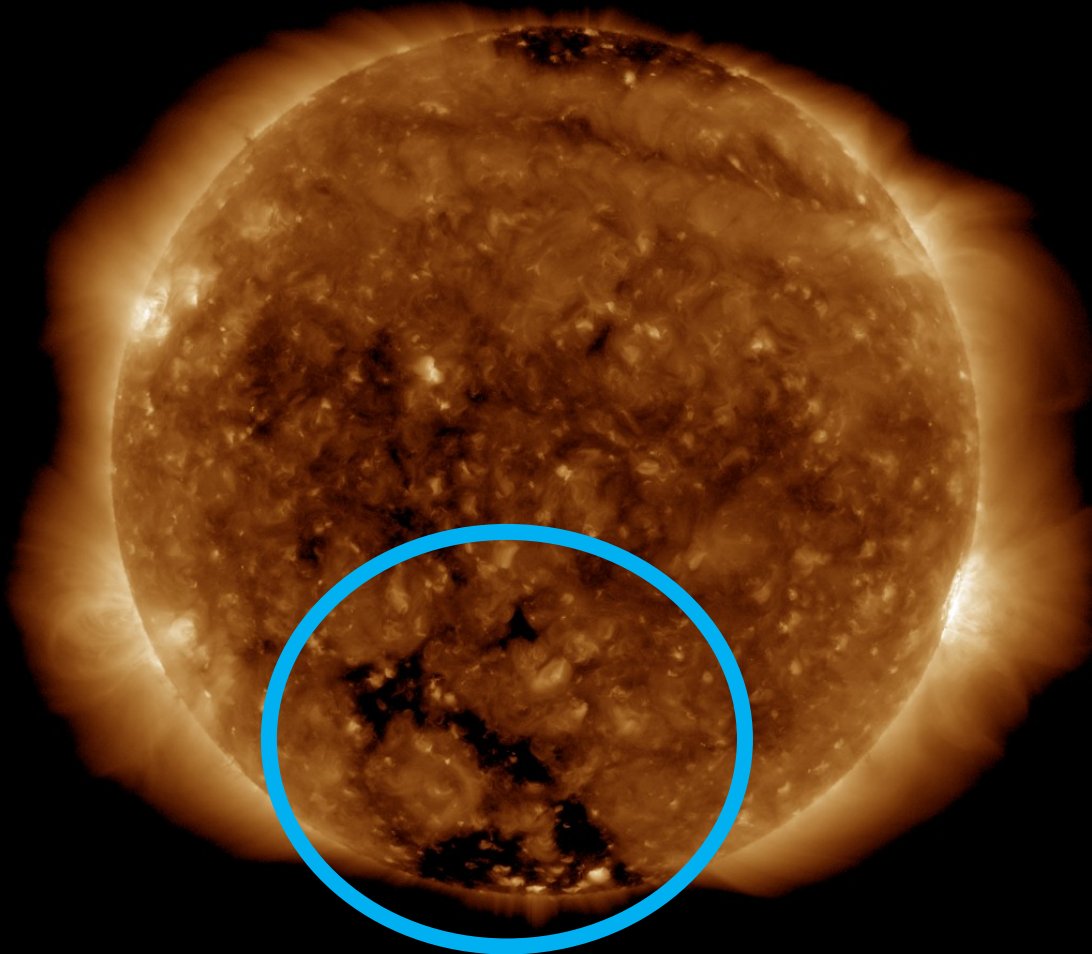
SDO/HMI Magnetogram 2020-11-08



SDO/HMI Quick-Look Magnetogram: 20201108_114500

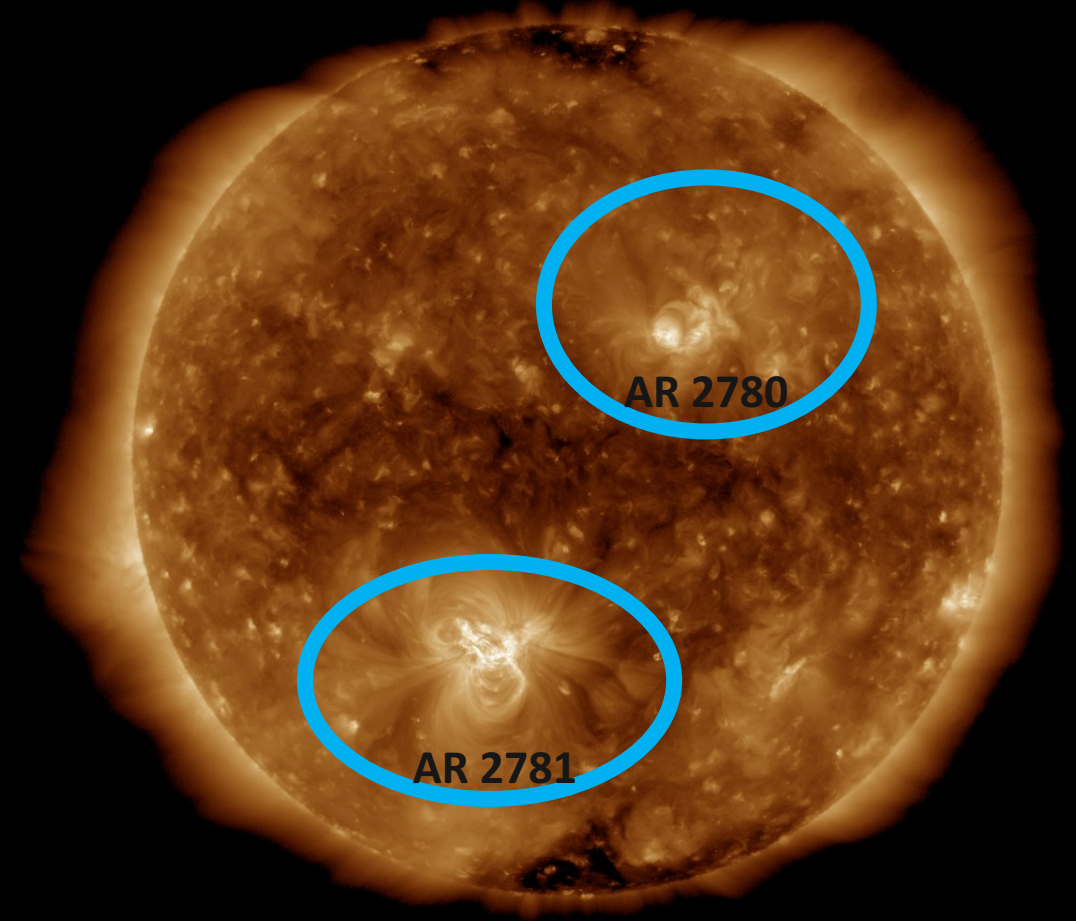
Coronal holes

SDO/AIA 19.3 nm 2020-11-01



SDO/AIA 193 2020-11-01 12:18:05 UT

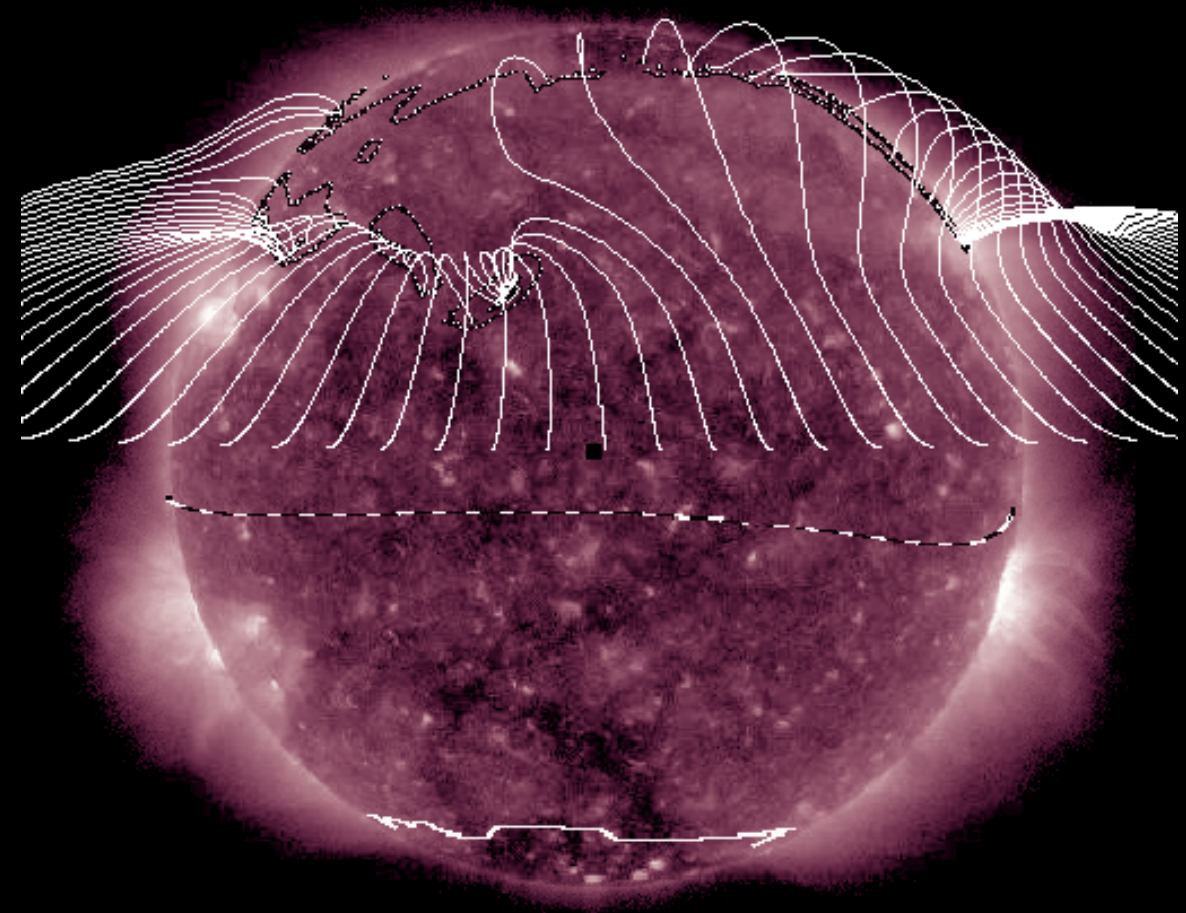
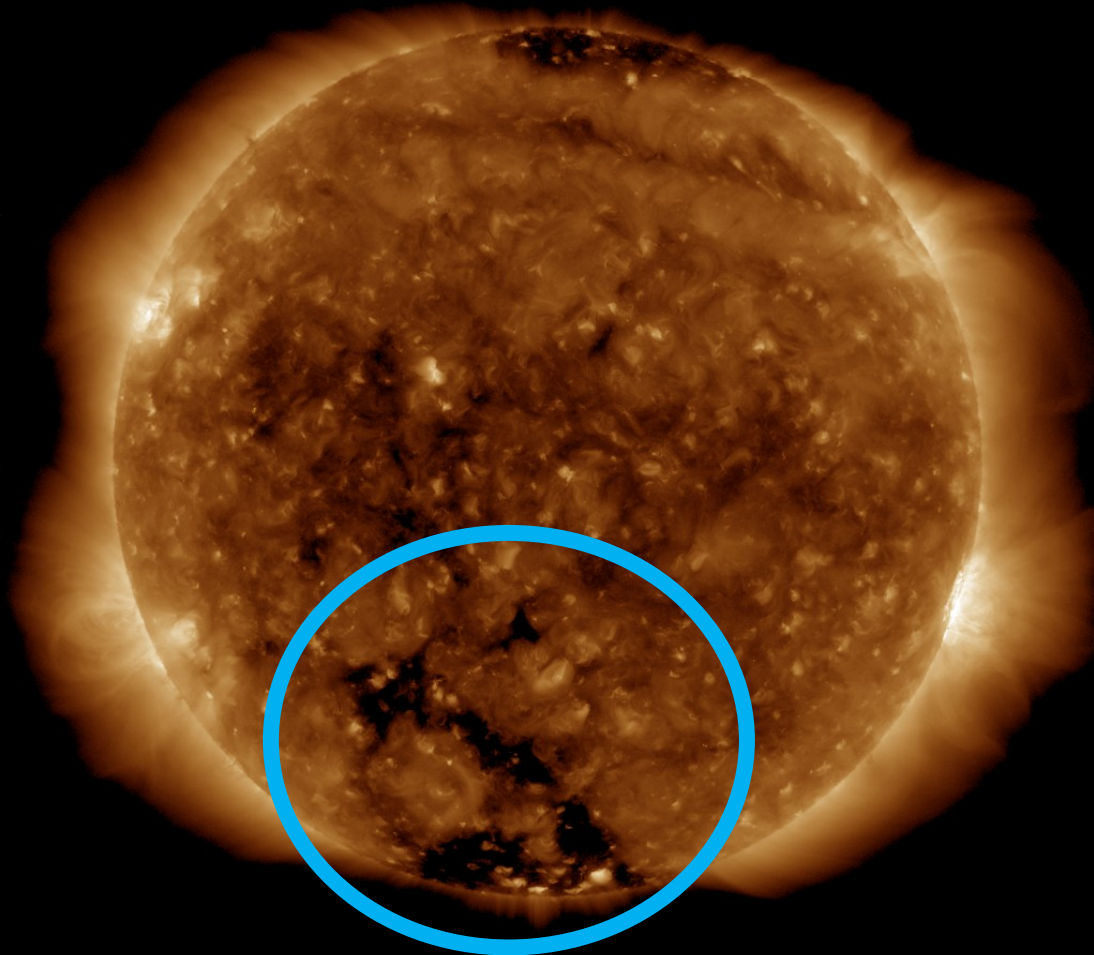
SDO/AIA 19.3 nm 2020-11-08



SDO/AIA 193 2020-11-08 12:17:53 UT

Coronal holes

SDO/AIA 19.3 nm 2020-11-01

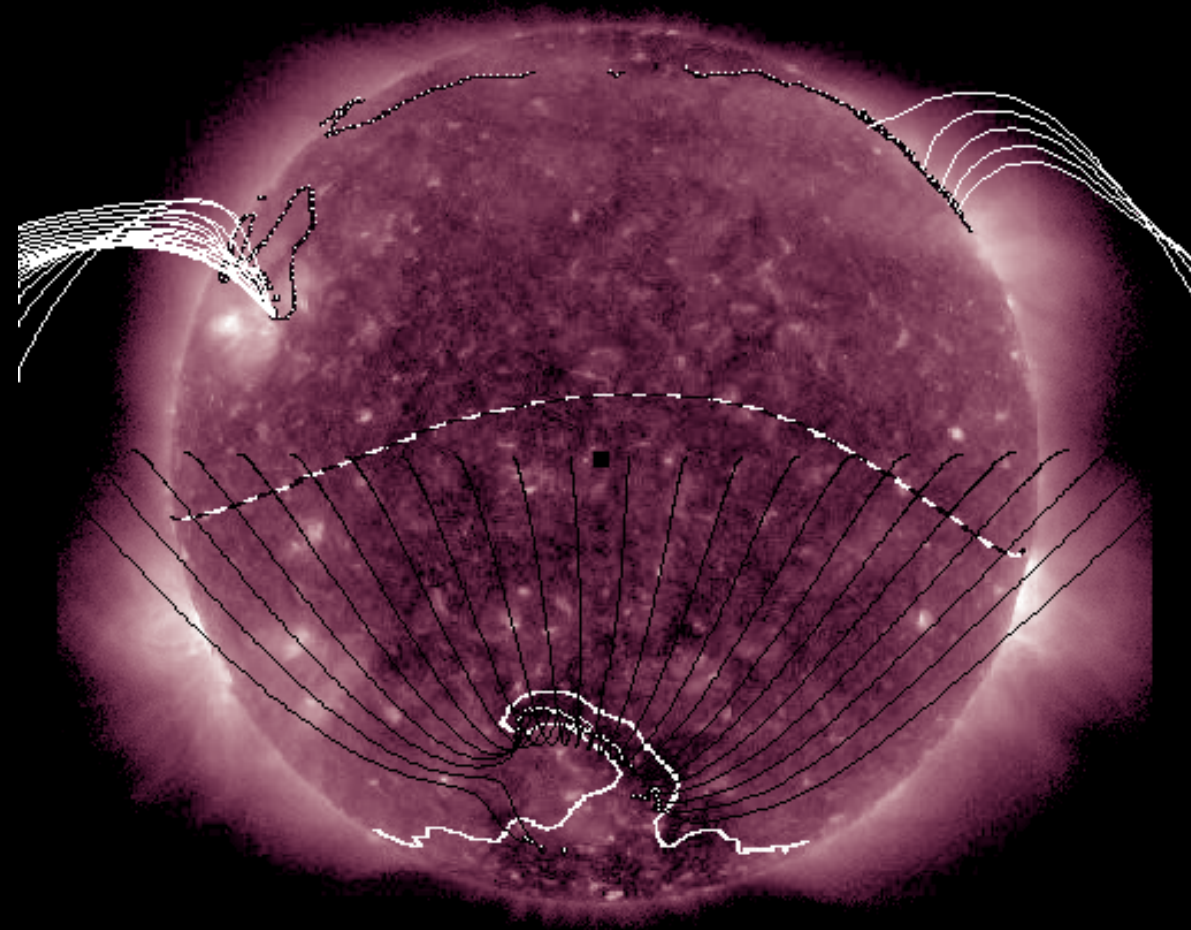
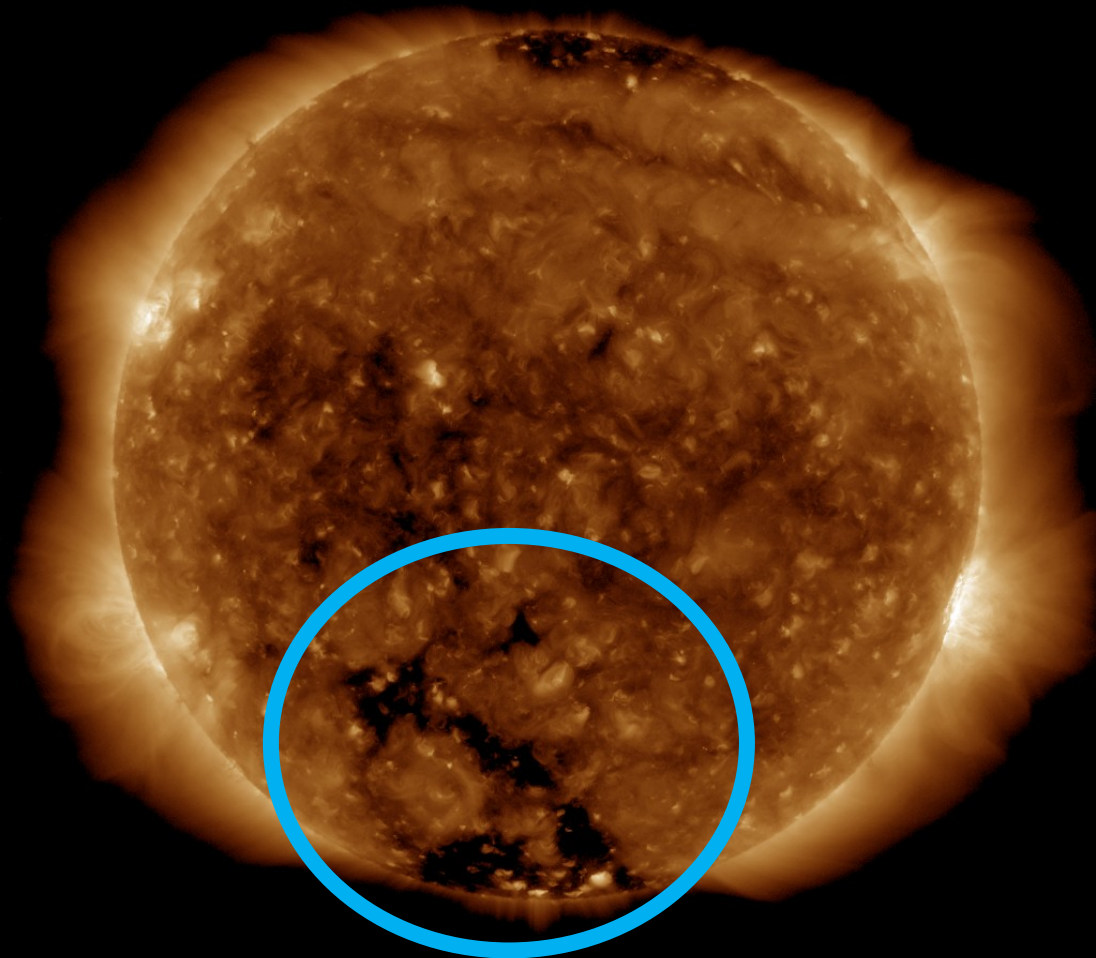


SDO/AIA 193 2020-11-01 12:18:05 UT

VSL model with coronal observations, Model: 2020/11/02 00:03:28
AIA: 2020/11/01 19:18:23
<https://www.lmsal.com/forecast/modelEUV/index.html>

Coronal holes

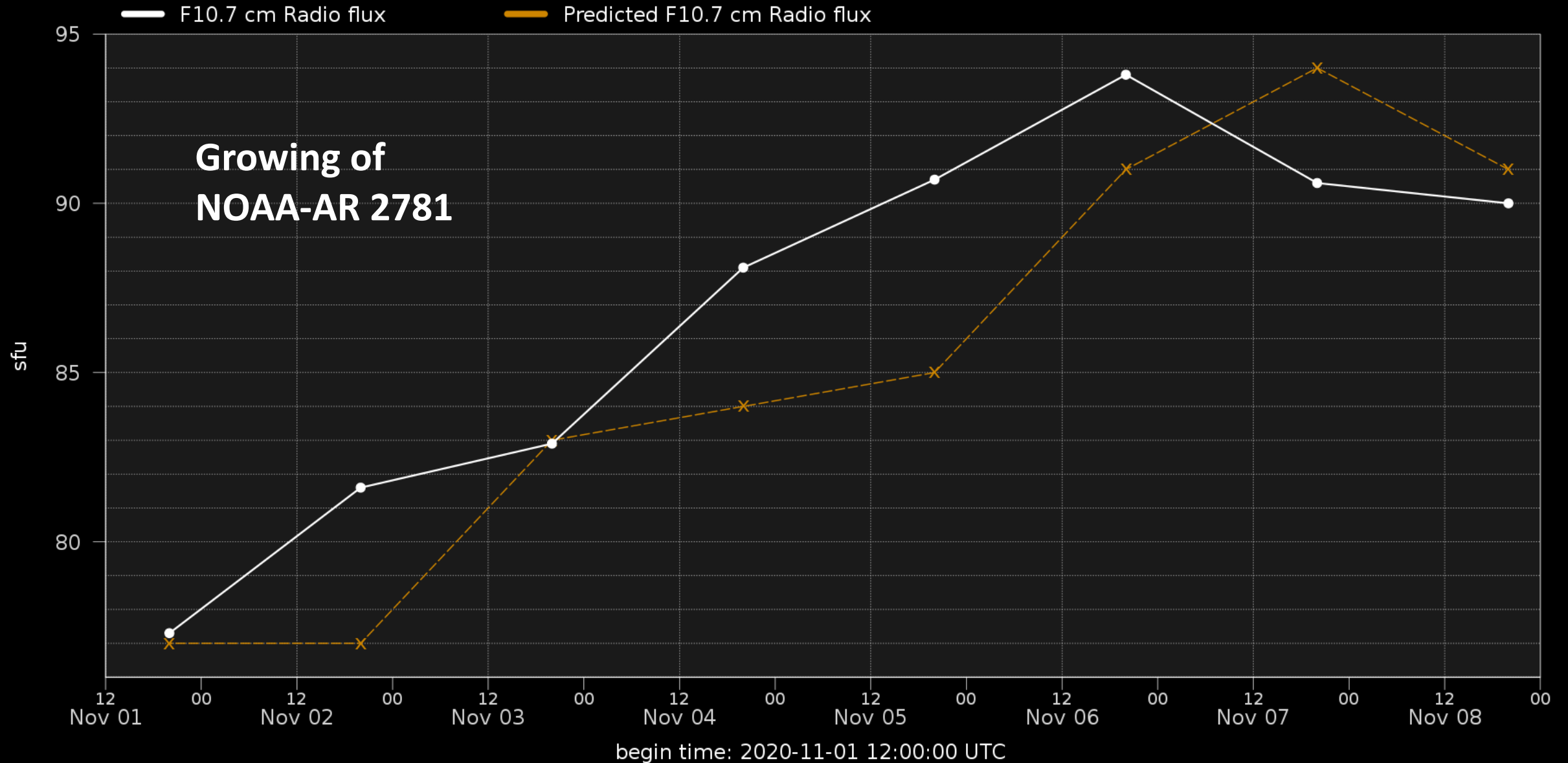
SDO/AIA 19.3 nm 2020-11-01



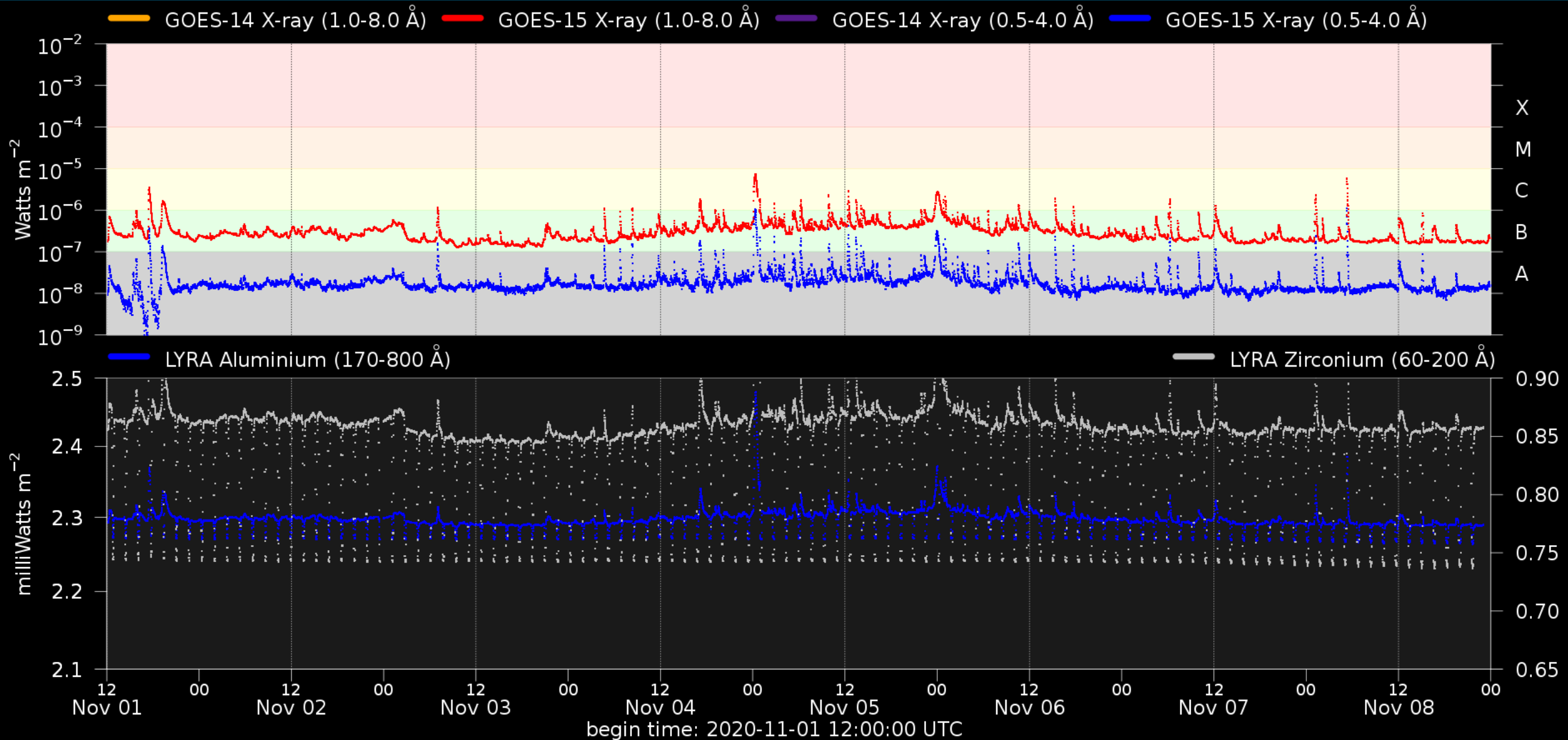
SDO/AIA 193 2020-11-01 12:18:05 UT

VSL model with coronal observations, Model: 2020/11/02 18:04:00
AIA: 2020/11/02 13:16:23
<https://www.lmsal.com/forecast/modelEUV/index.html>

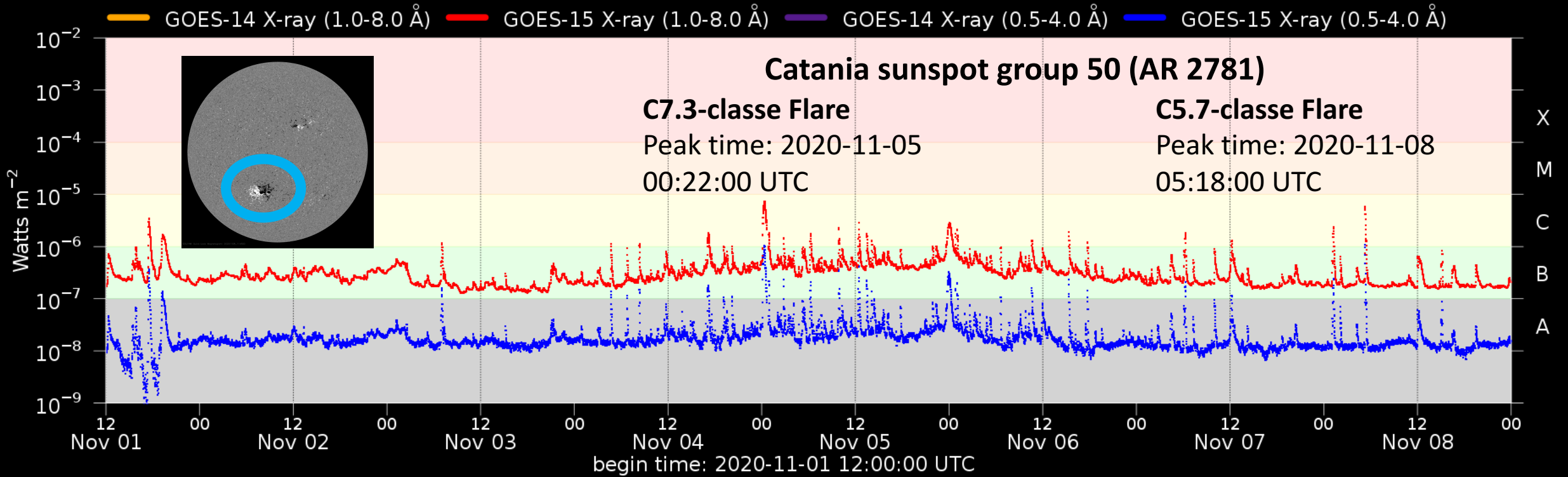
Solar F10.7cm radio flux



Solar X-Ray and UV flux



Flaring activity

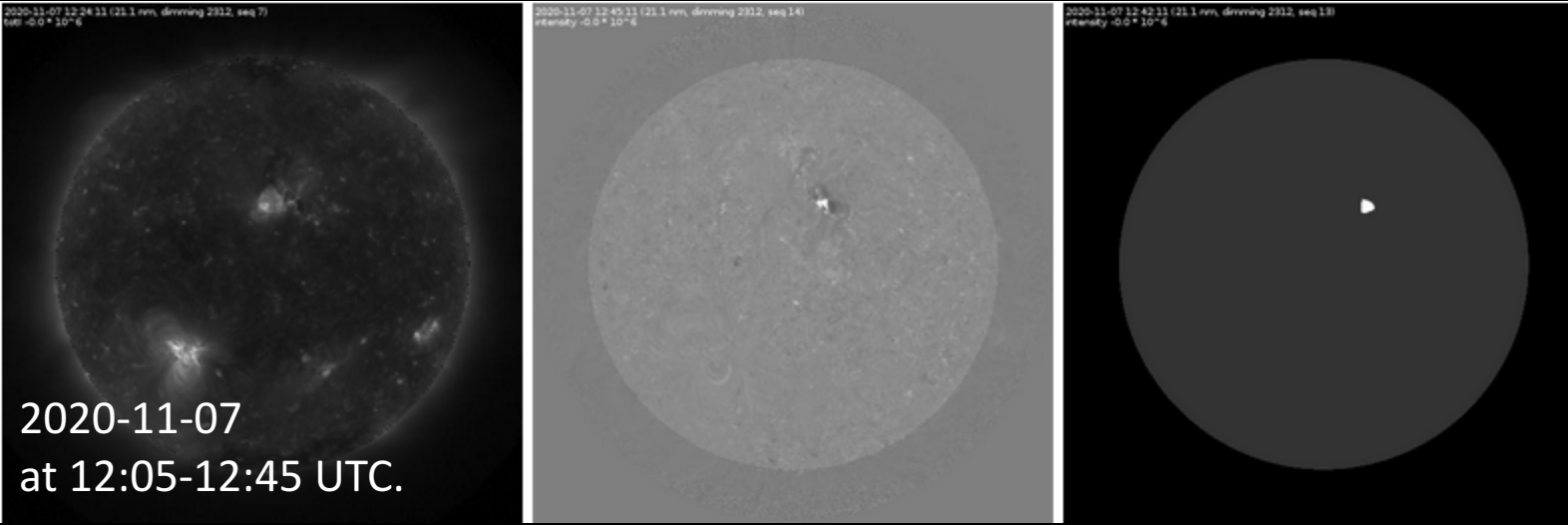


Probabilities (%) and occurrences (#) of B/C/M/X-flares issued at 12:30 and over the next 24h:

Issue date	2020-11-01	2020-11-02	2020-11-03	2020-11-04	2020-11-05	2020-11-06	2020-11-07	2020-11-08
Probability	-- 35 10 01	-- 05 01 01	-- 50 01 01	-- 50 01 01	-- 80 05 01	-- 80 10 05	-- 60 10 01	-- 65 10 01
Observed	06 02 00 00	03 01 00 00	15 03 00 00	33 08 00 00	30 11 00 00	15 03 00 00	10 03 00 00	05 00 00 00

Coronal Mass Ejections

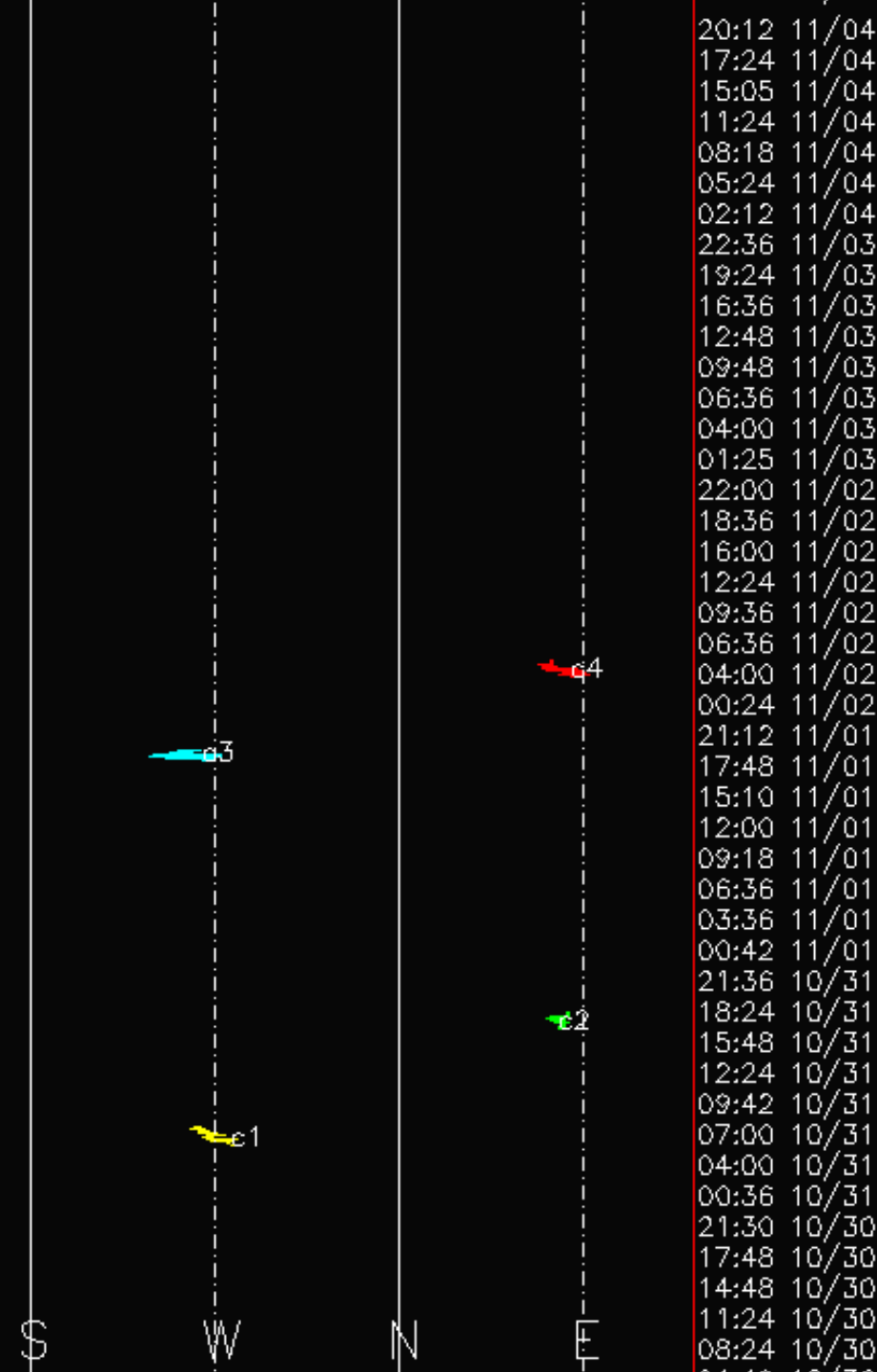
Coronal dimming seen near Catania sunspot group 51 (AR 2780).
No signatures in LASCO data.



The dimming was detected by Solar Demon Dimming Detection (qik)
<http://solardemon.oma.be/dimmings.php?did=2312&science=0>

Details for dimming #: 2312

time	seq #	total intensity	max intensity	median intensity	area	size	lat	lon	x,y in R _☉	dist. R _☉	detection	Img ID
2020-11-07 12:06:11	1	0.0	0.0	0.0	0.0	0					0.00	1924025
2020-11-07 12:09:11	2	-5.5	-39.0	-31.7	0.5	161					0.00	1924028
2020-11-07 12:12:11	3	-7.9	-47.0	-41.0	0.6	183					0.00	1924029
2020-11-07 12:15:11	4	-8.4	-45.7	-42.5	0.6	194					0.00	1924032
2020-11-07 12:18:11	5	-11.2	-47.6	-44.5	0.9	276	20.0	10.9	0.18, 0.29	0.34	0.00	1924033
2020-11-07 12:21:11	6	-14.2	-49.8	-40.9	1.3	413	20.2	11.0	0.18, 0.29	0.34	1.16	1924036
2020-11-07 12:24:11	7	-14.7	-49.5	-31.2	1.5	460	20.1	11.3	0.19, 0.29	0.34	0.00	1924037
2020-11-07 12:27:11	8	-14.9	-48.4	-22.3	1.6	498	20.2	11.4	0.19, 0.29	0.34	0.00	1924041
2020-11-07 12:30:11	9	-15.2	-48.0	-19.2	1.7	535	20.1	11.5	0.19, 0.29	0.34	0.00	1924042
2020-11-07 12:33:11	10	-15.1	-47.2	-19.2	1.7	537	20.2	11.5	0.19, 0.29	0.35	0.00	1924044

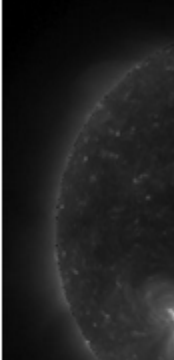


Coronal Mass Ejections

Coronal dimming seen near Catania sunspot group 51 (AR 2780).

No signal

2020-11-07 12:28:33 (21.1 nm, de
lat: -0.0 + 30° E



2020-11-07 12:05

The dimming
<http://s...>

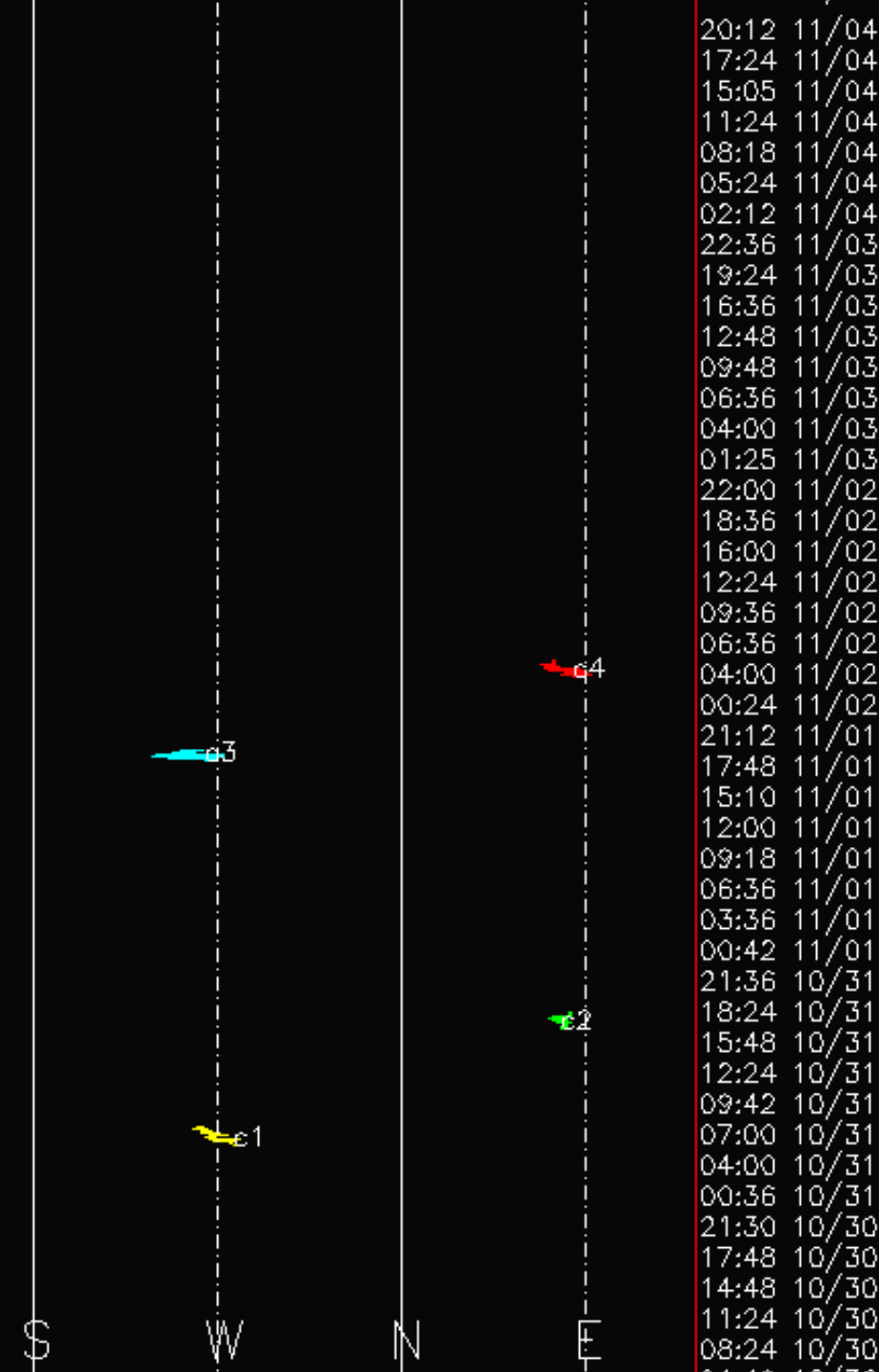
Details for dimming

time
2020-11-07 12:05
2020-11-07 12:06
2020-11-07 12:07
2020-11-07 12:08
2020-11-07 12:09
2020-11-07 12:10
2020-11-07 12:11
2020-11-07 12:12
2020-11-07 12:13
2020-11-07 12:14
2020-11-07 12:15
2020-11-07 12:16
2020-11-07 12:17
2020-11-07 12:18
2020-11-07 12:19
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2020-11-07 12:21
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2020-11-07 12:56
2020-11-07 12:57
2020-11-07 12:58
2020-11-07 12:59
2020-11-07 13:00



PROBA2/SWAP 174 2020-11-07T11:27:25.195

detection	Img ID
0.00	1924025
0.00	1924028
0.00	1924029
0.00	1924032
0.00	1924033
1.16	1924036
0.00	1924037
0.00	1924041
0.00	1924042
0.00	1924044



Solar Wind and

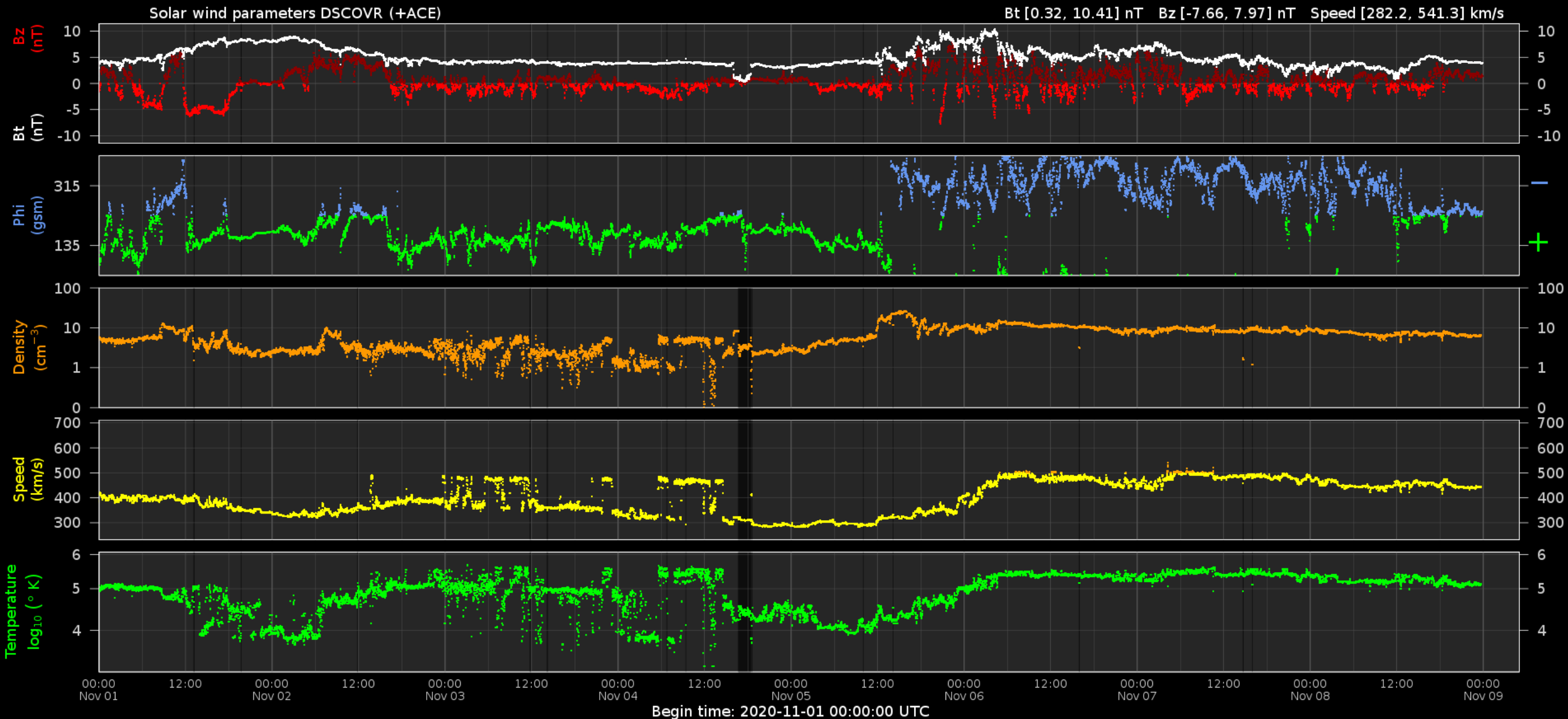
Geomagnetic Activity



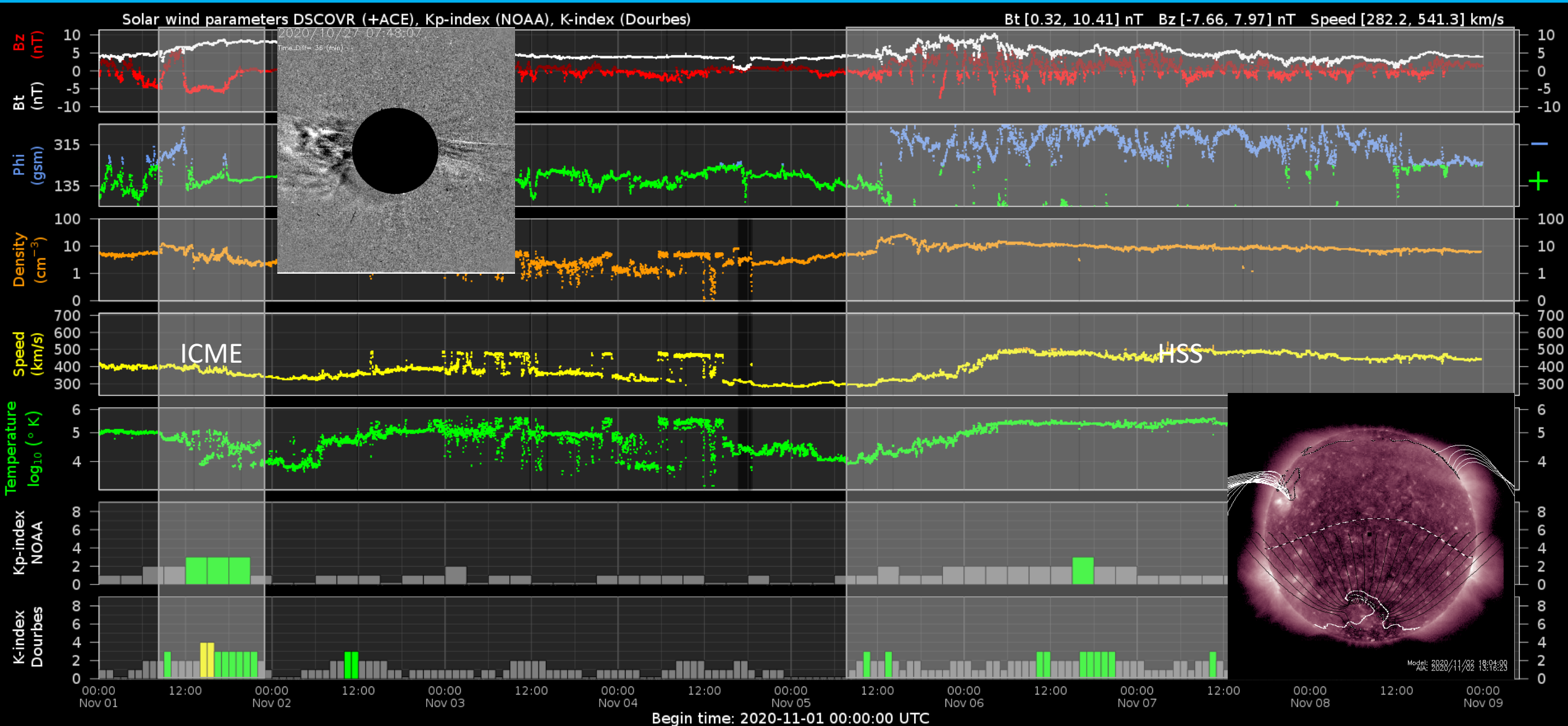
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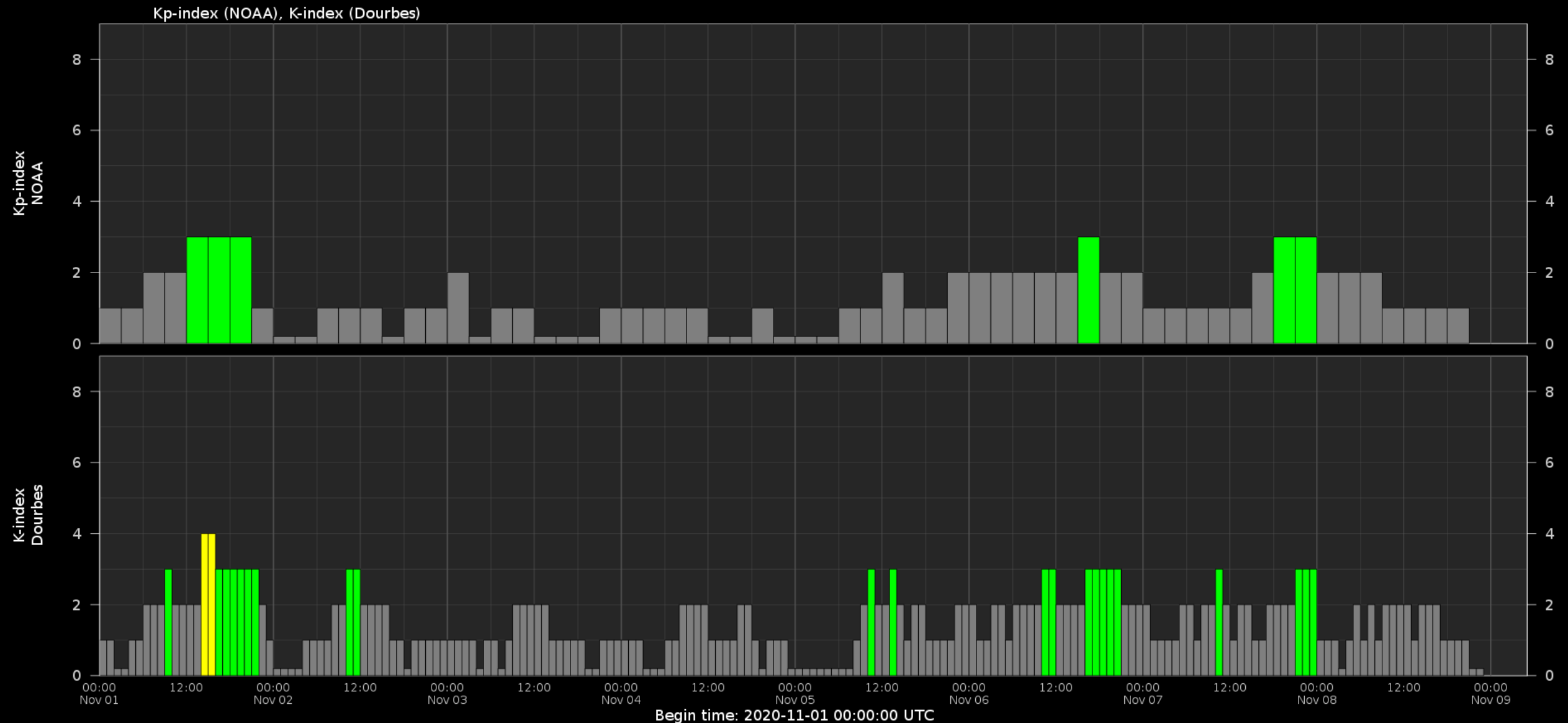
Solar wind parameters (DSCOVR data)



Solar wind parameters & K-index (DSCOVR/Dourbes)



Geomagnetic activity (K-indexes)



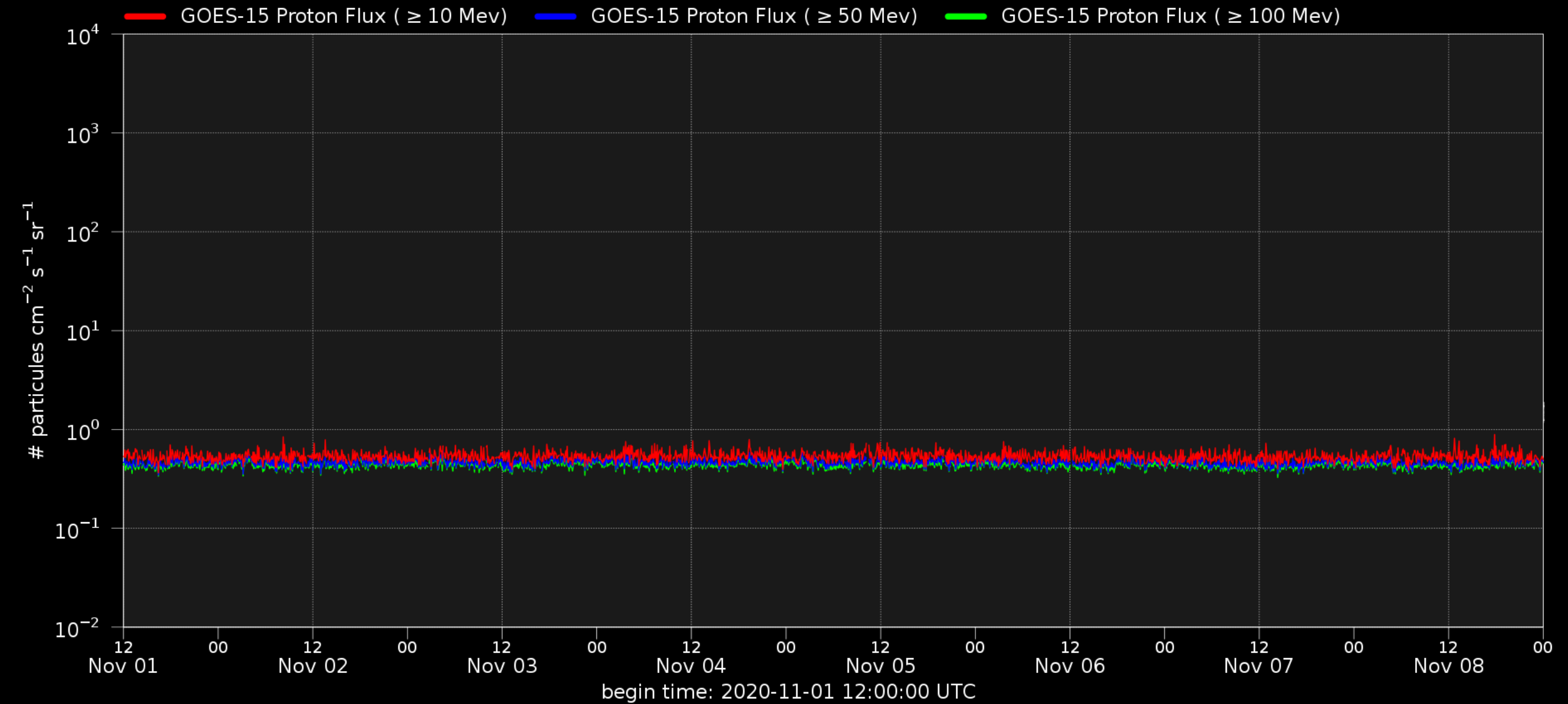
Solar Energetic Particles



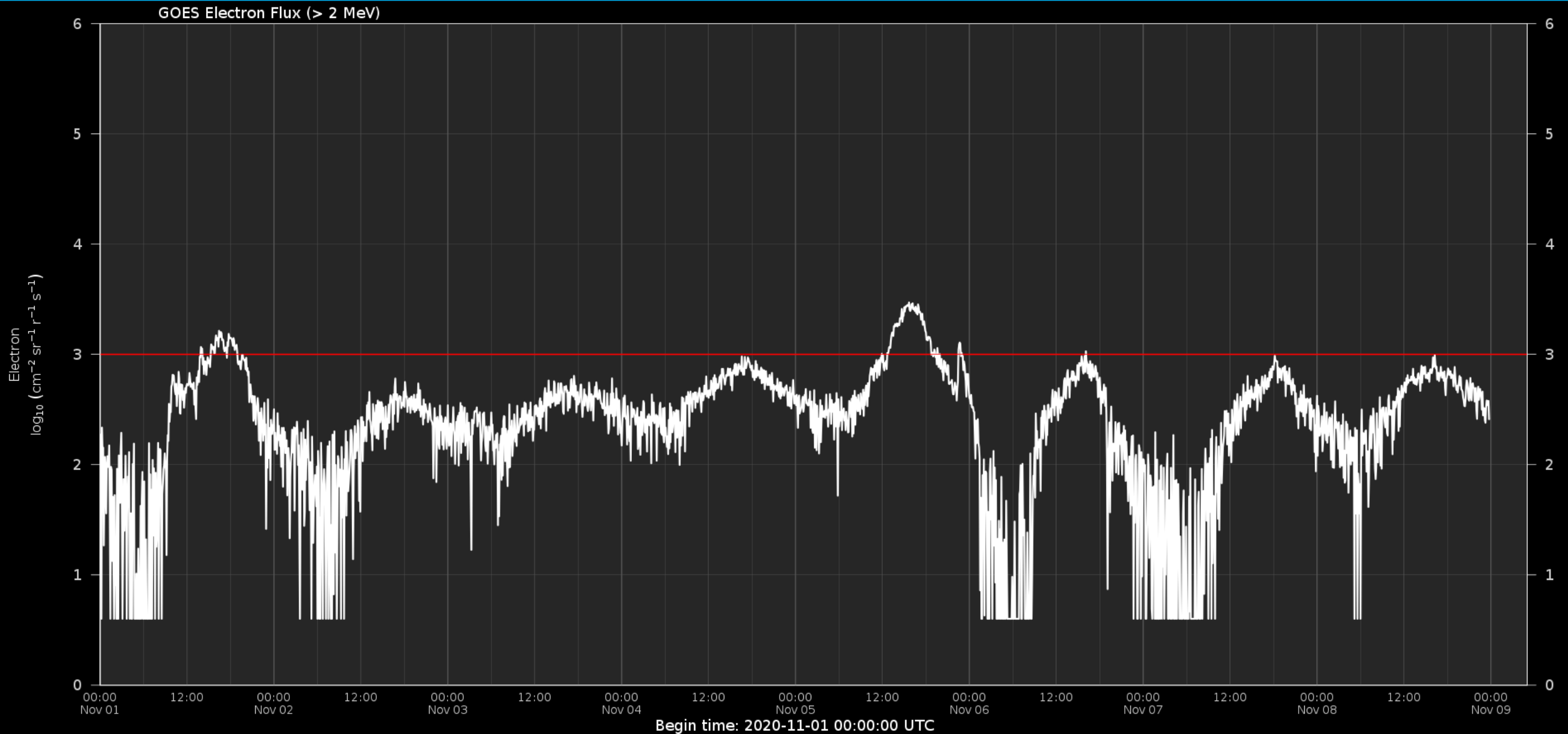
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Solar proton flux



Solar electron flux



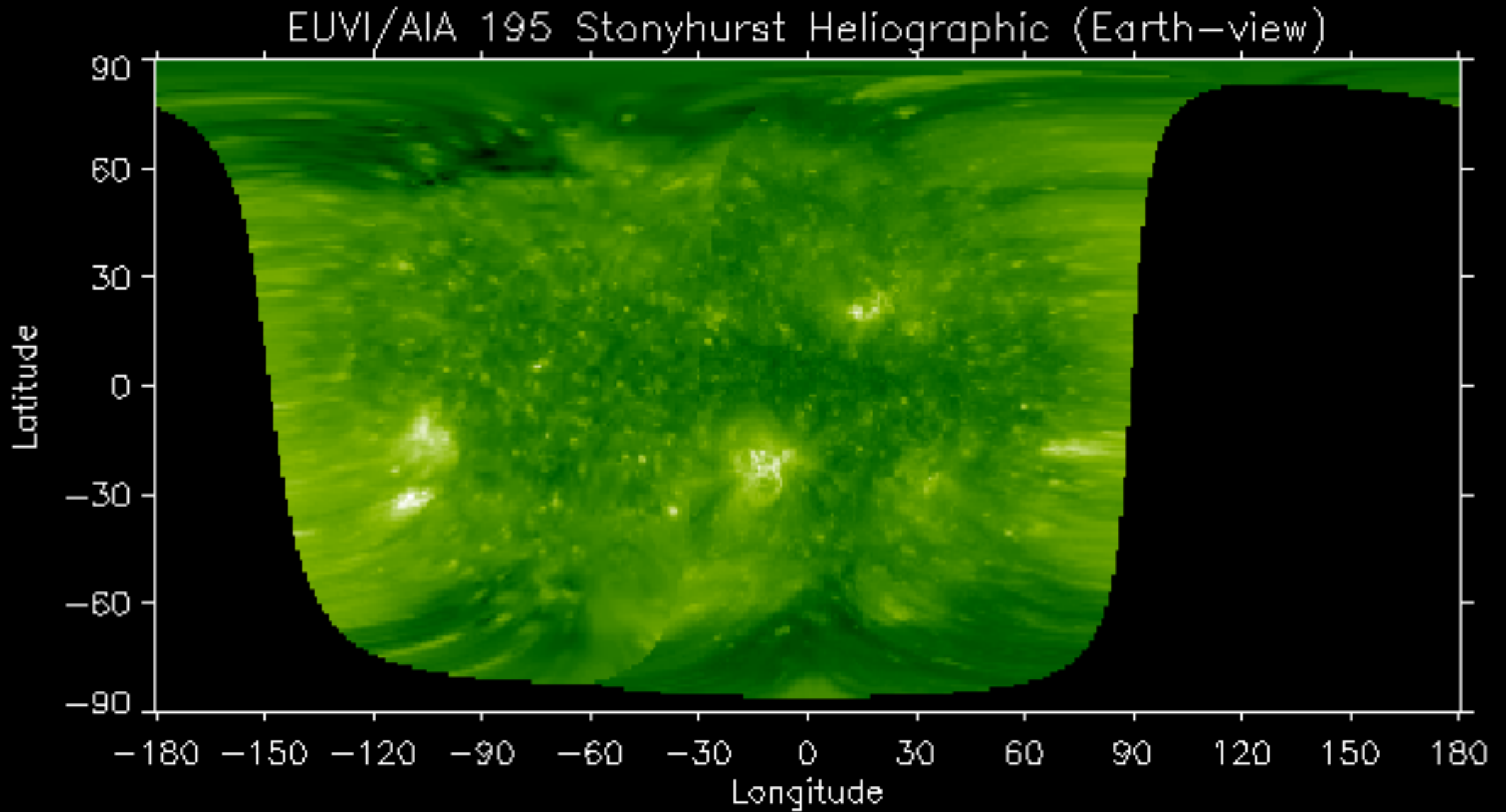
Outlook



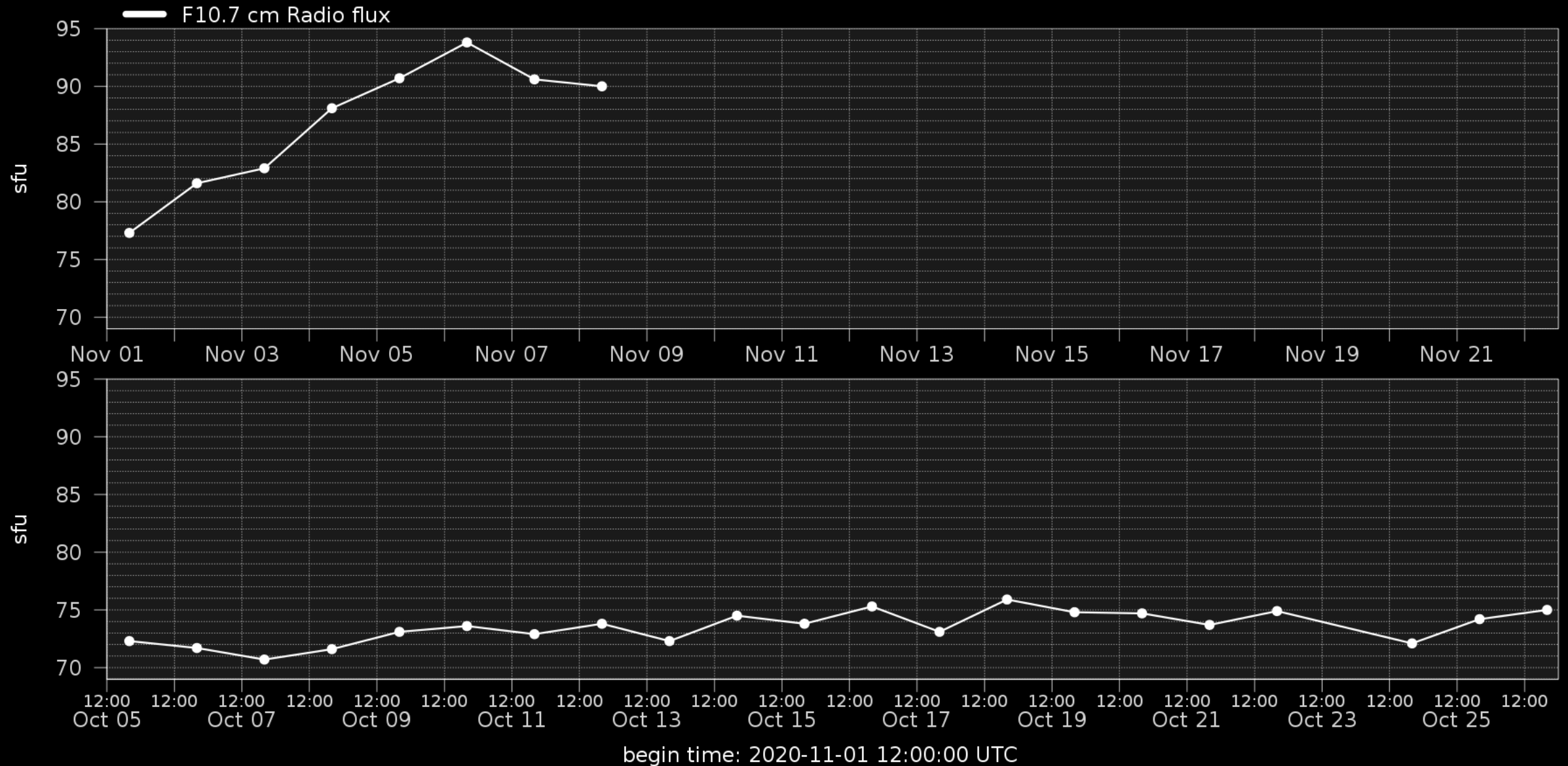
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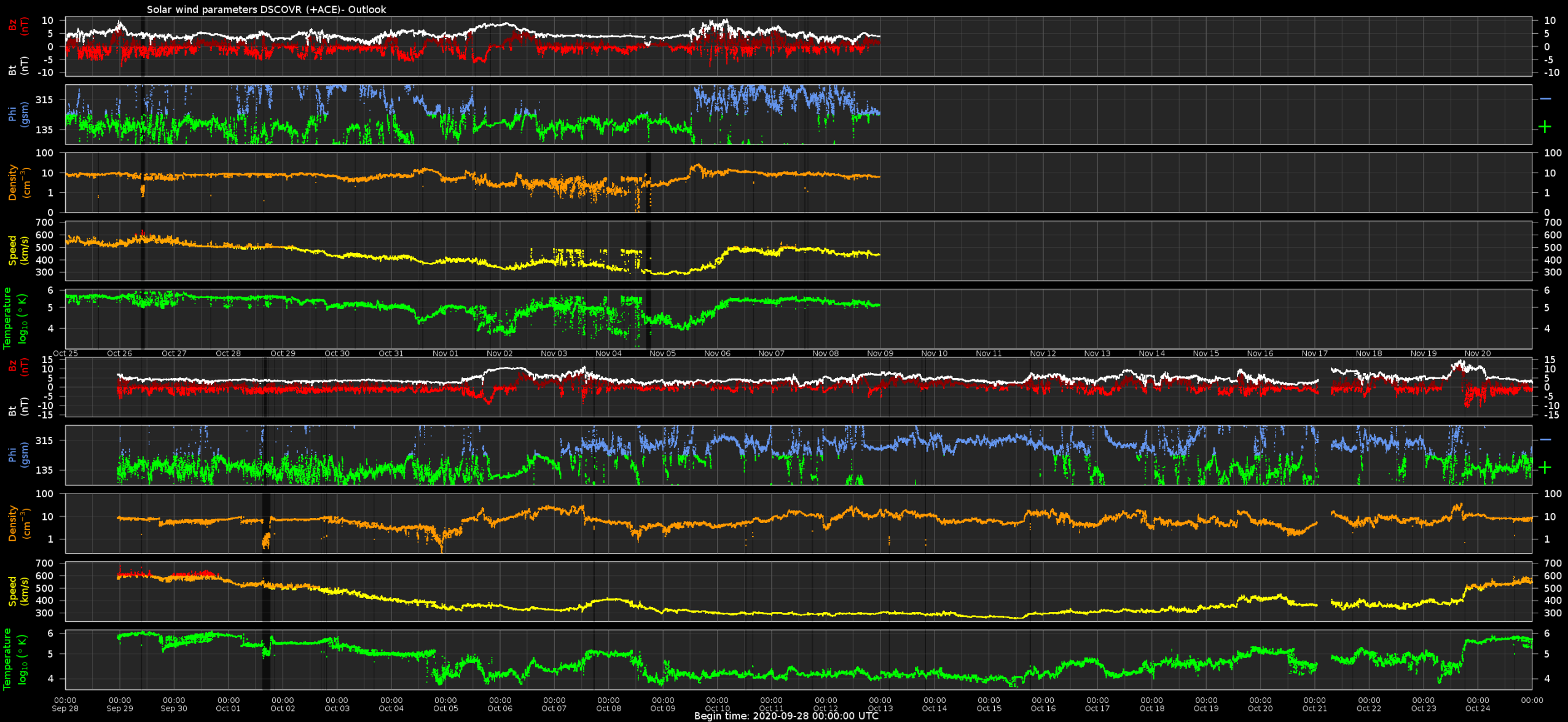
Outlook: Solar activity



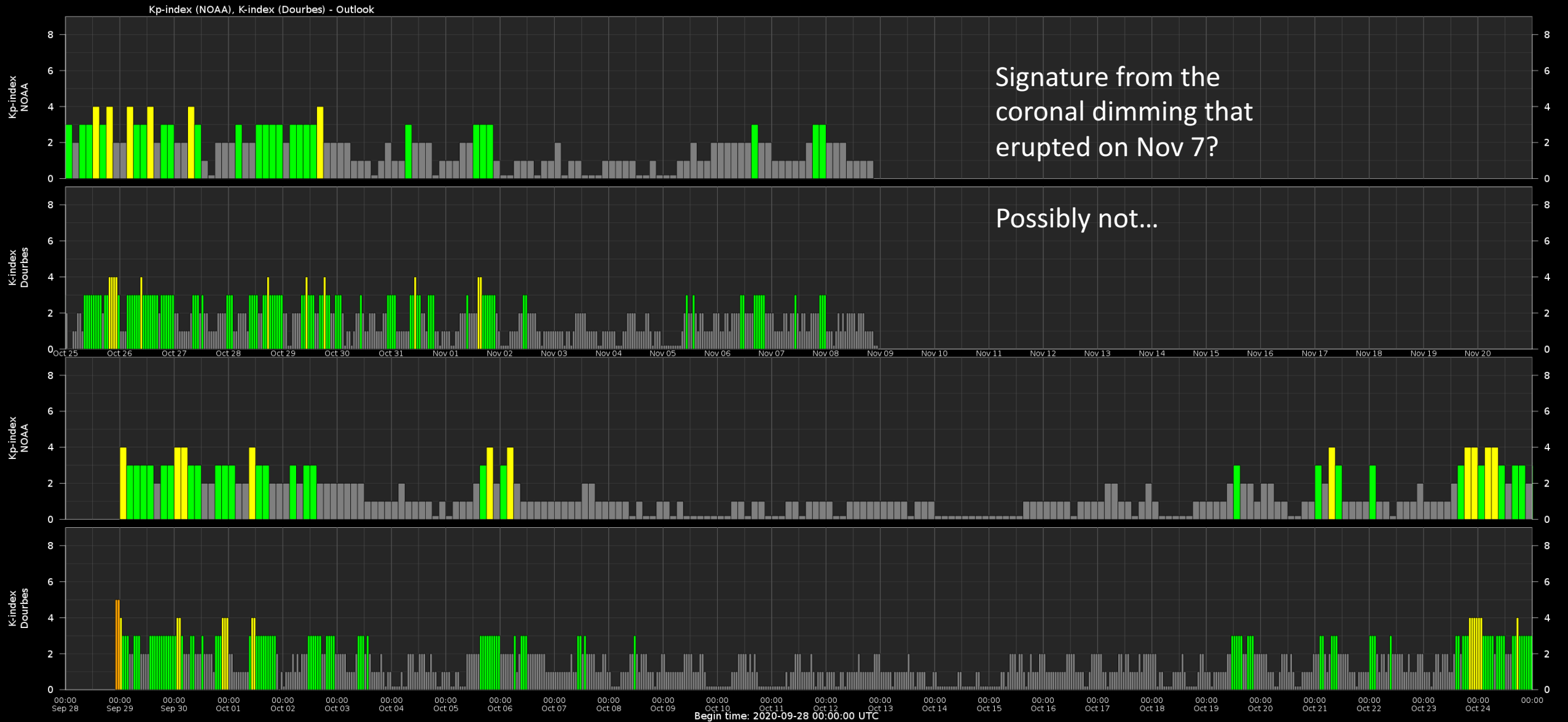
Outlook: F10 flux



Outlook: Solar wind parameters



Outlook: Geomagnetic activity



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